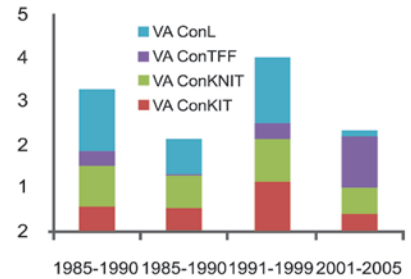
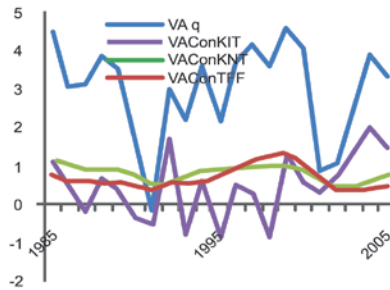


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ICT Contribution to Economic Growth

ICT advancement and investment major source of growth in the US and EU since the 1990s

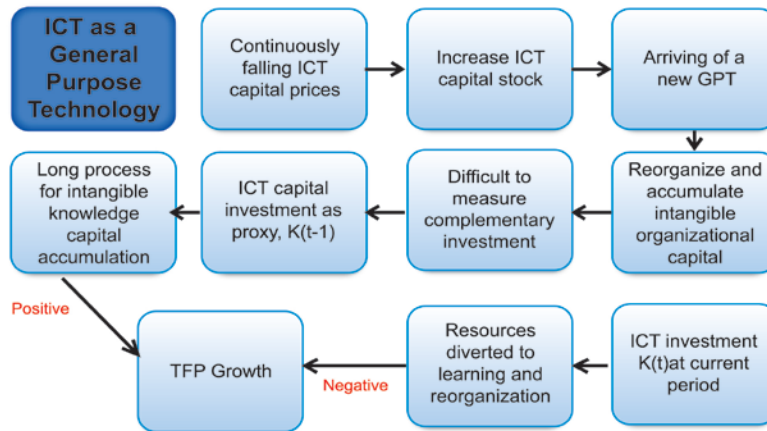


ICT PRODUCING SECTORS

TFP Growth

ICT USING SECTORS

Capital Deepening → Boost Labor Productivity → No Evidence for TFP Growth



Mathematical Model

$$\Delta TFP = [F_C - 1]\beta\tilde{k}_t + \left[\frac{(1-\delta^c)}{(1+g)}\right]\beta\tilde{k}_{t-1} + s_G\Delta z_t$$

$$\text{where } \tilde{k} = s_{K,IT}[\Delta k_t^{IT} + \sigma\Delta \ln(P_K^{IT}/P_C)_t]$$

Data and Regression

Use industry level data to estimate the coefficients (OLS Regression)

$$\Delta p_i^t = c + a\tilde{k}_i^{t-1} + b\tilde{k}_i^t + \varepsilon_i$$

$$\tilde{k} = s_{K,IT}\Delta \ln k_{K,IT}$$

UNITED STATES		All industries	Excluding ICT Producing	Nonmfg.	SOUTH KOREA		All industries	Excluding ICT Producing	Nonmfg.
		C	-0.50 (-0.52)	-0.07 (-0.11)			-0.24 (-0.30)	C	1.78 (2.89)
	k(91-95)	9.43 (2.99)	5.66 (2.68)	5.66 (1.91)		k(85-90)	13.42 (5.79)	12.21 (5.66)	12.73 (4.90)
	k(96-00)	-3.79 (-2.96)	-2.52 (-2.95)	-2.44 (-2.11)		k(91-95)	-10.56 (-5.35)	-9.68 (-5.29)	-10.55 (-4.78)
	R-squared	0.22	0.22	0.20		R-squared	0.52	0.53	0.60
	Observations	36	34	21		Observations	35	33	20

CONCLUSIONS

Both US and South Korea cases are consistent with the GPT theory - positive but lagged effect of ICT capital growth to TFP growth was more significant in South Korea in the early 1990s

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Project Title: ICT Contribution to Economic Growth: An Empirical Study on Japan, South Korea, Hong Kong and Singapore

Supervisor: Asst Prof Chia Wai Mun