A quantitative study on endogenous formation of comparative advantage in South Korea

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ABSTRACT

This paper incorporates search friction and human capital accumulation into an international trade framework to analyze the endogenous formation of comparative advantage induced by long-term employment relationship. The calibrated model demonstrates that the long-term employment relationship, by facilitating both human and physical capital formation, has contributed to South Korea's rapid export-oriented industrialization. The counterfactual experiment reports that aggregate output in 2013 would have been reduced by one quarter, if South Korea had stayed as an autarky economy. Further counterfactual experiments find that a typical worker's job duration been about two years from 1960s to 2010s, output in 2013 would have been reduced by more than 42 percent. Also, South Korea might have exported primary products, not secondary products with even shorter job duration or less efficient learning-by-doing.

1. Introduction

During the second half of the twentieth century, so called newly industrializing economies (NIEs) in East Asia (e.g. Hong Kong, Singapore, South Korea, and Taiwan) have experienced rapid export-oriented industrialization. The rapid export-oriented industrialization of those countries seemingly contradicts the Heckscher-Ohlin theorem that a country will export (import) goods that use its abundant (scarce) factors intensively. In fact, International Bank for Reconstruction and Development (IBRD) argued in its internal report in 1969 that South Korea would be unlikely to have a comparative advantage in large-scale modern industries, for example steel, which turns out to be a major industry of South Korea nowadays. ¹ Regarding their rapid export-oriented industrialization, the central question among trade and development economists is what enabled those NIEs (and only those NIEs) to form Ricardian comparative advantage in the secondary sector so rapidly in spite of the initial lack of relevant physical and human capital endowment. The current paper quantifies the contribution of the NIE’s distinct labor market feature, long-term employment relationship, to the endogenous formation of Ricardian comparative advantage with an emphasis on the South Korean episode.

Panels (a) and (b) show the relationship between export goods and job separation rate for the 23 OECD countries including South Korea. The slope coefficients in both simple regression analysis are significantly different from zero at the 5 percent level. Net export is denominated by each countries’ GDP. Notice that we use different scales in the vertical axes for expositional purpose. Data on trade volume and GDP are based on World Development Indicators established by the World Bank (agricultural trade includes foods trade as well as agricultural commodities). Estimated job separation rates are from Hobijn and Sahin (2009) except for Japan and South Korea.

well), strong binding to work place based on traditional ethics \(^4\) that attach great importance to social solidarity resulted in an emphasis on duty to organizations over individualism. \(^5\) Employees and employers share the social norm of a lifetime employment. That searching for other employment opportunities and replacing existing employees with new employees are regarded in these countries as dis-

Fig. 1. Comparative advantage and labor market institutions.

the job separation rate (or equivalently the job duration) of an economy may affect and/or be affected by its trade patterns. The casualty may run in both directions in interpretations of the simple correlations in Fig. 1. However, the reverse causal interpretation that the job duration is affected by trade pattern is less plausible at least in South Korea's and NIE's experience, as the average job duration has not changed significantly over time.

Another clear evidence is the shift of the agglomerate Korean business groups (jaebol) main businesses. Samsung, which was established as a grocery store in 1938, exported squid and sugar in the 1950s, and added textiles in 1956, fertilizer in 1964, electronics in 1969, heavy machinery in 1974, and semi-conductors in 1978. The latter three products, with which Samsung had no business experience in the 1960s, and which required enormous physical capital investment, are presently the company's major exports. Hyundai similarly began, in 1946, as a construction company and, although it didn't accumulate enough technology and capital to produce the products until the 1970s, currently retains significant market share in the automobile and ship markets.

It seemingly stems from Confucianism tradition among South Korea and those NIEs.

Many studies recognize the importance of culture in the process of economic development. One of the most well-known arguments about the relationship between a cultural factor and long-term economic development is the claim by Weber (1930) that Protestantism, in contrast to Catholicism, sanctions the virtues of hard work and accumulation of wealth, and that these values provide the moral foundations of capitalism in a modern market-based economy.

For example, Tanaka (2016a, b) recognizes the problem of short job durations in Myanmar that a significant portion of employed workers voluntarily quit their jobs even without notice after payday and/or holiday seasons.
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