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THE REAL EFFECTS OF FINANCIAL GLOBALIZATION WHAT DO THE DATA SAY?

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ABSTRACT

This essay reviews empirical studies showing that financial liberalization is associated with large gross capital inflows but smaller net capital inflows; does not have clear payoffs in terms of growth; and has costs in terms of volatility and inequality.

Keywords: Capital Flows, Income Growth and Inequality.
JEL codes: F21, G15.

What are the macroeconomic effects of financial globalization? Neoclassical economic theory suggests that financial globalization, defined as the ability and willingness of individuals and firms to save and invest offshore, should have a positive effect on income per worker in capital-scarce countries and reduce the relative volatility of consumption in all countries.

The expected effect on income per capita (and growth in the transition to the new steady state) is linked to the fact that, with decreasing returns to individual factors of production, return to capital should be high in economies with limited amount of capital. In the presence of large return differentials, financial globalization should lead to net capital inflows to poor economies. These inflows, often referred to as foreign savings, will then complement domestic savings and allow for higher investment and growth rates. Certain types of capital flows, such as foreign direct investments,

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can also lead to technological spillovers. Financial globalization may also have collateral benefits which include financial deepening, institutional improvement, and better macroeconomic policies (Kose *et al.* 2009; for a critical view of these collateral benefits see Rodrik and Subramanian 2009).

Economic theory does not have sharp predictions about the effect of financial globalization on the volatility of GDP growth. On the one hand, globalization may reduce output volatility through product diversification. On the other hand, globalization can expose countries to external financial shocks. Along the same line, theory does not have sharp predictions about consumption volatility, which can be influenced by output volatility. As long as consumers have concave preferences, theory is instead clear about the effect of financial globalization on the relationship between output volatility and consumption volatility. As financial globalization allows for some degree of international risk sharing, it should also allow consumers to smooth the effect of temporary income shocks and hence reduce the ratio between consumption and output volatility.

So much for theory, but what do the data say about the relationship between financial globalization and each of output growth and volatility? A first challenge in answering to this question relates to measuring financial globalization. This is difficult from both a conceptual and practical point of view. Researchers have been using two types of measures of financial globalization: *de jure* and *de facto*.

De jure measures are based balance of payment regulations, restrictions, and controls. They are usually built by numerically coding the International Monetary Fund's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) which describes more than 60 different types of controls. The most comprehensive, in terms of time and country coverage, of these de facto measures is the Chinn and Ito (2006) index of Financial Openness. The index, which is available for up to 182 countries from 1970 to 2015, is normalized to have mean zero and ranges between -1.9 and 2.3 (a higher value is associated with more financial openness). In 1970 the cross-country average was -0.45 and in 2015 the cross-country average was 0.36. The top panel of Figure 1 shows the evolution of the index for three groups of countries: advanced economies, emerging markets, and low income. In advanced economies, de jure financial globalization started immediately after the collapse of the Bretton Woods System in the early 1970s and continued rapidly until the mid-1990s when the cross-country average of the index reached a value of 2. Most developing countries had highly regulated capital accounts until the early 1990s when many emerging market economies started removing capital controls and liberalizing their domestic financial systems. The process of capital account opening and financial deregulation in emerging market economies peaked in 2007

when, in response to the global financial crisis, several emerging market countries started reintroducing some types of capital controls, mostly on inflows. There were no similar liberalization and re-regulation processes in low income countries.

There are problems with de jure measures of financial globalization. First, they do not capture the degree or effectiveness of enforcement of capital controls, which varies both across countries and over time. Second, there could be prudential measures that limit financial integration but are not listed in the AREAER because they are not balance of payment restrictions. Finally, certain countries could be very open but receive no inflows.

These arguments suggest that de facto measures could be preferable to de jure measures of financial globalization. There are two types of de facto measures: price-based and quantity-based.

Price-based measures of financial globalization rely on the idea that with perfect integration identical financial assets which are traded in different countries should have the same price (if not, there would be arbitrage possibilities). While theoretically appropriate, such measures are difficult to apply to developing economies as it is often difficult to find identical financial instruments which trade in different countries.

Quantity-based measures of financial globalization use actual cross-border financial flows.[1] As cross-border flows tend to be volatile, de facto financial globalization is normally measured as the sum of the gross stocks of foreign assets and liabilities over GDP. Data on gross liabilities and assets are sourced from Lane and Milesi-Ferretti (2007) and this indicator is sometimes referred to as the Lane Milesi-Ferretti index of financial globalization.[2] Figure 2 describes the evolution of the Lane and Milesi-Ferretti index and compares it with a standard measure of trade globalization (imports plus exports as a share of GDP). Until the early 1990s, de facto globalization grew at similar pace (just above the growth rate of trade globalization) in both developing and advanced economies. After 1990s, these groups of countries decoupled. De facto financial globalization continued to grow at a slow pace in developing countries but grew rapidly in advanced economies where the index climbed from approximately 100 in 1990 to 500 in 2010.

There is a large number of studies that assess the effect of financial globalization on growth and volatility (two classic surveys are Kose et al., 2009

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[1] They are similar to measures of trade globalization which use total imports and exports as a share of GDP.

[2] Lane and Milesi-Ferretti (2007) assembled a detailed dataset describing the international financial positions of up to 210 countries starting in 1970.

and Rodrik and Subramanian 2009, see Abraham and Schmukler, 2017, for a more recent survey). The consensus is that the growth effects of financial globalization are either inexistent or very small (however, see Henry, 2007, for a dissenting view) and that financial globalization is associated with higher macroeconomic volatility and no benefits in terms of the relative volatility of consumption.

Why is there a disconnect between theory and empirical evidence? One possible explanation is that the neoclassical view of the world is wrong (Goldstein and Hillard, 2009, present a heterodox perspective on the effects of globalization). Alternatively, the disconnect can be explained with the presence of market and government failures within standard neoclassical economic models.

There are two problems with the worldview that financial globalization allocates savings to high-return capital-scarce countries. First, net flows to capital-scarce countries are not as large as predicted by standard models (in fact, there are cases in which capital moves from poor to rich countries). This the Lucas (1990) puzzle. Second, rather than flowing to high productivity countries, capital seems to be flowing to low productivity developing countries. This is the allocation puzzle (Gourinchas and Jeanne 2013).

Explanations for the Lucas puzzle include the lack of complementary human capital (Lucas 1990), poor institutions (Alfaro, Kalemli-Ozcan and Volosovych 2007), and the presence of capital controls (Reinhardt, Ricci and Tressel 2013). Another possible explanation is that developing countries may decide to abstain from tapping foreign savings simply because borrowing abroad is too risky to be sensible. There is evidence that developing and emerging market countries have precarious and procyclical access to international finance (Galindo and Panizza 2017) and that tapping foreign savings by running large and persistent current account deficits has costs in terms of output volatility without any benefits in terms of higher growth (Cavallo, Eichengreen and Panizza 2017).

As they tend to lose market access during recessions, developing countries are often forced to implement growth-reducing procyclical fiscal policies (Gavin and Perotti 1997). Public investment is often the adjustment variable and losing access to international financial flows can lead to budgetary cuts which, besides deepening the recession in the short term, may also have long-term implications as these cuts tend to concentrate on public investment (Easterly, Irwin and Servén 2008) and infrastructure investment (Serebrisky *et al.* 2015). Moreover, external debt is often denominated in foreign currency (Eichengreen, Hausmann and Panizza 2007) and funding domestic investment projects that do not generate foreign earnings with foreign currency debt can lead to dangerous currency mismatches. The literature on sudden stops (Calvo, Izquierdo and Mejía 2004, and Cavallo and

Frankel 2008) shows that countries that rely heavily on foreign savings tend to face sudden capital flights. These sudden stops force the affected country to abruptly close its current account deficit. This outcome is usually achieved through a combination of real exchange rate depreciation and import contraction, both of which are typically accompanied by recessions, especially in the presence of foreign currency debt. Hausmann and Panizza (2011) show that, in the presence of foreign currency debt, countries may be better off from abstaining from having a net external debt. If the private sector borrows abroad, the government may decide to offset private foreign liabilities by accumulating international reserves.

Gourinchas and Jeanne (2013) show that the allocation puzzle is really a savings puzzle. High productivity countries save more than low productivity countries and the public sector invests some of these savings abroad by accumulating international reserves. Higher saving rates in developing countries may be associated with precautionary savings in the absence of sound social insurance systems, or be an outcome of financial repression or, more in general, be related to the presence of domestic financial frictions. However, these elements cannot explain why savings rates are high in high-productivity East Asia and low in lower productivity Sub-Saharan Africa and Latin America (for a discussion of saving rates in Latin America, see Cavallo and Serebrisky 2016). The explanation is more likely to be related to the fact that it is growth that causes savings and not the other way around (the link from growth to savings can be easily rationalized with a habit persistence model in the spirit of Keynes's original analysis, Carroll and Weil 1994, and Carroll, Overland and Weil 2000). If fast growing economies have higher saving rates, they will not benefit from financial globalization as they do not need foreign savings.

Rodrik and Subramanian (2009) suggest that foreign capital does not lead to economic growth because many developing economies are "investment" constrained (i.e., they do not have enough investment opportunities) rather than being "savings" constrained. When capital flows into a saving constrained economy, the interest rate goes down and investment and economic growth increase. This is the textbook model in which the capital inflow leads to higher growth. In investment constrained economies, instead, capital inflows lead to a consumption boom and to an appreciation of the real exchange rate. The fact that the capital inflows are not invested but consumed is likely to lead to future crises (because, without investment, the country will not be able to repay its foreign debt) and the real appreciation will reduce the competitiveness of the manufacturing sector and growth.

Broner and Ventura (2016) propose a theory in which financial crises are driven by a change in government behavior resulting from financial glo-

balization. They assume that governments care more about the welfare of domestic investors and that when a large share of domestic financial assets are owned by non-residents governments stop taking actions that reduce the probability of financial crises. In this analysis, the link between financial globalization and financial crises depends on country characteristics that include GDP per capita and institutional quality. The model is also consistent with the observation that large gross financial flows are not matched by large net flows. Foreign borrowing by private agents is matched by the accumulation of foreign assets by other private agents and financial globalization results in foreign source of financing that are cheap but risky (because they are volatile and denominated in foreign currency) and a loss of safer domestic source of financing. The model shows that, under certain conditions, entrepreneurs borrow too much from foreigners and savers do not lend enough domestically. Broner and Ventura (2016) conclude that a combination of controls on capital inflows and outflows could help in ensuring that financial globalization leads to higher growth without increasing volatility.

Another potential negative side effect of financial globalization is an increase in income inequality. Recent papers have suggested that large financial markets (or financial liberalization) can be a source of inequality (Denk 2015; Denk and Cazenave-Lacroutz 2015; Brei, Ferri and Gambacorta 2016). A growing financial sector may lead to rising income at the top of the distribution by favoring access to investment products that are typically held by the rich. The very high wages earned by people in the financial industry are another source of growing incomes at the very top. Van der Weide and Milanovic (2014) also find a positive correlation between the size of the financial sector and income growth in top incomes in the US since the 1960s. While most research focuses on the effect of domestic finance on income inequality, recent work by Furceri and Loungani (2015) and Furceri, Loungani, and Ostry (2017) suggests that capital account liberalization has led to a significant increase in inequality especially in countries with low financial depth and inclusion.

Summing up, while "economic theory leaves no doubt about the potential advantages" of capital account liberalization (Obstfeld 1998), the empirical evidence seems to contradict this clear-cut economic prediction. Financial globalization is associated with large gross capital inflows but smaller net capital inflows, it does not have clear payoffs in terms of growth, and has costs in terms of volatility and inequality. More empirical and theoretical work is needed to improve our understanding of the underwhelming effects of financial globalization.

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Figure 1: *De jure financial globalization*.

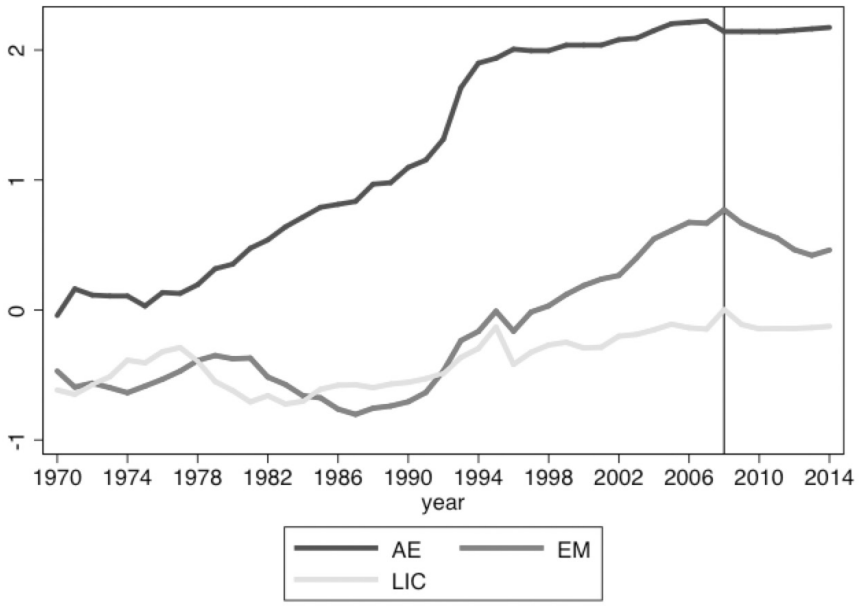
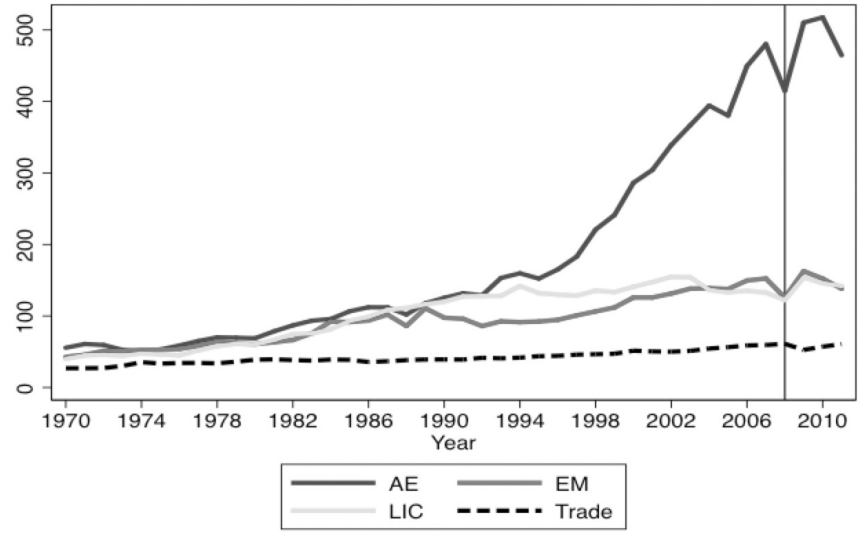


Figure 2: *De facto* financial globalization.



Source: Own elaboration based on Lane and Milesi-Ferretti and World Bank data.