

Financial Constraints and Productivity Gains from FDI in Emerging Markets



HAN, WONTAE

Ph.D., Associate Research Fellow, International Finance Team
Korea Institute for International Economic Policy

Imagine there's no countries

It isn't hard to do

John Lennon, *Imagine*, 1971

One of the first principles in economics is that the world can be better off by economic integration. Due to restrictions on mobility of labor and capital across countries, wages in the US are about 2.6 times the Mexican wage for comparable workers.¹ The factor price equalization theorem implies the world output rises by open borders (i.e., goods and factor market integration, etc.) because it mitigates factor misallocation such as cross-country wage differentials. Citizens of Afghanistan or Somalia who have suffered from the severe problems in their home countries might optimize their standard of living by simply moving to a country that does not have such problems were it not for government restraints of the destination countries.

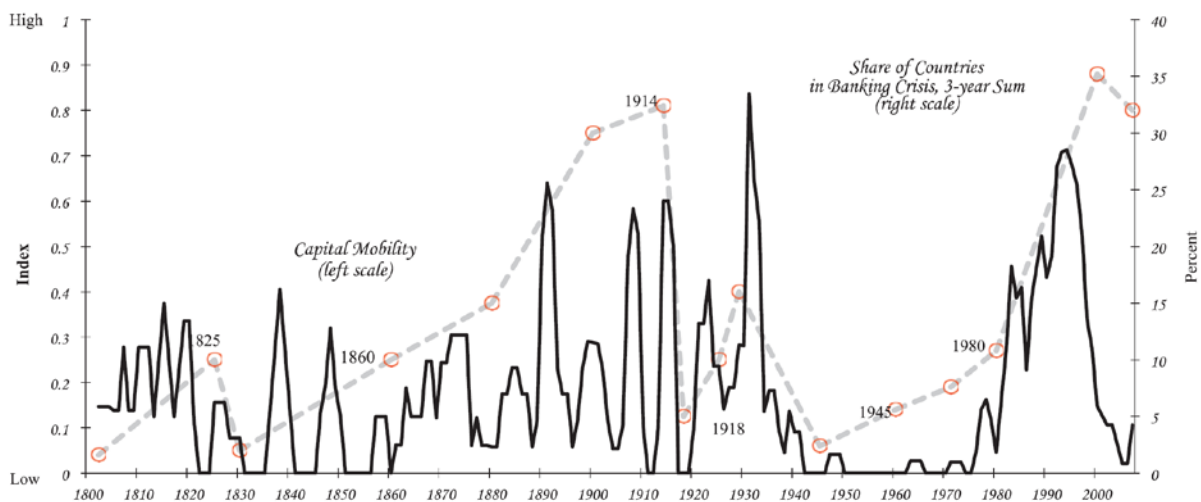
If citizens of Korea can freely run a business or purchase real and financial assets such as real estate, bonds and stocks in the US, China, and

¹ See Clemens, Montenegro, and Pritchett (2019).

any other countries (i.e., financial integration), then they can achieve a better balance between spending for today's needs and savings for the future. Under financial integration across borders, developing countries can invest more than they are capable of setting aside from their own meager output by importing savings from abroad. Furthermore, open economies can spur growth through a deeper financial system, stronger institutions, and a more disciplined macroeconomic policy compared to their closed counterparts.

The theoretical argument is beautiful, but of course the facts of the matter differ. During the past four decades, many countries have opened their economies to foreign direct investment (FDI), foreign portfolio flows, and bank borrowing through various types of financial liberalization which include equity market liberalization, credit market liberalization, and capital account liberalization. One of the important findings in international macroeconomics is that financial deepening brings about a trade-off between higher economic growth and higher crisis risk. Figure 1 shows cross-country capital mobility (light dashed line) has been accompanied by the increased instability of domestic financial markets (thick solid line). Lifting restrictions on cross-border financial transactions gave rise to large capital inflows, asset price and credit booms, currency overvaluation, and large current account deficit, which resulted in "Sudden Stops"² in capital flows followed by currency and banking crises in various historical episodes, mainly from emerging market countries.

Figure 1. Capital Mobility and Incidence of Banking Crises



Source: Broner and Ventura (2016)

² See Dornbusch et al. (1995).

Empirical studies on emerging market business cycles have found that one of the robust predictors for financial crises is inflow of massive foreign capital with short investment horizon (i.e., hot money). Monetary and fiscal authorities use their policies to steer the composition of inflows toward more stable forms and naturally, FDI has been preferred to other types of capital flows. Unlike cross-country portfolio investment or bank borrowing, foreign direct investors aim to control and operate an enterprise for the sake of long-term profits. Just as it is slower and more costly for such an investor to establish ownership of a business enterprise in the FDI-host country, it is slower and more costly to divest. In addition, FDI is believed to have many positive effects, which include technology transfer, training of the labor force, export expansion through access to international markets, and introduction of new processes, modern managerial and marketing skills, and production know-how in the domestic market.

Based upon these arguments, governments in emerging nations often have provided fiscal and financial incentives for foreign firms to set up affiliates in their jurisdiction. For example, in China, until the Enterprise Income Tax Law unified the tax rates for foreign and domestic enterprises as of Jan 2008, FDI firms satisfying certain criteria had been entitled to tax exemption or had paid a mere 15% tax on enterprise income, whereas domestic firms had paid 33% tax. On the whole, policy makers incentivized FDI through reduced corporate income tax, tax holidays, investment allowances, preferential treatment of long-term capital gains, subsidized loans, and loan guarantees.

Since favorable treatment for FDI has been granted primarily for the purpose of promoting the productivity and growth of host countries, it is essential to evaluate its actual outcome. It turns out overall messages on the effect of FDI on productivity in the literature are ambiguous. Due to heterogeneity across countries, it is difficult to find robust evidence that FDI has improved productivity in emerging markets. This raises the question of what intrinsic attributes in the host country matter for productivity enhancement, and recent studies³ have focused on the quality of local financial markets. Along this line of research, my joint work⁴ examined the effect of financial constraints on productivity of domestic and FDI firms in China.

Using the Chinese firm-level data ranging from 2002 to 2007, we find that FDI firms may have lower cutoff productivity than local firms, while FDI firms are more productive on average in compared to their local counterparts. Furthermore, this finding is salient in financially more vulnerable industries. Since multinational firms are usually less financially constrained than

³ See Alfaro et al. (2004), Desbordes and Wei (2017), and Bilir, Chor, and Manova (2019).

⁴ See Han, Wang, and Wang (2021).

local firms, we argue that financial advantages of FDI firms and underdeveloped financial markets in the host country have driven this outcome. Table 1 presents the result of regressing firm productivity on a dummy indicator for FDI firms and other control variables under different degrees of financial vulnerability at the sector level. Here an FDI firm is defined as a firm of which capital from foreign countries accounts for at least 10%. We classify industries by the extent of financial vulnerability since some sectors rely more heavily on external finance for technological reasons.⁵

In the sector of low financial vulnerability, we find that a firm's productivity is negatively correlated with the indicator of foreign ownership among those firms placed in the bottom 10% quantile of productivity. If we repeat the same quantile regression for the sector of high financial vulnerability, a firm's productivity is more negatively correlated with the foreign ownership at the bottom 10% and the coefficients are significantly negative up to the bottom 20% quantile of productivity. The evidence reveals that FDI firms have lower productivity than domestic firms at the bottom 10% productivity quantile, and this observation is more pronounced in financially more vulnerable sectors.

Table 1. The Effect of Foreign Ownership on Firm Productivity under Financial Constraints in China

Productivity Quantile (%)	Sector of low financial vulnerability			Sector of high financial vulnerability		
	Coefficient	S.E.	# of obs.	Coefficient	S.E.	# of obs.
5	-0.106***	0.034	48136	-0.153***	0.026	58895
10	-0.039*	0.023	48136	-0.094***	0.018	58895
15	-0.006	0.018	48136	-0.055***	0.015	58895
20	0.020	0.017	48136	-0.033**	0.013	58895
25	0.033**	0.016	48136	-0.007	0.012	58895
50	0.113***	0.014	48136	0.060***	0.012	58895
70	0.164***	0.016	48136	0.094***	0.013	58895

Notes: The sample includes all firms that operated in the Chinese market between 2002 and 2007 after China's accession to the WTO. The source is the ASIP by the National Bureau of Statistics of China. The coefficient estimate is for the independent variable of an FDI-firm dummy in quantile regression. Control variables include firm size, export ratio, economic zone dummy, and industry, province, and year fixed effects. S.E. denotes standard error. *, **, and *** represent the statistical significance at the 10%, 5%, and 1% levels, respectively.

Source: Han, Wang, and Wang (2021)

⁵ See Manova, Wei, and Zhang (2015), and Rajan and Zingales (1995).

All in all, our interpretation on these results is that preferential treatment for FDI might attract foreign-owned firms whose productivity is even lower than the local counterparts because they are less financially constrained and raise capital more easily by accessing international financial markets. Local firms who are in operation at a low productivity margin should be relatively more productive than FDI firms for survival, since they face tighter credit constraints due to undeveloped financial institutions in emerging market countries. From the previous discussion on a trade-off between growth and crisis, undeveloped financial markets might mean that the emerging economy is not able to properly cope with unfettered short-term capital flows. On top of this reasoning, our work indicates that well-functioning financial markets are also crucial for the country to fully benefit from long-term stable flows, in that unproductive foreign-owned firms might be remaining in business just because of their easy access to external finance while their local competitors are financially constrained by weak financial institutions. **KIEP**

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