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Financial Globalization and Inequality: Capital Flows as a Two-Edged Sword

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Abstract

We review the debate on the association of financial globalization with inequality. We show that the within-country distributional impact of capital account liberalization is context specific and that different types of flows have different distributional effects. Their overall impact depends on the composition of capital flows, their interaction, and on broader economic and institutional conditions. A comprehensive set of policies – macroeconomic, financial and labor- and product-market specific – is important for facilitating wider sharing of the benefits of financial globalization.

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I.   Introduction

In this paper, we focus on the relationship of financial globalization to income inequality and the implications for policy.[2] Our point of departure is the contrast between trade liberalization and financial liberalization. Standard logic suggests that trade liberalization will have opposing effects on distribution in high- and low-income countries. The Stolper-Samuelson theorem predicts that trade opening will increase demands for the services and therefore the relative incomes of a country's abundant factors of production, those used intensively in the exportables sector. In high-income countries, these abundant factors are well-compensated capital and skilled labor; in low income countries they are less-skilled labor. It follows that the impact of trade liberalization on inequality will vary with economic development: income inequality will increase in high-income countries, as the well compensated become even better compensated, but fall in low-income economies, where opening disproportionately benefits low-wage workers.[3]

A theorem in international economics, due to Mundell (1957), suggests that trade flows and capital flows have the same distributional effects. Yet this does not appear to be the case in practice.[4] Recent studies suggest that inequality, as measured by the Gini Coefficient, has risen with financial globalization in *both* advanced and developing countries.[5] They show that different kinds of capital flows can have different effects and that those effects are context specific – multiple types of capital and multiple contexts of course not being part of the classic Mundellian framework.

Evidently, even when financial globalization supports economic growth, it can be unequalizing, depending on situation and circumstances. This creates a dilemma for policymakers. Living standards can be raised by making the pie as large as possible, something that financial globalization promotes in countries with strong institutions and effective policy and regulatory frameworks. At the same time, it is desirable that the increase be widely shared, something that is by no means guaranteed. It is important therefore to couple international

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[2] Unless otherwise indicated, inequality throughout this paper is measured by the Gini coefficient (see Cerra et al. 2021 for more details on various measurements of inequality). Although there exist alternatives, recent research pointed to uncertainty about the accuracy of wealth inequality estimates, as well about alternative income inequality indicators such as the top 1 percent income share. For example, while Piketty et al. (2018) find that the top 1 percent income share increased by two-thirds since 1960 and doubled since 1980 in the U.S., Auten and Splinter (2018) show that there has been only a little change since 1960 and a modest increase since 1980 using a different allocation of underreported tax income.

[3] A substantial number of early studies (reviewed in Krueger 1983) confirmed or were not inconsistent with these predictions. The subsequent literature then qualified these findings, especially as they pertained to developing countries. Wood (1997) showed that trade liberalization could be unequalizing rather than equalizing for some emerging markets, notably middle-income countries whose labor-intensive export sectors were squeezed by low-wage competition from China. (We would observe that this conclusion is by no means inconsistent with the Stolper-Samuelson logic of the previous paragraph.) Pavcik (2017) showed that the impact on developing countries varied by region or locale. The safest conclusion would appear to be that the impact of trade opening in developing countries is not uniform. In contrast, recent work has reinforced the view that trade openness has been a factor behind rising inequality in advanced countries. Autor et al. (2016) is probably the most influential such study.

[4] For a comprehensive discussion on the distributional impact of trade, see Cerra et al. (2021).

[5] For developing countries in particular, this evidence differs, to a large extent, from that of trade (see Cerra et al. 2021 for a full treatment of this literature).

financial liberalization with other social and economic policies that help to level the distributional playing field.

Distributional impacts also depend on initial conditions. Relevant conditions include the level of human capital, the depth of financial markets, and the strength of institutional and policy frameworks. Higher levels of educational attainment, stronger creditor rights, and more effective rule of law in countries on the receiving end of capital flows can help to reap the benefits in terms of growth while minimizing the costs in terms of distribution.

Moreover, different financial flows have different distributional implications:

FDI: The distributional effects of inward FDI will depend on its sectoral composition and on the variation in labor intensity and skills across sectors. In general, the adverse distributional effects will be greatest when FDI flows into sectors characterized by strong complementarities between capital and skill. In this case, a better educated labor force will facilitate wider sharing of the benefits.[6]

Outward FDI, which is sourced mainly from high-income countries and now increasingly from middle-income countries such as China, tends to be associated with a decline in the demand for less-skilled labor in the source country. Such effects diminish insofar as competitiveness gains from the extension of global supply chains support growth and job creation in the sending country. But there is growing evidence that adverse distributional consequences in the source country persist. In addition, the threat of relocating production abroad may reduce the bargaining power of labor and thus its income share, further accentuating inequality.

Portfolio financial capital flows: These may affect inequality through several channels, including by accentuating macroeconomic volatility, which disproportionately hurts the poor. Financial flows can also be vehicles for tax avoidance and other illicit flows that disproportionately benefit high earners. But portfolio capital inflows can reduce inequality insofar as they help to deepen and develop the financial sector and in so doing boost financial inclusion and entrepreneurial opportunity for the poor. Strong institutions, policies to manage capital flow surges and reversals, and well-developed financial markets that are capable of efficiently intermediating funds are similarly important for mitigating the inequality-raising effects of portfolio capital flows.

Remittances: Remittances affect inequality through their direct effects on income. Empirical studies show that remittances have accrued increasingly to lower-income households over time. Their inequality-reducing effects are more pronounced in countries with longer migration histories, where the fixed costs of migration are lower, and where migration and remittances are more accessible to poorer households. In addition, remittances will have macroeconomic effects insofar as they facilitate setting up businesses, resulting in employment creation which tends to be pro-poor.

Official development assistance: Official flows have the potential to reduce inequality where institutions are sufficiently strong. However, aid may induce officials and well-connected individuals in the private sectors, who already enjoy relatively high incomes, to engage in rent-seeking activities aimed at appropriating resource windfalls where institutional checks are lacking (Svensson, 2000, Hodler, 2007, Economides et al., 2008). Moreover, donors may allocate aid in a way that deviates from pro-poor growth rhetoric and rather serves their

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[6] Over the long term, the inequality increasing effect of FDI tends to diminish with rising educational levels; see for example Mihaylova (2015).

politically-motivated self-interest. In addition, official flows tend to be procyclical, which can amplify volatility that disproportionately hurts the poor. All this suggests that ODA will tend to reduce inequality only when it is timed and targeted appropriately by the donor and when the recipient has in place institutions adequate for limiting diversion and appropriation.

Other official flows include those associated with reserve accumulation – when a government uses some of its resources to acquire foreign assets. Higher reserves could reduce macroeconomic and financial volatility, thereby mitigating the disproportionate impact of downturns on low-income households. However, reserve accumulation can be expensive, since the opportunity cost of funds (the typical government's funding costs) are a multiple of the interest income earned from holding U.S. treasury bonds or other similar "safe assets" (Rodrik 2006).

The rest of the paper is organized as follows. Sections II and III discuss some stylized facts about the evolution of capital flows and inequality, respectively, over the last few decades. Section IV probes deeper with a discussion of the main channels through which different types of capital flows could affect income distribution. Section V discusses the role of capital flows in shaping developments in inequality in Mexico since 1970s. Finally, Section VI draws policy implications for maximizing the benefits from financial globalization for all.

II.   Facts about Capital Flows

In the early 1990s, the flow of capital across borders accelerated, rising faster than global trade and output (Figure 1). On the policy side, the growth of financial flows was facilitated by capital account liberalization, in emerging and developing countries (EMDC) in particular (again, see Figure 1).[7] There was a tenfold increase between 1970 and 2015 in cross-border investment, which rose from 20 to 200 percent of global GDP, with the bulk of the increase following the liberalization waves of the 1990s and the early-2000s run-up to the Global Financial Crisis (GFC).

Cross-border financial flows also responded to changes in technology and market structure (Häusler 2002). New technologies, such as electronic trading, relaxed geographic constraints and facilitated interaction among financial market participants (Allen et al. 2001). Building out the global network of submarine fiber-optic cables allowed market participants to communicate with global financial centers in real time (Eichengreen et al. 2016). Advances in computer technology enhanced access to information while facilitating risk assessment and asset valuation. Liberalization and development of domestic financial markets in EMDCs opened new opportunities for market participants (Lane and Milesi-Ferretti, 2007; Levy-Yeyati and Williams, 2011).[8] New technologies providing alternatives to bank wire transfers and traditional platforms such as Western Union similarly encouraged remittance flows.

Meanwhile, regulatory changes allowed a broader range of financial entities, including mutual funds, hedge funds and insurance companies, to engage in cross-border intermediation. As Häusler (2002) argues, these investors sought to diversify their portfolios internationally, with the aim of maximizing risk-adjusted returns. The emergence of additional investors and the deepening of financial markets could thus have contributed to a decline in home bias (i.e., the

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[7] Of 135 episodes of capital account liberalization over the last five decades, 95 took place in EMDCs. Most of the EMDC episodes took place in emerging markets. Specifically, 69 and 26 episodes were identified in emerging markets (EMs) and low-income developing countries (LIDCs), respectively.

[8] For example, since the late 1990s, a growing number of EMDCs participated as issuers on sovereign bond markets (Presbitero et al. 2015).

tendency for investors to hold a disproportionately high share of funds in domestic assets and neglect foreign investment opportunities).[9]

Figure 1. Capital Account Openness and Financial Integration

Capital Account Openness and Financial Integration

Composition of Global External Assets

Sources: Chinn and Ito (2006), Lane and Milesi-Ferretti (2018), and authors' calculations.
Note: Similar to other studies (e.g., Furceri et al. 2018), we assume that capital account liberalization occurs when the change in the Chinn-Ito index exceeds its average by at least two standards deviations. Our approach further assumes that there is no reversal of liberalization over the following 10 years.

Relatedly, production was increasingly fragmented across countries with the emergence of global value chains, a process related to cross-border investments both directly and indirectly. Cross-border FDI by multinational companies motivated by these outsourcing opportunities could take the form of offshoring of portions of the production process or acquisition of host-country firms. By positively affecting the domestic business environment (e.g., through higher demand for local inputs and the transfer of knowledge to local suppliers), a country's participation in global value chains could also enable it to attract additional foreign investors (Amendolagine et al. 2017).

Different types of flows dominated in different periods. In the 1970s, capital flows were predominantly debt flows to the public sector, which accounted for the bulk of the increase in cross-border positions (Figures 1 and 2). This was followed in the 1980s with an increasing importance of FDI and portfolio equity. The share of portfolio equity in total flows then rose further in the 1990s. The period between the GFC and the COVID-19 pandemic then saw a decline in debt flows, offset by an increase in FDI (Lane and Milesi-Ferretti 2018).

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[9] Indeed, there is some evidence that home bias is smaller, the larger the assets managed by institutional investors (Darvas and Schoenmaker 2017).

Overall, from 6-10 percent of world GDP in the 1970-80s, the stock of FDI reached

nearly 60 percent of global GDP in 2015, at
which point FDI assets amounted to 37 and 4
percent of GDP in AEs and EMCDs,
respectively. Although some 80 percent of
the stock of global FDI is held by investors in
AEs, there has been some increase in the FDI
assets of EMDCs since the 1990s, driven by
increased outward FDI by China.[10]

Figure 2. External Debt Securities
Percent of GDP

In AEs, the dominance of debt
inflows in the 1970 and 1980s was followed
by an increase in portfolio equity inflows and
derivatives in the 1990s and the 2000s,
respectively. In EMDCs, in contrast, there
was an increase in private debt inflows in the
1970s, when the combination of abundant
petrodollars, favorable global interest rates
and deregulation of banks' international
activities led to an increase in cross-border
bank loans—which constituted more than

Sources: IMF, and authors' calculations.

half of all capital flows to emerging markets in 1973-82 (Eichengreen 2004). The Latin
American debt crisis, which erupted in 1982, interrupted debt inflows and prompted debt
rescheduling and restructuring. Private capital inflows then picked up again in the 1990 and
2000s following initiating the Brady Plan. In lower-income EMDCs, by comparison, the increase
in portfolio flows was more gradual, with an acceleration in non-FDI capital inflows and the
emergence of sovereign bond issuances in the 2000s (Araujo et al., 2015a; Presbitero et al.,
2015).

Official flows include official development assistance (ODA), comprised of aid,
concessional loans and debt relief, as well as transactions related to the management of
international reserves.[11] Notwithstanding a moderate decline in the 1990s, net ODA, typically
directed at low-income EMDCs, has risen more than threefold expressed at constant prices, and
has been broadly stable expressed relative to the Gross National Income of the OECD
Development Assistance Committee (DAC) between the early 1970s and the late 2010s.[12]

Reserve accumulation has been a major "uphill" capital flow from EMDCs to AEs.
Foreign official holdings of U.S. Treasuries increased from some US$200 billion in the early
1990s to US$4 trillion (around 30 percent of total marketable U.S. Treasury debt securities) in
the mid-2010s.[13] The increase was driven by EMDCs, which accumulated reserves in two waves:
during the pre-GFC period with either precautionary motives or on the back of high commodity
prices, and during the post-GFC period as a result of foreign exchange interventions taken in
response to surging capital inflows (Csonto and Tovar, 2017).

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[10] Chinese cross-border FDI now accounts for fully 25 percent of total outward FDI by EMDCs.

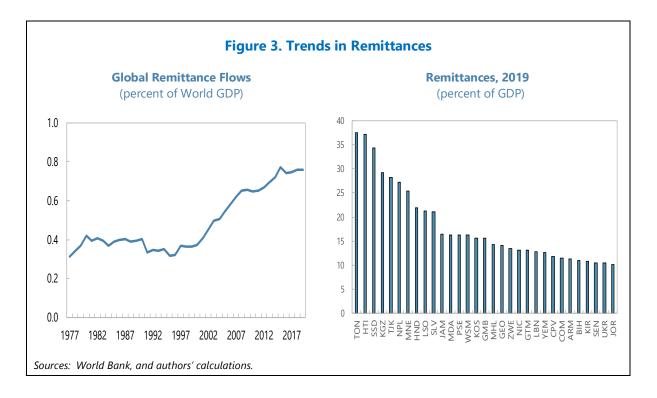[11] Although aid is in the current account (i.e., it is not capital flow), we discuss it as in many cases its behavior
is similar to that of concessional loans.

[12] ODA is measured here at constant prices. Based on OECD data. DAC is the international forum of major
providers of aid, with 30 members.

[13] Based on data by Bertaut and Tryon (2007) and Bertaut and Judson (2014).

In 2017, remittances accounted for less than 1 per cent of global GDP, although they had more than doubled relative to global GDP since 1995 (Figure 3). But this low average disguises their disproportionate importance for certain economies. Remittances exceed 10 percent of GDP in 31 countries, and in some countries account for over one third of GDP. They often constitute a significant share of migrant household income, not least where the incomes of those working abroad are multiples of those earned by individuals working at home. With flows of such magnitude, remittances are likely to have a visible effect on within-country inequality.

Remittances are also the least volatile balance-of-payments flow. They co-move less with recipient-country GDP than do portfolio flows and FDI. They therefore help to smooth disposable income and cushion economic shocks. Insofar as such shocks disproportionately impact the least advantaged, who are disproportionately on the receiving end of remittance transfers, this aspect of financial globalization tends to be pro-poor.

Figure 3. Trends in Remittances

Global Remittance Flows
(percent of World GDP)

Remittances, 2019
(percent of GDP)

Sources: World Bank, and authors' calculations.

III.   Facts about Inequality

Other more favorable effects of capital account liberalization notwithstanding, the policy has been accompanied by rising within-country income inequality across a variety of country groups.[14][15] Simply put, the increase in the Gini coefficient in newly liberalized countries was higher than in countries that remained financially closed, as shown in Figure 4.

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[14] To be clear, financial globalization and financial liberalization are not one and the same. Our fundamental concern in this paper is the effects of financial globalization, as indicated by our title. But financial liberalization episodes may be particularly informative, as they allow for a before and after comparison. Hence our focus here and elsewhere in the paper on the evidence they provide.

[15] Of the 135 episodes mentioned earlier, inequality data were available for 111 episodes. Although the limited number of episodes in LIDCs (only 13 episodes) does not allow for the breakdown of EMDCs into EMs and LIDCs, it is worth noting that more than half of LIDC episodes were characterized by decreasing inequality.

This increase was pronounced among AEs that liberalized their capital accounts, whereas in EMDCs the picture was more mixed. About 40 percent of newly liberalized EMDCs, including Latin American countries in the early 2000s, experienced a decline in inequality following capital account liberalization. In some EMs where inequality increased, particularly in Central and Eastern Europe (CEE), liberalization took place during the transition from central planning to the market economy, so it is hard to know whether the observed increase is the product of financial liberalization and opening or of other changes that accompanied enterprise privatization and restructuring.
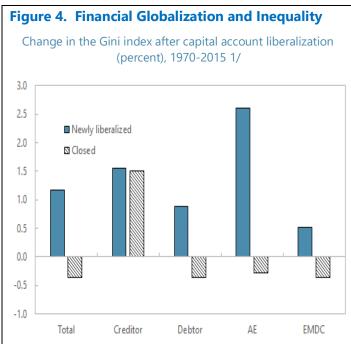
Income inequality appears to have risen following liberalization episodes in both creditor and debtor countries.[16] There is no clear relationship between the sign of net international investment positions and inequality, in other words.[17]

IV.   Probing Deeper

We now probe deeper, looking more closely at the distributional effects of different types of flows.

4.1.   Foreign Direct Investment

We identified 14 episodes since 1995 when EMDCs reduced restrictions on inward FDI and calculated the change in the Gini index following each.[18] The results suggest that increased openness to FDI was followed by rising income inequality, absolutely and relative to countries that maintained their restrictions (Figure 5). Many studies using more sophisticated methodologies similarly find a positive

Figure 4. Financial Globalization and Inequality

Change in the Gini index after capital account liberalization (percent), 1970-2015 1/

Sources: Chinn-Ito (2006), SWIID 8.1, Lane and Milesi-Ferretti (2018), and authors' calculations.

1/ The figure shows the median change in the average market Gini index during the 10-year periods before and after capital account liberalization. Newly liberalized countries correspond to those liberalizing their capital account according to the methodology described in Figure 1. Closed countries are those with Chinn-Ito Index that is below the lowest value of the index at the time of capital account liberalization across episodes and those that do not liberalize their capital account over the following 10 years. Creditor (debtor) countries are those with positive (negative) average net foreign assets over the next 10 years. The sample includes 173 countries where a total of 135 episodes were identified (of which data were available for 111 episodes).

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[16] In the case of creditor countries, however, inequality also increased in closed countries over the same period.

[17] There is no major difference, for example, in income inequality between a major advanced creditor country, such as Germany (with a positive NIIP of 48 percent of GDP, and Gini coefficient of 51), and the largest advanced debtor country, the U.S. (with a negative NIIP of 41 percent of GDP, and Gini coefficient of 52). Similarly, two major EMDCs, China and Mexico, face similar outcomes in terms of income inequality (both have a Gini coefficient of 0.47) against the backdrop of NIIP of +15 and -53 percent of GDP, respectively.

[18] Of the 14 episodes, data for inequality and investment were available for 12 and 13 episodes, respectively. The small sample does not allow for a breakdown into EMs (7 and 7 episodes with data on inequality and investment, respectively) and LIDCs (5 and 6 episodes with data on inequality and investment, respectively).

relationship between inward FDI and inequality.[19]

A first possibility is that by raising the *capital-labor ratio*, inward FDI will increase the return to labor relative to capital.[20] As foreign and domestic capital compete for workers, there will be upward pressure on wages. This reduces income inequality, insofar as ownership of capital is concentrated in the hands of high-income groups (Wolff 2010).[21]

But if capital *substitutes* for unskilled labor and/or *complements* skilled labor, then FDI inflows will increase the relative demand for skilled labor and thus the skill premium (Krusell et al. 2000, Larrain, 2017, Jaumotte et al. 2008).[22] Here it is important to differentiate between horizontal and vertical FDI. Horizontal FDI means that firms undertake the same activities at their foreign affiliates as

Figure 5. Openness to FDI, Inequality and Investment, Emerging and Developing Countries

Change in inequality and investments after FDI liberalization (percent), 1995-2015 1/

Sources: Fernandez et al (2016), SWIID 8.1, IMF, and authors' calculations.

1/ The figure shows the median change in the average market Gini index and gross capital formation (as share in GDP) during the 10-year periods before and after inward FDI liberalization in 68 EMDCs between 1995 and 2015. Inward FDI liberalization is defined on the basis of a decline in the direct investment inflow restrictions sub-index of the Fernandez-Klein-Rebucci-Schindler-Uribe index. Change in Gini and gross capital formation/GDP is shown on the left- and right-hand-side axis, respectively.

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[19] See, for example, Tsai (1995); Gopinath and Chen (2003); Te Velde (2003); Te Velde and Morrissey (2003); Lee (2006); Basu and Guariglia (2007); Jaumotte et al. (2008); Asteriou et al. (2014); Herzer et al. (2014); Suanes (2016). Some, however, find mixed or even no such evidence. See, for example, Te Velde and Morrissey (2004), Milanovic (2005); Sylwester (2005). Differences in methodologies, in measures of inequality, in country sample and in period plausibly explain these differences.

[20] There is some evidence that FDI inflows into manufacturing lead to more total investment in developing countries, especially in the case of investments by residents of advanced economies (Amighiani et al. 2017). This means that any crowding out effect on domestic investment would be more than offset by the positive impact of FDI. Amighiani et al. (2017) also suggest that the direct impact on investment, and thus capital stock depends on whether FDI takes the form of greenfield investments, i.e. the establishment of foreign operations by a company (e.g., by creating a new factory) that has direct positive impact on capital stock, or whether it is in the form of mergers and acquisitions, which involve the transfer of the ownership of existing assets. FDI may also exercise indirect effects on domestic investment, both positive and negative. It may create additional demand for inputs provided by local suppliers, thereby encouraging investment, but also push domestic firms out of the market, in an obvious sense discouraging investment.

[21] Consistent with this premise, IMF (2017) finds a strong negative association between labor shares and income inequality.

[22] The mechanism is similar to that of skill-biased technological change, i.e. when advances in technology favor high-skilled labor (Berman et al. 1998). Goldberg and Pavcnik (2007) provides a comprehensive overview of the different channels through which globalization affects inequality, including the impact of outsourcing on the skill premium.

in their home country, typically motivated by the promise of obtaining improved market access. Since the FDI decision is not prompted by the promise of lower labor costs, it is not clear that horizontal FDI will affect the skill premium.

Vertical FDI, in contrast, will almost certainly affect the skill premium, although in what direction will depend on the context. Vertical FDI involves outsourcing segments of the production process, typically to locations where costs, notably those of labor, are lower. The impact on the relative demand for low-skilled labor and thus the skill premium in the recipient country varies across countries, depending on, among other factors, the skill composition of outsourced activities and that of the labor force in recipient countries. For example, the outsourcing of skill-intensive activities by German and Austrian firms to cheaper skilled-labor-abundant Central and Eastern European economies (CEE) in the 1990s raised the skill premium in the recipient countries, aggravating inequality (Marin 2004). Similarly, Feenstra and Hanson (1997) found that FDI, accompanied by rapid technological change that places a premium on skills, increased the demand for skills and thus the skill premium in Mexico in the 1980s.[23] In contrast, vertical FDI flows following the advent of NAFTA in the mid-1990s contributed to the decline in inequality observed in Mexico starting from the mid-1990s by raising the demand for low-skilled relative to high-skilled labor.[24] Robertson (2007) provides some evidence that the changing nature of foreign investments in the 1990s that favored less skill-intensive activities (e.g., an expansion of assembly activities made possible by NAFTA) led to higher demand for low-skilled workers in Mexico, thereby reducing the skill premium.

The extent to which capital account liberalization leads to additional investment and thereby affects the skill premium will also depend on external financial dependence. External financial dependence varies widely across sectors, with manufacturing (especially chemicals) and certain services (post and telecommunications, real estate, hotels and restaurants) having large needs for external finance, in contrast to other services (such as education and health care). (See Larrain 2017.) In economies where access to external finance is otherwise limited, inward FDI can relax that constraint and allow the sectors in question and their derived demand for factor services to expand. To the extent that FDI flows into sectors where both external financial dependence and capital-skill complementarity are high (e.g., telecommunications), opening the capital account do more to raise the demand for skilled labor, the skill premium, and thus wage inequality.

FDI may also affect inequality through its impact on *product markets and prices*. For example, FDI has been one of the main drivers of the "de-fragmentation" of the retail sector in EMDCs, i.e. of the shift to larger, centralized wholesale and retail markets (Reardon et al. 2003). Although the presence of foreign retailers could put a downward pressure on prices via their higher productivity and more intense competition, the crowding-out of local stores could also allow foreign retailers to use their market power to raise prices over time (Durand 2007). To the extent that the first factor dominates, and these goods constitute a larger share of the consumption basket of low-income households, this would have favorable distributional effects. In addition, however, against the backdrop of low levels of unionization in low-skilled services sectors such as retail, entry by foreign firms could intensify competition in the product market, thereby lowering the bargaining power of labor and encouraging race-to-the-bottom wage

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[23] They noted, however, that these outsourced activities are less skill-intensive in the US. As they point out, even if relocated activities are low-skill intensive in the home country, they can still lead to an increase in the relative demand for skilled labor in the recipient country, provided their skill intensity is higher than that of domestic production.

[24] See Section V for a more comprehensive discussion about the case of Mexico.

dynamics. This was the case in Mexico, where real wages in retail fell by 18 percent between 1994 and 2003 following the entry of Walmart (Durand 2007).[25]

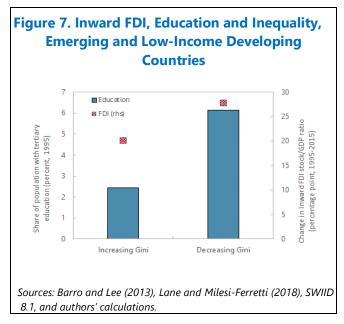Turning to outward FDI, some studies find that this is positively associated with inequality because it lowers the capital/labor ratio, reduces the demand for less skilled labor disproportionately, or weakens labor's bargaining power (see e.g., Choi 2006; Jaumotte et al. 2008). The evidence suggests a negative relationship between outward FDI and the labor income share in AEs (Figure 6). Analyzing U.S. experience with outsourcing less-skill intensive activities to Mexico in the 1980s, for example, Feenstra and Hanson (1997) find that the skill premium increased in the U.S. as outsourcing such activities reduced the demand for less skilled workers. In

Figure 6. Outward FDI and Labor Income Share, Advanced Economies

Sources: Lane and Milesi-Ferretti (2018), PWT 9.1, and authors' calculations.

contrast, Marin (2004) shows that Austrian and German multinationals in the 1990s outsourced skill-intensive stages of production to CEE region, thereby exerting downward pressure on the skill premium in Austria and Germany (while raising the skill premium in CEE region, as mentioned above).

In addition capital account liberalization could lower the bargaining power of labor and thus its income share, by creating a credible threat to relocate production and jobs abroad (Rodrik 1998; Furceri et al. 2018; Ostry et al. 2019).[26] As Rodrik (1998) argues, "*employers can pack up and leave, but workers cannot,*" implying that workers "*have to receive lower wages and benefits whenever bargaining is an element in setting the terms of employment.*" Consistent with this observation, Blinder (2009) finds that "*the 5.7 million most offshorable jobs seem to pay a wage penalty – estimated to be about 14 percent*" in the United States.

Figure 7. Inward FDI, Education and Inequality, Emerging and Low-Income Developing Countries

Sources: Barro and Lee (2013), Lane and Milesi-Ferretti (2018), SWIID 8.1, and authors' calculations.

FDI can also facilitate *tax avoidance* by multinational companies. "Phantom FDI,"

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[25] During the same period, however, overall inequality fell in Mexico, partly driven by FDI (see Section V).
[26] Using a panel of 23 AEs and 25 industries over the period 1975-2010, for example, Furceri et al. (2018) find that capital account liberalization tends to reduce the labor income share to a larger extent in sectors with higher natural layoff rate with the mechanism possibly operating through the lower bargaining power of labor.

defined as investments with no real links to the local economy, accounts for an estimated 40 percent of global FDI (Damgaard et al. 2019). These investments pass through corporate shells with a view to minimizing multinationals' global tax bills.[27] Such tax avoidance will likely raise returns for capital owners, accentuating income inequality in source countries.[28]

Finally, the inequality-increasing effects of inward FDI appear to less in countries with higher levels of educational attainment. Mihaylova (2015) argues that this is related to the fact that the technologies transferred by FDI often require the use of relatively skilled labor in the recipient country. A higher level of human capital in the FDI recipient country will thus tend to limit the impact on the skill premium. As we show in Figure 7, between 1995 and 2015, more than 6 (slightly more than 2) percent of the population completed tertiary education in EMDCs that observed a decline (an increase) in inequality, with no major difference in terms of inward FDI across these groups.[29, 30]

4.2. Non-FDI Private Capital Flows[31]

Insofar as portfolio capital flows and FDI have similar impacts on investment in the recipient country, they will have similar distributional effects. In addition, however, the impact of portfolio flows is likely to reflect their implications for aggregate volatility. Several studies find pronounced negative distributional consequences when capital account liberalization increases macroeconomic volatility (Chauvet et al. 2017) and especially when it is followed by a crisis (Ernst and Escudero 2008; Furceri et al. 2018) (Figure 8).[32, 33, 34]

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[27] A few well-known tax havens host the vast majority of the world's FDI through special purpose entities. Globally, phantom investments amount to $15 trillion, or the combined annual GDP of China and Germany. Despite international attempts to curb tax avoidance, the growth of phantom FDI continues to outpace that of genuine FDI. Investments in foreign empty shells could indicate that domestically controlled multinationals engage in tax avoidance that benefits the rich, with potential adverse implications for inequality in the source countries (i.e., where the owners of these companies reside) (see also Cerra et al. 2021 on taxation).

[28] At the same time, tax payments generate fiscal revenue in recipient countries. If such revenues finance redistributive policies, they might help to reduce inequality. However, if the revenues are captured by the elites, they will aggravate inequality

[29] It is worth noting that the first group also attracted higher FDI relative to the size of their economies.

[30] Out of 53 EMDCs, there were only 14 LIDCs, with around 2.5 (1.7) percent of the population having completed tertiary education in countries with a decline (increase) in inequality.

[31] Portfolio non-FDI private capital flows include portfolio debt and equity flows and other investments such as bank funding, and trade credit/deposits. Portfolio debt flows include flows where the debtor is government and the creditor is private sector entity as these flows are considered market-driven.

[32] Specifically, Chauvet et al. (2017) finds that income volatility has an adverse impact on inequality for a panel of 142 countries between 1973 and 2012. Ernst and Escudero (2008) finds the inequality-raising impact of crisis in a sample of 102 countries between 1960-2006, while Furceri et al. (2018) examining a sample of 23 countries over the period 1975-2010 show that the distributional impact of capital account liberalization is magnified when liberalization is followed by crisis.

[33] We identified 22 episodes, of which data are available for 16 episodes. There is only one crisis episode in AEs in the sample. The EMDC group is dominated by EMs (11 episodes), whereas there are only 4 LIDC episodes.

[34] The Committee on International Economic Policy and Reform (2012) similarly concluded that "*the procyclical nature of cross-border bank-intermediated credit flows have given rise to serious economic and financial instabilities*".
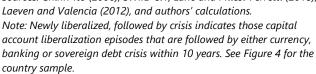
The procyclicality of portfolio inflows in EMDCs is well established: net flows rise in good times and fall in bad times, amplifying business-cycle fluctuations.[35] Relatedly, there is a literature linking financial liberalization and capital inflow surges on the one hand to crises on the other.[36] But the pro-cyclicality of capital flows differs across countries and borrowers. Capital inflows into developing countries are less pro-cyclical than those into more developed countries (Araujo et al. 2015b). This could be the result of the less pronounced financial accelerator in developing countries, given smaller banking systems and a less pronounced leverage cycle (Geanakoplos 2009). The cyclical properties of inflows also reflect the type of borrower: sovereign borrowing is countercyclical in EMs and acyclical in AEs, while borrowing by banks and corporates is uniformly pro-cyclical (Kalemli-Ozcan et al 2017).

Gross flows are more procyclical than net flows, making them a better indicator of financial vulnerabilities.[37, 38] Both gross inflows by non-residents and gross outflows by residents decline during crises (Broner et al. 2013), so their respective impacts on net flows offset one another. This implies that the degree of global financial market integration (as proxied by gross flows) is more important for inequality than whether a country is a net creditor or debtor.[39]

Aggregate volatility is associated with higher inequality, because poorer households suffer more in economic downturns (see also Cerra et al. 2021).[40, 41] The mechanisms here are several:

Figure 8. Capital Account Liberalization, Crises, and Inequality
(Gini coefficient, percent change, before and after capital account liberalization), 1970-2015

Sources: Chinn-Ito (2006), SWIID 8.1, Lane and Milesi-Ferretti (2018), Laeven and Valencia (2012), and authors' calculations.
Note: Newly liberalized, followed by crisis indicates those capital account liberalization episodes that are followed by either currency, banking or sovereign debt crisis within 10 years. See Figure 4 for the country sample.

- Recessions disproportionately affect wages and employment for poor households, since firms are more reluctant to lay off their skilled workers due to higher hiring and training costs (Agenor 2001).

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[35] See, for example, the literature on sudden stops (e.g., Calvo and Reinhart 1999) or Kaminsky et al. (2004).

[36] See, for example, Eichengreen (2004); Reinhart and Reinhart (2008); Reinhart and Rogoff (2009).

[37] See, for example, Lane and Milesi-Ferretti (2007); Forbes and Warnock (2011); Broner et al. (2013).

[38] A higher degree of complementarity between gross inflows and outflows reduces the volatility of net inflows in AEs, i.e., given relatively stable current account balance and reserve positions in these countries, changes in gross capital inflows are typically mirrored by changes in gross capital outflows (Bluedorn et al. 2013).

[39] This last implication is consistent with the earlier discussion pointing to the absence of a clear relationship between income inequality on the one hand and countries' net external positions as debtors or creditors on the other.

[40] See, for example, Heathcote et al. (2010); Atkinson and Morelli (2011); Guillamont Jeanneney and Kpodar (2011); Agnello and Sousa (2012); and Chauvet et al. (2017).

[41] Financial crises however could reduce wealth inequality as bankruptcies and falling asset prices may have greater impact on those who are better off (Atkinson and Morelli 2011).

- Credit rationing by banks, which is more prevalent during downturns, disproportionately affects poorer households, since their loans are considered riskier. For example, Choudhary and Jain (2017) show that when facing an increase in their funding costs due to an exogenous shock caused by flooding, banks in Pakistan disproportionately reduce credit to less-educated, poorer borrowers.

- Poor households may be forced to interrupt the education of their children (Hausmann and Gavin, 1996).[42] Consequently, recessions may have long-lasting impacts on human capital formation, resulting in an "asymmetric hysteresis effect on poverty" (Agenor 2001).

Negative distributional effects can thus be limited by policy frameworks that help countries to effectively manage capital flows, and reduce the associated volatility. The IMF has suggested a variety of capital flow measures (CFMs) that might be deployed in this connection, though such measures should not be substitute for warranted macroeconomic adjustment. Strengthening financial regulation and supervision are important here as well (IMF, 2012).[43] So too are macroprudential policies, which can mitigate the impact of global financial shocks (Bergant et al. 2020). Improved access to financial services can also allow households to borrow as a way of mitigating the consequences of downturns.

Here the composition of flows again matters. While a surge in capital inflows increases the probability of a banking or a currency crisis in immediately succeeding years, this effect may be less when flows take the form of portfolio equity or FDI than when it takes the form of debt (Furceri et al. 2011a). Again, capital flow and regulatory measure can be used to shape tilt the composition of flows in more stable directions.

Capital flows may also affect inequality through their impact on financial inclusion.[44,45] The development of mobile money services, facilitated by foreign portfolio investment, could enhance access to credit. For example, equity investment by the foreign-owned Safaricom contributed to the introduction of M-PESA in Kenya in 2007, leading to a significant increase in access to finance.[46] Wider access to financial services (e.g., payments services, savings accounts) helped make financial transactions more efficient, and facilitated investment in small enterprise by households that did not previously have access to such services. Improved access to loans also helped with the management of income shocks due to

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[42] For example, the 1998 crisis in Indonesia was followed by a decline in the school enrollment of young children in the poorest households (Thomas et al. 2004). In contrast, children were found not more likely to drop out from school during recessions in Brazil (Neri and Thomas 2000). Similarly, the Great Recession was found to have a long-term negative impact on employment in the United States, with larger effects among older and lower-income individuals (Yagan 2019).

[43] Bumann and Lensink (2016) focus on financial depth as the main channel through which capital account liberalization (a particular form of financial liberalization) affects income inequality. They find that capital account liberalization only tends to lower income inequality if the level of financial depth, as measured by private credit over GDP, is high, in excess of 25 percent.

[44] For example, the use of external funds by banks to lend to the private sector could enhance financial inclusion. On the other hand, capital flows to countries where targeted lending by banks to specific groups of interest is prevalent could result in higher inequality. In general, the literature on capital flows and financial inclusion is scarce.

[45] For an overview of the link between financial inclusion and inequality, see Cerra et al. (2021).

[46] Ultimately, this technology spread to other countries in the region, reaching 30 million users, significantly boosting financial inclusion (Sy 2019).

loss of employment and thus protect households from falling into poverty (Demirguc-Kunt et al. 2017).[47]

Portfolio capital flows may further influence inequality through their fiscal impact, making it easier for the sovereign to finance its spending but also leading to rising debt. The distributional impact will then depend on how the additional resources are used and additional liabilities are managed: for example, on whether the resources are used to support pro-poor programs and whether the debt is prudently managed (see Cerra et al. 2021).

Opening the capital account can also create a foreign demand for domestic assets (Azis and Shin 2015, Kim and Yang 2009; Ananchotikul and Zhang 2014). For example, portfolio equity, portfolio debt and net bank inflows may also be associated with a boom in housing prices (Jara and Olaberría, 2013); the impact on distribution will depend on who owns the housing stock. By comparison, an increase in equity prices driven by capital flows will almost certainly increase wealth inequality insofar as stocks typically constitute a larger share of asset holdings of high-income households.[48]

Portfolio flows may further alter net wealth through their impact on the exchange rate. For example, currency depreciation due to outflows will tend to reduce the net wealth of households with foreign-currency-denominated liabilities and raise the cost of repaying foreign-currency-denominated debt. This effect was evident in Central/Eastern European countries where the majority of mortgage debt was financed by foreign-domiciled banks and denominated in euros and Swiss francs.

Finally, openness to capital flows can facilitate tax evasion and illicit financial flows, much as in the case of the phantom FDI discussed above.[49] An additional motive for turning to offshore centers is to avoid prosecution for fraud and corruption.[50] Comparing information from offshore financial institutions with administrative wealth records in Denmark, Norway and Sweden, Alstadsæter et al. (2019) find that offshore tax evasion is mainly engaged in by the rich. They estimate that the 0.01 percent richest households thereby evaded around 25 percent of their taxes.[51]

In sum, portfolio capital flows may raise inequality through their impact on volatility, tax avoidance, illicit flows, and asset prices—all of which tend to benefit the rich. Such flows may be inequality reducing, however, when they boost financial inclusion. Strong institutions and pro-active policies help to mitigate the potential inequality-raising effects, however, and to share the benefits more widely.

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[47] In their study of towns in Mexico where bank branches were rapidly opened, Bruhn and Love (2014) argue that increased access to financial services leads to an increase in income for low-income individuals by allowing informal business owners to keep their businesses open and creating an overall increase in employment.

[48] For example, in the context of the distributional impact of quantitative easing in the euro area, Lenza and Slacalek (2018) discuss the potential role of the portfolio composition channel, highlighting that self-employed business and stock market wealth constitute a substantially larger share of total assets in the top net wealth quintile of households.

[49] Compared with tax avoidance in the case of FDI, tax evasion refers to illegal activities.

[50] Relatedly, capital account openness could also encourage organized crime by providing opportunities for money laundering.

[51] Ndikumana and Boyce (2018) estimate that capital flight, inferred from capital flows not recorded in the balance of payments, amounted to a cumulative US$1.4 trillion in 30 African countries between 1970 and 2015.[51] According to estimates by the United Nations Office on Drugs and Crime, money laundering was close to 3 percent of world GDP in 2009 (UNODC, 2011).

4.3. Official Capital Flows

Studies that analyze the distributional impact of ODA reach conflicting conclusions. Chong et al. (2009), using cross-section and system GMM panel techniques, find no robust effect of aid on inequality. Shafiullah (2011), in contrast, estimates fixed and random effects models and finds that aid reduces income inequality. Calderón et al. (2006) find that foreign aid reduces inequality so long as institutional quality exceeds a critical threshold. Conversely, weak institutions in recipient countries enhance the ability of local authorities to engage in corruption and rent-seeking activities aimed at appropriating resource windfalls and diverting aid funds, resulting in greater inequality (Chong and Gradstein 2007). Herzer and Nunnenkamp (2012), using panel cointegration estimators to examine long term effects of aid, also find that aid increases inequality on balance.

When foreign donors are not purely altruistic, they may use aid to buy political support by the local elite, in which case aid benefits the rich rather than the poor in the recipient country. Similarly, there may be a heightened risk that aid is diverted into inter alia foreign bank accounts in countries where political institutions are weak. Two conditions thus must be met in order for ODA to be effective in reducing inequality: first, donors must allocate aid in line with their rhetoric on pro-poor growth; and both they and the local authorities must ensure that aid reaches the poor—in this regard, strong institutions are a pre-condition for aid to reach those in need and for it to reduce inequality.

Finally, there is the problem that official aid is procyclical (Pallage and Robe 2002). This may reflect the fact that recipient countries may have less ability during downturns to meet the matching requirements set by donors. This implies that instead of playing a stabilizing role, aid flows can exacerbate aggregate volatility, with potential adverse effects for inequality, as discussed above.

The second form of official capital flows we consider is reserve accumulation, when capital flows out of countries, including EMDEs, seeking to augment their reserves and into the safe reserve assets issued by, inter alia, the U.S. government. The rapid build-up of international reserves by emerging market countries in the pre-GFC period, for example, had the potential to affect inequality through two channels. First, larger reserves augmented the capacity of central banks and governments to insulate the domestic economy from the effects of capital flow reversals; this helped to help mitigate growth volatility associated with changing global financial conditions, thereby also lowering possible adverse distributional consequences as discussed in the previous section. Second, as "*reserves were accumulated in the context of foreign exchange interventions intended to promote export-led growth by preventing exchange-rate appreciation*" (Bernanke 2005), the impact on inequality also depends on how evenly the gains from the export-led growth are distributed across skilled- and unskilled labor, as well as labor and capital owners.[52]

4.4. Remittances

The literature reaches mixed findings on the impact of remittances on inequality. Most early studies examine the distributional effects by simply subtracting remittance from income for remittance-receiving households, computing Gini coefficients separately for non-remittance income and remittance income.[53] In contrast, recent studies have created counterfactual income distributions. Such counterfactuals are designed to capture what a migrant's income would be in

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[52] For a comprehensive discussion on trade and inequality, see Cerra et al. (2021).

[53] See, for example, Adams and Alderman 1992, Stark et al. 1988, and Taylor et al. 2009.

the home country in the absence of migration as well as what the participation decisions and earnings of other household members would be in the absence of remittances.[54] Most of these studies use income in non-remittance-receiving households to predict what the income of households who send migrants would have been in the absence of outmigration and remittance receipts.[55]

Although relying on similar methodologies, these studies nonetheless reach different conclusions. For example, Möllers and Meyer (2014) find that remittances increase inequality in Kosovo, while Mughal and Anwar (2012) and Koczan and Loyola (2018) find that they lower it in Pakistan and Mexico, respectively. These conflicting findings may be driven by changing effects over time. As highlighted by Stark et al. (1988) and Taylor et al. (2009), pioneer migrants who lack pre-existing migrant networks and therefore face higher costs of migration may come from wealthier households. In contrast, later migrants, who come from poorer households, may benefit from falling costs as migrant networks expand. If so, migration and associated remittance receipts will first increase then reduce inequality in sending countries. Similarly, in a cross-section one would observe a positive link between outmigration and inequality in sending countries with a more recent migration history (Stark et al. 1988). This interpretation is consistent with the findings of Acosta et al. (2008), who identify different effects across Latin American countries depending on their migration histories, extent of migrant networks, and proximity to migrant destinations. Migrant households are more likely to be from the bottom of the income distribution in Mexico and Paraguay, with longer migration histories and lower costs of migrating to their main migrant destinations, whereas migrants tend to be drawn from higher-income portions of the population in Haiti, Peru and Nicaragua. Similarly, Brown and Jimenez (2007) find larger poverty- and inequality-reducing effects of remittances and migration in Tonga, an economy with a relatively long migration history and high remittances, than in Fiji, an economy with a more recent migration history.

Margolis et al. (2013) similarly point to larger inequality-reducing effects in Algerian regions with more migrants and remittance-receiving households. Further consistent with this view, McKenzie and Rapoport (2007) analyze whether remittances have a more equalizing effect in communities with higher levels of past migration, where the presence of migration networks lowers the costs of migration, and makes migration a more accessible option for poorer households as well. They examine the effects of past migration on inequality in sending communities in Mexico and find that migration and remittances indeed reduce inequality in rural Mexican communities with high levels of past migration. Along similar lines, Acharyaa and Leon-Gonzalez (2012) argue that remittances from India (unlike remittances from elsewhere) reduce inequality in Nepal due to the greater participation of the poor in the Nepal-India migration process. Möllers and Meyer's (2014) contrasting finding that migration and remittances increase inequality in rural Kosovo similarly could be explained by the country's recent migration history and consequent high costs of migration.

Thus, while the findings of different studies are mixed, their differences may reflect changing effects over time and indicate that any inequality-reducing effects of remittances are

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[54] This provides more accurate estimates than simply comparing income distributions with and without remittances, which implicitly assumes that there would be no behavioral changes in the absence of remittances. It would, however, seem likely that given the drop in income, other household members would start working, or increase their hours.
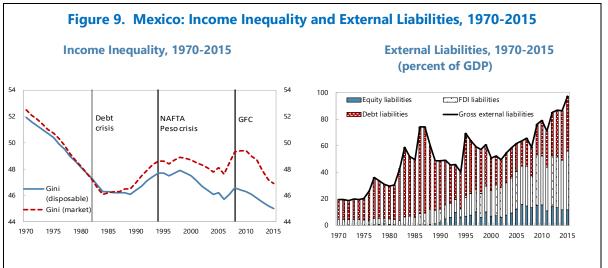
[55] See, for example, Acharyaa and Leon-Gonzalez 2012, Acosta et al. 2008, Adams et al. 2008, and Barham and Boucher 1998.

more pronounced in countries with a longer migration histories, where the fixed costs of migration are lower and migration and remittances are more accessible to poorer households.[56]

V.   The Case of Mexico

In this section, we consider Mexico as a way of illustrating aspects of the capital flows-inequality nexus.

Geographer and explorer Alexander von Humboldt, who visited in 1803-04, described Mexico as "*a country of inequality*".[57] Nowadays, Mexico has one of the highest levels of income inequality among OECD countries. The country's modern history has encompassed increasing levels of external integration, including joining the GATT in 1986 and adopting NAFTA in 1994. Mexico also has a long history of out-migration, in particular to the United States, shaped by both push (economic crisis in Mexico in the 1970-80s) and pull factors (new industries in the U.S. Southwest in the early-20th century; and the family reunification programs in the 1970-80s).[58]

Figure 9. Mexico: Income Inequality and External Liabilities, 1970-2015

Sources: SWIID 8.1, Lane and Milesi-Ferretti (2018), and authors' calculations.

Trends in inequality since the 1970s fall into three distinct periods. Inequality first fell in the 1970s from high initial levels (Figure 9). This was followed by an increase from the mid-1980s through the mid-1990s, with both gross and disposable-income Ginis rising steadily.[59] Inequality then declined again from the mid-1990s (coincident with the implementation of NAFTA) through the late 2000s (which closed with the Global Financial Crisis). This last phase was especially evident in terms of disposable income, with the decline being widespread across states (Figure 10).

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[56] Given large cross-country income differences, the effects of international remittances are likely to be larger than those of internal remittances, even if fewer poorer households receive the former.

[57] "*Mexico is a country of inequality. Nowhere does there exist such a fearful difference in the distribution of fortune, civilization of the soil, and population.*"
(http://www.worldeconomicsassociation.org/newsletterarticles/inequality-in-mexico/)

[58] Migration flows only slowed recently, as a result of a combination of demographic changes in Mexico's population (as the decline in fertility resulted in proportionally fewer young people), improved economic conditions in Mexico, reduced work opportunities in the United States as a result of the Global Financial Crisis and enhanced immigration enforcement by US authorities.

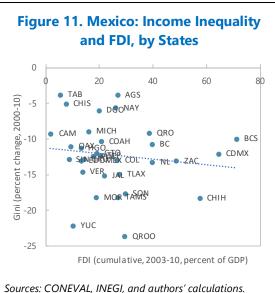[59] Disposable income refers to income after taxes and transfers.

The first period of declining inequality coincided with the end of Mexico's post-World War II period of "*state-led development, rapid industrialization*" (Bleynat et al. 2017). The new economic policy announced in 1970, the start of *Desarrollo Compartido* (Shared Development), had the express objective of reducing income inequality (Kehoe and Meza 2012). The discovery of sizeable oil fields in 1978 then financed increased public investment. All this was strongly equalizing.

However, given that the widening fiscal deficit was partly financed with borrowing from abroad, external debt increased sharply during this period (Figure 9). When hit by tightening global financial conditions and declining oil prices, the Mexican government was forced to announce in 1982 that it could not service its debt. The economy entered a severe recession, during which inequality worsened.

Figure 10. Mexico: Income Inequality, by States

Change in Gini, 2000-2010 (percent)
-3.7
-23.6

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Sources: CONEVAL, and authors' calculations.

Mexico regained access to international markets following a debt restructuring agreement with foreign lenders in 1990. FDI had already picked up in response to reforms in the second half of the 1980s. This foreign investment together with skill-biased technological change contributed to the increase in the relative demand for skilled labor, as noted above in section IV (Cragg and Epelbaum 1996; Feenstra and Hanson 1997). The increase in the skill premium, reflected in the relatively rapid rise of wages at the upper part of the income distribution, in turn contributed to rising inequality (Esquivel 2010).

Foreign capital market access led in practice to the rapid build-up of short-term, dollar-indexed debt, culminating in the 1994-95 crisis which resulted in devaluation of the peso and a spike in interest rates, followed by a sharp economic contraction and significant rise in unemployment. Income inequality fell between 1994 and 1996, as the top 10 percent of the income distribution comprised a large share of high-skilled workers in the non-tradable sectors such as financial services, which were the hardest hit by the crisis (Lopez-Acevedo and Salinas 2000).[60]

Figure 11. Mexico: Income Inequality and FDI, by States

Gini (percent change, 2000-10)
FDI (cumulative, 2003-10, percent of GDP)

TAB, AGS, CHIS, DGO, NAY, CAM, MICH, QRO, BCS, OAXGO, COAH, BC, SIN, COL, NL, ZAC, CDMX, VER, JAL, TLAX, MOR, TAMS, SON, CHIH, YUC, QROO

Sources: CONEVAL, INEGI, and authors' calculations.

Several potential drivers of the post-NAFTA fall in wage inequality have been suggested. The supply of skilled workers rose following an increase in college enrollment starting in 1995 (Campos-Vázquez 2013). In addition, wages rose at the bottom of the income distribution,
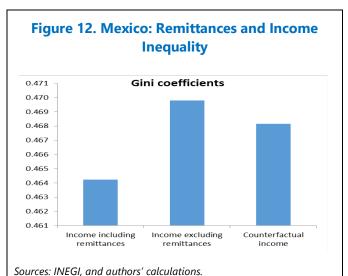
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[60] Notwithstanding the decline in income inequality, the poor were seriously hit by the crisis, with a 24 percent increase in the poverty headcount during the crisis (Pereznieto 2010).
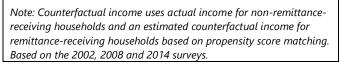
suggesting a role for demand-side factors (Esquivel 2010). In particular, the demand for unskilled labor increased as a result of the expansion of assembly activities by foreign investors (Robertson 2007). Chiquiar (2008) shows that wage developments in this period were in line with the prediction of the Stolper- Samuelson Theorem. Specifically, the increase in low-skilled wages was larger in states closer to the U.S.-Mexico border where there is a higher concentration of manufacturing production and FDI. This spatial pattern reinforced the heterogeneous regional impact of NAFTA.

These wage developments were linked in part to FDI inflows. Jensen and Rosas (2007) find that Mexican states receiving larger FDI inflows experienced larger declines in inequality between 1990 and 2000.[61] Using industry-level data for the period 1994-2005, Waldkirch (2008) also finds evidence that FDI into maquiladora industry (factories serving industries operating under preferential tariff regimes established by Mexico and the United States) benefited unskilled workers disproportionately. Our data for 2003-10, in Figure 11, also indicate that inequality decreased more in regions that received higher inflows of FDI.

Figure 12. Mexico: Remittances and Income Inequality

Sources: INEGI, and authors' calculations.

Note: Counterfactual income uses actual income for non-remittance-receiving households and an estimated counterfactual income for remittance-receiving households based on propensity score matching. Based on the 2002, 2008 and 2014 surveys.

Also relevant is that Mexico is one of the world's largest recipients of remittances.[62] In the early years, remittance-receiving households were typically in the middle of the income distribution. But as the fixed costs of migration fell and migration opportunities became more widespread, remittances became increasingly pro-poor. Remittance-receiving households are on average poorer than non-remittance-receiving households, even when taking remittances into account. Remittances also tend to constitute a larger share of income for poorer households.

The Gini coefficient of households' "no-migration" counterfactual income is higher than that of actual income, suggesting that inequality would be higher in the absence of remittances, even when taking into account that remittance-receiving households adjust their behavior (Figure 12).[63] The behavioral response is also reflected in that the counterfactual inequality is lower than

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[61] At the same time, Rivera and Castro (2013) find that FDI raised inequality between regions but not within them.

[62] In 2014, households received on average about US$290 per month (US$140 median). See Koczan and Loyola (2018) for a comprehensive treatment of the role of remittances on inequality in Mexico, employing household-level data in Mexico, based on the National Survey of Income and Expenditure (ENIGH). (See footnote 74 for more details about the survey.

[63] A simple comparison of Gini coefficients based on actual income (including remittances for remittance receiving households) and income excluding remittances is not a measure of the true effect of remittances, as 'missing' remittances would likely be associated with behavioral responses affecting income: both of the migrant and of family members. We thus construct counterfactual incomes for remittance-receiving households,

that based on income excluding remittances. This pattern holds up over time and is especially pronounced in rural areas, which are on average poorer and have more remittance receiving households.

Koczan and Loyola (2018) also consider the effects of the GFC on the remittance receipts of different deciles in Mexico. They find that, similar to the peso crisis, the likelihood of receiving remittances and their amount as a share of income fell for the top income deciles during the crisis. But for the lower income deciles, there was an increase in the likelihood of receiving remittances and their amount as a share of income. This is in contrast to the peso crisis, when they remained largely unchanged. The more pro-poor nature of remittances during the GFC may reflect falling fixed costs of migration, which make migration accessible to poorer households. Alternatively, the change could be driven by migrants' better integration in the United States (with higher incomes, more stable jobs, a regularized status), allowing them to better cushion the shock in the United States. This insurance effect is quite striking in a context where both the sending and receiving countries were hit by a common shock.

VI.   Policy Implications

Our survey points to seven sets of measures that governments can take in order to derive benefits from financial globalization while mitigating adverse implications for income distribution.

6.1.   Macroeconomic policies: Limiting the macroeconomic volatility associated with capital flows through the application of countercyclical macroeconomic policies will have favorable distributional consequences, since such volatility disproportionately hurts the poor. In practice, this mainly means using fiscal policy to lean against the capital-flow-induced wind.[64] Countries opening the capital account should therefore first strengthen their automatic fiscal stabilizers. Strengthening fiscal institutions (creating an independent agency to construct fiscal forecasts for example) can similarly strengthen the conduct of discretionary fiscal policy.

6.2.   Capital-flow management policies: CFMs could be deployed as part of a broader policy package to limit the risk of capital-flow reversals and crises that disproportionately hurt the poor.[65] However, CFM measures should not be substitute for warranted macroeconomic adjustment. In addition, distributional and social objectives could be considered explicitly, for example by allowing for housing-related restrictions on non-resident investments could be considered in countries where housing affordability is an issue (IMF 2020).[66]

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i.e. an estimate of what their income would be once this behavioral response (including the migrant's counterfactual income) is taken into account. Specifically, propensity score matching is used to estimate the counterfactual income, i.e. it is assumed that their income would be similar to that of non-remittance-receiving households with comparable characteristics.

[64] Monetary policy is unlikely to be helpful in this connection. Raising interest rates to damp down demand when capital is flowing in will only attract more capital, while lowering interest rates to damp down the capital inflow will only aggravate the problem of excess demand.

[65] The recent IMF IEO report on capital flows recommends that the IMF considers the distributional effects as part of the strategy for capital account liberalization within the IMF's Institutional View on CFMs (IMF 2012). However, any changes to the Institutional View would need to be decided by the IMF Executive Board.

[66] In response to the increased role of non-residents in the housing sector, a number of advanced economies that generally maintain very open capital accounts have adopted policy measures to influence capital flows into the real estate sector to mitigate concerns about affordability and financial stability. Since 2011, five advanced economies—Australia, Canada, Hong Kong SAR, New Zealand, and Singapore—have all adopted or tightened

6.3. **Education:** The adverse distributional effects of liberalization are smaller, or even absent, in in EMDEs where the population has a relatively high level of educational attainment, such that the increase in the skill premium resulting from inward FDI in particular is more widely shared. Reaping the benefits of higher levels of education means avoiding skill mismatch. Achieving those higher levels requires getting an early start – that is, aligning the pace of enhancing the educational attainment with the capacity of the education system in order to avoid a decline in quality

6.4. **Business Climate**: Reliable contract enforcement and business-enabling regulation can help to make EMDEs more attractive destinations for FDI. Promoting competition in product markets, streamlining regulation, reducing bureaucratic discretion, and increasing transparency (e.g., through developing information portals to make laws and regulations publicly accessible) all encourage long-term investors and help shift the composition of capital inflows toward forms with more favorable distributional consequences (Furceri et al. 2011b). The activities of investment-promotion agencies can further contribute to efforts to attract FDI by, among other things, providing information and assistance in obtaining approvals, licenses, utilities, etc. Morisset (2003) argues that political visibility of such agencies (e.g., a direct link of the agency to the highest government official such as the president or the prime minister) and private sector involvement (e.g., private participation in the agency's supervisory board) are important for "strengthening the government's commitment and reinforcing the agency's credibility and visibility."[67]

6.5. **Financial sector policies, including macroprudential policies:** Ensuring the prudent use of external funds by banks through sound micro- and macro-prudential policies could enhance the resilience of the banking sector, thereby enhancing financial stability, moderating business cycle fluctuations and reducing the potential adverse distributional of economic and financial volatility.[68] [69] Similarly, regulatory frameworks that foster competition in the banking and finance can facilitate access to credit, and ultimately allow the benefits of more abundant credit to be more widely shared. For example, abolishing credit and interest-rate controls and strengthening banking supervision (e.g., higher powers for the banking supervisory authority, more stringent capital regulation, more monitoring of bank activities) could positively affect financial inclusion and reduce inequality (Delis et al 2012).[70]

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measures discriminating between residents and non-residents with respect to investment in domestic real estate, mostly in the form of stamp duties and other transaction taxes. Some countries (e.g. Australia) have outright prohibitions on non-residents' purchases of real estate (e.g., Australia) or quotas and/or limitations on portfolio investment in real estate (e.g., China, India, Indonesia, and Switzerland).

[67] Also, a well-designed feedback process needs to be in place to assess the performance of the agency.

[68] Some macroprudential policies could have direct distributional effects: e.g., loan-to-value (LTV) and debt-to-income (DTI) limits on mortgages can, for instance, restrict the ability of households with limited financial wealth to purchase a house, and to use a house as collateral for small business investment. This may prevent low-income households from increasing their income or benefiting from price increases, adversely affecting income distribution (Frost and Stralen 2018).

[69] For example, imposing a macroprudential levy on bank flows could be considered to manage risk taking by banks, particularly in the case of increased bank-led flows (Azis and Shin 2014).

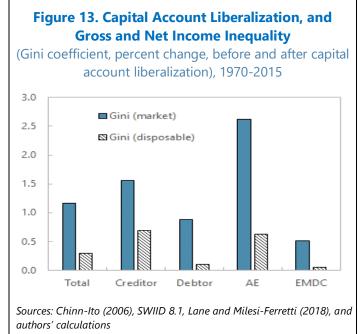[70] Credit and interest-rate controls lower liquidity and work against the poor as higher restrictions tend to produce less competitive markets. Under these conditions, it is possible that relationship lending or lending to well-established firms with high levels of collateral and strong credit history prevails, constraining access to

6.6.   Redistributive policies and social safety nets: Inequality in disposable incomes increased by less than inequality in market incomes following capital account liberalization episodes, suggesting that redistribution mitigated some of the adverse effects (Figure 13). But because financial globalization shifts the burden of taxation from more mobile factors (capital and highly-skilled labor) to less mobile factors (low-skilled labor), proactive changes in tax and transfer policies may be needed to achieve the desired effect (Razin and Sadka 2019).[71] Strengthening social safety nets can also help consumption smoothing, thereby mitigating potential adverse implications of crises for the poor.

Figure 13. Capital Account Liberalization, and Gross and Net Income Inequality

(Gini coefficient, percent change, before and after capital account liberalization), 1970-2015

Sources: Chinn-Ito (2006), SWIID 8.1, Lane and Milesi-Ferretti (2018), and authors' calculations

6.5.   Remittance-related policies: Given the broadly favorable distributional impact of remittances, policy should focus on reducing their cost. Sending money across borders remains expensive. Remittance costs vary widely across corridors and providers. They tend to be highest in small markets with little competition, and when they are intermediated by commercial banks. Reducing transaction costs, increasing competition and helping migrants compare costs across providers can increase the net amounts ultimately received by migrants' families. Mobile technology can also help bring down remittance costs (see e.g. Cecchetti and Schoenholtz 2018, Schmitz and Endo 2011).

To conclude, financial globalization has a tendency to foster economic growth but also to raise inequality, where the first effect presumably is desired, whereas the second is not. But neither result is foreordained. The tendency for capital flows to encourage growth is likely to be evident only in countries that first make progress in strengthening policies and institutions, thereby limiting the volatility of those flows and creating some assurance that they will be directed toward appropriate uses and sectors. The tendency for capital flows to raise inequality can be limited by policies that shape their composition and timing and thereby prevent any associated rise in aggregate volatility and increased incidence of crises. That tendency can be further limited or even reversed by taking ex ante steps to increase educational attainment so that more workers benefit from foreign capital-skill complementarities, and by ex post measures that redistribute income to the disadvantaged.

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credit for the relatively poor. As higher supervisory power is usually related to more effective supervision of financial-intermediation services, this could facilitate more competition in banking sector, which could in turn drive funds to the best investment ideas and thus provide equal opportunities to the relatively poor.

[71] See Cerra et al. 2021 on taxation for a discussion on policies related to corporate income taxation and multinationals, as well as tax administration issues related to tax evasion and avoidance as well as transfer pricing.

References

Acharyaa, Chakra. P., and Robert Leon-Gonzalez (2012), "The Impact of Remittances on Poverty and Inequality: A Micro-Simulation Study for Nepal." GRIPS Discussion Paper 11–26, National Graduate Institute for Policy Studies, Tokyo, Japan

Acosta, Pablo, Cesar Calderon, Pablo Fajnzylber and Humberto Lopez (2008), "What is the Impact of International Remittances on Poverty and Inequality in Latin America?" World Development 36 (1): 89–114

Adams, Richard. and Harold Alderman (1992), Sources of Inequality in Rural Pakistan: A Decomposition Analysis, Oxford Bulletin of Economics and Statistics 54(4):591–608.

Adams, Richard, Alfredo Cuecuecha, and John Page (2008), "The Impact of Remittances on Poverty and Inequality in Ghana." World Bank Policy Research Working Paper 4732, World Bank, Washington, DC

Agenor, Pierre-Richard (2001), "Macroeconomic Adjustment and the Poor: Analytical Issues and Cross-Country Evidence", The World Bank, First Draft: October 3, 2001

Agnello, Luca, and Ricardo Sousa (2012), "How do banking crises impact on income inequality?", Applied Economics Letters, Vol. 19, Issue 15, pp 1425-1429

Allen, Helen, John Hawkins, and Setsuya Sato (2001), "Electronic trading and its implications for financial systems", In: BIS (ed.), Electronic finance: a new perspective and challenges, Vol. 7, pp 30-52, BIS, 2001

Alstadsæter, Annette, Niels Johannesen, and Gabriel Zucman (2019), "Tax Evasion and Inequality", American Economic Review 109(6), pp 2073-2103.

Amendolagine, Vito, Andrea F. Presbitero, Roberta Rabellotti, Marco Sanfilippo, and Adnan Seric (2017), "FDI, Global Value Chains, and Local Sourcing in Developing Countries", IMF Working Paper 17/284

Amighiani, Alessia A., Margaret S. McMillan, and Marco Sanfilippo (2017), "FDI and Capital Formation in Developing Economies: New Evidence from Industry-Level Data", NBER Working Paper 23049

Ananchotikul, Nasha, and Longmei Zhang (2014), "Portfolio Flows, Global Risk Aversion and Asset Prices in Emerging Markets", IMF Working Paper 14/156

Agnello, Luca and Ricardo M. Sousa (2012). "How do banking crises impact on income inequality?" Applied Economics Letters, Taylor & Francis Journals, vol. 19(15), pages 1425-1429, October.

Araujo, Juliana D., Antonio C. David, Carlos von Hombeeck, and Chris Papageorgiou (2015a), "Non-FDI Capital Inflows in Low-Income Developing Countries: Catching the Wave?", IMF Working Paper 15/86

Araujo, Juliana D., Antonio C. David, Carlos von Hombeeck, and Chris Papageorgiou (2015b), "Joining the Club? Procyclicality of Private Capital Inflows in Low Income Developing Countries", IMF Working Paper 15/163

Asteriou, Dimitrios, Sophia Dimelis, and Argiro Moudatsou (2014), "Globalization and income inequality: A panel data econometric approach for the EU27 countries", Economic Modelling 36 (2014) 592-599

Atkinson, A. B. and Salvatore Morelli (2011), "Economic Crises and Inequality," UNDP-HDRO Occasional Papers No. 2011/6. Available at SSRN: https://ssrn.com/abstract=2351471

Auten, Gerald, and David Splinter (2018), "Income Inequality in the United States: Using Tax Data to Measure Long-term Trends", version as of August 23, 2018

Autor, David, David Dorn and Gordon Hansen (2016), "The China Shock: Learning from Labor Market Adjustment to Large Changes in Trade," Annual Review of Economics 8.

Azis, Iwan J., and Hyun Song Shin (2015), "Capital Flows and Income Distribution", In: Managing Elevated Risk. Springer, Singapore

Barham, Bradford and Stephen Boucher (1998), "Migration, Remittances, and Inequality: Estimating the Net Effects of Migration on Income Distribution." Journal of Development Economics 55: 307–31

Barro, Robert, and Jong-Wha Lee (2013), "A New Data Set of Educational Attainment in the World, 1950-2010", Journal of Development Economics, Vol 104, pp. 184-198

Basu, Parantap, and Alessandra Guariglia (2007), "Foreign Direct Investment, Inequality, and Growth", Journal of Macroeconomics 29 (2007) 824-839

Bergant, Katharina, Francesco Grigoli, Niels-Jakob Hansen, and Damiano Sandri (2020), "Dampening Global Financial Shocks: Can Macroprudential Regulation Help (More than Capital Controls)?", IMF Working Paper 20/106

Berman, Eli, John Bound, and Stephen Machin (1998), "Implications of skill-biased technological change: international evidence", The Quarterly Journal of Economics, Vol 113, No 4, pp 1245-1279

Bernanke, Ben S. (2005), "The Global Saving Glut and the U.S. Current Account Deficit", Homer Jones Lecture, Federal Reserve Bank of St. Louis, St. Louis, Missouri, April 14, 2005

Bertaut, Carol C., and Ruth Judson (2014), "Estimating U.S. Cross-Border Securities Positions: New Data and New Methods", International Finance Discussion Papers No. 1113, Board of Governors of the Federal Reserve System

Bertaut, Carol C., and Ralph W. Tryon (2007), "Monthly Estimates of U.S. Cross-Border Securities Positions", International Finance Discussion Papers No. 910, Board of Governors of the Federal Reserve System

Bleynat, Ingrid, Amílcar Challú, and Paul Segal (2017), "Inequality, Living Standards and Growth: Two Centuries of Economic Development in Mexico", ESRC GPID Research Network Working Paper 4, 19 September 2017

Blinder, Alan. S. (2009), "How Many US Jobs Might be Offshorable", World Economics Vol 10, No 2, pp 41-78, April-June 2009

Bluedorn, John, Rupa Duttagupta, Jaime Guajardo, and Petia Topalova (2013), "Capital Flows are Fickle: Anytime, Anywhere", IMF Working Paper 13/183

Broner, Fernando, Tatiana Didier, Aitor Erce, and Sergio L. Schmukler (2013), "Gross capital flows: Dynamics and crises", Journal of Monetary Economics 60 (2013): 113-133

Brown, Richard P. C. and Eliana Jimenez (2007), "Estimating the Net Effects of Migration and Remittances on Poverty and Inequality: Comparison of Fiji and Tonga." UNU-WIDER Research Paper 2007/23, United Nations University World Institute for Development Economics Research, Helsinki

Bruhn, Miriam, and Inessa Love (2014), "The Real Impact of Improved Access to Finance: Evidence from Mexico," Journal of Finance, 2014, Vol. 69, issue 3, pp. 1347-1376

Bumann, Silke and Robert Lensink (2016), "Capital account liberalization and income inequality," Journal of International Money and Finance, Vol. 61, 143-162

Calderón, María Cecilia, Alberto Chong, and Mark Gradstein (2006), "Foreign Aid, Income Inequality, and Poverty", Inter-American Development Bank Working Paper 547

Calvo, Guillermo A., and Carmen M. Reinhart (1999), "When Capital Inflows Come to a Sudden Stop: Consequences and Policy Options"

Campos-Vázquez, Raymundo M. (2013), "Why Did Wage Inequality Decrease in Mexico after NAFTA?", Economia Mexicana, Vol XXII, No 2, pp 245-278

Cecchetti, Stephen and Kim Schoenholtz (2018), "The stubbornly high cost of remittances", VoxEU, 27 March 2018

Cerra, Valerie, Barry Eichengreen, Asmaa El-Ganainy, and Martin Schindler, ed. (2021), "How to Achieve Inclusive Growth", Oxford University Press and IMF, forthcoming

Chauvet, Lisa, Marin Ferry, Patrick Guillaumont, Sylviane Guillaumont Jeanneney, Sampawende J.-A. Tapsoba, and Laurent Wagner (2017), "Volatility Widens Inequality. Could Aid and Remittances Help?", FERDI Development Policies Working Paper 158

Chinn, Menzie D., and Hiro Ito (2006), "What Matters for Financial Development? Capital Controls, Institutions, and Interactions", Journal of Development Economics, Vol 81, Issue 1, pp 163-192

Chiquiar, Daniel (2008), "Globalization, regional wage differentials and the Stolper-Samuelson Theorem: Evidence from Mexico", Journal of International Economics 74(2008) pp 70-93

Choi, Changkyu (2006), "Does foreign direct investment affect domestic income inequality?", Applied Economics Letters, 13:12, pp 811-814

Chong, Alberto, and Mark Gradstein (2007), "Inequality and Institutions", The Review of Economics and Statistics, Vol. 89, No. 3, pp. 454-465

Chong, Alberto, Mark Gradstein, and Cecilia Calderon (2009), "Can foreign aid reduce income inequality and poverty?", Public Choice 140, 59-84

Choudhary, M. Ali, and Anil Jain (2017), "Finance and Inequality: The Distributional Impacts of Bank Credit Rationing", Board of Governors of the Federal Reserve System, International Finance Discussion Papers Number 1211, July 2017

Committee on International Economic Policy and Reform (2012), "Banks and Cross-Border Capital Flows: Policy Challenges and Regulatory Responses", September 2012

Cragg, Michael Ian, and Mario Epelbaum (1996), "Why has wage dispersion grown in Mexico? Is it the incidence of reforms or the growing demand for skills?", Journal of Development Economics, Vol 51, Issue 1, pp 99-116

Csonto, Balazs, and Camilo E. Tovar Mora (2017), "Uphill Capital Flows and the International Monetary System", IMF Working Paper 17/174

Damgaard, Jannick, Thomas Elkjaer, and Niels Johannesen (2019), "What is Real and What Is Not in the Global FDI Network?", IMF Working Paper 19/274

Darvas, Zsolt, and Dirk Schoenmaker (2017), "Institutional investors and home bias in Europe's Capital Markets Union", Bruegel Working Paper Issue 2

Delis, Manthos D.; Hasan, Iftekhar; Kazakis, Pantelis (2012), "Bank regulations and income inequality: Empirical evidence," Bank of Finland Research Discussion Papers, No. 18/2012, ISBN 978-952-462-805-1, Bank of Finland, Helsinki.

Demirguc-Kunt, Asli, Leora Klapper, and Dorothe Singer (2017), "Financial Inclusion and Inclusive Growth", World Bank Group, Policy Research Working Paper 8040

Dorsey, Thomas, Helaway Tadesse, Sukhwinder Singh, and Zuzana Brixiova (2008), "The Landscape of Capital Flows to Low-Income Countries", IMF Working Paper 08/51

Durand, Cédric (2007), "Externalities from foreign direct investment in the Mexican retailing sector", Cambridge Journal of Economics 2007, 31, pp 393-411

Economides, George, Sarantis Kalyvitis, and Apostolis Philippopoulos (2008), "Does foreign aid distort incentives and hurt growth? Theory and evidence from 75 aid-recipient countries", Public Choice 134(3) pp 463-488

Eichengreen, Barry (2004), "Capital Flows and Crises", MIT Press

Eichengreen, Barry, Arnaud Mehl, and Romain Lafarguette (2016), "Cables, Sharks and Servers: Technology and the Geography of the Foreign Exchange Markt," NBER Working Paper no.21884.

Ernst, Ekkehard, and Verónica Escudero (2008), "The effects of financial globalization on global imbalances, employment and inequality", International Institute for Labour Studies Discussion Paper 191/2008

Esquivel, Gerardo (2010), "The Dynamics of Income Inequality in Mexico Since NAFTA", Centro de Estudios Economicos, Documento de Trabajo IX-2010

Feenstra, Robert C., and Gordon H. Hanson (1997), "Foreign direct investment and relative wages: Evidence from Mexico's maquiladoras", Journal of International Economics 42 (1997) pp. 371-393

Fernandez, Andres, Michael Klein, Alessandro Rebucci, Martin Schindler, and Martin Uribe (2016), "Capital Control Measures: A New Dataset", IMF Economic Review 64, pp. 548-574

Forbes, Kristin J., and Francis E. Warnock (2011), "Capital Flow Waves: Surges, Stops, Flight, and Retrenchment", NBER Working Paper 17351

Frost, Jon and Rene van Stralen (2018), "Macroprudential Policy and Income Inequality," Journal of International Money and Finance, Vol. 85, pp. 278-290

Furceri, Davide, Stéphanie Guichard, and Elena Rusticelli (2011a), "Episodes of Large Capital Inflows and the Likelihood of Banking and Currency Crises and Sudden Stops", OECD Economics Department Working Papers No. 865

Furceri, Davide, Stéphanie Guichard, and Elena Rusticelli (2011b), "Medium-Term Determinants of International Investment Positions: The Role of Structural Policies", OECD Economics Department Working Papers No. 863

Furceri, Davide, Prakash Loungani, and Jonathan D. Ostry (2018), "The Aggregate and Distributional Effects of Financial Globalization: Evidence from Macro and Sectoral Data", IMF Working Paper 18/83

Geanakoplos, John (2009), "The Leverage Cycle", Cowles Foundation Discussion Paper No 1715

Goldberg, Pinelopi Koujianou, and Nina Pavcnik (2007), "Distributional Effects of Globalization in Developing Countries", NBER Working Paper 12885

Gopinath, Munisamy, and Weiyan Chen (2003), "Foreign direct investment and wages: a cross-country analysis", Journal of International Trade & Economic Development, 12:3, 285-309

Guillaumont Jeanneney, Sylviane, and Kangni Kpodar (2011), "Financial Development, Financial Instability and Poverty", CERDI Etudes et Documents, E.2006.7

Häusler, Gerd (2002), "The Globalization of Finance", Finance and Development, Vol 39, No 1, March 2002

Hausmann, Ricardo, and Michael Gavin (1996), "Securing Stability and Growth in a Shock Prone Region: The Policy Challenge for Latin America", Working Paper 315, Office of the Chief Economist, Inter-American Development Bank

Heathcote, Jonathan, Gianluca Violante, and Fabrizio Perri (2010), "Inequality in times of crisis: Lessons from the past and a first look at the current recession", 2 February 2010, https://voxeu.org/article/economic-inequality-during-recessions

Herzer, Dierk, and Peter Nunnenkamp (2012), "The effect of foreign aid on income inequality: Evidence from panel cointegration", Structural Change and Economic Dynamics, Vol 23, Issue 3, pp 245-255

Herzer, Dierk, Philipp Hühne, and Peter Nunnenkamp (2014), "FDI and Income Inequality – Evidence from Latin American Economies", Review of Development Economics, 18(4), 778-793

Hodler, Roland (2007), "Rent seeking and aid effectiveness", International Tax and Public Finance 14(5), pp 525-541

IMF (2012), "The Liberalization and Management of Capital Flows - An Institutional View," available at: https://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/The-Liberalization-and-Management-of-Capital-Flows-An-Institutional-View-PP4720

IMF (2017), "Understanding the downward trend in labor income shares", Chapter 3, IMF World Economic Outlook, April 2017

IMF (2020), Independent Evaluation Office of the IMF, "IMF Advice on Capital Flows," Evaluation Report, 2020. Available at: https://ieo.imf.org/en/our-work/Evaluations/Completed/2020-0930-imf-advice-on-capital-flows

Jara, Alejandro, and Eduardo Olaberría (2013), "Are all Capital Inflows Associated with Booms in House Prices? An Empirical Evaluation", Banco Central de Chile, Documentos de Trabajo No 696

Jaumotte, Florence, Subir Lall, and Chris Papageorgiou (2008), "Rising Income Inequality: Technology, or Trade and Financial Globalization?", IMF Working Paper 08/185

Jensen, Nathan M., and Guillermo Rosas (2007), "Foreign direct investment and income inequality in Mexico, 1990-2000", International Organization, Vol 61, No 3, pp 467-487

Kalemli-Ozcan, Sebnem, Luis Servén, Stefan Avdjiev, and Bryan Hardy (2017), "Gross Capital Inflows to Banks, Corporates and Sovereigns", CEPR Discussion Paper DP11806

Kaminsky, Graciela L., Carmen M. Reinhart, and Carlos A. Végh (2004), "When It Rains, It Pours: Procyclical Capital Flows and Macroeconomic Policies", NBER Working Paper 10780

Kehoe, Timothy J., and Felipe Meza (2012), "Catch-up Growth Followed by Stagnation: Mexico, 1950-2010", Federal Reserve Bank of Minneapolis, Working Paper 693

Kim, Soyoung, and Doo Yang Yang (2009), "Do Capital Inflows Matter to Asset Prices? The Case of Korea", Asian Economic Journal, Vol 23, No 3, pp 323-348

Koczan, Zsoka and Franz Loyola (2018), How do migration and remittances affect inequality? A case study of Mexico. IMF Working Paper No. 18/136

Krueger, Anne (1983), Trade and Employment in Developing Countries, Volume 3: Synthesis and Conclusions, Chicago: University of Chicago Press.

Krusell, Per, Lee E. Ohanian, José-Víctor Ríos-Rull, and Giovanni L. Violante (2000), "Capital-Skill Complementarity and Inequality: A Macroeconomic Analysis", Econometrica, Vol 68, No 5, pp 1029-1053

Laeven, Luc, and Fabián Valencia (2012), "Systemic Banking Crises Database: An Update", IMF Working Paper 12/163

Lane, Philip R. (2012), "Financial Globalisation and the Crisis", Prepared for the 11th BIS Annual Conference on " The Future of Financial Globalisation," Lucerne, June 21-22, 2012

Lane, Philip R., and Gian Maria Milesi-Ferretti (2007), "The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970-2004", Journal of International Economics 73 (2007) 223-250

Lane, Philip R., and Gian Maria Milesi-Ferretti (2018), "The External Wealth of Nations Revisited: International Financial Integration in the Aftermath of the Global Financial Crisis", IMF Economic Review (2018) 66: 189-222

Larrain, Mauricio (2017), "Capital Account Opening and Wage Inequality," Review of Financial Studies 26, pp.555-587.

Lee, Jong-Eun (2006), "Inequality and globalization in Europe", Journal of Policy Modeling 28 (2006) 791-796

Lenza, Michele, and Jiri Slacalek (2018), "How does monetary policy affect income and wealth inequality? Evidence from quantitative easing in the euro area", ECB Working Paper Series No 2190, October 2018

Levy-Yeyati, Eduardo, and Tomas Williams (2011), "Financial Globalization in Emerging Economies: Much Ado About Nothing?", Latin America Initiative at Brookings

Lopez-Acevedo, Gladys, and Angel Salinas (2000), "How Mexico's Financial Crisis Affected Income Distribution", The World Bank Policy Research Working Paper 2406

Margolis, David, Luis Miotti, El Mouhoub Mouhoud, Joël Oudinet (2013), "To Have and Have Not": Migration, Remittances, Poverty and Inequality in Algeria." IZA Discussion Paper 7747, Institute for the Study of Labor, Bonn

Marin, Dalia (2004), "'A Nation of Poets and Thinkers' – Less So with Eastern Enlargement? Austria and Germany", Munich Discussion Paper No. 2004-6

McKenzie, David and Hillel Rapoport (2007), "Network effects and the dynamics of migration and inequality: Theory and evidence from Mexico." Journal of Development Economics 84 (1): 1-24

Mihaylova, Svilena (2015), "Foreign direct investment and income inequality in Central and Eastern Europe", Theoretical and Applied Economics, Vol XXII (2015), No 2(603), pp 23-42

Milanovic, Branko (2005), "Can We Discern the Effect of Globalization on Income Distribution? Evidence from Household Surveys", The World Bank Economic Review, Vol 19, No 1, pp 21-44

Möllers, Judith and Wiebke Meyer (2014), "The Effects of Migration on Poverty and Inequality in Rural Kosovo." IZA Journal of Labor & Development 3 (16)

Morisset, Jacques (2003), "Does a Country Need a Promotion Agency to Attract Foreign Direct Investment?", The World Bank Policy Research Working Paper 3028

Mughal, Mazhar, and Amar Iqbal Anwar (2012), "Remittances, Inequality and Poverty in Pakistan: Macro and Microeconomic Evidence." CATT Working Paper 2, Centre d'Analyse Théorique et de Traitement des données économiques, Cedex

Mundell, Robert (1957), "International Trade and Factor Mobility," American Economic Review 47, pp.321-335.

Ndikumana, Léonce, and James K. Boyce (2018), "Capital Flight from Africa: Updated Methodology and New Estimates", PERI Research Report, June 2018

Neri, Marcelo C., and Mark R. Thomas (2000), "Household Educational Responses to Labor-Market Shocks in Brazil, 1982-99", May 31, 2000

Ostry, Jonathan, Prakash Loungani and Andrew Berg (2019), Confronting Inequality: How Societies Can Choose Inclusive Growth, New York: Columbia University Press.

Pallage, Stéphane, and Michel A. Robe (2002), "Foreign Aid and the Business Cycle", Review of International Economics, Vol 9, Issue 4.

Pavcik, Nina (2017), "The Impact of Trade on Inequality in Developing Countries," NBER Working Paper no.23878.

Pereznieto, Paola (2010), "The Case of Mexico's 1995 Peso Crisis and Argentina's 2002 Convertibility Crisis", UNICEF Social and Economic Policy Working Paper, December 2010

Piketty, Thomas, Emmanuel Saez, and Gabriel Zucman (2018), "Distributional National Accounts: Methods and Estimates for the United States", The Quarterly Journal of Economics 131(2), pp 519-578

Presbitero, Andrea F., Dhaneshwar Ghura, Olumuyiwa S. Adedeji, and Lamin Njie (2015), "International Sovereign Bonds by Emerging Markets and Developing Economies: Drivers of Issuance and Spreads", IMF Working Paper 15/275

Razin, Assaf, and Efraim Sadka (2019), "Welfare State, Inequality, and Globalization: Role of International-Capital-Flow Direction", NBER Working Paper 25772

Reardon, Thomas, C. Peter Timmer, Christopher B. Barrett, and Julio Berdegué (2003), "The Rise of Supermarkets in Africa, Asia, and Latin America", American Journal of Agricultural Economics, Vol. 85., No. 5, pp. 1140-1146

Reinhart, Carmen M., and Vincent R. Reinhart (2008), "Capital Flow Bonanzas: An Encompassing View of the Past and Present", NBER Working Paper 14321

Reinhart, Carmen M., and Kenneth S. Rogoff (2009), "The aftermath of financial crises", American Economic Review 99, no. 2, pp 466-472

Rivera, Carmen Guadalupe Juárez, and Gerardo Ángeles Castro (2013), "Foreign direct investment in Mexico: Determinants and its effect on income inequality", Contaduría y Administración 58 (4), August-December 2013: 201-222

Robertson, Raymond (2007), "Trade and Wages: Two Puzzles from Mexico", The World Economy pp 1378-1398

Rodrik, Dani (1998), "Capital Mobility and Labor", Draft paper prepared for the NBER workshop on Trade, Technology, Education, and the U.S. Labor Market, April 30-May 1, 1998

Rodrik, Dani (2006), "The Social Cost of Foreign Exchange Reserves", CEPR Discussion Paper Series No. 5483

Schmitz, Kai and Isaku Endo (2011), „Lowering the cost of sending money home", Finance and Development, June 2011Sierra, Jesus (2014), "International Capital Flows and Bond Risk Premia", Quarterly Journal of Finance, Vol 4, No 1

Shafiullah, Muhammad (2011), "Foreign Aid and its Impact on Income Inequality", International Review of Business Research Papers Vol 7, No 2, pp 91-105

Stark, Oded, J. Edward Taylor, and Shlomo Yitzhaki (1988), "Migration, Remittances and Inequality: A Sensitivity Analysis using the Extended Gini Index." Journal of Development Economics 28: 309–22

Suanes, Macarena (2016), "Foreign direct investment and income inequality in Latin America: a sectoral analysis", CEPAL Review 118, April 2016

Svensson, Jakob (2000), "Foreign aid and rent-seeking", Journal of International Economics, Vol 51, Issue 2, pp 437-461

Sy, Amadou N. R. (2019), "Fintech in Sub-Saharan Africa: A Potential Game Changer", IMFBlog, February 14, 2019

Sylwester, Kevin (2005), "Foreign direct investment, growth and income inequality in less developed countries", International Review of Applied Economics, 19(3), pp 289-300

Taylor, J. Edward, Richard Adams, Jorge Mora and Alejandro López-Feldman (2009), "Remittances, Inequality and Poverty: Evidence from Rural Mexico." Available at http://essays.ssrc.org/acrossborders/wp-content/uploads/2009/08/ch6.pdf

Te Velde, Dirk (2003), "Foreign Direct Investment and Income Inequality in Latin America", Overseas Development Institute, April 2003

Te Velde, Dirk, and Oliver Morrissey (2003), "Do Workers in Africa Get a Wage Premium if Employed in Firms Owned by Foreigners?", Journal of African Economies, Vol 12, No 1, pp 41-73

Te Velde, Dirk, and Oliver Morrissey (2004), "Foreign Direct Investment, Skills and Wage Inequality in East Asia", Journal of the Asia Pacific Economy, 9(3), pp 348-369

Thomas, Duncan, Kathleen Beegle, Elizabeth Frankenberg, Bondan Sikoki, John Strauss, and Graciela Teruel (2004), "Education in a crisis", Journal of Development Economics 74 (2004) 53-85

Tsai, Pan-Long (1995), "Foreign Direct Investment and Income Inequality: Further Evidence", World Development, Vol. 23, No. 3, pp. 469-483

United Nations Office on Drugs and Crime (2011), "Estimating Illicit Financial Flows Resulting from Drug Trafficking and Other Transnational Organized Crimes", Research Report, October 2011

Waldkirch, Andreas (2008), "The Effects of Foreign Direct Investment in Mexico since NAFTA", MPRA Paper No 7975

Wolff, Edward N. (2010), "Recent Trends in Household Wealth in the United States: Rising Debt and the Middle-Class Squeeze – an Update to 2007", Levy Economics Institute Working Paper No. 589

Wood, Adrian (1997), "Openness and Wage Inequality in Developing Countries: The Latin American Challenge to East Asian Conventional Wisdom," World Bank Economic Review 11, pp.33-57.

Yagan, Danny (2019), "Employment Hysteresis from the Great Recession", Journal of Political Economy Vol 127, No 5