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**THE STATE, INFRASTRUCTURE AND ECONOMIC GROWTH IN
JOKOWI'S FIRST TERM**

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S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES

2019

THE STATE, INFRASTRUCTURE AND ECONOMIC GROWTH IN JOKOWI'S FIRST TERM

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**A thesis submitted to the Nanyang Technological University in partial fulfilment of the
requirement for the degree of Doctor of Philosophy**

2019

Statement of Originality

I hereby certify that the work embodied in this thesis is the result of original research, is free of plagiarised materials, and has not been submitted for a higher degree to any other University or Institution.

July 23, 2019

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The contribution of the author are as follows:

I researched and wrote the article in its entirety including all data collection and analysis.

July 23, 2019

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James Guild

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Abstract

When he took office in 2014, President Jokowi made infrastructure development the cornerstone of his economic agenda. At the time there were serious questions about whether Indonesia would be able to plan and implement large-scale infrastructure projects which historically have often been slowed down by issues related to land acquisition, financing and regulatory uncertainty. This dissertation uses mixed methods, including econometric modelling and qualitative case studies, to inductively study the process by which Jokowi carried out his infrastructure agenda in the transportation and energy sectors.

The principal finding is that in order to compensate for an unreliable regulatory environment and propensity for market failures, there has been a recentralization of state power under Jokowi, with the state equipping itself with additional legal and administrative authorities in order to expedite nationally strategic projects. Critically important has been the use of a new legal tool, Law No 2 of 2012 on Land Acquisition, which has massively sped up the process of compulsory land acquisition. The primary agents of Jokowi's infrastructure push have been SOEs, which have begun taking on large amounts of debt in order to finance major toll road, airport and power plant projects. Significantly, much of this debt is denominated in rupiah and many of the SOEs, particularly in the toll road and airport sectors, enjoy healthy monopoly rents.

The econometric data also shows a strong positive correlation between the growth of SOE assets and fixed capital formation which, along with household consumption, has been one of the primary engines of GDP growth during Jokowi's first term. This suggests that the state-led infrastructure push has been a significant factor in keeping GDP growth steady at 5%, and the dissertation will drill down into more detail on the specific mechanisms by which this has been accomplished.

Note on Currency Conversion

The value of the rupiah tends to move quite a bit, but during the period when the research for this project was carried out (2016-2018) the following conversion scale roughly approximates the value of the rupiah relative to the US and Singaporean dollars:

IDR	USD
14,000	1
1 Million	71.43
1 Billion	71,428
1 Trillion	71,428,571

IDR	SGD
10,000	1
1 Million	100
1 Billion	100,000
1 Trillion	100,000,000

Chapter 1 Research Puzzle, Design and Methodology

1.1. Introduction

When Indonesian President Joko “Jokowi” Widodo took office in 2014 he pledged to invest heavily in the country’s lagging infrastructure by reducing red tape and making Indonesia a more attractive destination for foreign investors.¹ This focus on infrastructure traces its roots back to Jokowi’s tenure as the popular mayor of the Central Java city of Solo, where he successfully implemented a range of public works projects that drew national and international recognition.² This experience helped him to recognize that expansionary fiscal policies, coupled with efforts to improve the transparency of government, could lead to improved economic outcomes while also being a winning formula at the polls. By the time he was running for the presidency in 2014, he made clear that the economy and improving the quality of infrastructure would be his number one priority.³

This dissertation uses mixed methods, including econometric modelling and qualitative case studies, to analyse the design and implementation of his infrastructure agenda during his first term in office, from roughly 2014 to 2018. The study seeks to gauge the effectiveness of Indonesia’s infrastructure policy, detail the process by which it has been carried out and trace its evolution over time and in comparison to past efforts.

By building a detailed profile of how big-ticket projects in energy and transportation have been planned, financed and executed in the Jokowi era, it is possible to gain a clearer understanding of how Indonesia is approaching the challenge of improving the country’s infrastructure, and how that approach has changed over time. The primary conclusion is that Jokowi has been relatively successful in developing Indonesia’s infrastructure. However, as his administration encountered problems

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¹ Kanupriya Kapoor and Jonathan Thatcher. “Indonesia's new leader promises to make life easier for investors.” *Reuters*. July 23, 2014.

² *SoloPos*. “Joko Widodo Raih Penghargaan Best City Award Asia Tenggara.” August 9, 2012.

³ Jamie Davidson. “Infrastructure in Indonesia: Campaign Promises Kept?” *Brink*. June 19, 2017.

related to permitting, financing and land acquisition it moved away from private investors and developers, and began to increasingly leverage the power of the central state to execute its policy vision. Even in sectors, such as electricity generation, where Public-Private Partnerships have been a prominent feature, the state has played a major role, either by directly partnering with private developers or by invoking its authority to reassure private developers that projects would be expedited.

Over the course of his first five year term the state has steadily recentralized power in Jakarta and expanded its authority to circumvent cumbersome or ambiguous legal and administrative bottlenecks. This has been accomplished by frequently taking decision-making power away from district-level authorities and placing it at the national or provincial level. It has also primarily been carried out by state-owned companies⁴ in order to overcome regulatory uncertainties and market failures. Chapter 7 details how renewable energy policy, which relied exclusively on private companies to develop solar and wind projects, has been ineffective and serves as an example of the kind of market failure that often occurs when private capital is left to fend for itself in Indonesia's regulatory environment.

This is directly related to the complex issue of decentralization. In response to the authoritarian governance structure of the New Order, "big bang" decentralization reforms were enacted in the post-1998 reform period, devolving significant powers to provincial and district level authorities. This was meant to complement democratic reforms, including direct elections of local district heads (*bupati*). The justification for such action was that by giving local leaders expanded powers they could make policies that were tailored for local conditions; a bottom-up, rather than a top-down approach to policy-making, and a clear repudiation of the New Order's governing philosophy. By making sure these powers went hand in hand with democratic reforms, in principle

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⁴ Also known as SOEs, or state-owned enterprises. I use the term state-owned company and SOE throughout interchangeably.

local leaders and their policies would now be directly accountable to their constituents, who could vote them out of office if policies were found to be wanting.

In reality, decentralization created unclear lines of authority between district, provincial and national-level officials and governing bodies. There was frequent overlap, and local *bupati* could hold up large-scale projects by, for instance, refusing to issue the necessary permits. This made inducing private investment at scale a difficult proposition, as investors value certainty and long delays related to land acquisition and licensing slowed down large-scale projects, particularly in the power and toll road industries. Although Jokowi began his first term optimistic that regulatory and bureaucratic reforms would drive more private investment, by the end he had tacitly accepted that SOEs were the agents best-suited to execute the majority of infrastructure projects and as such the state-owned sector has grown significantly under his leadership.

The results have arguably been mixed (see Chapter 4 for a thorough discussion of Indonesia's recent macroeconomic performance). Economic growth, predicted to be 7% per year at the beginning of his term, has been stuck at around 5% despite billions of dollars in additional public expenditures on infrastructure. Many of the signature campaign promises, such as adding 35,000 MW of power to the grid by 2019, got off to a slower start than anticipated, and in recent years the country has seen its currency depreciate considerably along with a rising current account deficit. But as his first term in office expires, significant progress has been made on infrastructure development, with many big-ticket projects reaching or nearing completion in 2019. In the five years since 2014, Jokowi has overseen the construction of nearly 1,000 kilometres of new toll roads. By comparison his predecessor, SBY, oversaw around 250 kilometres over ten years.⁵ A raft of megapower projects worth tens of billions of dollars are currently under construction in Java and Sumatra and will begin supplying the grid with thousands of MW of new generating capacity during Jokowi's second term. A major new international

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⁵ See Badan Pengatur Jalan Toll – *Jalan Tol Beroperasi*. This report, which is regularly updated, can be accessed here: <http://bpjt.pu.go.id/konten/progress/beroperasi>

airport serving Yogyakarta and Central Java reached completion quite fast by historical standards, and is now in operation.

As detailed in Chapter 4, the expansion of the state-owned sector has had a positive effect on fixed capital formation and has been an important driver of Indonesia's recent GDP growth despite unfavourable conditions in global capital markets. The case studies and econometric analysis in this dissertation will show that the use of state-owned companies and the recentralization of legal and administrative power in Jakarta have been critical to the success of these and other major infrastructure projects.

Chapter 3 will place this in historical context, describing how the state has always been deeply embedded in economic development in Indonesia, while excessive foreign investment is associated with instability. The state thus has a long history of serving as the custodian of economic development, while private capital has typically struggled to be a robust or sustainable alternative. Confronted with regulatory and financial hurdles as he embarked on infrastructure development, Jokowi ultimately leaned into what worked before: using the state as the primary agent of economic development. In this iteration (as compared to developmental policy under the New Order, for instance), the state is equipped with some important and novel tools that have helped to execute this mandate more effectively than in the past.

Only the state has the legal power to acquire land in the public interest, and they have leveraged the landmark Law No 2 of 2012 on Land Acquisition to accelerate long-stalled energy and transportation projects all around the country. The state's ability to use its statutory authority to clear land for big projects, an ability that was absent prior to 2012, has had a remarkable impact on accelerating project development under Jokowi. Chapter 5 will analyse this law and its implementation in depth, arguing that the process has also become more structured and arguably more equitable for landowners.

When the state takes the lead in infrastructure development, it can also leverage the authority of the central government to overcome various legal, regulatory and administrative

obstacles that have traditionally slowed down projects in Indonesia. Generally speaking, the trend has been to strip local district heads (*bupati*) of their authority over land use, permits and licenses and recentralize those functions with provincial governments or the central government in Jakarta. The president also has wide latitude to declare projects as Nationally Strategic, in which case they have access to a number of new authorities and powers, such as financial guarantees.

Not surprisingly, the list of Nationally Strategic projects has steadily lengthened since 2015. The case studies that follow will detail numerous examples of the state using executive decrees to exempt big projects from certain regulations or to clarify jurisdictional overlap. The judiciary should in theory be conducting oversight of this expansion of executive power, but in practice the Supreme Court often simply rules in favour of the government or punts on controversial issues. District courts, on the other hand, have shown a willingness to challenge the power of the state when it comes to big projects.

In terms of financing, the use of SOEs to carry out the leg-work of infrastructure development increases the state's financial resources by allowing SOEs to issue off-balance sheet debt. In other words, the SOEs - which are nominally independent from the government - take on debt to finance the construction of airports, toll roads or power projects. The government of Indonesia is legally required to cap annual borrowing at 3% of GDP. By having SOEs issue their own debt, this provides more room for expansionary fiscal policy without counting against the 3% borrowing limit, and reduces the need for direct injections of state capital. Whether this is a sustainable model for financing infrastructure development is a matter of debate. My research has found that some SOEs have more sustainable financial models than others.

Toll road operator Jasa Marga and airport operators Angkasa Pura I and II, for instance, have taken on loans and issued bonds that are denominated in rupiah, and often sourced from domestic banks and bondholders, which insulates them from the external shock of currency depreciation. They also enjoy monopoly rents from the sectors they control, which means they have healthy revenue streams from which to service their debt. State-owned electricity company PLN, which will be

discussed in detail in Chapters 6 and 7, has a less sustainable financial model and the long-term soundness of the company's balance sheet is less certain. Nevertheless, given that the government of Indonesia cannot run an annual deficit of more than 3% of GDP, using off-balance sheet SOEs to finance infrastructure projects is a practical necessity and at least in some sectors has been structured in a way that reduces long-term risks.

The cumulative weight of this evidence indicates that the state has sought to recentralize power and authority in Jakarta in order to carry out its infrastructure development plans, tasked SOEs with carrying out the bulk of the work and then invoked special legal and financial authorities in order to circumvent regulatory roadblocks and compensate for market failures. Moreover, this approach has largely been successful, speeding up a number of major infrastructure projects that have helped buoy GDP growth and boost fixed capital formation. Given the high degree of regulatory uncertainty and potential for market failures in Indonesia, it is unclear whether, in the absence of major and politically treacherous structural reforms, infrastructure development in Jokowi's first term would have been as successful without the steps taken by the state.

In many ways, this is a "second best" development strategy, or what we might call an example of "good enough coordination" given the difficulty and scale of the challenge Jokowi was trying to overcome. In the literature on state-led development, there is often an ambiguous analytical line between a "strong state" that is capable of leveraging its coercive power to pursue complex policies, while still being dogged by many hallmarks of a "weak state" such as inefficient bureaucracy and weak rule of law.⁶ Emerging economies often occupy an indeterminate position on the spectrum between these two poles. In this sense, Indonesia set about executing a narrow policy goal of building infrastructure and it tapped the state-owned sector and recentralised authority in order to induce complementarities and overcome coordination failures. I would refer to this as "good enough coordination", meaning that it may not be the most efficient outcome possible and it creates

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⁶ See Pranab Bardhan. "State and Development: The Need for a Reappraisal of the Current Literature." *Journal of Economic Literature* 2016, 54(3), 862–892.

opportunities for rent-seeking while forcing priorities, such as human right and environmental protection, onto the backburner. But this dissertation will show that the state has been “good enough” to overcome a number of coordination failures that in the past slowed down infrastructure development, and this is in and of itself a useful and novel contribution to the study of Indonesia and the wider field of economic development and political economy.

These findings are significant for several reasons. First, Indonesia is one of the largest economies in the world. In 2019 its economy ranked 16th globally in nominal GDP, and 7th when indexed to purchasing power parity.⁷ Some projections estimate it will be the 4th largest economy in the world by 2030.⁸ Under Jokowi Indonesia has seen annual GDP growth of roughly 5%, one of the highest and most consistent growth rates in the world over that time period - and even that was considered below its potential. Yet the underlying drivers of Indonesia’s recent economic growth are not well understood, and the structure of Indonesia’s political economy, in particular the mechanisms by which the state has shaped policy outcomes under Jokowi, has been under-studied.

The findings in this dissertation add important new dimensions to the study of Indonesia’s political economy, including drilling down into the underlying structural impediments and drivers of economic growth.

These findings also have implications for democratic consolidation, as economic performance in countries with weak or developing democratic institutions can be an important source of legitimacy in the eyes of voters. When the government is seen to be underperforming or not fulfilling its part of the social contract, it creates space for authoritarian or anti-democratic leaders to seize power, as in the case of Brazil.⁹ By contrast, Jokowi won re-election by a wide margin in 2019 after a campaign that prominently featured the success of his infrastructure efforts.¹⁰ This creates an explicit link between

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⁷ International Monetary Fund. *2018 World Economic Outlook*.

⁸ Enda Curran. “These could be the world’s largest economies by 2030.” *Bloomberg*. January 8, 2019. The estimate is based on a PPP basis.

⁹ Jose R. Cardenas. “The sad decline of Brazil’s political establishment.” *Foreign Policy*. October 19, 2018.

¹⁰ See for instance Edward Parker. “What does Jokowi’s win mean for Indonesia’s economy?” *The Diplomat*. April 19, 2019; *The Economist*. “Indonesia’s president wins a second term.” April 17, 2019; and Ian Morse.

the role of the state in driving economic growth and the continued legitimacy of Indonesia's democratic institutions.

Lastly, existing theories of economic growth are arguably incomplete.⁸ With the ascendancy of neoliberal orthodoxy during the 1990s, theories of economic growth have tended to privilege the role of the market. The state's role has often been relegated in the literature to guaranteeing property rights and creating a conducive regulatory environment for investment and then getting out of the way, with market forces presumed to allocate capital efficiently within that system. This paradigm is beginning to shift (see Chapter 2), but mainstream theories of growth have often overlooked the poor quality of governance in emerging markets and the increased probability of market failures. Market-based theories of growth are thus often unsuitable for political economic conditions in emerging markets.

For that reason, the design of this research shied away from rigorously testing deductive hypotheses based on existing theories. Instead, by employing both quantitative and qualitative methods based on inductive fieldwork, I have sought to build a more complete empirical analysis of the specific mechanisms by which the Indonesian state has overcome market failures to build infrastructure and drive growth. Not only does this approach contribute to the literature on economic development in Indonesia, but it can also be useful for building more complete generalized theories on economic growth in emerging markets. Institutions and process matter to economic outcomes, and this research aims to improve understanding of the role they have played in Indonesia's economic performance between 2014 and 2018.

"Infrastructure at heart of Widodo's Indonesia re-election bid." *Aljazeera*. April 11, 2019. ⁸
See literature review in Chapter 2 for a thorough discussion.

1.2. Dissertation Structure

The rest of Chapter 1 will delve into the research puzzle, conceptual framework, design, methodology and case selections of the study. It will lay out in detail what question this dissertation is asking, and how it goes about answering it.

Chapter 2 will situate this dissertation in the existing literature on economic development, state-led development, governance and Indonesian studies and make clear what gap in the literature it is filling. It will also include a discussion on the ongoing epistemological tension between the fields of economics and area studies, and will suggest that the mixed method approach employed in this study, which relies on extensive fieldwork and uses both qualitative case studies and econometric analysis, is one way to bridge the gap between the two camps.

Chapter 3 is a historical analysis of Indonesia's political economy, with special attention paid to the meaning of the "state" in the context of Indonesia's history. This background information is critical to understanding how the concept of the state has been defined and interpreted in Indonesia over time, and it grounds the later analysis of the state's role in carrying out infrastructure development in historical precedent and provides important institutional context.

Chapter 4 is an econometric analysis of Indonesia's monetary and fiscal policy from 2000 to 2017. The first section is largely descriptive, focusing on monetary policy and the country's widening current account deficit. The analysis suggests that Indonesia's current account deficit is mainly a result of increased foreign investment, a significant amount of which has been channelled into growing the stock of fixed capital such as infrastructure. The second section uses time series data to model the impact of SOE asset growth on fixed capital formation, finding a fairly strong positive correlation. The chapter concludes by using panel data from Brazil and Indonesia to model the effect of Indonesia's state-led expansionary policy on economic growth, again finding that it has had a positive impact. The chapters that follow then use qualitative case studies to explain some of the specific mechanisms underpinning that relationship.

Chapter 5 is a case study of four major airport projects from 1995 through 2019. This chapter includes an analysis of how state-owned airport operators Angkasa Pura I and II are planning and financing their airport development efforts, but it is primarily interested in how land acquisition has been carried out across different eras for airport development. It draws on two projects from the New Order era, one project from the SBY era, and a final project carried out during Jokowi's first term. The chapter drills down into how Law No 2 of 2012 has been used to accelerate project timelines, but also how it has created a statutory framework for land acquisition that has objectively improved outcomes for landowners compared to previous eras. This includes mandatory deadlines, mechanisms for legal appeals, and a more structured procedure for involving impacted communities and conducting land valuation. This law has been an essential component of infrastructure development under Jokowi.

Chapter 6 is a case study of 8 mega-power projects in Java and Sumatra of 1,000 MW or larger. 7 of them, valued at over US \$17 billion, have reached financial close and will add 11,000 MW of generating capacity as they are commissioned over the next 1-4 years. The chapter begins with an analysis of the energy sector, PLN's financial model and discusses previous efforts to increase capacity. It finds that the energy sector has grown most steadily when PLN takes the lead in building and operating new capacity, and has experienced more volatility when involving private developers. The current round of expansion, known as the 35,000 MW Programme, is one of Jokowi's signature policies. The analysis of the cases in this chapter details how, after a slow start, PLN and the government of Indonesia began leveraging the power of the state to expedite this slate of megapower projects and reassure private developers.

Chapter 7 is a comparative analysis of the renewable energy sectors in Indonesia and the Philippines from 2012 to 2017. By comparing the design and implementation of renewable energy policies in both countries, the chapter identifies important policy-making and structural obstacles that have constrained growth in Indonesia. This analysis helps illustrate why state intervention in Indonesia is often considered an expedient strategy by policy-makers, as Indonesia's experience with renewable energy underscores the potential for market failures when private capital is left to fend for itself in

Indonesia's uncertain regulatory environment. Chapter 8 concludes the dissertation by summarizing the principal findings and identifying areas for future research.

1.3. Research Puzzle and Significance

When Jokowi began his first term in 2014, it was clear the quality of transportation and energy infrastructure in Indonesia had lagged behind demand since the Asian Financial Crisis, and investment in infrastructure would be an integral component of long-term growth.¹¹ It was also clear from early on that Jokowi intended to feature SOEs heavily in infrastructure development, a strategy that Eve Warburton termed "New Developmentalism."¹² The scale and complexity of these projects, and the uncertain regulatory environment, have historically inhibited economic actors from "buying in" unless the state plays a decisive role in incentivizing them. What was unclear at that time was whether this would be an effective strategy, and if it was effective how it would be executed.

That is the central research puzzle which the study seeks to address: whether and how the state in Indonesia has planned, financed and implemented infrastructure development over the course of Jokowi's first term. This is a particularly important line of inquiry precisely because carrying out a nation-wide infrastructure development agenda, involving billions of dollars in investment, is a complex task. And in the past, the Indonesian state has struggled with such programmes. By examining how and in what ways the state succeeded or failed to implement such an agenda under new presidential leadership will yield insight into the current institutional and governance capacity of the Indonesian state, which is an ongoing and open-ended question. Several questions naturally follow from that, such as what is the role of private capital in infrastructure investment, and by what specific mechanisms has the state induced private capital to participate? What specific policy or legal tools has

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¹¹ Peter McCawley. "Infrastructure policy in Indonesia, 1965-2015: a survey." *Bulletin of Indonesian Economic Studies*, Vol 51(2) 2015, p 263-285.

¹² Eve Warburton. "Indonesia's New Developmentalism," *Bulletin of Indonesian Economic Studies*, Vol 52(3) 2016, p 297-320.

the state used to execute its infrastructure policy? What were the main constraints on infrastructure development, and how were they overcome or not overcome?

The aim of the study has been to map the relationship between key explanatory variables that influence outcomes in infrastructure development, and specifically to probe whether the state was the decisive explanatory variable in driving the success of large-scale public works projects like airports and power plants. As detailed above, the findings generally support the notion that the state was the decisive explanatory variable, though the mechanisms by which this occurred assumed a variety of forms which are detailed in this chapter and elsewhere.

This research puzzle was broad by design, to allow for the generation of new explanatory hypotheses and refine existing ones with more precision. The approach to the puzzle was also broad by design, to allow a wide cross-section of methods and data collection techniques to shape the conclusions inductively, rather than starting from a fixed point and moving backward through rigorous testing. While this dissertation does not formalize a theory of economic development in Indonesia, the conclusions it has reached lay the groundwork for a more thorough theoretical understanding of the role of the state in inducing economic growth in contemporary Indonesia.

Throughout, this design has privileged the role of institutions and process, while narrowing the field of inquiry to the study of infrastructure development. The aim was primarily to probe causal mechanisms and map their interactions, and while Chapter 4 uses linear regression to model the probabilistic relationship between numerical variables, it is not necessarily intended to measure their exact causal effect but to demonstrate the existence of a statistically significant relationship. It is then the job of the case studies to trace the mechanisms embedded in that relationship with more precision.

The study design is based on the assumption that the development of “complementarities” between economic actors is essential to achieve economic growth, and it probes whether and how the state has induced those complementary relationships between economic actors in the context of infrastructure development in Indonesia between 2014 and 2018.

The following sections explain the selection of Indonesia and discuss the relevance of infrastructure in terms of economic development and governance. There will then follow a discussion of the conceptual framework and methodology employed in addressing the research puzzle.

1.4. Single Country Study

This is primarily a single-country study focused on specifying the process by which infrastructure development in Indonesia has been carried out in President Jokowi's first term in office, and its impact on economic growth. Chapters 4 and 7 draw on Brazil and the Philippines, respectively, for comparative analysis but the principal objective is to better understand the impact of infrastructure development on economic growth in Indonesia. Brazil and the Philippines are introduced as points of reference against which to gauge the effectiveness of Indonesian policies.

With approximately 260 million inhabitants, Indonesia is the fourth most populous country and the third largest democracy in the world, as well as the country with the largest Muslim majority population. It is one of the world's most successful young democracies, having transitioned between 1999 and 2001 to a system of direct elections after 30 years of authoritarian rule under President Suharto.¹³ Since the transition to democracy, Indonesia has successfully completed several electoral cycles, most recently in 2019, which are generally considered to be free and fair.¹⁴

GDP growth as well as per capita income have been positive in Indonesia since the end of the Asian Financial Crisis in 1998. This economic growth has brought with it the typical mixture of positive and negative effects: income inequality is on the rise in tandem with increased per capita GDP, literacy rates, lower infant mortality and better access to health care and sanitation.¹⁵

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¹³ CIA World Fact Book. *Indonesia 2018*.

¹⁴ Freedom House. "Indonesia: Country Report 2014." This report can be accessed here: <https://freedomhouse.org/report/freedom-world/2014/indonesia>.

¹⁵ Data on major economic indicators, updated on an ongoing basis, can be found at The World Bank's Indonesia Country page. It can be accessed here: <http://data.worldbank.org/country/indonesia>.

Indonesia is therefore a large and diverse country experiencing stable growth and is an important part of the global economy. Given its strategic location spanning a huge swath of maritime territory between Asia and Australia, its young but arguably solid commitment to democracy, its large population and abundant natural resources it is a country of substantial importance in terms of democratization, economic development and geopolitics. On this basis I believe it is a suitable subject for a single-country study of economic development.

It is also particularly well-suited for a study on infrastructure development because when Jokowi took office there was a significant infrastructural deficit that was possibly imposing a drag on growth. In 2010, the Asian Development Bank anticipated the country would require investment of close to US \$40 billion per year to remain competitive with regional competitors, concluding that increased investment in transport infrastructure alone would lower trade costs by 25% and boost real income by US \$93 billion in 2020.¹⁶ A report by McKinsey estimated the required infrastructure investment at \$60 billion a year.¹⁷

To put this in perspective, \$60 billion per year would be roughly 6% of Indonesia's annual GDP. The ADB similarly estimates that depending on GDP growth rates from 2016-2030, Indonesia will need to allocate between 5.6%-6% of GDP toward infrastructure investment. In high-income countries, ADB estimates those infrastructure investment needs over the same time period to be between 1.9%-2.3%.¹⁸ Obviously, this is a function of high-income countries having larger GDPs and more developed infrastructure networks, but it shows that relative to developed countries, Indonesia needs to allocate more of its national income and resources toward infrastructure investment just to catch up. 6% of GDP for an emerging economy like Indonesia's is a substantial allocation of resources, and particularly given regulatory uncertainty, weak rule of law and poor governance it poses a considerable challenge.

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¹⁶ Biswa Nath Bhattacharyay. "Estimating Demand for Infrastructure" in Biswa Nath Bhattacharyay, ed, *Infrastructure for Asian Connectivity 2010-2020*. New York: World Bank, 2010, p 82.

¹⁷ Diaan-Yi Lin, "Can Public Private Partnerships Solve Indonesia's Infrastructure Needs?" *McKinsey Indonesia*, October 2014.

¹⁸ Asian Development Bank. *Meeting Asia's Infrastructure Needs*. 2017. Can be accessed here: <https://www.adb.org/sites/default/files/publication/227496/special-report-infrastructure.pdf>

Moreover, one of the less controversial ideas in the literature on economic development is that investing in critical infrastructure like airports, roads and power plants is an intrinsic and desirable public good. According to Joseph Stiglitz, there is an overwhelming amount of “evidence, backed by intuition that links economic growth with investment and gains in productivity. Thus, promoting investment in equipment and infrastructure is among the central tenets of development.”¹⁹ Therefore, in 2014 Indonesia presented a case where the country needed infrastructure investment, and there is widespread consensus that investment in infrastructure boosts output and growth.

When Jokowi took office in 2014 he promised to make infrastructure investment and development the cornerstone of his presidency, and quickly set about mobilizing funds and policy efforts to that effect.²⁰¹⁸ Infrastructure encompasses a broad range of public goods such as roads, electricity, telecommunications, airports, sea ports, gas infrastructure, rail, water supply and sanitation, dams, reservoirs, irrigation, and housing, among others. Indeed, Jokowi’s infrastructure efforts have touched on most, if not all, of these sectors. However, it would be difficult to give each sector proper analytical attention in a single work such as this so by necessity I have narrowed the lens primarily to some of the largest sectors with the most salient impact on everyday lives and GDP – electricity, roads and airports. This also provides a broad cross-section of public goods that cater to different segments of society – everyone, down to the very poor, needs electricity but not everyone needs, wants or can afford plane travel. This allows for some interesting critical comparisons in how development efforts are applied to different sectors given the variance in their end-use. For instance, the state is more willing to subsidize and absorb losses in the electricity market than it is in the toll road or airport sectors, which cater to middle and upper class Indonesians.

The totality of these efforts, with specific focus on a few highly salient sectors, presents a highly suitable case to be considered as a natural economic experiment, because at the time when the

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¹⁹ Shahid Yusuf and Joseph E. Stiglitz. “Development Issues: Settled and Open”, in Gerald M. Meier, ed, *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001, p 227.

²⁰ David Ray and Lili Yang Ing. “Addressing Indonesia’s Infrastructure Deficit,” *Bulletin of Indonesian Economic Studies*, Vol 52(1) 2016, pp 1-25.

Indonesian economy was in need of infrastructure investment the newly elected president made this the central policy goal of his administration. This created an excellent opportunity to investigate whether the administration was capable of achieving that goal, as well as the mechanisms it would use in accomplishing it.

1.5. Conceptual Framework

The research design is based on the concept of complementarities drawn from the field of development economics. It seeks to map the relationship between the state and economic actors in the planning, financing and implementation of large public works projects. The objective is to obtain a richer understanding of how complementarities develop, in this case with respect to infrastructure development and within the context of Indonesia's political economy.

There is ample evidence that complementarities are essential for economic growth, but exactly how and why they form is much less well understood. Understanding the formation of complementary economic relationships is also probably context-dependent, contingent on path dependencies and particular structural conditions embedded in the political economy of individual countries. It is therefore difficult to derive a generalizable theory of complementarities that can be applied across all cases. Detailed analysis of whether and how the Indonesian state induced complementarities in carrying out its infrastructure agenda will provide useful data on how the process works in this particular case, which is the primary aim of this study.

The framework is based on theoretical ideas drawn from the work of Albert Hirschman. In 1958, Hirschman published *The Strategy of Economic Development* in which he proposed the concept of complementarities. A complementarity is an "action taken by one [economic actor] that increases the incentives for other agents to take similar actions. Complementarities often involve investments whose return depends on other investments being made by other agents."²¹ When the interests of

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²¹ Michael P. Todaro and Stephen C. Smith, eds. *Economic Development. 11th Edition*. London: Pearson Education Limited, 2011, p 156.

these actors are aligned and they are properly incentivized to do so, it can lead to a self-sustaining equilibrium – theoretically, achieving this equilibrium is what drives economic development.

In reality such chains of complementarities rarely form on their own, and exactly what causes them to form is uncertain and can change from case to case and over time. In order for complementarities to develop, the actors involved must overcome the challenges of collective action and coordination failures and “buy in” to the system at roughly the same time. Incentivizing disparate economic actors to enter into complementarities can be achieved by the state using policy and regulatory tools, though the extent of the state’s involvement varies from case to case.

In emerging economies that lack fully developed market mechanisms and suffer from weak institutional capacity, complementarities may struggle to develop on their own or the state may even inhibit their formation through poor governance.²² Economic actors, such as a power plant developer for instance, may be reluctant to “buy in” to a big project if they have doubts about land acquisition or financing. The research objective of this dissertation has been to probe the extent to which the Indonesian state possesses the capacity to induce economic actors to “buy in” to their policy vision and overcome collective action problems. This has important implications because if the state lacks the ability to get economic actors to “buy in” to the system it can constrain growth. This is something Hirschman hit on decades ago, writing that when the “natural course of development does not yield such effects at a rate sufficient to make development self-sustaining, policymakers must induce the change.”²³ It is generally accepted that complementarities are essential for sustainable economic

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²² Yilmaz Akyüz. "Debt Sustainability in Emerging Markets: A Critical Appraisal," *Working Papers 61*, United Nations Department of Economics and Social Affairs, 2007.

²³ Donald A. Schon, “Hirschman’s Theory of Social Learning”, in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brooking Institution, 1994, p 70.

equilibrium and that state institutions are important in facilitating this process. What is less well understood is precisely how and under what conditions this happens, which forms the central research agenda of this dissertation. Specifically, the role of state institutions in inducing and coordinating the formation of complementarities in the life-cycle of major public infrastructure projects is the focal point of analysis. Clarifying the causal relationship between the state and the success or failure of major infrastructure projects can be illustrated conceptually as follows:

Fig 1.1 Conceptual framework for research design.

The independent variable in this model is the role of state institutions in inducing the formation of complementarities. The meaning of the “state” will be further clarified in Chapter 3, but in general it refers to national-level agencies and ministries which fall under the direct authority of the executive branch, as well as SOEs which are nominally independent but are in fact embedded to one degree or another in the apparatus of the state.

The dependent variable is simply the outcome of the infrastructure projects being studied. In its simplest form this can be measured in terms of binary outcomes – either the project becomes operational (success) or it does not (failure). Overwhelmingly, the cases which were studied for this project turned out to be successes, in the sense that they are under construction and regulatory and financing hurdles had been overcome. Tracing the process by which those outcomes were determined

helped pinpoint the specific legal, regulatory and administrative maneuvers adopted by the state to induce complementarities and bring the projects to completion.

The initial research design also included a range of intervening variables – local leaders, local governments and the judiciary – as it was presumed they might play a role in determining outcomes. As it turns out, to the extent that they did play a role the state simply leveraged its power to override them in order to get the outcome it desired. It stripped authority over issuing environmental and land use permits from local *bupati*, and placed those powers with provincial governments or authorities in Jakarta. When courts ruled that certain projects violated zoning or environmental regulations, the state simply used executive decrees to exempt those projects from regulatory compliance. This framework thus proved to be useful in conceptualizing how the state was trying to achieve its policy goals, but it was never meant to be a formal model suitable for rigorous testing or for measuring causal effect.

The precise relationship between these variables, and the mechanisms by which they interact to produce the dependent variable, forms the backbone of this dissertation and its research design but it was always meant to be approached inductively and with a certain degree of broadness. This is contrasted with the approach advocated by King, Keohane and Verba which aims to simplify complexity by measuring causal effects via variance in the independent variable and then drawing inferences therefrom.²⁴ They shy away from causal mechanisms because they are complex and difficult to measure, preferring instead to narrowly focus on limited independent variables and the measurable effects they produce.

While this approach is appropriate for some research designs, it was not the most appropriate for this one and is often misapplied in development economics. Economist Irma Adelman argues that development and economic growth are not mono-causal and therefore attempts to isolate the relationship between an X and Y variable are incomplete at best. Rather, economic development “is a

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²⁴ Gary King, Robert Keohane and Sidney Verba. *Designing Social Inquiry*. Princeton: Princeton University Press, 1994, p 86.

highly multifaceted, nonlinear, path-dependent, dynamic process” and that by “insisting on simplistic theories and on simple growth models that mis-specify the process of economic development, development economists and aid agencies deliver policy prescriptions that are mostly flawed and that, for most countries, are likely to be either completely or partially incorrect.”²⁵ Restricting the analysis to a measurement of causal effects minimizes the importance of the intervening process and variables that are the guts of causality.

This research design explicitly engages with that causal complexity. For the sake of coherence and conceptual unity, it hypothesized that the state was the independent variable with the greatest explanatory power then inductively probed that hypothesis via the structured, focused application of process tracing in a series of case studies as well econometric modelling. Per George and Bennett, this approach is less concerned with rigorously testing a series of competing hypotheses than it is in wading into causal complexity and tracing the mechanisms that yield the dependent variable.²⁶ The goal is to specify the contingent nature of those relationships with more precision while refining a set of working hypotheses and/or generating new ones inductively, rather than rigorously testing a series of competing hypotheses. That methodology is detailed in the following section.

1.6. Methodology

This is a single-country study employing a largely inductive approach. Nevertheless, the analysis is situated in the broader theoretical framework of development economics. The implications for this research are twofold. On one level, it will yield specific conclusions and data on the prospects for infrastructure development, governance and economic growth in contemporary Indonesia. On a theoretical level, it seeks to investigate the causal relationship between a series of variables in inducing the formation of complementarities, in particular probing how state-led development was planned,

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²⁵ Irma Adelman. “Fallacies in Development Theory” in Gerald M. Meier, ed, *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001, p 130.

²⁶ Alexander George and Andrew Bennett. *Case Studies and Theory Development in the Social Sciences*. Cambridge: MIT Press, 2005, p 21.

financed and implemented in Indonesia under Jokowi. This will lend empirical evidence to a growing body of economic development theory that focuses on the role of institutions and process in economic growth, and will provide data on how complementarities develop in practice.

The scope of the research objective is therefore both specific and general. It seeks to answer specific policy and economic questions pertaining to economic development in Indonesia – a suitably important country from the standpoint of democratisation, geopolitics and economics to justify the level of analytical detail – as well as contribute empirically to theoretical discourse on how the state induces complementarities in emerging economies.

1.7. Econometric Modelling

The research design consists of three separate methods. The first, used in Chapter 4, takes timeseries data on major economic indicators from Indonesia between 2010 and 2017 including interest rates, SOE asset growth and FDI and runs OLS linear regression to test whether the growth of SOE assets, which has greatly accelerated under Jokowi, is positively correlated with the growth of fixed capital over time. The model found a strong positive relationship, even when accounting for population growth.

This chapter also includes a second model that uses panel data from Brazil and Indonesia from 2000 to 2017 and includes domestic credit as a percentage of GDP, external debt and interest rates as variables. OLS regression with fixed effects was then used to test whether a dummy variable representing expansionary fiscal policy enacted in Indonesia in 2015 was positively correlated with GDP growth. Brazil was used as a “control” case for comparison because many baseline conditions in both economies were broadly similar in 2013, but Brazil did not enact expansionary policy. The model therefore tests for what happened to both countries under similar initial conditions when one received the “treatment” of fiscal stimulus and the other did not.

The model found that expansionary fiscal policy in Indonesia, spearheaded by the state, was positively correlated with growth. The data for these models was drawn from databases maintained by

the World Bank, Asian Development Bank and US Federal Reserve (FRED) and modelled in R. The technical specifications for the models are found in Chapter 4, along with a descriptive discussion of overall monetary and fiscal policy in Indonesia from 2000 to 2017 including detailed analysis of Indonesian's current account deficit and the impact of FDI on fixed capital formation.

The econometric models in Chapter 4 were designed to probe into the “big picture” effect of Indonesia's state-led expansionary fiscal policy, finding that it was positively correlated with growth, and that the rapid increase of SOE assets in the transportation, toll road and construction sectors was also positively correlated with growth. The chapters that follow (Chapters 5 and 6) then use structured process tracing on a total of 12 case studies drawn from two different sectors (transportation and energy) with the goal of exploring the statistical relationship indicated by the models in more detail.

1.8. Case Selection

Drawing cases from a single country reduces the generalizability of the findings, but it also helps to control for omitted variables that might otherwise bias the analysis such as social norms, path dependence and culture as these can generally be assumed to equalize across a single country. Process tracing (discussed in more detail in the following section) was conducted on a total of 12 cases in order to identify the mechanisms by which the state was carrying out these projects. Four cases were drawn from the airport sector over a period of roughly two decades. Eight cases were drawn from the energy sector, representing all projects of 1,000 MW or greater between 2015 and 2019. The cases are briefly described below:

1.9. Airport Projects

Project	Location	Started	Completed	Total Years	Era
Kualanamu	North Sumatra	1995	2013	18	New Order
Lombok	NTB	1995	2011	16	New Order

Kertajati	West Java	2011	2018	7	SBY
Kulon Progo	Yogyakarta	2015	2019	4	Jokowi

Fig 1.2. Summary of cases in Chapter 5.

These cases were largely selected as a matter of necessity, since they represent most of the major international airports developed from the ground-up over the last 25 years. But there is also an interesting phenomenon captured by the above figure which is that the timeline for completion has been greatly accelerated in the more recent projects.

The projects started in 1995 were obviously delayed by the Asian Financial Crisis, but even accounting for that the Kulon Progo project developed under Jokowi's administration reached completion quite fast by historical standards. By conducting process tracing on these four cases the study builds detailed profiles of how each project was planned and implemented, with an emphasis on the process of land acquisition. By building detailed profiles it is then possible to compare the specifics of these four cases in an analytically useful way, which in turn revealed the critical importance of Law No 2 of 2012 and its use by the Jokowi administration. This is discussed in greater depth in Chapters 3 and 5.

1.10. Energy Projects

Project	Location	Cost (USD billion)	Capacity (MW)	Status (2019)
Batang PLTU	Central Java	4.2	2,000	Construction
Cirebon II	West Java	2.1	1,000	Construction
Cilacap #4	Central Java	1.389	1,000	Construction
Tanjung Jati B	Central Java	4.194	2,000	Construction
PLTU Jawa 7	Banten	1.8	2,000	Construction
Jawa Satu	West Java	1.8	1,760	Construction

Indramayu II	West Java	4	2,000	Delayed
Sumsel-8	South Sumatra	1.680	1,240	Construction

Fig 1.3. Summary of cases in Chapter 6.

These eight cases constitute the largest power projects being developed under Jokowi's 35,000 MW Programme, representing nearly 37% of the programme's total capacity target and a large portion of Indonesia's total balance of foreign direct investment. Because of the high profile of these projects, involving international partners and development banks and billions of dollars, they represent Most Likely Cases, in which the state is most likely to mobilize the full force of its resources and power to bring them to completion. There will also be some discussion of the Tanjung Jati A power plant, a joint venture between Indonesian conglomerate PT Bakrie Brothers and the Malaysian energy firm YTL Power. Despite having a signed PPA with PLN since 2015, the project has been largely stuck and is still unfinanced. This underscores the difficulty even large, well-known Indonesian private conglomerates have in getting traction on big projects without explicit state backing.

This creates an ideal opportunity to build a profile of each case through process tracing that details the precise mechanisms the state used to induce complementarities in the seven successful projects, and how it failed to do so in Indramayu. Ultimately, these cases provided useful data on how the state has implemented a wide-range of regulatory, institutional and policy tools to encourage projects to reach financial close in the energy sector. These policy tools, and the specific energy projects, are discussed in depth in Chapters 4 and 6.

1.11. Process Tracing

The primary method for tracing the causal pathways within these cases is process tracing. Good process tracing must be done in a "structured, focused" way so that the data from different cases can be usefully compared and analysed.²⁷ It should be structured in a standardized manner that addresses

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²⁷ David Collier. "Understanding Process Tracing," *Political Science and Politics*, Vol 44(4), 2011, pp 823-30.

the central research puzzle while focusing on strategically important parts of the process rather than trying to capture all aspects of it.²⁸ While acknowledging the difficulty in carrying out fully comprehensive process tracing on 12 case studies, I believe applying the logic of process tracing in sufficient detail to these 12 mini-cases can help illuminate critical inflection points in the process, particularly related to planning, financing, permitting and land acquisition. The goal is not to capture every aspect of the process, but to capture the most strategically important aspects and compare them in an analytically useful way.

The following model for mapping the process of infrastructure development, from planning to financing to construction, meets these criteria and simplifies the effort of mapping a causally complex process. It provides an analytical baseline that can be standardized across all cases to ensure consistency of data collection. It is a heuristic model representing an ideal typology of the life-cycle of an infrastructure project, based on the assumption that all actors enter into complementarities with one another in a way that creates a sustainable equilibrium, one where the rule of law ensures an equitable playing field and state institutions assist in coordinating and regulating behaviour:

Ideal Life-Cycle of Infrastructure Project

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²⁸ Alexander George and Andrew Bennett. *Case Studies and Theory Development in the Social Sciences*. Cambridge: MIT Press, 2005, p 68.

Economic Actors:

- National Government
- Local Government
- Private Developers
- Investors
- NGOs
- SOEs
- Landowners
- Media
- Courts

Fig 1.4. Heuristic model representing an ideal typology of the life-cycle of a public works project.

In this ideal typology, the government develops a national framework for infrastructure investment and allocates funds in the budget; these plans are then financed, with or without private investment. The project is planned, land is acquired, construction is started, the project becomes operational and then is maintained for the rest of its useful life. In the middle, coordinating this chain of

complementarities is the state. Any disputes along the way are settled through institutionalized and transparent processes like the courts, while government regulators manage and coordinate the actors to ensure development proceeds in an organized manner that is environmentally sustainable and safe.

The optimal outcome of this cycle is a boost in tax revenue and GDP, increase of social capital, a multiplier effect on consumer demand due to the stimulating impact of investment, the lowering of transaction costs and increased trade, increased government credibility, etc. These dividends are then re-invested in continued development, while the policymakers and developers have acquired new skills and knowledge from the process, and the circle starts all over again. A self-sustaining equilibrium has thus been achieved, where actors are induced to coordinate by state institutions and in which the experiences from the past refine and improve the implementation of policies to address future challenges.

Per Weber, the purpose of an ideal typology is to serve as a “yardstick for assessing cases. [C]omparing the real with the ideal... throws a case into relief, highlighting errors and assessing deviations, thereby showing how the ideal type works in practice” and “thus facilitates general comparative and typological explication of particular events, situations and outcomes.”²⁹ This ideal typology will serve as a standardized baseline to compare against empirical observations made in the field, allowing for pinpointing of the ways in which reality deviates from the model. The benefit of this simplified model is that it can localize a deviation at a particular juncture in the process and allow for further probing of that point for causal inferences.

This model satisfies the “focused” requirement of good process tracing, in that it allows for identification and investigation of significant events along a standardized continuum. The “structured” part of the methodology involves standard data collection, including participant interviews, review of local media sources and archival research in publically available records, reports and documents. This yields an empirically rich and thorough descriptive account of the process from end-to-end, a critical

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²⁹ Mark Lichbach. *Is Rational Choice Theory All of Social Science?* Ann Arbor: University of Michigan Press, 2003, p 18.

element of making valid causal inferences.³⁰ It captures, in the 12 mini-cases examined here, the strategically important aspects of the process. The types of questions that I sought to answer in building these profiles are as follows:

1.12. Planning

Who is in charge of planning and conceiving this project? How are the responsibilities divided up, particularly between local and national jurisdictions? Is there a clear institutionalized process for planning, oversight, implementation and regulation? How are interactions between various agencies/actors coordinated? How does the permitting process work and how complicated/cumbersome is it? What institutionalised mechanisms exist to resolve disputes? How transparent is this process?

1.13. Financing

How is the project financed? Is it a public-private partnership? Are the details of the arrangement publically available? Is the financing mechanism sustainable - e.g., has the national or local government issued debt to finance this project? If so, how is the debt structured and is that information easy to access? How have the funds been disbursed? What formal, institutionalised mechanisms exist to resolve disputes?

1.14. Construction

How was the contract awarded? Is there a transparent, institutionalised bidding process and who oversees it? Where does the labour force come from (are the workers local or foreign)? Are there laws regulating labour conditions and are they enforced? How are delays managed? Is this information

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³⁰ Gary King, Robert Keohane and Sidney Verba. *Designing Social Inquiry*. Princeton: Princeton University Press, 1994, p 35.

opaque or easily available to the public? What formal, institutionalised mechanisms exist to resolve disputes?

1.15. Due Process

How are disputes settled? Is there a clearly defined, well-ordered legal hierarchy based on the fair and equitable rule of law? When disputes are settled through the judiciary, do participants feel the results are equitable? Does the judiciary operate in a transparent manner? Do government agencies responsible for coordinating and regulating this project have clearly defined roles and operating procedures that are publically available? If the process is not opaque, is there any institutionalized process, procedure or authority that civil society can appeal to?

In conducting process tracing on the 12 cases (or you could perhaps call them mini-cases) detailed above, these questions guided the inquiry, allowing me to build detailed profiles of each project that focused on similar criteria. With the profiles compiled, they could then be compared to the ideal typology to see how they conformed or deviated from it. This satisfied the imperative for a structured and focused analysis of the process by which the state executed large-scale infrastructure projects in the energy and airport sectors, and provided useful data that allowed me to specify the most important mechanisms involved in yielding particular outcomes.

1.16. Between Country Sectoral Comparison

The third stage of the research design comprises a comparison between the renewable energy sectors in Indonesia and the Philippines from 2012-2017, which forms the basis of Chapter 7. Indonesia and the Philippines share some broad baseline similarities in terms of geography, renewable energy potential and the structure of their energy markets. They also both began trying to jump-start

renewable energy at the same time using the same type of policy instrument. The Philippines was far more successful, while Indonesia has struggled. The question is why?

I reviewed the literature and compiled a rubric of best policy practices and structural conditions that were likely to be conducive to growth. I then compared how each country conformed or deviated from this rubric, and found that Indonesia deviated substantially. It has a much more unreliable regulatory environment and policy-making is often unpredictable and ad-hoc. This helps explain why growth in renewable energy has been low in Indonesia, as market failures and regulatory uncertainty have turned off investors.

In this case, the state did not step in forcefully to try and induce “buy-in” or form complementarities, as it did in the other sectors, which underscores both the power of the state to implement projects it wishes to prioritize, and why in the absence of state intervention private capital often flounders.

These three stages, each based on a different methodology, form the basic research design employed in this dissertation.

1.17. Data Collection

From July 2017 to June 2019 I lived full-time in Indonesia conducting fieldwork and gathering data. This included dozens of unstructured interviews in Jakarta and Yogyakarta with current and former officials in the Ministry of Energy, National Land Agency, development banks, NGO representatives, academics, members of the media, consultants and other stakeholders. I attended numerous workshops, conferences and informal dialogues.

I reviewed hundreds of contemporary and archival media reports (which in Indonesia tend to be quite accurate, as the press is generally free and open and there are a number of good local reporting outlets). I reviewed thousands of pages of consolidated financial statements, annual reports and operating reports from the Ministry of Energy, Central Statistics Agency, PLN, Angkasa

Pura I & II, Ministry of State-Owned Enterprises, Jasa Marga, major Indonesian banks, Bank Indonesia and Ministry of Finance among others. I reviewed dozens of judicial case files, as well as internal documents provided to me by sources.

I compiled time-series datasets for major economic indicators in Indonesia, Brazil and the Philippines drawing on data from the World Bank, IMF, Asian Development Bank and US Federal Reserve and other national government sources, such as the Philippines Department of Energy. I conducted site visits to the Kulon Progo Airport project in Yogyakarta to gauge the impact of land acquisition, as well as to determine the market price of land in the area in 2018.

This data was then used to create the econometric models employed in Chapter 4, conduct structured and focused process tracing of the 12 cases analysed in Chapters 5 and 6, and to compare growth in renewable energy between Indonesia and the Philippines in Chapter 7. By drawing data from a wide variety of sources and triangulating my analysis with different methodologies across multiple sectors the aim was arrive at the most robust and reliable conclusions possible.

This research design incorporates econometric modelling, process tracing and between-country comparative analysis to push deep into causal mechanisms and process and describe how the state in Indonesia has succeeded or failed in achieving the desired outcome of infrastructure development. By seeking to clarify a causally complex process, this methodology reflects the approach to social science articulated by George and Bennett.³¹ It is a research design that focuses on an important process and what that process reveals about the capacity of state institutions to coordinate and incentivize economic actors to “buy in” to infrastructure development projects. By trading comprehensive breadth for strategic focus, my aim is to zoom in on how complementarities form with more precision.

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³¹ Alexander George and Andrew Bennett. *Case Studies and Theory Development in the Social Sciences*. Cambridge: MIT Press, 2005, p 31.

Chapter 2

Literature Review

2.1. Introduction

This literature review sets out to do three things.

First, it discusses the existing literature on economic development, as well as how the state has been conceptualized and studied as an agent of development. The purpose of this discussion will be to evaluate the existing state of the literature and indicate how my research intends to fill a gap in it.

Second, by briefly describing the evolution of democratization studies, I intend to show that only recently have scholars of democratic transition and consolidation begun to appreciate the link between governance and political stability. This dissertation is not explicitly about democratization, but it is about governance and it is fair to say that prospects for continued democratic consolidation in Indonesia are dependent to some degree on the ability of the democratically elected government to deliver successful policy outcomes. As discussed in Chapter 1, Jokowi campaigned heavily on his infrastructure successes and it likely played a role in his comfortable re-election victory, underscoring the link between delivering on policy promises and continued political legitimacy, particularly in a country with relatively young democratic institutions.

Lastly, I will conclude with some commentary on methodology and research practices in area studies and economics, as it bears on this research design. Economics and area studies have conventionally been held as separate disciplines, sometimes viewed as incompatible and in opposition to one another on everything from the nuts and bolts of methodology to epistemological underpinnings. Economics is typically the arena of rational-positivists and quantitative modelling, favouring a priori deductive hypotheses and the quest to discover universal covering laws of human behaviour. Area specialists tend to prefer fieldwork and inductive methods of data collection and analysis that is context-dependent and interpretive. Generalizable theories are largely eschewed in favour of specific casual mechanisms. I contend, however, that this divide is an unnecessarily rigid one

and that an integrated approach that borrows from both sides of the debate, and employs a variety of methodologies as this study does, is appropriate given the nature of the research objective and can yield a fuller understanding of the object of inquiry.

2.2. Development Economics

The study of how under-developed economies transition to more mature stages of economic development began to emerge as a distinct subfield of social science in the 1940s and 50s.³² The upsurge in scholarly interest was fuelled by the proliferation of new nation-states in the postcolonial era and the competition between the United States and the Communist bloc to recruit these developing regions into their spheres of influence.³³ Helping newly minted nation-states achieve economic lift-off through free market capitalism was thought to be a good way to keep them out of the Soviet orbit.

Most early work in the field was based on the experience of economic growth and development in the United States and Europe, with the implicit assumption that a Western-style industrialized market economy was the goal toward which policies should aspire. This assumption permeates the work of American economist W. W. Rostow, whose classic five stage model of growth sought to map a generalizable and universal trajectory from rural agrarianism to mature industrialization and “high mass-consumption.”³⁴ Rostow's stages of growth assumed that capital accumulation and investment were the primary drivers of economic development and that an influx of targeted foreign aid was the best way to jump-start growth, as had been the case with the Marshall Plan.³⁵

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³² Howard J. Wiarda. *Introduction to Comparative Politics: Concepts and Processes*. Orlando, FL: Harcourt College Publishers, 2000, p 47.

³³ Vicky Randall and Robin Theobald. *Political Change and Underdevelopment: A Critical Introduction to Third World Politics*. Durham: Duke University Press, 1998, p 18.

³⁴ W.W. Rostow. *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press, 1960.

³⁵ Michael P. Todaro and Stephen C. Smith, Eds. *Economic Development. 11th Edition*. London: Pearson Education Limited, 2011, p 111.

Another early theory was the Lewis two-sector model, based on the work of W. Arthur Lewis.³⁶

This model assumed that agrarian societies were drowning in an excess of agricultural labour; given appropriate incentives in the form of aid packages and government policies, low-productivity surplus labour in the agrarian sector would migrate to high-productivity industrial sectors and jump-start growth. Like Rostow's theory, this was relatively easy to model and presented a persuasive blueprint for policy: build up the industrial sector, and take advantage of otherwise idle rural labour.

These theories were immensely influential in the 1950s and 60s, and provided the intellectual backbone for US foreign aid strategies – Rostow served as National Security Advisor in the Johnson Administration and brought his beliefs with him. And in some ways, they were correct. Lewis' model is good at explaining what has happened to China's economy in the last three decades, for instance.³⁷ But given a larger sample size, and over time, they have proved to be incomplete and, Rostow's ideas in particular, are now viewed as relics of a discredited age in development economics.³⁸

For one, the models of many early developmental economists were based almost exclusively on the experiences of the United States and Europe, but were assumed to have universal validity.³⁹ They did not, in other words, account for existing historical, cultural or political conditions. These models were parsimonious, constructed from past Western historical experiences and had a strong appeal to US policy-makers who believed that the goal of development ought to be some version of the West's experience. They failed to account for more nuanced factors that were submerged in the background but of critical causal significance when it comes to under-development and growth, such

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³⁶ W. Arthur Lewis. "Economic Development with Unlimited Supplies of Labour," *Manchester School* 22 (1954): 139-191.

³⁷ Nazrul Islam and Kazuhiko Yokota. "Lewis Growth Model and China's Industrialization," *Working Paper Series Vol. 2008-17* from United Nations Department of Economic and Social Affairs Development Policy Analysis Division. Published May 2008.

³⁸ Mark Kesselman. "Order or Movement: The Literature of Political Development as Ideology," *World Politics* 26, October 1973, pp 139-153.

³⁹ Howard J. Wiarda. *Introduction to Comparative Politics: Concepts and Processes*. Orlando, FL: Harcourt College Publishers, 2000, p 52.

as path dependence and institutional design. They also adopted uni-linear approaches that relied on overly simplistic assumptions about wages, markets and economic fundamentals; these shortcomings proved to be fatal.⁴⁰

Samuel Huntington was quick to pick up on this, arguing in response to Rostow, Lewis and similar theorists that a myopic focus on economic growth alone could be destabilizing to political systems lacking robust institutional capacity.⁴¹ He was one of the early academics to realize that institutions matter in economic development and that capital accumulation and surplus labour alone did not tell the whole story. Almond and Verba's *The Civic Culture* likewise focused the analytical lens on the role of political culture in shaping outcomes, suggesting the importance of norms and values as a causal mechanism.⁴² This contrast between Lewis' positivist modelling and Huntington, Almond and Verba's emphasis on institutional and cultural factors presaged the on-going debate in the field between quantitative analysts and those with a more qualitative disposition.

The failure of these early theoretical models to deliver on their promises sent the field into a state of purgatory and existential crisis. By the 1970s, much of the literature had turned to critical take-downs of development theory for its ethnocentricity, naïve optimism, methodological weakness and failure to recognize the political implications of economic dependence on the West.⁴³ This provoked a radical counter-revolution of sorts, a flourishing of Marxist influenced approaches such as dependency theory that sought to link under-development to exploitation by and overreliance on the West.⁴⁴ The study of development economics was relegated to the fringes.

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⁴⁰ Paul Krugman. "The Rise and Fall of Development Economics," in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brookings Institution, 1994, p 57.

⁴¹ Samuel P Huntington. *Political Order in Changing Societies: The Governing of Restless Nations*. New Haven: Yale University Press, 1968.

⁴² Gabriel A Almond and Sidney Verba. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Princeton: Princeton University Press, 1963.

⁴³ Vicky Randall and Robin Theobald. *Political Change and Underdevelopment: A Critical Introduction to Third World Politics*. Durham: Duke University Press, 1998, p 38.

⁴⁴ Keith Griffin and John Gurley, "Radical Analysis of Imperialism, the Third World, and the Transition to Socialism: A Survey Article," *Journal of Economic Literature*, Vol 23 (1985), pp 1089-1143.

That fate was not preordained, however. Contemporaries of Lewis and Rostow, including Albert Hirschman, in the 1950s and 60s were publishing alternative theoretical frameworks that offered more complex and realistic interpretations of economic growth. By emphasising the importance of strategic complementarities – what Krugman has termed “high development theory” – economists like Hirschman adopted the idea that development breeds development in a virtuous cycle of complementarities.⁴⁵ Paul Krugman writes that ultimately in their own time they were ignored because the “unconventional themes put forth by the high development theorists – their emphasis on strategic complementarity in investment decisions and on the problem of coordination failure – did in fact identify important possibilities” but “failed to convince their colleagues of the importance of those possibilities.”⁴⁶

Hirschman’s weakness, from the point of view of his contemporaries, was that he wrote about these ideas in an intuitive way that refuted the utility of technical, parsimonious models which by the 1960s had begun to dominate mainstream economics. As the field of economics came to rely more and more on hard modelling, intuitive notions of complementarities were increasingly seen as “incomprehensible” for the simple reason that they could not be adequately modelled given the technical limitations of the time.⁴⁷ Hirschman, despite having hit upon useful insights, became so frustrated with the field’s obsession with modelling that he more or less exiled himself from it. Further, his notions about the necessary role of policy-makers in inducing the formation of complementarities found no traction with neoclassical proponents of market forces that came to dominate economics in the 1970s⁴⁸ and presaged the neoliberal revolution of the Reagan-Thatcher era.

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⁴⁵ Paul Krugman. “The Rise and Fall of Development Economics”, in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brooking Institution, 1994, p 57.

⁴⁶ Paul Krugman. *Development, Geography and Economic Theory*. Cambridge: The MIT Press, 1997, p 29.

⁴⁷ Ibid, p 23.

⁴⁸ Lance Taylor. “Hirschman’s Strategy at Thirty-Five” in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brooking Institution, 1994, p 63.

Neoclassic theories of development are predicated on the rationality of market equilibriums and they have, given a sufficient number of limiting assumptions, a powerful explanatory capacity. Solow laid the theoretical foundations of the approach in 1956⁴⁹; tellingly, however, he was not awarded the Nobel Prize until 1990, when the neoliberal policy offshoots of that theory had become widely accepted in Washington. Neoclassical development theories espoused a belief in the power of free markets to function as a panacea to what ailed the developing world.⁵⁰ They provided intellectual cover for the neoliberal policies of the Washington Consensus⁵¹ by employing the concept of convergence: that any economy, given a certain set of fundamental parameters, would be pushed by the invisible, rational hand of market forces toward a mutual state of economic development. Convergence, as articulated by neoclassical theorists, has yet to occur in the predicted manner.⁵²

Neoclassical theories of development are still popular, but the idea that free markets will raise all boats has been eroded somewhat in the wake of both the Asian Financial Crisis and the 2008 Global Financial Crisis. Increasingly, development economists – particularly those with practical experience at the World Bank – have come to identify some fundamental shortcomings of neoclassical theory, at least in jump-starting sustainable growth. This dissertation is built upon expanding on those areas – namely institutions and process – that have been overlooked in conventional development economics and using them to synthesize a robust empirical account of the process by which the Indonesian state has carried out its development goals.

Stiglitz is one who advocates for approaches that go “inside the black boxes of institutions.”⁵³ What he means is that how institutions – be they social, political or economic – incentivize and regulate

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⁴⁹ Robert Solow. “A Contribution to the Theory of Economic Growth,” *Quarterly Journal of Economics*, Vol 70, 1956, pp 65-94.

⁵⁰ Peter T. Bauer, *Reality and Rhetoric: Studies in the Economics of Development*, London: Weidenfeld & Nicolson, 1984.

⁵¹ Neoliberalism and the Washington Consensus are an ideology and a set of free market policy principles, respectively, that came to dominate Washington policy-making during the 1980s and 90s. See David Harvey, *A Brief History of Neoliberalism*, Oxford: Oxford University Press, 2007.

⁵² Karla Hoff and Joseph Stiglitz. “Modern Economic Theory and Development,” in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001, p 391.

⁵³ *Ibid*, p 391.

economic actors into producing sustainable equilibriums is critically important; yet most neoclassical economic models assume they do not even exist. Stiglitz is merely reflecting a trend in development economics acknowledging that “institutions matter.” While this idea seems self-evident and intuitive, it has only recently been confirmed by the weight of economic theory.⁵⁴ Reflecting the analytical interest in institutional capacity to facilitate economic growth, the conceptual framework adopted for this dissertation seeks to inductively probe the role of institutional actors – specifically the state – in coordinating the process of infrastructure development.

Process is important because it has likewise been under-studied in conventional development economics. The dominance of positivist methodology means testable hypotheses deduced from systemic theories and then applied to historical case studies is the norm. This places an emphasis on correlating a pair of variables by measuring changes in casual effect.⁵⁵ This approach has its flaws, particularly if the research objective is to make sense of a causally complex process. According to Green and Shapiro, a rigid positivist approach “places great emphasis on the development of post hoc accounts of known facts.”⁵⁶ Simply because we record a particular outcome or prove a relationship exists between two variables, this tells us very little about how that outcome was produced. By ignoring the process and focusing narrowly on whether the measurable outcome conforms to a theoretical prediction, we miss out on the guts of causality. This causal complexity is precisely what I seek to explore with this research design.

Merilee Grindle is another development economist who has identified this failure to appreciate the importance of process, writing that in conventional economics process, like institutions “is treated as a black box, and the questions of who takes the initiative to promote policy and institutional change, and of what interests are represented and how, are assumed rather than

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⁵⁴ Pranab Bardhan. “Distributive Conflicts, Collective Action, and Institutional Economics,” in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001, p 270.

⁵⁵ Gary King, Robert Keohane and Sidney Verba. *Designing Social Inquiry*. Princeton: Princeton University Press, 1994, p 81.

⁵⁶ Donald Green and Ian Shapiro. *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science*, New Haven: Yale University Press, 1994, p 34.

investigated empirically. Reasoning backward or forward from interest to outcomes can easily lead to misspecification of actors in empirical cases. The only way to avoid such errors is to inquire into process.”⁵⁷

Thus I see my research as an attempt to focus on two under-served areas of development economics: the importance of process and the role of state institutions in that process. This process-based, granular analysis contrasts with earlier approaches to the field of development economics that relied on uni-linear models of development and overly simplistic assumptions. It is also useful to contrast this approach with more contemporary neoclassical theories that are more sophisticated than their predecessors, but still rely on a number of streamlined assumptions about the rationality of markets and other economic fundamentals which can limit their practical utility in specific cases.

Interestingly, many of the insights from “high development theory” – primarily the importance of complementarities – which failed to catch on in mainstream economics in the 1960s, have seen a resurgence in relevance in the last three decades. This is because modelling techniques finally caught up to the complexity of the ideas and “in the 1980s and 1990s economists were able to look at high development theory with a fresh eye and see that it really [did] make a lot of sense, after all.”⁵⁸ Hirschman’s view of development as a complex, multi-faceted process is gaining traction in the field, primarily because complex assumptions can now be more accurately modelled. But this also opens the field up to properly structured, qualitative studies that take complex, nuanced theoretical concepts such as complementarities and seek to gather empirical data on how they are operationalized in real world scenarios. That is the fundamental research objective underpinning this dissertation.

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⁵⁷ Merilee S. Grindle. “In Quest of the Political,” in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001, p 363.

⁵⁸ Paul Krugman. “The Rise and Fall of Development Economics”, in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brooking Institution, 1994, p 41.

2.3. The Developmental State

One of the primary questions probed in this dissertation is how the state has succeeded, or failed, to induce the formation of complementarities in Indonesia, and how this has impacted economic growth. It is a question that has been asked before, often in the context of East or Southeast Asian economic growth.

There is a large literature on state intervention in economic development. Japan's massive post-war boom has been detailed in Chalmers Johnson's *MITI and the Japanese Miracle*, where he traced the role of the powerful Ministry of International Trade and Industry (MITI) in inducing industrialization at scale in post-war Japan.⁵⁹ Although the state did not directly take ownership of the companies driving Japan's industrial output, it used its disciplined bureaucracy as a whip to sideline small and medium size businesses and encourage large private cartels to dominate critical sectors. It also used its regulatory authority to pick and choose winners within the domestic economy, and to directly shape Japan's industrial policy. Johnson's work coined the phrase "developmental state", describing a state that acts as the agent of economic development through direct intervention in regulatory architecture and policy.⁶⁰ Johnson was careful to note that he was describing the specific path that Japan took in pursuing its industrial policy, and that the findings were not necessarily generalizable.

The publication of *MITI and the Japanese Miracle* coincided with a surge of scholarly interest in the role of the state in economic development. In 1985 *Bringing the State Back In*, edited by Peter Evans and featuring the work of political theorists like Theda Skocpol, sought to frame these issues in a theoretically consistent way, and expound on the fundamental importance of the state in shaping economic and social outcomes.⁶¹ This was a hot button issue at the time, as Japan's success in

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⁵⁹ Chalmers Johnson. *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975*. Stanford University Press, 1982.

⁶⁰ Jewellord Nem Singh & Jesse Salah Ovadia. "The theory and practice of building developmental states in the Global South." *Third World Quarterly*, Vol 39(6), 2018.

⁶¹ Peter Evans, ed. *Bringing the State Back In*. Cambridge University Press, 1985.

modernizing and industrializing its economy through state intervention was being successfully copied in other rapidly industrializing Asian economies like South Korea, Hong Kong, Taiwan and Singapore.⁶² Moreover, this evidence directly contradicted the then-ascendant market-based economic theories underpinning the policies of Thatcher and Reagan.

Some scholars have cautioned that applying the theory of the developmental state outside of Asia requires adapting it to account for changes in global economic contexts.⁶³ There seems to be ample support for such a conclusion in the literature, which has come to the conclusion that even if we accept the need for the state as a necessary component of economic growth, this can take many forms. A critical question in the discourse on economic development then, is what the appropriate role for the state should be. This is a highly potent question and although many attempts have been made to rigorously answer it, it is far from settled. Different countries, with different path dependencies, structural economic conditions, historical contingencies, social norms and political institutions may reasonably arrive at differing conclusions when it comes to what the optimal role for the state is in economic development.

Neoclassical economic theories, derived mainly from Western experiences with free market capitalism, are based on the idea that the state's role is to enforce property rights and then to get out of the way, allowing presumably efficient market forces to arrive at optimal equilibriums. More recent studies in critical political economy have called into question some of these underlying assumptions, however, suggesting the role of *laisses faire* economic governance in even 19th century Europe has been over-stated and mischaracterized, and that the state has played a more dominant role in economic growth and development than neoclassical economists are typically willing to acknowledge.⁶⁴

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⁶² Stephan Haggard. *Pathways from the Periphery: The Politics of Growth in the Newly Industrializing Countries*. Cornell University Press, 1990.

⁶³ Jesse Salah Ovadia & Christina Wolf. "Studying the developmental state: theory and method in research on industrial policy and state-led development in Africa." *Third World Quarterly*, Vol 39(6), 2018.

⁶⁴ Rune Møller Stahl. "Economic Liberalism and the State: Dismantling the Myth of Naïve Laissez-Faire." *New Political Economy*, Vol 24(4) August 2019, pp 473-486.

Calling on the history of the United States and Europe, a history which many scholars may not even be remembering accurately, to establish a universal template for economic growth and development that hinges on privatization and reducing the role of the state has obvious limitations. For one, it ignores the contingent nature of economic development and the importance of path dependence in favour of a generalized theory of economic development for which there is limited empirical evidence. For instance, state control over major sectors of the economy is very common in postcolonial economies, many of which eagerly embraced the nationalization of state assets as a rejection of colonial exploitation.⁶⁵ To complicate matters further, evidence discussed below indicates that state control of critical industries can both drive and constrain growth, depending on a wide variety of factors.

It is not hard to understand why emerging economies have often been sympathetic to socialist ideals from the 1950s onwards. In many cases, particularly in resource-rich countries that produced lots of raw commodities, an exploitative system of global capitalism allowed foreign entities to harness national assets and exploit them during the colonial era. As the 20th century wave of post-colonialism gathered steam, newly independent nation-states often nationalized assets (steel, oil, rail roads, shipping, rubber, tin etc.) previously owned by foreigners and placed them under the purview of the state.⁶⁶ In some sense it was a way of reclaiming national sovereignty and repudiating foreign exploitation and interference.

However, it was and still is often the case that postcolonial economies suffer from bad governance, deficient rule of law, poor regulatory architecture and weak institutions. In many cases, the state has mismanaged nationalized sectors, distorting efficiencies through rent-seeking, corruption and bad policy. This was the case in post-independence Indonesia, where poor governance and weak institutions ultimately precipitated a near total economic collapse by the mid1960s, and

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⁶⁵ Zaynab El Bernoussi. "The postcolonial politics of dignity: From the 1956 Suez nationalization to the 2011 Revolution in Egypt." *International Sociology*, Vol 30(4) pp 367-382.

⁶⁶ Nicholas J. White. "The Settlement of Decolonization and Post-Colonial Economic Development." *Journal of the Humanities and Social Sciences of Southeast Asia*, Vol 173 (2-3) 2017.

then again in the 1990s.⁶⁷ Similarly, in the Middle East and North Africa, authoritarian regimes have leveraged the coercive power of the state to maintain lucrative monopolies on oil and other natural resources.⁶⁸ Gulf state SOEs that control oil resources are often quite profitable, but their rent-seeking monopolies depend on the strength of authoritarian regime decision-making and a lack of any populist or social mobilization that might interfere or constrain their operations and policy choices.⁶⁹

By contrast, the role of SOEs in India's post-independence economic growth was significant and positive (particularly its control over public utilities and infrastructure), yet the SOE sector adjusted to liberal market reforms in the 1990s that reflected India's particular social and economic circumstances and history.⁷⁰ As a roadmap for a relatively successful mixed economy, India has some important lessons. Namely that a large state-owned sector can be efficient, profitable and competitive with private enterprise if given sufficient autonomy and a conducive regulatory environment with reliable contract enforcement and market-based prices and incentives.⁷¹ India's experience with balancing its economy between state and private enterprise reflects the contingent nature of the state vs private debate. Rather than a one-size-fits-all policy package that will work for all countries, India's experience emphasizes the importance of stable regulatory architecture, well-designed policies tailored to particular economic and social circumstances and flexibility over time.

China is another prominent modern example of SOE-led development. The Chinese economic development model since 1979 has selectively borrowed market economy principles while maximizing the role of SOEs in executing its development agenda.⁷² By ensuring that the state is the custodian of

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⁶⁷ See Chapter 3 for more detail.

⁶⁸ Ibrahim Akoum. "The Political Economy of SOE Privatization and Governance Reform in the MENA Region." *ISRN Economics*, Vol 2012, Article ID 723536.

⁶⁹ Steffen Hertog. "Defying the Resource Curse: Explaining Successful State-Owned Enterprises in Rentier States." *World Politics*, Vol 62(2) April 2010, pp 261-301.

⁷⁰ Ram Kumar Mishra. "Role of State-Owned Enterprises in India's Economic Development." *Workshop on State-Owned Enterprises in the Development Process*, OECD. April 4, 2014.

⁷¹ Sushil Khanna. "State-Owned Enterprises in India: Restructuring and Growth." *Copenhagen Journal of Asian Studies*, Vol 30(2) January 2012, pp 5-28.

⁷² Hong Yu. "The Ascendancy of State-owned Enterprises in China: development, controversy and problems." *Journal of Contemporary China*, Vol 23(85), 2014.

economic development, mainly through SOEs dominating critical sectors and spearheading growth, the Chinese Communist Party (CCP) believes it can maximize its control over the direction of economic policy. As the investment-led export growth that fuelled much of China's post-1979 boom appears to be cooling off, there has been increased interest in reforming the SOE sector. This is problematic for a number of reasons, such as that SOEs are very politically connected and have access to preferential loan terms unavailable to private commercial companies; indeed, there is speculation that many SOEs simply do not repay their loans, creating a long-term and concealed instability in the financial system.⁷³

The general critique of leaning too hard into SOEs in China is that they are a drag on efficiency.⁷⁴ Most recent analyses of China's SOEs have concluded that they have unsustainable debt to equity ratios, are contributing to overcapacity due to poor management, and are less profitable and innovative than private commercial companies.⁷⁵ Big bang reforms are impractical, so the CCP has been slow-rolling a series of gradual reforms that would make the state-owned sector just one sector in a more diversified economy.⁷⁶ But it is unclear if the CCP really has the political will or the desire to trim the SOE sector, and it is still unknown when or if "zombie SOEs" and unsustainable debt will ultimately cause an economic crash.⁷⁵ Indeed, it is often unclear how big the state-owned sector really is, as some SOEs have an ambiguous partial ownership structure and there are an unwieldy mess of wholly and partially owned subsidiaries throughout the economy.⁷⁷

The state, then, can be an effective engine of economic growth under some circumstances, and an inefficient one in others. Moreover, the evidence that privatization itself is a catch-all solution

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⁷³ Wayne M. Morrison. "China's Economic Rise: History, Trends, Challenges, and Implications for the United States." *Congressional Research Service*. February 5, 2018.

⁷⁴ Ruiming Liu. "How State-owned Enterprises Drag on Economic Growth: Theory and Evidence from China." Springer Press, 2019. DOI: <https://doi.org/10.1007/978-3-662-59188-8>

⁷⁵ Carlos Casanova, Betty Huang & Le Xia. "China: SOE reforms could unlock the potential of unproductive sectors and boost growth." *China Economic Watch*. November 27, 2015.

⁷⁶ Ligang Song. "The past, present and future of SOE reform in China." *East Asia Forum*. October 25, 2018. ⁷⁵ Eric Ng. "China must shrink state-owned enterprises if it wants reforms to succeed, says former WTO chief." *South China Morning Post*. April 11, 2018.

⁷⁷ Derek Scissors. "China's SOE sector is bigger than some would have us think." *East Asia Forum*. May 17, 2016.

that definitively produces positive outcomes is weak. Mass privatization (the so called “big bang” approach) of state-owned sectors carried out in Russia and other Soviet-bloc countries in the early 1990s sometimes had limited or negative impacts on economic growth, and results varied widely by country.⁷⁸ This underlines the importance of bringing a flexible analytical lens when studying economic development and the optimal role of the state in driving growth. Policies and analytical frameworks should be tailored to reflect the particular circumstances of each country, rather than conforming to an overarching ideal.

These varied experiences show that the nexus between the state, private enterprise and economic growth often shifts from case to case, and paint a more complicated and nuanced picture of state-led development than that advocated by neoliberal or neoclassical economists. A consensus has begun to emerge in more recent literature that market reforms and privatization alone are not a magic bullet. Pre-conditions and sequencing are also critical factors. Maximizing the chance of successful market reforms, privatization and trimming of the public sector requires good regulatory infrastructure to be in place, as well as well-designed and complementary policies and good public outreach.⁷⁹ These are things that emerging economies struggle with, which helps explain why SOEs often continue to dominate critical sectors there, even if they are inefficient and risk crowding out private capital.

Recent scholarship focused on the effects of displacing SOEs with private companies in a variety of sectors and emerging economies has confused the picture further. An econometric analysis of reforms in the electricity sectors of 36 developing and transitional economies found that taken in isolation privatization and regulation do not necessarily lead to positive economic outcomes, although

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⁷⁸ See for instance Andrzej Cieřlik & Łukasz Goczek. “Corruption, Privatisation and Economic Growth in Postcommunist Countries.” *Europe-Asia Studies*, Vol 70(8) 2018; Patrick Hamm, Lawrence P. King & David Stuckler. “Mass Privatization, State Capacity, and Economic Growth in Post-Communist Countries.” *American Sociological Review*, Vol 77(2) 2012; and Pekka Sutela. “Privatization in the Countries of Eastern and Central Europe and of the Former Soviet Union.” *World Institute for Development Economics Research Working Paper*, February 1998.

⁷⁹ Saul Estrin & Adeline Pelletier. “Privatization in Developing Countries: What Are the Lessons of Recent Experience?” *The World Bank Research Observer*, Vol 33(1), February 2018, pp 65–102.

the introduction of competition did induce positive improvements.⁸⁰ This suggests that there is room for SOEs in a mixed economy, as long as they are induced to participate in a competitive marketplace. A similar analysis of the electricity sector in Latin America found regulatory quality to be an important determinant of improved performance.⁸¹

Gasmi, et al, drilled down into the effect of privatization on the telecom industry in a panel of 108 countries from 1985 to 2007 and challenged “the idea that there exists a unique model of reform for infrastructure sectors which is equally applicable across regions and countries and expected to yield similar outcomes.”⁸² The impact of reforms was highly dependent on regional factors like market profitability, wealth and geography. Other schools of thought have similarly highlighted SOEs and the state as being important, and indeed efficient, facilitators of innovation.⁸³⁸⁴

What this suggests is that the institutional configuration between the state and the market can and does assume a wide variety of forms, and that there is no consensus that one is necessarily superior to another in allocating resources or driving growth. Dani Rodrik has recently been pushing this approach, in particular advocating for new ways of thinking about industrial policy in the 21st century⁸⁵ and Nathan Lane has written lucidly on the need for a new empirics of industrial policy.⁸⁶ This dissertation aims to engage with that discourse, adding a new dimension by studying the balance between the state and market in contemporary Indonesia. The only real consensus on the question of

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⁸⁰ Yin-Fang Zhang & David Parker. “Electricity sector reform in developing countries: an econometric assessment of the effects of privatization, competition and regulation.” *Journal of Regulatory Economics*, Vol 33(2), April 2008, pp 159–178.

⁸¹ Lenin Balza, Raul Jimenez & Jorge Mercado. “Privatization, Institutional Reform, and Performance in the Latin American Electricity Sector.” *Inter-American Development Bank Technical Note #IDB-TN-599*, December 2013.

⁸² Gasmi, F., Maingard, A., Nomba, P. & Recuero Virto, L. “The Privatization of the Fixed-Line Telecommunications Operator in OECD, Latin America, Asia, and Africa: One Size Does Not Fit All.” *World Development*, Vol 45(C) 2013, pp 189-208.

⁸³ Mariana Mazzucato. *The Entrepreneurial State. Debunking Public vs. Private Sector Myths*. Anthem Press,

⁸⁴ . See also: Dirk Meissner, David Sarpong & Nicholas S. Vonortas. “Introduction to the Special Issue on Innovation in State Owned Enterprises: Implications for Technology Management and Industrial Development.” *Industry and Innovation*, Vol 26(2) 2019.

⁸⁵ Karl Aiginger and Dani Rodrik. “Rebirth of Industrial Policy and an Agenda for the Twenty-First Century.” *Journal of Industry, Competition and Trade*. pp 1–19

⁸⁶ Nathan Lane. “New Empirics of Industrial Policy. *Journal of Industry, Competition and Trade*.

what is the appropriate balance appears to be “it depends.” It depends on path dependence, policy choices and the political economy of a particular country. Thus, when looking at the way the state has dominated infrastructure development in Indonesia during Jokowi’s first term, it is most appropriate to apply a flexible and inductive analytical lens in order to better understand how the process is working in action, rather than trying to fit it to a particular theoretical model.

2.4. Governance, Infrastructure and Indonesia

While much has been written about political development in democratizing Indonesia, the literature on infrastructure development is much thinner. This reflects the overall trend in academia to treat the emergence of democracy as an important subject of analysis while tending to minimize the role of institutional capacity required for good governance and sustaining political legitimacy. This presents a fruitful gap in the literature for new research, given the importance of implementing infrastructure investment successfully and the relatively limited existing scholarship on the subject. There is general agreement about what is required to facilitate successful, sustainable infrastructure development. There must exist “a strong legal and regulatory environment, clear and accepted dispute resolution measure [and] political willingness.”⁸⁷ Further, it is generally accepted that “leadership matters [and] governance structures make a difference.”⁸⁸ Robust and well developed institutional capacity is important for coordinating the process of infrastructure development.⁸⁹ These are hardly bold claims – indeed, they are rather intuitive. Nevertheless, it is not well understood how these different components interact to forge complementarities and overcome development obstacles across time and cases.

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⁸⁷ Ashwin Mahalingam, Ganesh A. Devkar and Satyanarayana N. Kalidindi. “A Comparative Analysis of Public-Private Partnership (PPP) Coordination Agencies in India: What Works and What Doesn’t,” *Public Works Management Policy*, Vol 16(4), October 2011, pp 341-372.

⁸⁸ Wendy Haynes. “Infrastructure Megaproject Leadership, Management, Innovation, and Accountability,” *Public Works Management Policy*, Vol 16(3) July 2011, pp 193-198.

⁸⁹ Mark Pisano. “Developing the Institutional Capacity to Implement Large-Scale Infrastructure Projects,” *Public Works Management Policy*, Vol 16(3), July 2011, pp 228-239.

In the case of Indonesia, it has long been an open question whether the state, especially in the era of decentralization, possesses the capacity to plan and execute large-scale infrastructure projects. The proliferation of diffuse interest groups and power centres in the post-Suharto era helped de-rail plans for a nuclear power plant in Central Java, as the state at that time lacked the will or the capacity to ultimately bring all the actors together.⁹⁰ Although nuclear power has remained in the background, the state under Jokowi has shown more of a will to bolster its institutional capacity in order to execute its development agenda, and this dissertation seeks to evaluate that institutional capacity through the lens of infrastructure development, a topic that has not received much academic attention to date.

Jamie Davidson has also done some of the more recent work on the subject, completing a 10-year study of toll road development in Indonesia around 2015. In it he identifies two major hurdles to successful infrastructure development: the emergence of “conflicts between the national and local governments, and struggles over land between the government and a newly empowered society.”⁹¹ These vague jurisdictional boundaries are perhaps the biggest challenge to the successful formation of complementarities, and help explain why in response the state under Jokowi has sought to strengthen its central authority so that it can overcome them.

After the fall of the New Order, decentralizing reforms were adopted that devolved significant authority to regional provinces and district-level regencies (*kabupaten*). However, the exact boundaries of power between local authorities and central state institutions in Jakarta are constantly being tested, refined and shaped through the iterative process of political and economic development.⁹² Jurisdictional conflicts have the potential to side-track and undermine infrastructure projects that depend on cooperation between disparate actors; this has proven particularly

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⁹⁰ Sulfikar Amir, “The State and the Reactor: Nuclear Politics in Post-Suharto Indonesia”, *Indonesia*. No. 89, April 2010, pp 101-147.

⁹¹ Jamie S. Davidson. *Indonesia's Changing Political Economy: Governing the Roads*. Cambridge: Cambridge University Press, 2015, p 206.

⁹² Wahyu Prasetyawan. “The Unfinished Privatization of Semen Padang: The Structure of the Political Economic in Post-Suharto Indonesia.” *Indonesia*, No 81, April 2006, pp 51-70.

detrimental to the construction of roads and railways that have to go through multiple jurisdictions.⁹³ The employment of process tracing to the case studies in this research design seeks to clarify how this process of defining jurisdictional boundaries between local and state institutions impacts the success or failure of infrastructure development, and how the central state government has sought to strengthen its hand in these disputes.

The resolution of jurisdictional conflicts is further complicated by Indonesia's complex legal system. The Indonesian legal system is a mix of civil law and customary laws, and customary laws can differ from area to area. Further, the quality of the judiciary was significantly eroded during the Suharto era.⁹⁴ According to legal scholar Simon Butt, Indonesia lacks a clear hierarchy of legal authority – that is, cases are frequently interpreted by courts in an ad-hoc manner according to legal reasoning that often changes and this potentially dilutes the legitimacy and efficacy of the court system.⁹⁵ The development of a more coherent hierarchy of judicial authority based on standardized legal principles throughout the country is critical to facilitating sustainable economic growth and development. The role that courts play in adjudicating and resolving disputes during the process of infrastructure development was inductively probed in this dissertation, finding that while the Supreme Court is still reliably pro-state, district courts have been more receptive to civil society groups in checking the power of the state.

An additional challenge faced by Indonesia is inducing investment in infrastructure projects – especially foreign investment. The experience of many foreign firms investing in infrastructure development during the last days of the Suharto era was not a positive one.⁹⁶ The political uncertainty

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⁹³ Satria Sambijantoro. "Lagging Infrastructure Clouds SBY's Rich Economic Legacy." *The Jakarta Post*. October 15, 2014.

⁹⁴ Daniel S. Lev. *Legal Evolution and Political Authority in Indonesia*. The London-Leiden Series on Law, Administration and Development, Vol. 4. The Hague: Kluwer Law International, 2000.

⁹⁵ Simon Butt. "The Constitutional Court's Decision in the Dispute Between the Supreme Court and the Judicial Commission: Banishing Judicial Accountability?" in Ross H. McLeod, ed., *Indonesia: Democracy and the Promise of Good Governance*. Singapore: ISEAS, 2007, pp 178-199.

⁹⁶ Louis T. Wells and Rafiq Ahmed, *Making Foreign Investment Safe: Property Rights and National Sovereignty*. Oxford: Oxford University Press, 2007.

following Suharto's ouster continued to scare away foreign investors, and many are still wary of eroded institutional capacity that creates a high degree of "regulatory and judicial risks."⁹⁷ This makes the financing of infrastructure development an analytically fruitful point of inquiry. This is an ideal real-world example whereby the state is called on to induce the formation of complementarities - in this case by convincing foreign capital to invest in projects when they may be reluctant to do so given concerns about the rule of law and eroded institutional capacity. The process by which the state addressed this obstacle, mainly by using SOEs to issue rupiah denominated debt or by leveraging its authority to reassure skittish investors, is detailed in later chapters.

When such conflicts arise over financing and jurisdictional authority, it is the central state government that is often called on to intervene decisively in order to resolve them. As Chapter 5 demonstrates, the power of the state to expropriate land in the public interest has been critical to speeding up toll road and airport projects, two sectors where development has been slow in recent decades. Chapter 6 details how the state has largely succeeded at inducing foreign investment in major power projects during Jokowi's first term. During roughly the same time period, the state did not intervene as forcefully to encourage foreign investment in the renewable energy sector and thus growth in renewable energies has remained stagnant. This is discussed in detail in Chapter 7, but it underscores the idea that because the regulatory and bureaucratic architecture in Indonesia has historically been unreliable, a strong role for the state is necessary to compensate for market failures and spur investment and development in infrastructure.

2.5. The Link Between Democracy and Governance

The conclusion of the Cold War was interpreted in some circles as a victory for democracy and American-style free market capitalism, the momentum of which was expected to carry forward into the new millennium.⁹⁸ This was when Samuel Huntington published his thoughts on the "third wave",

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⁹⁷ *Economist Intelligence Unit*. Country Report: Indonesia, December 2015.

⁹⁸ See Francis Fukuyama, *The End of History and the Last Man?* New York: Free Press, 1992.

a trend of democratizing momentum that began in the 1970s and spread across the globe, toppling autocrats and left-wing governments alike.⁹⁹ In the academic world, the standard-bearer for democratic idealism is the *Journal of Democracy*, which published its first issue in 1990. Stepan and Linz, the foremost academics in the field, concluded that the key to successful democratic transition and consolidation was when democracy had become the “only game in town.”¹⁰⁰ This implicitly downplayed the importance of governance, arguing that once democracy had established itself as a political ideal with no ideological competition, the rest of the equation would fall into place.

Events in the decades that followed chipped away at this triumphalism, suggesting that there is more to political stability and legitimacy than just a commitment to democratic ideals. The *Journal of Democracy* has struggled to come to terms with this, reflecting in recent years on the state of democracy in the world and concluding that it is not great, as many young democracies regressed or lost credibility when their democratically elected leaders failed to deliver on promises of good governance.¹⁰¹ By the beginning of this decade, the intrinsic benefits of democracy had failed to materialize as expected, with a clear gap existing between quality of democracy and governance.⁹⁸

Francis Fukuyama has since partially amended his end of history rhetoric, arguing that simply empowering an electorate and holding elections is not a sufficient condition to lock in political stability and lead to a well-functioning state in perpetuity.¹⁰² He now takes the more nuanced view that of equal importance are the quality of the bureaucracy, the existence of strong and equitable rule of law,

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⁹⁹ See Samuel Huntington, *The Third Wave: Democratization in the Late 20th Century*, Oklahoma: University of Oklahoma Press, 1993

¹⁰⁰ Juan Linz and Alfred Stepan, *Problems of Democratic Transition and Consolidation*. Baltimore: John Hopkins University Press, 1996, p 5.

¹⁰¹ Marc F. Plattner. “Is Democracy in Decline?” *Journal of Democracy*, Vol 26(1), January 2015, pp 5-10. ⁹⁸ Donald K. Emmerson. “Minding the Gap Between Democracy and Governance,” *Journal of Democracy*, Vol 23(2), April 2012, pp 62-73.

¹⁰² Francis Fukuyama. “Why is Democracy Performing So Poorly?” *Journal of Democracy*, Vol 26(1), January 2015, pp 11-20.

and mechanisms for transparency – three components that are critical to achieving good governance.

¹⁰³ A majority of development economists agree on these points.¹⁰⁴

Governments, particularly democracies in transition trying to build-up new institutions on the fly, that suffer from poor governance risk fatally undermining their credibility. Poor governance and an inability to deliver on promises is especially destabilizing for democratically elected officials, where restless electorates can throw them out or be drawn in by the appeal of populist demagogues promising stability as an alternative to the messy democratic process. Therefore, a fuller understanding of the causal mechanisms by which good governance is achieved constitute an important and under-served research agenda.

When studying economic and political development, governance matters as much or possibly more than democratic reforms. Until recently the main thrust of scholarly analysis was narrowly focused on the democracy part of the equation, without sufficiently considering the ability of governments to actually govern. This is reflected in the fact that a wide body of literature exists on the development of democratic institutions in Indonesia, while less has been written about the institutional capacity of the state and its ability to deliver on economic promises, such as the basic tasks of building roads and airports.

Increasingly, there is a realization that governance and political stability are intimately linked, and that the continued legitimacy of a democratic political system depends on its ability to provide good governance. This point has been explicitly made in relation to Indonesia's prospects for democratic consolidation,¹⁰⁵ and is backed up the fact that Jokowi prominently featured his infrastructure achievements in his successful re-election campaign. Being able to credibly engage in the business of governing by collecting tax revenues, enforcing the rule of law, and rolling out vital

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¹⁰³ Francis Fukuyama. "Democracy and the Quality of the State," *Journal of Democracy*, Vol 24(4), October 2013, pp 5-16.

¹⁰⁴ Gerald M. Meier. "The Old Generation and the New," in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001, p 13.

¹⁰⁵ Ross H. McLeod, ed., *Indonesia: Democracy and the Promise of Good Governance*. Singapore: ISEAS, 2007, pp 178-199.

government initiatives like large-scale infrastructure projects are important functions of political legitimacy. By probing the capacity of the state to do these things credibly in Indonesia, this research aspires to add to scholarship that focuses on the capacity and development of state institutions.

2.6. Area Studies and Economics

As this is a study structure that blends elements of economic development with area studies, it is useful to briefly discuss these two approaches which are often cast in opposition to one another. Economics is a positivist discipline, predicated on assumptions about self-interested rational actors and it often seeks to find theories that can be generalized across all cases. Area studies is typically an inductive, contextual undertaking where scholars engage in extensive fieldwork often in a single country. Attempting to straddle the line can be difficult. Hirschman tried to find a middle ground “between those advocates with faith in rigorous and parsimonious models of physical and social reality... and others who value pluralistic, narrative, qualitative descriptions.”¹⁰⁶ The attempt was not fully appreciated in his own time, and ended in his becoming disillusioned with the field.

In the 1990s as rational-positivism ascended in academia, a contentious debate between area experts and rational choice proponents was waged in the literature.¹⁰⁷ But this debate, which is predicated on locking distinct approaches to social scientific inquiry into rigidly defined silos, is not particularly helpful in my opinion. There is no law of nature that deems it impossible to perform context-based, qualitative data collection within a positivist framework that stresses the importance of a coherent causal logic. Indeed, good qualitative research relies on having a sound research structure. Moreover, econometric modelling merely indicates that a statistically significant

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¹⁰⁶ Lloyd Rodwin. “Rethinking the Development Experience: Aims, Themes and Theses” in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brooking Institution, 1994, p 4.

¹⁰⁷ See Donald Green and Ian Shapiro, *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science* New Haven: Yale University Press, 1994 for the most well-known broadside against rational choice and see Jeffrey Friedman, ed., *The Rational Choice Controversy: Economic Models of Politics Reconsidered*, New Haven: Yale University Press, 1996, for a response.

relationship between variables exists; it requires qualitative investigation to more fully explain the nature of that relationship. The research design herein seeks to combine the two.

Area studies and development economics actually share many similarities. Like development economics, the field of area studies was initially driven by US foreign policy in the post-war period, as the US sought to understand and incorporate periphery states into its hegemonic ambitions.¹⁰⁸ In the late 1940s, Yale and Cornell launched research centres (funded by the US government) focused on Southeast Asia, the first of their kind. This foreshadowed the academic and policy interest in a region that was believed to be susceptible to Communist ideology.¹⁰⁹ Area specialists have likewise weathered some of the same criticisms as the early development theorists – in particular, a lack of methodological discipline and a penchant for functioning as a tool of US foreign policy and imperialism.¹¹⁰

Similar to the high development theorists who were scorned by their contemporaries on methodological grounds, area specialists also often feel pressure from the rational-positivist currents in political science. Attacks on the field reflect “the ascendance of narrowly economic approaches to politics that reflect a parochial misunderstanding of human motivation.”¹¹¹ They argue that the quest for universal, generalizable theories seeking to explain all of human action through pure reason are misguided and ignore the importance of context.

Such distinctions are counter-productive. M.A. McKean refutes the idea that “there is a natural division of labour between area studies specialists, as drones of the scholarly world who should gather empirical data, and the brilliant theoreticians who should analyse the data.”¹¹² The best social science

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¹⁰⁸ Kobayashi Yasuko. “The Development of Studies on Islam in Indonesia: Toward a Combination of Area Studies and Islamic Studies”, *ACTA Asiatica: Bulletin of The Institute of Eastern Culture*, Vol 104, 2013, pp 99-120.

¹⁰⁹ Kozumi Junko. “Studies on the Chinese in Thailand and Thai Studies in the United States in Historical and Geopolitical Context”, *ACTA Asiatica: Bulletin of The Institute of Eastern Culture*, Vol 104, 2013, pp 19-56.

¹¹⁰ Todd Landman. *The SAGE Handbook of Comparative Studies*. New York: SAGE Publications Ltd., 2009, p 159.

¹¹¹ M.A. McKean. “Rational Choice and Area Studies” in Neil L. Waters, ed., *Beyond The Area Studies Wars: Toward a New International Studies*, London: Middlebury College Press, 2000, p. 30.

¹¹² *Ibid*, p 58.

involves a constant process of building better theories from inductive observation, and then working backward from those theories to test how good they are. You cannot have one without the other.

Doing just one or the other will always provide, at best, an incomplete picture. Good research designs should therefore endeavour to strike a balance between both specific, practical puzzles and more generalizable research objectives.¹¹³ This is what I have endeavoured to accomplish by focusing on the specific but important process of infrastructure development in Indonesia and employing a variety of methods. Many of the conclusions are unique to Indonesia. However, by framing the analysis within the broader economic concept of complementarities, the utility of these conclusions is intended to contribute to a more general discourse in the study of development economics. Hence, the intention is to structure the research in a way that is both specific and general.

The most enlightening work in social science is usually that which is carried out with a careful attention to detail but which is also suitably informed and guided by general principles and theories. This creates a complementary synthesis where “theoretical knowledge and empirical knowledge formation... go hand in hand to resolve modern-day social science puzzles.”¹¹⁴ And that is indeed the goal toward which this dissertation aspires.

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¹¹³ Gary King, Robert Keohane and Sidney Verba. *Designing Social Inquiry*. Princeton: Princeton University Press, 1994, p 17.

¹¹⁴ Kikue Hamayotsu. “Methodology and Research Practice in Southeast Asian Studies,” *Contemporary Southeast Asia*, Vol 37(1), April 2015, pp 150-153.

Chapter 3

The Indonesian State

3.1. Introduction

Indonesia spans a vast geographical area, comprised of thousands of islands and hundreds of different languages and ethnicities, all grouped under the umbrella of the Republic of Indonesia. This naturally provokes the question – how did such a diverse country come into existence and why does it still cohere together? This is particularly relevant in the context of the present dissertation as it seeks to explore the scope, role and institutional capacity of the Indonesian state to form and implement specific economic policies.

This chapter will probe that question by examining how the Indonesian nation-state was formed in historical context. The analysis will track the development of the Indonesian nation-state from its genesis as a revolutionary ideal based on the common struggle against colonialism, through its successful legitimization as a functioning nation-state and finally to its current form as a young democracy attempting to prove its good governance *bona fides*. By analysing how the Indonesian state reached the point where it is today, we can better understand from where it derives its authority and form, how it has historically justified the application of power, and the unique circumstances and challenges that it faces in implementing policy. A thorough contextualizing account of the Indonesian state will lend the analytical framework in this dissertation valuable depth.

The argument advanced will be that Indonesia in its initial conception was more an idea than an actual organ of statecraft. The initial 1945 Constitution laid down the legal and ideological basis for a unitary state with a strong president; but it wasn't until the rise of the New Order in 1965 that this was actually translated into something concrete through the application of sound economic policies. The New Order was eventually brought down by its own excesses and bad policy, but the fundamental lesson to take away is that the idea of Indonesia has been a powerful normative ideal, crafting an identity that links together disparate parts of a far-flung archipelago. Historically, however, it has required a strong and competent centralized state to render that ideal into a functional reality. The

question facing Indonesia today is whether the contemporary state, after undergoing a series of constitutional reforms to peel back the excesses of the New Order, possesses the competence and institutional capacity to legitimize itself in the eyes of its people and execute competent policies.

3.2. Independence

World War II cemented the end of Dutch colonialism in Indonesia, though the Dutch tried to hold on until 1949. This critical period, from 1945 until 1965, is when Indonesia arguably went from the idea of a nation – Benedict Anderson’s “imagined community” - into a full-fledged nation-state, with an administrative apparatus capable of executing a defined policy agenda. It would get there by first failing at statecraft.

The revolutionaries who had crafted the idea of Indonesia out of a shrewd mix of Islam, nationalism, Marxism, and anti-colonialism now faced the question that presents itself to all leaders after the heady work of revolution is done – what next? “All they could agree upon,” writes R. E. Elson, “was that there should be an Indonesia, and that it should, in some vague sense, be free. What Indonesia might mean, or what it might stand for, or even less, how best it might be managed and administered, remained contentious.”¹¹⁵

The first attempt to lay out a vision for what Indonesia might mean came in the form of the 1945 Constitution. Rushed to completion as World War II was drawing to a close, the Constitution contained the philosophical basis of the Indonesian state enumerated in the five point Pancasila.¹¹⁶ It established the framework for a strong unitary state, with substantial powers concentrated in the hands of the president. It described individual rights only in vague terms, gave the state significant control of natural resources and the economy and was clearly designed to pre-empt the emergence

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¹¹⁵ R. E. Elson. *The Idea of Indonesia: A History*. Cambridge: Cambridge University Press, 2008, p 97.

¹¹⁶ A good translation, from 1950, can be found at <http://www.wipo.int/edocs/lexdocs/laws/en/id/id048en.pdf>. Specifically, the Pancasila calls for: “Belief in the One, Supreme God, just and civilized Humanity, the unity of Indonesia, and democracy which is guided by the inner wisdom in the unanimity arising out of deliberation amongst representatives, meanwhile creating a condition of social justice for the whole of the People of Indonesia.”

of a federal system of decentralized states.¹¹⁷ This document had a short initial lifespan, but would come back to be enormously influential in the future.

As Indonesia negotiated a final recognition of sovereignty with the Dutch in 1949, The 1945 Constitution was replaced with a more Western-centric, liberal constitution that created space for guaranteed human and worker rights, parliamentary democracy and federalism. These concessions to Western ideals were largely made to encourage a swifter Dutch departure, contravening many of the principles articulated in the 1945 Constitution.¹²⁶ It also set up what was to be a lasting tension between whether Indonesia is a strong unitary state with a centralized power structure, or a loose confederation of regions which ought to be granted substantial autonomy. That debate is still ongoing.

What followed was political dysfunction and paralysis of the state as an effective institution of governance. Competing interests in the army, the PNI, the communist left, regional political parties and from Sukarno himself (who was made president, but was nominally supposed to be above the political fray) all failed to come to a workable solution on what policies to pursue and how to govern. Parliamentary democracy was thus abandoned in 1957, and Sukarno re-took power, commencing the period of Guided Democracy.¹¹⁸ The weak performance of the parliamentary system in the 1950s also gave the army an opening to begin entwining itself with the administrative structures of governance, something that would become enormously significant as time went on.¹¹⁹

According to M.C. Ricklefs, characterising Guided Democracy as a system of government is akin to “describing the shape of an amoeba.”¹²⁰ This short window following the collapse of parliamentary democracy was a chaotic one. Sukarno embarked on a spree of nationalizations, first with Dutch assets, and later with British and American. He bolstered ties with China and the Soviet

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¹¹⁷ R. E. Elson. *The Idea of Indonesia: A History*. Cambridge: Cambridge University Press, 2008, p 114.

¹²⁶ Ibid, p 147.

¹¹⁸ *The Decline of Constitutional Democracy in Indonesia* by Herbert Feith provides an exceptionally detailed summary of this period.

¹¹⁹ R. E. Elson. *The Idea of Indonesia: A History*. Cambridge: Cambridge University Press, 2008, p 172.

¹²⁰ M.C. Ricklefs. *A History of Modern Indonesia Since c. 1300, 2nd Ed*. Stanford: Stanford University Press, 1993, p 257.

Union, growing increasingly anti-Western as time went on. He pulled the communist PKI closer as a base of support, alienating both the army and Islamic groups like Nahdlatul Ulama. He set off on a belligerent foreign policy that involved antagonizing Malaysia through low-level violence in Borneo. Perhaps most importantly, while he set about trying to balance numerous countervailing political interests, the economy was in a free-fall, the country was drowning in foreign debt and inflation was spiralling out of control.¹²¹

Sukarno had delivered on the promise of an independent Indonesia, free from colonial rule. But he and his contemporaries were ultimately unable to turn the idea of an independent nation into a functioning state. From 1945 to 1965 no authoritative person or institution was even able to effectively agree on what the proper form and function of the state was. Sukarno's rule ended in a coup attempt in 1965, which sparked a violent suppression of the PKI as a political entity and the rise of General Suharto's New Order. Although the New Order's beginnings are still shrouded in controversy and violence, arguably it was during the first decade of Suharto's rule that Indonesia went from an imagined community fuelled by revolutionary rhetoric, to a consolidated nation-state capable of forming and implementing policy goals to address complex challenges.

3.3. New Order

By 1965, the Indonesian state was bankrupt. Politically, Sukarno had stretched himself to the limit juggling various factions in an effort to retain a thin hold on power, while the economy cratered around him. This set the stage for his overthrow and the rise of the New Order. After the PKI effectively ceased to exist, the military consolidated its power and a small group of economic technocrats, many of them trained at UC Berkeley, stepped into the limelight of President Suharto's New Order and embarked on a series of wide-ranging economic reforms.

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¹²¹ Adam Schwarz. *A Nation in Waiting: Indonesia's Search for Stability*. Singapore: Talisman Publishing, 2008, p 15.

Led by economists like Emil Salim and Widjojo Nitisastro, this group pushed a series of policy reforms that aimed to reframe the role of the state in economic activity and switch the strategic orientation of the country. Their policy recommendations included pushing for self-sufficiency in rice production and agriculture more generally, investment in infrastructure, a long-term settlement of outstanding foreign debts, balanced budgets and price controls to correct market imbalances when necessary. The ideal role of the state in this new economy was to execute “various economic activities itself” while providing “guidance for the private sector in carrying out maximum mobilization and development of the potential and creativity of the people.”¹²²

They explicitly recommended the prohibition of monopolies, and called for the state to supervise the direction of the economy – for instance, stepping in to control prices when necessary – but to avoid “controlling a maximum number of economic activities.”¹²³ This reflected a classic 1960s statist model of economic development that envisioned a healthy balance between state-planning while ensuring room for the private sector.

In 1966, based on the recommendations of these technocrats, the Provisional People’s Consultative Assembly issued Decree No. 23 of 1966. It called for a return to the Constitution of 1945, hitting the reset button on the last seventeen years of experimentation with constitutional reform and providing a constitutional basis for a strengthened unitary state that could execute comprehensive economic policy. The Decree reflected virtually all of the recommendations of Salim and Nitisastro.¹³³ Simultaneously, the army continued to consolidate and strengthen its role in the administrative structures of governance.

Crucially, these policies worked. By applying technocratic economic principles, the state rescued itself from decades of mismanagement and political paralysis, ushering in an era of stability and growth. Within a few years inflation was brought under control. The foreign debts that had nearly

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¹²² Widjojo Nitisastro. *The Indonesian Development Experience: A Collection of Writings and Speeches of Widjojo Nitisastro*. Singapore: ISEAS, 2011, p 37.

¹²³ Ibid, p 38.

¹³³ Ibid, p 47.

bankrupted the country in 1965 were bundled into a long-term negotiated settlement on generous terms. Self-sufficiency in rice production was achieved by the 1970s, and the government adhered to its balanced budget targets. As a result, foreign investment increased as global markets began to see Indonesia as a promising destination for capital, and the economy began to show good growth.¹²⁴

This represents a critical moment in the history of the Indonesian state. For the first time since Independence, the government was arguably proving itself capable of establishing clear policy goals, and then implementing them effectively. Contrast this with the two previous decades, when soaring oratory drawing on the common struggle against colonial legacies forged the idea of a unified nation out of disparate parts. But nationalist rhetoric alone proved to be a poor basis for governing, and Indonesia floundered until a strengthened state with a clear mandate and policy objectives, deriving its authority from the 1945 Constitution, emerged during a time of economic and political turmoil. The emergence of a strong unitary state, along with an infusion of technocratic policy know-how, worked to legitimize the idea that the Indonesian government under the New Order was an entity that could actually fulfil its part of the social contract. This is the moment where the idea of the Indonesian nation became effectively welded to the apparatus of a functional state.

This period, in which a strengthened, unitary state led a balanced approach to economic development without becoming too directly entangled in the economy, was to be short-lived. In 1973, the price of oil spiked and would continue to rise into the 1980s. As a major exporter of oil and gas, the rising price of oil resulted in a massive new revenue stream for Indonesia. The economy shifted away from the import-substitution policies advocated by the Berkeley technocrats, and instead began to ride the commodities boom.

The result was a less open attitude toward foreign investment and trade, less technocratic influence on economic policy and the very thing that the Decree of 1966 had advocated against – state-owned monopolies (particularly in sectors like oil, mining and forestry) that were effectively immune

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¹²⁴ Jonathan R.W. Temple. "Growing Into Trouble: Indonesia After 1966." *CEPR Discussion Paper No. 2932*. August 2001.

to supervision, and a swollen bureaucratic civil service that was inexorably intertwined with the military and elite cronies.¹²⁵ The oil boom of the 1970s effectively diverted the New Order from the path of balanced state-led development, and into what would increasingly become an institutionalized system of corruption, nepotism and rent-seeking by the state and its officials.

The commodities boom of the 1970s also set the stage for an oscillating pattern in Indonesian government policy.¹²⁶ From that point on, when commodities prices were high, economic nationalists tended to prevail in policy battles. These economic nationalists favoured protectionist trade policies, limits on foreign ownership and investment, and the nationalization of many industries. They thus pushed for and achieved much more direct state control and ownership of the economy, expanding incentives for rent-seeking, nepotism, inefficient monopolies and corruption throughout the civil service and government. Despite this drift toward an even more powerful state than probably even the 1945 Constitution intended, the revenue derived from high oil prices allowed the New Order to continue to fund infrastructure projects, provide energy subsidies and generally maintain steady economic growth. Despite the fact that the state was metastasizing into something uncontrollable and ultimately unsustainable, it was still fulfilling its end of the social contract, and this lent it an important air of legitimacy and competence.¹²⁷

When commodities prices waned, economic technocrats were able to prevail once again, and policies geared toward courting foreign direct investment and satisfying purveyors of global capital like the IMF and World Bank came back into vogue. In the mid-1980s, oil prices did collapse, resulting in just such a reorientation away from economic nationalism and toward global markets and investors.¹²⁸ The economic nationalists and their conglomerate allies were forced to partially retreat,

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¹²⁵ Andrew Rosser. *The Politics of Economic Liberalization in Indonesia: State, Market and Power*. Surrey: Curzon Press, 2002.

¹²⁶ Jeffrey Winters. *Power in Motion: Capital Mobility and the Indonesian State*. Ithica: Cornell University Press, 1996.

¹²⁷ Michael T. Rock. "The Politics of Development Policy and Development Policy Reform in New Order Indonesia." *William Davidson Institute Working Paper Number 632*, November 2003.

¹²⁸ Thee Kian Wie. *Indonesia's Economy Since Independence*. Singapore: ISEAS, 2012, p 103.

as the New Order sought a new revenue stream – foreign direct investment – to keep economic growth going.¹²⁹

By this time, however, the New Order was a thoroughly inefficient, rent-seeking behemoth that straddled the archipelago, relying on a bloated bureaucracy of civil servants welded together through corruption and patronage politics. The principles laid out in the Decree of 1966 which formed the back-bone of Indonesian economic development and helped legitimize the New Order in its infancy – especially those relating to the lighter, guiding hand of the state and the damaging effect of monopolies – had been completely abrogated in favour of an autocratic state propping up well-connected state-owned and private enterprises with bad balance sheets.¹³⁰ The neoliberal revolution of the 1980s and 90s greatly increased the supply of global capital, especially for emerging markets like Indonesia that had a good record of economic growth. As revenue from oil dried up in the late 1980s, the New Order made some liberal market tweaks and opened the economy up to huge flows of foreign capital, particular in sectors like electricity generation.¹³¹

The way foreign capital was lassoed for use by the New Order in the 1990s reveals how significantly the Indonesian state, and the manner in which it exercised authority, had changed since the 1960s. In the 1960s, the technocrats had succeeded in arresting an inflationary spiral and rolling out a plan for economic growth and development. This competence in policy matters lent credibility and legitimacy to the apparatus of the state both domestically and internationally following the precipitous post-Independence years. Those policies may not have been perfect, but they were carefully considered and successfully executed. And at the very least they attempted to reflect the national ideology of shared prosperity of and for the people of Indonesia, where the state facilitated

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¹²⁹ Andrew Rosser. *The Politics of Economic Liberalization in Indonesia: State, Market and Power*. Surrey: Curzon Press, 2002.

¹³⁰ Thee Kian Wie. *Indonesia's Economy Since Independence*. Singapore: ISEAS, 2012, p 81.

¹³¹ Jeffrey Winters. *Power in Motion: Capital Mobility and the Indonesian State*. Ithica: Cornell University Press, 1996.

and directed economic growth without entangling itself too deeply by propping up insolvent state-owned enterprises, protecting monopolies or going on nationalization sprees.

By the 1990s, the state had no interest in a careful, balanced approach to foreign investment. Instead it sought to court an influx of projects with the goal of maximizing rent-seeking opportunities.¹³² In the early 1990s, for instance, twenty-seven new power plant projects were under contract, all of them backed by foreign investors in the US, Europe and Japan. Virtually every single one of these deals was poorly conceived, poorly planned and badly negotiated. They disproportionately benefited the foreign investors, and left the state electricity utility, PLN (and thus, ultimately, the government of Indonesia), on the hook for massive guaranteed payments denominated in US currency.¹³³ When the Asian Financial Crisis struck, and the value of the rupiah plummeted, deals like these and the unsustainable, haphazard approach to development that created them were laid bare and it brought the New Order crashing down.

As part of its bailout package the IMF mandated conditionality reforms including major banking and corporate sector restructuring, deregulation and privatization.¹³⁴ In the long-run this helped shore up Indonesia's weak banking system, where bad loans that had previously been disguised contributed to the severity of the crisis. But the move toward privatization has had far-reaching consequences, as many state-owned companies were essentially sold under duress. The case of telecomm company Indosat helps underscore this, as Singapore's sovereign wealth fund Temasek acquired, through a subsidiary, a controlling interest in the company shortly after the Asian Financial Crisis. Indonesian anti-trust authorities then forced Temasek to divest in 2007 and demanded that retail rates for Telkomsel, another Indonesian telecom partially owned by Temasek subsidiary Singtel,

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¹³² Adam Schwarz. *A Nation in Waiting: Indonesia's Search for Stability*. Singapore: Talisman Publishing, 2008, p 311.

¹³³ Louis T. Wells and Rafiq Ahmed. *Making Foreign Investment Safe: Property Rights and National Sovereignty*. New York: Oxford University Press, 2006.

¹³⁴ International Monetary Fund. *Recovery from the Asian Crisis and the Role of the IMF*. Report can be accessed here <https://www.imf.org/external/np/exr/ib/2000/062300.htm#box3>

be lowered.¹³⁵ The ability to control domestic prices on key consumer goods and services - electricity, gas, telecom rates - has always been of great importance to Indonesian politicians, policy-makers and regulators. The forced privatization of many big SOEs, and the loss of control over domestic price-setting, has remained one of the thornier legacy issues from the IMF's bailout during the Asian Financial Crisis.

3.4. Reformasi

As in 1965, the collapse of the economy in 1998 precipitated another tectonic shift in the form and function of the state. Suharto stepped down, the New Order came to an end and wholesale reform of the country's political institutions was undertaken. Between 1998 and 2004, the original 1945 Constitution was retained, but amended several times to bring it more in line with contemporary standards of a constitutional democracy.¹³⁶ These reforms kept intact the ideological basis of a strong unitary state and allowed for the president to remain relatively powerful.

But in doing so they also introduced some real institutional checks on both executive and centralized state power – the legislature, for instance, became a genuine partner in the legislative process and the creation of a Constitutional Court introduced the practice of judicial review. Perhaps most significantly, however, was a massive program of decentralization in which a large degree of political autonomy was devolved to provincial and district authorities. This was an acknowledgment that the diverse regional variation within the archipelago required a balance of power that allowed the application of local policies appropriate for local contexts, but it can also be seen as something of a repudiation of the New Order's excessive turn toward autocracy and centralization. Nevertheless, it created an unavoidable tension between centre and periphery, as issues of authority and jurisdiction had to be negotiated between the various levels of government until a workable equilibrium could be reached.

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¹³⁵ *Rueters*. "Temasek, SingTel appeal Indonesia anti-trust ruling." December 19, 2007.

¹³⁶ Harold Crouch. *Political Reform in Indonesia After Soeharto*. Singapore: ISEAS, 2014.

At this point, almost twenty years on from the dawn of true constitutional democracy in Indonesia, the Indonesian government is still working to locate a workable balance between the strong, unitary state articulated in the 1945 Constitution, and the more flexible application of state power required in a decentralized governance structure. There is no correct balance in absolute terms, of course, but the litmus test of whether a workable balance has been achieved should probably be whether the government is able to address complex challenges by developing and then executing policies, as they did in the early years of the New Order.

Soon after the collapse of the New Order, global economic conditions turned quite favourable, allowing the state to do the hard work of consolidating democratic reforms without having to spend too much political capital on addressing deeper structural issues in the economy.¹³⁷ The commodities market took off again in the 2000s and following a familiar pattern, rising oil prices allowed Indonesia to lean into economic nationalism and free itself from an overwhelming dependence on foreign capital or balanced economic growth.

Indonesia in the *Reformasi* era has been less protectionist and nationalist than it was in the 1970s and 80s, but nonetheless it remains far less integrated in global supply chains than other regional competitors, such as Thailand or Vietnam. Partly, this is because as an exporter of oil and gas it has not had to rely as heavily on manufacturing for export-led growth. But part of it is a natural aversion, no doubt stemming from centuries of colonial exploitation, to excessive foreign integration in the economy. When the price of oil is high, this approach is satisfactory. SBY, for instance, was able to claim decent economic growth driven by the commodities boom, allowing him to avoid confronting some hard structural issues - such as Indonesia's infrastructure deficit.¹³⁸

But SBY struggled with implementing his plans, particularly his preference for relying on Public-Private Partnerships in order to help take some of the financial load off the state. Foreign investors

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¹³⁷ Yohanes Sulaiman. "Indonesia farewells SBY and his years of wasted opportunities." *The Conversation*. October 16, 2014.

¹³⁸ Satri Sambijantoro. "Lagging Infrastructure Clouds SBY's Rich Economic Legacy." *Jakarta Post*. October 15, 2014.

were turned off by Indonesia's weak rule of law, while private companies often acquired project permits and then sold them at a profit. Land acquisition delays were also a major issue.¹³⁹ As global economic growth has slowed in recent years, the Indonesian state found itself tasked with devising alternative policies to boost growth in the face of shrinking demand for commodities.¹⁴⁰

This was the challenge confronting Jokowi when he assumed the presidency. In the past, poor economic performance threatened to undermine the stability of the state and its authority and the state responded by rolling out effective policy responses and consolidating power. In 1965 I would argue these policies were generally well thought-out and sustainable, while in the twilight of the New Order they were less so, reflecting a kind of desperation on the part of the state to delay an impending final reckoning.

It is useful at this point to invoke the concept of institutions as used by Douglass North to understand the changing face of Indonesia's contemporary political economy. North defined institutions as the "rules of the game" and noted that the institutional design of a political economic system is what determines the incentive structure for the actors within it.¹⁴¹ Therefore, actors need to be suitably incentivized by the institutional environment in order to overcome the problem of collective action and act in unison toward shared policy goals, such as infrastructure development. To that end, Jokowi has been leveraging the power of the state to re-shape the rules of the game in order to make the environment more conducive for infrastructure investment.

The following chapters will detail the ways that, during his first term in office, Jokowi has sought to re-shape these rules and how he has been largely successful at executing infrastructure-focused policies, specifically by recentralizing the power of the state. He eliminated large subsidies for the oil and gas industry, pushed through tax reform and has been making good on pledges to construct

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¹³⁹ Jamie Davidson. "Infrastructure in Indonesia: Campaign Promises Kept?" *Bring*. June 19, 2017.

¹⁴⁰ Ross Garnaut. "Indonesia's Resources Boom in International Perspective: Policy Dilemmas and Options for Continued Strong Growth." *Bulletin of Indonesian Economic Studies*, Vol. 51(2), 2015, pp 189–212.

¹⁴¹ Douglass C. North. "Cliometrics after 40 years." *The American Economic Review* Vol. 87, No. 2, Papers and Proceedings of the Hundred and Fourth Annual Meeting of the American Economic Association (May, 1997), pp. 412-414

toll roads, airports and power plants. All of this has been carried out in the face of a still inefficient bureaucracy and a civil service of highly variable quality, and with a political environment that is often hostile to foreign investment.

It involved a certain degree of horse-trading in order to build a political coalition capable of seeing these plans turned into actual policy. For the first year and a half of his presidency, Jokowi's reform agenda was stalled as he did not have the backing of a majority coalition in the DPR. This changed when his close ally and fixer Luhut Pandjaitan met with the leadership of the Golkar party in 2016 and short thereafter the party declared its support for the president. This may have had something to do with the party's chairman, Setya Novanto, becoming embroiled in a highly publicized corruption scandal, though Jokowi denied any strong arm tactics.¹⁴² With a majority coalition backing him in the legislature, Jokowi's reform campaign began to gather steam in earnest, as will be detailed in the following chapters.

Jokowi's appointment of Sri Mulyani to head the Ministry of Finance has been widely considered a sign of the importance of putting technocrats in charge of key ministries, while trading away other less important posts to his political allies to secure their buy-in. For instance, after Golkar joined Jokowi's coalition he named high-ranking party leader Airlangga Hartarto to run the Ministry of Industry. Jusuf Kalla, his vice president, has also been seen as a key deal-maker, personally intervening in the Kulon Progo Airport project discussed in Chapter 5 when land acquisition issues had slowed the project down.

The question posed at the start of this project was: can the state cut through this morass to push through high-priority policy goals such as investment in infrastructure? It did so in 1965 when it saved the economy from disaster, but the environment was different – there were fewer stakeholders to manage, and a stronger centralized state, more openly reliant on the army for administration.

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¹⁴² Jun Suzuki. "Widodo Gets Second Wind for Reform." *Nikkei Asian Review*. June 9, 2016.

It turns out, as the chapters that follow will detail, that the state under Jokowi has been capable of doing so, and thus in many ways has re-occupied its position as a strong central authority and the custodian of national development and economic prosperity. Whether that is sustainable in the long-term without more private participation is still an open question, but it has been effective for executing policy in the short-term.

The final sections of this chapter will take a look at how one crucial arm of the state, the legal system, has evolved over time. Specifically, the analysis focuses on the challenges of crafting a unified legal system that is effective given Indonesia's sprawl, and why the creation of Law No 2 of 2012 on Land Acquisition, which gives the central state significant new powers to expropriate privately owned land, was necessary given the dispersed nature of Indonesia's legal, administrative and power structures in the post-New Order era.

3.5. The Legal System in Indonesia

Given its vast geographic, ethnic and cultural heterogeneity, a broad range of customary legal traditions have evolved throughout the Indonesian archipelago. These traditions include pre-Indic magico-religious practices, Hindu-Buddhist concepts of universality and Islamic ideas about sacred authority. When the Dutch arrived in the 16th century they initially refrained from interfering in the minutiae of local governance, including local legal practices, preferring a policy of "minimal social legal intervention, maximum economic interference."¹⁴³

In the early to mid-19th century, after the collapse of the VOC, the Dutch colonial government began imposing European legal ideas on local traditions and institutions when it suited them, particularly in areas of commercial law. This helped to solidify their mercantile dominance, while further fragmenting what was already a loose and disorganized patchwork of legal traditions spanning

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¹⁴³ Tim Lindsey and Mas Achmad Santosa. "The Trajectory of Law Reform in Indonesia: A Short Overview of Legal Systems and Change in Indonesia." In *Indonesian Law and Society: 2nd Edition*. Tim Lindsey, ed. Federation Press, 2008, p 5.

the territory. Thus, when Indonesia became independent in 1945, it inherited a diffuse system of customary legal traditions that varied from place to place, overlaid by an incomplete Dutch civil law system designed to protect mercantile interests.

This posed a serious challenge for the newly independent nation-state of Indonesia. For one, indigenous Indonesians could not participate as practitioners in the formal legal system until the 1920s, meaning the legal profession had only a scant two decades to acquire the skills and experience necessary to design a post-independence legal system. This problem was compounded by the sheer magnitude of the task – creating a modern legal framework from the remnants of the colonial system that could accommodate the diverse constellation of customary laws practiced at local levels. The challenge ultimately proved to be too much, and the decision was made to preserve the colonial legal system, revoking and updating individual statutes as needed.¹⁴⁴

A constitution was drafted in 1945 to serve as the legal and ideological foundation of the new republic. It was an imperfect and hastily created document, reflecting a series of compromises between nationalist, communist and Islamist factions within the new nation-state. It established, among other things, that Indonesia was a unitary state, and that the state was essentially the custodian of national development, with a mandate to share the benefits of its economic resources with the citizenry. However, the document itself was “skeletal” in nature, meaning that other than establishing some broad concepts such as the Pancasila, it was light on specifics.¹⁴⁵

The 1945 Constitution was superseded by a new draft in 1950 which was more heavily influenced by Western concepts of democracy and representation. The failure of this parliamentary democracy caused Sukarno to return to the 1945 Constitution in the Guided Democracy period where he sought to exploit its imprecision, using the broadly defined concept of a strong unitary state to consolidate executive power. He co-opted the judicial system as an extension of executive power,

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¹⁴⁴ Daniel S. Lev. “Origins of the Indonesian Advocacy.” *Indonesia* No. 21, April 1976, pp 134-169.

¹⁴⁵ Tim Lindsey. “Constitutional Reform in Indonesia: Muddling Toward Democracy.” In *Indonesian Law and Society: 2nd Edition*. Tim Lindsey, ed. Federation Press, 2008, p 23.

making the president the de facto source of legal legitimacy. Suharto similarly co-opted the judicial system, using courts, executive fiat and flimsy legal rationales to solidify the state's dominant position over security and economic affairs. Thus, for nearly four decades the judicial system in Indonesia, rather than acting as a fair and independent arbiter of the law, was used mainly to provide cover for and facilitate the agenda and personal ambitions of the president and his allies. This severely eroded the competence of the court system and its officials, while discrediting the legal system in the eyes of the public.¹⁴⁶ The weighty questions from 1945 about how to reconcile overlapping legal traditions, clarify judicial hierarchy and design a functional and independent legal system had been left to moulder.

In the two decades since the end of the New Order, serious efforts have been made to address some of these shortcomings and clarify the legal landscape in Indonesia. Authority over the courts was stripped from the Ministry of Justice in 1999, giving the judiciary some breathing room to be more nominally independent. The creation of the Constitutional Court in 2004 was a milestone in the country's legal evolution, as there now existed an independent judicial body with the authority to rule on contested interpretations of the constitution, of which there are many given the document's vagueness.¹⁴⁷

The capacity of local courts in Indonesia varies widely and rulings are still often vulnerable to political pressure or corruption rather than sound legal reasoning. But with the judiciary now somewhat untethered from the centrality of the state, recent scholarship has found that the capacity of the courts is slowly improving and that legal decisions, particularly those that concern clashes between central and regional government authority, are increasingly being decided according to the

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¹⁴⁶ Tim Lindsey and Mas Achmad Santosa. "The Trajectory of Law Reform in Indonesia: A Short Overview of Legal Systems and Change in Indonesia." In *Indonesian Law and Society: 2nd Edition*. Tim Lindsey, ed. Federation Press, 2008, p 11.

¹⁴⁷ Marcus Mietzner. "Political Conflict Resolution and Democratic Consolidation in Indonesia." *Journal of East Asian Studies* Vol 10, 2010, pp 397-424.

letter of the law rather than political expediency.¹⁴⁸ Ironically, this has actually exposed the poor quality of statutory legal frameworks in Indonesia – that is to say, as courts have crawled out from under the thumb of the executive branch and started to rule according to letter of the law, they are finding that the law is often unclear, contradictory and frequently redundant.

Because the fundamental questions of 1945 – such as clearly delineated legal authority between the central state and the regions, or how to reconcile customary law with an inherited colonial civil law system – were never properly addressed, the courts have been left with weak guidance when ruling on these complex matters, highlighting the need for better laws on the books to clarify thorny issues. Recent legislation and legal reforms designed to resolve some of these legacy issues suggest a trend is developing which is re-concentrating a substantial amount of power and authority at the central state level. A review of Indonesia's agrarian laws over the decades highlights the challenges faced in reforming this convoluted legal system, as well as the direction that legal reforms have taken in recent years.

3.6. Land Law in Indonesia

The use of land in Indonesia is governed by Basic Agrarian Law No 5 of 1960, which was created in the Guided Democracy period to clarify and streamline the patchwork of laws related to land ownership and use. It established that land is a gift from God for the benefit of the Indonesian people, and that the state was empowered by society to serve as the custodian of that land and regulate its use in the public interest.¹⁴⁹ Based on this principle, different classes of legal titles (largely still in use today) were created and defined including the individual right to title, as well as the exclusive right of the state to use certain types of land for economic and social development.

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¹⁴⁸ Simon Butt & Nicholas Parsons. "Judicial Review and the Supreme Court in Indonesia: A New Space for Law?" *Indonesia*, Number 97, April 2014.

¹⁴⁹ Arie Sukanti Hutagalung. "The Legal Aspect of the Asset of Foundation in Relation to the Law Number 16 of 2001 Concerning Indonesian Foundation Law." *The Principles of Indonesian Agrarian Law*. Depok: Badan Penerbit FHUI, 2015.

However, even in the case of individual land title, known as *Hak Milik* (essentially freehold ownership), it was implicitly understood that the self-interest of the title-holder was secondary to the collective interest of the state. These legal titles were the only ones officially recognized by the state, but in practice *adat* concepts of land use and ownership were allowed to continue unfettered in most local areas unless there was a direct conflict with the economic interests of the state, such as when the state wished to expropriate land for development. In such cases, the executive branch would selectively invoke its legal authority stemming from the Basic Agrarian Law in order to acquire the land it desired, but was otherwise content to let *adat* govern land use at the local level.¹⁵⁰ This meant that the National Land Agency (*Badan Pertanahan Negara*, or BPN) had little incentive to improve or clarify its official titling records.

It also meant that instead of applying in a uniform manner to the entirety of the state, the Basic Agrarian Law was employed and enforced selectively, as well as overwritten by sectoral laws and ministerial decrees, to achieve the narrow goals of various power players usually residing in Jakarta. This caused the law to fracture from its intended purpose and produce a confusing set of overlapping legal authorities governing land use. Furthermore, a flood of lower-level ministerial decrees and circulars increased the uncertainty, so that when officials were out in the field, or were asked to make rulings on contested land claims, there was confusion about which was the appropriate statute to reference.

One area where contested land claims were fairly straightforward related to eminent domain. The authority of the state to acquire land in the national interest was further entrenched during the New Order by use of Presidential Decree No 55 of 1993, which established a procedure via executive fiat for determining and paying compensation to land owners when use of the land was deemed to be in the public interest. The precise definition of public interest, as well as what constituted fair

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¹⁵⁰ Tim Lindsey and Mas Achmad Santosa. "The Trajectory of Law Reform in Indonesia: A Short Overview of Legal Systems and Change in Indonesia." In *Indonesian Law and Society: 2nd Edition*. Tim Lindsey, ed. Federation Press, 2008, p 10.

compensation, was left open to interpretation and the compensation committee itself was formed entirely of government officials, seriously undercutting the legitimacy of the process. There was no legal recourse for landowners to appeal the compensation ruling, and as title records were often incomplete and poorly kept, it could be difficult to establish proof of legal ownership in any case. In practice, landowners often felt compelled to accept meagre compensation under coercion from the police or military.¹⁵¹

This fractured system of land law, used primarily by power-brokers in Jakarta to advance their economic interests under the rhetoric of national development, came to an abrupt end with the reforms of the late 1990s. Among other authorities, the big bang decentralization of the era devolved power for land governance to local officials; however, major questions remained about exactly how this division of authority would work in detail.¹⁵²¹⁵³ In particular, a major obstacle was that the central government was tasked with developing and executing a national economic development agenda. However, national officials had to rely on local officials to execute the details of this agenda, such as approving of land acquisition deals. This created opportunities for rent-seeking at the local level, and generally mismatched incentives.

The limits of decentralization, at least in relation to national infrastructure development, quickly became apparent. A major failing of the swift devolution of legal authorities was a lack of local capacity to carry out effective policies, as well as rampant rent-seeking by local officials.¹⁵⁴ This resulted in a serious log-jam during the SBY presidency (2004-2014), as the process of land acquisition became so complex and cumbersome that it caused major infrastructure development plans to grind

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¹⁵¹ See Chapter 5 for a thorough discussion of how this process was carried out in developing the Lombok International Airport in the 1990s.

¹⁵² Arie Sukanti Hutagalung. "The Legal Aspect of the Asset of Foundation in Relation to the Law Number 16 of

¹⁵³ Concerning Indonesian Foundation Law." *The Principles of Indonesian Agrarian Law*. Depok: Badan Penerbit FHUI, 2015

¹⁵⁴ Anwar Nasution. "Government Decentralization Program in Indonesia." *Asian Development Bank Institute Working Paper*. October 2016.

to a halt. During SBY's 10-year presidency, for instance, the Trans-Java Toll Road project came to a virtual standstill thanks in large part to the complexity of land acquisition and jurisdictional overlap.¹⁵⁵

Faced with this intractable situation, SBY began a slow but steady process of recentralizing legal authority over land governance. This produced Law No 2 of 2012 on Land Acquisition in the Public Interest. This law, which supersedes previous executive and ministerial decrees in terms of legal hierarchy, is the first statutory revision to land law since the Basic Agrarian Law of 1960. While it significantly enhances the state's power to acquire land in the interest of national development, it contains several protections, now codified into law, designed to protect landowners and ensure a more equitable outcome than previously existed.

Law No 2 of 2012 requires that the committee determining compensation for land purchases include the head of the local branch of the Ministry of Law and Human Rights, as well as academics. Presumably, this gives civil society a greater voice in pushing back against the unilateral interests of the state when it comes to land acquisition. It also establishes a clear legal process by which disputes will be resolved, first going through the local district court, before receiving a final appeal at the Supreme Court. Each leg of the legal process has clearly defined deadlines by which decisions should be rendered, although given that the capabilities of courts in different parts of the country vary widely, this does not ensure that a decision will be returned and has been described as a "leap of faith."¹⁵⁶

The new law also guarantees that landowners retain the title to their land until compensation is paid (or until the compensation is deposited with the court in the case of consignment). The law is a compromise that seeks to make outcomes more equitable for landowners, while imposing a maximum 3-year deadline on the entire process of land acquisition in order to speed up projects and induce greater investment by clarifying the regulatory environment and increasing certainty over

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¹⁵⁵ Jamie S. Davidson. *Indonesia's Changing Political Economy: Governing the Roads*. Cambridge: Cambridge University Press, 2015.

¹⁵⁶ Jamie S. Davidson. "Eminent Domain and infrastructure Under the Yudhoyono and Jokowi Administrations." In *Land and Development in Indonesia*, John F. McCarthy, ed. Singapore: ISEAS, 2016.

outcomes. Shortly after it was passed, the law was challenged at the Constitutional Court by an advocacy group. The court ruled against their complaint, legitimizing this landmark law through the tools of the judiciary, a significant break from the past.

As the following chapters will discuss, Law No 2 of 2012 has been critical for accelerating major infrastructure projects across Indonesia throughout Jokowi's first term. When viewed within the wider context of Indonesia's historical development, it is also easy to see why the law was needed in the first place, as the diffuse nature of power relations in post-reform Indonesia as well as unclear lines of authority and legal overlap have compelled the central state in Indonesia to re-assert itself and consolidate power in order to more effectively carry out its mandate as the custodian of national economic development. This push and pull between centre and periphery has a long history in Indonesia, and currently the balance of power is shifting back toward the state under Jokowi. The following chapters will analyse how this shift is being implemented in more detail.

Chapter 4

Macroeconomic Overview

4.1. Introduction

Fig 4.1. Annual real GDP growth 2000 - 2017. Source: World Bank.

Since the Asian Financial Crisis in 1998, Indonesia has experienced nearly two decades of steady economic growth. As indicated in the chart above, growth rates recovered after 2001, dipping briefly during the Global Financial Crisis in 2008-2009, then returning to just over 6% during SBY's 2nd term. As the global market for commodities began to soften in 2011, growth slowed to around 5% where it has remained for most of Jokowi's first five years in office. This chapter will show, using OLS regression, that Jokowi's expansionary fiscal policies and the expansion of the state sector specifically, have had a statistically significant effect in driving the growth of fixed capital in his first term. As fixed capital formation has been one of the largest drivers of GDP during that time, this is an important finding.

Fig 4.2. GDP by expenditure 2000 – 2017 in constant local currency, trillions rupiah. Base year price index reset in 2010. Source: Asian Development Bank.

Growth in Indonesia over the last decade or so has been mainly driven by strong household consumption and fixed capital formation (both public and private). From 2011 onward exports declined in real terms and as a share of GDP due primarily to waning growth in China and lower global commodity prices (Indonesia is a net exporter of major commodities such as coal and iron ore). Because Indonesia's GDP is relatively diversified between trade, domestic consumption and investment, it has been able to weather both slow-downs in global growth and softening of demand in major export markets. As this chapter will argue in a later section, expansionary fiscal policies implemented by Jokowi and focused on infrastructure development have also helped Indonesia to maintain its 5% growth rate and kept the rate of fixed capital formation trending upward.

Fig 4.3. Annualized inflation and discount interest rate 2000 – 2017. Source: FRED, World Bank.

On the monetary side, inflation rose to nearly 15% during the commodity boom of the mid-2000s and remained volatile during and after the Global Financial Crisis peaking at 18.15% in 2008. Since 2012, it has remained at or below 5%. The benchmark discount rate has mirrored inflation during this period, and began rising in 2012 as the US Federal Reserve contemplated ending its quantitative easing program and began to normalize its balance sheet. Interest rates are still high in Indonesia relative to major developed economies, but given the country’s steady economic growth as well as its exposure to the so-called “taper tantrum” in 2014 (discussed below) a benchmark rate of 6.55% in 2017 reflects a relatively well-managed and pro-growth monetary policy.¹⁵⁷

¹⁵⁷ Adam Triggs, Febrio Kacaribu & Jiao Wang. “Risks, Resilience, and Reforms: Indonesia’s Financial System in 2019.” *Bulletin of Indonesian Economic Studies*, Vol 55(1), 2019, p 1-27.

Fig 4.4. Annualized exchange rate of the rupiah against the US dollar 2000 – 2017. Source: FRED.

The currency remained stable at between IDR 8,000 – 10,000 against the dollar following the Asian Financial Crisis and during the commodity boom. It has begun to steadily depreciate since 2011. This is most likely due to an increase in the current account deficit and a knock-on effect of the Fed's balance sheet normalization (discussed below). Despite the depreciation of the currency possibly leading to a reduction in imports, household consumption has remained strong. One explanation for this is because investment has continued to flow into the country from abroad, and has been used productively to increase output. An analysis of the national balance of payments (comprised of the current account and the financial account) will shed more light on this phenomenon.¹⁵⁸

¹⁵⁸ In this analysis I have drawn mainly on data sets compiled and maintained by the World Bank and Asian Development Bank. However, their data on Indonesia's current account (specifically the financial account and composition of foreign direct investment and portfolio investment) differ significantly, likely due to differences in accounting methodology and data collection. For data that will ultimately be used for comparative analysis with other countries, such as balance of payments, I have chosen to rely on the World Bank figures as the dataset is a global one and the methodology remains consistent across cases.

Fig 4.5. Indonesia current account 2000 – 2017, millions current USD. Source: World Bank

Beginning in 2012 Indonesia began running a sustained deficit in its current account. Typically when a country is running a current account deficit it stems from the balance of trade – that is, the country is importing more than it exports and is therefore a net debtor to the rest of the world. The country then has to borrow in foreign currency to finance this gap between imports and exports, which increases exposure to external shocks such as capital flight. However, as the graph below shows, Indonesia up until 2017 was in fact running a trade surplus.

Fig 4.6. Indonesia balance of trade 2000 – 2017 in millions current USD. Source: World Bank.

Other than a short period between 2012 and 2014, Indonesia has consistently exported more goods and services than it imports. Yet the current account is still in the negative. This can be explained by looking at net primary and secondary income which, along with the balance of trade, make up the complete balance in the current account.

Fig 4.7. Net primary and secondary income for Indonesia 2000 – 2017, millions current USD. Source: World Bank.

Net primary income refers to employee compensation and investment payments (such as dividends or interest on stocks and bonds) sent or received by Indonesian residents (individuals or companies) to or from non-residents. If net primary income is negative, as it is in this case, it means more money is being paid by Indonesian residents to foreign workers and holders of Indonesian assets such as stocks and bonds, than is being received from abroad. Indonesia has few foreign workers, so employee compensation is likely not a major factor here. Secondary income is typically composed of remittances and transfers from Indonesians living or working abroad. Some countries like the Philippines and India have significant net secondary income flows, but in the Indonesian case it is relatively small and has little impact on this analysis.

Primary income represents payment for goods and services received. When there is a negative balance in the primary income account it means the host country should have received something in

exchange. In theory, any country running a trade deficit should also have a deficit in the primary income account, as it represents the net outflow of payments exchanged for goods and services. Indonesia is not running a trade deficit, yet the primary income account is negative and continues to grow in that direction. This means a substantial amount of money is being sent outside the country to residents of foreign countries, not in exchange for imported goods and services but in exchange for something else. We would expect that the money is being paid out to holders of Indonesian bonds, stocks and direct ownership stakes in other Indonesian assets.

A look at the composition of the financial account, which logs net assets and liabilities on Indonesia's balance of payments, bears this out.

Fig 4.8. Net assets and liabilities of foreign direct investment (FDI) and portfolio investment, 2000-2017 in millions USD. Source: World Bank.

The financial account is composed of two main sub-categories: foreign direct investment (defined as an ownership stake in 10% or more of a domestic company) and portfolio investment such as stocks and bonds.

From 2009 onward, Indonesia has seen large and sustained inflows of both foreign direct investment and portfolio investment.¹⁵⁹ This explains Indonesia's growing negative primary income account even in the face of a trade surplus – money is flowing out of the country and being paid to foreign holders of Indonesian assets. This is neither inherently a positive nor a negative for the economy, though nationalist politicians such as the recent presidential challenger Prabowo Subianto have leveraged this structural condition to claim that Indonesia is mortgaging its national wealth to foreigners.¹⁶⁰ It is worth noting, however, that he lost his recent election bid by a wide margin so it is unclear how receptive the electorate is to that line of reasoning.

This trend accelerated significantly after the Global Financial Crisis in 2008-2009, as developed economies in the United States, Europe and elsewhere cut interest rates to near or below zero to combat recessions. Further, as central banks in developed countries began buying massive quantities of government debt to stimulate their economies it had the effect of depressing bond yields. This proved to be a boon to emerging economies like Indonesia, where the benchmark discount rate in 2011 had already rebounded to 4.59% and yields on corporate debt were even higher. The result was a substantial investment inflow into emerging economies with stable economic growth like Indonesia, India and Brazil, as investors moved out of European and American assets and into markets with more attractive returns.¹⁶¹

The flip-side of this situation is that as foreign capital flows into an economy, and especially an emerging economy like Indonesia, it creates greater exposure to the risk of capital flight. Indeed, foreign capital pouring into (and then out of) Southeast Asia in the 1990s is precisely what wrecked the Indonesian economy during the Asian Financial Crisis. Portfolio investments, which reached a net

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¹⁵⁹ Because of the BPM6 accounting standards used by the IMF and World Bank, net capital inflows of FDI appear as a negative number because conceptually they represent the incurrence of a liability on the host country's balance of payments. However, in practice, a negative balance actually represents money flowing into the host country.

¹⁶⁰ Tang Wai Leong. "Politics, not policies, to determine the re-run race between Prabowo and Jokowi." *Channel News Asia*. April 13, 2019.

¹⁶¹ Kevin P. Gallagher & Yuan Tian. "Regulating capital flows in emerging markets: The IMF and the global financial crisis." *Review of Development Finance*, Vol 7 (2), December 2017, pp 95-106.

of more than US \$25 billion in 2014 in Indonesia, are especially vulnerable to capital flight as they are more liquid and can be rapidly sold if investor sentiment changes.

In 2012-2013, investor sentiment did change. The Fed began to wind down its quantitative easing program and normalize its balance sheets, causing yields on Treasury bonds to start moving up. Investors seeking higher returns from “safer” assets such as Treasury bonds began to unwind their positions in emerging markets, inducing capital flight and currency depreciation in some of them. Countries running large current account deficits were especially hard hit by this phenomenon. This has been commonly referred to as the “taper tantrum” in reference to the Fed tapering off its quantitative easing program.¹⁶²

Yet Indonesia, despite a steady depreciation in the rupiah, did not experience excessive capital flight. Although there was some retrenchment of net FDI and portfolio investment after 2014, the financial account returned to positive growth almost immediately. This can likely be attributed to two things: prudent monetary policy and the adoption of an expansionary fiscal policy focused on developing infrastructure which has helped drive fixed capital formation. As will be discussed in a later section, Brazil, a country with similar pre-“taper tantrum” structural conditions that did not adopt these same measures, has experienced severe economic contraction. This supports the argument that Indonesia’s policy interventions, particularly the adoption of expansionary fiscal measures when Jokowi took office in 2014, helped to stem capital outflow and keep growth steady despite unfavourable conditions in global capital markets.

As mentioned above, and despite the rhetoric adopted by politicians seeking short-term gains, large inflows of foreign capital are neither inherently good nor bad for an economy. The impact of these inflows is dependent on policy choices determining how they are utilized, and in this respect Indonesia offers some interesting and instructive lessons.

Net capital inflows can be utilized by recipient countries in a number of ways. They can be

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¹⁶² Ratna Sahay, Vivek Arora, Thanos Arvanitis, Hamid Faruquee, Papa N'Diaye & Tommaso Mancini-Griffoli. “Emerging market volatility: lessons from the taper tantrum.” *IMF Staff Discussion Note*, September 2014.

used to finance trade deficits, with consumers and businesses taking on debt in order to purchase imported goods and services. They can lead to an increase in the supply of domestic credit, which can fuel debt bubbles. And they can also be used to increase output, by investing in infrastructure and other fixed capital such as plant and material for businesses. If capital flows are being used for productive purposes, such as increasing long-run output, then the increase in the current account owing to a growing negative primary income balance can be more easily justified.

In the Indonesian case, as demonstrated above, capital inflows are not in fact financing a trade deficit. Indonesia still, on balance, exports more than it imports on an annual basis, although the quarterly numbers can be more volatile. The country's current account deficit then is primarily a result of outgoing primary income paid to holders of Indonesian assets, such as foreign FDI and portfolio investors. The evidence also suggests this capital inflow is not being used to run up big consumer debts, but to prudently invest in long-run economic growth.

The first piece of evidence supporting this is the growth of Bank Indonesia's foreign exchange reserves.

Fig 4.9. Foreign reserves held by Bank Indonesia 2000 – 2017 in millions USD. Source: World Bank.

Following the Global Financial Crisis the dollar lost a significant amount of value against emerging market currencies. Bank Indonesia prudently took advantage of this situation and began stockpiling

foreign reserves in 2008, adding over US \$ 61 billion to its reserve position by 2012. This reflects the application of lessons hard learned during the Asian Financial Crisis, when a lack of foreign reserves and excessive exposure to capital inflows pushed Bank Indonesia into a liquidity crisis requiring a bail-out from the IMF. Thus when the “taper tantrum” threatened to induce capital flight in 2013, Bank Indonesia spent over US \$13 billion of its accumulated reserves to defend the currency. It also raised the benchmark interest rate to stem capital outflow but not excessively to the point where it would put the brakes on economic growth.

This was shrewd monetary policy, as capital inflows recovered in 2015 and the rupiah stabilized though at a devalued exchange rate. Moreover, Bank Indonesia has continued to stockpile foreign reserves, amassing more than US \$120 billion by 2017. These reserves again came in handy in late 2018 when Bank Indonesia had to defend the rupiah as capital markets moved in response to the Fed raising interest rates in the United States.¹⁶³ In both instances, the policy moves by Bank Indonesia were successful at achieving their goal of halting capital flight without imposing contractionary pressure on economic growth.

Likewise, while foreign capital has continued to flow into the country it does not appear to be financing either a public or private debt bubble.

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¹⁶³ James Guild. “Another Indonesian Financial Crisis? Not Quite.” *The Diplomat*. September 5, 2018.

Fig 4.10. Total external debt, 2000 – 2017 in millions USD at current prices. Source: World Bank.

Total external debt reached \$354 billion in 2017. Although it has been rising steadily since 2006, at roughly 35% of GDP this is still considered a moderate external debt level for an emerging economy.¹⁶⁴

Fig 4.11. Net domestic credit 2000 – 2017, as a percentage of GDP. Source: World Bank.

After declining for nearly a decade following the Asian Financial Crisis, domestic credit has seen moderate growth in the last few years reaching 43% of GDP in 2016. This is in sharp contrast to other countries running current account deficits such as India, where domestic credit in 2016 was over 80%

¹⁶⁴ World Bank Group. "Debt vulnerabilities in emerging and low-income economies." *Debt side-event during UN GA Second Committee Meeting*, October 23, 2018.

of GDP. If anything, there is room to grow here, with more access to credit potentially helping to spur private consumption and investment and push Indonesia past the 5% growth threshold it has been hovering at for several years.¹⁶⁵

Therefore, investment inflows have remained strong thanks to conducive monetary policy that has arrested capital flight and allowed the country to finance the current account deficit when needed. Yet they are not being used primarily to finance a trade deficit, nor are they being used to fuel a consumer debt bubble. So where are they going? The likely answer is into the growth of fixed capital formation – that is investment in physical plant and material such as buildings, machinery and infrastructure that increases output.

Fig 4.12. Growth of Fixed Capital 2005 – 2017. This figure includes both public and private spending. Fixed capital is on the right axis denominated in trillions IDR at current prices, while net FDI and portfolio investments are tracked on the left axis in millions USD at current prices. I have inverted the signs on FDI and portfolio investments so they register as positive inflows (rather than liabilities) for clarity. Source: World Bank.

¹⁶⁵ Andy Mukherjee. "Indonesia's debt problem? There's not enough of it." *Bloomberg*. December 5, 2018.

In 2000 fixed capital formation constituted 19.85% of Indonesia's GDP. In 2017 it had grown to 32.17%. As can be seen in the graph, the growth of fixed capital has closely tracked investment inflows. Given that the trade balance has often been in surplus during this period, and that domestic credit has increased only moderately, it can be inferred that much of this investment inflow has been directed toward the expansion of the country's fixed capital stock.

Since he took office in 2014, Jokowi's signature economic policy has been infrastructure investment. He eliminated several public fuel subsidies that benefitted oil and gas companies and directed the money it freed up in the budget toward hundreds of major road, airport, energy, agriculture, housing and telecom projects.¹⁶⁶ These efforts in the energy and transport sectors will be analysed in greater depth in later chapters, but from a "big picture" perspective it is clear that economic growth in Indonesia, even in the face of falling commodity prices, weakened exports and increased volatility in capital markets has been sustained not only by domestic consumption but by investment in fixed capital. The next question is how exactly this capital stock is being grown, and the extent of the state's role in financing and facilitating it.

The government of Indonesia, having gleaned some hard learned lessons in the 1960s and again in the 1990s about the pitfalls of excessive foreign debt, is legally prohibited from running a budget deficit that exceeds 3% of GDP in any given fiscal year. This means the preferred tool of Keynesians – stimulating aggregate demand through deficit-financed public spending – is somewhat constrained.

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¹⁶⁶ Rimawan Pradipto, Akbar Susanto, Abraham Wirotomo, Alvin Adisasmita and Christopher Beaton. "Financing development with fossil fuel subsidies." *International Institute for Sustainable Development Report*, May 2016.

Fig 4.13. Government expenditures and revenue as a percentage of GDP 2000 – 2017 in IDR at current prices. Source: Asian Development Bank.

Tax collection in Indonesia has been problematic, with poor enforcement and low tax rates.¹⁶⁷ Since 2013 the government has been running an annual deficit of between 2-3% of GDP, and in recent years as it leans into expansionary fiscal measures has butted up against the 3% cap often. Direct government expenditures have therefore been somewhat restrained, never exceeding 15% of GDP in Jokowi's first term (the figures for 2018 have yet to be finalized as of this writing). This has helped keep total external debt under control (at roughly 35% of GDP), but it also constrains the government's ability to directly fund the kind of transformative, big-ticket infrastructure projects it envisions.

¹⁶⁷ Steven Keithley. "Indonesia's flawed tax amnesty." *The Diplomat*. March 14, 2018.

Fig 4.14. Government capital expenditures are on the left axis in billions IDR at current prices. Expenditures as percentage of GDP are on the right axis. Source: Asian Development Bank.

Although the government's capital expenditures have been steadily increasing in nominal terms, they have remained at or below 2% of GDP for over a decade. Under Jokowi they spiked in 2015 to IDR 215.4 trillion (approximately \$16 billion at 2015 exchange rates) before falling off again. As of this writing, the figures for 2017 and 2018 have not been finalized. In the absence of the ability to borrow heavily in order to pursue deficit-financed spending, and until recent tax reforms start bearing fruit (an open but very important question for future research), Jokowi has elected to pursue a more pragmatic approach to building infrastructure: enlisting Indonesia's state-owned companies to do the heavy lifting.

Indonesia has a massive state-owned sector, with SOEs holding total or partial monopolies on many major sectors such as mining, oil, electricity, airports, toll tolls, construction and others. In 2016 there were 148 SOEs with total assets equivalent to nearly 57% of GDP.¹⁶⁸ As will be discussed in following chapters on the energy and transportation sectors, SOEs (especially under Jokowi) are often

¹⁶⁸ Kyunghoon Kim. "Matchmaking: Establishment of state-owned holding companies in Indonesia." *Asia and the Pacific Policy Studies*. Vol 5(2), May 2018, pp 313-330.

able to invoke unique legal, financial and administrative authorities that allow them to circumvent myriad obstacles related to land acquisition, permitting and regulatory uncertainty.

Furthermore, though they are often entirely or partially owned by the government of Indonesia, SOEs can issue off-budget debt that does not appear on the government's fiscal accounts. They are amorphous agents of the state that are nevertheless not bound by the 3% deficit ceiling, which gives them far greater latitude to pursue large-scale infrastructure development than the government can do alone.

4.2. SOEs and Infrastructure

SOEs are the dominant players in the banking, construction, toll road, energy and airport sectors, all of which are critical fronts in Jokowi's infrastructure-focused development strategy. Moreover, since he took office in 2014 SOEs in these sectors have massively increased their balance sheets, taking on debt to fund a large pool of toll road, airport and power plant projects. Much of the contracts for these public works projects have gone to state-owned construction companies. So much so that two of them, Hutama Karya and Waskita Karya, have effectively turned into not just toll road builders but conglomerates that also own and operate lucrative toll road concessions.

The following table summarizes the industry leaders in the airport, construction and toll road sectors along with their assets as of 2017.

Company	Business Activity	GOI Ownership	2017 Assets (billion IDR)
Angkasa Pura I	Airport Operator	100%	24,732
Angkasa Pura II	Airport Operator	100%	32,651
Jasa Marga	Toll Road Operator	70%	79,193
Waskita Karya	Construction/Toll Roads	66%	97,895
Hutama Karya	Construction/Roll Roads	100%	48,716
Wijaya Karya	Construction	65%	45,683
Pembangunan Perumahan	Construction	51%	41,782
Adhi Karya	Construction	51%	45,683
Total			398,988

Fig. 4.15. Leading SOEs in airport, construction and toll-road sectors. Source: Author calculation from SOE annual reports.

The cumulative assets for these 8 industry leaders equalled IDR 398.99 trillion in 2017, or approximately US \$29 billion. When Jokowi took office in 2014, the cumulative assets for this same group of companies was IDR 123.15 trillion which means that their assets tripled in just three years.

This indicates these SOEs have massively ramped up investment under President Jokowi.¹⁶⁹

Fig 4.16. Asset growth in construction, airport and toll road SOEs 2010 – 2017 in billions IDR. Source: Author calculation from company annual reports.

As the graph clearly shows growth accelerated dramatically from 2014 onward which indicates this is the result of a specific policy approach embraced during Jokowi’s first term the goal of which was to expand the role of SOEs in developing infrastructure.

¹⁶⁹ The assets of state-owned electric utility PLN have been excluded from this portion of the analysis, because due to a revision to the company’s accounting standards in 2015, it was able to massively revalue its fixed assets. The scale of the company’s asset growth was thus not due primarily to direct investment in fixed assets, but rather to the application of a new methodology for valuing existing assets. Because PLN owns Indonesia’s entire electricity transmission grid, as well as numerous power plants and significant land holdings, including them in this analysis of asset growth would have skewed the data. This will be discussed more fully in Chapter 6.

Fig 4.17. Growth in fixed assets for Angkasa Pura I & II, 2010 – 2017 in millions IDR. Source: company annual reports.

This accelerated asset growth means different things for different companies. In the case of airport operators Angkasa Pura I and II, it reflects growth in fixed assets as they have invested trillions of rupiah directly into building and expanding airports which they own and operate.

For SOEs in the construction sector (Adhi Karya, Pembangunan Perumahan and Wijaya Karya) much of this asset growth represents a large inflow of new contracts, often from the government or other SOEs. This can be seen in the following graph, which maps the companies' expenditures on construction over the last 9 years. Growth in expenditures was fairly flat until 2016 when it took-off as new contracts for airports, toll roads and subsidized housing developments were finalized. Cumulatively these three companies alone spent IDR 62.275 trillion in 2018 on construction projects, double the IDR 29.568 trillion they spent in 2014.

Fig 4.18. Direct construction expenditures for Adhi Karya, Pembangunan Perumahan & Wijaya Karya 2010 – 2018. In millions IDR. Source: company annual reports.

The largest growth in assets, meanwhile, has been booked by companies that are not only involved in the construction of toll roads, but have also received lucrative concession rights to operate them for the next 30-40 years. These companies are Jasa Marga, Hutama Karya and Waskita Karya. The graph below shows how dramatically growth in toll road concessions has accelerated under Jokowi.

Fig 4.19. Value of investment in toll roads with concession rights 2010 – 2017 in millions IDR. Source: company annual reports.

The cumulative value of these companies' investment in new toll roads (over which they also own the concession rights) reached IDR 120 trillion in 2017, roughly US \$8.3 billion and rapidly growing. What this indicates is that SOEs in the toll road and airport sectors have massively ramped up investment in fixed assets, with SOEs in the construction industry doubling their output as they book big contracts to build these assets.

Moreover, these investments are translating directly into tangible long-term assets such as new airports and expanded terminals, hundreds of kilometres of new toll roads, and increased generating capacity which will help facilitate long-run economic growth. The toll road sector, which was long-stalled under previous administrations, has seen some of the most dramatic growth. In ten years under SBY, from 2004 to 2014, Indonesia added only 229 kilometres of new toll roads. Between 2015 and 2018, it built 718 kilometres.¹⁷⁰ The chart below illustrates the extent of this acceleration post-2014.

Fig 4.20. Total toll road length (km) 1978-2018. Source: BPJT Progress Report.

¹⁷⁰ Author calculation from BPJT Progress Report. The report can be accessed here: <http://bpjt.pu.go.id/konten/progress/beroperasi>. The report is updated regularly. I used the latest figures as of June 2019.

Along with investment in other sectors including energy (discussed in a later chapter), ports, telecommunications, agriculture, water supply and mass transit this has injected hundreds of trillions of rupiah into the economy and grown the country's fixed capital stock without the government having to directly take on debt. This leads to another critical question: if the government is not borrowing to finance these expansionary policies, where are the funds coming from?

4.3. Financing SOE-Led Growth

SOEs in the airport, construction and toll road sectors are financing their rapid expansion mainly via bank loans and public bonds. This has provoked criticism directed at what is sometimes termed "Jokowinomics" – the strategy of using SOEs to carry out big-ticket infrastructure projects, but in the process running up big off-balance sheet debts that are nevertheless implicitly guaranteed by the government of Indonesia as the majority stakeholder in these companies. This section will take a granular look at the composition of SOE debt in the toll road, airport and construction industries. The first thing to note is that as asset growth has accelerated in these sectors, liabilities have also grown significantly.

Fig 4.21. Growth of SOE liabilities in construction, airport and toll road sector 2010 – 2017 in millions IDR. Source: company annual reports.

Total liabilities for these 8 companies reached IDR 279.46 trillion in 2017, against 398.99 trillion in cumulative assets. This means they have 119.53 trillion in equity, distributed in the following way:

	2017 Equity Position	Debt to Equity Ratio
Jasa Marga	18,360	3.31
AP I	13,082	.89
AP II	22,038	.48
Hutama Karya	8,545	4.70
Waskita Karya	22,754	3.30
Adhi Karya	5,869	3.83
Pembangunan	14,243	1.93
Wijaya Karya	14,631	2.12
Total	119,525	

Fig 4.22. Debt to equity ratio of 8 major infrastructure SOEs, billions IDR. Source: author calculation from company annual reports.

The airport operators have the lowest debt to equity ratio, as they have taken on moderate amounts of debt relative to increases in fixed assets. The non-toll road construction companies, with the exception of Adhi Karya, have also maintained moderate ratios, while the SOEs with toll concessions

have borrowed heavily to finance their construction. The following is a breakdown of the types of debt carried by each entity.

Long-term bank debt incurred by each company up until 2017:

Long-Term Bank Debt	2013	2014	2015	2016	2017
Jasa Marga	5,320	6,484	7,303	11,597	21,160
AP I	882	2,140	2,485	4,304	3,665
AP II	0	423	1,197	2,745	4,205
Hutama Karya	0	0	0	725	374
Waskita Karya	0	0	1,875	4,147	8,665
Adhi Karya	0	113	504	428	925
Pembangunan	0	426	525	1,150	4,247
Wijaya Karya	466	472	668	454	1,011
Total	6,677	10,068	14,568	25,556	44,257

Fig 4.23. Long-term bank debt of construction, airport and toll road SOEs. Current IDR in billions rupiah. Source: Company annual reports.

At IDR 44.257 trillion these loans represents roughly 11% of the companies' total cumulative assets, and some companies like Hutama Karya, Adhi Karya and Wijaya Karya have virtually no long-term bank debt at all. The most significant thing about this debt, however, is that the majority of it has been sourced from domestic banking syndicates and is denominated in rupiah.

Short-Term Bank Debt	2013	2014	2015	2016	2017
Jasa Marga	951	653	2,469	8,053	1,778
Hutama Karya	0	478	928	3,274	3,318
Waskita Karya	874	1,917	3,193	12,063	24,291
Adhi Karya	206	658	1,115	2,344	3,537
PT PP	1,115	1,566	1,722	2,547	2,259
Wijaya Karya	278	928	1,221	4,711	6,423
Total	3,425	6,202	10,651	32,994	41,608

Fig 4.24. Short-term bank debt of construction, airport and toll road SOEs. Current IDR in billions rupiah. Source: Company annual reports

Short-term loans typically mature in 6-12 months, and are most often used by SOEs as land bailout funds or financing for land acquisition. It is no coincidence that Waskita Karya, which is currently in

the process of acquiring large tracts of land to develop its concessions for the Trans-Sumatra Toll Road, has seen its short-term bank debt spike since 2016. Indeed, Waskita Karya's short-term debt alone accounts for over half of the short-term debt of the eight SOEs analysed here.

Because land acquisition in Indonesia has historically been one of the major obstacles to completing toll road projects, financing the cash-intensive up-front costs of a process with an uncertain timeline has posed challenges in the past. As Indonesia ramped up its infrastructure plan, the government quickly realized that it needed more resources aimed at addressing the need for short-term financing of land acquisition during the period before the project was complete and generating revenue.

The primary vehicle for providing this financing has been *Lembaga Manajemen Aset Negara* (State Asset Management Institute or LMAN, which is discussed in greater detail below). These are short-term funds intended to acquire and develop long-term fixed and intangible assets (such as land for toll road concessions) and they are meant to be paid back quickly once the assets are generating revenue. This will be an interesting space to continue watching, however, because if these SOEs continue to roll-over short-term debt because they have access to easy credit from government finance vehicles, it could potentially mean there is something fundamentally flawed in their development strategy.

The next question is whether Indonesia's financial system has the depth to underwrite the long-term debt driving the infrastructural ambitions of these SOEs. A quick look at the balance sheets of the four largest banks (three of which are state-owned), along with the financial guarantees and special financing vehicles specifically developed by the state to underwrite these efforts suggests that they do, at least in the short-term.

The four largest banks by assets are Bank Mandiri, Bank Negara Indonesia (BNI), Bank Rakyat Indonesia (BRI) and Bank Central Asia (BCA). Of these, only BCA is a privately-owned bank. Although the three state-owned banks are nominally independent, they each have a particular mandate and sector of the economy which they are tasked with supporting. Bank Mandiri, for instance, has a loan

portfolio comprised primarily of corporate and SOE loans, while the majority of BRI's lending activity is directed toward small, medium and micro borrowers, often in poor or rural areas of the country. The balance sheets of these four banks have steadily grown since the Asian Financial Crisis, with their combined assets totalling IDR 4,133 trillion in 2018 (approximately \$285 billion in 2019). Moreover both loans and deposits have posted steady growth over the last nine years, suggesting this increase in loan activity is anchored by a growing deposit base.

Fig. 4.25. Net loans of four largest Indonesian banks, 2010-2018 in millions IDR. Source: author calculation from company annual reports.

Fig 4.26. Deposits held by four largest Indonesian banks, 2010-2018 in millions IDR. Source: author calculation from company annual reports.

Fig 4.27. Loan to deposit ratio of four largest Indonesian banks, 2010-2018. Source: author calculation from company annual reports.

With loan to deposit ratios between 80-90% (with the exception of Mandiri, which has pushed toward 100%) this suggests relatively healthy liquidity and the ability for these banks to originate loans from their existing (and growing) deposit pools, rather than tapping capital markets or taking on other debts to fund their loan portfolios.

Aside from bank debt, SOEs in Indonesia have also begun aggressively issuing bonds to finance the large scale of construction they have been tasked with. Total bond debt for AP I & II, Jasa Marga and the previously discussed state-owned construction companies reached IDR 33.9 trillion in 2017. Many of these same companies had minimal or no bond debt in 2013, so growth in these instruments has been quite fast as the table below indicates:

Long-Term Bonds	2013	2014	2015	2016	2017
Jasa Marga	5,144,375	6,144,430	4,671,253	2,993,441	7,418,391
AP I	0	0	0	2,991,309	2,992,475
AP II	0	0	0	1,993,380	1,994,230
Hutama Karya	750,000	747,090	613,040	1,613,000	6,819,000
Waskita Karya	748,050	1,245,660	2,670,630	5,567,530	9,045,260
Adhi Karya	1,246,976	1,247,628	1,248,289	874,095	3,740,500
Pembangunan	697,800	698,318	998,635	1,597,559	898,910
Wijaya Karya	0	800,000	975,000	425,000	1,000,000

	8,587,201	10,883,126	11,176,847	18,055,314	33,908,766

Fig 4.28. Long-term bond debt 2013-2017 in million IDR. Source: author calculation from annual reports.

An important thing to note about this debt is that all of it is denominated in local currency. Jasa Marga and Wijaya Karya both issued global bonds (in 2017 and 2018 respectively) which are known rather unfortunately as “komodo bonds” and payable in rupiah, meaning the bondholders assume the risk of currency depreciation. Even if the rupiah continues to weaken, it does not require the issuers to use foreign reserves or borrow in foreign currency to service them. When analysing the debt strategy of rapidly expanding SOEs this is a critical point, especially in an emerging economy with a volatile currency like Indonesia, because it means issuing this type of debt instrument is far more sustainable than issuing debt that is denominated in a foreign currency, and it insulates the SOEs from external shocks to the currency.

Lastly, it is important to have an understanding of what the SOEs in these sectors are getting in exchange for this debt. As indicated above, they have massively grown their asset bases by booking large contracts, acquiring lucrative concessions and investing in long-term fixed assets like airport facilities and toll roads. This has, in turn, been driving big revenue gains which will be used to cover operating expenses, pay dividends and service their debt obligations.

Fig 4.29. Revenue from eight infrastructure SOEs, 2010-2017 in millions IDR. Source: author calculation from company annual reports.

The massive growth in the investment activity and balance sheets of major SOEs in Indonesia is part of a comprehensive policy framework developed by Jokowi to accelerate infrastructure development. This framework is multi-pronged and includes fiscal, regulatory and institutional reforms designed to speed up permitting, land acquisition, project tendering and expand financing options while making it easier to troubleshoot difficult projects. The most important reforms are detailed below.

4.4. Law No. 2 of 2012 on Land Acquisition in the Public Interest

This law was passed during the SBY administration, but was only applied to new construction so there was a lag of two or three years before it began to be actively and regularly implemented. The law allows the state to invoke the power of eminent domain to acquire privately owned land for the purposes of national development. It imposes a series of statutory procedural requirements, specifies which agencies are responsible for accomplishing which tasks, details the legal appeals process for impacted landowners and sets hard deadlines on each step of the process.

This law, including its potential weaknesses and drawbacks will be discussed in more detail in Chapter 5, but the use of this legal tool by the government has vastly sped up the process of land acquisition for public infrastructure projects since 2014. Prior to the use of Law No 2 of 2012, there were no deadlines governing the process, which often resulted in murky legal quagmires that could drag on for years and stop big projects dead in their tracks. For projects requiring large tracts of land, often crossing multiple jurisdictions, such as airports, toll roads or footings for electricity transmission wires, this law has been one of the most significant factors in speeding up the pace of infrastructure development.

4.5. Indonesia Infrastructure Guarantee Fund (IIGF)

In 2009, the Ministry of Finance established PT Penjaminan Infrastruktur Indonesia also known as the Indonesia Infrastructure Guarantee Fund (IIGF), an SOE 100% owned by the government of Indonesia funded with an initial state capital injection of IDR 1 trillion. An additional capital injection of IDR 1 trillion

followed in 2010. It was established, with help from the World Bank, with the mandate of providing limited government guarantees to encourage the participation of private capital in infrastructure development. It signed its first guarantee agreement in 2011 for the Central Java CoalFired Power Plant in Batang. However, as Chapter 6 will detail, the mere existence of the guarantee on paper was not sufficient to accelerate the project which languished for years until the Jokowi administration invoked additional measures to expedite its completion.

The IIGF did not begin to ramp up and begin seriously executing its mandate until 2016 when it steadily signed guarantees, often with the explicit backing of the Ministry of Finance, for numerous large-scale infrastructure projects including the Palapa Ring telecom network, several toll roads in Java, Kalimantan and Sumatra and a number of municipal water projects. By the end of 2018, the IIGF had signed full or partial guarantees totalling approximately IDR 38 trillion for 18 projects, the total value of which was approximately IDR 181 trillion.¹⁷¹

4.6. PT Sarana Multi Infrastruktur (PT SMI)

PT Sarana Multi Infrastruktur is an SOE under the Ministry of Finance established on February 26, 2009 to fund infrastructure projects. It is 100% owned by the government of Indonesia. However, as with other infrastructure financing vehicles, such as the IIGF, PT SMI only began to ramp up for largescale financing of infrastructure development under the Jokowi administration. The following graph clearly shows the rapid acceleration in its financing commitments from 2014 onward:

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¹⁷¹ PT Penjaminan Infrastruktur Indonesia 2018 Annual Report.

Fig 4.30. SMI Financing Commitments 2011 – 2018 in billions rupiah. Source: author calculation from company annual reports.

As of 2018, SMI had over IDR 77 trillion in financing commitments, for a range of big-ticket projects including large power plants in South Sumatra and toll roads throughout the archipelago but especially in Sumatra. Because this fund is wholly owned by the government of Indonesia, it can be deployed more effectively to provide flexible financing solutions for projects that need to meet quick financial closing.

Once such mechanism that SMI has been using more frequently is called Cash Deficiency Support, where the company will help make-up a cash shortfall in financing schemes to get the project to financial close. This was used recently in the Bakauheni Terbanggi Besar Toll Road Project, project valued at IDR 16.79 trillion. The project was awarded to Hutama Karya which received a syndicated IDR 8.067 trillion loan facility from 2 state-owned and 5 privately owned banks, while SMI contributed IDR 7.5 trillion line of credit to close the financing gap.¹⁷² A significant portion of the bank debt that the state-owned toll road companies are carrying on their balance sheets originates from PT SMI, which provides them with critical working capital until the toll roads are operational and they can begin earning revenue on the concession rights.

¹⁷² PT SMI 2018 Annual Report.

SMI was funded initially through state capital injections, and since 2014 has issued IDR 15.5 trillion in domestic bonds denominated in rupiah to help fund its operations.

4.7. Indonesian Infrastructure Fund (IIF)

The Indonesian Infrastructure Fund or IIF is a subsidiary of PT SMI. Global stakeholders such as the Asian Development Bank and World Bank also own stakes and have contributed equity capital to the fund. Along with SMI, IIF was established in 2009 to help finance infrastructure projects. Yet, by 2018 this fund had experienced a wholly different fate than SMI, with only IDR 5.89 trillion in net loans. In the Commissioners Report from the 2018 Annual Report, the company itself notes that growth has been “below optimal.”¹⁷³ Compared to Indonesia’s commercial and state-owned banks, as well as state-owned infrastructure financing vehicles like SMI, IIF’s loan portfolio is small.

One potential explanation for this is that IIF is not wholly owned by the government of Indonesia as SMI is. Because its equity stakeholders are international development banks, much of its balance sheet is denominated in US dollars, which increases the cost of borrowing. They may also have stricter debt to equity compliance requirements, and any weakening of the rupiah will increase these costs substantially. Though not conclusive proof, the relatively weak performance of this fund, especially compared to SMI which is tasked with the exact same mandate, suggests that one reason the Indonesian government has leaned so hard into state-owned companies and financing mechanisms to execute its infrastructure agenda is because they are the most efficient for returning quick results given certain constraints on raising capital quickly.

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¹⁷³ Indonesia Infrastructure Fund 2018 Annual Report.

4.8. State Capital Injections

The 2015 state budget made provisions for direct injections of state capital, around IDR 65 trillion, into a number of infrastructure-focused SOEs.¹⁷⁴ After this direct injection of state capital in 2015 to provide a catalyst for increased infrastructure investment and development, a series of regulations and administrative moves were rolled out designed to increase the ability of SOEs to directly borrow and raise funds on capital markets.

4.9. LMAN

Lembaga Manajemen Aset Negara (State Asset Management Institute) or LMAN was established in 2015. The following year via Presidential Regulation No. 102 of 2016 concerning Land Procurement Funding it was given the specific mandate of providing land funds to SOEs to acquire land for Nationally Strategic Projects (PSN). LMAN is a line item in the national budget and has steadily had its resources increased year to year.¹⁷⁵

- 2016 State Budget Allocation: IDR 16 trillion
- 2017 State Budget Allocation: IDR 32.05 trillion
- 2018 State Budget Allocation: IDR 35.4 trillion

These funds are earmarked for short-term land bailouts or bridge financing extended to SOEs so that they may complete the cash-intensive process of land acquisition, typically for toll roads, before the project is commissioned and the toll road concession begins generating revenue. Much of the shortterm debt amassed by toll road and construction SOEs is in the form of land bailout funds from LMAN. This financing mechanism, along with the sped up timeframe mandated by Law No 2 of 2012, has helped accelerate land acquisition for big infrastructure projects.

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¹⁷⁴ Kyunghoon Kim. "Who is responsible for state-owned enterprises' debts?" *The Jakarta Post*. November 29, 2016.

¹⁷⁵ Indonesian Ministry of Finance. "Antara LMAN, DJKN, dan Kemenkeu." This report can be accessed here: <https://www.djkn.kemenkeu.go.id/kpknl-jakarta3/baca-artikel/12719/Antara-LMAN-DJKN-danKemenkeu.html>

4.10. KPPIP

The *Komite Percepatan Penyediaan Infrastruktur Prioritas* (Committee for Acceleration of Priority Infrastructure Delivery) or KPPIP was launched in 2015 and is a ministerial-level committee tasked with streamlining projects in the feasibility and permitting phases, as well as serving as an overall troubleshooter for projects encountering delays. Originally, 22 projects were designated as Priority Projects, meaning the KPPIP would take an oversight role in shepherding them from feasibility to implementation, but the list has steadily expanded since 2015 as a growing number of developers seek to be granted priority status so they can invoke special administrative and financial authorities that will expedite their projects.

KPIP oversees a large and diverse pool of strategic priority projects including the Jakarta MRT, a number of toll roads in Sumatra, Java and Kalimantan, municipal drinking water in Semarang, and various energy projects, among others. The involvement of the KPPIP is no guarantee of project success however. The development of the Karangates IV and V hydro-power plants ultimately fell apart, while the fate of the \$2 billion PLTU Indramayu coal-fired power plant is currently uncertain. Nevertheless, several of the projects included in their initial portfolio, such as the Balikpapan-Samarinda and Manado-Bitung toll roads, were greatly accelerated.¹⁷⁶

The existence of yet another layer of bureaucratic and administrative oversight could potentially be a liability in Indonesia, where overlapping authority has often been the cause of project delays. Yet having a high-level committee that answers to the Coordinating Minister of Economic Affairs (and ultimately the president) specifically tasked with overseeing project feasibility and troubleshooting bottlenecks has the advantage of making this the ultimate coordinating body vested with the authority to resolve and streamline these issues.

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¹⁷⁶ Data on KPPIP is available at their website, <https://kppip.go.id/en/>. The information for this section was obtained from KPPIP's annual reports.

As will be elaborated in further chapters on the energy and transportation sectors, the tendency under Jokowi's first term has been to concentrate power and authority at the central state level in order to leverage the power of the state to overcome the types of hurdles that have historically held up development. The KPPIP represents the peak of this centrally managed approach to infrastructure investment and development and, along with the financial mechanisms and regulatory reforms developed in tandem with the KPPIP have contributed to big gains in infrastructure development.

In an interview conducted at the National Land Agency with the team responsible for implementing Law No 2 of 2012, I asked what the field teams would do when they encounter serious problems with land acquisition. The unanimous response was they would elevate it to the KPPIP, suggesting the agents tasked with executing these policies recognize and understand the KPPIP is the ultimate higher-level authority to which they should appeal when a project gets stuck.¹⁷⁷ Rather than create more administrative confusion, the KPPIP is in important ways serving to clarify confusion as it streamlines priority projects, because it is understood that this is the go-to body for debottlenecking troubled projects, and it is apparently endowed with the authority to decisively act on delays.

4.11. Regulatory Reforms

In line with Jokowi's preference for consolidating the power of the central state government, and bypassing the overlapping and messy layers of administrative logjams and bureaucratic red tape that were a by-product of decentralization, much of his infrastructure agenda has been conducted via executive fiat. His government has issued a large number of Presidential and Ministerial Decrees and Regulations conferring upon the state a wide range of fiscal, legal, regulatory and administrative

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¹⁷⁷ Author interview with BPN Land Acquisition Team at the Ministry of Agriculture in Jakarta, January 23, 2019.

powers designed specifically to speed up infrastructure projects. Some of the most consequential are detailed in the following:¹⁷⁸

- Presidential Regulation No 82 of 2015 which authorized government guarantees for direct lending to SOEs to accelerate financial close for infrastructure projects. This regulation is what helped the Indonesia Infrastructure Guarantee Fund begin to actually start functioning as it was designed to – following the issue of this regulation, the IIGF began guaranteeing a large pool of projects valued at around IDR 181 trillion.
- Presidential Regulation No 3 of 2016 on the Acceleration of the National Strategic Projects Implementation. This was a fairly broad instruction to leverage the power of the state to speed up Nationally Strategic Projects. There followed numerous additional regulations targeting specific projects, such as the Kulon Progo Airport, but this broad regulation provided the overarching statutory basis for speeding up Nationally Strategic Projects.
- Presidential Regulation No 102 of 2016 concerning Land Procurement Funding created the legal basis for LMAN to extend direct lending or land bailout funds to SOEs for land acquisition. The regulation was further augmented and clarified by Regulation No 21 of 2017 on Procedures for Land Acquisition for National Strategic Projects and Asset Management of Land Acquisition by State Asset Management Agency.

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¹⁷⁸ A summary of these regulatory reforms can be found at the KPPIP website under the section covering updates to infrastructure progress. Can be accessed here: <https://kppip.go.id/en/about-kppip/progress-ofinfrastructure-development-in-indonesia>

- Government Regulation No 13 of 2017 on National Spatial Plan (RTRWN). Designed to help get through zoning conflicts when the desired use conflicts with the National Spatial Plan, which are often created prior to project development.

4.12. Policy Summary

What all of this amounts to is a concerted policy effort by the Jokowi government to invest in growing Indonesia's fixed capital stock, mainly through investment in major infrastructure projects. The primary agents of this expansionary policy have been state-owned companies. Their efforts were initially aided by an injection of state capital in 2015, then in subsequent years through domestic bond issues, international bond issues denominated in rupiah, pooled loan facilities mainly from domestic banking syndicates, and short-term working capital loans and land bailout funds mainly from government financial bodies.

The vast majority of the debt taken on by the companies discussed above has thus been denominated in rupiah, shielding this rising debt load from external shocks to the value of the currency. Both the domestic and international bond markets are likewise supporting a healthy demand for SOE bonds, which helps to keep the cost of servicing the debt reasonable. The domestic banking sector in Indonesia, based on the financial positions of the four largest banks, also appears to be sufficiently-capitalized, with reasonably solid liquidity ratios and a growing deposit base from which to originate loans.

The ramping-up of SOE activity has not occurred in a vacuum, but has been complemented by a number of financial, regulatory and administrative reforms designed to streamline major projects. These include government financial guarantees, as well as a number of infrastructure and land bailout funds that have stepped up loan activity significantly since Jokowi took office. The use of Law No 2 of 2012 on Land Acquisition has greatly sped up the process of land acquisition, while a raft of Ministerial and Presidential Regulations have allowed projects designated as Nationally Strategic to invoke special legal and administrative powers to circumvent cumbersome or confusing bureaucratic or procedural

hurdles. The creation of the KPPIP as the ultimate troubleshooter and debottleneck has also helped to establish a definitive hierarchy for resolving delays.

This has resulted in accelerated growth of installed energy capacity, the completion of hundreds of kilometres of new toll roads, the completion of a new international airport in Yogyakarta as well as terminal expansions throughout the country, and has helped buoy growth by increasing the country's fixed capital stock. Along with household consumption, fixed capital formation is currently the main engine of growth in Indonesia's GDP, so the effect of SOE investment on fixed capital is significant. The following two chapters will analyse in-depth how these policy and financial tools have been operationalized to successfully execute big projects, but first this chapter will conclude with a detailed econometric analysis of the impact SOE-led growth has had on the economy.

4.13. Measuring SOE Impact on Fixed Capital Formation

It is apparent that Indonesia's SOEs have substantially ramped up their activity since Jokowi took office. The group of SOEs mentioned above tripled their assets in just three years, taking on debt in order to do so. The question that naturally flows from this is whether SOE activity during Jokowi's first term in office has resulted in measurable output gains, and if so how much? After all, if SOEs are indeed taking on debt and crowding out private companies without generating increased output, then the argument could reasonably be made that the SOE-led development strategy is fatally flawed. This was a claim often levelled at Jokowi by Prabowo during the election. It is also a claim that can be empirically tested through econometric analysis, which showed that the growth of SOE assets was directly correlated with the growth of fixed capital formation in a statistically significant way.

The dependent variable in this model is fixed capital formation (FixCapCurrent). The main independent variable which will be tested is total asset growth of 9 major infrastructure-focused SOEs between 2010 and 2017 (SOEAssets). Fixed capital formation and SOE asset growth are both measured in rupiah and are not indexed to a deflator like CPI. The data for fixed capital formation was taken from the World Bank Country dataset, while the data for the 9 SOEs included in the independent

variable was taken from their annual consolidated financial reports. The 9 SOEs included in the SOEAssets composite variable are:

- Angkasa Pura I
- Angkasa Pura II
- Kereta Api Indonesia
- Jasa Marga
- Waskita Karya
- Hutama Karya
- Wijaya Karya
- Pembangunan Perumahan
- Adhi Karya
-

These SOEs have been particularly active in sectors that have significant impact on the stock of fixed capital in the country, and specifically on infrastructure (roads, airports, etc). Asset growth in these companies would suggest increased output, but only if the new assets are being deployed productively. Cash sitting on Jasa Marga's balance sheet from bond issues would show up as an asset, for instance, but whether or not it is being channelled into productive purposes can best be empirically tested by estimating the correlation between asset growth and fixed capital formation using statistical techniques.

One major SOE, PLN, has been omitted from the analysis because due to a change in its accounting methods in 2016, the company's total assets increased by nearly US \$50 billion dollars without actually adding any additional fixed capital or value. PLN's activities are surely contributing to increases in fixed capital, as it has signed billions of dollars' worth of PPAs with private power companies while also building its own power plants, but the data on its overall asset growth is unreliable due to the change in accounting standards. PLN will be analysed in much greater depth in Chapters 6 and 7, but for the purposes of this model it has been omitted.

Additional variables added to the model include the annualized benchmark interest rate in Indonesia (Interest), the balance of FDI investment in US dollars (FDI), and domestic credit as a percentage of GDP (DomCred). These three variables have been included because they are all plausible

alternative explanations for increased fixed capital formation.¹⁷⁹ I conducted VIF testing on all four independent variables and the degree of correlation was 5 or lower, indicating no critical issues with collinearity.

The analysis uses time-series data on all five variables taken annually from 2010-2017, drawn from World Bank data and the financial reporting of the SOEs included in the variable. The availability and reliability of SOE financial reporting prior to 2010 tends to be less reliable, which is why this period was chosen. 2018 financial reports for all the companies was not yet available at the time of writing and could not be included. The model uses standard OLS time series regression, employing the forecast package in R, to estimate the impact of the independent variables on the dependent variable of fixed capital formation (FixCapCurrent).

The model is as follows:

$\text{FixCapCurrent}_t = \beta_0 + \beta_1 \text{SOEAssets}_t + \beta_2 \text{Interest}_t + \beta_3 \text{DomCred}_t + \beta_4 \text{FDI}_t + u_t$ The regression yielded the following results:

	Estimate	Standard Error	t-value	p-value
Intercept	-8.193e+05	1.285e+06	-0.638	0.5690
SOEAssets	4.541e+00	9.445e-01	4.808	0.0171 *
Interest	1.411e+04	3.473e+04	0.406	0.7118
DomCred	9.164e+04	3.602e+04	2.544	0.0844
FDI	-3.540e+01	3.475e+01	-1.019	0.3834

Residual standard error: 154300 on 3 degrees of freedom

Multiple R-squared: 0.9835, Adjusted R-squared: 0.9614

F-statistic: 44.58 on 4 and 3 DF, p-value: 0.005268

Only the variable SOEAssets was statistically significant, with a p-value of .017. The model thus shows a positive relationship between growth in SOE assets and fixed capital formation. As the variables are measured in billions rupiah, the model indicates that growth in SOE assets of 1 billion rupiah leads to 4.5 billion rupiah increase in fixed capital. That is a large and statistically significant finding, and it

¹⁷⁹ See for instance Luis Servén. "Real-Exchange-Rate Uncertainty and Private Investment in LDCs." *Review of Economics and Statistics*, Vol 85(1) February 2003, p 212–218; Joshua E. Greene & Delano S. Villanueva "Private Investment in Developing Countries: An Empirical Analysis." *IMF Staff Papers* Vol 38(1), March 1991, p 33–58; and U Tun Wai & Chorng-huey Wong, "Determinants of Private Investment in Developing Countries," *Journal of Development Studies*, Vol 19(1), Winter 1991, p 19–36.

supports the interpretation that SOE-led development is having a substantial impact on economic growth.

To account for population growth, I ran a second model holding everything constant but the dependent variable which was changed to fixed capital formation per capita (Fixpercapita). The model is as follows:

$$\text{Fixpercapita}_t = \beta_0 + \beta_1 \text{SOEAssets}_t + \beta_2 \text{Interest}_t + \beta_3 \text{DomCred}_t + \beta_4 \text{FDI}_t + u_t$$

The regression yielded the following results:

	Estimate	Standard Error	t-value	p-value
Intercept	1.632e+06	4.585e+06	-0.356	0.7454
SOEAssets	1.509e+01	3.371e+00	4.475	0.0208 *
Interest	6.011e+04	1.240e+05	0.485	0.6610
DomCred	3.285e+05	1.286e+05	2.555	0.0836
FDI	-1.189e+02 -	1.240e+02	0.958	0.4086

Residual standard error: 550800 on 3 degrees of freedom

Multiple R-squared: 0.9824, Adjusted R-squared: 0.959

F-statistic: 41.91 on 4 and 3 DF, p-value: 0.005765

The relationship between SOE asset growth and fixed capital on per capita basis is still statistically significant, consistent with the results of the first model and removing population growth as a potentially omitted variable.

The results of this analysis support the hypothesis that SOE-led development is having a positive effect on fixed capital formation in Indonesia. Again, as fixed capital and household consumption are the two main drivers of current GDP growth in Indonesia, this is an important finding. It also suggests that Jokowi's state-led developmental strategy is in fact effective. Further chapters will drill down into the specific process by which SOEs have been effective agents of infrastructure development in certain sectors, but the final section of this chapter will first use another econometric model to test additional aspects of Jokowi's developmental strategy.

4.14. How Not to Stop Capital Flight: Evidence from Indonesia and Brazil

After taking office in 2014, Jokowi pursued an expansionary fiscal policy that relied first on direct injections of state capital into SOEs specifically earmarked as working capital for infrastructure investment and development. Following that, SOEs began to take on bank loans and issue bonds in order to fund large-scale projects, and have been generally successful in implementing billions of dollars in toll road, energy and airport projects, among others. In analysing these efforts, one of the most critical questions that emerges is that given overall economic conditions in the period circa 2012-2013, how much of an impact did these policy efforts have on Indonesia's growth?

The preceding section used OLS regression on time series data to measure the impact of SOE asset growth on fixed capital formation in Indonesia, finding a positive and statistically significant correlation between the two within the confines of the Indonesian economy. These findings can be probed further by comparing the effect of state-led expansionary policy on Indonesia to a similar case where no such policy intervention occurred. This will approximate having a control group, in this case Brazil, which in effect did not receive the "treatment" of expansionary policy that Indonesia did. This will yield an estimate of the effect that Jokowi's expansionary fiscal policy had when compared to a case without it.

The model in this section will compare growth rates over time between Indonesia and Brazil, a country with reasonably similar structural conditions. By employing this technique, the model can estimate how much of each country's growth trajectory was impacted by policy intervention. In the case of Indonesia, when Jokowi took office in 2014 he unveiled a policy intervention (described above) designed to increase the financial capacity of SOEs and direct it toward infrastructure spending. No similar expansionary fiscal policy was adopted in Brazil; indeed by 2016 the Brazilian legislature had voted to freeze spending at existing levels. This creates a good natural experiment to compare the growth rates of the two countries and derive inferences about the impact of state-led expansionary policies on growth.

Brazil and Indonesia are suitable cases for a comparative analysis because they share several baseline similarities. They both are emerging economies with large populations. Both are postcolonial democracies with a legacy of resource exploitation from colonial powers. Both have historically been dependent to one degree or another on the export of commodities (iron ore and soybeans in Brazil, copper ore, coal and gas among others in Indonesia), and have been running current account deficits. Both countries experienced similar effects (currency depreciation, risk of capital flight) of the “taper tantrum” in 2013-2014. Inflation prior to 2014 was also relatively stable and separated by less than 1.5 percentage points in both countries.

2013 Data	Brazil	Indonesia
Population	202,400,000	248,000,000
Inflation	6.20%	4.97%
Per Capita GDP (PPP, 2011)	\$15,430	\$9,643
Current Account Deficit	\$74.8 billion	\$29.1 billion

Key 2013 economic indicators, Brazil and Indonesia. Source: World Bank.

Fig 4.31. Indonesia and Brazil current account balance in current USD, 2000 – 2013. Source: World Bank.

Fig 4.32. Indonesia and Brazil annualized exchange rates against the USD, 2000 - 2013. Brazilian real on the left axis, Indonesian rupiah on the right axis. Source: FRED.

Although Brazil's was larger, both countries were running some of the largest emerging market current account deficits in the world prior to 2014. Additionally, both countries experienced similar trends in currency depreciation after the Federal Reserve began to normalize its balance sheets. Therefore, many of the structural monetary and economic indicators in each economy were broadly similar prior to 2014.

Fig 4.33. Real GDP in Brazil & Indonesia, 2000 – 2017. The left axis is IDR in billions rupiah at constant prices. The right axis is millions real at constant prices. Source: World Bank.

From 2000 onward, real GDP in both Indonesia and Brazil was generally consistent and grew in parallel, with the exception of a dip in Brazilian output during the Global Financial Crisis in 2009. From 2014 to 2015, however, growth in Brazil sharply declined. Indonesia experienced no similar decline and continued to grow.

What happened in 2014 to cause these two GDP trajectories that had followed similar trends for nearly one and a half decades to diverge? Both countries, which run current account deficits, struggled with capital flight and currency depreciation as an effect of the taper tantrum in 2013, and both were impacted by softening demand for global commodities.

One key difference is that Indonesia under Jokowi beginning in 2014 embraced a package of expansionary fiscal and regulatory policies that expanded the public resources being invested in infrastructure. From 2014 to 2015, there is a big spike in Indonesia's public investment – this largely reflects the direct injections of state capital into the major infrastructure-facing SOEs. From 2016 onward, the regulatory, legal and fiscal efforts detailed above allowed those same SOEs to continue

expanding their asset bases and investing in big-ticket projects like toll roads, airports and power plants. By contrast, Brazil did not pursue similar expansionary policies.

Fig 4.34. Government investment 2000 – 2016. The left axis is in trillion rupiah. The right axis is in billions of real.¹⁸⁰ Source: World Bank, Asian Development Bank.

When the economy needed expansionary fiscal policy to combat recessionary pressure from capital flight, the Brazilian government instead froze government spending at its 2016 levels.¹⁸¹ This is the opposite of what the Indonesian government under Jokowi did. These divergent policy choices could help to explain why Indonesia was able to maintain stable growth despite the effects of the taper tantrum, while Brazil experienced a recession – the government, particularly through state-owned companies, geared up to invest in fixed capital formation that helped to ameliorate the external shock of the taper tantrum.

¹⁸⁰ The total government investment for Brazil includes SOE investment, while Indonesia it does not (those figures are not available). Nevertheless, even without counting for SOE spending, Indonesia's direct government expenditures spiked significantly in 2015 in an almost inverse proportion to Brazilian expenditures. If Indonesian SOE activity in this same time period were accounted for, the spike would be even higher and more sustained as state capital injections in Indonesia gave way post-2015 to SOEs raising funds through capital markets and bank debt.

¹⁸¹ Dom Phillips. "Brazil senate approves austerity package to freeze social spending for 20 years." *The Guardian*. December 13, 2016.

In addition to the divergent fiscal policy choices made during 2014-2015, the allocation of the investment that was flowing into both countries prior to the taper tantrum may also help to explain why and how Indonesia was in a position to invest in infrastructure to combat recessionary pressure and Brazil was not.

Fig 4.35. Investment and fixed capital formation in Indonesia, 2005-2017. Fixed capital is on the right axis in billions IDR, and the balance of investments is on the left axis in millions USD. Source: World Bank.

Fig 4.36. Investment and fixed capital formation in Brazil, 2007-2017. Fixed capital is on the right axis in billion real, and the balance of investments is on the left axis in billions USD. Source: World Bank.

What these two graphs depict is that Brazil was primarily the recipient of more volatile portfolio inflow invested in liquid assets such as stocks and bonds. It received comparatively less FDI, with FDI inflows turning negative after the taper tantrum and Brazil's subsequent economic contraction. Moreover, the growth of fixed capital appears uncorrelated to the trend line in investment inflows from 2007 to 2012, indicating that investment may have been directed toward something other than fixed capital formation. A clue as to what that may be is that during this same time period, net domestic credit in Brazil began a steady upward rise while net savings actually declined.

Fig 4.37. Net domestic savings and credit in Brazil as percentage of GDP, 2000-2017. Source: World Bank.

What was financing this expansion of domestic credit, which eventually exceeded 100% of GDP, while net savings was declining? One possible scenario is that investment inflows were fueling a debt-led consumption bubble. When the real began to come under pressure during the taper tantrum, this debt overhang would have become more expensive to service, and as portfolio inflows weakened the availability of easy credit would have been reduced. Had Brazil been channeling more of these investment inflows into expanding its fixed capital stock, as Indonesia has done, then it may have been in a better position to weather the currency devaluation touched off by the taper tantrum.

Using longitudinal panel data on Brazil and Indonesia from 2000 to 2017, we can employ OLS regression to model the impact of expansionary fiscal policy on both countries – its presence in Indonesia from 2015 onward and its absence in Brazil. The dependent variable in the model is GDP per capita indexed to Purchasing Power Parity (PPPCap). This controls for population growth, though both countries have reasonably similar population sizes and growth rates, and for volatility in consumer prices and inflation. The independent variable (Expansion) is a dummy variable for expansionary fiscal policy, which was present in Indonesia from 2015 onward. The model uses fixed effects OLS regression, employing the plm package in R, to estimate the impact of the dummy variable on per capita GDP.

The model is as follows:

$PPPCap_{it} = \beta_0 + \beta_1 \text{Expansion}_{it} + u_{it}$ Results:

	Estimate	Standard Error	t-value	p-value
ExpansionYES	3167.22	878.15	3.6067	0.001012 **

Total Sum of Squares: 88698000

Residual Sum of Squares: 63620000

R-Squared: 0.28274

Adj. R-Squared: 0.23927

F-statistic: 13.0082 on 1 and 33 DF, p-value: 0.0010117

The model indicates that, taken in isolation, enacting expansionary fiscal policy had a large and statistically significant impact on per capita GDP, causing it to increase.

The second model more realistically approximates reality by holding everything the same but adding variables for external debt measured in USD (Exdebt), interest rates (Interest) and domestic credit as a percentage of GDP (DomCred). VIF tests conducted on these variables using the fmsb package in R returned a correlation of less than 5 in all cases, suggesting limited collinearity. As discussed above, these variables could potentially explain contraction in GDP growth, particularly in Brazil which has higher debt levels, interest rates and much larger domestic debt. Once these factors are accounted for, is the dummy variable still significant?

The model is as follows, using fixed effects:

$$PPPCap_{it} = \beta_0 + \beta_1 Expansion_{it} + \beta_2 DomCred_{it} + \beta_3 Interest_{it} + \beta_4 Exdebt_{it} + u_{it}$$

The results:

	Estimate	Standard Error	t-value	p-value
ExpansionYes	1.3412e+03	6.1051e+02	2.1969	0.03589 *
DomCred	-4.7684e+01	1.7537e+01	-2.7190	0.01078 *
Interest	-5.1669e+01	3.4980e+01	-1.4771	0.15007
Exdebt	1.3171e-02	1.8637e-03	7.0671	7.399e-08 ***

Total Sum of Squares: 88698000

Residual Sum of Squares: 19176000

R-Squared: 0.78381

Adj. R-Squared: 0.74778

F-statistic: 27.1915 on 4 and 30 DF, p-value: 1.3438e

With this model, the effect of expansionary fiscal policy is still positive and statistically significant. Domestic credit, as expected, also has a strong negative correlation with growth, while external debt has a positive relationship. The model provides further evidence that expansionary fiscal policy, like the kind adopted in Indonesia during Jokowi's first term, is positively correlated with growth.

4.15. Conclusion

Since the Asian Financial Crisis, the Indonesian economy has grown steadily from year to year.

During Jokowi's first term as president, beginning in 2014, GDP has increased by about 5% annually. Inflation and interest rates have remained stable, despite volatility in the country's currency in response to the taper tantrum and an expanding current account balance. Nevertheless, the balance on FDI and portfolio investment has continued to grow, indicating global financial flows still consider Indonesia a reasonably safe investment. GDP growth is being buoyed mainly by household consumption and fixed capital formation, as exports have declined as a share of GDP in the face of weakening demand for commodities.

To continue stimulating the economy, and to improve the country's lagging infrastructure,

Jokowi's first term in office has been defined by what is sometimes termed "new Developmentalism" or "Jokowinomics." This is a state-led development strategy, in which the power of the state is marshalled to drive economic growth. In the Indonesian case, this has been accomplished by a massive expansion in the SOE sector, with infrastructure-focused toll road, energy, construction and transportation companies taking on debt and growing their assets substantially since 2014.

This chapter used econometric modelling to try and estimate the effect of SOE asset growth on fixed capital formation, finding that there is a significant positive link. The state-owned sector is indeed getting larger and quickly, but it is also contributing to growth of the country's fixed capital stock. The chapter also looked at a comparable case, Brazil, that has not leveraged the resources of the state to invest in its fixed capital stock and has subsequently experienced severe economic contraction as well as political upheaval.

The broad take-away from this analysis is that Indonesia's monetary policy during Jokowi's first term has been reasonably stable and pro-growth, stemming capital flight during a period of volatility. Meanwhile, the evidence suggests capital inflows are being channelled into productive purposes, such as expanding the fixed capital stock, and that such expansionary fiscal policy helped Indonesia weather the worst of the taper tantrum. Moreover, domestic financial institutions are reasonably well capitalized to help underwrite this expansionary policy, and the SOEs tasked with executing it have been fairly shrewd about their debt strategies, taking on debt mostly denominated in rupiah.

From a big picture econometric standpoint then, Jokowinomics has been relatively effective. It achieved its goal of getting long-stalled infrastructure projects moving, providing a much-needed stimulus to the economy during a period of potential capital flight and contraction, and has helped underpin economic growth without taking on excessive debt. The following two chapters will analyse in more detail how this infrastructure development program has been developed and carried out in the transportation and energy sectors, paying particular attention to how new legal, administrative and financial authorities have been leveraged by the state in order to carry out Jokowi's policy vision.

Chapter 5

Airport Development

5.1. Introduction

One of Jokowi's signature promises upon being elected in 2014 was the construction of 15 new airports by 2019. According to recent reports, the Ministry of Transportation is well on its way to meeting that goal, with several of these airports already operational and the remaining expected to go into service soon.¹⁸² This figure is somewhat misleading, however. Major airports, the ones that handle the majority of domestic and international traffic, are developed and managed by a pair of state-owned companies called Angkasa Pura I and II. Then there are around 200 smaller airports located in more remote areas of Indonesia that are directly managed by the Ministry of Transportation's Technical Service Unit (UPT).

While the airports under UPT management are important links in the archipelago's transportation infrastructure and help to improve connectivity, they receive far less passenger traffic, and are thus less important to driving economic activity, than the handful of major airports managed by AP I and II. As a point of comparison, according to the Ministry of Transportation just over 18 million domestic passengers passed through the over 200 airports managed by the Technical Unit in 2015. In the same year, over 68 million passed through the 13 airports operated by Angkasa Pura II alone.¹⁸³

When the administration claims it has nearly reached its goal of constructing 15 new airports, it is referring primarily to these pioneer airports serving remote locations, which are typically only equipped to land small-bodied aircraft. As this dissertation is primarily concerned with the formation and implementation of national-level economic policy the chapter will focus its analysis on AP I and II and their efforts to construct and expand their portfolios of large, heavilytrafficked airports as these

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¹⁸² Endah Kurnia. "5 Tahun Pemerintahan Jokowi, 15 Bandara Baru Telah Rampung Dibangun." *Kompas*. August 16, 2018.

¹⁸³ Ministry of Transportation Annual Report 2016.

locations have a much more significant impact on the larger economy. In particular it will include case studies of major airport projects during three distinct time periods – the Kualanamu and Lombok airports during New Order, the Kertajati airport during the SBY administration and finally the Kulon Progo airport under Jokowi. It will focus on the ways in which the state took a leading role in inducing the formation of complementarities between the developer and the landowners, particularly in the case of the Kulon Progo Airport in Yogyakarta.

The first section of this chapter will deal with how Angkasa Pura I and II have approached the process of airport construction under Jokowi, with particular emphasis paid to how they are financing these activities. The remainder of the chapter will focus on the case studies to describe how Law No 2 of 2012 on Land Acquisition has been leveraged by the Jokowi administration to not only speed up the process of land acquisition but to make it more equitable and structured, especially compared to how the process existed prior to the law's implementation. The central argument in this chapter is that Law No 2 of 2012 has been critical in accelerating big-ticket infrastructure projects and that it is a measurable improvement in the statutory framework governing compulsory land acquisition. The following section will drill down into some of the literature on this topic before moving onto the analysis.

5.2. Improved Connectivity and Economic Growth

The link between economic growth and improved connectivity is well established, going all the way back to the Iron Age when coastal cities that were part of an emerging maritime system in the Mediterranean experienced higher rates of expansion than those that were not connected.¹⁸⁴ 19th century railroad expansion in the United States has been credited with increasing the value of

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¹⁸⁴ Jan David Bakker, Stephan Maurer, Jörn-Steffen Pischke & Ferdinand Rauch. "Of Mice and Merchants: Trade and Growth in the Iron Age." *Working Paper Series* of the Department of Economics, University of Konstanz, May 2018.

agricultural land¹⁸⁵ while the post-war inter-state highway system helped boost trade-related activity and increased demand for skilled labour.¹⁸⁶ More relevant to Indonesia, the construction of two rail lines in early 20th century colonial Ghana yielded large GDP gains, and jump-started the country's cocoa cultivation, turning it into the largest exporter in the world. Even today, those railway districts in Ghana are more developed than other districts, despite the displacement of rail by other means of transport.¹⁸⁷

This is generally thought to be due to the positive effects of agglomeration – that is, economic activity tends to be drawn to places that are well-connected because they attract higher pools of skilled labour, foster innovation, boost trade and investment, and lower transportation costs which theoretically translates into increased output.¹⁸⁸ With respect to air travel, better air connectivity (more airports and more flights serving more destinations) increases both the movement of people and the movement of capital, driving economic activity.¹⁸⁹ It is not clear, however, in which direction this relationship flows. Does investment in transportation infrastructure lead directly to economic growth? Or does economic growth induce investment in more and better transport infrastructure to handle growing demand? A wide body of literature has found the causal direction to run both ways.¹⁹⁴

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¹⁸⁵ Dave Donaldson and Richard Hornbeck. "Railroads and American Economic Growth: A Market Access Approach," *The Quarterly Journal of Economics*, Vol 131(2), 2016, pp 799-858.

¹⁸⁶ Guy Michaels. "The Effect of Trade on the Demand for Skill: Evidence from the Interstate Highway System," *Review of Economics and Statistics*, Vol 90(4) November 2008, pp 683-701.

¹⁸⁷ Remi Jedwab and Alexander Moradi. "Revolutionizing Transport: Modern Infrastructure, Agriculture and Development in Ghana," *Modern and Comparative Seminar*, March 2012.

¹⁸⁸ Melia, S. "Does transport investment really boost economic growth?" *World Transport Policy and Practice*, Vol 23 (3&4), pp 118-128.

¹⁸⁹ Filipe Campante and David Yanagizawa-Drott. "Long-Range Growth: Economic Development in the Global Network of Air Links." *Faculty Research Working Paper Series*, Harvard-Kenney School, September 2016. ¹⁹⁴

See for instance Mahbubul Hakim & Rico Merkert. "The causal relationship between air transport and economic growth: Empirical evidence from South Asia," *Journal of Transport Geography*, Vol 56, October 2016, pp 120-127; Nuri Baltaci, Ozlem Sekmen, & Gizem Akbulut. "The Relationship between Air Transport and Economic Growth in Turkey: Cross-Regional Panel Data Analysis Approach," *Journal of Economics and Behavioural Studies* Vol 7 (1) February 2015, pp 89-100; and Kirsi Mikkala & Hannu Tervo. "Air Transportation and Regional Growth: Which Way Does the Causality Run?" *Environment and Planning*, Vol 45 (6) 2013. ¹⁹⁵
Abraham Alexander Anfofom, Saheed, S. Zakaree & Chinyere Iluno. "Air Transportation Development and Economic Growth in Nigeria." *Journal of Economics and Sustainable Development*, Vol 6(2), 2015.

What is clear is they are strongly linked, and that other factors such as institutional capacity and geographic location can impact the relationship.

In Nigeria, for instance, growth in air transport has been linked with economic growth, but the type and extent of growth is still constrained by mismanagement, corruption and poor planning.¹⁹⁵ And in Indonesia, research suggests investment in transportation infrastructure has had a positive effect on economic growth in Java, but is less likely to significantly drive growth in secondary production centres outside of Java.¹⁹⁰ Regardless of the direction of causality, it is abundantly clear that Indonesia's airports are far over capacity in most areas, and there is a pressing need for expansion.¹⁹¹

The rest of this chapter will examine how Indonesia is approaching the development of its air transport sector. As in other sectors, the Jokowi administration has shown a clear preference for state-owned companies to handle the majority of infrastructure expansion, and for the central administrative and legal authority of the state to be strengthened in order to accelerate project development. It is clear that in the Indonesian case airport facilities are lagging far behind demand, with expansion of capacity struggling to keep up with demand. This may partially explain why the state is bending its efforts full-tilt toward the development and expansion of its air transport infrastructure. The following will drill down into some of the key ways it is doing so.

5.3. Angkasa Pura I and II

Angkasa Pura I and II are state-owned enterprises 100% owned by the government of Indonesia. Together, they are responsible for the development, construction, management and operation of most of Indonesia's major commercial airports, with Angkasa Pura I managing 13 airports in central and eastern Indonesia, and Angkasa Pura II managing 14 locations in the west of the country. AP I and

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¹⁹⁰ Uwe Deichmann, Kai Kaiser, Somik V. Lall & Zmarak Shalizi. "Agglomeration, Transport, and Regional Development in Indonesia." *World Bank Policy Research Working Paper 3477*, January 2005.

¹⁹¹ *Bloomberg*. "Jakarta to get new airport as Indonesia pumps billions into expansion amid travel boom." February 13, 2019.

II have been the primary agents tasked with carrying out major airport expansion and construction projects as part of Jokowi's infrastructure program, although recently provincial governments have taken to forming their own government-owned entities in order to carry out airport development projects with mixed results (see below).

5.4. AP I & II: Financing

Sustainable financing schemes are critical to successful execution of infrastructure policy, and for the management and development of its largest airports the state relies almost exclusively on AP I and II. Therefore, in order not to become a drag on the state budget, it is key to examine how these two SOEs finance their operations and their capital-intensive expansion projects. This data is easily obtained from the annual reports and consolidated financial statements of both companies, which are posted online and go back several years, making it possible to create a robust profile of their financial health. After a period of stagnation following the Asian Financial Crisis, both SOEs have shown steady growth in revenue as a result of the boom in airline traffic. This includes non-aeronautical revenue (such as from subsidiary companies that deal in property, cargo and ancillary services) as they seek to diversify their revenue sources.

Fig 5.1. AP I and II revenue growth 2006 – 2017, billions IDR. Source: Author calculation from AP I & II annual reports, 2006-2017.

Their effective monopoly power over major commercial airport services has resulted in healthy earnings. In 2017, AP I booked IDR 1.42 trillion in net operating profits, while AP II booked IDR 1.93 trillion.¹⁹² These operating margins have allowed both companies to avoid depending on injections of state capital to make-up for revenue shortfalls, and given them the financial flexibility to pursue sound debt strategies as they invest in long-term growth. This can be seen in the growth of their fixed assets (land, buildings and equipment), which began to inch up in SBY's second term and has accelerated rapidly under Jokowi, indicating sustained investment in airport facilities and other fixed assets.

Fig 5.2. AP I and II Fixed Asset Growth 2006 – 2017, billions IDR. Source: Source: Author calculation from AP I & II Annual Reports, 2006-2017.

Again, after a period of stagnation following the Asian Financial Crisis, both SOEs have seen significant growth in fixed assets in recent years, reflecting revenue gains and greater financial flexibility. This can be attributed to the completion of the Lombok and Kualanamu airports, projects that were long-stalled but finally became operational at the end of SBY's second term. It can also be attributed to the successful acceleration of other long-stalled expansion projects, and a wave of new construction and

¹⁹² AP I & II Consolidated Financial Statements 2017

land acquisition spearheaded under Jokowi. These projects will be discussed in more detail later, but it is clear from this data that the state is making good on its pledges to ramp up spending on airport development and expansion.

The next area of interest is how this rapid acceleration in capital-intensive development is being financed, which can be gleaned by looking at growth in long-term debt on the balance sheet.

Fig 5.3. AP I & II Growth in Liabilities 2007 – 2017, billions IDR. Source: Author calculation from AP I & II Annual Reports, 2006-2017.

Prior to 2011, neither SOE was carrying any significant amount of debt on their balance sheets. While taking on too much debt can constrain a company's ability to expand, taking on no debt limits the ability to invest in capital-intensive development projects. Beginning in 2013, and mirroring the acceleration in asset growth and revenue, AP I and II began to take on more debt in order to finance their construction activities, using a combination of long-term bank loans and public bond offerings.

The breakdown of this debt is as follows:

	2013	2014	2015	2016	2017
AP I - Long Term Bank Debt	882,993	2,140,455	2,485,846	4,304,115	3,665,694
AP I - Bonds Payable	0	0	0	2,991,309	2,992,475
Total	882,993	2,140,455	2,485,846	7,295,424	6,658,169

AP II - Long Term Bank Debt	0	423,000	1,197,640	2,745,260	4,205,090
AP II - Bonds Payable	0	0	0	1,993,380	1,994,230
Total	0	423,000	1,197,640	4,738,640	6,199,320

Fig 5.4. Breakdown of Debt for AP I & II 2013-2017, millions IDR. Source: Author calculation from AP I & II Annual Reports, 2013-2017.

In under five years, both SOEs have added a combined total of over IDR 12 trillion in debt (at an exchange rate of 14,800 IDR, this is approximately \$800 million USD), virtually all of which has been derived from domestic sources. The bond offerings were issued on Indonesia's domestic bond market (including sharia bonds to cater to local demand) and are denominated in rupiah, not foreign currency. The bank loans were also sourced from various Indonesian bank consortiums, and are similarly denominated in rupiah.¹⁹³

This protects AP I and II from slides in the Indonesian currency, as they are free from foreign creditors. Furthermore, both SOEs are seeing consistent year-over-year gains in revenue and cashflow, which means this debt will not be used to make-up revenue shortfalls or pay down existing debt. Rather, it will be funnelled toward investing in capital-intensive expansion projects, which is ideally what you would want to see in a growth-oriented company. One thing you do not see in this data is the presence of foreign investors or developers, something that will be discussed in a later section.

This data indicates that both Angkasa Pura I and II are in reasonably sound financial shape, and are sufficiently capitalized as they pursue a wide-ranging airport construction and expansion agenda. They have sustainable and profitable business models. They have rapidly taken on debt, but in proportion to asset growth which suggests they are using this debt to fund long-term investment in capital projects. And the debt itself is domestically sourced and denominated in rupiah, which protects them from external shocks like currency devaluation or market crashes. While airport development

¹⁹³ AP I and II Annual Reports 2013-2017.

began to gain momentum in SBY's second term, it has sharply accelerated under Jokowi, with AP I and II taking significant and prudent financial steps to ensure that acceleration is sustained.

This contrasts sharply with the case study on PLN and the electricity sector in Chapter 6. Due to its unsustainable business model, PLN suffers from constant revenue shortfalls which it makes up through injections of state capital or borrowing. PLN has recently invoked a questionable accounting practice to increase its equity by billions of dollars in order to take on more debt from foreign creditors. The financial conditions of the SOEs tasked with pursuing ambitious infrastructure goals in these two sectors are thus highly divergent, and the reasons underpinning these different strategies will be analysed later.

While the SOEs in Indonesia's airport sector have shored up their balance sheets as they embark on infrastructure spending sprees, the next section will focus on four case studies and examine the practical challenges encountered in executing them and how the state's approach to these projects has changed over time with special attention paid to the impact of Law No 2 of 2012 on Land Acquisition on airport development.

5.5. Case Studies

The number of newly constructed major commercial airports over the last two decades is relatively small, which limits the sample size. However, useful comparisons can be made between four major projects. The Kualanamu and Lombok airports were started during the New Order, stalled during the Asian Financial Crisis, and belatedly completed toward the end of SBY's term. They provide good data on how land acquisition was executed during the New Order, and how confusion over the division of responsibilities and authority between central, regional and local-level governments made completing these projects difficult in the post-*Reformasi* era. The Kertajati International Airport in West Java offers a good example of an airport conceived and developed in the post-*Reformasi* era, and the challenges the state encountered in the absence of clear legal authority and statutory guidance pertaining to land acquisition.

The New Yogyakarta International Airport in Kulon Progo Regency offers a good example of the largest airport development project to date that has been executed according to the process mandated by Law No 2 of 2012. Comparing the divergent experiences the state has had in implementing these different projects over time and across different administrations, and using different legal tools and administrative powers, shows how after devolving authority to regional and local levels in the post-*Reformasi* era, the state has sought, with success, to recentralize many of these authorities as they pertain to national development and land acquisition. The case studies suggest that this recentralization is working to achieve accelerated project completion and clarify issues related to legal and administrative hierarchy which are contributing to expanded growth in the transportation sector. The weaknesses of Law No 2 of 2012 will be discussed, but the evidence is fairly clear that it has helped to ensure the process is more rapid and equitable than it had previously been.

5.6. Kualanamu International Airport (Medan)

The Kualanamu Airport is a major international airport serving North Sumatra. It is located 38 km outside of Medan, the provincial capital, and was built to replace the aging Polonia Airport located in the city of Medan which was both over-crowded and the scene of a major crash in 2005 that killed the provincial governor.¹⁹⁴ As Polonia Airport is located in the densely populated urban centre of Medan, expanding it was not possible so plans were rolled out in the mid-1990s to develop and construct an alternate airport outside the city.

Acquisition of 1,365 hectares of land located in Kabupaten Deli Serdang (Deli Serdang Regency) began in 1995 under the authority of Transportation Ministerial Decree No 41 of 1995. It was officially completed on November 1, 1999 with the issuance of a *Hak Pengelolaan* (Certificate of Management). 800 hectares were to be developed immediately for the new airport, with a capacity of 8-9 million passengers, with the remaining 565 hectares being held in reserve for future expansion

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¹⁹⁴ Richard Lloyd Parry. "At least 149 die when jet crashes into city moments after take-off." *The Times*. September 6, 2005.

and development of commercial facilities.¹⁹⁵ The land on which the airport was to be developed was acquired by PT Angkasa Pura II from a state-owned palm oil plantation company, PT Perkebunan Nusantara II. This reduced delays and legal obstacles involved in acquiring the land, as it was simply transferred from one state-owned entity to another although the exact terms of the compensation are unknown.

Nevertheless, there were several hundred families who had lived on the plantation-owned land for many years. The issue of their right to compensation was not resolved initially, as the Asian Financial Crisis and the political turmoil that followed Suharto's resignation forced the project to be suspended indefinitely. It wasn't until 2006 that the project was finally revived, and the issue of the 300 families, many of whom had simply remained on the land as the project lay dormant, resurfaced.

According to a press report in 2007, workers who lived on the land were offered IDR 2.3 million to clear out. Retired workers were offered IDR 4.3 million and contract workers paid on a daily basis were offered IDR 250,000. The residents demanded to be relocated to a 47-hectare section of land located east of Kualanamu, but the demand was rejected. Of around 300 families, 71 refused these terms and remained where they were. The issue was further complicated by both the lack of established procedure for determining compensation in these cases and the unclear lines of authority governing land use during the immediate post-*Reformasi* period. The Minister for State Enterprises Sofyan Djalil, for instance, pointedly abstained from offering any guidance on the impasse, declaring instead that it was the responsibility of the Deli Serdang Bupati to resolve the land issues.¹⁹⁶

The project moved forward slowly through a series of time-consuming delays including land acquisition for a toll road and rail line connecting the somewhat remote location to the city of Medan, and questions about what to do with 30 families that refused to move. An official press release from

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¹⁹⁵ Kodrat Setiawan. "Proyek Aerocity, AP II Siapkan 200 Hektare di Bandara Kualanamu." *Tempo*. October 15, 2018.

¹⁹⁶ *The Jakarta Post*. "Kuala Namu Residents Fear Losing Land to Construction of Airport." June 12, 2007. ²⁰³ Indonesian Ministry of Transportation, Bureau of Communication and Public Information (*Biro Komunikasi dan Informasi Publik*). "Kuala Namu Airport Ready to Operate in 2012." Press Release issued January 31, 2011.

the Ministry of Transportation in 2011 shows just how little movement there had been on the question since 2007, stating that land use issues were the responsibility of the provincial and district officials, essentially absolving the national government of any hand in the delays.²⁰³ Again, this reveals a lack of clarity during this time (which was prior to the enactment of Law No 2 of 2012) about who bore responsibility for resolving critical land use issues, as well as over the proper procedures for doing so.

Construction contracts for the project were also largely awarded to domestically owned Indonesian companies, which may have placed a further drag on construction due to lack of adequate expertise and materials. The airport was finally opened for commercial operations in 2013, though some press reports criticized it for being rushed to avoid embarrassment over further delays. At the time of commercial operation, the toll road linking the airport to Medan had not yet been completed and the only way to access the airport was via the new rail link or by using an old road that was in poor condition.¹⁹⁷ The project thus suffered from the lack of a coordinating agency, such as the KPPIP, specifically tasked with ensuring the airport's operation coincided with the completion of supporting infrastructure projects, as well as in the lack of a proper mechanism for resolving delays stemming from land disputes.

The entire project took 18 years from the start of land acquisition until commercial operation (1995-2013) and the cost is estimated to have been between IDR 4-5 trillion.¹⁹⁸ While the land acquisition for the project went smoothly in comparison to the Lombok Airport, mainly owing to the fact that the land was simply transferred from one state-owned company to another, the compensation that was ultimately offered to affected land users was neither fair nor evenly distributed.¹⁹⁹ The airport is currently open and operating at capacity. In October 2017, Angkasa Pura

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¹⁹⁷ *Jakarta Globe*. "New Medan Airport to Open July 25 Without Access Road." July 11, 2013.

¹⁹⁸ The Press Release from the Ministry of Transportation lists the total cost at IDR 5 trillion, 3.3 trillion from the State Budget and 1.7 trillion from AP II. In an Annual Report, AP II put their portion of the project at IDR 1.39 trillion, while other reports have put the total at IDR 4 trillion. I have gone with the Ministry's figure, which roughly corresponds to AP II's official figures.

¹⁹⁹ Septy Denso Damanik. "Konflik Pembebasan Tanah Dalam Pembangunan Bandara Kualanamu." *Watan Malau*, Vol 1 (1) 2017.

II announced plans to offer up an IDR 11 trillion package to foreign investors for Phase II of the airport's expansion with the state retaining a 51/49 ownership split. The package would include IDR 4 trillion to develop a 200 hectare commercial area and IDR 7 trillion to expand the runway, passenger terminal and cargo area.²⁰⁰ As is often the case with such announcements, no official agreement has been announced and it is unclear if one will ever be forthcoming, leaving AP II free for the time being to develop the expansion on its own and continue to enjoy the monopoly profits derived from its exclusive management of the facility.

5.7. Lombok International Airport

The troubled history of the Lombok International Airport in Nusa Tenggara Barat (West Nusa Tenggara, or NTB) is probably the closest parallel to that of Kualanamu and highlights both important congruities and incongruities. It also offers a far more complete and incisive look into the process of determining compensation for land acquisition during the late New Order.

Beginning in 1995, the Suharto government began planning to build a new international airport in Lombok. Bali was already a booming destination for tourists and foreign investment, and it was expected that trend would soon spill over to the island of Lombok, which is located next to Bali. This case differs from that of Kualanamu in an important way as the land slated for development was owned by local people, many of whom were ethnic Sasak, rather than a state-owned company. Another important difference is that the project was undertaken as a wave of investment was hitting the region, so the 800 hectares targeted by Angkasa Pura I for the airport was a small portion of the thousands of hectares being acquired by big developers with close connection to President Suharto. These developers, including Lombok Tourism Development Corporation which was partially owned by Suharto's son Bambang, were able to acquire land from locals at rockbottom prices, often using state security forces to coerce landowners into accepting unfavourable terms.²⁰¹ By comparison, no similar

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²⁰⁰ Ade P. Marboen, "AP II offers Rp11 trillion project to expand Kualanamu Airport." *Antara News*. October 1, 2017.

²⁰¹ Thushara Dibley. "Beaches and Broken Bones." *Inside Indonesia* No 47, Jul-Sep 1996.

investment wave was occurring in Deli Serdang in North Sumatra when the Kualanamu project was underway. The overall political and economic environment in Lombok in the mid-1990s, flush with foreign cash and predatory speculators, partially explains why the situation degenerated to a greater degree than in Kualanamu and became so contentious.

Amidst this general investment frenzy, AP I invoked the statutory authority of Presidential Decree No. 55 of 1993 to begin acquiring 800 hectares in Kabupaten Lombok Tengah (Central Lombok Regency). This Decree established the legal authority and process by which the state could acquire land in the public interest. As a Presidential Decree, in theory it had less legal authority than a law passed by the legislature, such as the Basic Agrarian Law of 1960. In practice during the New Order such Decrees had the force of laws, and were often enforced using the coercive power of the state's security apparatus. The Decree established a one-sided and unilateral process for acquiring land, mandating the creation of a compensation team that was entirely filled with government officials and allowed the provincial governor, usually a Suharto ally, to be the final arbiter of disputes. There was no recourse for legal appeals, and in any event the judiciary during the New Order was a highly co-opted branch of government that tended to serve the interests of the president.²⁰²

In 1995, Team 9 began carrying out the land acquisition for the airport. The team consisted of the *bupati* of Central Lombok Regency, the head of the local BPN branch office, the head of the local tax agency, the head of the local public works agency, the head of the local agricultural agency, the head of the local transportation agency, the head of the *kecamatan* (sub-district), the head of the *kelurahan* (village) and the regional secretary. Team 9, which was responsible for determining compensation, thus did not include any local community members or civil society organizations. In a series of three public meetings held between June and July of 1995, local landowners were first offered IDR 1,500 per square meter for their land. By the third meeting, in July or 1995, they were offered IDR 2,000 per square meter. Villagers interviewed about the experience

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²⁰² See discussion of Indonesian legal system during the New Order in Chapter 3.

reported that in the third and final meeting they were presented with a take-it-or-leave-it offer of IDR 2,000 per square meter and felt coerced into accepting these terms as Team 9 was accompanied by state security personnel. The local *bupati*, sub-district and village heads also strongly pressured the landowners to accept the deal.²⁰³

An investigation conducted by the Ministry of Law and Human Rights later concluded that the landowners had been coerced into accepting inadequate compensation ranging between IDR 2,000-2,200 per square meter, and that those who refused were subjected to jailing and violence.²⁰⁴ This inequity was compounded as ex-landowners watched real estate values subsequently skyrocket, driven by rampant speculation and development. In 2001, land prices in East Lombok had reached IDR 120,000-160,000 per square meter.²⁰⁵ And by 2010, prices had reached USD \$20 per square meter.²⁰⁶ As a point of comparison IDR 2,000 in 1995 would be worth the equivalent of IDR 16,053 in November 2018, or a little over US \$1.²⁰⁷ After being coerced into releasing their land, ex-owners were then often relegated to watching as land values throughout the island increased by significantly more than they were paid for it.

The issues related to the acquisition of land from the mainly Sasak community at below market value and using intimidation and violence soon became even more complicated when the Asian Financial Crisis forced the government to suspend the project indefinitely, just as they had in Kualanamu. The impacted community, some 7,000 people, continued to occupy and live on the land during the intervening years as the future of the project remained uncertain. In this interim period, during which the division of responsibilities between central and local authorities was quite fluid, local

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²⁰³ Zaenudin. "Conflict, Development and Livelihood Transition: A Case Study of the International Airport Development in Lombok Nusa Tenggara Barat Indonesia." MSc Thesis in Rural Development Sociology at Wageningen University. August 2013. Can be accessed here <http://edepot.wur.nl/272925>. This thesis provides an extremely thorough account, based on extensive fieldwork, about the process of land acquisition conducted in 1995.

²⁰⁴ *Lombok Post*. "Borok Pembangunan LIA Terungkap." September 23, 2016.

²⁰⁵ Fleur Fallon. "Conflict, Power and Tourism on Lombok." *Current Issues in Tourism*, Vol 4(6), pp 481-502.

²⁰⁶ Deborah Cassrels. "Gold rush at the other Kuta." *The Australian*. February 26, 2010.

²⁰⁷ Calculated using <https://www.inflationtool.com/indonesian-rupiah>

village heads divided the land up and reallocated it back to the ex-landowners, even though their legal title to it had by that point been revoked.²⁰⁸

However, in 2005 when the project was revived these issues resurfaced and the legacy of intimidation and unfair compensation deployed in dispossessing the local community of their land was thrown back into focus. The government was intent on pushing through with the airport project and sought to clear the landowners from the area once again. However, as the ex-landowners felt that the initial process of land acquisition had been neither fair nor conducted in good faith, these efforts to push through without providing additional compensation touched off an intense backlash from the local community.

Opposition against the Lombok International Airport was far more intense than at Kualanamu, where resistance was limited to under 100 families who had no legal right of ownership to the land in any case. In Lombok, thousands of landowners were strongly opposed to the project, and the confused web of jurisdiction and responsibilities relating to land use in the post-*Reformasi* period impeded an authoritative resolution and indeed may have worsened matters. In September of 2005, about 1,000 farmers turned out to protest the airport project in an event that had been permitted by the National Police. Just before the event, the permit was revoked and the Central Lombok Regional Police declared the gathering illegal. In the scuffle that followed at least 35 farmers and two police suffered injuries including gunshot wounds.²⁰⁹ Clashes between farmers and police continued into 2006, resulting in numerous injuries.²¹⁰

In an effort to resolve the situation, Angkasa Pura I eventually paid an additional IDR 5.4 billion in “peace money” to local farmers as compensation for the violence that occurred between 2005-2006. Landowners involved in the process subsequently described that, to them, the matter was not

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²⁰⁸ Zaenudin. “Conflict, Development and Livelihood Transition: A Case Study of the International Airport Development in Lombok Nusa Tenggara Barat Indonesia.” MSc Thesis in Rural Development Sociology at Wageningen University. August 2013. Can be accessed here <http://edepot.wur.nl/272925>.

²⁰⁹ *Detik News*. “Bentrokan di NTB, Serikat Petani Ngadu ke Mabes Polri.” September 22, 2005.

²¹⁰ Adhar Hakim. “Ratusan Warga Tanak Awu Mengamuk Lagi.” *Liputan6*. June 21, 2006.

merely one of financial compensation and relocation but about “leaving their life history.”²¹¹ As will be discussed below, farmers contesting land acquisition in the New Yogyakarta Airport case study have expressed similar feelings.

Construction finally began in January 2008 and was completed, many months behind schedule, in October 2011. The airport sits on 551 hectares of land, and the total project cost was IDR 945.8 billion, financed primarily by Angkasa Pura I.²¹² Even as the airport commenced operations, local farmers continued to protest, alleging that they had been promised jobs in the new airport as part of their compensation, a promise which AP I had failed to make good on.²¹³

In addition to the land disputes, other aspects of the airport’s construction reveal that both the planning and execution were not as smooth as they could have been, as tensions and coordination failures between AP I and its local government partners resulted in both a rocky opening and protracted administrative battles over compensation. In August 2009, Angkasa Pura contracted the provincial government of NTB to construct the airside facilities for the new airport, including apron and taxiway, at a cost of IDR 110 billion. The deal became a sticking point long after the completion of the airport, as the government of NTB and AP I arrived at different appraised values for the land, and the NTB government refused to transfer the assets to AP I’s control until 2017, a full 6 years after the airport had already begun operations.²²¹

The Lombok International Airport project highlights several critical issues related to infrastructure development in Indonesia, and how it has evolved over time. First, it reveals how under the New Order the coercive power of the state was leveraged with impunity to serve the interests of big developers with close ties to Suharto. Compensation offered to acquire land for the airport project was well below market value, and a campaign of intimidation, a thoroughly eroded and co-opted

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²¹¹ Zaenudin. “Conflict, Development and Livelihood Transition: A Case Study of the International Airport Development in Lombok Nusa Tenggara Barat Indonesia.” MSc Thesis in Rural Development Sociology at Wageningen University. August 2013. Can be accessed here <http://edepot.wur.nl/272925>

²¹² Bustanuddin. “Lombok International Airport to operate soon.” *Antara News*. July 30, 2011.

²¹³ Fitri R. “Job Seekers Protest at New Lombok Airport.” *Jakarta Globe*. October 4, 2011.

²²¹ Angkasa Pura I Annual Report 2017.

judiciary and a legal process created by executive fiat with no transparency ensured farmers had little recourse but to accept the terms offered by the state and then watch as land values increased in the coming years. The end of the New Order, rather than providing clarity, exacerbated the confusion as the division of authority and responsibilities between different stakeholders and levels of government in the post-*Reformasi* period became blurred, leaving no single authoritative institution or statutory process by which the issue could be conclusively resolved. This resulted in several years of protracted conflict, which often escalated into violent confrontations. In total, the project began in 1995 and was finally operational in 2011, taking 16 years to complete.

5.8. Kertajati International Airport (West Java)

In May of 2018 President Jokowi officially inaugurated the Kertajati International Airport (also known as *Bandara Internasional Jawa Barat*, or BIJB). The new airport is located about halfway between Cirebon and Bandung and is intended to eventually be a major transport hub, helping to balance the massive passenger load straining facilities in Jakarta while boosting the regional economy, which is heavily dependent on textile manufacturing. The airport currently sits on 873 hectares of land and operates a 92,000 square meter passenger terminal capable of handling 5 million travellers per year.²¹⁴ The runway is being extended from 2,500 meters to 3,000 in order to accommodate large-bodied aircraft making the annual Haj Pilgrimage to Saudi Arabia. Eventually, the plan is for the airport to occupy 1,800 hectares while an adjacent 3,200 hectares will be developed into an integrated commercial zone or aero-city.

When he inaugurated the airport, Jokowi gave a back-handed compliment to his predecessor SBY, acknowledging the former president's role in getting the project started over a decade ago, but emphasizing that only under the Jokowi government the project had finally been

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²¹⁴ Bandara Internasional Jawa Barat Company Profile. Can be accessed online here <https://bijb.co.id/en/profilbandara/>

brought to conclusion.²¹⁵ A spokesperson for SBY's Democrat Party (Partai Demokrat or PD) quickly responded, pointing out that while planning and feasibility studies were undertaken in 2003, the project was not officially kicked off until 2011, implying that Jokowi positioning himself as the saviour of a troubled and long-stalled SBY project was misleading.²¹⁶ This fairly pedantic dispute is not only a transparent attempt to re-shape the narrative, it skirts the truth. The confusion surrounding basic facts illuminates several issues related to national-level infrastructure development in Indonesia and how it has changed over time.

As the PD spokesperson claimed, the project was initially conceived in 2003 at the very end of the Megawati presidency. Her successor, SBY, seized on the project and eventually declared it to be part of his ambitious and controversial Masterplan for Acceleration and Expansion of Indonesia's Economic Development (known as MP3EI). From the early stages, back in 2006, the project was always conceived of as a massive integrated development that would eventually occupy 50 square kilometres of land and be valued at IDR 25.4 trillion, underwritten by foreign investment from Japan, Germany, China, the UAE and Singapore.²¹⁷ After the completion of feasibility and environmental studies, a Determination of Location Permit was issued in 2005 covering 5,000 hectares of land. Then, as Jokowi suggested, the project lay dormant until 2009 when the West Java Provincial Government began the process of acquiring the massive tract of land slated for development.

There was immediate resistance from local landowners. The plan for the airport alone would require 1,800 hectares of land and involve the displacement of 16,000 people from 5 villages.²²⁶ As the project moved forward, resistance from landowners intensified, centred on several issues. First, the Environmental Impact Analysis from 2004 had labelled the area of Majalengka Regency where the project was to be sited as "unproductive agricultural land." The report stated that the land only yielded

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²¹⁵ Hendra Kusuma. "Cerita Jokowi soal Bandara Kertajati hingga Terima Kasih ke SBY." *Detik Finance*. May 26, 2018.

²¹⁶ Danu Damarjati. "PD Tepis Jokowi soal Bandara Kertajati Dicanangkan Lebih 1 Dekade." *Detik News*. May 25, 2018.

²¹⁷ Yuli Tri Suwarni. "Province looks forward to international airport." *The Jakarta Post*. December 22, 2006.

²²⁶ Ridwan Pamungkas, "Warga Sukamulya Menolak Pembangunan Bandara." *Liputan6*. June 9, 2007.

one harvest per year of 6 kwintals/Ha of milled grain, a figure which would allow the government to value it at a lower price. However, data from the Central Statistics Agency (*Badan Pusat Statistik*, or BPS) cited by Konsorsium Pembaruan Agraria (KPA), a consortium of farmers' rights advocates, pegged the area's productivity at 52.35 kwintals/Ha which would command a higher price.²¹⁸

The second issue was related to the government's outreach efforts. Press reports and statements issued by KPA assert that the majority of landowners are not opposed in principle to the airport project, but that they are not satisfied with the way the process has been conducted. In particular, they want the government to provide better compensation, more transparency, relocation and a socialization process that involves the active participation of the community.²¹⁹²²⁰ As the Determination of Location Permit was issued in 2005, it is not subject to Law No 2 of 2012 and thus the government is under no legal obligation to conduct a structured community outreach programme, and also has greater latitude in determining compensation.

In terms of the compensation, media reports state the government is offering between IDR 2.7 – 3 million for 1 bata of land²²⁹ which means the compensation is somewhere between IDR 192,857-214,285 per square meter.²²¹²²² This squares with the official figures given by the Province of West Java's Transportation Department which places the total cost of acquiring 1,800 hectares for the airport development at around IDR 2.2 trillion, or an average of IDR 122,222 per square meter.²²³ As of November 2018, land in the vicinity of the airport was listed on OLX at between IDR 300,000 – 850,000 per square meter, with parcels containing developed structures listed at between IDR 1-2 million.²³³

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²¹⁸ Konsorsium Pembaruan Agraria (KPA). "Warga Sukamulya Menolak Pembangunan BIJB." The report can be accessed here: <http://www.kpa.or.id/news/blog/warga-sukamulya-menolak-pembangunan-bjib/>

²¹⁹ Ibid

²²⁰ *bata* is 14 square meters.

²²¹ Tati Purnawati. "Ratusan Warga Desa Sukamulya Tolak Pembangunan BIJB." *Pikiran Rakyat*. January 25, 2016.

²²² Donny Iqbal. "Begini Asa Petani Kertajati di Negara Agraris Ini." *Mongabay*. September 17, 2017.

²²³ West Java Province Transportation Department. "Report: Bandar Udara Internasional Kertajati-Majalengka." This report can be accessed here: <http://dishub.jabarprov.go.id/image/infrastruktur/Slide50.JPG> ²³³ Author review of listed properties on OLX in November 2018.

The average compensation being offered is thus below fair market value as of 2018, but KPA has also provided figures for how the compensation is broken down by type of land use – IDR 125,000 per square meter for farmland, IDR 1 million per square meter for undeveloped land, and IDR 2.5 million per square meter for land with structures on it.²²⁴ This means prices, once you account for this tiered structure, are more in line with market values. While it might be on the low end of 2018 market value, it is higher and fairer than what landowners in Lombok received under coercive pressure from the state during the New Order. The state could make a reasonable argument that the compensation reflects fair market value.

However, landowners have expressed less concern over the price being offered than how the process has been conducted. As the land acquisition is not subject to Law No 2 of 2012, landowners have no legal recourse for appealing either the legality of the Determination of Location Permit or the compensation. The District Court records of Majalengka are devoid of any cases related to land disputes in the airport project, and this is because the landowners have no legal right to challenge the terms the government is offering – therefore, no cases can even be brought. As the New Yogyakarta International Airport below demonstrates, the implementation of Law No 2 of 2012 has made significant strides toward addressing some of these issues and potential sources of conflict when it comes to eminent domain. At the very least, it provides a legal avenue by which impacted landowners can seek to address their grievances with the state.

The government in Majalengka is also under no clear legal or administrative obligation to involve the community in serious dialogue or to meaningfully include them in the process, and this has been perhaps the area where conflict is most acute. When the project was first announced in 2004, the Majalengka Regent and 11 village heads certified to the government that the local population was in support of the project, even though no meaningful outreach was conducted at that time or since.²²⁵

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²²⁴ Tommy Apriando. “Derita Petani Desa Sukamulya Kala Terkena Pembangunan Bandara.” *Mongabay*. November 30, 2016.

²²⁵ Konsorsium Pembaruan Agraria (KPA), “Warga Sukamulya Menolak Pembangunan BIJB”, The report can be accessed here: <http://www.kpa.or.id/news/blog/warga-sukamulya-menolak-pembangunan-bjib/>

This perceived lack of legitimacy and unfairness is what is underpinning the conflict in Majalengka, not necessarily a fundamental opposition to the project itself, with farmers stating that if the process was more transparent and inclusive they would in turn be more receptive.²²⁶

In recent years the impasse has intensified. In November 2016, there were violent clashes between farmers and BPN surveyors, resulting in 5 arrests.²²⁷ Farmers in Sukamulya have stated they are “willing to die” to defend what they perceive as illegitimate land-grabbing; these same farmers willing to sacrifice their lives have also signalled receptiveness to the government’s plans if the process was more open.²²⁸ This seems like an area where better public outreach conducted in good faith could go a long way toward deescalating the situation.

The lack of hard deadlines included in the government’s eminent domain authority has also resulted in a very lengthy land acquisition process, which is still incomplete, while the delayed resolution creates more opportunities for protracted conflict. Even though the airport is currently operating, the government is still in the process of negotiating land acquisition of around 800 contested hectares.²²⁹²³⁰²³¹ This means land acquisition began in 2009, and nearly ten years later has succeeded in freeing only around 1,000 hectares or 20% of the total 5,000 hectares slated for development (including the adjacent aero-city commercial development). This poses a stark contrast with the Yogyakarta project, where land acquisition invoking the legal authority of Law No 2 of 2012 (which includes hard deadlines at every stage of the process) was 100% complete within the 3-year time frame mandated by the law.

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²²⁶ Ibid

²²⁷ Donny Iqbal. “Begini Bentrok Warga Saat Pembebasan Lahan Bandara Internasional Jawa Barat Kertajati.” *Mongabay*. November 18, 2016.

²²⁸ *SinarMedia*. “Warga Sukamulya ‘Siap Mati’ Melawan Penggusuran.” September 1, 2016.

²²⁹ Tati Purnawati. “Anggaran Ganti Rugi Pembangunan Bandara Kertajati Ditambah.” *Pikiran Rakyat*. May 10, 2016.

²³⁰ Miftahul Jannah. “Hii.. Ada 'Rumah Hantu' di Proyek Bandara Kertajati.” *Detik Finance*. December 18, 2017.

²³¹ Wilfridus Setu Embu. “BIJB siapkan Rp 170 miliar bebaskan 800 hektar lahan Bandara Kertajati.” *Merdeka*. September 29, 2017.

The financing and construction of the airport have also been complicated and controversial, as authority over the project has flipped back and forth between the regional and central government. In 2013, the Province of West Java formed a Regionally-Owned Company (Badan Usaha Milik Daerah or BUMD) called PT West Java International Airport (Bandara Internasional Jawa Barat, or PT BIJB which is how it is generally referred to). PT BIJB is wholly owned by the provincial government of West Java, and initially was tasked with financing, developing and managing the new airport.²³²

BIJB was founded with IDR 50 billion in 2014, and in 2015 received another IDR 300 billion bringing the total paid-in capital to 350 billion (337.5 billion from the provincial government of West Java, and 12.5 billion from PT Jasa Sarana).²⁴³ In 2015, it signed contracts with three state-owned construction companies to complete the landside development of the airport (on the airside, a 2,500 meter runway had already been completed by the provincial government as part of acquiring and preparing the site). The contracts were as follows:

Contractor	Project	Value (IDR)	Start	Project Timeline
PT Adhi Karya	Infrastructure	355 billion	November 2015	600 days
PT Wijaya Karya	Passenger Terminal	1.395 trillion	December 2015	731 days
PT Waskita	Operational Support	416 billion	November 2015	630 days
Total		2.166 trillion		

Fig 5.5. Contracts for Kertajati Airport. Source: BIJB Annual Report 2015.

The total project value for the landside construction, including some miscellaneous spending on consultant firms, was IDR 2.2 trillion. The largest project, the 92,000 square meter passenger terminal, was expected to be completed within 2 years, by the end of 2017.

Construction began in earnest in 2016. However, BIJB's balance sheet reveals there was some confusion over the project financing. In 2016, the company's own internal expectations had been to receive an additional IDR 800 billion paid-in capital from the provincial government, and the absorption of an IDR 750 billion loan facility. This 1.55 trillion injection of capital, along with the 350

²³² Donny Iqbal. "Pembangunan Bandara BIJB Dikebut, Permasalahan Pun Merunut." *Mongabay*. June 6, 2017.

²⁴³ BIJB Annual Report 2015.

billion from the prior year, would have left them sufficiently capitalized to fund the project nearly to completion. In actuality, the provincial government only provided an additional IDR 200 billion of capital, far short of what was needed to fund the capital-intensive development of the landside facilities.²³³ This can be attributed to confusion over the hierarchy of authority and responsibilities between the provincial and central government, as BIJB cancelled a planned auction of bonds to finance the airport at the instruction of President Jokowi who indicated the central government would be “taking over” the project.²³⁴ At this point, in 2016, land acquisition had stalled at around 1,000 of the anticipated 1,800 hectares, and who bore responsibility for overcoming these obstacles was somewhat unclear.

By 2017, BIJB was forced to share ownership of the project, having received only an additional IDR 258 billion in capital from the provincial government, as well as an IDR 650 billion loan from a sharia banking syndicate. Construction was running slightly behind schedule, but was nearing completion. The target was to open the airport in time for the 2018 Haj Pilgrimage (a goal which was ultimately achieved). By 2017, BIJB’s total capital from the provincial government, PT Jasa Sarana and lenders totalled IDR 1.46 trillion, well short of the IDR 2.2 trillion they were already contractually obligated to pay for the landside projects. In addition, accrued expenses weighing down the company’s balance sheet were pushing close to IDR 400 billion.²³⁵ As the airport was not yet operational it had yet to produce any revenue to help off-set these ballooning liabilities.

At this point, the state-owned airport operator Angkasa Pura I entered the picture seeking to take a 25% stake in the project, presumably in return for extending a financial lifeline to get the airport to completion on time. More evidence that BIJB was experiencing cashflow problems as the airport neared completion came in April 2018, when the Coordinating Minister of Maritime Affairs, Luhut, a close Jokowi ally and political fixer, informed PT Wijaya Karya and PT Waskita, two of the state-owned

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²³³ BIJB Annual Report 2016, page 144.

²³⁴ Adhitya Himawan. “Jabar Siapkan Rp 200 Miliar Buat Bebaskan Lahan Bandara Kertajati.” *Suara*. January 18, 2016.

²³⁵ BIJB Annual Report 2017.

construction companies carrying out the work, that there would be delays in their payments but that they should continue pushing ahead to complete the work on schedule anyway.²³⁶ This is one of the significant advantages of using state-owned companies to carry out a large-scale and capital-intensive infrastructure agenda – they can be strong-armed into papering over cashflow shortages of other state-owned companies. Presumably it would be harder to force a private construction firm to defer receipt of payment until an entity owned by the provincial government of West Java could get its finances in order.

By March 2018, AP I had taken a 20% stake in the airport, while the provincial government retained 60%, PT Jasa Sarana held onto 2% and the remaining 18% were to be funded through a type of bond sold to the public collateralized by the airport project itself. AP I, now responsible for extending the runway an additional 500 meters, injected approximately IDR 500 billion for the project.²³⁷ PT Danareksa Investment Management (DIM) eventually entered into an agreement to sell IDR 450 billion in bonds, representing somewhere between an 18-13% ownership stake in the Kertajati International Airport.²³⁸ This is part of a broader national effort to find more creative ways of financing infrastructure projects and diversifying funding sources so as to place less of a strain on the State Budget. With the realization of this additional IDR 950 billion in bonds and capital from AP I the project was sufficiently capitalized to reach completion only slightly behind schedule.

One thing that is missing from this is the promised role of foreign investors. As far back as 2006, project planners envisioned foreign investors from around the world helping to underwrite the airport. By 2015, officials maintained that there were up to 40 private investors, including foreign ones, interested in the project.²³⁹ In 2018, as they sought several hundred billion rupiah in outside funding to ensure the project reached completion, officials admitted there were no foreign companies yet

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²³⁶ Puti Aini Yasmin. "Aher Lapor ke Luhut Pembayaran Kontraktor Bandara Kertajati Molor." *Detik Finance*. April 2, 2018.

²³⁷ Mochamad Solehudin. "Angkasa Pura II Guyur Bandara Kertajati Rp 500 Miliar." *Detik Finance*. March 5, 2018.

²³⁸ Danang Sugianto. "Berapa Keuntungan Investasi di Bandara Kertajati?" *Detik Finance*. April 24, 2018.

²³⁹ Ajat Sudrajat. "Over 40 investors keen to invest in Kertajati Airport." *Antara News*. December 17, 2015.

willing to buy the bonds, only other state-owned and domestic companies.²⁴⁰ Despite official statements that private investment would be a key part of Jokowi's infrastructure agenda, foreign investment has been conspicuously absent in funding major airport projects during his presidency. The reasons for this are unclear – whether it is because the regulatory environment has not been sufficiently reformed and liberalized, or because there are a dearth of attractive projects or because domestic interest groups are keeping foreign investment out behind the scenes.

What is clear is the heavy lifting in Indonesia's airport expansion projects has been done by state-owned companies like AP I and II. Even in the case of the Kertajati International Airport, which was being spearheaded by a regionally-owned company, the state-owned operator eventually came in and took an equity stake in the project and helped fund it to completion, while the central government forced its state-owned construction companies to delay receipt of payment in order to ensure the project was completed on time.

The Kertajati Airport underlines the logic behind Jokowi's preference for using national SOEs to execute his developmental agenda. They are often better suited than other actors, in this case an entity owned by the provincial government, to compensate for market failures, bureaucratic roadblocks and financial shortfalls. AP I and II enjoy healthy cashflow and profit margins, and can easily issue debt and raise capital to pursue their expansion projects. They also have more experience than a newly formed enterprise like BIJB, and by employing state-owned companies to do the majority of the work the central government at the highest levels has much greater control over how conflicts are resolved and how authority is exercised in service of the national development agenda. For instance, in 2017 Jokowi declared the Kertajati Airport a Nationally Strategic Project, giving him added authority and legal muscle to expedite and accelerate its completion.

It is also apparent that the lack of statutory guidance and clear legal authority to expropriate privately owned land in the public interest has hampered the project. Without hard deadlines or an

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²⁴⁰ Yuli Yanna Fauzie. "Pemerintah Perbesar Porsi RDPT di Bandara Kertajati." *CNN Indonesia*. January 20, 2018.

appeals process or a legally mandated public outreach mechanism, the land acquisition for the Kertajati International Airport has been slow and the source of much conflict. Even if a reasonable argument could be made that the compensation being offered is close to a fair market value, the lack of official mechanisms by which landowners can appeal decisions and participate in the process has left many feeling like the process is unsatisfactory. As the following case study of the New Yogyakarta International Airport will show, the use of Law No 2 of 2012 on Land Acquisition has helped address some of these issues.

5.9. New Yogyakarta International Airport

The New Yogyakarta International Airport (also sometimes referred to as the Kulon Progo Airport), is one of the largest Indonesian airport development projects since the implementation of Law No 2 of 2012 on Land Acquisition in the Public Interest. It thus offers an excellent example for comparative analysis, as the ways in which the law have been utilized in this project can be contrasted against previous cases prior to the law's implementation in order to identify how new legal authorities and clearly defined procedures have impacted the process of compulsory land acquisition.

The Special Administrative Area of Yogyakarta (Daerah Istimewa Yogyakarta, or DIY), is a semi-autonomous region bounded by the province of Central Java. The city itself is an urban centre of high Javanese cultural and historical significance, and the site of the country's oldest university, Universitas Gajah Mada. The 8th century Buddhist-Hindu temple of Borobodur, a UNESCO World Heritage Site, is located about 45 minutes outside of the city and it is a major tourism attraction. Aside from tourism, DIY is a highly productive agricultural area owing to mineral rich soil from its proximity to a number of active volcanoes. Millions of tourists, particularly domestic Indonesian travellers, arrive in DIY each year and that number is expected to continue steadily increasing.

Currently, Yogyakarta is served by the Adjiusipto International Airport, located in the heart of the city. The airport, which is technically an air force base, was constructed decades ago with a capacity of around 1.5 million passengers. It currently receives around 7 million passengers per year,

far over capacity. The size of the runway, and lack of facilities and apron space, limits both the number of flights and size of aircraft that can land. There are currently only very limited international flights from Adjiuscripto to Kuala Lumpur and Singapore. There are no direct international flights to Australia, Europe or China. As the airport is located in the middle of the city of Yogyakarta, it is not possible to expand. A second terminal was added in 2016 to handle passenger overflow and international arrivals, but this was only intended as a stop-gap measure.

In order to address the existing over-capacity issues, circa 2013 the government began working on the development of a new major international airport which would serve both Yogyakarta and the densely populated province of Central Java. The idea for a new airport had been discussed since 2011, but it was not until 2013 that the location of Temon sub-district in the Kulon Progo Regency was selected and serious efforts were undertaken to develop the site.

The site is located around 1 hour drive south of Yogyakarta. Approximately 587 hectares of land have been acquired initially for the airport development, with future development of a major commercial centre adjacent to the airport similar to Kualanamu and Kertajati planned. The airport will be located next to the beach, and will be connected by road and rail link to Yogyakarta. It is expected to be able to handle 15 million annual passengers initially, with multi-phase plans for expansion through 2040.

On September 5, 2014 the Governor of DIY, who is also the hereditary sultan, issued Gubernatorial Decree Number 89/TIM/2014 authorizing the formation of a Land Procurement Preparation Team for the Development of the New DIY Airport. This Decree was issued after receiving, as mandated by Law No 2 of 2012, a procurement report from Angaksa Pura I which included the site and size of land needed, statement of purpose, budget, estimated land values and a rough timeline for construction. As required by Law No 2 of 2012, the Preparation Team was tasked with collecting preliminary data on those impacted by the procurement, then conducting socialization and public consultation meetings with the community.

According to court documents and media reports, the outreach period began on September 23, 2014 with a series of meetings held on successive days in the five villages that would be impacted in the proposed plan. The meetings were contentious. Wahana Tri Tunggal (WTT), a farmers' association and the primary leader of the opposition to the land procurement, later claimed in a court filing that they were blocked from attending the September 23rd event by police.²⁴¹ This prompted the *bupati* of Kulon Progo Hasto Wardoyo to adopt a more hands-off approach to the public consultation meetings, during which residents who could prove they had legal title to the impacted land were given around a one hour informational presentation and then asked to register either their agreement or opposition to the plan. Hasto publically referred to this as a policy of "minimal handling" in order to avoid escalating conflict.²⁴²

On March 31, 2015 the Governor of DIY issued the Determination of Location Permit based on the report submitted by the Preparation Team after concluding the public consultation phase.²⁴³ The Determination of Location Permit is valid for two years, with a maximum one year extension – thus Angkasa Pura was now obligated to complete the remaining steps in the land acquisition process (including settling all legal challenges via the court and appeals process, and independently appraising and re-measuring the site to determine fair compensation and acquire title to the land) within the next 3 years or they would lose their Location Permit. Incorporating the lessons learned from a history of lengthy delays related to land acquisition, Law No 2 of 2012 has hard deadlines in place for every step of the process, and as soon as the Permit was issued on March 31, it touched off a 30-day countdown for impacted parties to appeal the decision at the State Administrative Court of

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²⁴¹ Keputusan Gubernur Daerah Istimewa Yogyakarta Nomor 68/KEP/2015. Can be accessed here <http://jdih.jogjaprov.go.id/storage/1470099660skgub68-2015.pdf>

²⁴² Mediani Dyah Natalia. "Bandara Kulon Progo: Ini Gambaran Mengenai Mekanisme Konsultasi Publik." *Harian Jogja*. October 23, 2014.

²⁴³ Keputusan Gubernur Daerah Istimewa Yogyakarta Nomor 68/KEP/2015. Can be accessed here <http://jdih.jogjaprov.go.id/storage/1470099660skgub68-2015.pdf>

Yogyakarta, which a group of some 40 impacted farmers did. In their motion, they made three arguments for why the Determination of Location should be voided:

1. The plaintiffs alleged that their right to participate in the public consultation process had been infringed upon. During the September 23, 2014 meeting they claimed police had blocked them from entering, thus preventing impacted landowners from participating in what was meant to be a dialogue aimed at reaching consensus over the terms of the project.

They further argued that the public consultation meetings failed to include all impacted landowners, as only those who could provide proof of registered title were invited, even though titling records in Indonesia are known to be unreliable. By inviting only the official titleholders of record, many de facto owners were excluded from the process, especially those who had inherited land but never registered the change of title with BPN. They also alleged that the state used intimidation tactics by holding only brief one-hour information sessions after which individual titleholders were sent to meet with officials one-on-one to register their approval or rejection of the proposed plan. Lastly, they cited Regent Hasto's own public declaration of a "minimal handling" policy as being contrary to Law No 2 of 2012, which specifically states in Article 19(3) that public consultation is to be held in the location impacted by the procurement, and is to be a dialogue-based process.

2. Their second argument was that the location was in a disaster-prone area, known to be at high risk of earthquakes and tsunamis. These environmental concerns precluded the selection of this site, as the natural hazard potential had not been figured into the plans.
3. Their last argument was that the airport was not listed in several National and Regional Spatial Plans, which made no mention of a new airport in Kulon Progo and in fact specifically said that Adi Soemarmo Airport would serve as a secondary transport hub in tandem with Adi Soemarmo Airport in nearby Solo.

On June 23rd, 2015 the State Administrative Court of Yogyakarta ruled in favour of the farmers, placing the future of the project in doubt.²⁴⁴ Per Law No 2 of 2012, the case was immediately appealed to the Supreme Court, which had 30 days to return a ruling. The Supreme Court, which is the ultimate authority on such matters, overturned the lower court's opinion, ruling in favour of Angkasa Pura I, BPN and the Governor of DIY.

In their opinion, the Supreme Court ruled that the environmental concerns were not a valid reason for voiding the Determination of Location Permit as long as steps were taken in the planning and construction phase to address the natural hazard potential. The government and developer subsequently announced disaster mitigation plans at the site, including tsunami refugee areas and that the structures were rated for an 8.0 magnitude earthquake.²⁴⁵

On the third point, which other civil society groups have successfully used to hold-up power projects in other parts of Java²⁴⁶, they pointed out that the plaintiffs were referencing outdated Spatial Plans and that subsequent Medium Term Development Plans, both national and regional, specifically mentioned the development of the new airport in Kulon Progo. On the question of whether the public consultation had been sufficiently inclusive, which was perhaps the strongest argument in the case, the court did not issue any opinion at all.²⁴⁷

The fact that the Court ruled in favour of the state while eliding the trickier issue of whether the state sufficiently complied with the public consultation requirements is not surprising. According to Simon Butt, a leading scholar on Indonesian legal matters, the Supreme Court since 2011 has shown a general unwillingness to enter into controversial or complex cases of judicial review, instead taking

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²⁴⁴ Putusan Nomor 07/G/2015/PTUN.YK. Canned be accessed at <https://putusan.mahkamahagung.go.id/putusan/909a7284e14fb17874939530362d2757>

²⁴⁵ Riza Roidila Mufti and Bambang Muryanto. "New Yogyakarta airport prepared to face tsunami, government claims." *Jakarta Post*. January 24, 2019.

²⁴⁶ See Chapter 6.

²⁴⁷ Putusan 456 K/TUN/2015 Demi Keadilan Berdasarkan Ketuhanan Yang Maha Es Mahkamah Agung.

a fairly pro-government position on most cases and avoiding ones that raise difficult political and jurisdictional questions.²⁴⁸

This final ruling on the matter of the Determination of Location Permit's legitimacy and legal force took less than 4 months from start to finish and cleared the way for BPN to begin assessing the land and determining compensation, a process that per Article 27(2) involves: "a. Inventory and identification of control, ownership, use, and utilization of land; b. Appraisal of Compensation; c. Deliberation on the Compensation determination; d. Distribution of Compensation; and e. Relinquishment of Agency's land."²⁴⁹ Compensation should account for the land, buildings, plants and other assessed losses. For disputed compensation determinations, landowners can appeal first to the District Court, then to the Supreme Court, with each stage of the process subject to hard deadlines of 15 or 30 working days. Once the Supreme Court rules, the legal appeal process has been exhausted and the state agency acquiring the land can deposit the sum at the District Court on consignment. Once the money is submitted to the District Court, the title is considered legally transferred from the landowner to the state.

How BPN determines fair compensation is the most opaque part of this process, and most of those records are sealed. While many of the District and Supreme Courts' rulings are available on the Supreme Court's Public Directory of Decisions, the ones pertaining to consignment cases to settle disputed land claims in Kulon Progo Regency are absent, for instance. However, it is possible to ascertain an approximation of the level of compensation, which can then be compared to what the fair market value for land in that area should be in order to arrive at a general appraisal of its fairness.

The easiest way to derive an estimate of the compensation is simply to take the final figure paid by AP I for land claims and divide it by the total area of land acquired. In this case, the land acquired for the airport project has been reported at 587 hectares and the price paid was IDR 4.1

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²⁴⁸ Simon Butt. "Judicial Reasoning and Review in the Indonesian Supreme Court." *Asian Journal of Law and Society*, Vol 6(1) May 2019 , pp 67-97

²⁴⁹ Law No 2 of 2012. The text of the law can be found here:

<http://lkbh.uny.ac.id/sites/lkbh.uny.ac.id/files/UU%20No%202%20Tahun%202012.pdf>

trillion. 1 hectare is 10,000 square meters, so a simple math equation ($4.1 \text{ trillion} / 587 / 10,000$) shows that the average price paid by Angkasa Pura I to landowners in Kulon Progo Regency was IDR 698,466 per square meter.

According to the Director of Angkasa Pura I, Danang S Baskoro, this can be further broken down according to the type of land purchased.²⁵⁰ Of the total 587 hectares involved in the acquisition, 342 were purchased on mutually agreed upon terms between Angkasa Pura I and landowners, 34 were publically owned, and 160 were Paku Alam Ground owned by the Pakualaman a kind of hereditary duke and also the vice-governor. As of January 2017, 51 hectares were being contested, either because of disputed inheritance or compensation amounts, and headed to the consignment process. These cases were all ultimately decided in favour of the developer, and went to consignment, legally transferring the title for all land in the project site to AP I. This breakdown helps us to understand how much per square meter was paid for land, depending on how the agreement over the compensation was reached. It lines up fairly well with the broad estimate derived from simply dividing the total compensation by the total land area acquired.

Type	Hectares	Total Compensation	Price per Square Meter
By Agreement	342	2,800,266,194,388	818,791
By Consignment	51	297,924,934,900	584,166
Public	34	231,210,459,050	680,030
Paku Alam Ground	160	701,512,349,000	438,445
Total	587	4,030,913,937,338	630,358

Fig 5.6 Breakdown of compensation paid for NYIA. All amounts in rupiah. Source: Sukma Indah Permana. "Pembebasan Lahan Bandara Kulon Progo Rampung 91%." *Detik Finance*. January 21, 2017.

These figures are also in line with a number of cases filed at the District Court in Wates, which has jurisdiction over the Kulon Progo Regency. These cases, typically between family members or neighbours suing each other over disputed land titles, provide a general idea of compensation levels.

Case	Size (square meter)	Compensation	Per Square Meter
Putusan Nomor 7/Pdt.G/2018/PN Wat.	2,233	1,061,066,000	475,175

²⁵⁰ Sukma Indah Permana. "Pembebasan Lahan Bandara Kulon Progo Rampung 91%." *Detik Finance*. January 21, 2017.

Putusan Nomor 15/Pdt.G/2017/PN Wat	2,859	2,153,013,500	753,065
Putusan Nomor 25/Pdt.G/2017/PN Wat	3,320	1,743,798,400	525,240
Putusan Nomor 12/Pdt.G/2018/PN Wat	1,535	1,194,907,500	778,441
Putusan Nomor 26/Pdt.G/2017/PN Wat	2,880	1,994,622,000	692,577
Putusan Nomor 105/Pdt.P.K/2017/PN Wat	4,008	3,073,642,900	766,876
Avg Per Square Meter			665,229

Fig 5.7. Land compensation cases for Kulon Progo Airport, IDR. Source: Case Directory, Wates District Court

This cross-section of legal cases reveals that the compensation paid to landowners ranged from IDR 475,175 to 778,441 per square meter. Taken together, the average of these six cases was IDR 665,229 per square meter, which is very close to the rough estimate derived from dividing the total compensation of IDR 4.1 trillion by 587 hectares. It can therefore be inferred with a reasonable degree of certainty that the average compensation was somewhere in the mid-600,000 range per square meter, with some higher and some lower depending on the quality and location of the land, how future lost income was calculated, and how many structures existed at the time of appraisal.

The next question is whether this represents a fair value for land in the Kulon Progo Regency in 2015. Determining the fair market value of real estate in Indonesia can be challenging. While BPN has taken steps in recent years to improve its record keeping and the accuracy of its data, it is still a relatively opaque institution and sales prices, or the appraised value of land, in recent real estate transactions are not publically listed. Even where it is possible to obtain recent sales prices from tax records, these can be unreliable as sellers and buyers frequently under-report the true sales price in order to lower their tax burden.²⁵¹

²⁵¹ JP Tamtomo, Virgo Eresta, Olof Farnkvist & Henrik Roos. "Land Valuation Survey in Indonesia." *TS 8D – Land Valuation Case Studies II, FIG Working Week*. Stockholm, Sweden 14-19 June 2008.

A more accurate picture of the real estate market can be obtained by looking at land listed for sale on public websites like OLX, through site visits and from court records. A review of property listed on the website OLX as of November 2018 shows that the asking price for lots in the area of the New Yogyakarta International Airport range between IDR 700,000 and 2.6 million per square meter.²⁵² This was confirmed during an October 2018 site visit to the area, where prices for land in proximity to the airport were quoted at between IDR 1-2 million per square meter.²⁵³ And a recent court case in the Wates District Court, which is unrelated to the airport project, confirms that landowners in the area consider IDR 2 million per square meter to be the fair value of land with structures on it, and 800,000 for undeveloped land.²⁵⁴

Therefore, the compensation offered by Angkasa Pura I to impacted landowners is on the low end of the fair market value of real estate in the Kulon Progo Regency as of 2018. Several landowners subsequently appealed their compensation to the Wates District Court on these grounds, seeking between IDR 800,000 and 2 million per square meter which, they argued, reflected the current market value.²⁵⁵²⁵⁶ The majority of these claims were denied.

On this point, Law No 2 of 2012 is explicit that compensation be based on the fair market value at the time the Determination of Location Permit is issued, which in this case would have been March 31, 2015. This is because once the site is confirmed as the location of a large future transportation hub and commercial development area, the surrounding area will be subject to a rapid increase in value as speculative purchases drive up prices. If the value of compensation was not fixed in time, it would constantly be chasing an inflationary market driven by speculators. So while mid-600,000 rupiah per square meter is on the low-end for 2018, it reflects a reasonably fair value for rural agricultural land in the Kulon Progo Regency in 2015, which is located well outside of major urban and commercial

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²⁵² Based on author review of listed properties in the area on OLX in November 2018.

²⁵³ Author visit to vicinity of Kulon Progo Airport project October 26, 2018. As of June 2019 there was land still being advertised for IDR 800,000 per square meter.

²⁵⁴ Putusan Nomor 29/Pdt.G/2017/PN Wat

²⁵⁵ Putusan Nomor 142/Pdt.G/2016/PN Wat, Putusan Nomor 134/Pdt.G/2016/PN Wat, Putusan Nomor

²⁵⁶ /Pdt.G/2016/PN Wat, Putusan Nomor 136/Pdt.G/2016/PN Wat

areas. In considering whether the compensation is fair, it is also important to look at how the terms being offered changed over time, and whether the process ensured that the terms ended up higher than they began.

In this case, it can be inferred that the process mandated by Law No of 2012 did result in improved terms. Back in 2014, at the start of the process, AP I estimated it would need around IDR 900 billion for land acquisition.²⁵⁷ By the time the land acquisition was completed in April of 2018, after going through a clearly defined process stipulated under Law No 2 of 2012 including the Determination of Location Permit, the public consultation phase, the revaluation of the land by BPN, and a three year window in which impacted residents had several opportunities to appeal to the judiciary, the total compensation had more than quadrupled, to IDR 4.1 trillion. This partially explains why in the beginning, thousands of landowners were united in opposition to the project. As both sides worked through the process, which provided numerous opportunities to contest the state's decisions, a large majority of landowners ultimately accepted the terms being offered by AP I. By January 2017, of the 587 hectares being acquired for the project, the sides had failed to reach agreement on only 51, or about 9%, and these claims were mostly settled via consignment through the District Court.²⁵⁸

5.10. Paku Alam Ground

Law No 2 of 2012, as well as the Basic Agrarian Law of 1960, are explicitly based on the recognition of officially registered legal title to land. However, as discussed in Chapter 3, customary law and traditional concepts of land use and rights are widely practiced and deeply embedded in Indonesian society. This became an issue of contention during the land acquisition for the New Yogyakarta International Airport, and reveals some weaknesses in the use of Law No 2 of 2012 and the role of the state in arbitrating this politically and socially complex issue.

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²⁵⁷ Sukirno. "Megaproyek Bandara Kulonprogo: AP I Siap Gelontorkan Duit Rp7,5 Triliun." *Bisnis*. August 29, 2014.

²⁵⁸ Sukma Indah Permana. "Pembebasan Lahan Bandara Kulon Progo Rampung 91%." *Detik Finance*. January 21, 2017.

Included in the land acquired for the airport is a 160 hectare tract known as Paku Alam Ground (PAG). The Pakualaman is a hereditary position in the Yogyakarta sultanate, and the Pakualaman also serves as the deputy governor. In Kulon Progo, dozens of hectares of this land located near the beach had long been cultivated for aquaculture by local shrimp farmers. These farmers have no legal title to the land, as it is owned by the Pakualaman, but they have lived on and worked the pond farms on the land for many years. When BPN first appraised the land, they determined no compensation was due to the shrimp farmers as they lacked legal rights of ownership. The farmers sued in the District Court.

Putusan Nomor 60/Pdt.G/2016/PN Wat is just one example of dozens of such claims.²⁵⁹ In this case a shrimp farmer sued BPN and Angkasa Pura I alleging he was owed compensation for the loss of a 1,472 square meter pond farm on Paku Alam Ground. He requested a total of IDR 438 million in compensation: 368 million for two years of lost income, and 70 million representing the capital needed to build a comparable 1,000 square meter shrimp farm in a new location. The Wates District Court partially granted his claim, denying him the lost income but ruling he was owed IDR 70 million to start a new aquaculture operation.

In its ruling, the court noted that while the plaintiff was owed no compensation according to a strict interpretation of Law No 2 of 2012, the law does invoke “humanitarian principles” in determining compensation for land acquisition, and that such a notion is predicated on respect and protection for human rights. As the farmer had been working the land for many years and the land acquisition was effectively depriving him of his livelihood, the verdict reflected a compromise, determining that he was entitled to enough compensation to start over elsewhere. Dozens of such cases were brought by pond farmers working on Paku Alam Ground, and the District Court ruled the same way in the majority of them, granting the farmers between IDR 40-80,000 per square meter for the land they lost in order to re-start their business elsewhere.

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²⁵⁹ Putusan Nomor 60/Pdt.G/2016/PN Wat.

When BPN and AP I appealed these rulings to the Supreme Court, the vast majority were overturned.²⁶⁰ In fact, I was unable to find a single case where the Supreme Court upheld the lower court ruling. In overturning the District Court's compromise verdict, the Supreme Court stuck to the letter of the law as none of the pond farmers possessed a *Hak Milik* Certificate and the land was clearly owned by the Pakualaman. As noted earlier, the current iteration of the Indonesian Supreme Court generally seeks to avoid difficult or politically fraught decisions. It is therefore unsurprising that the Court would rule according to the letter of the law, refraining from attempting to interpret a highly fluid concept like "humanitarian principles", and in the process saving the state-owned airport operator many billions of rupiah.

But it is also telling that Law No 2 of 2012, which has only been on the books for 6 years, is already being subject to a wide range of interpretations. In this case, the District Court was far more sympathetic to protecting the human rights of the local pond farmers, and the language in the statute provided at least some legal basis for such a resolution. Going forward it will be interesting to see if lower courts continue to interpret the statute through a wide lens, or a narrow legalistic one, and whether or not the Supreme Court eventually softens on that line of judicial reasoning as well. For now, however, the pond farmers on Paku Alam Ground have been left with nothing, while the Pakualaman received over IDR 700 billion which raises obvious conflict of interest issues.

This three year administrative and legal process, as stipulated under Law No 2 of 2012, was completed in early 2018 and Angkasa Pura I and the airport opened for limited service in early 2019, with connecting infrastructure still under construction. The majority of the 11,000 families with registered title to the land, having exhausted their legal remedies, ultimately accepted the terms offered by the state and have vacated the area. Around 300 people simply refused to move.²⁶¹

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²⁶⁰ See Putusan Nomor 3525 K/Pdt/2016, Nomor 3291 K/Pdt/2016, or Nomor 3532 K/Pdt/2016 as examples. The Supreme Court ruled the same way in overturning dozens of similar cases.

²⁶¹ Bambang Muryanto. "Kulon Progo residents send letter to Angkasa Pura in latest legal move." *Jakarta Post*. May 7, 2018.

As the project completed land clearing and was actively under construction, police began to forcibly remove those who remained on the land. PLN turned off their electricity, and many of the remaining hold-outs were forcibly removed from their dwellings which were then bulldozed.²⁶² This is perhaps the most fraught and controversial part of invoking eminent domain, and despite providing legal cover for the acquisition of land in the public interest, Law No 2 of 2012 provides limited remedies in how it can resolve the issue of forced evictions when people refuse to accept the terms being offered. This is because, ultimately it is not an issue of financial compensation or legality to them.

Those families who were forcibly evicted after refusing to move have stated that there is essentially no amount of money that could make them relinquish their claim to the land. To them, this was an issue of not wanting to lose their identity, or their connection to the land.²⁶³ In this context, the concept of economic development or the greater national interest is fairly meaningless compared to severing their close relationship to the land, strongly echoing the sentiments of those farmers displaced by land acquisition in Lombok who spoke in similar terms of fearing the loss of their history. The government tried to reach a compromise, by preparing 20 hectares of Paku Alam Ground for the farmers to relocate to. But the land would only be provided on a 20-year lease. As they would not receive any official title to the land, most refused. So far only a handful of families have moved to the public housing on PAG.²⁶⁴

AP I has also suggested the new airport will generate between 6-10,000 jobs, 80% of which will be filled by labourers from DIY and especially the Kulon Progo Regency.²⁶⁵ This mirrors similar pledges made to locals in Lombok, but it also does not make any explicit promise about finding work for those displaced by the land acquisition. Moreover, displaced residents have indicated they are not

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²⁶² Bambang Muryanto. "Last 86 families still fighting against Yogyakarta airport development to keep land." *Jakarta Post*. July 23, 2018.

²⁶³ Author interview with representative of Community Association for Refusing Kulon Progo Evictions (PWPPKP) an NGO working with the remaining landowners. October 2, 2018.

²⁶⁴ Dani Julius Zebua, "45 Warga Terdampak Pembangunan Bandara Kulon Progo Terima Rumah Baru." *Kompas*. May 7, 2018.

²⁶⁵ *Berita Trans*. "80% Dari Kebutuhan 10.000 Tenaga Kerja Bandara Kulonprogo Diisi SDM Yogyakarta." March 31, 2017.

particularly interested in working in an airport, and that such offers miss the point. Severing their connection and past to the land through forced displacement, then offering a job as a baggage handler as consolation, at least to some of the remaining hold-outs, is not a sufficient form of compensation. Many of the local farmers, particularly the ones still opposing the land acquisition, enjoy working the land and have neither the temperament, the skills nor the desire to work in a large, modern international airport.²⁶⁶

5.11. Conclusion

The four cases looked at in this chapter help shed light on the logic behind Jokowi's SOE-led developmental strategy. As passenger capacity is struggling to keep up with traffic, Jokowi set a narrow policy goal of building new airports and expanding existing ones using the most efficient tools and means at his disposal. In this case, it was the state-owned airport companies Angkasa Pura I and II, which both have solid financials and decades of experience in developing and operating airports in Indonesia.

The importance of these advantages was underscored when a non-national SOE owned by the provincial government of West Java had difficulty bringing the Kertajati Airport to completion on time, ultimately requiring AP I to enter toward the end of the project with an injection of IDR 500 billion of capital. Given regulatory hurdles, market failures and financing pressures, SOEs are often the most suited to bring in big-ticket infrastructure projects the quickest.

Moreover, state-owned companies can invoke the legal authority of Law No 2 of 2012 on Land Acquisition which has substantially accelerated the time needed for land acquisition and provided legal mechanisms by which impacted landowners can contest the will of the state. Local district courts have by and large been sympathetic to landowner complaints, although their win rate

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²⁶⁶ Interview with representative of Community Association for Refusing Kulon Progo Evictions (PWPP-KP) an NGO working with the remaining hold-outs. October 2, 2018.

at the Supreme Court is much lower. Nevertheless, the existence of a structured process in and of itself has helped to ameliorate conflicts over land acquisition, while also speeding it up.

The airports in Kualanamu, Lombok and Kertajati were unable to invoke this legal authority, and all of them encountered delays and strong local resistance. In the Kertajati case, even though the first phase of the airport is operational, the developer is still in protracted negotiations with landowners for large portions of the site. The following table summarizes the main findings of this chapter with respect to Law No 2 of 2012's impact on airport projects:

Project	Time (Years)	Size (Hectares)	Impacted Pop	Paid (avg)	Market Price	Outreach	Legal Appeal
Kualanamu	18	1,305	100s	Unknown	Unknown	No	No
Lombok	16	551	7,000	2,000-2,200	120,000-160,000	No	No
Kertajati	7	1,000	16,000	220,000	300,000-850,000	No	No
Kulon Progo	4	587	11,000	698,466	850,000-2,000,000	Yes	Yes

Fig 5.8. Summary of main findings. Market price for Lombok based on 2001 estimates. Market price for Kertajati & Kulon Progo based on OLX listed prices in 2018.

In Kulon Progo, the only case where the law was invoked, the project has gone much faster than historical airport projects, and the compensation reflects a reasonably fair value for land in the area, if on the low end of 2018 market values. Moreover, the ability of the impacted landowners to feel like they have meaningful involvement in the process and some mechanism for challenging the state is an important aspect of the law's design. In Kulon Progo it ultimately won over the WTT farmers association that was opposed to the project initially, and those who had to be forcibly vacated expressed there was no monetary figure that would have induced them to do so.

It is also important to note that this law is a new tool for policy-makers and SOEs, and as such is a work in progress. Even the National Land Agency, specifically the unit tasked with land acquisition, is still in the process of developing standardized practices and procedures for implementing the law in

a uniform way across the country, a process they described in an interview as “harmonizing.”²⁶⁷ The law still has many areas for potential reform, such as recognition of customary ownership or land use rights, as opposed to only recognizing registered titles since land titling in Indonesia is notoriously unreliable.

The cases analysed in this chapter suggest that the SOE-led development model has been generally successful at leveraging the power of the state to accomplish its policy goal of expanding the country’s airport infrastructure. Angkasa Pura I effectively used Law No 2 of 2012 to accelerate the Kulon Progo project, and had distinct advantages over the BIJB owned by the provincial government of West Java in developing the Kertajati Airport. As yet no private or foreign developers are seriously in the running to build any major commercial airports in Indonesia, though it is unclear if this is because there is a lack of interest or because the SOE monopoly on the sector is effectively shutting them out. That would be a fruitful avenue for future research. But at present it is clear that efforts of the state-owned Angkasa Pura have been broadly effective at executing the mandate they were given at the start of Jokowi’s first term, and also that the process of land acquisition over time in Indonesia has seen concrete and measurable improvements.

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²⁶⁷ Author interview with BPN officials in Jakarta, January 25, 2019.

Chapter 6

Electricity Infrastructure Development in Indonesia

6.1. Introduction

Another one of Jokowi's signature infrastructure initiatives has been the 35,000 MW Programme – an ambitious plan to add 35,000 MW of generating capacity to the grid by 2019.²⁶⁸ Since the 1990s, this is Indonesia's fourth large-scale initiative designed to add thousands of MW to the grid. The first initiative by President Suharto in the early 1990s opened the power generation market in Indonesia to foreign investment for the first time. It collapsed into a complicated legal and political quagmire with the onset of the Asian Financial Crisis.²⁶⁹ In 2006, the Ministry of Energy embarked on a fresh building spree known as Fast Track I, this time executed almost entirely by state-owned electricity company PLN and which largely succeeded in adding 10,000 MW of coal-fired power by 2015.²⁷⁰ A second-round of investment was organized, known as Fast Track II, which intended to add between 10,000-17,000 MW of power mainly from Independent Power Producers.

Fast Track II proceeded more slowly than expected,²⁷¹ and has since been overtaken by Jokowi's 35,000 MW Programme, which absorbed some of the stalled Fast Track II projects. The 35,000 MW Programme has suffered from lower than expected demand projections, overly ambitious targets, financing and land acquisition delays and coordination breakdowns between stakeholders. Nevertheless, as the government has equipped itself with greater legal and administrative powers to circumvent procedural hurdles, as well as with expanded financial resources, many of the larger projects have been accelerated and are now targeted for completion in the next 2-4 years. This chapter will analyse the state of Indonesia's electricity infrastructure by taking a close look at planning,

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²⁶⁸ *Jakarta Post*. "Jokowi launches 35,000-MW electricity program." May 5, 2015.

²⁶⁹ See Louis T. Wells & Rafiq Ahmed. *Making Foreign Investment Safe: Property Rights and National Sovereignty*. Oxford University Press, 2007.

²⁷⁰ Raras Cahyafitri. "FTP-1 growing RI's power supply." *Jakarta Post*. August 22, 2014.

²⁷¹ Raras Cahyafitri. "Second phase of 10,000 MW power project sluggish." *Jakarta Post*. October 21, 2014.

financing and execution of the largest power projects in the 35,000 MW Programme and placing them in the historical context of Indonesia's energy sector. In particular, the analysis will emphasize the crucial role of the state in inducing the formation of complementarities to form between PLN, developers, banks and landowners.

6.2. Electricity and Economic Growth

There is a large body of literature on the relationship between electricity and economic growth, and this makes intuitive sense. Modern economies, especially as they become increasingly digitized, would quickly reach the limits of growth without electricity to power computers, machines and lightbulbs, just to name a few. While there is a general consensus that the relationship between electricity and growth is important, the specifics of the relationship are less universally agreed upon. Is energy required to drive growth? Or as the economy grows do more people use more energy? Does the direction of causality run one way, or is there a feedback effect? Or no effect?

One of the first meta-studies (using data from 160 countries) to approach this puzzle in 2000 found higher electricity consumption was linked to greater wealth formation, with the link being stronger in OECD countries.²⁷² A subsequent study, which incorporated more variables and a more nuanced framework, found that the nature and direction of the relationship is highly dependent on individual countries' income levels, urbanization and other externalities such as energy imports – no single covering rule could explain all cases.²⁷³ Single country studies would seem to bear this out, yielding a wide variety of results. For instance, electricity consumption has been shown as an important driver of growth in China²⁷⁴ and the US²⁷⁵, while the causal direction apparently runs the

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²⁷² Ross Ferguson, William Wilkinson & Robert Hill. "Electricity use and economic development." *Energy Policy* Vol 28, pp 923-934.

²⁷³ Fatih Karanfila & Yuanjing Li. "Electricity consumption and economic growth: Exploring panel-specific differences." *Energy Policy*, Vol 82, July 2015, pp 264-277.

²⁷⁴ Xiao Shengfeng, Xu Ming Sheng, Zhu Tian Xing & Zhang Xuelli. "The Relationship between Electricity Consumption and Economic Growth in China." *Physics Procedia* Vol 24 (2012), pp 56 – 62.

²⁷⁵ B.S. Warra & R.U. Ayre. "Evidence of causality between the quantity and quality of energy consumption and economic growth." *Energy* Vol 35 (2010), pp 1688–1693.

other way in Malaysia.²⁷⁶ The World Bank, in a review of 126 studies, found that the direction of causality could not be conclusively determined in most cases, due to measurement or methodological errors.²⁷⁷

It is clear, however, that sufficient and reliable electricity is needed for basic economic activities. It is equally clear that electricity supply, as well as transmission and distribution, in Indonesia can sometimes be inadequate, as anybody who has had to write a doctoral dissertation during a power outage can attest to. Whatever the causal direction of the relationship may be in the literature, the graph below shows that demand for electricity is steadily increasing in Indonesia and therefore it is an appropriate policy goal for the state, as the custodian of the nation's energy resources, to make sure that demand is adequately met by adding capacity.

Fig 6.1. Energy consumption, 2005-2017, in thousands GWh. Source: PLN Annual Reports, 2005-2017.

The next question is whether this goal is best accomplished through state-led infrastructure development or through private investment and liberal market reforms.

²⁷⁶ A.A. Azlina. "Energy Consumption and Economic Development in Malaysia: A Multivariate Cointegration Analysis." *Procedia - Social and Behavioral Sciences*, Vol 65 (2012), pp 674 – 681.

²⁷⁷ Robert Bacon & Masami Kojima. "Energy, Economic Growth, and Poverty Reduction: A Literature Review." *World Bank Working Paper*, 2016.

In the 1990s, liberal market reforms and an expanded role for private capital as opposed to state-led development, were considered the preferred method, especially for developing markets.²⁷⁸ This formed at least part of the economic rationale behind President Suharto's decision to open the domestic electricity generation market to a wave of foreign IPPs in the mid-1990s. However, other academics at the time cautioned that without fundamental sectoral reform, state governments courting private capital with guarantees could create long-term risks.²⁷⁹ This proved to be prescient, as the lack of real institutional reform ultimately undercut Suharto's IPP experiment in Indonesia with the onset of the Asian Financial Crisis. In Indonesia today, financing, planning and adding new capacity in the energy sector still struggles with some of the challenges encountered in the 1990s. The following sections will examine those challenges, as well as steps taken to address them.

6.3. Financing

The electricity sector in Indonesia is a vertically integrated monopoly. State-owned utility company *Perusahaan Listrik Negara* (PLN) is responsible for transmission and distribution of all electricity in the country. Prior to the 1990s, they also had a monopoly on power generation but this was relaxed in the 1990s as the Suharto regime sought to court foreign capital by liberalizing various domestic sectors and opening them to outside investment, including the power generation market.²⁸⁰ PLN, which is 100% owned by the government of Indonesia, is the principal agent tasked with developing additional generating capacity. It accomplishes this in one of two ways:

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²⁷⁸ Joy Dunkerley. "Financing the energy sector in developing countries: Context and overview." *Energy Policy*. Vol 23(1), 1995, pp 929-439.

²⁷⁹ Karl G Jechoutek and Ranjit Lamech. "New directions in electric power financing." *Energy Policy* Vol. 23 (1), 1995, pp 941-953.

²⁸⁰ *Asian Development Bank*. "Indonesia Energy Assessment, Strategy and Roadmap." July 2016. The following background information on PLN's business model and operational structure is summarized in this source.

- (1) Using a combination of debt, operating revenue and injections of state capital, PLN will build and operate its own power plants. Power generated from these plants is then sold directly to the public
- (2) PLN will enter into a Power Purchase Agreement (PPA) with a private developer, known as an Independent Power Producer (IPP). A PPA is a contractual agreement, usually for a term of 25-30 years, in which PLN agrees to off-take power produced at a particular facility at a fixed price. In Indonesia, these deals are typically structured so that after the term of the contract expires ownership of the facility is transferred to PLN (Build, Operate & Transfer or BOT).

PPAs encourage the private sector to bear all the initial capital costs of constructing and operating the generating facility, costs which often run into billions of dollars. PLN then pays them a fixed amount for the next 25-30 years. IPPs like this arrangement because the long-term certainty of the contract makes it easier to underwrite the risk and model the return on multi-billion dollar investments.²⁸¹ Foreign state-owned development banks are also often eager to finance these deals on the condition that the project is developed by an energy company from their country, and such deals typically receive substantial tax exemptions when countries have a Double Taxation Agreement with Indonesia, as China and Japan do. PLN, and the government of Indonesia, like these arrangements because it allows them to defer large up-front capital costs and repay them over several decades from operating revenues. Furthermore, agreeing to a long-term fixed price protects PLN from rising costs of generation in the future as the IPP must absorb those.

The potential downside of sourcing power from IPPs is that if generating costs should fall, the utility is locked into a long-term contract paying above market prices. An even riskier component in these deals is that PLN usually pays for the power in US dollars, but collects revenue from its customers in Indonesian rupiah. This makes the company vulnerable to external shocks such as a devaluation of

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²⁸¹ Henning Zülch, Dominic Detzen, Martin Wunsch, Torsten Wulf & Philip Meißner. "The benefits of a pre-deal purchase price allocation for acquisition decisions: an exploratory analysis." *Problems and Perspectives in Management*, Vol 11(1), 2013.

the rupiah, as its obligation to off-take power from an IPP in dollars will become increasingly expensive if the domestic currency slides. Indeed, this is precisely what crippled the round of IPP-led projects initiated by Suharto in the 1990s.²⁸² After the Asian Financial Crisis wiped out much of the rupiah's value, PLN simply could not afford to honour its dollar-denominated contractual obligations to the IPPs and years of legal and political wrangling followed. The challenge of how PLN finances power projects is compounded by numerous political economic considerations.

The first is that the state is legally obligated to provide affordable electricity in Indonesia. Law No 30 of 2009 Concerning Electricity tasks the state with safeguarding the country's energy resources and delivering electricity that is in "adequate quantity, good quality, and reasonable price."²⁸³ In practice, this means that the retail price of electricity that PLN can charge its customers is constrained mainly by political considerations. Even if generating costs rise, these costs generally cannot be passed on to customers. Indeed, the retail price of electricity is set by the Ministry of Energy and Mineral Resources, not by PLN. In 2018, for instance, at Jokowi's behest the price of electricity was frozen at its current rate at least through the end of 2019, which is an election year.²⁸⁴ Constrained in its ability to raise revenue, PLN's finances are to a large degree at the mercy of politicians eyeing re-election and other externalities beyond its control, such as currency depreciation and capital flight. It is also especially vulnerable to rises in generating costs, as it cannot raise revenue to off-set higher operating costs. As such, historically the company has relied on subsidies and injections of state capital which, during SBY's second term, hovered around IDR 100 trillion.²⁹⁵

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²⁸² See Louis T. Wells & Rafiq Ahmed. *Making Foreign Investment Safe: Property Rights and National Sovereignty*. Oxford University Press, 2007.

²⁸³ Law No 30 of 2009 on Electricity, Article 2.2. A copy of the law can be accessed here: <https://replit.files.wordpress.com/2011/11/law-no-30-2009-english-version.pdf>

²⁸⁴ Viriya P. Singgih. "Fuel, electricity prices to remain unchanged until 2019." *Jakarta Post*. March 6, 2018.

²⁹⁵ Approximately US \$7 billion at January 2019 exchange rates.

Fig 6.2. Revenue, operating expenses and subsidy received by PLN in trillions rupiah, 2005-2017. Source: PLN Consolidated Financial Statements 2005-2017.

This graph shows that revenue from customers has consistently been less than operating expenses, and that in 2014, when Jokowi took office, he pared the state's financial lifeline back to around IDR 50 trillion a year. While revenue accelerated somewhat to close the gap, in 2017 the company was still operating at a loss when accounting for funds from operation alone (PLN's total revenue is a bit higher when investment and other types of deferred income are included, but this analysis is focused on the company's core business model, which is revenue raised directly from customers).

This begs an obvious question: if revenue from customers is not sufficient to meet basic operating costs, how can PLN implement a massive, multi-billion dollar infrastructure initiative that aims to build 35,000 MW of additional capacity and upgrade the national transmission grids? This question is especially acute given that the Jokowi administration has reduced the state's financial assistance.

The obvious answer is debt.

Fig 6.3. PLN long-term liabilities and public subsidy in trillion rupiah, 2005-2017. Source: PLN Consolidated Financial Statements 2005-2017.

As the state subsidy has been reduced, and revenue from customers has yet to catch up to operating expenses, PLN's long-term liabilities (mainly in the form of loans and bonds) have increased to make up some of the difference. As evidenced by the financial models of Angkasa Pura I and II in the previous chapter, taking on debt to finance capital intensive infrastructure development that will support long-term growth can be a sound strategy. The cases differ in important ways however.

AP I and II have healthy profit margins, and can service their debt from their operating revenue. Furthermore, AP I and II have taken on debt from domestic banks and domestic bond issues denominated in local currency. They are also not legally mandated to keep airport fees low (though as a practical business matter, they generally do), and so they can adjust their prices based on changes in the business environment. None of these conditions apply to PLN's financial model. The most important weakness in PLN's debt strategy is that much of the debt has come from foreign banks and international bonds, and is thus denominated in foreign currency. Again, as it derives its revenue in rupiah, this exposes the utility precariously to currency shocks. Should the rupiah depreciate rapidly for any reason, PLN runs a real risk of insolvency and it is bound by a legal mandate not to try and recover its losses from its customer base.

There is another important aspect to PLN's debt strategy that can be gleaned from its balance sheet.

Fig 6.4. PLN assets and liabilities in trillions rupiah, 2005-2017. Source: PLN Consolidated Financial Statements 2005-2017.

While total liabilities have increased in the Jokowi era as the company takes on more debt, assets skyrocketed from 2014 to 2015. According to the data, the company gained billions of dollars in equity in a single year, as its assets rose from IDR 539 trillion in 2014 to IDR 1,227 trillion the following year. This massive equity boost was then used to back the sale of \$2 billion in global bonds in May 2018 and to take on billions in debt from international lenders.²⁸⁵

Where did this equity come from? Essentially from an accounting trick. In March 2017, the Indonesian Financial Service Authority issued new guidance pertaining to accounting practices that allowed PLN to retroactively adjust its consolidated financial statements in two major ways. The first is that it allowed PLN to review all of its Power Purchase Agreements with IPPs and determine if the agreement could be considered a lease transaction. This resulted in “all transactions based on PPAs with IPPs being treated as sale and purchase transactions, regardless if those transactions contain substances other than sale and purchase. The cost of electricity purchases from IPPs are recognized when incurred as purchased electricity expenses and presented in consolidated statements of profit or loss and other comprehensive income.”²⁹⁷

²⁸⁵ *Reuters*. “Indonesian power utility PLN says \$2-bln bond sale cut costs.” May 26, 2018.

²⁹⁷ PLN 2017 Consolidated Financial Statement, Note 2.a.

That is to say, payments that PLN makes to qualified IPPs are no longer treated as capital expenses, but as operating costs. This is significant because under the previous accounting method, the total projected value of the PPA would sit on PLN's balance sheet as a long-term liability, shifting into the asset column slowly as the contract was paid down over a term of 25-30 years. By allowing PLN to treat these payments as sale and purchase transactions when they are incurred, they can now be expensed as operating costs at the time the payment is made, and the long-term balance of the contract will no longer weigh down the firm's liabilities.

Looking at PLN's operating costs in 2017, for instance, it will appear that the firm suddenly began paying a lot more to purchase power from IPPs, and one might infer that this means hundreds or thousands of MWs of added capacity from independent producers suddenly became operational in that year. While some of those added operating costs can be attributed to commissioning of IPP power plants, the majority of the increase is actually due to the fact that long-term capital expenses that were previously booked as liabilities have been shifted to operating costs in the profit/loss statement. This kind of financial surgery masks the real state of the company's operations and financials, and makes the most sense if the primary goal is to improve your balance sheet in order to raise capital immediately.

The second revision to the accounting method, and what accounts for the massive leap in assets, is that PLN revalued all of its physical plant and material. Previously, PLN's asset valuation had been based on a cost model where the asset was carried at cost less accumulated depreciation and impairment. Under the new accounting guidance, it adopted a revaluation model where the asset is carried at a revalued amount, being its fair value at the date of revaluation less subsequent depreciation and impairment. Assets are thus revalued and re-stated at their current fair market value, minus depreciation.

PLN owns the entire national electricity grid of the country of Indonesia, including most substations and transmission wires, along with a substantial portion of the nation's power plants and huge tracts of land. Many of these assets were constructed or purchased decades ago. Determining

their fair market value in 2015 would, of course, add tens of billions of dollars to the firm's balance sheet essentially overnight. The guidance also gives the appraisal team significant latitude in how the final value is calculated. In determining the fair market value of its assets, PLN noted in a footnote on its consolidated financial statement that it used "data inputs observed from the market" as well as "unobservable market data inputs and special assumptions related to the assets classified as specialized property, such as power plants, transmission and distribution networks, substations and others."²⁸⁶

This huge injection of equity in 2015 can thus ultimately be traced back to an accounting trick that converted long-term liabilities into operating expenses, as well as an opaque revaluation of a massive pool of physical assets relying on "unobservable market data inputs" and unspecified assumptions to determine their value. This newly robust balance sheet was then explicitly used by PLN management to back the sale of billions of dollars in bonds.²⁸⁷ Yet, in reality, nothing has fundamentally changed about PLN's financial model, its operating costs or its cashflow and revenue shortfalls. It can use its pumped up asset valuation to collateralize increasing amounts of foreign debt, but ultimately the long-term soundness and sustainability of this financial strategy is uncertain and it underscores the point that the details of tasking SOEs with developing infrastructure can differ dramatically from sector to sector.

6.4. Planning

PLN publishes an annual 10-year business plan (*Rencana Usaha Penyediaan Tenaga Listrik* or RUPTL) in which it lays out its strategic vision and priority projects. The fact that the utility publishes a new 10-year plan every year would suggest that these documents are more aspirational than strict binding documents, and indeed they are often drastically revised from year to year. For instance, overly optimistic assumptions about 7% economic growth and surging electricity demand made in 2015 have

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²⁸⁶ PLN 2017 Consolidated Financial Statement, p 69.

²⁸⁷ *Jakarta Post*. "PLN sees Sri Mulyani's letter on debt as standard warning." September 28, 2017.

resulted in the cancellation of 22,000 MW of planned projects in the 2018 RUPTL.²⁸⁸ From year to year projects disappear and then re-appear on the plan with little explanation. Both PLN and the Ministry of Energy's ability to engage in effective long-term strategic planning is therefore somewhat undercut by their historical performance and these documents are best understood as tracing the general contours of the country's energy policy, rather than binding statements of what will happen.

More useful analysis is yielded by a granular examination of large-scale priority projects, and the particular challenges and reforms encountered in planning and implementing them. The following section will examine the 8 largest (1,000 MW or greater) power projects that have been rolled out as part of Jokowi's 35,000 MW programme. 7 of them are coal-fired, and one is natural gas. All but one are located on Java, with the other on the island of Sumatra. A qualitative, process-based analysis of these cases will reveal whether and how the Indonesian state, in its latest push to add capacity, has overcome the challenges faced during previous efforts, and where it is still impeded by structural or institutional weaknesses particularly in developing sustainable PublicPrivate Partnerships with foreign developers.

The majority of these mega projects are IPP projects, and they adhere to the following general sequence of events.²⁸⁹ PLN, through an internal process, determines how much added capacity it needs and where and tenders the project for bids from private developers. Developers are almost always foreign companies, usually from China or Japan, and they must form a local consortium that includes a domestic Indonesian company as a partner. There are no 100% foreign owned power plants above 10 MW in Indonesia.

Once the bid is awarded to the consortium, PLN enters into negotiations on the terms of the deal – the price it will pay to off-take power, the length of the contract, whether ownership will

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²⁸⁸ Sonal Patel. "Indonesia's PT PLN Cancels 22 GW of Planned Capacity, Citing Lax Demand." *Power Magazine*. March 15 2018.

²⁸⁹ For a general overview of how the energy sector is structured see Indonesia *Energy Assessment, Strategy and Roadmap*. Asian Development Bank. July 2016. This sequence of events has also been distilled and confirmed by my own analysis of the case studies in this chapter.

transfer at the end of the term. Once the terms are agreed, the IPP and PLN sign a Power Purchase Agreement. The next step is to reach financial closing on the deal, wherein the project is fully funded. Typically national and international development or import-export banks will organize the financing along with a consortium of commercial lenders. The project is generally 80% financed and the IPP will contribute a 20% equity stake. The commercial portion of the loans are often insured by foreign export import agencies.

Once financial closing is reached, funds are disbursed in tranches and the project breaks ground (a ceremony often attended by President Jokowi with the press in attendance). For large coal and gas-fired plants above 1,000 MW construction and testing usually takes between 4-5 years before the plant is officially commissioned and PLN will begin off-taking the power at the agreed price. The term of the PPA does not kick in until the plant is officially commissioned. In this way, the IPP shoulders all of the initial capital investment, which is often billions of dollars.

The financing risk is typically shared between development and commercial banks, and the commercial portion is often underwritten by national insurance and ex-im agencies eager to subsidize the risk so that their own national energy companies can book large and potentially lucrative contracts. PLN, which as mentioned above would have difficulty financing many capital intensive projects at the same time, is able to amortize the cost of the project over several decades (and also as mentioned above, the total value of the contract no longer sits on its balance sheet as a liability for decades). Although there is overlap between the steps, the process can be diagrammed in its simplest form like this:

Bid Awarded → PPA Signed → Licenses, Permits, Land Acquisition → Financial Closing → Construction → COD

The area where the potential for coordination failure is greatest in this process is the time between when the PPA is signed and when the deal reaches financial closing. At that stage, the IPP has the

contract but not the financing. In order for the lender and the IPP to reach financial closing, the IPP has to acquire all (or most) of the construction and environmental permits and licenses required by the state. Crucially, the IPP also has to acquire all (or most) of the land required for the project (including for transmission lines) before the lender will release the first tranche of funding, especially if the lender is a Japanese or international development bank.²⁹⁰ Although PLN is generally eager to announce the signing of PPAs, the viability of the project is not really assured until financial closing has been reached.

Acquiring the necessary licenses, permits and land, however, has historically been the most fraught and difficult part of the process.²⁹¹ Prior to the enactment of Law No 2 of 2012 on Land Acquisition, acquiring the land for a project could take years with no certainty of a successful outcome for the developer. Local opposition to large fossil-fuel power plants is also often very intense, as the degradation of the environment and impact on local livelihoods can be severe, especially when regulatory oversight is lax.

Furthermore, Indonesia's licensing and permitting process is notoriously cumbersome and inefficient, with a muddled division of authority and responsibility between district, provincial and national-level agencies and overlapping laws and regulations that often contradict one another. For instance responsibility for issuing environmental permits has swung back and forth between the central and district government since decentralization. In many cases, as will be detailed below, this has resulted in sloppy procedural compliance which creates opportunities for civil society groups and environmentalists to challenge major projects in court, where they have won several big victories.

When a project has a signed PPA, but is tied up in court battles over land acquisition and permits, it can cause major delays. This regulatory uncertainty has the potential to turn off investors who may be wary of protracted legal and administrative delays. Moreover, if the delay is long enough

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²⁹⁰ See for instance "Proposed Loan and Administration of Loan PT. Jawa Satu Power and PT. Jawa Satu Regas Jawa-1 LNG-to-Power Project (Indonesia)" report generated by the Asian Development Bank in evaluating loan feasibility for Jawa Satu power plant, June 2018.

²⁹¹ "Progress of Infrastructure Initiatives under the RPJMN 2015-2019." *Bank Indonesia*.

PLN will seek to renegotiate the terms of the PPA downward, claiming that while the project has been delayed the price initially agreed to in the contract no longer reflects current market conditions. The IPP, having already invested millions of dollars in the preparatory work yet still having received none of the funding, might feel pressured to accept worse terms simply to get the deal closed. This can become a self-perpetuating cycle, as the perception of high risk levels reduces investor confidence in future projects.

In previous decades, especially the 2000s, this was a major impediment to sustained, largescale investment in big power projects.²⁹² In addition to Law No 2 of 2012 on Land Acquisition, the Jokowi administration has rolled out a raft of reforms and executive decrees intended to overcome these obstacles and speed up the process so that projects can reach financial close more quickly.

These reforms include:

- A one-stop licensing and permitting centre that is intended to streamline the approval process.²⁹³
- Clearer legal and statutory frameworks for how land is acquired and who is responsible for issuing particular permits, as well as the sequence and legal requirements by which they should be issued. Law No 2 of 2012, as discussed in Chapter 5, also imposes clearly defined deadlines on many aspects of this process.
- Presidential Regulation 14/2016 on Acceleration of Power Infrastructure Development. In addition to all the other Presidential Regulations, this one specifically targets the energy sector, creating a regulatory basis for government guarantees on power projects and instructions to speed up permitting and licensing.

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²⁹² Conrad Voelker, Andrew Perana, Tillmann Sachs & Robert L. K. Tiong. "Political risk perception in Indonesian power projects." *Journal of Financial Management of Property and Construction* 13(1), June 2008, pp 18-34.

²⁹³ Indonesian Investment Coordinating Board. "One Stop Services." Can be accessed here: <http://www.bkpmjpn.com/en/one-stop-services/> ³⁰⁶ See Chapter 4.

- Designating major infrastructure projects as Nationally Strategic (*Proyek Strategis Nasional* or PSN).³⁰⁶ Through executive fiat, Jokowi can confer PSN status on essentially any project which makes it eligible for government financing guarantees and other expedited legal authorities that allow the project to circumvent certain bureaucratic and procedural obstacles, such as exemptions from spatial planning laws.
- As mentioned in Chapter 4, the designation of the KPPIP as the primary high-level body tasked with overseeing hundreds of large-scale infrastructure projects, and assisting in debottlenecking and problem-solving.

The clear trend in these reforms has been to strip power and authority away from local governments and concentrate it at the central state level. When projects get stuck, they can be elevated to the KPPIP where the president himself, or another powerful figure in the government, can leverage their authority and invoke newly created administrative powers to cut through the deadlock. As Jokowi's infrastructure push has gained momentum since 2014, this trend has become more and more apparent, with authority increasingly concentrated in the hands of the central government in Jakarta. The question which this dissertation seeks to probe is how effective this strategy has been. To address that question, the next section will briefly summarize the previous three energy building programmes and compare them with the 35,000 MW Programme.

6.5. The New Order – IPPs and Market Liberalization

As previously noted, electricity generation was liberalized in the 1990s and PLN's total monopoly on the electricity sector was loosened. This marked a general turn in the New Order wherein President Suharto sought to court foreign investment, a trend that was underpinned by the neoliberal ideology and policy goals of the Washington Consensus.

In the early and mid-1990s, PLN signed PPAs with 27 IPPs to develop coal-fired power plants throughout Indonesia. Many of these projects were financed and insured by export-import or development banks in the United States and Japan, and involved American and Japanese manufacturers and developers. Similar to the current situation, foreign developers created consortiums with local partners who were often granted a 25% equity stake. Many of the Indonesian partners were related to or had close relations with Suharto, and the foreign developers would often engage in the ethically dubious practice of loaning the local partner the money for their equity stake.²⁹⁴

As detailed above, the Asian Financial Crisis hobbled PLN and the Indonesian government's ability to carry out this plan successfully. PLN faced a severe solvency crisis as its dollar-denominated contractual obligations to foreign IPPs became unsustainable, and years of lawsuits followed. Ultimately, with the depreciation in the rupiah, PLN ended up paying more in many cases to purchase power from IPPs than it would have cost the utility to simply build and operate the plants on its own. The lesson drawn from this experience on the Indonesian side was that using IPPs to generate power could have significant negative consequences, while on the international side it raised investor doubts about Indonesia as a destination for investment.

6.6. Fast Track I & 2

After the Asian Financial Crisis de-railed many of the 27 IPP projects, Indonesia would not mount another serious effort to expand electricity capacity for a decade. In 2006, with economic growth rebounding and electricity demand beginning to spike, especially in Java, the Ministry of Energy began to plan another round of power projects which became known as Fast Track I.

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²⁹⁴ The history of how these deals with structured, as well as their later collapse, is covered in detail in Louis T. Wells & Rafiq Ahmed's *Making Foreign Investment Safe: Property Rights and National Sovereignty*.

The Minister of Energy from 2000-2009 was Purnomo Yusgiantoro, who helped plan and execute the Fast Track I Programme. Planning began in the mid-2000s, when supply was struggling to keep up with demand. Because foreign companies were still wary of investing in Indonesia in the wake of the Financial Crisis, the decision was made to have PLN spearhead the construction of 10,000 MW of coal-fired plants. By having PLN execute the programme, the state could maintain more direct control and oversight over it and eliminate the need to court foreign capital at a time when Indonesia's credit rating was still recovering. Furthermore, PLN had extensive experience in building coal-fired plants, so it was thought this would be the most prudent and realistically achievable plan for adding additional capacity quickly. Lastly, at the time supply was chasing to catch up with demand which had an elasticity of around 1.3, so the modest goal of adding 10,000 MW was considered a sufficient and realistic first-step toward relieving the supply crunch and demonstrating that PLN had the ability to get back in the power plant business.²⁹⁵

Planning and procurement were undertaken in 2006 under the authority of Presidential Decree No 71 of 2006, and by 2009 the first plant, 300 MW Labuan I, was commissioned.²⁹⁶ In the period 2009-2014, capacity was steadily added every year by PLN-owned and operated steam-powered plants (mainly coal). Fast Track II was envisioned as an extension of Fast Track I. however, it would rely much more heavily on IPPs and push for the development of renewable energies, especially geothermal and hydropower, in order to reduce Indonesia's dependence on oil. The graph below demonstrates the impact of both Fast Track I and II on Indonesia's energy mix.

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²⁹⁵ The information here was described to the author during an interview with Mr. Purnomo Yusgiantoro, former Minister of Energy from 2000 to 2009 in Jakarta, February 11, 2019.

²⁹⁶ Pradeep Tharakan. "Summary of Indonesia's Energy Sector Assessment." *Asian Development Bank Paper No. 9*, December 2015.

Fig 6.5. Added capacity from PLN-operated steam plants (in MW, left) and power purchased from IPPs (in GWh, right) 2005-2017. Source: PLN Annual Reports 2005-2017.

Beginning in 2009, as plants under the Fast Track I policy began to be commissioned, there is a steady rise in added capacity, which begins to level off in 2014 and 2015, having increased from roughly 10,000 MW to 20,000 by 2015. Then in 2014, the share of power being purchased from IPPs sharply increase while PLN's installed capacity levels off, reflecting Fast Track II's goal of purchasing power rather than having PLN develop the plants itself.

Fast Track I was generally successful in doing what it set out to do: have the state oversee the construction of 10,000 MW of coal-fired power plants in order to bolster investor confidence in Indonesia's energy market and PLN's ability to roll-out and build power plants over a 5-6 year period. The results of the Fast Track II programme are more ambiguous.²⁹⁷ For one, the target has consistently shifted. It was first envisioned as another 10,000 MW programme, but then ballooned up to 17,000 MW. Sometimes a 7,000 MW figure is also quoted. Often, long-stalled Fast Track II programmes, such as the Central Java Power Plant discussed below, have simply been re-labelled as part of the 35,000 MW Programme, meaning it is somewhat difficult to gauge the success of the policy accurately as the goalposts keep moving.

By relying on IPPs instead of PLN to build up the majority of additional capacity in Fast Track

²⁹⁷ Wilmar Salim, Siwage Dharma Negara. "Infrastructure Development under the Jokowi Administration: Progress, Challenges and Policies." *Journal of Southeast Asian Economics*, Vol 35(3) 2018, pp 386-401.

II, the government was able to shift some of the short-term financial burden for power projects onto IPPs. As discussed above, the drawback of this strategy is that IPP energy projects are often slower as it can be difficult to cut through Indonesia's bureaucratic red-tape, acquire financing and overcome hurdles related to land acquisition and environmental permits. In virtually all the cases discussed below, it required intervention by the state at some level to get the projects to financial close.

Furthermore, it is unclear if PLN is a completely honest partner in its role as the off-taker of IPP power – PLN almost always evinces a preference for building and operating power plants itself so that it can maintain a monopoly on all aspects of the domestic electricity market.²⁹⁸ When the government tasks PLN with signing PPAs with its competitors, it is not clear whether PLN is 100% committed to this policy objective, and therefore PPAs often languish once signed, or PLN will alter the tender process in ways that can turn off bidders.

But there are important insights to be drawn from Indonesia's experience in adding capacity. Fast Track I showed that a carefully conceived policy relying on state-owned PLN to build the type of power plant it has a lot of experience with can be an effective approach. Fast Track II showed that expanding that ambition, and opening the market to IPPs, can complicate and slow things down. Jokowi's 35,000 MW Programme adds some additional perspective on this subject.

The plan leans heavily into IPPs to deliver on a lot of the capacity targets. As discussed below, the programme is vastly expanded in ambition and scope, and while the Jokowi administration has overcome some of the obstacles that slowed down Fast Track II, mainly by concentrating additional authorities and power at the central state level to push through bottlenecks, there are still obstacles related to planning, financing and executing such a wide-ranging policy initiative.

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²⁹⁸ Interview with Mr. Purnomo Yusgiantoro in Jakarta, February 11, 2019.

6.7. 35,000 MW Programme

In 2015, newly elected President Jokowi announced the country would be building 35,000 MW of additional capacity in 210 locations around the country at a value of around \$88 billion.²⁹⁹ Many observers were sceptical, finding the plan overly ambitious and also noting that the 35,000 MW target was fairly arbitrary. The plan also included an unrealistic 2019 deadline, almost certainly for political purposes (2019 being an election year).

According to the KPPIP, by 2017 only 1,041 MW were actually operational, with less than half of the total capacity target under construction.³⁰⁰ While over 12,000 MW of planned projects had already signed PPAs, that figure does not tell us much as it is not a meaningful metric of success until the deal reaches financial close. Many deals, even after signing PPAs, will languish for years as they try to secure funding and acquire land and permits. The table below indicates the relatively slow progress of the 35,000 MW Programme when compared to expectations.

	2016	2017
Operation	706	1041
Construction	10141	16642
PPA (No financial closing)	8478	12776
Procurement	10560	3160
Planning	5842	2228
Total	35727	35847

Fig 6.6. Progress of 35,000 MW Programme end of 2017. Source: KPPIP.

However, in the second half of his first term, Jokowi's government began to successfully accelerate many of these projects. A look at 8 mega-projects (over 1,000 MW) currently in development shows that by the beginning of 2019 seven of them, totalling 11,000 MW and valued at over \$17 billion, had reached financial close and were already under construction. As he begins his second term, Jokowi will be able to claim credit for 1,000s of MW of promised power feeding into the grid.

Project	Cost	Capacity	Lender	PPA	Closing	PPA to Closing

²⁹⁹ *Jakarta Post*. "Jokowi launches 35,000-MW electricity program." May 5, 2015.

³⁰⁰ Note on these figures. They were originally available on the KPPIP website which during the first few years of Jokowi's presidency had a special section for updates on the progress of the 35,000 MW Programme. This has since been removed and I am unable to locate the original reports from which I derived these figures. KPPIP now lists each individual priority project, rather than summarizing the (slower than expected) overall progress of the Programme. These figures were accurate at the time I recorded them from the KPPIPs website.

Batang PLTU (Central Java Power Plant)	4,200,000,000	2,000	JBIC	6/10/2011	9/6/2016	1708
Cirebon II	2,100,000,000	1,000	JBIC	1/10/2015	9/11/2017	770
Cilacap #4 (Jawa 8)	1,389,000,000	1,000	CDB	30/10/2015	30/9/2016	348
Tanjung Jati B 5 & 6 (Jawa-4)	4,194,000,000	2,000	JBIC	21/12/2015	24/2/2017	431
PLTU Jawa 7	1,800,000,000	2,000	CDB	1/1/2016	29/9/2016	272
Jawa Satu	1,800,000,000	1,760	JBIC	15/9/2017	5/12/2018	446
Indramayu II	4,000,000,000	2,000	JICA	N/A	N/A	N/A
Sumsel 8	1,680,000,000	1,240	CIMEX	19/10/2017	23/5/2018	216
Total	21,163,000,000					
Total Financial Closing	17,163,000,000	11,000				

Fig 6.7. Progress of Mega-Projects (1,000 MW of more) in 35,000 MW Programme. Source: Author calculation.

These projects are financed by a mix of Japanese, Korean and Chinese development banks, and the Chinese projects on average reach financial close more quickly than Japanese-backed projects. The following 8 case studies will explore some of the obstacles encountered in these major power projects, and discuss the tools the Jokowi government has given itself to overcome them, as well as how effective they have been at achieving their policy goals in this sector.

6.8. Batang PLTU (Central Java Power Plant)

The Batang PLTU Power Plant, also known as the Central Java Power Plant, was originally planned and tendered by PLN for qualified bidders in 2011, and of the 8 projects analysed here it has travelled one of the most difficult paths. It exemplifies the obstacles encountered by IPPs in developing energy infrastructure projects in Indonesia prior to Law No 2 of 2012 and how the reforms mentioned above have been leveraged to overcome some of them.

In 2011, a consortium called PT Bhimasena Power Indonesia was formed consisting of Japanese energy companies Electric Power Development Co. Ltd. (J-Power), and Itochu Corporation. They partnered with Indonesian company PT Adaro Energy, one of the largest coal mining companies in the country. PT Bhimasena Power (34% owned by J-Power, 34% owned by PT Adaro, and 32% owned by Itochu) signed a PPA with PLN on October 6, 2011 to develop the 2,000 MW coalfired PLTU Batang in Central Java.³⁰¹

³⁰¹ Aditya Prananda Putra. "Proyek PLTU Batang Capai Financial Close." *Republika*. June 9, 2016.

Of the total project cost of US \$4.2 billion, \$3.2 billion was set to be co-financed by the Japan Bank for International Cooperation (\$1.92 billion) and a consortium of 9 commercial lenders (\$1.28 billion).³⁰²³⁰³ PT Bhimasena Power's equity stake would therefore be approximately \$1 billion, or 22% of the project cost.³¹⁶ Absent the authority of Law No 2 of 2012 governing compulsory land acquisition, however, the project immediately became bogged down in land issues that ultimately delayed it for 5 years. By 2014, with around 12% of the required 226 hectares still refusing to transfer title, the 2011 PPA had to be amended, with the deadline for financial closing extended.³⁰⁴ PLN took this opportunity to negotiate the PPA down to 5.71 cents per kWh.³⁰⁵

Under pressure from the Japanese lenders and investors, PLN assumed control of land acquisition on January 1, 2015 and invoked the statutory authority of Law No 2 of 2012 to acquire the remaining 19 disputed hectares. In tandem, the government revised Presidential Regulation 71 of 2012 concerning the Implementation of Land Procurement for Development in the Public Interest.³⁰⁶ The revised regulation created a new administrative authority which allowed the developer to start construction even if land acquisition was not 100% complete, meaning that as the fate of the remaining hectares worked its way through the legal system the project could still get underway.

After PLN invoked Law No 2 of 2012, the mandatory deadlines for impacted landowners to appeal kicked in and they quickly filed suit against the Governor of Central Java's Determination of Location Permit. Their claim was rejected by both the State Administrative Court and the Supreme Court in early 2016, exhausting their legal recourse for challenging the land acquisition which then

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³⁰² Christie Stefanie. "Kesepakatan Pembiayaan Diteken, PLTU Batang Dikebut 2019." *CNN Indonesia*. June 9 2016.

³⁰³ -30% is the typical equity stake of IPP developers, with lenders covering the remaining 70-80% of the balance. This formula holds true for all the projects analysed here.

³⁰⁴ PT Adaro. "Amendment of PPA for PLTU Batang." Press Release. November 4, 2014.

³⁰⁵ Diemas Kresna Duta. "PLN Tuntaskan Pembelian Listrik PLTU Batang Pekan Ini." *CNN Indonesia*. February 10 2015.

³⁰⁶ Safyra Primadhyta. "Lanjutkan PLTU Batang, Jokowi Rombak Aturan Pembebasan Lahan." *CNN Indonesia*. February 2, 2015.

moved to the consignment phase.³⁰⁷ As an additional measure to mollify the lenders and investors, the Ministry of Finance and the PT Indonesia Infrastructure Guarantee Fund (IIGF) signed on as guarantors of the project.³⁰⁸ The parties reached financial close on June 9, 2016³⁰⁹ and construction was 30% complete by October 2017.³¹⁰

This case provides a clear example of typical obstacles to developing big-ticket power projects in Indonesia, as well as the reforms and administrative manoeuvring the Jokowi administration has begun leveraging in order to overcome them. When the project became bogged down in a protracted fight over land acquisition, the state invoked its new legal authority to seize the land. When the lenders began to doubt whether the project would ever see fruition, the state-owned utility company seized control of the land acquisition process to expedite it, the executive branch revised a regulation to allow construction to begin anyway, and the Ministry of Finance stepped in with a financial guarantee. It also reflects how, even in 2015 and 2016, Jokowi was already evincing a clear preference for using the authority of the central state to debottleneck thorny impasses in the name of national and economic development.

6.9. Cirebon II

The Cirebon II PLTU is a 1,000 MW coal-fired supercritical power plant being built in the regency of Cirebon, and is an addition to an existing 660 MW plant that has been in operation since 2012. As it is an extension of an existing plant, there was no open tender process – PLN awarded the contract to the developer of the Cirebon I plant via a direct appointment mechanism. The developer, PT Cirebon

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³⁰⁷ Fedina S. Sundaryani. “Supreme Court ruling paves way for Batang megaproject.” *Jakarta Post*. March 2 2016.

³⁰⁸ Ministry of Finance of Republic of Indonesia. “Today, PLTU Batang is Expected to Reach Financial Close.” Press Release. Can be accessed here <https://www.kemenkeu.go.id/en/publications/news/today-pltu-batangis-expected-to-reach-financial-close/>

³⁰⁹ Coordinating Ministry of Economic Affairs. “Financial Close PLTU Batang Jawa Tengah 2x1.000 Megawatt dan Penandatanganan Lima (5) Proyek KPBU Jalan Tol.” Press Release. June 9, 2016.

³¹⁰ *TribunNews*. “Pembangunan PLTU Batang Sudah 30 Persen, Kini Masuk Tahap Kontruksi Baja.” October 17, 2017.

Energi Prasarana, is a Japanese-Indonesian consortium owned by Marubeni (35%), Indika Energy (25%), Samtan (20%), Korea Midland Power (10%) and JERA (10%). The 195 hectares needed for the project were leased from the Ministry of Forest, minimizing land acquisition-related delays.

The project's financing consists of a combined \$1.148 billion from the Japan Bank for International Cooperation (\$730.8 million), Export-Import Bank of Korea (\$417.6 million) and \$592 million from a consortium of private lenders whose portion is insured by Japanese and Korean export-import insurance agencies.³¹¹ The equity stake for PT Cirebon was therefore around \$360 million. The company entered into a 25-year PPA with PLN in October 2015.³¹² Immediately, there was strong local opposition to the project, with protestors partnering with GreenPeace to stage demonstrations in West Java and Jakarta, blocking contractors from accessing the site and disrupting official PT Cirebon Energi Prasarana events.³¹³³¹⁴³¹⁵

Because JBIC has certain commitments to environmental standards, opposition to the project targeted the development bank with a public protest campaign that involved going to Tokyo to protest in front of the bank's offices and demanding meetings with Japanese stakeholders. Led by WAHLI, an Indonesian environmental NGO, opposition groups claimed that the environmental impact of Cirebon I had been under-estimated, and that the construction of an even larger power plant would result in even worse environmental damage and loss of livelihood for locals. In December 2016 The People for Environmental Protection (RAPEL) filed suit in the Bandung State Administrative Court, alleging the relevant spatial planning law for the area only permitted power plant development in the district of Astanajapura. However, construction of Cirebon II was also impacting the Mundu district, which violated the applicable zoning regulation.³¹⁶

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³¹¹ Market Forces. "Cirebon 2 (1,000 MW). This report can be accessed here: <https://www.marketforces.org.au/research/indonesia/cirebon-2/>

³¹² WALHI. "Objection Regarding the Cirebon Coal-fired Power Plant Project–Unit 2 in West Java, Indonesia." May 21, 2017. Objection filed by NGO WALHI with the Japanese Ministry of Foreign Affairs.

³¹³ *RadarCirebon*. "Pemuda Waruduwur Blokade Aktivitas Subkontrak PLTU II Cirebon." September 8, 2016.

³¹⁴ *RadarCirebon*. "PLTU 2: Ada yang Syukuran, Ada yang Belum Bibayarkan." May 28, 2016.

³¹⁵ *RadarCirebon*. "PLTU Kanci Laporkan Aksi Aktivis Lingkungan ke Jakarta." May 17, 2016.

³¹⁶ WALHI. "Objection Regarding the Cirebon Coal-fired Power Plant Project–Unit 2 in West Java, Indonesia."

Despite the public opposition campaign and pending law suit, the investor consortium led by JBIC reached financial close for \$1.74 billion in project funding on April 18, 2017. The following day, the Bandung State Administrative Court ruled in favour of RAPEL and revoked PT Cirebon Energi's environmental permit for not complying with the relevant zoning requirements.³¹⁷ As this setback placed the project's viability in jeopardy, the central government quickly intervened, again via presidential decrees and regulations, manoeuvring to circumvent these legal obstacles.

Rather than appeal the case, the developer immediately went back to the Governor of West Java and requested a new environmental permit, this time invoking the authority of Government Regulation No. 13 of 2017, issued on April 12, just a week prior to the court's decision. This regulation expanded the state's authority for approving permits for projects of national strategic importance, even if they failed to comply with the relevant spatial plan.³¹⁸ As the legality of the new permit worked its way through the court, PLN again seized on the opportunity to negotiate the PPA downward, from 6 cents per kWh to 5.5.³¹⁹ Apparently satisfied by these developments, the lender released the first tranche of funding in November 2017 as the new environmental permit was still being reviewed in the Bandung State Administrative Court.³²⁰

In May 2018, the challenge against the new environmental permit was rejected, clearing the way for the project to proceed unimpeded. In their ruling, the judges noted two important conditions. Although the project was not in compliance with the relevant spatial plan, Government Regulation No 13 of 2017 rendered this point irrelevant if the project was deemed to be of national strategic importance. Furthermore, Presidential Regulations 3 and 4 of 2016 provided the executive branch with wide discretion in designating infrastructure projects to be of national strategic importance. As such,

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May 21, 2017. Objection filed by NGO WALHI with the Japanese Ministry of Foreign Affairs

³¹⁷ *Mongabay*. "Indonesian court revokes environmental license for the Cirebon coal plant expansion." April 25, 2017.

³¹⁸ Mochamad Riandi, Soewito Suhardiman & Eddymurthy Kardono. "Indonesia - New National Spatial Plan Regulation." *Conventus Law, Legal News and Analysis*. November 2, 2017.

³¹⁹ Pratama Guitarra. "Harga jual listrik swasta direvisi." *Kontan*. November 16, 2017.

³²⁰ Achmad Dwi Afriyadi. "Telan Dana Rp 28 Triliun, Progres PLTU Cirebon Baru 12%." *Detik Finance*. May 4, 2018.

although it was not in compliance with the spatial plan, these authorities allowed the government to issue a permit exempting this project and clearing the way for the construction of the 1,000 MW plant.³²¹ As of mid-2018 the project was well into construction, with an expected commission date in 2022.³²²

This case reveals two important features of infrastructure development in Indonesia. First is that well-organized grass-roots opposition, which can be especially intense in coal-fired mega-power projects, can and has been effective in challenging the state's developmental agenda. Organizations like WALHI and RAPEL are becoming increasingly adept at exploiting inconsistencies and lack of standardized procedures in the administrative process in order to challenge the legitimacy of licenses and permits on technical grounds, and they have found success in delaying big projects at the district court level. While the Cirebon II project ultimately went forward, the Indramayu project, as detailed below, has perhaps been permanently derailed by such efforts.

The other important feature is that in response to this push-back from civil society groups, the state has sought to strengthen its power and authority to pursue big-ticket infrastructure projects by declaring them to be critical to the country's economic development and, ultimately, its strategic security and national interest. By invoking the rhetoric of national development, the state, via government and presidential decrees, can bulk up its authority to sidestep the legal tactics being deployed by civil society groups. In this case, the government simply used the power of executive fiat to exempt this project from applicable regulations.

It is important to note also that Government and Presidential decrees have not gone through any type of legislative ratification process and therefore have not been vetted nor approved by the elected representatives of the people. They are simply issued by the executive branch, and increasingly as Jokowi's infrastructure push has gone forward, more and more of these executive edicts have been

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³²¹ "Walhi's Lawsuit is Dismissed, The Bandung State Administrative Court Upholds the Environmental License of Cirebon II PLTU." Cirebon Power Press Release. May 4, 2018.

³²² Achmad Dwi Afriyadi. "Telan Dana Rp 28 Triliun, Progres PLTU Cirebon Baru 12%." *Detik Finance*. May 4, 2018.

issued equipping the central state government with expanded administrative and legal authorities to pursue its infrastructure development agenda and overcome obstacles such as civil society opposition.

6.10. Cilacap #4 (Jawa-8)

Cilacap #4 (also known as Jawa-8) is a 1,000 MW expansion of an existing coal-fired power station in Central Java. It is the 4th generating unit at the power plant, preceded by the 600 MW Units #1 and #2 in 2006, and the 660 MW Unit #3 which was commissioned in 2015. The project is developed and operated by an IPP partnership called PT Sumber Segara Primadaya which is 49% owned by PT Pembangkit Jawa Bali, a wholly owned subsidiary of PLN, and 51% owned by PT Sumberenergi Sakti Prima, an Indonesian power company for which it is nearly impossible to find any public information despite their involvement in several large power projects in the country.

All previous units of Cilacap were financed by the Bank of China or Chinese Development Bank. The total project cost for the 1,000 MW expansion has been publically listed at \$1.4 billion. What is unusual about this deal, according to public disclosures, is that the entire project value is being financed – PT Sumber Segara Primadaya has, apparently, not had to put up any equity stake at all. According to the World Bank, \$1.1 billion is being financed by Chinese development banks, and the remaining \$300 million is being covered by Bank Rakyat Indonesia, a state-owned Indonesian bank.³²³

The deal, one of the very first mega-IPP projects to be kicked off in the Jokowi era, has progressed at lightning speed. PT Sumber Segara Primadaya signed an EPC (Engineering, Procurement and Construction) contract with Chinese contractor Chengda Engineering on June 5, 2015.³³⁷ The PPA with PLN was then signed on October 30, 2015 and reached financial closing less than a year later on

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³²³ World Bank. "Cilacap Power Plant Expansion Phase II." Private Participation in Infrastructure Database. Can be accessed here: <https://ppi.worldbank.org/snapshots/project/Cilacap-Power-Plant-Expansion-Phase-II-9017>

³³⁷ *Rambu Energy*. "Sumber Segara, China's Chengda to start construction of Cilacap mega power plant." June 20, 2015.

September 19, 2016. Construction began less than a month after that, on October 12, 2016.³²⁴ The plant will likely be commissioned in 2019 or 2020.

There are several novel aspects of this deal. Of the 8 mega-projects discussed here, Cilacap is the only one in which the IPP is an entirely Indonesian partnership. Unlike in most of the other cases, the Chinese contractor awarded the construction bid will not be participating as an equity partner. The elapsed time from PPA to financial close was 348 days, which is remarkably fast. The only project with a faster close was Jawa 7, which is also a Chinese-financed deal where the Indonesian partner is state-owned PT Pembangkit Jawa Bali's investment arm. The fact that the Indonesian IPP PT Sumber Segara Primadaya has not, at least as far as public disclosures make known, invested any of its own money in the project is also highly unusual.

The deal was fast-tracked as one of the first big marquee projects in the 35,000 MW Programme, and land acquisition was minimal as the project is mostly utilizing land already owned by the Cilacap plant. These elements help explain why it has moved forward at such rapid speed, but the deal itself is still highly peculiar and opaque in many respects. PJB's 2015 consolidated financial statement shows that the company's fixed assets increased by 3.7 trillion rupiah from 2014 to 2015, and its financial liabilities increased by an almost equal amount of 3.77 trillion over the same period.³³⁹

IDR 3.77 trillion in 2015 was equal to approximately US \$275 million, which would represent 19.6% of the total project cost of US 1.4 billion, or in other words the typical equity stake seen in most other mega-IPP projects. However, the statement does not mention any additional investment of paid-up capital being applied toward the Cilacap #4 project, or where this 3.77 trillion in additional financial liabilities came from or how it has been allocated. As in several other Chinese-financed deals, the project has moved forward on a highly accelerated schedule but the terms are opaque and peculiar and raise quite a few questions. The involvement of a wholly-owned PLN

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³²⁴ Azis Husaini. "PLTU Cilacap berkapasitas 1.000 MW mulai dibangun." *Kontan*. October 13, 2016.

³³⁹ PJB 2015 Consolidated Financial Statement.

subsidiary as one of the project developers is just one of them.

6.11. Tanjung Jati B 5 & 6 (Jawa-4)

Tanjung Jati B #5 and #6 (also known as Jawa-4) is a 2,000 MW supercritical coal-fired expansion of the existing Tanjung Jati B power station. The existing 4 units total 2,640 MW of installed capacity, so once the expansion is complete the station will have a generating capacity of 4,640 MW. The operator is PT Bhumi Jati Power which is owned by Sumitomo (50%), Kansai Electric (25%) and PT United Traktor (25%), which is a subsidiary of the Astra Group, a large Indonesian conglomerate.

The total project cost is \$4.194 billion, \$3.355 billion of which will be financed, leaving the developer with an \$839 million equity stake. \$1.678 billion of funding will be from a consortium of Japanese commercial banks (Mizuho Bank, Ltd., the Bank of Tokyo-Mitsubishi UFJ, Ltd., Sumitomo Mitsui Banking Corporation, Mitsubishi UFJ Trust and Banking Corporation, Sumitomo Mitsui Trust Bank, Limited, the Norinchukin Bank, and Oversea-Chinese Banking Corporation Limited Tokyo Branch) insured by the Nippon Import Export Insurance company. The remaining 1.677 billion will come from the Japan Bank for International Cooperation.³²⁵

Planning and development for the expansion began in 2013, when local government officials began exploring along with PT Bhumi Jati Power how to streamline the permitting process for the 2,000 MW expansion.³²⁶ A 25-year PPA was signed on December 21, 2015 to sell power to PLN at 5.3 cents per kWh.³²⁷ As an expansion of an existing generating station, the contract was not opened for bidding and was directly awarded to the developer of the other units. Although the project met with

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³²⁵ Nippon Export Import Insurance. "Loan Insurance for Expansion of Tanjung Jati B Ultra-supercritical Coal Fired Power Plant." Press Release dated February 27, 2017.

³²⁶ Muhammad Oliez. "PLTU Tanjung Jati B unit 5 dan 6 mendesak dibangun." *SindoNews*. December 3, 2013.

³²⁷ Roffie Kurniawan. "Construction of mega power plant PLTU Jawa 4 in Jepara kicks off." *Rambu Energy*. September 4, 2017.

local resistance in 2014 and beyond,³²⁸³²⁹ the environmental permit was issued by the Provincial Governor only a few months after the PPA was signed, on May 16, 2016.³³⁰ Despite two French banks pulling out of the lending consortium at the last minute after coming under domestic and international pressure for financing coal-fired electricity, the project reached financial close on February 24, 2017.³³¹ By August 2018, construction was 32% complete with an expected commissioning date sometime in 2021.³³²

The relative smoothness with which this project proceeded may be related to PT Bhumi Jati Power's extensive history developing coal-fired power stations in the area, as well as JBIC's willingness to step in and pick up the financial short-fall when the French banks pulled out. The elapsed time from execution of the PPA to financial close was 431 days (significantly shorter than either Cirebon II or Batang), and the project encountered no significant legal, administrative or financial hurdles.

6.12. PLTU Jawa 7

In December 2014, PLN began accepting bids to develop a 2,000 MW coal-fired power plant in Banten. The project, known as PLTU Jawa 7, was valued at \$1.8 billion.³³³ The bid was awarded to PT Shenhua Guohua Pembangkitan Jawa Bali, a consortium 70% owned by China's Shenhua Energy Company Limited and 30% owned by Pembangunan Jawa Bali, which is a subsidiary of PLN. The PPA for the 170 hectare project was signed in January 2016, and the deal reached financial close on September 29,

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³²⁸ *Detik Finance*. "Cerita PLN Bebaskan Lahan, Masyarakat Minta Tebus 1 Pohon Kelapa Rp 8 Juta." August 22, 2014.

³²⁹ *SuaraOnline*. "Konsultasi Publik AMDAL Pembangunan dan Pengoperasian Unit 5&6 PLTU TJB." March 3, 2015.

³³⁰ The full text of the AMDAL can be accessed at the Nippon Export Import Insurance website: https://www.nexi.go.jp/environment/info/pdf/ins_kankyou_16-009_06.pdf

³³¹ Isabel Esterman. "Japanese, Singaporean banks finance controversial Indonesian coal plant." *Mongabay*. March 6, 2017.

³³² Daniel Ari Purnomo. "Komang Berharap PLTU Tanjung Jati B Unit 5 dan 6 Rampung 2021." *Tribun Jateng*. August 9, 2018.

³³³ Esti Widyasari. "PLN Buka Tender PLTU Jawa 7 untuk Swasta." *Tambang*. December 1, 2014.

2016.³³⁴ Preparatory construction and land clearing began in April 2016.³³⁵ PLN will off-take the power at 4.2 cents per kWh.³³⁶ It is financed by the Chinese Development Bank. While the project is well into construction, with an expected commission date in 2020, local workers turned out several times in 2018 to protest the involvement of Chinese developer Shenhua Energy, claiming that the company was bringing in Chinese nationals from abroad to work on the project and displacing the local labour force.³³⁷

This project, which has proceeded relatively smoothly without any major obstacles, reveals several notable aspects of mega energy projects in Indonesia. The first is that Chinese-backed projects tend to reach financial closing very quickly after a PPA is signed. In this case the PPA was signed in January, and financial closing was reached on September 29, 2016, an elapsed time of only around 272 days. That is 159 days faster than the Japanese-backed Tanjung Jati B, even though the developers of that project already had a proven 2-decade track record of developing large-scale projects in the country. It is difficult to know for certain why Chinese-backed power projects are reaching financial close, on average, significantly faster than other projects.

One possible explanation is the involvement of PLN subsidiary Pembangkitan Jawa Bali as the junior partner in PLTU Jawa 7. Given that the investment partner for the project is wholly owned by the off-taker, there is substantial incentive for all parties to reach a deal quickly and on mutually agreeable terms. It is also worth noting that another Chinese-backed project, PLTU Riau I, a 600 MW coal-fired plant, recently made headlines when it became clear that the developer had bribed

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³³⁴ PJBI. "PLTU Jawa-7: Penjelasan Proyek." This informational webpage can be accessed here: <http://www.pjbinvest.com/pltu-jawa-7>

³³⁵ Franki. "PLTU Jawa 7 Masuki Tahap Konstruksi dan Sudah Financial Close." *Listrik Indonesia*. October 17, 2016.

³³⁶ Safyra Primadhyta. "PLN Mau Kualitas PLTU Jawa 7 Persis Pembangkit Listrik China." *CNN Indonesia*. December 8, 2017.

³³⁷ *Titik Nol*. "Tenaga Kerja Lokal Meminta TKA Tiongkok Pelaku Pemukulan Diproses Hukum." September 9, 2018.

members of the national legislature to fast-track the project. The Director of PLN, Sofyan Basir, was later removed for possible connections to bribery in the case.³³⁸

The second interesting aspect of this case is that Chinese projects tend to receive resistance from locals not necessarily because of environmental concerns, but rather because of fear of job displacement at the hands of foreign Chinese workers. There is a long history of anti-Chinese sentiment in Indonesia, particularly as it pertains to Chinese conglomerates and workers excluding Indonesians from business opportunities. Occasionally, this resentment has flared into violent and deadly conflagrations, as in 1998. Yet even with this additional built-in layer of resistance from anti-Chinese labour groups, the Chinese-backed projects analysed here still reached financial close significantly faster than the non-Chinese projects.

6.13. Jawa Satu

PT Jawa Satu Power is a consortium consisting of Pertamina (40%), Marubeni (40%) and Sojitz Corporation (20%) that is currently developing a 1,760 MW combined cycle natural gas power plant in West Java. Once completed it will be the largest combined cycle gas plant in Southeast Asia. PLN opened the tender in October 2016, and finalized the PPA on January 31, 2017 agreeing to off-take power at 5.3 cents per kWh for 25 years.³³⁹ The total project cost is \$1.8 billion which consists of \$1.4 billion for the power plant, and \$400 million to construct a 170,000 cubic metre floating storage and regasification unit (FSRU) that will sit off-shore and process shipments of liquefied natural gas.³⁴⁰ \$1.314 billion of the project cost is being financed by the Japan Bank for International Cooperation

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³³⁸ Dylan Aprialdo Rachman. "Senin, Sofyan Basir Akan Jalani Sidang Perdana Kasus PLTU Riau-1." *Kompas*. June 20, 2019.

³³⁹ Viriya P. Singgih. "Java 1 power plant finally a done deal." *Jakarta Post*. January 31, 2017.

³⁴⁰ Wilda Asmarini. "Indonesia's Pertamina reaches financial close on \$1.8 bln gas power station project." *Reuters*. December 7, 2018.

(\$604 million) and a consortium of commercial lenders (\$708 million). The commercial portion of the loan is insured by Nippon Export and Investment Insurance.³⁴¹ The equity stake for the developers is therefore approximately \$486 million.

The project reached financial close on December 5, 2018 and broke ground later that month.³⁴² It is currently under construction. The elapsed time from the commencement of the PPA to financial close was 446 days, similar to the timeline in another JBIC-backed project, Tanjung Jati B #5 and #6 which took 431 days. Both projects took significantly longer (100+ days) than the Chinese-backed projects analysed here. One possible reason JBIC-backed projects take longer to reach financial close is because the lenders have more stringent requirements related to permitting and land acquisition than Chinese lenders. The extent of this process is detailed in an Asian Development Bank report on the project (known as a LAPAR).³⁴³

The project developers budgeted IDR 435 billion as compensation for 268 hectares of land that would be impacted by the project. A total of 180 billion was allocated for 76 hectares needed for substation and transmission tower footings, while 145 billion was allocated for “right of way”³⁵⁹ compensation for 172 hectares impacted by the construction of transmission lines. Field teams chose to negotiate directly with village heads and involve them in the process from end-to-end. The report indicates that the support of village heads from early on the process was an essential component of success, and that no serious grievances were lodged through the complaint registration system. Public outreach and consultation started in May 2017, and the process was completed by September 2018, with the developer in most cases paying twice the market price as compensation. The environmental permit was issued in June 2018.

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³⁴¹ JBIC. “Project Financing for Jawa 1 Gas-to-Power Project in Indonesia.” *JBIC Press Release*. October 22, 2018.

³⁴² Farida Farhan. “Pembangunan PLTGU Jawa 1 Resmi Dimulai.” *Kompas*. December 19, 2018.

³⁴³ PT ERM Indonesia. “Proposed Loan and Administration of Loan PT. Jawa Satu Power and PT. Jawa Satu Regas Jawa-1 LNG-to-Power Project (Indonesia).” Resettlement Plan Project No. 51112-001, June 2018. ³⁵⁹ Ministry of Energy and Mineral Resources Regulation Number 38 of 2013 requires a one-time payment, equal to 15% of the value of the land, for land underneath cables (right of way).

Because the land acquisition team approached the process in this way, according to the standards established by the World Bank the project has faced little resistance from the community and is proceeding relatively smoothly. A Japanese advisor embedded with BPN told me that there are stringent international standards for compulsory land acquisition, and then there are a set of standardized practices they are working to develop in Indonesia at BPN. He showed me a report identifying gaps between the two standards, and stated that the two standards were fairly similar. Japanese donor banks aspire to meet higher standards when it comes to displacing people because even if they are sometimes unrealistic or not entirely met, it helps to maintain minimum standards across cases even if it slows projects down somewhat.³⁴⁴

The involvement of Pertamina, another state-owned company, as a partner in the IPP may have also helped expedite the project as presumably any disagreements related to the terms of the deal would be mediated internally within the government.

6.14. Indramayu II

The Indramayu II project is a good example of how, even with expanded authorities and legal tools, the state's developmental agenda can still be derailed by bureaucratic overlap, unclear lines of authority, coordination breakdown in the government and motivated, well-organized opposition from civil society.

In 2015, the 2,000 MW coal-fired Indramayu II power plant in West Java was designated a priority project by the KPPIP.³⁴⁵ This means from the beginning of his term, and at the onset of the 35,000 MW programme, Jokowi had targeted this project for accelerated development. However, the project was troubled from the start. In 2014, there were already delays and confusion related to the issuing of the environmental permit and feasibility studies, which at that time was apparently believed to be

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³⁴⁴ Author interview at BPN headquarters in Jakarta, January 23, 2019.

³⁴⁵ KPPIP Report: "Indramayu Coal Fired Steam Power Plan." Can be accessed here: <http://kppip.go.id/en/priorityprojects/electricity/pltu-indramayu/>

the responsibility of the Mekasari *bupati* (Mekasari Regent).³⁴⁶ Nevertheless, JICA agreed to provide financing for the \$4 billion project, which would be developed, owned and operated entirely by PLN.³⁴⁷

On May 24, 2016 the Governor of West Java issued the Determination of Location Permit and land acquisition of 275 hectares began, with the goal of completing land acquisition by December 29, 2016 and moving straightaway into preparatory construction.³⁴⁸ There was immediate and strong local resistance to the project, with environmentalists and landowners alleging that the existing Indramayu I plant had degraded the environment and livelihood of locals.³⁴⁹ Landowners in the villages of Mekasari and Patrol refused to accept the compensation offered by PLN and transfer title.³⁵⁰ Farmer protests intensified in 2017, as WALHI petitioned the Japanese lender and government to abandon the project, and a suit was filed in Bandung State Administrative Court on the grounds that there were administrative discrepancies with the environmental permit.³⁵¹

On December 6, 2017 the State Administrative Court in Bandung found in favour of the claimant and revoked the project's environmental permit, citing a lack of procedural compliance.³⁵² Because the project had been in development for so long, the authority for issuing the permit had shifted during that time, meaning that when the *bupati* of Mekasari issued the environmental permit in 2015 the legal responsibility for doing so actually belonged to the Provincial Governor of West Java. With this judgement, PLN would need to apply for and receive a new environmental permit from the Governor.

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³⁴⁶ *Radarcirebon*. "Pembangunan PLTU II Terganjai Izin." Undated.

³⁴⁷ Muhammad Idris. "Proyek PLTU Indramayu 2x1.000 MW Dibiayai Pinjaman Jepang Rp 53 T." *Detik Finance*. March 29, 2017.

³⁴⁸ JICA. "Indramayu Coal-fired Power Plant Project: Land Acquisition and Resettlement Action Plan (LARAP)." September 2017.

³⁴⁹ Agus Irawan. "Locals Protest Indramayu II Steam Power Plant Project." *GresNews*. February 25, 2016.

³⁵⁰ *OkeFinance*. "Tolak PLTU II Indramayu, Warga Surati Gubernur." March 13, 2016.

³⁵¹ Asih Kirana Wardani. "Cirebon dan Indramayu Menggugat PLTU." *Tirto*. December 11, 2017.

³⁵² WALHI. "Bandung Administrative Court Approved People demand; Indramayu Coal Power Plant 2x1000MW Environment Permit Revoked." December 8, 2017.

By the end of December 2017 PLN admitted they had not reached financial close on the project.³⁵³ In 2018, despite claiming to have finished land acquisition and acquired 10 of the 12 required permits and licenses, PLN conceded the project would be pushed back until at least 2019.³⁵⁴ Also in late 2018, two farmers who had been claimants in the lawsuit were jailed on questionable charges of having defaced a flag by turning it upside down, bringing additional scrutiny from the media and human rights activists.³⁵⁵ Given that the demand for electricity has been lower than anticipated and the capacity from this plant might not even be needed, the difficulties and bad press that have impacted Indramayu II make it unclear if it will ever reach financial close.

6.15. Sumsel-8 and the Sumatra-Java High Voltage Transmission Line

The Sumsel-8 mine-mouth coal-fired power plant serves as an instructive example of a large-scale and expensive power project that has reached financial close and is proceeding toward completion, yet reveals wider flaws in Indonesia's overall ability to plan and implement long-term and complex policy initiatives.

The plant is located in South Sumatra and is a 1,240 MW mine-mouth plant, meaning it will be located adjacent to a coal mine that can feed fuel directly into the plant. The long-delayed project signed an amended PPA with PLN on October 19, 2017.³⁵⁶ The developer then reached financial close on a \$1.26 billion loan facility with the Chinese Export-Import Bank on May 23, 2018. This represents 75% of the total project cost of \$1.68 billion, with the equity stake totalling \$420 million being split between Chinese partner Huadian (55%) and Indonesian state-owned coal mining company PT Bukit

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³⁵³ *Koran Jakarta*. "Proyek Pembangunan PLTU Indramayu Mundur." December 21, 2017.

³⁵⁴ Arif Budianto. "Proyek Pembangunan PLTU Indramayu JBT 3 Molor." *SindoNews*. December 20, 2017.

³⁵⁵ Della Syahni. "Buntut Protes PLTU Indramayu, Buruh Tani Mendekam Dalam Tahanan." *Mongabay*. November 14, 2018.

³⁵⁶ Yosi Winosa. "Bukit Asam, PLN Signs PPA Sumsel 8 Power Plant." *Insider Stories*. October 20, 2017.

Asam Tbk (45%).³⁵⁷ Construction began in mid-2018, and is expected to be operational by 2021 or 2022.³⁵⁸

While it appears that this project is headed toward a successful conclusion, the background reveals a more complicated story. The Sumsel-8 IPP, PT Huadian Bukti Asam Power, initially signed a 25-year PPA with PLN on September 17, 2012.³⁵⁹ The project then languished for years until the PPA was amended a final time in late 2017 and the project was placed on accelerated track to financial close with Chinese funding. This underscores the reality that a signed PPA is not very meaningful without a secured loan facility.

Sumsel-8 was intended to be part of a much grander vision, however. In 2015, the KPPIP placed Sumsel-8 on its list of national priority projects, intending to expedite its completion. In addition to Sumsel-8, two other mine-mouth coal plants, Sumsel-9 and Sumsel-10, totalling 1,800 MW of capacity were planned to be built in tandem.³⁷⁶ All three of these new plants would then feed the Sumatra-Java High Voltage Transmission line, a proposed undersea transmission cable that would link the Java-Bali grid with the Sumatran grid. Initially, the three South Sumatran mine-mouth plants were intended to traffic most of their output via the undersea cable to feed the Java grid, which in 2015 was considered to be in danger of being over-taxed by rising demand.

Critically, the Sumatra-Java Transmission line needed to be completed before the Sumsel plants were operational, in order to conduct backfeed testing. This meant PLN was tasked with getting 3 IPPs to reach financial close on 3,000 MW of capacity, while building 742 km of highvoltage transmission lines, a substantial portion of which needed to be laid in the ocean, and which would require the acquisition of approximately 300 hectares of land in 4 provinces on two different islands. Compounding this challenge, those 742 km of transmission lines needed to be finished before the

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³⁵⁷ *Netral English*. "Bukit Asam's Subsidiary Secures Funding of USD1.2 Billion from CEXIM." May 24, 2018.

³⁵⁸ Ridwan Nanda Mulyana. "PLTU Mulut Tambang Sumsel bisa beroperasi lebih cepat dari target." *Kontan*. August 9, 2018.

³⁵⁹ *Detik Finance*. "PTBA Jual Listrik ke PLN Selama 25 Tahun." September 17, 2002.

³⁷⁶ KPPIP 2015 Annual Report: Semester II.

3,000 MW could be commissioned. This presented a very high-level challenge of planning, logistics, procurement and timing.

Ultimately, the challenge proved to be too much. The Sumsel-8 plant is the only part of this ambitious plan that is likely to reach fruition. PLN opened the bidding process for Sumsel-9 and 10 in 2014, and immediately received push-back from interested IPPs as the terms of the contract split the tender according to caloric content of the coal, which would have disqualified some of the bidders.³⁶⁰ The Ministry of Energy and PLN then engaged in several bouts of recriminations against one another as the Ministry tried to expedite the awarding of the contracts and get the projects underway.³⁶¹ As of 2018, no contracts had been awarded and the projects were being reviewed by PLN.³⁶²

Likewise, the Sumatra-Java Transmission Line has made very little progress, despite the idea being under consideration for nearly a decade. In 2010, the Japanese International Cooperation Agency indicated it would provide nearly 37 billion yen in funding for the transmission line.³⁶³ PLN included the project in its 2013 10-Year Strategic Business Plan and then shelved it in 2016 declaring there were too many technical and financial obstacles to bring the project to completion. This drew sharp rebukes from the Ministry of Energy and BAPPENAS, the Investment Planning Board.³⁸¹ The following year, the project re-appeared on the long-term plan, again revealing the questionable usefulness of this planning document. However, the ambition and scope of the project have been scaled back.

As Java is no longer threatened by an electricity deficit (in fact it currently has reserves in excess of 30%, and over 9,000s of MW from the mega-projects discussed in this chapter will be hitting

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³⁶⁰ Pratama Guitarra. "PLN: Proyek PLTU Sumsel 9 & 10 bisa tunjuk langsung." January 22, 2015.

³⁶¹ Rina Anggraeni. "PLN Lupakan Proyek PLTU Mulut Tambang." *Inilah*. September 15, 2014.

³⁶² Aulia Fitri Herdiana. "Bukit Asam tunggu tender PLTU Sumsel 9 dan Sumsel 10." *Kontan*. February 26, 2018.

³⁶³ JICA. "Signing of Japanese ODA Loan with Republic of Indonesia: Assistance to Improve Investment Infrastructures." Press Release can access here: <https://www.jica.go.jp/english/news/press/2010/100430.html>

³⁸¹ Miftah Ardhian. "Three Reasons Why PLN Scrapped the Sumatra-Java Undersea Cable Project." *Katadata*. June 1, 2016.

the grid within the next few years), the plan is to traffic Java's excess electricity via the undersea cable to feed the Sumatra grid, which is at risk of being under-supplied.³⁶⁴ Sumsel-8, which will be completed well before any Sumatra-Java Transmission Line, is being readjusted simply to feed the Sumatra grid. The inter-island exchange of electricity on a massive scale initially envisioned has been indefinitely put on hold.

This project indicates that Sumsel-8, with Chinese funding secured, was ultimately able to reach financial close and has entered construction after a delay of many years. Once the amended PPA was signed in 2017, however, the project reached financial close just a few months later, again significantly faster than other Japanese-financed projects. Even though the Sumatra-Java transmission line was elevated to the level of a national priority, and overseen by the KPPIP with the clear backing of the president and apparently with international financing options on the table, PLN was still unable to plan, organize and execute this complex policy initiative and failed to coordinate the wide range of stakeholders, on a tight time line, necessary to bring the project to completion. While the ability of the state to plan and implement individual mega-projects, such as the ones reviewed here, is steadily improving, especially as the central state government strengthens its authority to fast track them, complex projects of this magnitude may still be beyond the scope of what the government can realistically hope to accomplish.

6.16. Conclusion

This chapter reveals several insights into the power sector in Indonesia. The first is that PLN is the key player, straddling all segments of the sector from generation to transmission to distribution. The analysis of PLN's financial position, however, indicates it employs a precarious operating model that delivers relatively inexpensive electricity to consumers, but tends to incur consistent losses in the process. Tasking a money-losing SOE with building out billions of dollars in new capacity, or entering

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³⁶⁴ Rangga Prakoso. "Java-Sumatra Undersea Power Transmission Project Revived for 2021." *Jakarta Globe*. April 10, 2017.

into long-term contracts also valued at billions of dollars to off-take power from private developers, is a questionable strategy.

This is compounded by the fact that PLN has obscured its true asset position via accounting sleight of hand. The international bond market is still supporting a healthy demand for PLN's debt, but one wonders if this is because investors believe in its financial viability or because they know that should it fail the company is implicitly guaranteed by the government of Indonesia. It was this reason why PLN, despite its obvious importance to the Indonesian economy, was omitted from the econometric analysis of SOE asset growth on fixed capital formation in Chapter 4. We know there is some relationship, but it cannot be specified with precision.

Nevertheless, Indonesia is adding significant capacity under Jokowi and PLN is, for better or worse, the principal agent tasked with executing that agenda. The eight cases analysed in this chapter show that this is being accomplished in a variety of ways. In addition to invoking Law No 2 of 2012 to solve land disputes, the state has also equipped itself with expanded authorities to overcome bureaucratic obstacles and expedite project completion, such as the ability to exempt nationally strategic projects from certain zoning regulations. It has also used government financial guarantees to reassure investors and lenders.

With respect to the mega-projects analysed here, this has resulted in over \$17 billion of investment and will add 11,000 MW of additional capacity over the next few years. Recalling the discussion from Chapter 4, this also helps to explain the deficit in the financial account, as these power plants are indeed considered long-term liabilities that PLN will pay back over the next three decades to the foreign developers. But it also supports the assertion that Indonesia, while it is incurring liabilities in the form of foreign investment, is generally channelling them into productive purposes such as increasing electricity generation.

Situating the 35,000 MW Programme within the context of the sector's historical development teases out other important insights into where the balance between state and private capital currently rests. In the 1990s, the government leaned too far and too quickly toward liberalizing

power generation without making suitable regulatory or institutional reforms. The Asian Financial Crisis put the brakes on additional capacity expansion for nearly a decade. When the sector returned to growth, it did so fairly methodically with Fast Track I using PLN to build and operate 10,000 MW of coal-fired plants. This strategy was adopted because foreign investors were still wary of Indonesia, and because PLN had decades of experience building those types of plants.

Fast Track II invited a greater role for private participation, with mixed results. The 35,000 MW Programme has sought to embrace the basic logic of Fast Track II – an expanded role for private developers – while leveraging the power of the central state to improve the regulatory environment and expedite project completion while ameliorating developer concerns about land acquisition, financing and permitting delays. In the cases analysed in this chapter, these efforts have generally been successful. Big projects, especially those with Chinese financing or with PLN subsidiaries as partners, reached financial close very quickly. Other projects, such as the long-stalled Central Java Power Plant, reached financial close after years of delays.

There are some obvious puzzles raised by this strategy. One is that the trend toward increasing the power of the state in order to execute infrastructure projects more efficiently in the short-term may result in long-term unintended consequences. While a reasonable argument could be advanced that this recentralization of power is a practical necessity to overcome market failures, regulatory uncertainty and an unwieldy and diffuse bureaucracy, the executive branch is still agglomerating power without ratification from the legislature, and with judicial oversight of uncertain and inconsistent quality.

In some ways, this echoes the way the New Order took power in 1966 and exercised authority in order to stabilize the economy and develop the domestic agriculture industry.³⁶⁵ In the short-term this was probably a necessary step given the fragility of the economy at that time, just as

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³⁶⁵ See Chapter 3.

given conditions in Indonesia today a strong executive that can push through obstacles decisively has proven to be effective. Eventually, however, the inertia of centralized state power in the New Order became hard to turn back. There are important difference between then and now, such as the Indramayu case where even with the full weight of the state behind it PLN was stopped by wellorganized resistance from civil society. But the parallels are worth considering.

The second puzzle is that if the central government was less willing to invoke the power of the state to expedite infrastructure development, what would happen? After all, even with the expanded role of the state in infrastructure development under Jokowi, PLN has struggled with long-term planning and failed to build the Java-Sumatra Transmission Line. Would private capital, left to its own devices, be more effective?

It is appropriate at this juncture to briefly discuss one other mega-power project, Tanjung Jati A. This project to develop a 1,320 MW coal-fired plant has long been a goal of PT Bakrie Brothers. The Bakrie Group is a large and powerful Indonesian conglomerate, and they have had a PPA with PLN to develop the plant since 2015, and have been trying to line up financing and project approval since at least 2011. Currently Bakrie has a 20% equity stake, with 80% being held by a Malaysian energy company, TYL Power. The deal has not reached financial close, with YTL indicating they will issue *sukuk* bonds to fund the USD \$2.8 billion project in 2020.³⁶⁶ No major development bank or ex-im agency has stepped forward to finance it, and of the cases studied here it is the only one being developed by a Malaysian power company, one with limited experience in the Indonesian market. It is unclear if the project will ever reach financial close.

What is interesting about this case is that it highlights the important role of the state in overcoming coordination failure to induce the formation of complementarities in these complex projects. The Bakrie Group is a big Indonesian conglomerate; but that alone has apparently not been enough of a precondition to overcome the coordination challenges the project faces, and the state

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³⁶⁶ Sharen Kaur. "YTL Power: Sukuk bond to fund Cirebon job." *New Straits Times*. December 19, 2019.

has apparently shown little interest in accelerating this project. As mentioned above, the signed PPA with PLN is rather meaningless until the project reaches financial close, which at this point is not a sure thing. It underscores the idea that, when left to fend for itself, private capital often struggles in Indonesia without the explicit backing of the state apparatus, and that is true even of powerful Indonesian conglomerates and business tycoons like Bakrie.

The following chapter explores that thread even further by examining the renewable power industry in Indonesia, where the state has been less interested in leveraging its authority to increase capacity and where private investment has been almost non-existent.

Chapter 7

The Politics of Renewable Energy in Indonesia and the Philippines

7.1. Introduction

This chapter analyses the development of renewable energy in the Philippines and Indonesia. As detailed below, the two cases share many similarities and employed similar policy tools – yet renewable energy in the Philippines has been added at a much higher rate than in Indonesia. Renewable energy policy in both countries was headlined by the use of Feed-in-Tariffs and both efforts were designed to rely exclusively on private developers to add capacity. There are no stateowned solar or wind energy developers in either Indonesia or the Philippines. Yet because Indonesia suffers from a number of policy-making and structural impediments, the regulatory uncertainty has failed to induce private investment in renewable energy at scale.

While this chapter focuses on the details of how and why Indonesia's renewable energy policy has underperformed, it underscores the overall argument in this dissertation that strong state intervention, usually through SOEs, is often necessary to catalyse economic development and expedite big-ticket projects. The regulatory and policy-making challenges encountered in Indonesia tend to create a ripe environment for market failures, and thus the neoliberal orthodoxy that the state should simply guarantee property rights and "get out of the way" has turned out to be quite illsuited for the particular political economy of Indonesia. Indonesia's struggles with renewable energy, detailed in the following sections, illustrates why state intervention is often required to compensate for market failures.

7.2. Renewable Energy

At the 2015 ASEAN Ministers on Energy Meeting, it was announced that ASEAN states had agreed to pursue a 20% reduction in carbon emissions by 2025.³⁶⁷ This goal was developed in anticipation of the

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³⁶⁷ A Fadzell. "ASEAN to Reduce 20% of Carbon Emission by 2025." *The Sun Daily*. October 8, 2015.

United Nations Climate Change Conference held in Paris the following year, where individual ASEAN countries committed to varying levels of reductions. For instance, using a business as usual baseline Indonesia voluntarily pledged to reduce its emissions by 26%, and up to 41% with international support.³⁶⁸ Employing a similar baseline, the Philippines pledged a 70% reduction by the year 2030.³⁶⁹ As electricity demand in the region accelerates, ASEAN member states are embracing renewable energy as an important component of sustainable development, cleaner air and reduced carbon emissions.³⁷⁰ Both Indonesia and the Philippines have publically acknowledged these are important policy goals and both countries began exploring ways to induce growth in their renewable energy sectors in the late-2000s.

Specifically, they began targeting the adoption of Feed-in-Tariff (FIT) schemes whereby the government pays Independent Power Producers (IPPs) a fixed and often above market rate to purchase renewable energy (these agreements range between 20-30 years in Indonesia and a minimum of 20 years in the Philippines). Renewable energies such as solar, wind, biomass gasification and hydropower typically have higher initial capital costs than fossil fuels such as coal and therefore FITs have historically been viewed as an important mechanism for inducing investment in nascent renewable sectors.

Indonesia began using FITs to target the development of renewable energy in 2011, and the Philippines followed suit in 2012. By 2013 both countries had rolled out FITs for solar, biomass, wind and hydropower. As seen in Figure 1, the FIT pricing adopted by both countries in 2013 was similar,

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³⁶⁸ United Nations Framework Convention on Climate Change. *First Nationally Determined Contribution – Republic of Indonesia*, 2016. Available at <http://unfccc.int/2860.php>

³⁶⁹ United Nations Framework Convention on Climate Change. *Republic of the Philippines - Intended Nationally Determined Contributions*, 2015. Available at <http://unfccc.int/2860.php>

³⁷⁰ International Renewable Energy Agency. *Renewable Energy Market Analysis: Southeast Asia*. 2018. Can be accessed at https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Jan/IRENA_Market_Southeast_Asia_2018.pdf

with Indonesia offering a higher rate to purchase solar power and the Philippines offering a premium on wind. The prices for biomass and hydro were roughly equal.³⁷¹

Fig 7.1 2013 FIT rate comparison between Indonesia and the Philippines, using max ceiling for Indonesian rates. USD equivalents are based on 2013 exchange rates. Source: Author calculation based on Philippine Department of Energy and International Energy Agency data.

These rates can be compared against average global levelized costs (Table 1), which have generally been trending downward since 2010, especially in solar photovoltaic. The FITs being offered by both Indonesia and the Philippines in 2013 were above or competitive with the levelized costs, suggesting both countries were willing to pay an above market premium to jump-start growth. It should be noted, however, that these global averages are contingent upon a large pool of qualified developers, favourable regulatory environments and efficient procurement processes and that costs are often higher in emerging markets with less reliable regulatory environments.

	Solar	Biomass	Hydro	On-Shore Wind
2010	\$.36	.07	.04	.08
2017	\$.10	.07	.05	.06

Fig 7.2 Average global levelized cost of renewable energy 2010 and 2017. USD/kWh. Source: International Renewable Energy Agency.

³⁷¹ It should be noted that while the Philippines used a single, consistent rate Indonesia's FITs were variable, contingent upon the use of local materials, location and voltage. This figure uses the maximum possible Indonesian tariff, although in reality the tariff could be lower. See Table 3 for details.

Since 2013, each country has experienced widely divergent outcomes with the Philippines successfully jump-starting a rapidly growing renewable energy industry while Indonesia's efforts have been underwhelming. Graph 2 shows the growth of installed capacity in solar, biomass and wind since the implementation of the FIT schemes in 2013.

Fig 7.3. Growth of installed capacity (MW) of biomass, solar and wind power in Indonesia and the Philippines 2013 – 2017. Source: Philippines Department of Energy 2017 Demand and Supply Highlights, Indonesian Ministry of Energy and Mineral Resources 2018 Handbook of Energy Economy Statistics.

The Philippines has seen especially rapid growth in solar, wind and biomass gasification from 2013 to 2017, while Indonesia has seen very limited gains. As the ceiling pricing for both schemes as of 2013 was similar, taken on their own the rates can only partially explain why FITs have worked as designed in the Philippines but not in Indonesia. Other factors, such as policy design and underlying political economic conditions, likely played a significant role.

The Philippines enacted a FIT scheme that reflected several best practices in policy design including a consistent, long-term framework, financial incentives to complement the tariffs and absorption of costs by end-users rather than generators. The political economic conditions of energy markets in the Philippines have also generally been more favourable, including market-based reforms

that created a more reliable regulatory environment, a more diverse energy mix, and a less entrenched domestic fossil fuel industry.

In Indonesia, by contrast, the costs of implementing FIT schemes have largely been absorbed by the state-owned electric utility PLN rather than consumers. PLN employs a precarious financial model designed to keep the retail price of electricity low, and has not always been viewed as an honest partner when negotiating purchase agreements with IPPs. Indonesia also has a more entrenched domestic fossil fuel industry. Moreover, poor governance in the energy sector and a weak regulatory environment led Indonesian policy-makers to modify their FITs often and unpredictably, all of which drove down investor confidence.

The variance in these components helps to explain why FITs have been more effective in the Philippines than in Indonesia, and provides empirical support for what constitutes best practices in FIT policy design while highlighting important political economic determinants of success in renewable energy policy.

7.3. Cases

This chapter compares the design and implementation of FIT schemes in Indonesia and the Philippines and analyses their impact on accelerating the growth of renewable energies. These two cases make for an instructive comparison as they are both archipelagos located along or near the equator and face similar geographical challenges in delivering power to both large and small grids located on multiple islands. They are also both middle-income developing economies with democratic governments, located in close proximity to one another and have large populations. Their energy sectors are structured in similar ways, with vertically integrated monopolies on the transmission and distribution of electricity. They began exploring FIT systems in the late 2000s, and began implementing tariff schemes at the same time targeting the same renewable sources (solar, wind, biomass and hydro).

Although the Philippines may have greater potential for solar³⁷² the broad baseline similarities are sufficient for a useful analysis of the variance in their respective FIT schemes that will identify important determinants of successful renewable energy policy.

The paper draws on data from contemporary scholarship, media archives, and government data. The data on installed capacity and other technical details was obtained from publically available records of the energy utilities and relevant government ministries. A discussion of the literature on Feed-in-Tariffs will establish not only that they are an effective policy tool for inducing growth in the renewable energy sector, but also what the best practices are in terms of policy design and implementation for achieving growth. This will include a discussion of political economic conditions that make the success of FIT programs more or less likely.

Having established this framework of best practices and favourable conditions, a profile of the design and implementation of FIT systems in Indonesia and the Philippines will be compiled. These two case studies form the basis of a comparative analysis focused on whether and how their respective FIT schemes conform or deviate from the best practices and structural conditions typical of successful schemes. The presence or absence of these best practices and conditions will be linked to the growth of each country's renewable energy sector, measured by installed capacity since the introduction of the tariffs. This analysis will provide empirical evidence of how these best practices have influenced the success of FIT schemes in each country, and help explain the divergent outcomes of each country's policies.

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³⁷² C. Breyer & A. Gerlach. "Global Overview on Grid-Parity." *Progress in Photovoltaics: Research and Application* Vol 21, 2013, pp 121-136.

7.4. Feed-in-Tariffs

There are a number of mechanisms available for inducing growth in nascent renewable energy sectors including Feed-in-Tariffs and auctions. Auctions have recently been employed successfully in Brazil, India and China where they led to significant increases in solar and wind capacity at competitive prices. However, the effectiveness of auctions is linked to robust institutional capacity, a large number of market-ready projects up for bid and a competitive pool of qualified bidders.³⁷³ In emerging markets with greater regulatory uncertainty, a less developed renewable energy market and a smaller pool of competitive bidders, such as the Philippines and Indonesia, auction mechanisms may not be as effective as FITs.

FITs, a fixed rate paid by the government to IPPs usually for a period of 20-30 years are another popular policy tool to incentivize private investment in the renewable energy sector. The principal advantage of FITs is that they provide straight-forward financial certainty to independent producers, making it easier for them to calculate their risk and financial return when underwriting investment decisions.

There is a substantial literature supporting the effectiveness of FITs as a policy tool for increasing renewable energy production. Germany pioneered the trend in 1991 with legislation that required its grids to purchase renewable power at above market rates, resulting in a successful transition away from nuclear power and one of the most robust renewable energy sectors in the world.³⁹¹ Further research on European markets has generally concluded that FITs are more effective at increasing renewable energy production than quota systems based on tradeable green certificates.³⁷⁴ In China the use of FITs led to an increase in installed wind capacity from 41.7 MW in

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³⁷³ G. Azuela, L. Barroso, A. Khanna, X. Wang, Y. Wu & G. Cunha. "Performance of Renewable Energy Auctions: Experience in Brazil, China and India." *World Bank Policy Research Working Paper 7062*, 2014. ³⁹¹ C. Gerhardt. "Germany's Renewable Energy Shift: Addressing Climate Change." *Capitalism Nature Socialism* Vol 28(2), 2017, pp 103-119.

³⁷⁴ P. Menanteau, D. Finon, M.L. Lamy. "Prices Versus Quantities: Choosing Policies for Promoting the Development of Renewable Energy." *Energy Policy* Vol 31, 2003, pp 799–812.

2001 to 17,630.9 MW in 2011.³⁷⁵ In Southeast Asia, Thailand successfully built a renewable energy sector through the use of FITs³⁷⁶ and in Malaysia solar is expected to become the country's main source of energy by 2050 as a result of FITs.³⁷⁷

The evidence that FITs are a powerful tool for inducing growth in the renewable energy sector is strong. However, the payment of an above-market tariff alone is not a guaranteed driver of growth. Poorly designed FIT schemes can actually impede growth³⁷⁸, suggesting that the interplay between policy design and market dynamics is a more important determinant of success than policy enactment alone.³⁷⁹ This is likely because developers and investors tend to factor in policy risk (such as legal security, administrative processing times, and grid access) before deciding whether or not to pursue a project.³⁸⁰ Policy design and implementation, as well as certain political economic conditions, are therefore important determinants of success in FIT schemes and a general framework of best practices and favourable structural conditions for policy success can be derived from the literature.

In Europe, successful FITs have been linked to tariff systems that involve a transparent process, durable commitments from the government and a high degree of certainty about the terms and structure of the scheme.³⁸¹ In solar and wind in particular, long-term frameworks and highquality regulatory oversight are closely linked with policy success.³⁸² Perceived regulatory risk, such as

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³⁷⁵ Z. Ming, L. Ximei, L. Na & X. Song. "Overall Review of Renewable Energy Tariff Policy in China: Evolution, Implementation, Problems and Countermeasures." *Renewable and Sustainable Energy Reviews* Vol 25, 2013, pp 260-271

³⁷⁶ S. Tongsopt, C. Greacen. "An Assessment of Thailand's Feed-in Tariff Program." *Renewable Energy* Vol 60, 2013, pp 439-445.

³⁷⁷ S. L. Wong, N. Ngadia, T. Abdullah, IM. Inuwac. "Recent Advances of Feed-in-Tariff in Malaysia." *Renewable and Sustainable Energy Reviews* Vol 41, 2015, pp 42-52.

³⁷⁸ M. Aguirre, G. Ibikunle. "Determinants of Renewable Energy Growth: A Global Sample Analysis." *Energy Policy* Vol 69, 2014, pp 374–384.

³⁷⁹ F. Groba, J. Indvik, S. Jenner. "Assessing the Strength and Effectiveness of Renewable Electricity Feed-In Tariffs in European Union Countries." *DIW Berlin Discussion Paper* No. 1176, 2011.

³⁸⁰ S. Lüthi, R. Wüstenhagen. "The Price of Policy Risk — Empirical Insights from Choice Experiments with European Photovoltaic Project Developers." *Energy Economics* Vol 34(4), 2012, pp 1001-1011. See also S. Lüthi, T. Prässler. "Analysing Policy Support Instruments and Regulatory Risk Factors for Wind Energy Deployment— A Developers' Perspective." *Energy Policy* Vol 39, 2011, pp 4876–4892.

³⁸¹ H. Zhang, T. Van Gerven, J. Baeyens, J. Degève J. "Photovoltaics: Reviewing the European Feed-in-Tariffs and Changing PV Efficiencies and Costs." *ScientificWorldJournal* doi: 10.1155/2014/404913

³⁸² F. Polzin, M. Migendt, F.A. Täube, P. Von Flotow. "Public Policy Influence on Renewable Energy Investments - A Panel Data Study Across OECD Countries." *Energy Policy* Vol 80, 2015, pp 98-111.

retroactive modification of FIT terms, can constrain growth and reduce investor interest.³⁸³ In terms of design, policies work best when they are tailored to individual technologies and economic conditions, but investment incentives tied to FIT schemes have been positively linked to growth throughout the renewable sector, irrespective of technology.³⁸⁴ Policies where the consumer pays most of the transmission interconnection costs are also more likely to increase renewable energy production than policies where the generator absorbs the majority of those costs.³⁸⁵

In terms of political economy, certain structural conditions have been found to make growth in renewable energy more likely. A well-developed financial sector, particularly the availability of private capital, has been positively correlated with growth in renewable energy.³⁸⁶ As the success of FIT schemes is tied to policy design, higher quality of governance is also positively linked with growth in renewable energy.³⁸⁷ Conditions that tend to impede growth include highly concentrated economies that depend on fossil fuel exports for rents; in such instances, the entrenched interests of the fossil fuel companies, which are often state-owned, may work to slow the development of competitors such as renewable energies.³⁸⁸ Countries with diverse energy mixes are therefore more likely to see growth in renewable energy than those where fossil fuel is dominant.⁴⁰⁷

From this, a framework of best practices in policy design and favourable political economic conditions for effective FITs can be created as follows:

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³⁸³ N. Gatzert, N. Vogl. "Evaluating Investments in Renewable Energy Under Policy Risks." *Energy Policy* Vol 95, 2016, pp 238-252.

³⁸⁴ Y. Zhao, K.K. Tang, L.L. Wang. "Do Renewable Electricity Policies Promote Renewable Electricity Generation? Evidence From Panel Data." *Energy Policy* Vol 62, 2013, pp 887-897.

³⁸⁵ L. Alagappan, R. Orans, C. Woo. "What Drives Renewable Energy Development?" *Energy Policy* Vol 39, 2011, pp 5099–5104.

³⁸⁶ C. Brunnschweiler. "Finance for Renewable Energy: An Empirical Analysis of Developing and Transition Economies." *Environmental Development Economics* Vol 15, 2011, pp 241-274.

³⁸⁷ I Cadoreta, F. Padovano. "The Political Drivers of Renewable Energies Policies." *Energy Economics* Vol 56, 2016, pp 261-269.

³⁸⁸ E. Baldwin, S. Carley. "Global Renewable Electricity Policy: A Comparative Policy Analysis of Countries by Income Status." *Journal of Comparative Policy Analysis: Research and Practice* Vol 19, 2017, pp 277-298. ⁴⁰⁷ B. Pfeiffer, P. Mulder. "Explaining the Diffusion of Renewable Energy Technology in Developing Countries." *Energy Economics* Vol 40, 2013, pp 285-296.

Policy Design	Structural Conditions
Investment incentives that complement tariffs	High quality governance
Long-term, transparent frameworks that maximize investor certainty	Well-developed finance sector
Perception of low regulatory risk	Diverse energy mix
End-user absorbs costs	Not overly reliant on fossil fuel exports

Fig 7.4. Framework of best practices and structural conditions for renewable energy growth.

An analysis of successful FIT policy in the Philippines and less successful policy in Indonesia reveals how each country's approach to renewable energy development conforms or deviates from this framework. This provides empirical evidence of what constitutes effective FIT policy design in these cases, and helps to explain the divergent results.

7.5. The Philippines and Feed-in-Tariffs

Until 1987, the energy market in the Philippines was a vertically integrated monopoly. Similar to PLN in Indonesia, the National Power Corporation (NPC) controlled the generation, transmission and distribution of power throughout the country. In the 1980s, market reforms created a larger role for IPPs to generate power and the 2001 Electric Power Industry Reform Act consolidated these reforms by firmly unbundling generation, transmission and distribution functions and pushing to privatize them.³⁸⁹

Since passage of EPIRA, IPPs generate most of the power in the Philippines except for isolated and under-developed areas. The state-owned National Transmission Corporation was also formed to take over many of the functions of the NPC, including legal ownership of the country's three main

³⁸⁹ Asian Development Bank. *Philippines Energy Sector Assessment, Strategy and Roadmap*. 2018. Can be accessed <https://www.adb.org/sites/default/files/publication/463306/philippines-energy-assessmentstrategy-road-map.pdf>

transmission grids, which are operated on a concession basis by the National Grid Corporation of the Philippines (NGCP), a privately-owned company. NGCP transmits power to regional distributors like Meralco who sell the power to end-users and retail electricity suppliers. The market is regulated by the Energy Regulatory Commission, which among other powers approves the terms of bilateral purchase agreements including for renewable power. While these reforms have reduced the role of the state in the energy sector, the National Transmission Corporation continues to play a similar role to that of Indonesia's PLN in the renewable energy sector, acting as the administrator of the FIT Allowance fund that is responsible for disbursing funds to eligible renewable energy developers. Much of the FIT Allowance fund is financed by tariffs levied on consumers.

In 2008 the Philippines legislature drafted and voted on the Renewable Energy Act, which established a National Renewable Energy Board to address renewable energy policy. One of the main goals of this legislation was to increase energy security by insulating the Philippines from fluctuations in the global supply of fossil fuels by increasing self-sufficiency in renewable energy production.³⁹⁰ In May of 2011 the NREB proposed FIT rates which were eventually approved in 2012 by the Energy Regulatory Commission according to the following scale:

Type of Energy	Rate (PH/kWh)	Target (MW)
Wind	8.53 (\$.20)	200
Biomass	6.63 (\$.16)	250
Solar	9.68 (\$.23)	50 + 450 (500)
Hydro	5.90 (\$.14)	250

Fig 7.5. FIT rates approved by ERC in 2011. Source: International Energy Agency. USD equivalent based on 2013 exchange rate. Source: International Energy Agency.

³⁹⁰ R. Pacudan. "Electricity Price Impacts of Feed-in Tariff Policies: The Cases of Malaysia, the Philippines, and Thailand." In: Han P, Kimura F (eds) *Energy Market Integration in East Asia: Energy Trade, Cross Border Electricity, and Price Mechanism*. Economic Research Institute for ASEAN, Jakarta, 2014, pp 283-319.

A 3-year window was opened in which offers were tendered for IPPs to meet these goals. To further induce investment in this sector, various sweeteners were offered including: a seven year income tax holiday, duty free import of equipment and material used for RE development, net operating loss carryover for seven years, 10% corporate discount (the typical rate is 30%), tax exemption on carbon credits, and a tax credit on domestic capital expenditures.³⁹¹ Interest from solar power companies was so high that in 2015 the framework was adjusted. The tariff paid for solar was lowered to PH 8.68 (\$.20) per kWh and the target for installed capacity was expanded to 500 MW. Subsequent growth has been rapid (see Figure 2)

In 2013, the total national installed capacity of new renewable energy sources (biomass, solar and wind power) was 153 MW. By 2017 the total installed capacity had grown to 1,537 MW as a result of the FIT scheme introduced by the government. Hydropower, which had the lowest tariff, saw modest growth of 106 MW over the same period, while geothermal which was not targeted by the scheme has seen almost no growth since 2013. If all renewable sources (hydro, geothermal, biomass, solar and wind) are accounted for, then the total installed capacity as of 2016 was 6,958 MW, bringing the amount of energy sourced from the renewable sector almost even with the 7,419 MW sourced from coal-fired plants.³⁹²

To further close this gap, the Tax Reform for Acceleration and Inclusion Act passed in 2017 raised the excise tax on imported coal from US \$.20/metric ton to US \$1/metric ton. Over the next three years that will be increased to US \$3/ton.³⁹³ This dual approach of incentivizing investment in renewable energy through FITs, while raising the cost of coal (the Philippines imports 75% of its coal) will likely accelerate the development of the renewable energy industry and the displacement of coal

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³⁹¹ Philippines Department of Energy. 2009 Rules and Regulations Implementing Republic Act No 9513. Can be accessed at <http://lia.erc.gov.ph/documents/290>

³⁹² Philippines Department of Energy. 2017 *Power Situation Report*. Report can be accessed at <https://www.doe.gov.ph/electric-power/power-sector-situation?>

³⁹³ Philippines Department of Finance. TaxReformNow. Report Can be accessed at <http://www.dof.gov.ph/taxreform>

as the primary energy source. This will help buffer the Philippines against shocks to global coal and oil prices.

An important consideration in the design of the Philippines' Feed-in-Tariffs is that the cost is largely passed on to electricity consumers. In 2016, the Philippines had one of the highest retail electricity rates in Southeast Asia, with households paying P8.90 (US \$.17) per kWh.³⁹⁴ While electricity in the Philippines is expensive for end-users, the design of the FIT scheme resulted in accelerated growth of renewable energy from 2012 to 2017, particularly in biomass, solar and wind power which had a very small footprint prior to the enactment of the FITs. The FIT was rolled out in a methodical, straightforward way under a scheme that was both comprehensive, long-term and included financial incentives. The only change to the scheme since its inception has been to lower the rate being offered for solar in response to higher than expected demand from developers.

7.6. Indonesia and Feed-in-Tariffs

The design and implementation of Feed-in-Tariffs in Indonesia has progressed along a different path. The Indonesian state maintains a monopoly on the transmission and distribution of power through the state-owned utility company *Perusahaan Listrik Negara* (PLN). Historically PLN also had a monopoly on power generation, but this was liberalized in the 1990s when the energy market was opened up to independent producers who could sell their power directly to PLN. PLN continues to build and operate its own plants, but is increasingly sourcing power from private producers. PLN also typically operates at a loss and relies on state subsidies and injections of state capital to make up for losses. This protects consumers from higher energy prices, but also places constraints on the utility's finances, often compelling it to seek low-cost options such as coal instead of higher cost renewable technologies like solar.

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³⁹⁴ J.P. Atienza. "Government Subsidies, Transparency are Gateway to Lowering PH Expensive Electricity Prices." *Power Philippines*, 30 August, 2017.

Indonesia possesses abundant renewable energy resources. According to a report by the International Energy Agency, Indonesia has the potential to develop 75,000 MW of hydropower, 4.80 kWh per square meter per day of solar, 32,654 MW of biomass and holds 40% of the world's geothermal reserves at around 28,000 MW.³⁹⁵ To capitalize on this resource potential, the Ministry of Energy and Mineral Resources (MEMR) issued Regulation 2/2006 which legally obligated PLN to purchase power from renewable energy sources. This was superseded by Regulation 31/2009 that created a standardized FIT framework. From there, a series of superseding and confusing regulations were issued on a rolling basis. Table 4 shows how Indonesian FITs governing solar, biomass, wind and hydropower were structured as of 2013.

Type of Energy	Rate (per kWh)	Special Provisions	Legal Basis
Wind	\$.06 - .14	Variable according to voltage and location	MEMR Regulation 4/2012
Biomass	\$.12 - .17	Variable according to voltage and location and type of biomass	MEMR Regulation 19/2013
Solar	\$.25 - .30	Higher tariff contingent on use of 40% local materials	MEMR Regulation 17/2013
Hydro	\$.06 - \$.14	Variable according to voltage and location	MEMR Regulation 4/2012

Fig 7.6. FIT rates in Indonesia as of 2013. Source: International Energy Agency. USD equivalent based on 2013 exchange rate.

Unlike the Philippines, each technology is governed by a separate ministerial regulation (the status of wind power was somewhat unclear but would likely fall under Regulation 4/2012). Also in contrast to the Philippines, which established a single and consistent pricing mechanism, Indonesia's FITs fall

³⁹⁵ International Energy Agency. Energy Policies Beyond IEA Countries: Indonesia 2015. Can be accessed at https://www.iea.org/publications/freepublications/publication/Indonesia_IDR.pdf

within a range, and calculating the appropriate rate requires a multiplier benchmarked to region, voltage and local content. Lastly, the FITs changed frequently. Regulation 4/2012 on biomass was superseded two years later by Regulation 27/2014, and then amended again by Regulation 44/2015. The solar FIT established by Regulation 17/2013 contained a local content requirement that was reviewed by the Supreme Court and not resolved until 2016. In the meantime, no solar PV projects of meaningful scale moved forward.

This patchwork approach to developing FITs came to an end in 2017, when MEMR Regulation 50/2017 subsumed all renewable energy sources – geothermal, hydro, solar, biomass and wind – under a single regulatory framework where the tariffs would be benchmarked to PLN's average local and national costs of production.³⁹⁶ In 2017, the national cost of production was \$.07/kWh which means in regions such as West Java, which is mainly electrified by low-cost coalfired plants, PLN will not pay more to develop renewable projects than \$.07/kWh. In 2017 the global levelized cost of solar was still \$.10/kWh, so it would be impossible at those rates for solar to be competitive with coal in Java.

In more isolated regions, such as Eastern Indonesia, regional costs of production are higher, meaning PLN will pay more to develop renewables. In East Nusa Tenggara, for instance, the 2017 local production benchmark was nearly \$.18/kWh, and the tariff for remote grids is capped as \$.20/kWh. At those rates, it is possible some projects might be viable. But it means that wherever lower-cost coal is dominant, such as Sumatra and Java, renewables are unlikely to be financially competitive. The cost of production benchmark will also change annually, undermining one of the key strengths of FITs which is long-term and consistent pricing.

The 2017 regulation may be a concession on the part of the Ministry and PLN that FITs were not working (see Figure 2). The total installed capacity of wind, solar and biomass in 2012 was 31 MW. By 2017, despite several years of experimenting with prices and regulatory architecture, the total

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³⁹⁶ M. Wulandari. "Renewable Energy Power Pricing in Indonesia." *ASEAN Centre for Energy*, 29 March, 2017.

capacity had increased to only 67.8 MW (Ministry of Energy 2018).³⁹⁷ There has been more growth in geothermal and hydropower, which cumulatively added 1,518 MW from 2012 to 2017. However, many geothermal and hydroelectric projects are developed by PLN or subsidiaries of Pertamina (the state-owned oil and gas company), and not IPPs. Therefore growth in this area cannot be attributed to the effect of FITs.

Meanwhile, coal has continued to gain a larger share of the overall energy mix, growing from 50.4% in 2012 to 54.5% in 2016. Despite the use of FITs, Indonesia's renewable energy sector - especially in solar, wind and biomass - is growing at a much slower pace than that of the Philippines and does not pose a serious challenge to the dominance of coal.

7.7. Policy Design and Political Economic Conditions Help Explain This Divergence

Indonesia and the Philippines both chose to develop FIT schemes at approximately the same time in order to accomplish similar goals: to encourage growth in their renewable energy sectors. However, the manner in which these schemes were designed and implemented in each country has differed and yielded divergent results. Solar, wind and biomass added 1,381 MW of installed capacity in the Philippines from 2012 until 2017. In Indonesia, growth in the same areas has added only 36.8 MW over the same time period. A number of factors relating to policy design, as well as the political economy of each country, help explain these divergent results.

Differences in quality of governance is one. At the time that their respective FIT schemes were enacted, the Philippines was ranked higher than Indonesia on the World Bank's Worldwide Governance Indicators in the categories of government effectiveness, regulatory quality and rule of law (2017b).³⁹⁸ Narrowing the focus to the energy sector, the Philippines benefited from passing

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³⁹⁷ Ministry of Energy and Mineral Resources. 2018 Handbook of Energy and Economic Statistics of Indonesia. Can be accessed here: <https://www.esdm.go.id/assets/media/content/content-handbook-of-energy-and-economic-statistics-of-indonesia.pdf>

³⁹⁸ World Bank. 2017 *Worldwide Governance Indicators*. Can be accessed at <http://info.worldbank.org/governance/wgi/#home>

comprehensive market-based reforms in 2001 that are credited with privatizing a substantial portion of power generation, all of the transmission functions, and most distribution. The 2001 reforms also introduced an autonomous regulatory body, the ERC, eliminated a substantial amount of subsidies and introduced performance-based regulatory mechanisms.³⁹⁹ Higher quality governance of a more market-friendly regulatory environment likely increased investor confidence in the Philippines in the early stages of its FIT scheme, which would help explain the accelerated growth. The energy sector in Indonesia, which is still straddled by PLN, may not have inspired similar confidence.

A second structural condition relates to the political economy of each country's energy industry. As discussed previously, there is a positive link between diverse energy mix and growth in the renewable energy sector. Countries that do not have access to abundant fossil fuels tend to be more motivated in developing alternative energy sources, such as solar, wind and biomass, while a resource-rich country is more likely to have confidence in the self-sufficiency of their own energy security. The existence of a powerful fossil fuel lobby may reduce investment in renewables, as the entrenched interests of the fossil fuel companies seek to deter growth of renewable energies and preserve their market share.

In 2012, as it began to experiment with various tariff schemes, 13% of Indonesia's total national installed capacity came from renewables, while the remaining 87% came from oil, gas and coal.⁴⁰⁰ In the Philippines, by contrast, over 30% of installed capacity in 2012 already came from geothermal and hydropower, with fossil fuels making up the rest.⁴⁰¹ Moreover, the Philippines is a net importer of coal, whereas Indonesia is a net exporter, causing the Indonesian economy as a whole to

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³⁹⁹ Asian Development. 2018 *Philippines Energy Sector Assessment, Strategy and Roadmap*. Can be accessed <https://www.adb.org/sites/default/files/publication/463306/philippines-energy-assessment-strategy-roadmap.pdf>

⁴⁰⁰ BPS. *PLN Installed Capacity (MW) 1995-2015*. The report can be accessed here <https://www.bps.go.id/dynamic/table/2016/01/05/1110/kapasitas-terpasang-mw-perusahaan-listrik-negarapln-menurut-jenis-pembangkit-listrik-1995-2015.html>

⁴⁰¹ Philippines Department of Energy. 2017 *Power Situation Report*. Report can be accessed at <https://www.doe.gov.ph/electric-power/power-sector-situation?>

be heavily reliant on the export of commodities, a fact that complicates the dynamics of energy policy in the country.⁴⁰²

The structure and politics of energy markets in each country is a further complicating factor. For instance, virtually all power producers in the Philippines are independent producers. In Indonesia, state-owned PLN not only has a monopoly on the transmission and distribution of energy, but around 78% of the country's installed capacity is generated at PLN-operated plants. This adds another layer of complication to the political economy of the renewable energy sector, as PLN is not only paying IPPs to generate power from renewable sources, but is also in direct competition with them for overall market share. This raises the question of whether PLN is truly an honest partner in the process and there are reasons to doubt the utility's commitment to growing renewable energy through FITs.

At a 2018 seminar in Jakarta attended by the author a former member of Indonesia's National Energy Council commented that the majority of renewable energy would be best developed not by IPPs but by a state-owned company so that Indonesia could maintain its energy sovereignty and not be overly reliant on private developers, which are often foreign companies.⁴⁰³ This suggests that despite bold renewable targets, behind the scenes there are conflicting visions over how much of that should be developed by the state and how much by IPPs. This may help explain why the sector has been stagnant.

The Philippines thus benefits from structural conditions that are conducive to accelerated renewable energy development: more market friendly regulatory architecture, a more diverse energy mix, an economy less reliant on the export of fossil fuel and therefore less likely to be subject to political capture from energy companies, and a unified vision for the role of IPPs in achieving these targets. All of these are conditions that increase the chances for successful implementation of FIT schemes.

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⁴⁰² M. M. Wihardja. "The Effect of the Commodity Boom on Indonesia's Macroeconomic Fundamentals and Industrial Development." *International Organisations Research* Vol 11, 2016.

⁴⁰³ Author attended the 3rd PYC Knowledge Sharing Series in Jakarta, August 28, 2018.

On the policy side, the Philippines included several of the aforementioned best practices in the design of its FIT scheme, many of which are notably absent in the Indonesian schemes. The Philippines policy framework was straightforward and methodical, laying the legislative groundwork for their scheme in 2008, then tasking a single agency, the National Renewable Energy Board, with developing a viable pricing and implementation structure which had to be submitted for review and approval by an autonomous regulatory body, the ERC. The scheme was simple and straightforward, consisting of fixed rates with clear, transparent capacity goals. Financial incentives were included as part of the tenders, a policy component that has proven effective across different technologies in inducing growth.

This contrasts with Indonesia's policy-making approach, where the tariffs have been adjusted on an almost yearly basis and according to a changeable set of criteria, pegged at various times to voltage, geographical regions or cost of production benchmarks. Rates have also whipsawed back and forth between being denominated in rupiah and dollars. It is difficult to discern any type of methodical or coherent learning and adjustment process. Adjustments to rates and regulatory architecture appear to have been implemented in an ad-hoc fashion, without suitable time to measure the impact of the policy changes before another change was made. In part, this can be attributed to certain structural and political constraints on Indonesian policy-making where bureaucratic overlap and breakdowns in coordination are common, contributing to a lack of clarity and consistency and a tendency for policy to be made in an ad-hoc fashion.⁴⁰⁴ This may have negatively impacted the success of the policy, as regulatory certainty is an important determinant of FIT success.

There are also important political components to be considered. In the Philippines, the cost of higher generation and transmission is absorbed by the end-user. Although this increases the social burden on the general public, it is also one of the best practices for effective policies. In Indonesia, passing these costs onto the end-user is not a viable option as PLN is to a large degree at the mercy of

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⁴⁰⁴ Eve Warburton. "Jokowi and the New Developmentalism." *Bulletin of Indonesian Economic Studies* Vol 52(3), 2016, pp 297-320.

a legal mandate to provide energy to its citizens at a “fair and reasonable” price. The retail price of electricity is thus set by the democratically elected government, not by the utility, and PLN is constrained in its ability to pass higher costs of generation onto its customers, whereas utilities in the Philippines are not. As 2018 and 2019 were election years in Indonesia, the Ministry of Energy froze the price of consumer electricity until the end of 2019.⁴⁰⁵

With its ability to raise revenue circumscribed by these political considerations, PLN and the Ministry of Energy have had to seek cuts elsewhere. Consolidating renewable energy projects under a single regulatory framework and benchmarking that to PLN’s national and regional costs of production is one way to achieve that. For instance, since most power plants in Java and Sumatra are coal-fired, the cost of production there is lower than what the tariffs for solar and biomass were under the previous schemes.⁴²⁵ Independent power producers interested in developing renewable resources in Java and Sumatra, the most populous islands with the largest energy demand, will therefore be contending with lower tariffs under the latest scheme, and projects may not be economically viable.

The politics of energy markets are another important component that has influenced policy outcomes in these two cases. The Philippines is seeking to diversify its energy mix for reasons of basic energy security, while Indonesia is adding capacity, mostly coal-fired, to fuel economic growth and electrify rural areas via small-scale renewable sources.⁴⁰⁶ In the near-term, Indonesia is more insulated from fluctuations in coal prices because of its large domestic reserves.

This reduces the incentive to diversify its energy mix for reasons of energy security, although it has been seeking to reduce dependence on imported oil.⁴⁰⁷ For the Indonesian state-owned power and mining companies, maintaining the status quo – and the supremacy of fossil fuels and the rents

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⁴⁰⁵ V.P. Singgih. “Fuel, Electricity Prices to Remain Unchanged Until 2019.” *Jakarta Post*, 6 March 2018. ⁴²⁵ B. Van Campen, A.R. Pratama, J. Lawless, R. Archer. “Analysis of New Indonesian Geothermal Tariff System and Impact of Feasibility of Geothermal Plants in Eastern Indonesia in the Next Decade.” *39th New Zealand Geothermal Workshop*, 2017.

⁴⁰⁶ S.C. Gandolphe. “Indonesia’s Electricity Demand and the Coal Sector: Export or Meet Domestic Demand?” *The Oxford Institute for Energy Studies Paper CL5*, 2017.

⁴⁰⁷ *Reuters*. “Government Appoints New Pertamina CEO, Presses to Curb Oil Imports”. August 30, 2018.

derived therefrom – may be the preferred objective. It also unclear if PLN is 100% committed to the goal of developing the renewable sector through FITs, as there are likely competing visions of whether the sector should be developed primarily by IPPs or by the state, a tension that is common in Indonesian policy-making.

Lastly, this study analyses the success of FIT schemes by measuring grid-connected installed capacity. In Indonesia, one of the initial goals of renewable energy development was rural electrification, particularly in the eastern provinces. Large fossil fuel plants are not viable in those remote locations, many of which only require a few MW or less of power. It is possible that there has been significant growth in off-grid renewable energy generation in Indonesia driven by small generating facilities (such as roof-mounted PV panels, or small biomass gasification plants) scattered through the rural and isolated parts of the archipelago. This kind of dispersed growth would be much harder to measure, and may not show up in official statistics, but the link between renewable energy and rural electrification in Indonesia poses an interesting avenue for further research.

7.8. Policy Impact

In the late 2000s, both Indonesia and the Philippines began exploring the enactment of Feed-inTariff schemes to encourage investment in renewable energy sources. For the Philippines, a net importer of coal, increasing self-sufficiency in non-fossil fuel energy was seen as a way to enhance energy security by buffering against shocks to the global supply of commodities. In Indonesia, renewables were seen as a way to boost rural electrification and reduce its carbon footprint, and less as an issue of energy security as Indonesia has access to large domestic coal and gas reserves. In 2011 and 2012, Indonesia and the Philippines respectively rolled out their FIT policy frameworks. By 2017, development of renewable energy in the Philippines had significantly outpaced Indonesia, increasing by over 800% in five years while Indonesia's renewable energy capacity increased very modestly in geothermal, hydro and biomass, with virtually no gains at all in solar and wind.

This divergence can be explained by two things: policy design and structural conditions that increased the probability of success in the Philippines. The Philippines has a more market-oriented and better regulated energy sector; the Philippines had a more diverse energy mix than Indonesia in 2012; and the politics of energy markets in the Philippines are less complicated than in Indonesia, where the state-owned oil and electricity companies are competing with renewable power producers for market share, and where the proper balance between the state and private developers in managing growth is a matter of-going debate.

In addition to these structural advantages, the Philippines included a number of best practices that have been linked with successfully inducing growth in renewable energy such as passing costs onto end-users, employing a clear and consistent rate structure, and complementing tariffs with financial incentives. The Indonesian FIT schemes on the other hand have changed frequently, with rates benchmarked to variable multipliers. This creates regulatory uncertainty, a weakness compounded by legal challenges to aspects of the solar FIT that resulted in the scheme being overhauled. All of this lowers investor confidence, and helps explain why renewable energy production has not accelerated in Indonesia at a similar scale to its neighbour.

There are also deeper political concerns that have helped shape this outcome. Indonesia cannot pass the high costs of renewable energy onto its customers, as it is legally bound to provide reasonably priced energy to its citizens. This means the state must essentially absorb the high initial capital costs for developing renewable energy plants which are still relatively high in Indonesia due to low investor confidence, even as the global levelized cost is coming down. As it seeks to add additional capacity to fuel economic growth, policy-makers have shown a clear preference for pursuing cheaper coal-fired plants, especially as abundant reserves of coal and natural gas mean self-sufficiency in renewable energies is not a matter of immediate strategic necessity.

Although structural and political economic conditions in Indonesia are less conducive to the growth of renewable energy, they are not insurmountable with improved policy-making and the political will to take on structural reforms. If Indonesia is serious about pursuing pledges to reduce its

carbon footprint and develop a vibrant renewable sector, policy-makers must figure out how to sustainably finance the high initial capital costs of such an undertaking. This could be done with domestic bond issues, or loans from development banks like the ADB or World Bank, which have shown a willingness to finance such projects if the host country can demonstrate its ability to efficiently implement them. Several small-scale renewable projects are proceeding in Eastern Indonesia with financing from the ADB, and pursuing such moderate capacity gains in remote areas where the impact is maximised is a prudent strategy for future development.⁴⁰⁸

But perhaps the most important element is the political courage and will to take on the fossil fuel industry and state-owned companies deriving rents from it and force them to accept that they will have to share market space with renewable energies, including new renewables like solar and wind. This will doubtlessly be difficult, but is necessary for faster growth in the sector.

Once all the stakeholders are united behind a shared vision and commitment to FITs, policymakers can turn to pragmatic policy design issues such as reducing investor uncertainty by committing to a long-term scheme that includes realistic goals and does not change continuously. For the scheme to maximise its chances of success, it will need to include not just attractive tariff rates but also incentives such as tax holidays. This will need to be enacted hand-in-hand with bureaucratic reforms to simplify regulatory requirements, including backing away from local content requirements. This will inflame tensions with economic nationalists, but it is a necessary step to accelerate the pace of growth. As 2019 is an election year, these tough reforms will likely not be on the table until at least 2020.

Better coordination between key stakeholders, especially the Ministry of Finance, Ministry of Energy and PLN, needs to come from the top-down. Once these key stakeholders cease working at cross purposes and line up to support a fully developed long-term strategic plan, including sustainable and realistic financing and less concessions to economic nationalists, Indonesia will have a much better

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⁴⁰⁸ T. Kenning. "ADB finances Vena's 42MW of large-scale solar projects in Indonesia." *PV Tech*. May 24, 2018.

chance at realizing its vast renewable resource potential. Until that happens, the country may be stuck watching the gap between its renewable sector and that of its neighbours continue to widen.

7.9. Conclusion

Indonesia is endowed with a wealth of renewable energy sources. And yet, despite nearly a decade experimenting with different policies for jump-starting the sector, growth in cleaner energies – especially solar, wind and biomass gasification – has been anaemic. Instead, the country continues to be a major consumer and producer of fossil fuels such as coal – with reference to Chapter 6, all of the mega-power projects discussed are either coal or gas-fired.

The neighbouring Philippines, meanwhile, has seen solid success with their renewable energy sector using Feed-in-Tariffs, the same tool Indonesia has tried to leverage much less successfully. This can largely be attributed to better policy design and liberal market reforms that created a more investor-friendly regulatory environment in the Philippines. Because the business of designing and regulating Feed-in-Tariffs in Indonesia has been so messy, investor interest has been low. This underlines a key observation, which is that such market failures are a common feature of policy-making and regulatory architecture in Indonesia and that private capital will continue to struggle unless the regulatory environment is improved in tandem with market liberalization.

This shines a light on the logic behind Jokowi's reliance on SOEs to execute the majority of his infrastructure agenda. In a regulatory environment that turns off private investors and developers, where regulations are cumbersome and often redundant, and where policies and politics can change rapidly and upend long-term plans, it is not unreasonable to conclude that leveraging the power of the central state and mobilizing SOEs to cut through these obstacles is the most expedient way of accomplishing a particular policy vision.

Chapter 8

Conclusion

8.1. Summary

The main line of inquiry in this research design was to better understand the precise mechanisms and processes by which the Indonesian state would, or perhaps would not, be able to plan, design and implement a nation-wide infrastructure development program. Over time, the focus eventually narrowed mainly to the energy and transportation sectors. The timing was very fortunate, as my PhD candidacy aligned almost exactly with Jokowi's first term in office, a term in which he made infrastructure development the centrepiece of his governing agenda.

This then provided an excellent opportunity to inductively build a qualitative and empirically-grounded profile of how Indonesia was approaching the challenge of infrastructure development, and to do so essentially in real-time. These efforts were aided by extensive in-country fieldwork, wherein I was able to interview people directly involved in the process, watch nightly news coverage of toll roads opening and in many instances visit and make use of some of the new infrastructure. This was supplemented with econometric analysis, but the role of institutions, history and other specific determinants embedded in the political economy of Indonesia were always at the forefront of the research design.

It is an approach to political economy and development economics that is somewhat removed from the mainstream, straddling as it does the ground between rational-positivist economics and more inductive, close-to-the-ground area studies. But this project was never intended to rigorously test hypotheses deduced from existing theories of economic development, as I believe much of the literature on economic development has favoured generalized theories at the expense context, and thus has often missed or mis-specified crucial determinants of economic growth in emerging economies.

The purpose of this research was always to build a better understanding of how economic development was working *at this particular time* and *in this particular country* and then if possible to use that data to build better theories and generate more precise hypotheses. Perhaps these could be generalizable, but perhaps not. The point is that I approached the puzzle believing it was necessary to build better theories inductively and from the ground-up, based on observations and experience, rather than working backward deductively from potentially unsound and incomplete theories of growth.

This is a view that is now gaining more traction, with prominent economists like Harvard's Dani Rodrik arguing for the return of theoretically-grounded empiricism to the field, using flexible analytical frameworks and accounting for variations in path dependence, political economy and institutional design.⁴⁰⁹ This is an important shift, because economies are often structured very differently for a variety of sound and unsound reasons, and the evidence is shaky that a single overarching approach (for instance, free markets and a light regulatory touch) can be universally applied to all cases. The evidence is also shaky that economic development is uni-linear, moving in one direction across time. In fact it can stall, it can regress, and economic policies, institutional configurations and distributional outcomes can and do change frequently over time. The field of economics is thus the study of phenomena that, rather than being static or subject to universal constants as in the physical sciences, are constantly changing.

This underscores the logic of situating high-level economic ideas within the particular context of the case under study. Because, it is becoming increasingly obvious, context matters, and it especially matters in determining the institutional configurations and policy choices countries adopt when they pursue certain economic agendas. I therefore approached the puzzle in this dissertation by adopting a broad framework that sought to ask a general, fairly open-ended question: how would the state coordinate disparate economic actors to overcome problems of collective action and

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⁴⁰⁹ Suresh Naidu, Dani Rodrik, Gabriel Zucman. "Economics After Neoliberalism." *The Boston Review*. February 15, 2019.

coordination failure in order to induce the formation of complementarities?

This framework allowed me to document what the government of Indonesia actually did to induce these complementarities, and importantly why it chose to do it that way, rather than employing a particular economic theory or model to predict what the government should do or what the result ought to be by measuring changes in causal effect. The framework was flexible enough to account for a wide variety of institutional and policy configurations, which is important when inquiring into how the state regulates economic actors and induces growth because the relationship between state, market and actors can take on a wide variety of forms, many of which are rooted in unique historical, social and political circumstances.

Japan, India, China and the United States are all large and globally significant economies, but the extent to which the state intervenes directly in markets, and the regulatory and institutional architecture they have adopted, varies significantly from case to case. This variation is often rooted in historical path dependence or in political culture or even in geography and discounting these things in order to produce a more elegant and parsimonious model risks missing out on key underlying drivers of economic outcomes.

In the case of Indonesia, the relationship between the state and the economy is a complicated one, and one that has shifted over time. The geographical limits of the Indonesian archipelago were determined rather arbitrarily, owing to a Dutch imperative to accumulate colonial assets in the region. This eventually led to the creation of an extremely diverse and geographically disparate nation-state where the common unifying theme in the early post-independence period was mostly an aversion to Dutch rule and wherein the state quickly moved to nationalize major foreign assets such as railroad, shipping and industrial companies. Early experimentations with a federal system of government nearly caused the country to spin apart and paved the way for the return of Sukarno and the unitary state, which was then badly mismanaged and precipitated an economic crisis in the 1960s.

The New Order restored the legitimacy of the state as the custodian of national economic development through a programme of technocratic policy packages that arrested an economic

decline, improved the country's finances and methodically grew the domestic agriculture industry. As revenue from oil exports accelerated, the machinery of the state in the New Order began to metastasize and change, leaning into authoritarianism and awarding lucrative monopolies to Suharto cronies while feeding the growth of a bloated and inefficient civil service. The trade-off was that the economy grew steadily during this time, with the New Order investing in infrastructure and social programmes. When foreign capital began to flow into the country in earnest in the 1980s and 1990s, the institutional configuration produced by this historical confluence wound up badly managing it and this precipitated another financial crisis.

As a direct response to the concentration of power and authority at the central state level during the New Order, post-Asian Financial Crisis reforms returned numerous powers over taxes, land use and licenses to provincial and local governments, which were now democratically elected and therefore thought to be more accountable. High global commodity prices during the 2000s helped keep economic growth strong, but under the surface decentralization had produced a host of issues related to land acquisition, administrative and bureaucratic overlap, an eroded judiciary and inconsistent quality of local leaders who now had greatly expanded legal and statutory powers. Projects like toll roads or public rail links could take years or decades, if they got done at all. Given the constraints of the regulatory environment, and the high potential for market failures, private capital was often reluctant to participate.

This was the situation Jokowi faced when elected in 2014 – a country struggling to define the power dynamic between the centre and periphery, a slowdown in global commodity prices, an uncertain regulatory environment and lagging infrastructure. The complexity of this challenge requires a capable state – we might even say a “strong” state. But the “strength” of the Indonesian state is hampered by weak rule of law and inconsistent policy-making, as well as overlapping authorities between different branches and levels of the government. Jokowi's solution was to recentralize power with the state in Jakarta, use state-owned companies to issue off-balance sheet debt to finance

bigticket projects, and to equip the state with new legal and administrative authorities to push through obstacles related to financing, land use and regulatory compliance.

The results have been quite striking. Southeast Asia's largest gas-fired power plant is under construction in West Java, you can now drive from Surabaya to Solo in 3 hours, and if you fly into Yogyakarta you can land at a large, modern airport that will soon have a capacity of 15 million passengers. As detailed in the case studies, this has been accomplished through a series of legal and administrative maneuverers whereby the executive branch designates projects as Nationally Strategic, thereby making them eligible for financial guarantees and oftentimes exempting them from certain onerous regulations.

The use of Law No 2 of 2012 on Land Acquisition has also been critical to accelerating land intensive projects such as airports and toll roads, as the government now possesses the legal authority to carry out compulsory land acquisition from private owners in exchange for fair compensation. Moreover, the data collected for this dissertation indicates the compensation genuinely reflects reasonably fair market value, and the law provides numerous mechanisms by which impacted landowners can register their opposition and lodge legal appeals. While the Supreme Court has been relatively unsympathetic to the concerns of landowners, district courts have been more receptive and this is a significant change in how land is acquired.

To finance the scale of this infrastructure development, Jokowi has mostly relied on SOEs like airport operators Angkasa Pura I and II and toll road operator Jasa Marga. They have issued both domestic and global bonds, virtually all of which are denominated in rupiah. There has also been a large uptick in the number of syndicated loans from domestic and foreign lenders as well as special government vehicles designed to finance infrastructure projects. Again, much of the bank debt is denominated in rupiah, insulating these debts from fluctuations in global currency markets. The toll road and airport companies also enjoy healthy monopoly rents from the sectors they control, making their financial models reasonably sustainable.

The energy sector has also seen sustained investment inflows, mostly from Chinese and Japanese development banks, to fund large coal and gas-fired power plants which form the backbone of Jokowi's 35,000 MW Programme. PLN sometimes builds and operates these plants itself, but is increasingly entering into long-term agreements to purchase power from independent developers partnered with local Indonesian companies (to illustrate the complexity and overlap in the Indonesian economy, Chinese developers often partner with PLN subsidiaries to develop their projects which brings with it a host of conflict of interest issues as PLN enters into agreements to buy power from its own subsidiary, with most of the debt for the project underwritten by a Chinese development bank).

A close look at PLN's finances indicates it has serious issues with its financial model, as the retail price of electricity is often kept low for political purposes. This could pose a long-term systemic risk if the company should falter in its debts, which are implicitly guaranteed by the government of Indonesia. For the moment though, the reliance on PLN is something of a necessity as there are no other off-takers in Indonesia and these efforts have resulted in thousands of MW of new generating capacity that are under construction and billions of dollars in foreign direct investment.

It is often suggested that this reliance on state-owned companies is unsustainable. For one, it crowds out private investment, burdens the government with a lot of direct and indirect debt, opens the floodgates on corruption and there are questions about the capacity of state institutions to execute these kinds of projects.⁴¹⁰ But Indonesia's experience with private capital suggests it is, at least at this point in time, a necessary strategy. As the analysis of the renewable energy sector in the preceding chapter shows, when investment decisions and project development are left to the market, outcomes are often disappointing. This is because the regulatory, administrative and legal environment in Indonesia is so cumbersome and redundant that it turns off private investment unless

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⁴¹⁰ See for instance: Aichiro Suryo Prabowo. "Building a better infrastructure policy after Indonesia's elections." *New Mandala*, March 7, 2019. James Guild. "Jokowinomics vs reality: a look at PLN." *New Mandala*, April 4, 2018. Kyunghoon Kim. "Institutional challenges in Indonesia's state-driven development." *East Asia Forum*, December 6, 2016.

the state leverages its power to reassure investors that these hurdles can be overcome, or simply develops the projects itself.

This is the logic behind Jokowi's state-led development policies. For one, the state has historically been deeply embedded in development in Indonesia, serving as the custodian and agent of national-level economic policies. When Indonesia has experimented with looser federalized and decentralized systems (in the 1950s and 2000s for instance), the whole structure has risked spinning apart or becoming too unwieldy, as the country is so fragmented and homogenous, geographically, ethnically and otherwise. With such a dispersed structure, the role of a strong central authority in developing and executing big projects is often a critical determinant of project success.

Moreover, large foreign investment inflows in the past have tended to worsen financial crises, such as in the 1990s, leaving a strong legacy of economic nationalism and a wariness of foreign debt. These circumstances provide important context for why Jokowi has leaned into state-led development and bucked neoliberal orthodoxy and its preference for market-based solutions. In Indonesia, the market is not always a reliably efficient allocator of resources, and so policy-makers turned to the state to compensate for this reality in order to build the country's infrastructure more rapidly during Jokowi's first term.

The principal conclusion of this study is that these efforts have been largely successful. The econometric analysis in this dissertation indicates a strong positive correlation between the growth of SOE assets and increased fixed capital formation which has been one of the primary engines of GDP growth over the last five years. This expansionary fiscal policy also kicked in during a time of high volatility in global capital markets and probably helped to stem capital flight. Indeed, investment inflows have remained strong and while this has widened the current account deficit much of those inflows have been channelled into increasing output and investing in the bones of long-run growth such as infrastructure.

The take-away from all of this is that the state has been a relatively effective agent of infrastructure development in Jokowi's first term. Economic growth failed to accelerate to 7% per year,

but it may have fallen well below its current 5% rate in the absence of these policies. And without the state taking a more interventionist role and expanding its authority to expedite development, it is equally possible that major projects like the Trans-Java Toll Road would still be sitting in a state of suspended animation. After one term of Jokowiomics, as the president's stateled development agenda is sometimes called, this is where economic policy-making stands in Indonesia. Looking forward to his second term, the critical question is where it will go.

8.2. Future Research

During one of the debates between Jokowi and his challenger Prabowo Subianto in the days before the April 17th presidential election, Jokowi summed up his approach to the economy thusly: "We must have priorities. For now it is infrastructure. Next maybe manpower. Maybe third is the defence budget."⁴¹¹ This reveals that for Jokowi, economic development was always intended to be rolled out in stages beginning with a narrow focus on infrastructure. Now that he has spent five years bending the power of the state in a variety of ways to carry out infrastructure development, the critical question for his second term is whether infrastructure will take a backseat to the development of social and human capital, defence or some other policy priority and what that might look like.

The other pressing question is whether the state will continue to shoulder the burden of development, or whether real structural reforms that encourage more private participation will follow. As the work in this dissertation shows, past efforts at liberal economic reform have often been disappointing, destabilizing or choked off by domestic interests which is one reason why the state has remained at the centre of infrastructure and economic growth in Jokowi's first term. Future research on the Indonesian economy should carefully focus on whether and how this is shifting. One area of promising research would be to measure the impact of market reforms in specific sectors such as the tourism and film production industry. Total foreign ownership of hotels and film production companies

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⁴¹¹ James Massola. "Jokowi's optimism outshines Prabowo's darker impulses." *Sydney Morning Herald*. March 31, 2019.

was introduced several years ago, but as yet I have seen no study that measures the effectiveness of these reforms. How the lessons from these sectoral reforms might be translated into broader economic policy in Jokowi's second term would be a useful line of inquiry.

There is also the question of how sustainable the state-led model is in the long-run. Angkasa Pura I and II as well as toll road operator Jasa Marga enjoy healthy monopoly rents from the sectors they control, but it is possible competition from private companies would make them more efficient and lower prices for consumers. If those sectors are opened further for competition, that would be a useful proposition to empirically test. As far as debt is concerned, Indonesian specialists should keep a close eye on PLN. The utility will struggle over the long-term to keep issuing debt while maintaining a money-losing financial model, and I believe that over the next five years it will be critical for Jokowi to undertake meaningful (and politically treacherous) reforms at PLN. If not, it is unclear what will happen but the sheer size of PLN and its embeddedness in all aspects of Indonesia's electricity sector means that whatever happens to the utility will have a large impact on the Indonesian economy.

Another area of research that can build on the work in this dissertation is the continued use of Law No 2 of 2012 on Land Acquisition. It is difficult to over-state how critical this law has been to facilitating Jokowi's infrastructure development agenda, equipping the state with a legal tool to expedite land acquisition which simply did not exist before. Further, at least in the case studied here, the law was used to ensure a more equitable outcome for impacted landowners, especially when compared to historical examples. However, thus far the law has been used to acquire land for airports, toll roads and power plants.

It is easier to make the case that compulsory land acquisition for projects of this type is justified because those things are widely considered to be shared public goods. But if the law is used by state-owned mining and palm oil developers to remove landowners in order to secure mining and plantation concessions, this becomes a much more complicated situation. While palm oil and mining are important contributors to Indonesia's GDP, it is much more difficult to make the case that their development is a shared public good. Law No 2 of 2012 is a powerful tool, and it could easily be

misused to abuse the power of the state to benefit limited interest groups as the expense of the general public.

This question also plays into another ongoing debate, which is whether the state under Jokowi is amassing too much power and justifying it in the name of economic development, a dynamic with strong echoes of the New Order-style developmentalism. There has been much debate in recent years about Indonesia's "illiberal turn" under Jokowi and the potential for democratic regression.⁴¹² While this dissertation has argued that the concentration of state power was a practical necessity that has expedited economic development, it is an open question whether this recentralization will ultimately empower the state to abuse its authority and how that process might be controlled or checked.

Many had hoped that Jokowi would become a champion for human rights and environmental protections, but he has shown little interest in either, especially if they pose an obstacle to infrastructure investment and economic development. These are valid criticisms, and it is not my intent to dismiss them. However he has made it abundantly clear that his overriding priority is the economy, and has stated this explicitly in interviews and on the debate stage.⁴¹³ Therefore, the scope of this particular inquiry has been limited to whether and how he has been able to carry out that narrow economy policy agenda. In that, he has been relatively successful – especially relative to his predecessors. This does not speak to the long-term environmental or social sustainability of these projects; it merely speaks to the ability of the state to actually plan and build infrastructure during Jokowi's first term. Whether economic development of the type and scale envisioned and implemented by Jokowiomics is an adequate trade-off for reduced interest in human rights or environmental protection lies outside the scope of this inquiry. But it is a useful line of inquiry as Jokowi carries his agenda into his second term, with particular attention paid to the trade-offs he may be forced to make.

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⁴¹² Thomas P. Power. "Jokowi's Authoritarian Turn and Indonesia's Democratic Decline." *Bulletin of Indonesian Economic Studies*, Vol 54(3) 2018, pp 307-338.

⁴¹³ James Massola. "Jokowi's optimism outshines Prabowo's darker impulses." *Sydney Morning Herald*. March 31, 2019.

Lastly, most of the case studies considered in this project were on the islands of Java and Sumatra. This is because those are the most populous and economically active regions in Indonesia, so it is reasonable that they would command the bulk of investment in roads, power plants and airports. But measuring the economic boost from infrastructure projects in less-populated parts of Eastern Indonesia, such as Kalimantan or the Maluku Islands, would be an interesting area of future research as well as drilling down into the question of whether the emphasis on infrastructure development in Jokowi's home-base of Java has exacerbated resentment of the president in the outer islands of Indonesia.

This dissertation has thus worked to provide a detailed profile of how and why economic development has proceeded as it has during Jokowi's first term, locating it within the wider context of Indonesia's economic and institutional history and explaining why the state ultimately served as the primary agent of these efforts. The research agenda outlined above is a useful guide for understanding where economic policy-making will be going in the next five years and would form a fruitful agenda for economists and Indonesian specialists alike.

References

- Adelman, Irma. "Fallacies in Development Theory" in Gerald M. Meier, ed, *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001.
- Afriyadi, Achmad Dwi. "Telan Dana Rp 28 Triliun, Progres PLTU Cirebon Baru 12%." *Detik Finance*. May 4, 2018.
- Aguirre M., Ibikunle G. "Determinants of Renewable Energy Growth: A Global Sample Analysis." *Energy Policy* Vol 69, 2014, pp 374–384.
- Akoun, Ibrahim. "The Political Economy of SOE Privatization and Governance Reform in the MENA Region." *ISRN Economics*, Vol 2012, Article ID 723536.
- Akyüz, Yilmaz. "Debt Sustainability in Emerging Markets: A Critical Appraisal," *Working Papers 61*, United Nations Department of Economics and Social Affairs, 2007.
- Alagappan L, Orans R & Woo C. "What Drives Renewable Energy Development?" *Energy Policy* Vol 39, 2011, pp 5099–5104.
- Almond, Gabriel and Verba, Sidney. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Princeton: Princeton University Press, 1963.
- Amir, Sulfikar. "The State and the Reactor: Nuclear Politics in Post-Suharto Indonesia", *Indonesia*. No. 89, April 2010, pp 101-147.
- Anfomum A. A, Saheed, S. Zakaree & Iluno, C. "Air Transportation Development and Economic Growth in Nigeria." *Journal of Economics and Sustainable Development*, Vol 6(2), 2015.
- Anggraeni, Rina. "PLN Lupakan Proyek PLTU Mulut Tambang." *Inilah*. September 15, 2014.
- AP I & II Annual Reports 2010 - 2018.
- AP I & II Consolidated Financial Statements, 2010 – 2018
- Apriando, Tommy. "Derita Petani Desa Sukamulya Kala Terkena Pembangunan Bandara." *Mongabay*. November 30, 2016.
- Ardhian, Miftah. "Three Reasons Why PLN Scrapped the Sumatra-Java Undersea Cable Project." *Katadata*. June 1, 2016.
- Asian Development Bank. *Indonesia Energy Assessment, Strategy and Roadmap*. July 2016.
- Asian Development Bank. *Philippines Energy Sector Assessment, Strategy and Roadmap*. 2018. Can be accessed <https://www.adb.org/sites/default/files/publication/463306/philippines-energyassessment-strategy-road-map.pdf>
- Asmarini, Wilda. "Indonesia's Pertamina reaches financial close on \$1.8 bln gas power station project." *Reuters*. December 7, 2018.

Atienza J.P. "Government Subsidies, Transparency are Gateway to Lowering PH Expensive Electricity Prices." *Power Philippines*, 30 August, 2017.

Author attended the 3rd PYC Knowledge Sharing Series in Jakarta, August 28, 2018.

Author interview at BPN headquarters in Jakarta, January 23, 2019.

Author interview with BPN Land Acquisition Team at the Ministry of Agriculture in Jakarta, January 23, 2019.

Author interview with BPN officials in Jakarta, January 25, 2019.

Author interview with Mr. Purnomo Yusgiantoro, former Minister of Energy from 2000 to 2009, in Jakarta, February 11, 2019.

Author interview with representative of Community Association for Refusing Kulon Progo Evictions (PWPP-KP) an NGO working with the remaining landowners. October 2, 2018.

Author visit to vicinity of Kulon Progo Airport project October 26, 2018 and June 2019.

Azlina, A.A. "Energy Consumption and Economic Development in Malaysia: A Multivariate Cointegration Analysis." *Procedia - Social and Behavioral Sciences*, Vol 65 (2012), pp 674 – 681.

Azuela G., Barroso L., Khanna A., Wang X., Wu Y. & Cunha G. "Performance of Renewable Energy Bacon, Robert & Kojima, Masami. "Energy, Economic Growth, and Poverty Reduction: A Literature Review." *World Bank Working Paper*, 2016.

Badan Pengatur Jalan Toll – *Jalan Tol Beroperasi*. This report, which is regularly updated, can be accessed here: <http://bpjt.pu.go.id/konten/progress/beroperasi>

Bakker JD, Maurer S, Pischke JS & Rauch F. "Of Mice and Merchants: Trade and Growth in the Iron Age." *Working Paper Series* of the Department of Economics, University of Konstanz, May 2018.

Baldwin E & Carley S. "Global Renewable Electricity Policy: A Comparative Policy Analysis of Countries by Income Status." *Journal of Comparative Policy Analysis: Research and Practice* Vol 19, 2017, pp 277-298.

Baltaci N, Sekmen O, & Akbulut O. "The Relationship between Air Transport and Economic Growth in Turkey: Cross-Regional Panel Data Analysis Approach," *Journal of Economics and Behavioural Studies* Vol 7 (1) February 2015, pp 89-100

Balza L, Jimenez R & Mercado J. "Privatization, Institutional Reform, and Performance in the Latin American Electricity Sector." *Inter-American Development Bank Technical Note #IDB-TN599*, December 2013.

Bandara Internasional Jawa Barat Company Profile. Access here <https://bijb.co.id/en/profil-bandara/>

Bank Indonesia. "Progress of Infrastructure Initiatives under the RPJMN 2015-2019."

Bardhan, Pranab. "Distributive Conflicts, Collective Action, and Institutional Economics," in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001.

Bauer, Peter T. *Reality and Rhetoric: Studies in the Economics of Development*, London: Weidenfeld & Nicolson, 1984.

Berita Trans. "80% Dari Kebutuhan 10.000 Tenaga Kerja Bandara Kulonprogo Diisi SDM Yogyakarta." March 31, 2017.

Bernoussi, Zaynab El. "The postcolonial politics of dignity: From the 1956 Suez nationalization to the 2011 Revolution in Egypt." *International Sociology*, Vol 30(4) pp 367-382.

Bhattacharyay, Biswa Nath. "Estimating Demand for Infrastructure" in Biswa Nath Bhattacharyay, ed, *Infrastructure for Asian Connectivity 2010-2020*. New York: World Bank, 2010.

BIJB Annual Reports 2015-2017.

Bloomberg. "Jakarta to get new airport as Indonesia pumps billions into expansion amid travel boom." February 13, 2019.

BPJT Progress Report. Can be accessed here: <http://bpjt.pu.go.id/konten/progress/beroperasi>
BPS. *PLN Installed Capacity (MW) 1995-2015*. The report can be accessed here <https://www.bps.go.id/dynamictable/2016/01/05/1110/kapasitas-terpasang-mw-perusahaan-listriknegara-pln-menurut-jenis-pembangkit-listrik-1995-2015.html>

Breyer C. & Gerlach A. "Global Overview on Grid-Parity." *Progress in Photovoltaics: Research and Application* Vol 21, 2013, pp 121-136.

Brunnschweiler, C. "Finance for Renewable Energy: An Empirical Analysis of Developing and Transition Economies." *Environmental Development Economics* Vol 15, 2011, pp 241-274.

Budianto, Arif. "Proyek Pembangunan PLTU Indramayu JBT 3 Molor." *SindoNews*. December 20, 2017.

Bustanuddin. "Lombok International Airport to operate soon." *Antara News*. July 30, 2011.

Butt, Simon & Parsons, Nicholas. "Judicial Review and the Supreme Court in Indonesia: A New Space for Law?" *Indonesia*, Number 97, April 2014.

Butt, Simon. "Judicial Reasoning and Review in the Indonesian Supreme Court." *Asian Journal of Law and Society*, Vol 6(1) May 2019, pp 67-97

Butt, Simon. "The Constitutional Court's Decision in the Dispute Between the Supreme Court and the Judicial Commission: Banishing Judicial Accountability?" in Ross H. McLeod, ed., *Indonesia: Democracy and the Promise of Good Governance*. Singapore: ISEAS, 2007, pp 178-199.

Cadoreta I. & Padovano F. "The Political Drivers of Renewable Energies Policies." *Energy Economics* Vol 56, 2016, pp 261-269.

Cahyafitri, Raras. "FTP-1 growing RI's power supply." *Jakarta Post*. August 22, 2014.

Cahyafitri, Raras. "Second phase of 10,000 MW power project sluggish." *Jakarta Post*. October 21, 2014.

Campante, Filipe & Yanagizawa-Drott, David. "Long-Range Growth: Economic Development in the Global Network of Air Links." *Faculty Research Working Paper Series*, Harvard-Kenney School, September 2016.

Cardenas, Jose R. "The sad decline of Brazil's political establishment." *Foreign Policy*. October 19, 2018.

Casanova C, Huang B & Le Xia. "China: SOE reforms could unlock the potential of unproductive sectors and boost growth." *China Economic Watch*. November 27, 2015.

Cassrels, Deborah. "Gold rush at the other Kuta." *The Australian*. February 26, 2010.

China." Springer Press, 2019. DOI: <https://doi.org/10.1007/978-3-662-59188-8>

CIA World Fact Book. *Indonesia 2018*.

Cieřlik, Andrzej & Goczek, Łukasz. "Corruption, Privatisation and Economic Growth in Post-communist Countries." *Europe-Asia Studies*, Vol 70(8) 2018

Cirebon Power. "Walhi's Lawsuit is Dismissed, The Bandung State Administrative Court Upholds the Environmental License of Cirebon II PLTU." Press Release. May 4, 2018.

Collier, David. "Understanding Process Tracing," *Political Science and Politics*, Vol 44(4), 2011, pp 823-844.

Coordinating Ministry of Economic Affairs. "Financial Close PLTU Batang Jawa Tengah 2x1.000 Megawatt dan Penandatanganan Lima (5) Proyek KPBU Jalan Tol." Press Release. June 9, 2016.

Crouch, Harold. *Political Reform in Indonesia After Soeharto*. Singapore: ISEAS, 2014.

Curran, Enda. "These could be the world's largest economies by 2030." *Bloomberg*. January 8, 2019.

Damanik Septy, Denso. "Konflik Pembebasan Tanah Dalam Pembangunan Bandara Kualanamu." *Watan Malau*, Vol 1 (1) 2017.

Damarjati, Danu. "PD Tepis Jokowi soal Bandara Kertajati Dicanangkan Lebih 1 Dekade." *Detik News*. May 25, 2018.

Darwin, John. *After Tamerlane: The Rise and Fall of Global Empires, 1400-2000*. New York: Penguin, 2007.

Davidson, Jamie S. "Eminent Domain and infrastructure Under the Yodhoyono and Jokowi Administrations." In *Land and Development in Indonesia*, John F. McCarthy, ed. Singapore: ISEAS, 2016.

Davidson, Jamie S. *Indonesia's Changing Political Economy: Governing the Roads*. Cambridge: Cambridge University Press, 2015.

Detik Finance. "Cerita PLN Bebaskan Lahan, Masyarakat Minta Tebus 1 Pohon Kelapa Rp 8 Juta." August 22, 2014.

Detik Finance. "PTBA Jual Listrik ke PLN Selama 25 Tahun." September 17, 2002.

Detik News. "Bentrokan di NTB, Serikat Petani Ngadu ke Mabes Polri." September 22, 2005.

Dibley, Thushara. "Beaches and Broken Bones." *Inside Indonesia* No 47, Jul-Sep 1996.

Donaldson, Dave & Hornbeck, Richard. "Railroads and American Economic Growth: A Market Access Approach," *The Quarterly Journal of Economics*, Vol 131(2), 2016, pp 799-858.

Dunkerley, Joy. "Financing the energy sector in developing countries: Context and overview." *Energy Policy*. Vol 23(1), 1995, pp 929-439.

Duta, Diemas Kresna. "PLN Tuntaskan Pembelian Listrik PLTU Batang Pekan Ini." *CNN Indonesia*. February 10 2015.

Economist Intelligence Unit. Country Report: Indonesia, December 2015.

Elson, R. E. *The Idea of Indonesia: A History*. Cambridge: Cambridge University Press, 2008.

Embu, Wilfridus Setu. "BIJB siapkan Rp 170 miliar bebaskan 800 hektar lahan Bandara Kertajati." *Merdeka*. September 29, 2017.

Emmerson, Donald K.. "Minding the Gap Between Democracy and Governance," *Journal of Democracy*, Vol 23(2), April 2012, pp 62-73.

Esterman, Isabel. "Japanese, Singaporean banks finance controversial Indonesian coal plant." *Mongabay*. March 6, 2017.

Estrin S & Pelletier A. "Privatization in Developing Countries: What Are the Lessons of Recent Experience?" *The World Bank Research Observer*, Vol 33(1), February 2018, pp 65–102.

Evans, Peter., ed. *Bringing the State Back In*. Cambridge University Press, 1985.

Fadzell, A. "ASEAN to Reduce 20% of Carbon Emission by 2025." *The Sun Daily*. October 8, 2015.

Fallon, Fleur. "Conflict, Power and Tourism on Lombok." *Current Issues in Tourism*, Vol 4(6), pp 481502.

Farhan, Farida. "Pembangunan PLTGU Jawa 1 Resmi Dimulai." *Kompas*. December 19, 2018.

Fauzie, Yuli Yanna. "Pemerintah Perbesar Porsi RDPT di Bandara Kertajati." *CNN Indonesia*. January 20, 2018.

Ferguson R, Wilkinson W & Hill R. "Electricity use and economic development." *Energy Policy* Vol 28, pp 923-934.

Fitri R. "Job Seekers Protest at New Lombok Airport." *Jakarta Globe*. October 4, 2011.

Franki. "PLTU Jawa 7 Masuki Tahap Konstruksi dan Sudah Financial Close." *Listrik Indonesia*. October 17, 2016.

Freedom House. "Indonesia: Country Report 2014." This report can be accessed here: <https://freedomhouse.org/report/freedom-world/2014/indonesia>.

Friedman, Jeffrey, ed., *The Rational Choice Controversy: Economic Models of Politics Reconsidered*, New Haven: Yale University Press, 1996.

Fukiyama, Francis. "Democracy and the Quality of the State," *Journal of Democracy*, Vol 24(4), October 2013, pp 5-16.

Fukiyama, Francis. "Why is Democracy Performing So Poorly?" *Journal of Democracy*, Vol 26(1), January 2015, pp 11-20.

Fukiyama, Francis. *The End of History and the Last Man?* New York: Free Press, 1992.

Gallagher, Kevin P. & Tian, Yuan. "Regulating capital flows in emerging markets: The IMF and the global financial crisis." *Review of Development Finance*, Vol 7 (2), December 2017, pp 95-106.

Gandolphe, S.C. "Indonesia's Electricity Demand and the Coal Sector: Export or Meet Domestic Demand?" *The Oxford Institute for Energy Studies Paper CL5*, 2017.

Garnaut, Ross. "Indonesia's Resources Boom in International Perspective: Policy Dilemmas and Options for Continued Strong Growth." *Bulletin of Indonesian Economic Studies*, Vol. 51(2), 2015, pp 189–212.

Gasmi, F., Maingard A., Noumba P. & Recuero Virto, L. "The Privatization of the Fixed-Line Telecommunications Operator in OECD, Latin America, Asia, and Africa: One Size Does Not Fit All." *World Development*, Vol 45(C) 2013, pp 189-208.

Gatzert N & Vogl N. "Evaluating Investments in Renewable Energy Under Policy Risks." *Energy Policy* Vol 95, 2016, pp 238-252.

George, Alexander and Bennett, Andrew. *Case Studies and Theory Development in the Social Sciences*. Cambridge: MIT Press, 2005.

Gerhardt, C. "Germany's Renewable Energy Shift: Addressing Climate Change." *Capitalism Nature Socialism* Vol 28(2), 2017, pp 103-119.

Green, Donald & Shapiro, Ian. *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science* New Haven: Yale University Press, 1994.

Greene, Joshua E. & Villanueva, Delano S. "Private Investment in Developing Countries: An Empirical Analysis." *IMF Staff Papers* Vol 38(1), March 1991, p 33–58

Griffin, Keith and Gurley, John. "Radical Analysis of Imperialism, the Third World, and the Transition to Socialism: A Survey Article," *Journal of Economic Literature*, Vol 23 (1985), pp 1089-1143.

Grindle, Merilee S.. "In Quest of the Political," in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001.

- Groba F., Indvik J., & Jenner S. "Assessing the Strength and Effectiveness of Renewable Electricity Feed-In Tariffs in European Union Countries." *DIW Berlin Discussion Paper* No. 1176, 2011.
- Guild, James. "Another Indonesian Financial Crisis? Not Quite." *The Diplomat*. September 5, 2018.
- Guild, James. "Jokowinomics vs reality: a look at PLN." *New Mandala*, April 4, 2018.
- Guitarra, Pratama. "Harga jual listrik swasta direvisi." *Kontan*. November 16, 2017.
- Guitarra, Pratama. "PLN: Proyek PLTU Sumsel 9 & 10 bisa tunjuk langsung." January 22, 2015.
- Haggard, Stephan. *Pathways from the Periphery: The Politics of Growth in the Newly Industrializing Countries*. Cornell University Press, 1990.
- Hakim, Adhar. "Ratusan Warga Tanak Awu Mengamuk Lagi." *Liputan6*. June 21, 2006.
- Hakim, Mahbubul & Merkert, Rico. "The causal relationship between air transport and economic growth: Empirical evidence from South Asia," *Journal of Transport Geography*, Vol 56, October 2016, pp 120-127.
- Hamayotsu, Kikue. "Methodology and Research Practice in Southeast Asian Studies," *Contemporary Southeast Asia*, Vol 37(1), April 2015, pp 150-153.
- Hamm P, King L P & Stuckler D. "Mass Privatization, State Capacity, and Economic Growth in Post-Communist Countries." *American Sociological Review*, Vol 77(2) 2012
- Harvey, David. *A Brief History of Neoliberalism*, Oxford: Oxford University Press, 2007.
- Haynes, Wendy. "Infrastructure Megaproject Leadership, Management, Innovation, and Accountability," *Public Works Management Policy*, Vol 16(3) July 2011, pp 193-198.
- Herdiana, Aulia Fitri. "Bukit Asam tunggu tender PLTU Sumsel 9 dan Sumsel 10." *Kontan*. February 26, 2018.
- Hering, Bob. *Soekarno: Founding Father of Indonesia, 1901-1945*. Holland: Koninklijk Instituut Voor de Tropen, 2002.
- Hertog, Steffen. "Defying the Resource Curse: Explaining Successful State-Owned Enterprises in Rentier States." *World Politics*, Vol 62(2) April 2010, pp 261-301.
- Himawan, Adhitya. "Jabar Siapkan Rp 200 Miliar Buat Bebaskan Lahan Bandara Kertajati." *Suara*. January 18, 2016.
- Hoff, Karla and Stiglitz, Joseph. "Modern Economic Theory and Development," in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001.
- Huntington, Samuel. *Political Order in Changing Societies: The Governing of Restless Nations*. New Haven: Yale University Press, 1968.
- Huntington, Samuel. *The Third Wave: Democratization in the Late 20th Century*, Oklahoma: University of Oklahoma Press, 1993

Husaini, Azis. "PLTU Cilacap berkapasitas 1.000 MW mulai dibangun." *Kontan*. October 13, 2016.

Hutagalung, Arie Sukanti. "The Legal Aspect of the Asset of Foundation in Relation to the Law Number 16 of 2001 Concerning Indonesian Foundation Law." *The Principles of Indonesian Agrarian Law*. Depok: Badan Penerbit FHUI, 2015.

Idris, Muhammad. "Proyek PLTU Indramayu 2x1.000 MW Dibiayai Pinjaman Jepang Rp 53 T." *Detik Finance*. March 29, 2017.

Indonesia Infrastructure Fund 2018 Annual Report.

Indonesian Ministry of Finance. "Antara LMAN, DJKN, dan Kemenkeu." This report can be accessed here: <https://www.djkn.kemenkeu.go.id/kpknl-jakarta3/baca-artikel/12719/Antara-LMAN-DJKNdan-Kemenkeu.html>

Indonesian Ministry of Transportation, Bureau of Communication and Public Information (*Biro Komunikasi dan Informasi Publik*). "Kuala Namu Airport Ready to Operate in 2012." Press Release issued January 31, 2011.

International Energy Agency. Energy Policies Beyond IEA Countries: Indonesia 2015. Can be accessed at https://www.iea.org/publications/freepublications/publication/Indonesia_IDR.pdf

International Renewable Energy Agency. *Renewable Energy Market Analysis: Southeast Asia*. 2018. Can be accessed at https://www.irena.org//media/Files/IRENA/Agency/Publication/2018/Jan/IRENA_Market_Southeast_Asia_2018.pdf

Iqbal, Donny. "Begini Asa Petani Kertajati di Negara Agraris Ini." *Mongabay*. September 17, 2017.

Iqbal, Donny. "Begini Bentrok Warga Saat Pembebasan Lahan Bandara Internasional Jawa Barat Kertajati." *Mongabay*. November 18, 2016.

Iqbal, Donny. "Pembangunan Bandara BIJB Dikebut, Permasalahan Pun Merunut." *Mongabay*. June 6, 2017.

Irawan, Agus. "Locals Protest Indramayu II Steam Power Plant Project." *GresNews*. February 25, 2016.

Islam, Nazrul & Yokota, K. "Lewis Growth Model and China's Industrialization," *Working Paper Series Vol. 2008-17* from United Nations Department of Economic and Social Affairs Development Policy Analysis Division. Published May 2008.

Jakarta Globe. "New Medan Airport to Open July 25 Without Access Road." July 11, 2013.

Jakarta Post. "Jokowi launches 35,000-MW electricity program." May 5, 2015.

Jakarta Post. "Jokowi launches 35,000-MW electricity program." May 5, 2015.

Jakarta Post. "PLN sees Sri Mulyani's letter on debt as standard warning." September 28, 2017.

Jannah, Miftahul. "Hii.. Ada 'Rumah Hantu' di Proyek Bandara Kertajati." *Detik Finance*. December 18, 2017.

Jawa 7 AMDAL full text: https://www.nexi.go.jp/environment/info/pdf/ins_kankyuu_16-009_06.pdf

JBIC. "Project Financing for Jawa 1 Gas-to-Power Project in Indonesia." *JBIC Press Release*. October 22, 2018.

Jechoutek, Karl G and Lamech, Ranjit. "New directions in electric power financing." *Energy Policy* Vol. 23 (1), 1995, pp 941-953.

Jedwab, Remi and Moradi, Alexander. "Revolutionizing Transport: Modern Infrastructure, Agriculture and Development in Ghana," *Modern and Comparative Seminar*, March 2012.

JICA. "Indramayu Coal-fired Power Plant Project: Land Acquisition and Resettlement Action Plan (LARAP)." September 2017.

JICA. "Signing of Japanese ODA Loan with Republic of Indonesia: Assistance to Improve Investment Johnson, Chalmers. *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975*. Stanford University Press, 1982.

Junko, Kozumi. "Studies on the Chinese in Thailand and Thai Studies in the United States in Historical and Geopolitical Context", *ACTA Asiatica: Bulletin of The Institute of Eastern Culture*, Vol 104, 2013, pp 19-56.

Kapoor, Kanupriya and Thatcher, Jonathan. "Indonesia's new leader promises to make life easier for investors." *Reuters*. July 23, 2014.

Karanfila, Fatih & Li, Yuanjing. "Electricity consumption and economic growth: Exploring panel-specific differences." *Energy Policy*, Vol 82, July 2015, pp 264-277.

Keithley, Steven. "Indonesia's flawed tax amnesty." *The Diplomat*. March 14, 2018.

Kenning, T. "ADB finances Vena's 42MW of large-scale solar projects in Indonesia." *PV Tech*. May 24, 2018.

Keputusan Gubernur Daerah Istimewa Yogyakarta Nomor 68/KEP/2015. Can be accessed here <http://jdih.jogjapro.go.id/storage/1470099660skgub68-2015.pdf>

Kesselman, Mark. "Order or Movement: The Literature of Political Development as Ideology," *World Politics* 26, October 1973, pp 139-153.

Khanna, Sushil. "State-Owned Enterprises in India: Restructuring and Growth." *Copenhagen Journal of Asian Studies*, Vol 30(2) January 2012, pp 5-28.

Kim, Kyunghoon. "Institutional challenges in Indonesia's state-driven development." *East Asia Forum*, December 6, 2016.

Kim, Kyunghoon. "Matchmaking: Establishment of state-owned holding companies in Indonesia." *Asia and the Pacific Policy Studies*. Vol 5(2), May 2018, pp 313-330.

Kim, Kyunghoon. "Who is responsible for state-owned enterprises' debts?" *The Jakarta Post*. November 29, 2016.

King G, Keohane R, and Verba S. *Designing Social Inquiry*. Princeton: Princeton University Press, 1994.

Konsorsium Pembaruan Agraria (KPA). "Warga Sukamulya Menolak Pembangunan BIJB." The report can be accessed here: <http://www.kpa.or.id/news/blog/warga-sukamulya-menolak-pembangunanbjib/>

Koran Jakarta. "Proyek Pembangunan PLTU Indramayu Mundur." December 21, 2017.

KPPIP Report: "Indramayu Coal Fired Steam Power Plan." Can be accessed here: KPPIP Annual Reports can be accessed here: <https://kppip.go.id/en/>

KPPIP Infrastructure Progress Reports. Can be accessed here: <https://kppip.go.id/en/aboutkppip/progress-of-infrastructure-development-in-indonesia>

Krugman, Paul. "The Rise and Fall of Development Economics," in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brookings Institution, 1994.

Krugman, Paul. *Development, Geography and Economic Theory*. Cambridge: The MIT Press, 1997.

Kurnia, Endah. "5 Tahun Pemerintahan Jokowi, 15 Bandara Baru Telah Rampung Dibangun." *Kompas*. August 16, 2018.

Kurniawan, Roffie. "Construction of mega power plant PLTU Jawa 4 in Jepara kicks off." *Rambu Energy*. September 4, 2017.

Kusuma, Hendra. "Cerita Jokowi soal Bandara Kertajati hingga Terima Kasih ke SBY." *Detik Finance*. May 26, 2018.

Landman, Todd. *The SAGE Handbook of Comparative Studies*. New York: SAGE Publications Ltd., 2009.

Law No 2 of 2012. The text of the law can be found here: <http://lkbh.uny.ac.id/sites/lkbh.uny.ac.id/files/UU%20No%202%20Tahun%202012.pdf>

Law No 30 of 2009 on Electricity, Article 2.2. A copy of the law can be accessed here:

Legge, J.D.. *Sukarno: A Political Biography*, 3rd Ed. Singapore: Archipelago Press, 2003.

Leong, Tang Wai. "Politics, not policies, to determine the re-run race between Prabowo and Jokowi." *Channel News Asia*. April 13, 2019.

Lev, Daniel S. "Origins of the Indonesian Advocacy." *Indonesia* No. 21, April 1976, pp 134-169.

Lev, Daniel S. *Legal Evolution and Political Authority in Indonesia*. The London-Leiden Series on Law, Administration and Development, Vol. 4. The Hague: Kluwer Law International, 2000.

Lewis, Arthur. "Economic Development with Unlimited Supplies of Labour," *Manchester School* 22 (1954): 139-191.

Lichbach, Mark. *Is Rational Choice Theory All of Social Science?* Ann Arbor: University of Michigan Press, 2003.

Lin, Diaan-Yi. "Can Public Private Partnerships Solve Indonesia's Infrastructure Needs?" *McKinsey Indonesia*, October 2014.

Lindsey, Tim and Santosa MA. "The Trajectory of Law Reform in Indonesia: A Short Overview of Legal Systems and Change in Indonesia." In *Indonesian Law and Society: 2nd Edition*. Tim Lindsey, ed. Federation Press, 2008.

Lindsey, Tim. "Constitutional Reform in Indonesia: Muddling Toward Democracy." In *Indonesian Law and Society: 2nd Edition*. Tim Lindsey, ed. Federation Press, 2008.

Linz, Juan & Stepan, Alfred. *Problems of Democratic Transition and Consolidation*. Baltimore: John Hopkins University Press, 1996.

Liu, Ruiming. "How State-owned Enterprises Drag on Economic Growth: Theory and Evidence from Lombok Post. "Borok Pembangunan LIA Terungkap." September 23, 2016.

Lüthi, S & Prässler T. "Analysing Policy Support Instruments and Regulatory Risk Factors for Wind Energy Deployment— A Developers' Perspective." *Energy Policy* Vol 39, 2011, pp 4876–4892.

Lüthi, S. & Wüstenhagen R. "The Price of Policy Risk — Empirical Insights from Choice Experiments with European Photovoltaic Project Developers." *Energy Economics* Vol 34(4), 2012, pp 1001-1011.

Mahalingam, Ashwin., Devkar, Ganesh A and Kalidindi, Satyanarayana N. "A Comparative Analysis of Public- Private Partnership (PPP) Coordination Agencies in India: What Works and What Doesn't," *Public Works Management Policy*, Vol 16(4), October 2011, pp 341-372.

Marboen, Ade P. "AP II offers Rp11 trillion project to expand Kualanamu Airport." *Antara News*. October 1, 2017.

Market Forces. "Cirebon 2 (1,000 MW). This report can be accessed here: Massola, James. "Jokowi's optimism outshines Prabowo's darker impulses." *Sydney Morning Herald*. March 31, 2019.

Mazzucato, Mariana. *The Entrepreneurial State. Debunking Public vs. Private Sector Myths*. Anthem Press, 2013.

McCawley, Peter. "Infrastructure policy in Indonesia, 1965-2015: a survey." *Bulletin of Indonesian Economic Studies*, Vol 51(2) 2015, p 263-285.

McKean, M.A.. "Rational Choice and Area Studies" in Neil L. Waters, ed., *Beyond The Area Studies Wars: Toward a New International Studies*, London: Middlebury College Press, 2000.

McLeod, Ross H., ed., *Indonesia: Democracy and the Promise of Good Governance*. Singapore: ISEAS, 2007, pp 178-199.

Meier, Gerald M.. "The Old Generation and the New," in Gerald M. Meier, ed., *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001.

Meissner D, Sarpong D & Vonortas NS. "Introduction to the Special Issue on Innovation in State Owned Enterprises: Implications for Technology Management and Industrial Development." *Industry and Innovation*, Vol 26(2) 2019.

Melia S. "Does transport investment really boost economic growth?" *World Transport Policy and Practice*, Vol 23 (3&4), pp 118-128.

Menanteau P., Finon D., Lamy M.L. "Prices Versus Quantities: Choosing Policies for Promoting the Development of Renewable Energy." *Energy Policy* Vol 31, 2003, pp 799–812.

Michaels, Guy. "The Effect of Trade on the Demand for Skill: Evidence from the Interstate Highway System," *Review of Economics and Statistics*, Vol 90(4) November 2008, pp 683-701.

Mietzner, Marcus. "Political Conflict Resolution and Democratic Consolidation in Indonesia." *Journal of East Asian Studies* Vol 10, 2010, pp 397-424.

Ming Z, Ximei L, Na L & Song X. "Overall Review of Renewable Energy Tariff Policy in China: Evolution, Implementation, Problems and Countermeasures." *Renewable and Sustainable Energy Reviews* Vol 25, 2013, pp 260-271

Ministry of Energy and Mineral Resources. 2018 Handbook of Energy and Economic Statistics of Indonesia. Can be accessed here: <https://www.esdm.go.id/assets/media/content/contenthandbook-of-energy-and-economic-statistics-of-indonesia.pdf>

Ministry of Finance of Republic of Indonesia. "Today, PLTU Batang is Expected to Reach Financial Ministry of Transportation Annual Report 2016.

Mishra, Ram Kumar. "Role of State-Owned Enterprises in India's Economic Development." *Workshop on State-Owned Enterprises in the Development Process*, OECD. April 4, 2014.

Mongabay. "Indonesian court revokes environmental license for the Cirebon coal plant expansion." April 25, 2017.

Morrison, Wayne M.. "China's Economic Rise: History, Trends, Challenges, and Implications for the United States." *Congressional Research Service*. February 5, 2018.

Morse, Ian. "Infrastructure at heart of Widodo's Indonesia re-election bid." *Aljazeera*. April 11, 2019.

Mufti, Riza Roidila & Muryanto, Bambang. "New Yogyakarta airport prepared to face tsunami, government claims." *Jakarta Post*. January 24, 2019.

Mukherjee, Andy. "Indonesia's debt problem? There's not enough of it." *Bloomberg*. December 5, 2018.

Mukkala, Kirsi & Tervo, Hannu. "Air Transportation and Regional Growth: Which Way Does the Causality Run?" *Environment and Planning*, Vol 45 (6) 2013.

Mulyana, Ridwan Nanda. "PLTU Mulut Tambang Sumsel bisa beroperasi lebih cepat dari target." *Kontan*. August 9, 2018.

Muryanto, Bambang. "Kulon Progo residents send letter to Angkasa Pura in latest legal move." *Jakarta Post*. May 7, 2018.

Muryanto, Bambang. "Last 86 families still fighting against Yogyakarta airport development to keep land." *Jakarta Post*. July 23, 2018.

Naidu, S., Rodrik D., & Zucman G. "Economics After Neoliberalism." *The Boston Review*. February 15, 2019.

Nasution, Anwar. "Government Decentralization Program in Indonesia." *Asian Development Bank Institute Working Paper*. October 2016.

Natalia, Mediani Dyah. "Bandara Kulon Progo: Ini Gambaran Mengenai Mekanisme Konsultasi Publik." *Harian Jojga*. October 23, 2014.

Nationally Determined Contributions, 2015. Available at <http://unfccc.int/2860.php>

Negara, Siwage Dharma. "Indonesia's 2016 Budget: Optimism Amidst Global Uncertainties," *ISEAS Perspectives*, Issue 2016(3), January 19, 2016.

Netral English. "Bukit Asam's Subsidiary Secures Funding of USD1.2 Billion from CEXIM." May 24, 2018.

Ng, Eric. "China must shrink state-owned enterprises if it wants reforms to succeed, says former WTO chief." *South China Morning Post*. April 11, 2018.

Nippon Export Import Insurance. "Loan Insurance for Expansion of Tanjung Jati B Ultra-supercritical Coal Fired Power Plant." Press Release dated February 27, 2017.

Nitisastro, Widjojo. *The Indonesian Development Experience: A Collection of Writings and Speeches of Widjojo Nitisastro*. Singapore: ISEAS, 2011.

OkeFinance. "Tolak PLTU II Indramayu, Warga Surati Gubernur." March 13, 2016.

Oliez, Muhammad. "PLTU Tanjung Jati B unit 5 dan 6 mendesak dibangun." *SindoNews*. December 3, 2013.

Ovadia, Jesse Salah & Wolf, Christina. "Studying the developmental state: theory and method in research on industrial policy and state-led development in Africa." *Third World Quarterly*, Vol 39(6), 2018.

Pacudan, R. "Electricity Price Impacts of Feed-in Tariff Policies: The Cases of Malaysia, the Philippines, and Thailand." In: Han P, Kimura F (eds) *Energy Market Integration in East Asia: Energy Trade, Cross Border Electricity, and Price Mechanism*. Economic Research Institute for ASEAN, Jakarta, 2014, pp 283-319.

Pamungkas, Ridwan. "Warga Sukamulya Menolak Pembangunan Bandara." *Liputan6*. June 9, 2007.

Pancasila. English translation accessed here:
<http://www.wipo.int/edocs/lexdocs/laws/en/id/id048en.pdf>

Parker, Edward. "What does Jokowi's win mean for Indonesia's economy?" *The Diplomat*. April 19, 2019

Parry, Richard Lloyd. "At least 149 die when jet crashes into city moments after take-off." *The Times*. September 6, 2005.

Patel, Sonal. "Indonesia's PT PLN Cancels 22 GW of Planned Capacity, Citing Lax Demand." *Power Magazine*. March 15 2018.

Permana, Sukma Indah. "Pembebasan Lahan Bandara Kulon Progo Rampung 91%." *Detik Finance*. January 21, 2017.

Pfeiffer, B & Mulder P. "Explaining the Diffusion of Renewable Energy Technology in Developing Countries." *Energy Economics* Vol 40, 2013, pp 285-296.

Philippines Department of Finance. TaxReformNow. Report Can be accessed at <http://www.dof.gov.ph/taxreform>

Philippines Department of Energy. 2009 Rules and Regulations Implementing Republic Act No 9513. Can be accessed at <http://lia.erc.gov.ph/documents/290>

Philippines Department of Energy. 2017 *Power Situation Report*. Report can be accessed at <https://www.doe.gov.ph/electric-power/power-sector-situation?>

Phillips, Dom. "Brazil senate approves austerity package to freeze social spending for 20 years." *The Guardian*. December 13, 2016.

Pisano, Mark. "Developing the Institutional Capacity to Implement Large-Scale Infrastructure Projects," *Public Works Management Policy*, Vol 16(3), July 2011, pp 228-239.

PJB 2015 Consolidated Financial Statement.

PJBI. "PLTU Jawa-7: Penjelasan Proyek." This informational webpage can be accessed here: <http://www.pjbinvest.com/pltu-jawa-7>

Plattner, Marc F.. "Is Democracy in Decline?" *Journal of Democracy*, Vol 26(1), January 2015, pp 5-10.

PLN Consolidated Financial Statements and Annual Reports 2010 – 2018.

Polzin F., Migendt M., Täube F.A. & Von Flotow, P. "Public Policy Influence on Renewable Energy Investments - A Panel Data Study Across OECD Countries." *Energy Policy* Vol 80, 2015, pp 98-111.

Power, Thomas P. "Jokowi's Authoritarian Turn and Indonesia's Democratic Decline." *Bulletin of Indonesian Economic Studies*, Vol 54(3) 2018, pp 307-338.

Prabowo, Aichiro Suryo. "Building a better infrastructure policy after Indonesia's elections." *New Mandala*, March 7, 2019.

Pradiptyo R, Susanto A, Wirotomo A, Adisasmita A and Beaton C. "Financing development with fossil fuel subsidies." *International Institute for Sustainable Development Report*, May 2016.

Prakoso, Ranga. "Java-Sumatra Undersea Power Transmission Project Revived for 2021." *Jakarta Globe*. April 10, 2017.

Prasetyawan, Wahyu. "The Unfinished Privatization of Semen Padang: The Structure of the Political Economic in Post-Suharto Indonesia." *Indonesia*, No 81, April 2006, pp 51-70.

Primadhyta, Safyra. "Lanjutkan PLTU Batang, Jokowi Rombak Aturan Pembebasan Lahan." *CNN Indonesia*. February 2, 2015.

Primadhyta, Safyra. "PLN Mau Kualitas PLTU Jawa 7 Persis Pembangkit Listrik China." *CNN Indonesia*. December 8, 2017.

Proposed Loan and Administration of Loan PT. Jawa Satu Power and PT. Jawa Satu Regas Jawa-1 LNG-to-Power Project (Indonesia)" report generated by the Asian Development Bank in evaluating loan feasibility for Jawa Satu power plant, June 2018.

PT Adaro. "Amendment of PPA for PLTU Batang." Press Release. November 4, 2014.

PT ERM Indonesia. "Proposed Loan and Administration of Loan PT. Jawa Satu Power and PT. Jawa Satu Regas Jawa-1 LNG-to-Power Project (Indonesia)." Resettlement Plan Project No. 51112-001, June 2018.

PT Penjaminan Infrastruktur Indonesia 2018 Annual Report.

PT SMI 2018 Annual Report.

Purnawati, Tati. "Anggaran Ganti Rugi Pembangunan Bandara Kertajati Ditambah." *Pikiran Rakyat*. May 10, 2016.

Purnawati, Tati. "Ratusan Warga Desa Sukamulya Tolak Pembangunan BIJB." *Pikiran Rakyat*. January 25, 2016.

Purnomo, Daniel Ari. "Komang Berharap PLTU Tanjung Jati B Unit 5 dan 6 Rampung 2021." *Tribun Jateng*. August 9, 2018.

Putra, Aditya Prananda. "Proyek PLTU Batang Capai Financial Close." *Republika*. June 9, 2016.

Putusan Nomor 07/G/2015/PTUN.YK. Canned be accessed at Putusan 456 K/TUN/2015 Demi Keadilan Berdasarkan Ketuhanan Yang Maha Es Mahkamah Agung.

Putusan Nomor 134/Pdt.G/2016/PN Wat

Putusan Nomor 135/Pdt.G/2016/PN Wat

Putusan Nomor 136/Pdt.G/2016/PN Wat

Putusan Nomor 142/Pdt.G/2016/PN Wat

Putusan Nomor 29/Pdt.G/2017/PN Wat

Putusan Nomor 3291 K/Pdt/2016/PN Wat

Putusan Nomor 3525 K/Pdt/2016 /PN Wat

Putusan Nomor 3532 K/Pdt/2016/PN Wat

Putusan Nomor 60/Pdt.G/2016/PN Wat

Rachman, Dylan Aprialdo. "Senin, Sofyan Basir Akan Jalani Sidang Perdana Kasus PLTU Riau-1." *Kompas*. June 20, 2019.

Radarcirebon. "Pembangunan PLTU II Terganjil Izin." Undated.

Radarcirebon. "Pemuda Waruduwur Blokade Aktivitas Subkontrak PLTU II Cirebon." September 8, 2016.

Radarcirebon. "PLTU 2: Ada yang Syukuran, Ada yang Belum Bibayarkan." May 28, 2016.

Radarcirebon. "PLTU Kanci Laporkan Aksi Aktivis Lingkungan ke Jakarta." May 17, 2016.

Rambu Energy. "Sumber Segara, China's Chengda to start construction of Cilacap mega power plant." June 20, 2015.

Randall, Vicky & Theobald, Robin. *Political Change and Underdevelopment: A Critical Introduction to Third World Politics*. Durham: Duke University Press, 1998.

Ray, David & Ing, Lili Yang. "Addressing Indonesia's Infrastructure Deficit," *Bulletin of Indonesian Economic Studies*, Vol 52(1) 2016, pp 1-25.

Reid, Anthony. *A History of Southeast Asia: Critical Crossroads*. New Jersey: Wiley-Blackwell, 2015.

Reinhard, Wolfgang. *A Short History of Colonialism*. Manchester: Manchester University Press, 2011.

Reuters. "Government Appoints New Pertamina CEO, Presses to Curb Oil Imports". August 30, 2018.

Reuters. "Indonesian power utility PLN says \$2-bln bond sale cut costs." May 26, 2018.

Riandi M, Suhardiman S & Kardono E. "Indonesia - New National Spatial Plan Regulation." *Conventus Law, Legal News and Analysis*. November 2, 2017.

Ricklefs M.C. *A History of Modern Indonesia Since c. 1300, 2nd Ed*. Stanford: Stanford University Press, 1993.

Rock, Michael T. "The Politics of Development Policy and Development Policy Reform in New Order Indonesia." *William Davidson Institute Working Paper Number 632*, November 2003.

Rodwin, Lloyd. "Rethinking the Development Experience: Aims, Themes and Theses" in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brookings Institution, 1994.

Rosser, Andrew. *The Politics of Economic Liberalization in Indonesia: State, Market and Power*. Surrey: Curzon Press, 2002.

Rostow, W.W.. *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press, 1960.

Sahay R, Arora V, Arvanitis T, Faruquee H, N'Diaye P & Griffoli TM. "Emerging market volatility: lessons from the taper tantrum." *IMF Staff Discussion Note*, September 2014.

Salim, Wilmar & Negara, Siwage Dharma. "Infrastructure Development under the Jokowi Administration: Progress, Challenges and Policies." *Journal of Southeast Asian Economics*, Vol 35(3) 2018, pp 386-401.

Sambijantoro, Satri. "Lagging Infrastructure Clouds SBY's Rich Economic Legacy." *Jakarta Post*. October 15, 2014.

Schon, Donald A. "Hirschman's Theory of Social Learning", in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brooking Institution, 1994.

Schwarz, Adam. *A Nation in Waiting: Indonesia's Search for Stability*. Singapore: Talisman Publishing, 2008.

Scissors, Derek. "China's SOE sector is bigger than some would have us think." *East Asia Forum*. May 17, 2016.

Serven, Luis. "Real-Exchange-Rate Uncertainty and Private Investment in LDCs." *Review of Economics and Statistics*, Vol 85(1) February 2003, p 212–218

Setiawan, Kodrat. "Proyek Aerocity, AP II Siapkan 200 Hektare di Bandara Kualanamu." *Tempo*. October 15, 2018.

Shengfeng X, Ming Sheng X, Zhu Tian X & Zhang X. "The Relationship between Electricity Consumption and Economic Growth in China." *Physics Procedia* Vol 24 (2012), pp 56 – 62.

SinarMedia. "Warga Sukamulya 'Siap Mati' Melawan Penggusuran." September 1, 2016.

Singgih, V.P.. "Fuel, Electricity Prices to Remain Unchanged Until 2019." *Jakarta Post*, 6 March 2018.

Singgih, Viriya P. "Java 1 power plant finally a done deal." *Jakarta Post*. January 31, 2017.

Singh, Jewellord Nem & Ovadia, Jesse Salah. "The theory and practice of building developmental states in the Global South." *Third World Quarterly*, Vol 39(6), 2018.

Solehudin, Mochamad. "Angkasa Pura II Guyur Bandara Kertajati Rp 500 Miliar." *Detik Finance*. March 5, 2018.

Solow, Robert. "A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics*, Vol 70, 1956, pp 65-94.

Song, Ligang. "The past, present and future of SOE reform in China." *East Asia Forum*. October 25, 2018.

Stahl, Rune Møller. "Economic Liberalism and the State: Dismantling the Myth of Naïve LaissezFaire." *New Political Economy*, Vol 24(4) August 2019, pp 473-486.

Stefanie, Christie. "Kesepakatan Pembiayaan Diteken, PLTU Batang Dikebut 2019." *CNN Indonesia*. June 9 2016.

SuaraOnline. "Konsultasi Publik AMDAL Pembangunan dan Pengoperasian Unit 5&6 PLTU TJB." March 3, 2015.

Sudrajat, Ajat. "Over 40 investors keen to invest in Kertajati Airport." *Antara News*. December 17, 2015.

Sugianto, Danang. "Berapa Keuntungan Investasi di Bandara Kertajati?" *Detik Finance*. April 24, 2018.

Sukirno. "Megaprojek Bandara Kulonprogo: AP I Siap Gelontorkan Duit Rp7,5 Triliun." *Bisnis*. August 29, 2014.

Sulaiman, Yohanes. "Indonesia farewells SBY and his years of wasted opportunities." *The Conversation*. October 16, 2014.

Sundaryani, Fedina S. "Supreme Court ruling paves way for Batang megaproject." *Jakarta Post*. March 2 2016.

Sutela, Pekka. "Privatization in the Countries of Eastern and Central Europe and of the Former Soviet Union." *World Institute for Development Economics Research Working Paper*, February 1998.

Suwarni, Yuli Tri. "Province looks forward to international airport." *The Jakarta Post*. December 22, 2006.

Syahni, Della. "Buntut Protes PLTU Indramayu, Buruh Tani Mendekam Dalam Tahanan." *Mongabay*. November 14, 2018.

System and Impact of Feasibility of Geothermal Plants in Eastern Indonesia in the Next Decade." *39th New Zealand Geothermal Workshop*, 2017.

Tamtomo JP, Eresta V, Farnkvist O & Roos, H. "Land Valuation Survey in Indonesia." *TS 8D – Land Valuation Case Studies II, FIG Working Week*. Stockholm, Sweden 14-19 June 2008.

Taylor, Lance. "Hirschman's Strategy at Thirty-Five" in Lloyd Rodwin, ed., *Rethinking the Development Experience: Essays Provoked by the Work of Albert O. Hirschman*, Washington, DC: Brooking Institution, 1994.

Temple, Jonathan. "Growing Into Trouble: Indonesia After 1966." *CEPR Discussion Paper No. 2932*. August 2001.

Tharakan, Pradeep. "Summary of Indonesia's Energy Sector Assessment." *Asian Development Bank Paper No. 9*, December 2015.

The Economist. "Indonesia's president wins a second term." April 17, 2019.

The Jakarta Post. "Kuala Namu Residents Fear Losing Land to Construction of Airport." June 12, 2007.

Titik Nol. "Tenaga Kerja Lokal Meminta TKA Tiongkok Pelaku Pemukulan Diproses Hukum." September 9, 2018.

Todaro, Michael P. and Smith, Stephen C., eds. *Economic Development. 11th Edition*. London: Pearson Education Limited, 2011.

Tongsopit S & Greacen C. "An Assessment of Thailand's Feed-in Tariff Program." *Renewable Energy* Vol 60, 2013, pp 439-445.

TribunNews. "Pembangunan PLTU Batang Sudah 30 Persen, Kini Masuk Tahap Kontruksi Baja." October 17, 2017.

Triggs A., Kacaribu F. & Wang, J. "Risks, Resilience, and Reforms: Indonesia's Financial System in 2019." *Bulletin of Indonesian Economic Studies*, Vol 55(1), 2019, p 1-27.

United Nations Framework Convention on Climate Change. *First Nationally Determined Contribution – Republic of Indonesia*, 2016. Available at <http://unfccc.int/2860.php>

United Nations Framework Convention on Climate Change. *Republic of the Philippines - Intended* Uwe Deichmann, Kai Kaiser, Somik V. Lall & Zmarak Shalizi. "Agglomeration, Transport, and Regional Development in Indonesia." *World Bank Policy Research Working Paper 3477*, January 2005.

Van Campen B, Pratama AR, Lawless J & Archer R. "Analysis of New Indonesian Geothermal Tariff

Voelker C, Perana A, Sachs T & Robert L. K. Tiong. "Political risk perception in Indonesian power projects." *Journal of Financial Management of Property and Construction* 13(1), June 2008, pp 18-34.

Wai, U Tun & Wong, Chong-huey. "Determinants of Private Investment in Developing Countries," *Journal of Development Studies*, Vol 19(1), Winter 1991, p 19–36.

WALHI. "Bandung Administrative Court Approved People demand; Indramayu Coal Power Plant 2x1000MW Environment Permit Revoked." December 8, 2017.

WALHI. "Objection Regarding the Cirebon Coal-fired Power Plant Project–Unit 2in West Java, Warburton, Eve. "Indonesia's New Developmentalism," *Bulletin of Indonesian Economic Studies*, Vol 52(3) 2016, p 297-320.

Warburton, Eve. "Jokowi and the New Developmentalism." *Bulletin of Indonesian Economic Studies* Vol 52(3), 2016, pp 297-320.

Wardani, Asih Kirana. "Cirebon dan Indramayu Menggugat PLTU." *Tirto*. December 11, 2017.

Warra B.S. & Ayre R.U. "Evidence of causality between the quantity and quality of energy consumption and economic growth." *Energy* Vol 35 (2010), pp 1688–1693.

Wells, Louis T. & Ahmed, Rafiq. *Making Foreign Investment Safe: Property Rights and National Sovereignty*. Oxford: Oxford University Press, 2007.

West Java Province Transportation Department. "Report: Bandar Udara Internasional Kertajati-White, Nicholas J. "The Settlement of Decolonization and Post-Colonial Economic Development." *Journal of the Humanities and Social Sciences of Southeast Asia*, Vol 173 (2-3) 2017.

Wiarda, Howard J. *Introduction to Comparative Politics: Concepts and Processes*. Orlando, FL: Harcourt College Publishers, 2000.

Widyasari, Esti. "PLN Buka Tender PLTU Jawa 7 untuk Swasta." *Tambang*. December 1, 2014.

Wie, Thee Kian. *Indonesia's Economy Since Independence*. Singapore: ISEAS, 2012.

Wihardja, M. M. "The Effect of the Commodity Boom on Indonesia's Macroeconomic Fundamentals and Industrial Development." *International Organisations Research* Vol 11, 2016.

Winosa, Yosi. "Bukit Asam, PLN Signs PPA Sumsel 8 Power Plant." *Insider Stories*. October 20, 2017.

Winters, Jeffrey. *Power in Motion: Capital Mobility and the Indonesian State*. Ithica: Cornell University Press, 1996.

Wong S. L., Ngadia, N., Abdullah T., Inuwac, IM. "Recent Advances of Feed-in-Tariff in Malaysia." *Renewable and Sustainable Energy Reviews* Vol 41, 2015, pp 42-52.

World Bank. 2017 *Worldwide Governance Indicators*. Can be accessed at <http://info.worldbank.org/governance/wgi/#home>

World Bank Group. "Debt vulnerabilities in emerging and low-income economies." *Debt side-event during UN GA Second Committee Meeting*, October 23, 2018.

World Bank Indonesia Country page. Access here: <http://data.worldbank.org/country/indonesia>

World Bank. "Cilacap Power Plant Expansion Phase II." Private Participation in Infrastructure Wulandari M. "Renewable Energy Power Pricing in Indonesia." *ASEAN Centre for Energy*, 29 March, 2017.

Yasmin, Puti Aini. "Aher Lapor ke Luhut Pembayaran Kontraktor Bandara Kertajati Molor." *Detik Finance*. April 2, 2018.

Yasuko, Kobayashi. "The Development of Studies on Islam in Indonesia: Toward a Combination of Area Studies and Islamic Studies", *ACTA Asiatica: Bulletin of The Institute of Eastern Culture*, Vol 104, 2013, pp 99-120.

Yu, Hong. "The Ascendency of State-owned Enterprises in China: development, controversy and problems." *Journal of Contemporary China*, Vol 23(85), 2014.

Yusuf, Shahid & Stiglitz, Joseph E. "Development Issues: Settled and Open", in Gerald M. Meier, ed, *Frontiers of Development Economics*, Oxford: Oxford University Press, 2001.

Zaenudin. "Conflict, Development and Livelihood Transition: A Case Study of the International Airport Development in Lombok Nusa Tenggara Barat Indonesia." MSc Thesis in Rural Development Sociology at Wageningen University. August 2013. Can be accessed here <http://edepot.wur.nl/272925>.

Zebua, Dani Julius. "45 Warga Terdampak Pembangunan Bandara Kulon Progo Terima Rumah Baru." *Kompas*. May 7, 2018.

Zhang H., Van Gerven T., Baeyens J. & Degreè J. "Photovoltaics: Reviewing the European Feed-in Tariffs and Changing PV Efficiencies and Costs." *ScientificWorldJournal* doi: 10.1155/2014/404913

Zhang, Yin-Fang & Parker, David. "Electricity sector reform in developing countries: an econometric assessment of the effects of privatization, competition and regulation." *Journal of Regulatory Economics*, Vol 33(2), April 2008, pp 159–178.

Zhao Y, Tang KK, Wang LL. "Do Renewable Electricity Policies Promote Renewable Electricity Generation? Evidence From Panel Data." *Energy Policy* Vol 62, 2013, pp 887-897.

Zülch H, Detzen D, Wunsch M, Wulf T & Meißner P. "The benefits of a pre-deal purchase price allocation for acquisition decisions: an exploratory analysis." *Problems and Perspectives in Management*, Vol 11(1), 2013.