

The Dismantling of Capital Controls after Bretton Woods and Latin American Productivity[†]

By DIANA VAN PATTEN*

The recent economic history of global integration has been characterized by a dismantling of capital controls and increased foreign direct investment (FDI). This paper explores the role of impediments to international capital mobility, FDI, and technology diffusion in shaping Latin American economic growth. I will summarize the effects of the Bretton Woods international financial system in Latin America, which was in place from 1949 to 1973 and attempted to support international economic and political stability through regulations that governed international trade, payments, and currency values. Then, I will study the consequences of capital controls—and their dismantling—on FDI and trade-induced technological advancements in shaping local development, especially in the 1990s after the implementation of trade liberalization policies in the region.

I. International Financial Integration in the Twentieth Century

The era of the classical gold standard, circa 1870–1914, witnessed highly free global movements of capital, labor, and commodities. During the period preceding the Great Depression, monetary policy had a secondary role as compared with maintaining the gold standard. The World War I period featured financial controls that were later relaxed, and the Gold Standard was restored until the 1930s, when the Great Depression occurred (Obstfeld and Taylor 1998).

During the Great Depression, the world network collapsed and capital mobility sharply decreased, mainly as an effort to maintain gold

parities. Defaults on external debt became widespread in Latin America (Cardoso and Dornbusch 1989), where countries depreciated their currencies and implemented foreign exchange and capital controls.¹ These controls were intended to alleviate balance of payments crises, which in turn emerged from a fall in export prices, exports, and debt service.²

Restrictions to capital movements became more prevalent once World War II started, and during the interwar years, the gold standard lost credibility and policymakers sought stability, which set the stage for the Bretton Woods system. Bretton Woods was intended to lead to international economic and political stability via regulations of international payments, trade, and exchange rates. In a time period characterized by increased global trade, pegged exchange rates consistent with this system posed a challenge. The end of the Bretton Woods system in the early 1970s and the divergence from fixed dollar rates were accompanied by higher capital mobility in the United States and Europe, which was echoed later in Latin America, mainly in the 1990s. Since then, capital mobility, FDI, and foreign trade have risen steadily after countries followed the policy recommendations prescribed by the Washington consensus (Ferreiro, Correa, and Gomez 2008).³ In fact, as shown in Figure 1, FDI in Latin America as a share of GDP was, on

¹These defaults had long-lasting consequences, as most settlements were not finalized until the 1940s and 1950s (Díaz-Alejandro 1984).

²Latin American countries that adopted controls in the 1930s include Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Nicaragua, Paraguay, Uruguay, Ecuador, Honduras, and Venezuela (Obstfeld and Taylor 1998).

³Edwards (2003) points out that the initiative behind liberalizations in Latin America came in many instances from policymakers, without pressure from the International Monetary Fund (IMF). Nevertheless, participation in IMF programs was highly correlated with capital account liberalization in emerging markets in the 1990s (Joyce and Noy 2008).

*Yale University (email: diana.vanpatten@yale.edu). I am deeply grateful to Michela Giorceli, Doug Irwin, Lee Ohanian, and Claudia Steinweinder for thoughtful comments and suggestions.

[†]Go to <https://doi.org/10.1257/pandp.20221049> to visit the article page for additional materials and author disclosure statement.

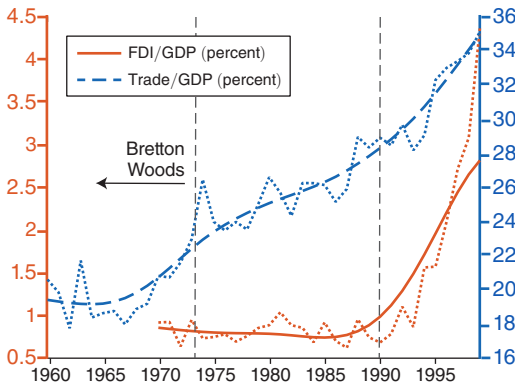


FIGURE 1. FDI AND TRADE OVER GDP IN LATIN AMERICA (PERCENT)

Notes: The figure shows, on the right-hand-side axis, FDI defined as the net inflows in the reporting economy from foreign investors divided by GDP and, on the left axis, trade defined as the sum of exports and imports of goods and services as a share of GDP.

Source: IMF, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, World Bank national accounts data, and OECD National Accounts data files

average, 2.18 times larger between 1990 and 2000 than it was in the preceding two decades, while trade as a share of GDP increased 25 percent in the same time period.

It is a challenge to study the level and dynamics of the restrictions imposed by the Bretton Woods system, as they span many dimensions. To measure this, one alternative is to use an accounting framework that captures impediments to international capital mobility through wedges. This capital flow accounting method was initially developed by Ohanian, Restrepo-Echavarría, and Wright (2018) and extended by Ohanian et al. (2021) to analyze the consequences of Bretton Woods. In particular, it is possible to estimate an international wedge that affects the cost of foreign financial transactions between regions and is equivalent to a tax on international borrowing. This wedge can be identified from the following equation:

$$(1) \quad \frac{C_{jt+1}/N_{jt+1}}{C_{jt}/N_{jt}} = \frac{\beta}{q_{t+1}}(1 - \tau_{jt+1}^B),$$

where τ_{jt+1}^B represents impediments to international capital mobility that change the incentives

to trade foreign assets in region j , q_{t+1} is a risk-adjusted world bond price, β is the discount factor, and the left-hand side represents the growth of per capita consumption in region j . It is possible to leverage this methodology and apply it to Latin America to analyze the impacts of this system in this particular region for the purposes of this paper. Figure 2 shows the evolution of τ_{jt+1}^B in Latin America relative to the United States since 1960. According to this accounting method, one of the main goals behind the design of the Bretton Woods system—to gain stability after a very convoluted time period—was accomplished, as the Bretton Woods era was characterized by a much smaller variance in the international wedge (the variance of this wedge was 1.7 times larger in the post-Bretton Woods period) and a relatively similar mean. The sharp increase in restrictions in the 1980s reflects how the debt buildup during the Bretton Woods period and the oil price shocks of the 1970s led to crisis and threats of defaults in Latin America in this time period, after hints of a global downturn hit along with higher interest rates. Moreover, the decrease in the wedge in the 1990s is mirrored by higher FDI and bank lending to governments and private agents in the region (Obstfeld and Taylor 1998). The correlation between this wedge and the Chinn-Ito index (Chinn and Ito 2006) is 0.7.⁴

The methodology also allows me to calculate the welfare implications of Bretton Woods for a particular region. Ohanian et al. (2021) document that Bretton Woods capital controls were quantitatively very important, as they substantially impeded the flow of capital across countries. In their absence, there would have been large capital flows out of Latin America and Asia and into the United States, which would have increased global output by 6 percent. For the cases of Latin America and Asia, the authors also find large welfare effects—a perpetual consumption-equivalent welfare benefit of about 4–5 percent. Assuming US policymakers could foresee the consequences of the system, this “subsidy” from the United States to other countries can be interpreted as a proxy of how they valued geopolitical stability.

⁴This index is based on restrictions on cross-border financial transactions reported by the IMF.

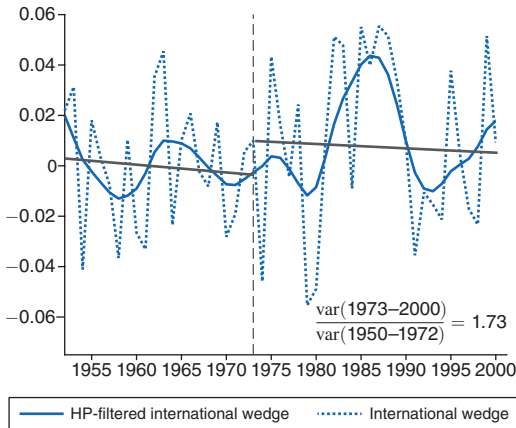


FIGURE 2. INTERNATIONAL WEDGE IN LATIN AMERICA BEFORE AND AFTER BRETTON WOODS

Notes: The figure shows the international wedge for Latin America relative to the United States, calculated following the methodology developed in Ohanian, Restrepo-Echavarría, and Wright (2018) and Ohanian et al. (2021) in blue. The black lines show the fitted line for each subperiod, before and after Bretton Woods. The variances for each subperiod are also reported.

II. Capital Controls and Trade-Induced Technological Advancements

Even back in 1944, the Bretton Woods conference acknowledged the link between capital controls and international trade. Capital controls affect trade through many channels (for instance, through the intertemporal rate of substitution, uncertainty, and domestic import prices), and they raise transaction and trade costs, reducing trade.

Countries can experience substantial welfare gains from trade. These gains can be static in nature and come in the form of access to more markets and cheaper goods, or they can be dynamic. A recent growing literature in economics has studied how dynamic gains from trade can be very large and lead to benefits, especially in developing countries (e.g., Alvarez, Buera, and Lucas 2013; Perla and Tonetti 2014; Buera and Oberfield 2020).⁵ In particular, gains emerging from learning and technological transfers

⁵Parente and Prescott (1994) and Klenow and Rodríguez-Clare (2004) show that in the absence of externalities, growth models struggle with matching the data.

that result from trade were recently highlighted by Buera and Oberfield (2020) and shown to be quite large.

A question that emerges from this discussion is how developing countries learn to adopt and use new technologies. Van Patten (2019) documents that productivity grows systematically faster for countries that trade with partners with better technologies but that this effect is decreasing *in the gap between local and foreign productivity*. In other words, there is a trade-off between having a partner that is very technologically advanced (but from whom it is harder to learn) and a partner that has only slightly more advanced technology than one's own (from whom it is easier to learn, even though the maximum learning potential is lower). Thus, developing countries learn less from trade partners that are far away in the development ladder than they do from those that are ahead of but relatively close to them. In particular, the author incorporates “heterogeneous learning” to a general equilibrium framework, where the probability of learning from trade is a function of productivity differences between trading partners. Models with “homogeneous learning” that ignore absorptive capacity constraints (e.g., Buera and Oberfield 2020), where gains from learning are increasing in the trading partner's level of technology, may then overestimate the impact of exposure to high-total factor productivity (TFP) trading partners.

Therefore, the missed learning opportunities that might emerge from hampered trade represent an additional—and potentially large—cost of implementing restrictions to international capital mobility. How large was this loss in Latin America during and after the dismantling of capital controls and the Bretton Woods system? To explore this, I use the methodology from Van Patten (2019) described above and apply it to the Latin American region between 1960 and 2000. Figure 3 shows the evolution of TFP under different models of learning through trade. Several facts are worth noting. First, the volatility of TFP—and its level—increased substantially in the post-Bretton Woods period. Second, upon comparing Figure 3 with Figure 2, it is evident that the very high international wedge and high restrictions to capital mobility in the region in the 1980s were accompanied by a large decrease in TFP and learning. Finally, in the aftermath of Bretton Woods, the role of learning in explaining TFP dynamics becomes larger.

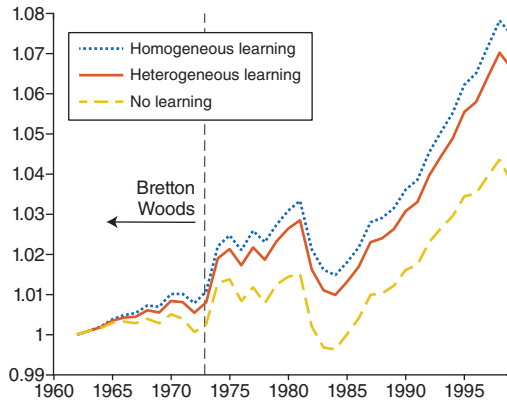


FIGURE 3. EVOLUTION OF TFP IN LATIN AMERICA UNDER DIFFERENT MODELS OF LEARNING THROUGH TRADE

Notes: The figure shows the evolution of TFP in Latin America under different assumptions of learning through trade, before and after Bretton Woods. The countries included in the analysis are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, and Venezuela.

III. Dismantling of Capital Controls and Opportunities of FDI

The analysis above is silent about the potential gains from dismantling capital controls emerging from increased FDI. In Latin America, one of the consequences of the capital account liberalization process was a recomposition of capital inflows in favor of FDI inflows (Edwards 2007).⁶ This increase was stark following the trade liberalization policies implemented in the 1980s in several Latin American countries, as shown in Figure 1. According to work on the effects of FDI on local TFP growth, higher levels of FDI could be contributing to the increase in TFP shown in the dashed yellow line of Figure 3 after the late 1980s—for instance, via knowledge spillovers or knowledge transfers from multinationals to their local suppliers (e.g., Blomström 1986; Blomström and Wolff 1989; Irwin and Klenow 1994; Javorcik 2004; Lipsey 2006; Harrison and Rodríguez-Clare 2009; Giorcelli 2019; Alfaro-Ureña, Manelici, and Vasquez 2022). For example, early work by Blomström (1986)

⁶From a long-term growth and stability perspective, the literature has highlighted the lower volatility of FDI, as compared with other types of capital like portfolio flows, and its potential benefits for GDP growth.

documented that foreign presence in Mexican industries was positively correlated with structural efficiency, and more recent findings by Alfaro-Ureña, Manelici, and Vasquez (2022) show that four years after a local firm starts supplying to a multinational in Costa Rica, they have a 4 to 9 percent higher TFP.

Moreover, besides the effects of FDI on local productivity, it can have long-lasting effects on other dimensions. Méndez-Chacón and Van Patten (2022) study the case of the infamous United Fruit Company and find that exposure to the multinational firm had positive effects on local economic development; households directly exposed to the firm were 29 percent less likely to be poor than nearby counterfactual locations while it was operating, and only 56 percent of the income gap closed over the four decades following the company's exit. In the same context, Méndez-Chacón and Van Patten (2021) document that exposure to FDI can also have long-lasting intergenerational consequences on civic engagement and political views.

IV. Conclusion

In this paper, I examine the effect of restrictions to international capital mobility on Latin American growth during the twentieth century. The end of the Bretton Woods system was accompanied by higher impediments to mobility and volatility in the region until the end of the 1980s. Moreover, the evolution and dismantling of capital controls toward the end of the century were accompanied by increased levels of FDI and trade. This increase in trade can be associated with higher observed productivity growth related to technology transfers, and beyond increases in local productivity, the higher levels of FDI can lead to persistent improvements in living standards.

REFERENCES

- Alfaro-Ureña, Alonso, Isabela Manelici, and Jose P. Vasquez. 2022. "The Effects of Joining Multinational Supply Chains: New Evidence from Firm-to-Firm Linkages." *Quarterly Journal of Economics*. <https://doi.org/10.1093/qje/qjac006>.
- Alvarez, Fernando E., Francisco J. Buera, and Robert E. Lucas, Jr. 2013. "Idea Flows, Economic Growth, and Trade." NBER Working Paper 19667.

- Blomström, Magnus.** 1986. "Foreign Investment and Productive Efficiency: The Case of Mexico." *Journal of Industrial Economics* 35 (1): 97–110.
- Blomström, Magnus, and Edward N. Wolff.** 1989. "Multinational Corporations and Productivity Convergence in Mexico." NBER Working Paper 3141.
- Buera, Francisco J., and Ezra Oberfield.** 2020. "The Global Diffusion of Ideas." *Econometrica* 88 (1): 83–114.
- Cardoso, Eliana A., and Rudiger Dornbusch.** 1989. "Foreign Private Capital Flows." In *Handbook of Development Economics*, Vol. 2, edited by Hollis Chenery and T.N. Srinivasan, 1387–1439. Amsterdam: North-Holland.
- Chinn, Menzie D., and Hiro Ito.** 2006. "What Matters for Financial Development? Capital Controls, Institutions, and Interactions." *Journal of Development Economics* 81 (1): 163–92.
- Díaz-Alejandro, Carlos F.** 1984. "Latin American Debt: I Don't Think We Are in Kansas Anymore." *Brookings Papers on Economics* 15 (2): 335–403.
- Edwards, Sebastian.** 2003. "Review of Joseph E. Stiglitz's Globalization and its Discontents." *Journal of Development Economics* 70 (1): 252–57.
- Edwards, Sebastian, ed.** 2007. *Capital Controls and Capital Flows in Emerging Economies: Policies, Practices, and Consequences*. Chicago: University of Chicago Press.
- Ferreiro, Jesus, Eugenia Correa, and Carmen Gomez.** 2008. "Has Capital Account Liberalization in Latin American Countries Led to Higher and More Stable Capital Inflows?" *International Journal of Political Economy* 37 (4): 31–63.
- Giorcelli, Michela.** 2019. "The Long-Term Effects of Management and Technology Transfers." *American Economic Review* 109 (1): 121–52.
- Harrison, Ann, and Andrés Rodríguez-Clare.** 2009. "Trade, Foreign Investment, and Industrial Policy for Developing Countries." NBER Working Paper 15261.
- Irwin, Douglas A., and Peter J. Klenow.** 1994. "Learning-by-Doing Spillovers in the Semiconductor Industry." *Journal of Political Economy* 102 (6): 1200–1227.
- Javorcik, Beata Smarzyska.** 2004. "Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages." *American Economic Review* 94 (3): 605–27.
- Joyce, Joseph P., and Ilan Noy.** 2008. "The IMF and the Liberalization of Capital Flows." *Review of International Economics* 16 (3): 413–30.
- Klenow, Peter J., and Andrés Rodríguez-Clare.** 2004. "Externalities and Growth." NBER Working Paper 11009.
- Lipsey, Robert E.** 2006. "Measuring the Impacts of FDI in Central and Eastern Europe." NBER Working Paper 12808.
- Méndez-Chacón, Esteban, and Diana Van Patten.** 2021. "Enrooted Corporate Culture: The Long-Run Impact of Exposure to Multinationals on Local Trade Policy and Political Identity." Unpublished.
- Méndez-Chacón, Esteban, and Diana Van Patten.** 2022. "Multinationals, Monopsony, and Local Development: Evidence from the United Fruit Company." *Econometrica*.
- Obstfeld, Maurice, and Alan M. Taylor.** 1998. "The Great Depression as a Watershed: International Capital Mobility over the Long Run." In *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century*, edited by Michael D. Bordo, Claudia Goldin, and Eugene N. White, 353–402. Chicago: University of Chicago Press.
- Ohanian, Lee E., Paulina Restrepo-Echavarría, and Mark L.J. Wright.** 2018. "Bad Investments and Missed Opportunities? Postwar Capital Flows to Asia and Latin America." *American Economic Review* 108 (12): 3541–82.
- Ohanian, Lee E., Paulina Restrepo-Echavarría, Diana Van Patten, and Mark L.J. Wright.** 2021. "The Consequences of Bretton Woods Impediments to International Capital Mobility and the Value of Geopolitical Stability." <https://economics.uchicago.edu/sites/economics.uchicago.edu/files/WorkingPaperApril2021.pdf>.
- Parente, Stephen L., and Edward C. Prescott.** 1994. "Barriers to Technology Adoption and Development." *Journal of Political Economy* 102 (2): 298–321.
- Perla, Jesse, and Christopher Tonetti.** 2014. "Equilibrium Imitation and Growth." *Journal of Political Economy* 122 (1): 52–76.
- Van Patten, Diana.** 2019. "International Diffusion of Technology: Accounting for Differences in Learning Abilities." Unpublished.