Partners, Not Debtors: The External Liabilities of Emerging Market Economies

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by

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Abstract

This paper investigates the change in the composition of the liabilities of emerging market countries from primarily debt (bonds, bank loans) to equity (foreign direct investment, portfolio) in the decades preceding the global financial crisis. We investigate the determinants of equity and debt liabilities on external balance sheets in a sample of 21 emerging market economies and 20 advanced economies over the period of 1981-2013. We use a new measure of domestic financial development that allows us to distinguish between financial institutions and financial markets. Our results show that the development of financial markets is linked to an increase in equity liabilities, and in particular, portfolio equity. FDI liabilities are more common when financial institutions are not well developed. Larger foreign exchange reserves are associated with larger amounts of portfolio equity. Moreover, countries with higher economic growth rates have larger amounts of equity liabilities. Domestic credit is inversely related to the share of equity in all liabilities. Foreign debt, on the other hand, is inversely related with the development of domestic financial markets. Larger amounts of debt liabilities are also associated with smaller foreign reserve holdings, lower growth rates and larger amounts of domestic credit.

JEL codes: F21, F34, F36

Keywords: equity, FDI, portfolio equity, debt

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1. Introduction

After the debt crisis of the 1980s, many emerging market nations altered the composition of the assets and liabilities that appear on their external balance sheets (Figure 1). The emerging market economies, which had obtained external funds primarily through debt in the form of bonds or bank loans, increasingly turned to equity, either as foreign direct investment (FDI) or portfolio equity, for sources of finance. As a result, their equity liabilities grew steadily, both in terms of magnitude and relative to their debt liabilities, and became the predominant component on their balance sheets. Figure 2 presents the amounts of equity and debt liabilities scaled by total external liabilities for a sample of 21 emerging economies during the period of 1981 through 2013. Figure 3 shows the share of equity liabilities on their balance sheets at the beginning and end of this period, when the equity proportion rose from 14% to 57%. The advanced economies, on the other hand, continued to primarily issue debt, although there was an increase in their use of equity. Figure 4 presents the averages of equity and debt liabilities in a sample of 20 advanced economies during the same period, and Figure 5 shows the change in their balance sheets.[1] Equity liabilities rose during this period from about 18% to 36%.

This change in the composition of the external balance sheets of the emerging market nations has been widely noted (Kose and Prasad 2010). In addition, the consequences for economic performance of the different forms of capital have been investigated (see Section 2). Equity is more likely to contribute to growth, and FDI is more stable during periods of financial volatility than debt. However, the reasons for the transformation of the liabilities of the emerging markets are not well understood.

This paper investigates the determinants of the increase in the issuance of equity liabilities by emerging market economies over several decades. Our work makes several contributions to the literature on foreign assets and liabilities. First, we use data over a 32-year span (1981-2013) to track the evolution of the shift from debt to equity. Previous studies often used shorter time periods that did not capture the full range of the transformation. Second, we use a new index of domestic financial development, which allows us to distinguish between financial institutions and markets and their impact on external liabilities. Third, the reserves of foreign exchange held by the central banks of many emerging economies also rose during this period. We examine whether foreign reserves affected the type of liability on a country's external balance sheet. Fourth, we investigate the determinants of the issuance of equity, but we also decompose equity to FDI and portfolio equities to see how their determinants differed. Fifth, we use a dynamic specification of our model.

Our results show that the development of the domestic financial sector, and in particular financial markets, is linked to an increase in portfolio equity. FDI was inversely related to the development of financial institutions. In addition, countries with larger holdings of foreign exchange assets have more portfolio equity liabilities on their balance sheets. Higher economic growth rates are positively associated with both forms of equity. Debt, on the other hand, does not have a linkage with financial development, but does accompany an increase in domestic credit. Moreover, countries that issued debt had smaller foreign exchange holdings and lower growth rates. The rise in the share of equity liabilities on external balance sheets, therefore, is linked to increased financial development, more foreign exchange reserves, and higher growth rates.

The next section of the paper reviews theoretical analyses and empirical investigations of the factors that can affect the composition of a country's external liabilities. Section 3 presents the data and methodology to be utilized in this study, and Section 4 reports and analyzes our results. Section 5 presents extensions of the empirical analysis and tests of robustness. The last section reviews the main findings and the latest developments on the external balance sheets of the emerging markets.

2. Analysis and Literature Review

Lane and Milesi-Ferretti (2001b, 2007) in a series of seminal papers provided data and analysis on the external assets and liabilities of a wide range of countries. They pointed out that the pace of international financial integration, as measured by the amount of foreign assets and liabilities scaled by GDP, was more gradual in emerging markets and developing countries than the increase in the advanced economies. They also noted that the share of the emerging markets nations' foreign liabilities held in the form of debt peaked in the mid-1980s and then fell as the share of equity—primarily FDI (see Figure 6)—rose. The increase in equity liabilities coincided with an increase in external assets held as debt and foreign exchange reserves (primarily U.S. Treasury bonds), a profile called "long debt, short equity." The advanced economies, on the other hand, held larger proportions of their assets in the form of equity while their liabilities were predominantly debt, a profile of "long equity, short debt."

A number of studies have demonstrated that the configuration of external balance sheets affects economic performance during periods of volatility.[2] Lane (2013) has claimed that the composition of the emerging markets' foreign assets and liabilities served as a buffer against the global financial crisis (GFC) of 2007-09, while the contrasting profile of advanced economies'

balance sheets heightened their vulnerability. Similarly, Gourinchas, Rey and Govillot (2010) have maintained that the U.S. provides "insurance" to other countries against the effects of a crisis through its holdings of their equities. The decline in equity values raised the net international investment position of those countries that had issued equity liabilities, while lowering the international positions of those what held the equity.

The role of external balance sheets in transmitting the effects of the GFC has been investigated in several empirical studies. Gourinchas, Rey and Truempler (2012) measured the wealth transfers that took place during the GFC. Joyce (2015) reported that countries with primarily FDI liabilities had higher growth rates, fewer bank crises and were less likely to borrow from the IMF during the GFC. Countries that entered the crisis with relatively more debt liabilities on their external balance sheets had more bank crises and were more likely to use IMF credit. Similarly, Al-Saffar, Ridinger and Whitaker (2013) found that external debt liabilities contributed to the deviation of GDP in 2009 from its 1997-2007 trend. These results match those of earlier studies that found that equity and debt liabilities have different impacts on the probabilities of financial crises.

Several theoretical models have been offered to explain the difference in the composition of external asset and liability holdings between the advanced and emerging countries. Many of these have focused on the size and features of their financial systems. Mendoza, Quadrini and Ríos-Rull (2009), for example, presented a model in which countries differ by the degree of enforcement of financial contracts. Residents of countries with financial markets with better security provisions invest in the high-return but relatively risky equity issued by countries with less developed financial markets, which in turn hold the debt issued by the countries with developed financial markets.

Similarly, Devereux and Sutherland (2009) offered a model of capital flows in which emerging markets foster international risk sharing by holding international bonds while selling equity claims to advanced economies. Mendoza and Smith (2014) analyzed the impact of financial crises on the holdings of equity and bonds in emerging markets with financial frictions. A financial crisis that follows financial liberalization in an emerging economy will induce domestic agents to rebalance their portfolios towards less equity and more risk-free bonds.

Vermuelen and de Haan (2014) undertook an empirical analysis of the relationship between financial development and net asset positions in 50 countries over the period of 1970-2007. They used the ratio of credit extended to the private sector by banks and other financial institutions scaled by GDP as their measure of financial development. They reported that financial development resulted in higher net equity and lower net debt positions, which they interpreted as confirmation of the model of Mendoza, Quadrini and Ríos-Rull (2009).

Other empirical studies have concentrated on the role of financial reforms and institutions in attracting equity, and these have indicated that emerging markets draw foreign equity investors when their domestic financial markets have been strengthened. Faria et al. (2007), for example, examined the share of equity in the composition of the external liabilities of 74 countries in two years, 1996 and 2004. They reported that financial reform *increased* the issuance of equity over time, while better institutional quality, as measured by the World Bank Governance Indicators, was a significant factor in increasing equity liabilities in their cross-country results. Faria and Mauro (2009) also found in another empirical study that included 22 advanced and 72 emerging and developing economies that the share of equity in external liabilities was associated with better institutional quality.

There are also studies that distinguish among FDI, portfolio equity and debt. Smith and Valderrama (2009) offer a model that features a cyclical pattern in the different types of capital inflows. Debt and portfolio equity finance domestic investment in the initial stages of a business cycle, and are followed by FDI. Ju and Wei (2010) compare developed countries with efficient financial systems and strong property rights with emerging market economies that have weak financial systems and intermediate levels of property rights. In their model the latter countries export financial capital but are net issuers of FDI.

Similarly, Wei (2006) in an empirical analysis examined how financial and institutional development affects the composition of external liabilities in 94 countries in 2003. He found that corruption led to smaller stocks of FDI and portfolio debt, but more foreign loans. Financial development, as measured by the sum of the ratios of stock market capitalization and private sector credit to GDP, boosted the issuance of portfolio equity and discouraged FDI.

The empirical studies cited above often concentrated on the relative share of a class of liabilities, such as equity. Other empirical analyses of balance sheets have focused on the determinants of the different foreign liabilities as proportions of GDP. Lane and Milesi-Ferretti (2001a), for example, reported results for both specifications in their analysis of the liabilities of 22 industrial and 121 developing economies in 1997. They found that FDI as a proportion of GDP was related positively to trade openness in both groups of countries, as was debt; however, the ratio of equity to debt responded positively to trade openness in the developing countries, indicating that the impact on equity was greater than the effect on debt. The capitalization of a country's stock market increased FDI in the industrial countries and portfolio equity in all the countries, and a rise in the equity/debt ratio in the industrial countries.

Lane and Milesi-Ferretti (2001b) reported similar results in a study of 22 industrial and 45 developing economies. Trade openness increased FDI and portfolio equity liabilities in the developing economies as well as the equity/debt ratio. Larger developing economies were more likely to issue portfolio equity.

Furceri, Guichard and Rusticelli (2012) investigated the amounts of FDI, portfolio equity and debt liabilities scaled by GDP for 70 countries in 2007. Trade openness contributed to FDI but lowered the use of debt. GDP per capita was positively associated with portfolio equity but inversely related to FDI per capita. Financial development contributed to an increase in the issuance of portfolio equity.

The evidence on the impact of financial development on the issuance of equity liabilities, therefore, is mixed. While Vermuelen and de Haan (2014) found that financial development was inversely linked to the issuance of equity, Faria et al. (2007) reported that financial reform contributed to an increase in the share of equity on a country's external balance sheet. When FDI and portfolio equity are treated separately, several authors (Lane and Milesi-Ferretti 2001a, Wei 2006, Daude and Fratzscher 2008, Furceri and Guichard 2012) find that financial development leads to the issuance of more portfolio equity.

Our research, therefore, builds on this previous work in several dimensions. First, our sample period, which begins in 1980 and extends through 2013, is longer than those of many earlier studies. Second, we examine whether a central bank's holdings of foreign reserves affect the type of liability of its external balance sheet. Third, we use a new measure of financial development. Fourth, we investigate the linkage of financial development with equity, both as an aggregate as well as with its components. We also look at other possible determinants of the composition of external liabilities, including trade and financial openness.

3. Data and Methodology

We obtained data for 41 countries, which included 21 emerging market economies and 20 advanced economies, over the period of 1981 through 2013. The emerging market economies included nations that became integrated into global capital markets during this time period. We based our choice on the nations listed in the MSCI Emerging Market Index, and those included in the emerging market category in Kose, Ortok and Prasad's (2012) study of global business cycles.[3] We did not include small financial centers with oversized financial holdings (Hong Kong, Iceland, Ireland, Luxembourg, Singapore) or those with populations below one million. We also excluded the countries that became market economies in the wake of the dissolution of the Soviet Union, as their financial data commence in the 1990s and do not include the earlier period when debt liabilities were more common. The countries included in the sample are listed in Appendix 1.

The data on external assets and liabilities were taken from the latest version of the "External Wealth of Nations" dataset, which was constructed by Lane and Milesi-Ferretti (2007).[4] We use the value of all equity liabilities scaled by total liabilities and multiplied by 100 (EqL/Lbt). We also use its components, FDI and portfolio equity liabilities (FDIL/Lbt, PrtL/Lbt), similarly measured, as well as debt liabilities (DbtL/Lbt).

Many of the models described above point to the accumulation of safe, foreign assets as the impetus behind the issuance of equity by emerging market countries. The increase in foreign exchange reserves to serve as self-insurance against capital outflows has been widely noted (Aizenman and Lee 2007). Therefore, we include the value of foreign exchange scaled as a percentage of GDP on a country's external balance sheet as a possible determinant (Fr Res/Y).

Financial development has often been measured by the amount of credit extended to the private sector, as explained above. However, there are limitations to this measure. The amount of private credit is also used as a measure of speculative activity in studies of financial crises, and does not reflect the strength and breadth of domestic financial institutions. Our primary measure of financial development, therefore, is an index recently released at the IMF, which was designed to capture the multidimensional nature of the development of financial institutions and markets.[5] The index ranges between zero and one, with greater values associated with higher development. The coverage includes 183 countries during the period of 1980 and 2013.

Svirydzenka (2016) provides a description of the index:

> Financial institutions include banks, insurance companies, mutual funds, and pension funds. Financial markets include stock and bond markets. Financial development is defined as a combination of depth (size and liquidity of markets), access (ability of individuals and companies to access financial services), and efficiency (ability of institutions to provide financial services at low cost and with sustainable revenues, and the level of capital markets).

We use the data on overall financial development (Fin Dev) and also its two subcomponents, financial institutions (Fin Inst) and financial markets (Fin Mar).[6] Figure 7 shows the average values of the Financial Development Index for the emerging markets and advanced economies in our sample. Financial development has advanced much further in the advanced economies, but has not risen in either group of countries since 2007. Figure 8 shows the values of the two-subcomponent indexes for the emerging markets. The development of financial markets caught up with that of financial institutions in these nations during the 1990s before

falling below during the global financial crisis. We also include private sector credit scaled by GDP (Dom Cr/Y) in the analysis for comparison.

The control variables are taken from the literature on capital flows and stocks.[7] They include several measures of the economy of the host country: the logarithm of each country's GDP measured in current dollars (Ln(Y)); the logarithm of GDP per capita, as measured in constant 2010 dollars, (Ln(Y/Pop)); and the annual growth rate of real GDP (%ΔY). There are measures related to the openness of the economy: trade openness as measured by exports and imports as a percentage of GDP (Trd Open) and financial openness, the sum of foreign assets and liabilities also scaled by GDP (Fin Open). In addition, the yield on U.S. Treasury notes (US Tr 10) is included to account for foreign "push" variables. A list of all the variables, their sources and descriptive statistics appears in Appendices 2 and 3.

In the estimation we use a specification that included a lagged dependent variable:

$$Y_{i,t} = \alpha Y_{i,t-1} + \beta' FR_{i,t} + \gamma' FD_{i,t} + \delta' X_{i,t} + \mu_{i,t} \qquad (1)$$

where $Y_{i,t}$ = measure of external liabilities

$FR_{i,t}$ = foreign reserves

$FD_{i,t}$ = measure of financial development

$X_{i,t}$ = control variables

$\mu_{i,t}$ = error term

i = country, t = time period

The coefficient of the lagged dependent variable can be related to the adjustment parameter in a partial adjustment model:

$$A_t - A_{t-1} = \lambda(A_t^* - A_{t-1}) \qquad (2)$$

where A* = the long-run level of a variable

λ = the parameter of adjustment between the actual value of A_t and its long-run level

The estimated coefficient on the lagged dependent variable, α, is equal to $(1-\lambda)$. Since our dependent variables are stock variables, we expect slow adjustment parameters.

Because of the presence of the lagged dependent variable, ordinary least squares estimates would be inconsistent. In addition, there is possible endogeneity among the regressors. In order to address these concerns, we use the generalized methods of moments system estimator developed by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998). The equation is transformed by taking first differences, and the lagged dependent variables and the endogenous regressors are instrumented with their lagged levels as well as any exogenous variables. Since the lagged levels may be poor instruments, the system estimator also includes the equation in levels, and these variables can be instrumented with their first differences. The U.S. 10-year Treasury bond rate is treated as exogenous, and therefore also serves as an instrument.

The test statistics include the results of tests for first- and second-order autocorrelation in the differences. Negative first-order serial correlation is expected in the differences, so the appropriate test for first-order correlation in levels is for second-order correlation in the differences. The probability value of the Hansen test statistic of the over-identification restrictions is also reported.

4. Results

Table 1 reports the results of our estimation of the determinants of equity liabilities as a proportion of all liabilities for the full sample of countries. The test statistics indicate that we cannot reject first-order autocorrelation as expected, but we can reject second-order

autocorrelation. The values of the Hansen test statistics indicate that the over-identification restrictions are valid.

We discuss first the results for the lagged dependent and control variables. The lagged dependent variable is significant at the 1% level in all estimations, and ranges in value from 0.91 to 0.96. The average value is 0.94, which yields an adjustment parameter to the long-run value of equity liabilities/GDP of only 0.06. This result is due in part to the stock nature of the data, which changes slowly over time.

The value of the coefficient on the logarithm of GDP is negative and significant at the 10% or higher levels in four estimations. This is consistent with the profile of the emerging market countries as "short equity," as opposed to the larger, more advanced economies. The growth rate of GDP, on the other hand, is positive and highly significant in all the estimations, with an average coefficient value of 0.183. A one percent rise in growth, therefore, is associated with an increase in the share of equity liabilities in all liabilities of about 0.2 of a percentage point.

The U.S. Treasury rate has a negative coefficient with an average value of 0.25 that is significant in two equations at the 1% level. A one percent rise in the U.S. rate lowers the proportion of equity liabilities by a quarter of a percentage point. This finding may reflect not only the impact of the rise in the foreign rate on the willingness of foreign investors to hold the equity of emerging market economies, but domestic rates as well if they are tied to the U.S. rate (see discussion of Table 7 below).

In addition, the coefficient on the foreign exchange variable is positive and significant at the 5% or 1% level in all six equations. A one percent increase in the ratio of foreign exchange to GDP leads to an average rise of 0.107 in the percentage share of equity liabilities in all liabilities.

This result is consistent with the hypothesis that countries issued equity liabilities to acquire risk-free foreign assets.

In terms of financial development, the domestic credit variable has a highly significant negative coefficient in equation 1.1. In equation 1.2 we replace it with the IMF's financial development variable. Its coefficient is positive and significant at the one percent level: countries with more financial development have more equity liabilities. If we convert the index's 0-1 scale to 0-100 range, then a one-point rise in the index raises the equity share of total liabilities by 0.10. In equation 1.3, we substitute for overall financial development with one of its two components, the financial institutions measure. This variable has a negative but insignificant coefficient. In equation 1.4, we include the financial markets variable and find a positive and highly significant coefficient that is similar in value to the coefficient on overall financial development (9.34 vs. 9.74). In equation 1.5, we include both components of financial development. In this specification, the negative coefficient on financial institutions is significant at the 10% level, while the financial markets measure continues to have a positive and highly significant impact. We add domestic credit in the last equation, and it is significant with a negative coefficient. Since we control for financial development, the impact of domestic credit on the issuance of equity must come through another channel, and we explore this below.

Equity liabilities held by foreigners, therefore, are more common when there are developed domestic financial markets. These are essential if foreign firms and individuals intend to purchase domestic shares either for a business acquisition or their portfolios. They also provide liquidity for future exit. Financial institutions, however, are not linked to the proportion of equity liabilities.

We next repeat the estimations using the specification of the empirical analysis reported in the first table but confine our sample to the 21 emerging market economies. These results appear in Table 2. These results are similar in many aspects to the results in Table 1, which is not surprising since the emerging market economies dominated the sample. The lagged dependent variable has positive and significant coefficients, with a slightly lower average value of 0.893 and an adjustment parameter of 0.107. Economic growth and foreign reserves again have positive and highly significant coefficients. The significance of the coefficients associated with GDP and the U.S. Treasury rate falls in some instances. Domestic credit again has a negative and significant coefficient. But the overall financial development variable and the financial markets variable again have positive and highly significant impacts, which are larger than those in the previous table. The emerging market countries with relatively more developed financial markets record more equity liabilities.

In Table 3, we use FDI liabilities scaled by total liabilities in the full sample as our dependent variable. Since FDI represents the larger share of the equity liabilities in the emerging market economies, it is not surprising that the coefficients are often similar to those reported in Table 1. However, there are differences. First, the lagged dependent variable has point estimates slightly above 1.00, indicating a high degree of inertia associated with the higher stability of FDI, as well as the possibility of omitted determinants. Second, the coefficients on GDP are insignificant in five of the six estimations. Smaller economies may have no advantage in attracting FDI. However, economic growth is significant in drawing FDI, as is was for all equity liabilities. Third, the negative coefficient of U.S. Treasury rate is significant at the 5% or 1% levels in only two of the five equations. Fourth, the foreign exchange variable is not significant

here. The issuance of FDI liabilities may be undertaken for other reasons than the acquisition of safe foreign assets.

The domestic credit variable has a negative and significant coefficient, as in Table 1. But the financial development variable in the following equation is no longer significant. However, the financial institutions variable has a *negative* coefficient that is significant at the 10% level in equations 3.3 and 3.6 and at the 5% level in equation 3.5. FDI is more common when financial institutions are not well developed, and may afford local entrepreneurs an alternative source of finance. This is consistent with the theories that predict that equity liabilities are more common in the absence of financial development if we consider the development of financial institutions as the relevant financial variable. On the other hand, the coefficient on financial markets is positive but insignificant in equation 3.4 and significant at the 10% and 5% levels in the last two estimation equations. The difference in signs between the two components of financial development explains the insignificance of financial development itself. Domestic credit again has a negative and significant impact.

Table 4 reports the result for the FDI liabilities within the emerging market sample, and these results are also broadly similar to those in the preceding table. However, one new result is that financial openness as measured by foreign assets and liabilities divided by GDP has a negative coefficient that is significant in three cases. FDI, therefore, may be a substitute for other international financial flows when domestic financial institutions and markets are not equipped to handle them. Financial development overall is insignificant. The coefficients of the financial institutions variable are again negative and significant at the 5% level in two equations, while the financial markets variable has a positive coefficient significant at the 10% level in only one

equation. The evidence shows that FDI is more common in the absence of well-developed domestic intermediaries that can channel credit to domestic firms.

In Tables 5 and 6, we use the share of portfolio equity in all liabilities as the dependent variable, and these results diverge from the FDI results in several dimensions. First, the lagged dependent variable coefficient is lower than those reported in the previous two tables. The average value of that coefficient is 0.81, which yields a partial adjustment parameter of 0.19, reflecting the more liquid nature of portfolio investments. Second, the coefficient of the logarithm of GDP is negative and significant at the 10% or 5% levels in five equations; a larger share of portfolio equity liabilities is associated with smaller economies. This result is the source of the negative linkage of all equity liabilities and GDP reported in Table 1. The growth rate of GDP, however, continues to have positive and significant coefficients.

Third, the foreign exchange variable has positive and significant coefficients in all the estimation equations: foreign reserves are associated with more portfolio equity, which drives the results for a positive relationship with all equity in Table 1. This result is consistent with Qian and Steiner's (2014) finding that foreign reserves raised the share of foreign portfolio equity investment in the stock of all foreign equity investment. They present a model that includes a risk premium on portfolio equity that reflects foreign investors' concerns of currency devaluation. Larger holdings of reserves reduce this risk premium, and therefore increase the holdings of portfolio equity.

The negative coefficient of the domestic credit variable is initially not significant. However, the financial development variable appears in equation 5.2 with a positive and highly significant coefficient, as do financial institutions and markets when they appear separately in equations 5.3 and 5.4, respectively. However, when both components of financial development

are used in equation 5.5, it is the coefficient for financial markets that retains its significance at the 1% level. Similarly, when domestic credit is added in equation 5.6, financial markets continue to have a positive and significant impact on the issuance of portfolio equity, while the domestic credit variable now has a highly significant negative coefficient.

More developed financial markets facilitate more external equity holdings, in part by providing liquidity to foreign investors. In a similar result, Qian and Steiner (2014) found that stock market capitalization raised the share of portfolio equity in all equity liabilities. Several of the studies cited in Section 2 (Daude and Fratzscher (2008), Furceri, Guichard and Rusticelli (2012), Lane and Milesi-Ferretti (2001a), Wei (2006)) also reported evidence of positive linkages between financial development and the holdings of portfolio liabilities by foreign investors.

We can compare the determinants of portfolio equity liabilities within emerging markets with those for the full sample, and those results appear in Table 6. In these estimations, GDP no longer has significant coefficients. In addition, the coefficient on foreign exchange is still positive but significant at only the 10% level. The results in the previous table may reflect the range of differences between advanced and emerging market economies that diminish when only the latter group is considered. On the other hand, financial development retains its significant positive impact in equation 6.2. The results for financial institutions and markets in the following equations again show that this result is due to the role of financial markets in promoting portfolio equity investment, as its coefficient again has positive coefficients that are significant at the 1% level in equations 6.4, 6.5 and 6.6.

We next examine the determinants of debt liabilities, and these results are reported for the full sample in Table 7. They are of course the opposite of those for the equity liabilities, but

several are worth noting. First, the values for the lagged dependent variable's coefficients are higher than those for portfolio equity, implying a smaller partial adjustment parameter. Second, the coefficients of GDP are positive but only significant at the 5% level in one estimation. Larger economies may been more likely to issue debt than smaller economies, consistent with the "short debt" profile of advanced economies. Third, economic growth has negative and significant coefficient estimates. Economies that have been growing more slowly are more likely to have debt liabilities, possibly because their return on equity will be lower. Third, the U.S. Treasury rate has positive coefficients that are significant at the 10% or 5% levels in five equations. If domestic rates are tied to a global rate such as the U.S. rate, then domestic debt will also yield a higher return when U.S. rates rise, which may attract foreign investors.[8] Fourth, the foreign exchange variable has a negative coefficient that is significant at the 10% level in three estimations and at 5% or 1% level in the last two. Countries with less foreign exchange reserves issue more debt.

The domestic credit variable is highly significant in equation 7.1. The issuance of debt to foreign lenders takes place when the extension of domestic credit to private borrowers has risen. Our results is consistent with several studies, such as those of Caballero (2014) and Lane and McQuade (2014), that have shown that debt inflows are linked to the growth of domestic credit, and often more bank crises.

The financial development variable, on the other hand, has a negative coefficient that is highly significant. When this variable is decomposed into financial institutions and markets, it is the lack of development of financial markets that explain this finding. Financial markets are *less* developed in countries that issue primarily debt. The domestic credit variable retains its highly

positive significant variable in the last equation; the channel of transmission is clearly not through financial development that also appears in the equation.

Similar findings are found in the results for the debt liabilities for the emerging market sample reported in Table 8. Debt liabilities, therefore, are more likely to be issued when a country is larger, has a lower growth rate, smaller foreign exchange reserves, and has recorded a rise in domestic credit. Financial development as manifested through financial markets is inversely related to the share of debt liabilities. In addition, a rise in U.S. interest rates is consistent with more external debt.

We can summarize the main results between countries that have recorded relatively more equity liabilities versus those with more debt. First, higher rates of economic growth are associated with relatively more equity liabilities. Second, equity liabilities are positively linked to foreign exchange reserves, while the opposite is true for debt. Third, domestic credit levels are inversely related to the share of equity in total liabilities, reflecting the linkage with debt. Fourth, financial development as measured by the IMF's new index, and in particular financial markets, contributes to more equity. If we differentiate between FDI and portfolio equity, other differences emerge. Portfolio equity is positively linked to foreign exchange reserves, but not FDI. FDI, on the other hand, is inversely related to the development of financial institutions.

We can compare these results with those reported when we use a different specification for the dependent variable: the ratio of equity liabilities to debt liabilities on the external balance sheet. We use the same control variables for comparison, and these results are reported in Table 9. Countries with relatively more equity liabilities on their balance sheets have higher economic growth rates, more foreign exchange reserves, less domestic credit but more developed financial markets (but not institutions). There is also some evidence that more equity is linked to lower

GDP, declining U.S. interest rates and financial openness. Most of these results recur when the estimations are done only for the emerging markets sample, as shown in Table 10. However, the coefficients of GDP , the U.S. Treasury rate and financial openness are generally insignificant.

These empirical characteristics are consistent with the experience of emerging markets over recent decades. These countries recorded rising growth rates in the 1990s and 2000s, particularly in recent decades. They accumulated large amounts of foreign reserves, particularly after the Asian crisis of 1997-98. The growth of their financial markets as they deregulated their financial sectors and became integrated into global financial markets attracted the interest of foreign investors, who seek higher returns from equity when domestic returns are low.

5. Extensions and Robustness

We sought to establish the robustness of our results by adding other variables that may have affected the relative composition of the liabilities that appear on external balance sheets. We retained the financial markets index, as it was the most robust measure of financial development. We first added two macroeconomic policy variables: inflation (Inf), measured as the percentage change in the Consumer Price Index, and government consumption expenditures as a proportion of GDP (Gov C/Y), multiplied by 100.

We also used two policy regime variables. The first is the Reinhart-Rogoff (2004) measure of exchange rate regimes (Ex Reg), which ranges on a scale from one to 15 with higher values indicating more flexible regimes.[9] The other policy regime variable is a measure of capital account openness introduced by Chinn and Ito (2006). The index (Cap Acc) is based on the data reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* regarding the existence of multiple exchange rates, restrictions on current and capital account

transactions, and requirements of export proceeds. Chinn and Ito calculate the first principal component of the data reported for each country to construct an index, where higher values denote fewer regulations.[10]

We included a measure of the risk to investments as reported by the PRS Group in its *International Country Risk Guide*. This is based on three subcomponents: contract viability/expropriation, profits repatriation and payments delays. The index ranges from zero to twelve points, with more points indicating less risk. Finally, we used a dummy variable for the occurrence of bank crises, using the dates reported in the Laeven and Valencia (2012) database of financial crises.

The results for the full sample are reported in Table 11, and confirm the importance of financial markets for equity. The variable retains its positive coefficient, which is significant at the 1% levels in all estimations. GDP growth is positive and highly significant, as are central bank holdings of foreign reserves. Domestic credit continues to have significant negative impact.

The inflation and government spending variables are not significant here, nor is the indicator of capital account openness. The exchange rate regime variable has a negative coefficient significant at the 10% level, implying that equity is more common with less flexible exchange rate regime. This would be consistent with the fixed exchange rate policies of many emerging market economies.

The ICRG's investment risk policy has a negative coefficient that is significant at the 5% level. Why would equity liabilities be more common on the external balance sheets of countries considered to be more risky? The emerging market economies do not have the same level of investor protection as do the advanced economies, but they were able to issue equity liabilities to foreign investors in countries with more security, as the models summarized in Section II predict.

The bank crisis variable has a negative coefficient that is significant at the 1% level. Equity investors are less interested in those countries where bank failures have been more common. However, this finding may also reflect the positive linkage of external debt liabilities and the occurrence of bank crises (Joyce 2011).

When the same estimations are performed for the emerging market sample, the results, reported in Table 12, for the main variables of interest (foreign reserves, financial markets) are similar. The exchange rate regime variable is now significant at the 5% level, while the index of capital account openness is positive and highly significant. Equity liabilities are relatively more common in emerging market economies when there is a fixed exchange rate regime and an unregulated capital account. However, the investment risk and bank crises variables are no longer significant.

We added other "push" variables to the estimation, such as world economic growth. We also used other domestic "pull" variables, such as the rents from natural resources. However, none of these were significant, and they did not change the results for the financial development variables.

6. Conclusions

The evidence presented in this paper for the determinants of the transformation of the liabilities of the emerging market economies in recent decades from predominantly debt to equity finance is consistent in part with recent theoretical models. Those nations that issued relatively more equity to foreign investors, and particularly investors in portfolio equity, recorded larger amounts of foreign reserves, as the models predicted. Conversely, countries with less foreign reserve assets issued debt.

However, the relationship of financial development and the equity/debt mix is more complicated. Countries with more developed financial markets issued more portfolio equity liabilities. On the other hand, countries with less developed financial institutions had more FDI. Overall, there was a positive linkage of financial development and the use of equity liabilities, which is not what some models predict.

Other variables contributed to the rise in the use of equity. During the period under review, the use of equity was associated with higher growth rates, which could make projects funded with the foreign funds more profitable. The amount of domestic credit extended to the private sector was inversely related to the relative use of equity, which is consistent with the linkage of debt with the growth of domestic credit.

One policy implication of our results is that the development of financial markets leads to more foreign holdings of portfolio equity. However, whether or not this is a development that should be desired depends on how the additional source of funds affects the economy. They may contribute to development by increasing the amount of external funds available for firms as well as contributing to increased liquidity. On the other hand, portfolio holdings are more likely than FDI to be withdrawn in the event of financial volatility, thereby exacerbating the instability. The authorities may want to control the amount of portfolio inflows until the domestic markets are robust enough to handle them.

Since the financial crisis, the relative shares of equity and debt on the external balance sheets of emerging market economies have fluctuated very little (see Figure 2). Private firms in some of these countries have issued more bonds. Avdjiev, Chui and Shin (2014) have estimated that between 2009 and 2013, non-financial corporations in emerging markets issued $554 billion of international debt securities. Chang, Fernández and Gulan have studied this phenomenon, and

present a model in which increased issuance of bonds reflects lower world interest rates but relatively more expensive bank finance. The Committee on International Economic Policy and Reform (2015) has drawn attention to this development, and noted that many of these bonds were denominated in foreign, principally dollar, denominations. The legacy of this foreign borrowing, therefore, will be a heightened sensitivity to international volatility.

Moreover, the composition of foreign assets by emerging market economies has been shifting. Emerging market governments are allowing their firms and individuals to hold assets in other markets, both advanced and emerging (Karolyi, Ng and Prasad 2013). China, for example, has become an exporter of FDI, particularly to developing countries (Aizenman, Jinjanarak and Zheng (2015).

Therefore, the composition of both sides of the external balance sheets of emerging market economies may be changing. This reflects in part their own development, as domestic firms in emerging markets borrow in international capital markets while seeking opportunities for expansion in other countries. These changes, however, will make their external balance sheets more pro-cyclical and vulnerable to external shocks. Whether or not this represents a short-term response to extraordinarily low interest rates or an inflection point will require additional new analysis and investigation.

NOTES

[1] External balance sheets also record derivative assets and liabilities. The majority of the emerging market economies in our sample, however, did not hold or issue any derivatives, and those with derivatives held or issued small amounts and often only towards the end of our sample period. Therefore we did not include them in our empirical analysis.

[2] Levy Yeyati and Zúñiga (2015) provide a review and analysis of the recent literature on the effects of the different types of capital flows.

[3] Several of the economies (Israel, Mexico, South Korea) are now members of the Organization of Economic Cooperation and Development (OECD), which is usually considered to be an organization of upper-income countries. However, they were not OECD members for most of the sample period, and therefore we included them in the emerging market sample.

[4] The dataset is available at: http://www.philiplane.org/EWN.html

[5] The dataset is available at: https://www.imf.org/external/pubs/cat/longres.aspx?sk=43621.0

[6] There are also subindexes of depth, access and efficiency in financial institutions and markets.

[7] The literature on the determinants of capital *flows* has been surveyed by Montiel (2014) and Koepke (2015).

[8] See Chin and Frankel (1995) on the influence of U.S. interest rates on Asian countries.

[9] The latest data are available at:

http://www.carmenreinhart.com/data/browse-by-topic/topics/11/.

[10] The latest data are available at: http://web.pdx.edu/~ito/Chinn-Ito_website.htm.

Figure 1
External Balance Sheet

Assets	*Liabilities*
Equity (FDI, Portfolio)^{F}	Equity (FDI, Portfolio)^{D}
+ Debt (Bonds, Bank Loans)^{F}	+ Debt (Bonds, Bank Loans)$^{F/D}$
+ Foreign Exchange Reserves ^{F}	

Foreign Assets of Domestic Residents - Domestic Liabilities of Foreign Residents =

Net International Investment Position (+ creditor, - debtor)

Note: F identifies assets and liabilities denominated in foreign currency, D denominated in domestic currency, F/D denominated in foreign or domestic currency.

Figure 2
Equity Liabilities/Total Liabilities vs. Debt Liabilities/Total Liabilities:
Emerging Markets

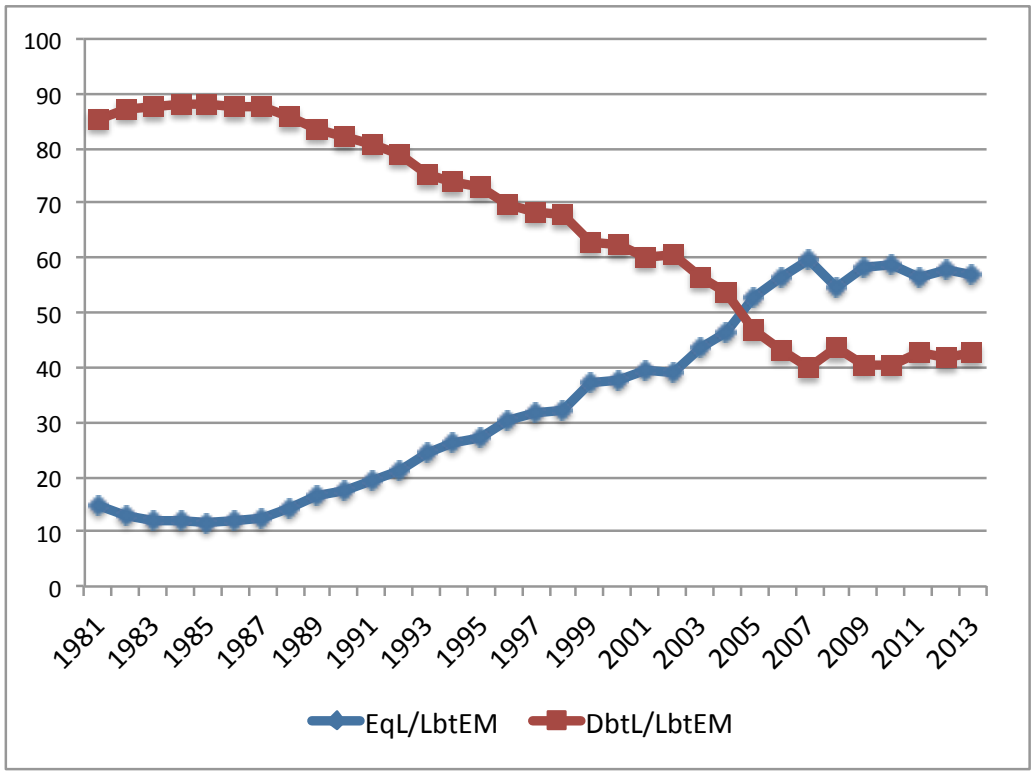

Figure 3
Composition of Liabilities:
Emerging Markets, 1981 vs. 2013

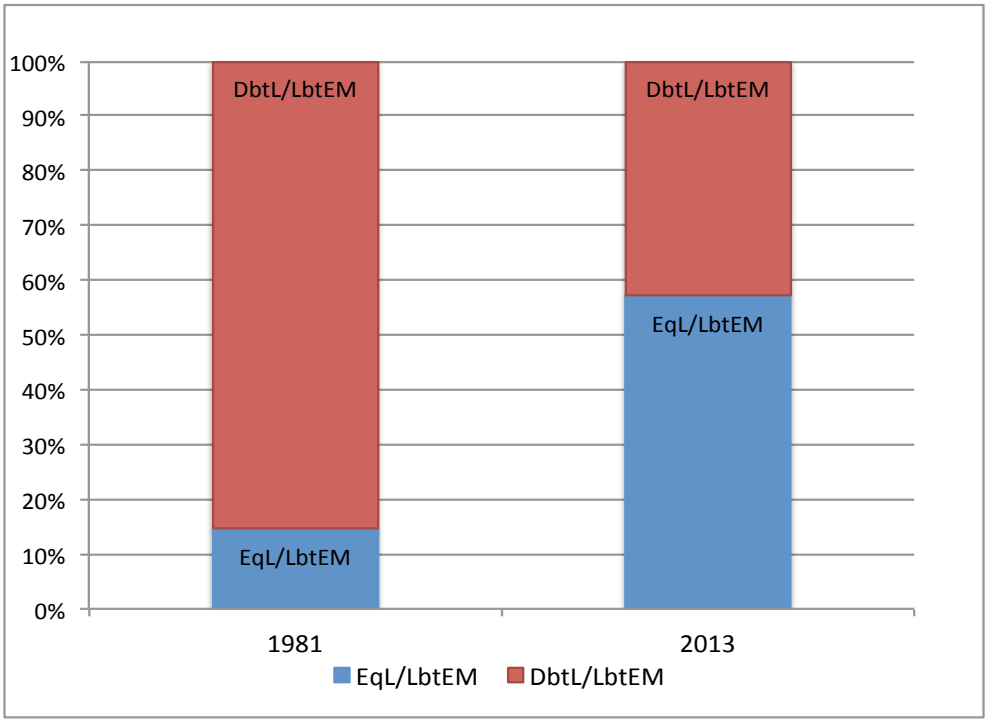

Figure 4
Equity Liabilities/Total Liabilities vs. Debt Liabilities/Total Liabilities:
Advanced Economies

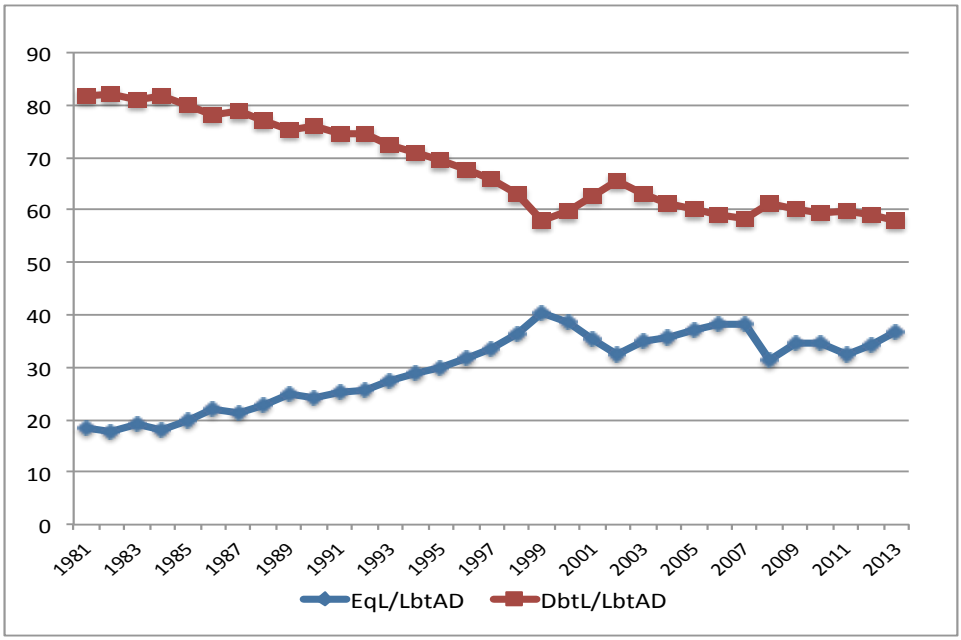

Figure 5
Composition of Liabilities:
Advanced Economies, 1981 vs. 2013

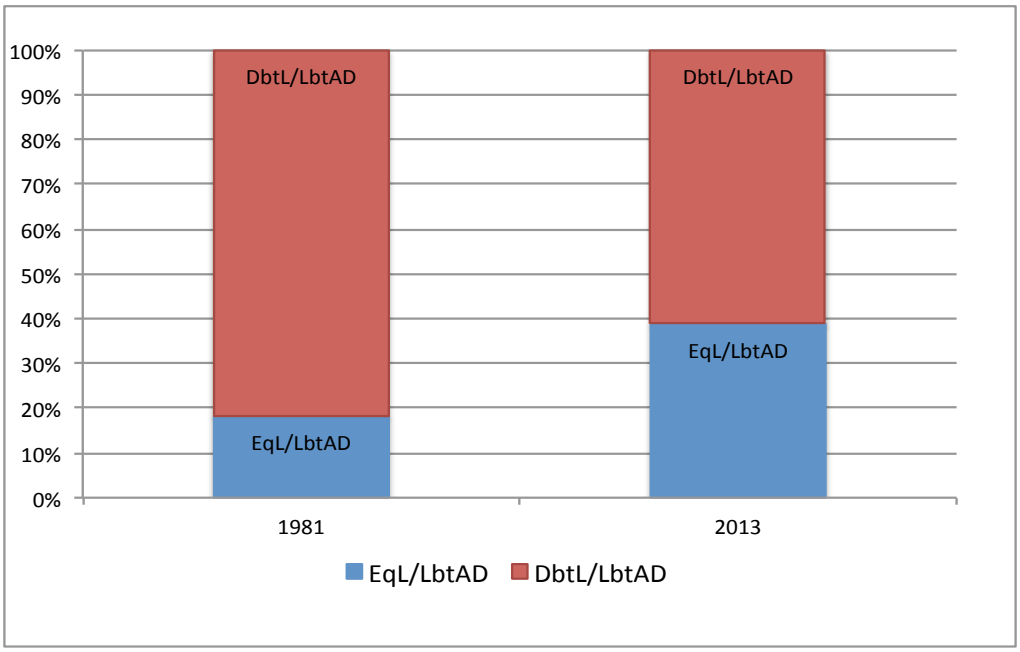

Figure 6
FDI Liabilities/Total Liabilities vs. Portfolio Equity Liabilities:
Emerging Market Economies

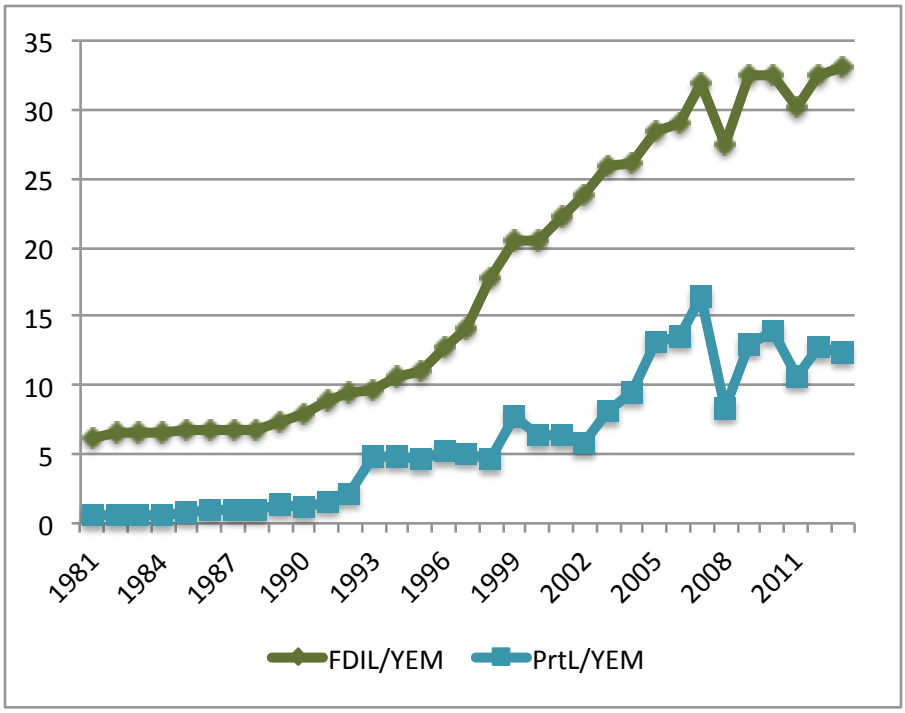

Figure 7
Financial Development:
Advanced Economies vs. Emerging Market Economies

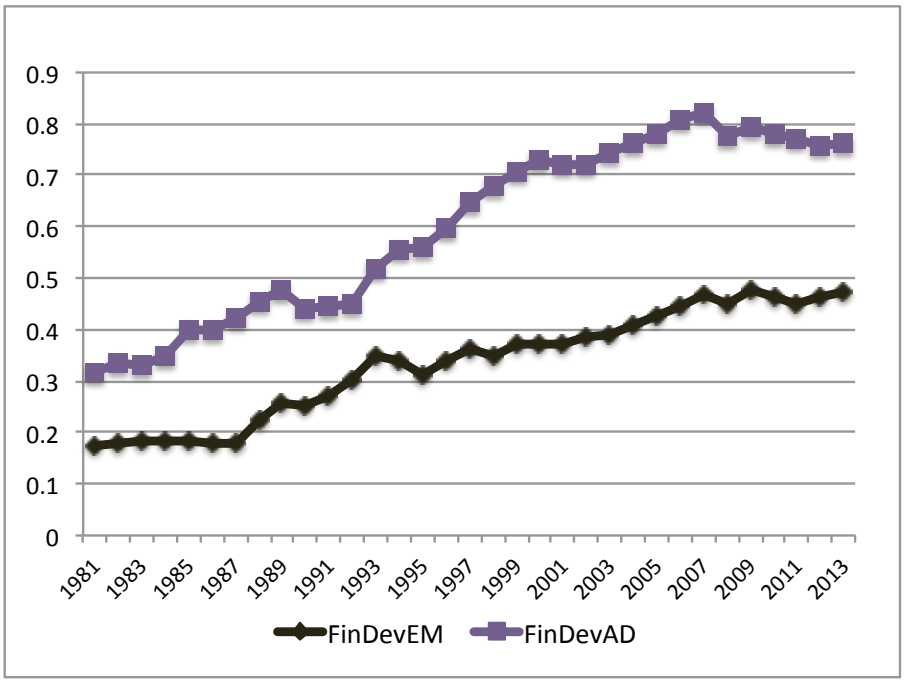

Figure 8
Financial Institutions vs. Financial Markets:
Emerging Market Economies

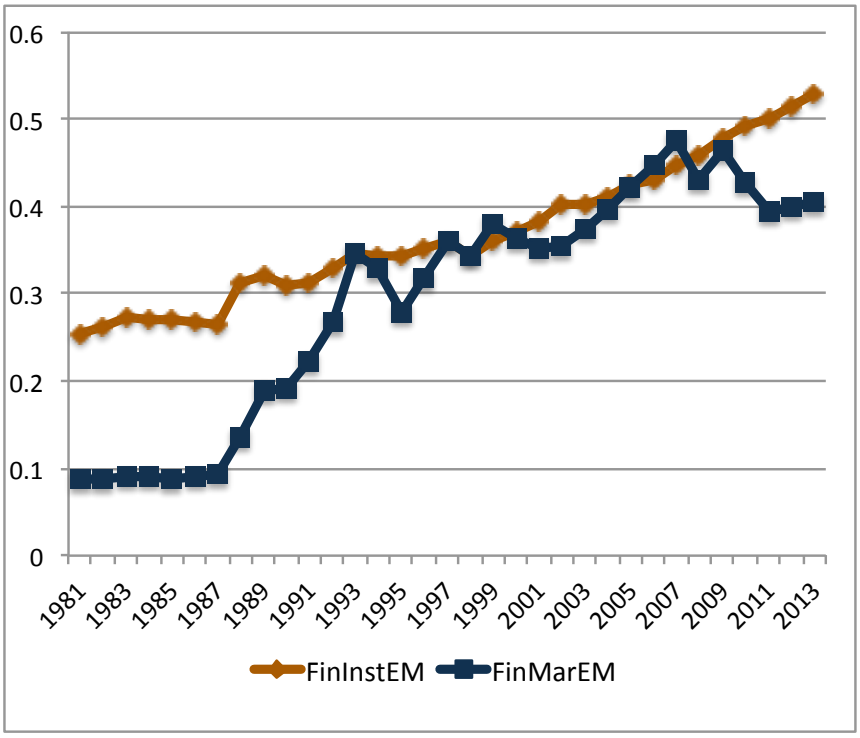

Table 1
Equity Liabilities/Total Liabilities:
All Countries, 1981-2013

	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)	(1.6)
EqL/Lbt (-1)	0.93***	0.96***	0.96***	0.94***	0.94***	0.91***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Ln(Y)	-0.69	-2.11**	-1.53*	-2.25**	-1.83**	-0.65
	(0.67)	(0.92)	(0.86)	(0.89)	(0.87)	(0.73)
Ln(Y/Pop)	-0.41	-0.11	0.30	-0.30	0.59	-0.17
	(0.58)	(0.63)	(0.66)	(0.59)	(0.65)	(0.80)
%ΔY	0.17***	0.21***	0.22***	0.19***	0.19***	0.12***
	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Trd Open	0.01	-0.03	-0.01	-0.04	-0.03	-0.01
	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)
Fin Open	0.01**	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
U.S. Tr 10	-0.43***	-0.22	-0.40***	-0.25	-0.26*	-0.20
	(0.14)	(0.15)	(0.13)	(0.15)	(0.14)	(0.17)
Fr Res/Y	0.10**	0.10**	0.10**	0.10**	0.11***	0.13***
	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)
Dom Cr/Y	-0.05***					-0.07***
	(0.01)					(0.02)
Fin Dev		9.89***				
		(3.39)				
Fin Inst			-0.86		-6.13*	-2.22
			(3.11)		(3.69)	(4.27)
Fin Mar				9.76***	9.70***	10.83***
				(2.21)	(2.08)	(2.41)
Constant	27.62	55.25**	41.06*	62.85***	46.37**	23.72
	(18.68)	(24.43)	(23.92)	(23.34)	(23.50)	(20.30)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.22	0.33	0.29	0.33	0.30	0.24
Hansen	0.59	0.58	0.57	0.56	0.73	0.91
N	1,279	1,312	1,312	1,312	1,312	1,279

Note: The dependent variable is equity liabilities/total liabilities multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/Population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the U.S. 10-year Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 2

Equity Liabilities/Total Liabilities:
Emerging Market Economies, 1981-2013

	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)	(2.6)
EqL/Lbt (-1)	0.91***	0.90***	0.91***	0.89***	0.88***	0.87***
	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Ln(Y)	0.79	-1.89*	0.13	-1.44**	-0.69	0.71
	(1.13)	(1.05)	(1.12)	(0.74)	(0.93)	(1.05)
Ln(Y/Pop)	0.17	0.77	2.00	1.05	1.82	0.22
	(1.62)	(1.42)	(1.28)	(1.39)	(1.30)	(1.69)
%ΔY	0.15***	0.18***	0.19***	0.17***	0.17***	0.11***
	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)
Trd Open	0.02	-0.03	-0.02	-0.05	-0.05	-0.00
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)
Fin Open	0.00	-0.02	-0.00	-0.01	-0.01	0.00
	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
U.S. Tr 10	-0.23	-0.43**	-0.33*	-0.33*	-0.26	-0.08
	(0.24)	(0.20)	(0.20)	(0.17)	(0.18)	(0.24)
Fr Res/Y	0.18**	0.16**	0.19**	0.15**	0.15**	0.12*
	(0.08)	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)
Dom Cr/Y	-0.06***					-0.08***
	(0.02)					(0.02)
Fin Dev		16.54***				
		(5.39)				
Fin Inst			-5.85		-6.56	-3.33
			(4.82)		(5.20)	(4.51)
Fin Mar				14.46***	14.63***	16.76***
				(3.07)	(2.60)	(2.64)
Constant	-17.54	44.80	-13.07	32.39	8.32	-16.45
	(36.14)	(29.73)	(35.83)	(21.86)	(28.12)	(32.82)
	0.91***	0.90***	0.91***	0.89***	0.88***	0.87***
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.91	0.95	0.88	0.99	0.98	0.98
Hansen	1.00	1.00	1.00	1.00	1.00	1.00
N	662	672	672	672	672	662

Note: The dependent variable is equity liabilities/total liabilities multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the U.S. 10-year Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 3
FDI Liabilities/Total Liabilities:
All Countries, 1981-2013

	(3.1)	(3.2)	(3.3)	(3.4)	(3.5)	(3.6)
FDIL/Lbt (-1)_	1.01***	1.03***	1.01***	1.03***	1.02***	1.01***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Ln(Y)	-0.32	-0.73	-0.35	-0.98**	-0.59	-0.48
	(0.28)	(0.48)	(0.52)	(0.44)	(0.49)	(0.47)
Ln(Y/Pop)	-0.21	-0.05	0.31	-0.19	0.37	0.16
	(0.33)	(0.46)	(0.53)	(0.43)	(0.48)	(0.57)
%ΔY	0.06**	0.09***	0.08***	0.09***	0.07***	0.05
	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)
Trd Open	0.04***	0.03	0.03	0.02	0.02	0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Fin Open	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
U.S. Tr 10	-0.14**	-0.15	-0.22***	-0.11	-0.16*	-0.14
	(0.07)	(0.10)	(0.08)	(0.11)	(0.09)	(0.12)
Fr Res/Y	-0.02	-0.02	-0.02	-0.03	-0.02	-0.02
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Dom Cr/Y	-0.03***					-0.02**
	(0.01)					(0.01)
Fin Dev		-0.47				
		(2.46)				
Fin Inst			-5.83*		-7.23**	-6.03*
			(2.98)		(3.16)	(3.42)
Fin Mar				1.72	2.99*	3.75**
				(1.69)	(1.62)	(1.81)
Constant	10.47	19.19	9.09	26.27**	14.37	13.39
	(7.90)	(13.03)	(14.68)	(11.79)	(14.01)	(12.85)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.79	0.75	0.79	0.76	0.82	0.87
Hansen		0.60	0.65	0.61	0.80	0.92
N	1,279	1,312	1,312	1,312	1,312	1,279

Note: The dependent variable is FDI liabilities/total liabilities multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, financial assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 4

FDI Liabilities/Total Liabilities:
Emerging Market Economies, 1981-2013

	(4.1)	(4.2)	(4.3)	(4.4)	(4.5)	(4.6)
FDIL/Lbt (-1)	1.00***	1.01***	0.99***	1.01***	0.99***	0.99***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Ln(Y)	-0.51	-1.45***	-0.53	-1.56***	-0.97*	-0.57
	(0.56)	(0.56)	(0.67)	(0.52)	(0.52)	(0.66)
Ln(Y/Pop)	-0.52	-0.16	0.42	-0.09	0.22	-0.63
	(0.73)	(1.01)	(0.88)	(0.99)	(0.82)	(1.00)
%ΔY	0.05	0.07**	0.07**	0.07**	0.06**	0.04
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Trd Open	0.05**	0.02	0.02	0.01	0.01	0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Fin Open	-0.02***	-0.03***	-0.02	-0.03**	-0.02*	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
U.S. Tr10	-0.30**	-0.39***	-0.36***	-0.36***	-0.32***	-0.24
	(0.14)	(0.14)	(0.12)	(0.14)	(0.12)	(0.19)
Fr Res/Y	0.06	0.06	0.06	0.05	0.05	0.04
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)
Dom Cr/Y	-0.03**					-0.03**
	(0.02)					(0.02)
Fin Dev		2.62				
		(4.33)				
Fin Inst			-5.94**		-6.03**	-3.55
			(2.81)		(2.58)	(2.44)
Fin Mar				4.13	4.98*	6.10**
				(2.95)	(2.63)	(2.88)
Constant	20.31	41.51**	15.39	43.83***	27.66*	23.03
	(15.19)	(16.40)	(19.03)	(14.36)	(14.45)	(17.01)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.36	0.42	0.45	0.42	0.45	0.36
Hansen		1.00	1.00	1.00	1.00	1.00
N	662	672	672	672	672	662

Note: The dependent variable is FDI liabilities/total liabilities multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, financial assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 5:
Portfolio Equity Liabilities/Total Liabilities:
All Countries, 1981-2013

	(5.1)	(5.2)	(5.3)	(5.4)	(5.5)	(5.6)
PrtL/Lbt (-1)	0.89***	0.78***	0.85***	0.79***	0.78***	0.77***
	(0.04)	(0.07)	(0.05)	(0.06)	(0.06)	(0.06)
Ln(Y)	-1.27*	-1.38*	-1.31**	-1.52**	-1.33**	-0.43
	(0.67)	(0.72)	(0.62)	(0.70)	(0.66)	(0.51)
Ln(Y/Pop)	-0.59	-0.10	-0.34	0.13	0.16	-0.52
	(0.53)	(0.55)	(0.56)	(0.50)	(0.59)	(0.87)
%ΔY	0.11***	0.13***	0.15***	0.11***	0.13***	0.06**
	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)
Trd Open	-0.02	-0.03	-0.02	-0.04	-0.04	-0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Fin Open	0.01**	-0.00	0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
U.S. Tr 10	-0.30**	0.10	-0.14	0.05	0.07	0.16
	(0.14)	(0.12)	(0.10)	(0.11)	(0.10)	(0.11)
Fr Res/Y	0.09**	0.14***	0.11***	0.13***	0.14***	0.15***
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Dom Cr/Y	-0.02					-0.06***
	(0.01)					(0.01)
Fin Dev		16.86***				
		(3.72)				
Fin Inst			8.40***		4.53	7.61*
			(2.53)		(3.14)	(3.93)
Fin Mar				12.15***	9.41***	10.17***
				(2.22)	(2.05)	(2.28)
Constant	42.15**	31.59	35.24**	36.82*	29.94	13.36
	(19.54)	(20.46)	(17.89)	(20.29)	(19.07)	(18.48)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.71	0.62	0.67	0.60	0.61	0.66
Hansen	0.72	0.69	0.38	0.70	0.87	0.95
N	1,279	1,312	1,312	1,312	1,312	1,279

Note: The dependent variable is portfolio equity liabilities/total liabilities multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 6:
Portfolio Equity Liabilities/Total Liabilities:
Emerging Market Economies, 1981-2013

	(6.1)	(6.2)	(6.3)	(6.4)	(6.5)	(6.6)
PrtL/Lbt (-1)	0.76***	0.67***	0.73***	0.67***	0.66***	0.66***
	(0.06)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)
Ln(Y)	1.56	-0.30	1.02	0.28	0.32	1.42
	(1.05)	(1.22)	(1.21)	(1.10)	(1.30)	(1.02)
Ln(Y/Pop)	0.64	0.72	1.44**	1.02	1.31	-0.13
	(0.77)	(0.87)	(0.71)	(0.88)	(0.86)	(1.00)
%ΔY	0.11***	0.11***	0.12***	0.10**	0.11***	0.07*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Trd Open	-0.03	-0.04	-0.02	-0.06	-0.05	-0.04
	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)
Fin Open	0.03**	0.02	0.02	0.03*	0.02	0.03**
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
U.S. Tr 10	0.28	0.22	0.24	0.34*	0.34*	0.48**
	(0.24)	(0.17)	(0.21)	(0.18)	(0.20)	(0.19)
Fr Res/Y	0.13*	0.12*	0.14*	0.11*	0.11*	0.09*
	(0.08)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)
Dom Cr/Y	-0.02					-0.06***
	(0.02)					(0.02)
Fin Dev		19.08***				
		(5.72)				
Fin Inst			1.99		1.31	3.85
			(4.60)		(5.73)	(5.36)
Fin Mar				13.92***	13.07***	14.10***
				(3.38)	(2.95)	(2.85)
Constant	-47.72	-4.65	-41.26	-20.51	-24.11	-41.32
	(32.32)	(31.02)	(32.91)	(30.75)	(35.00)	(30.65)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.18	0.13	0.17	0.11	0.12	0.14
Hansen	1.00	1.00	1.00	1.00	1.00	1.00
N	662	672	672	672	672	662

Note: The dependent variable is portfolio liabilities/GDP multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 7:
Debt Liabilities/Total Liabilities:
All Countries, 1981-2013

	(7.1)	(7.2)	(7.3)	(7.4)	(7.5)	(7.6)
DbtL/Lbt (-1)	0.95***	0.97***	0.98***	0.95***	0.94***	0.91***
	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)
Ln(Y)	0.72	2.01*	1.64	2.10**	1.65*	0.54
	(0.80)	(1.12)	(1.02)	(1.02)	(0.99)	(0.84)
Ln(Y/Pop)	-0.11	-0.08	-0.42	0.18	-0.78	-0.18
	(0.62)	(0.61)	(0.65)	(0.55)	(0.63)	(0.68)
%ΔY	-0.19***	-0.23***	-0.24***	-0.21***	-0.20***	-0.14***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)
Trd Open	-0.03	0.01	0.00	0.03	0.02	-0.00
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Fin Open	-0.00*	0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
U.S. Tr 10	0.40***	0.22	0.38***	0.23*	0.26**	0.24*
	(0.13)	(0.13)	(0.13)	(0.12)	(0.12)	(0.14)
Fr Res/Y	-0.08*	-0.08*	-0.08	-0.08*	-0.09**	-0.11***
	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)
Dom Cr/Y	0.04***					0.06***
	(0.01)					(0.02)
Fin Dev		-9.29***				
		(3.04)				
Fin Inst			-0.61		6.79*	3.46
			(3.06)		(3.81)	(4.09)
Fin Mar				-9.00***	-9.54***	-10.24***
				(1.92)	(1.93)	(2.27)
Constant	-16.75	-46.71	-38.84	-52.22*	-33.97	-8.52
	(23.16)	(31.17)	(28.84)	(28.44)	(28.11)	(23.76)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.46	0.58	0.54	0.59	0.57	0.52
Hansen	0.58	0.51	0.80	0.81	0.78	0.90
N	1,279	1,312	1,312	1,312	1,312	1,279

Note: The dependent variable is debt liabilities/total liabilities multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 8:
Debt Liabilities/Total Liabilities:
Emerging Market Economies, 1981-2013

	(8.1)	(8.2)	(8.3)	(8.4)	(8.5)	(8.6)
DbtL/Lbt(-1)	0.92***	0.94***	0.91***	0.93***	0.91***	0.89***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Ln(Y)	-0.64	2.10**	-0.13	1.67**	1.03	-0.28
	(1.10)	(1.07)	(1.18)	(0.83)	(0.88)	(1.02)
Ln(Y/Pop)	-0.06	-0.17	-1.84	-0.10	-1.21	0.33
	(1.55)	(1.28)	(1.40)	(1.19)	(1.19)	(1.50)
%ΔY	-0.15***	-0.18***	-0.19***	-0.17***	-0.17***	-0.12***
	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)
Trd Open	-0.04	0.02	0.00	0.04	0.04	-0.02
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Fin Open	0.00	0.02	0.00	0.01	0.01	0.00
	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
U.S. Tr 10	0.24	0.40**	0.35**	0.33**	0.27*	0.14
	(0.19)	(0.17)	(0.17)	(0.16)	(0.16)	(0.21)
Fr Res/Y	-0.16**	-0.15**	-0.16**	-0.13**	-0.14**	-0.11**
	(0.07)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)
Dom Cr/Y	0.06***					0.08***
	(0.02)					(0.02)
Fin Dev		-14.23***				
		(5.01)				
Fin Inst			5.81		6.50	2.30
			(4.30)		(4.19)	(3.62)
Fin Mar				-11.81***	-12.60***	-14.72***
				(2.85)	(2.41)	(2.44)
Constant	21.63	-47.48	21.79	-38.28	-12.44	12.31
	(37.32)	(32.45)	(41.16)	(26.23)	(27.50)	(32.37)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.95	0.92	0.99	0.90	0.90	0.83
Hansen	1.00	1.00	1.00	1.00	1.00	1.00
N	662	672	672	672	672	662

Note: The dependent variable is debt liabilities/total liabilities multiplied by 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 9:
Equity Liabilities/Debt Liabilities:
All Countries, 1981-2013

	(9.1)	(9.2)	(9.3)	(9.4)	(9.5)	(9.6)
EqL/DbtL (-1)	0.91***	0.95***	0.94***	0.94***	0.95***	0.91***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Ln(Y)	-0.66	-6.60*	-4.41	-7.70**	-6.49*	-2.03
	(3.05)	(3.61)	(3.60)	(3.55)	(3.62)	(3.10)
Ln(Y/Pop)	-2.28	-2.24	-0.62	-2.66	-0.15	-3.35
	(2.44)	(2.45)	(2.83)	(2.40)	(2.81)	(3.64)
% ΔY	0.47***	0.59***	0.63***	0.51***	0.52***	0.26*
	(0.12)	(0.13)	(0.13)	(0.12)	(0.12)	(0.14)
Trd Open	-0.04	-0.15	-0.09	-0.20	-0.19	-0.14
	(0.16)	(0.16)	(0.15)	(0.16)	(0.16)	(0.17)
Fin Open	0.03**	0.01	0.02*	0.01	0.01	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
U.S. Tr 10	-1.10**	-0.38	-1.14**	-0.39	-0.44	-0.12
	(0.53)	(0.51)	(0.47)	(0.53)	(0.47)	(0.58)
Fr Res/Y	0.49**	0.45**	0.43*	0.42**	0.45**	0.54***
	(0.23)	(0.21)	(0.23)	(0.20)	(0.21)	(0.20)
Dom Cr/Y	-0.18***					-0.29***
	(0.05)					(0.08)
Fin Dev		41.21***				
		(11.32)				
Fin Inst			1.75		-14.37	2.38
			(12.37)		(14.10)	(16.72)
Fin Mar				37.85***	36.03***	38.87***
				(8.03)	(8.09)	(10.13)
Constant	55.59	184.28*	129.48	223.87**	176.31*	92.19
	(89.68)	(101.97)	(106.72)	(98.98)	(104.89)	(89.33)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.80	0.81	0.82	0.81	0.80	0.78
Hansen	0.60	0.50	0.68	0.50	0.81	0.91
N	1,279	1,312	1,312	1,312	1,312	1,279

Note: The dependent variable is equity liabilities/debt liabilities times 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 10:
Equity Liabilities/Debt Liabilities:
Emerging Market Economies, 1981-2013

	(10.1)	(10.2)	(10.3)	(10.4)	(10.5)	(10.6)
EqL/DbtL (-1)	0.85***	0.84***	0.84***	0.85***	0.85***	0.85***
	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
Ln(Y)	15.12**	0.68	9.10	0.89	3.88	3.88
	(7.47)	(6.18)	(6.44)	(5.28)	(5.54)	(5.54)
Ln(Y/Pop)	7.88	8.93	14.83**	9.28	11.94*	11.94*
	(9.08)	(6.48)	(6.37)	(6.89)	(6.36)	(6.36)
%ΔY	0.38**	0.60***	0.62***	0.56***	0.55***	0.55***
	(0.18)	(0.16)	(0.19)	(0.16)	(0.17)	(0.17)
Trd Open	0.03	-0.21	-0.17	-0.31	-0.34	-0.34
	(0.26)	(0.22)	(0.26)	(0.24)	(0.27)	(0.27)
Fin Open	0.14	0.05	0.11	0.07	0.11	0.11
	(0.12)	(0.09)	(0.12)	(0.09)	(0.10)	(0.10)
U.S. Tr 10	2.40	0.63	1.25	1.02	1.41	1.41
	(1.65)	(1.12)	(1.28)	(1.06)	(1.10)	(1.10)
For Ex/Y	0.74*	0.67*	0.76*	0.61*	0.62*	0.62*
	(0.39)	(0.35)	(0.41)	(0.33)	(0.33)	(0.33)
Dom Cr/Y	-0.35***					
	(0.11)					
Fin Dev		55.62**				
		(22.92)				
Fin Inst			-26.66		-31.85	-31.85
			(21.17)		(20.51)	(20.51)
Fin Mar				53.59***	56.20***	56.20***
				(13.50)	(11.93)	(11.93)
Constant	-466.36*	-103.46	-353.86*	-108.25	-200.59	-200.59
	(254.72)	(192.56)	(207.73)	(174.87)	(182.03)	(182.03)
AR(1)	0.01	0.00	0.01	0.00	0.00	0.00
AR(2)	0.66	0.63	0.66	0.64	0.65	0.65
Hansen	1.00	1.00	1.00	1.00	1.00	1.00
N	662	672	672	672	672	662

Note: The dependent variable is equity liabilities/debt liabilities times 100. The explanatory variables are the lagged dependent variable, the logarithm of current GDP, the logarithm of GDP/population, the growth rate of real GDP, exports and imports/GDP, foreign assets and liabilities/GDP, the 10-year U.S. Treasury rate, foreign reserves/GDP, domestic credit/GDP, and indexes of financial development, financial institutions and financial markets. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 11:
Equity Liabilities/Debt Liabilities:
Macro Policies, All Countries, 1981-2013

	(11.1)	(11.2)	(11.3)	(11.4)	(11.5)	(11.6)
EqL/Lbt (-1)	0.89***	0.90***	0.87***	0.88***	0.89***	0.90***
	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(25.92)
Ln(Y)	-0.94	-1.08	-0.73	-0.59	-0.64	-0.73
	(0.82)	(0.77)	(0.81)	(0.79)	(0.67)	(1.06)
Ln(Y/Pop)	-0.79	-0.53	-0.35	-1.01	-1.12	-0.64
	(0.81)	(0.88)	(0.83)	(0.84)	(0.81)	(0.93)
% Y	0.11***	0.11***	0.11***	0.11***	0.12***	0.09***
	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(2.82)
Trd Open	-0.00	-0.05*	-0.02	-0.02	-0.02	-0.02
	(0.04)	(0.03)	(0.04)	(0.04)	(0.03)	(0.45)
Fin Open	0.00*	0.01***	0.00	0.00*	0.01***	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(1.27)
U.S. Tr 10	-0.23	-0.20	-0.16	-0.17	-0.18	-0.15
	(0.19)	(0.16)	(0.18)	(0.18)	(0.17)	(0.90)
Fr Res/Y	0.12***	0.11**	0.20***	0.15***	0.11***	0.14***
	(0.04)	(0.04)	(0.06)	(0.04)	(0.04)	(3.58)
Dom Cr/Y	-0.08***	-0.07***	-0.07***	-0.08***	-0.07***	-0.07***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(4.36)
Fin Mar	12.21***	11.89***	11.34***	11.05***	12.72***	11.68***
	(2.24)	(2.20)	(2.67)	(2.46)	(2.39)	(5.25)
Inf	0.00					
	(0.00)					
Gov C/Y		-0.20				
		(0.14)				
Ex Reg			-0.21*			
			(0.11)			
Cap Acc				0.54		
				(0.35)		
Inv Risk					-0.29**	
					(0.14)	
Bank Cri						-2.04***
						(3.08)
Constant	35.99*	41.91**	28.44	29.34	32.81*	28.72
	(21.83)	(19.74)	(20.97)	(20.31)	(16.96)	(1.53)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.25	0.25	0.92	0.27	0.33	0.21
Hansen	0.95	0.91	0.97	0.90	0.90	0.95
N	1,260	1,274	1,165	1,279	1,191	1,241

Note: The dependent variable is equity liabilities/total liabilities times 100. The explanatory variables are those utilized in the previous tables, and the rate of inflation, the Reinhart-Rogoff exchange rate classification, the Chinn-Ito capital openness index, and a dummy for bank crises, and the ICRG index of investment risk. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

Table 12:
Equity Liabilities/Debt Liabilities:
Macro Policies, Emerging Markets, 1981-2013

	(12.1)	(12.2)	(12.3)	(12.4)	(12.5)	(12.6)
EqL/Lbt (-1)	0.86***	0.87***	0.81***	0.80***	0.85***	0.86***
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)
Ln(Y)	0.79	0.58	1.39	2.14**	0.79	0.66
	(1.13)	(0.84)	(1.37)	(1.00)	(0.89)	(1.15)
Ln(Y/Pop)	-0.68	-0.60	0.69	-0.52	-1.93	-0.04
	(1.44)	(1.89)	(1.99)	(2.06)	(1.83)	(1.70)
% Y	0.10***	0.11***	0.09**	0.09**	0.09***	0.09**
	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.04)
Trd Open	0.00	-0.01	0.01	0.00	-0.02	-0.01
	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)
Fin Open	0.01	0.01	0.02	0.02	0.02	0.00
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
U.S. Tr 10	-0.04	0.00	0.04	0.09	-0.07	-0.02
	(0.25)	(0.21)	(0.21)	(0.24)	(0.23)	(0.25)
Fr Res/Y	0.11	0.11	0.10	0.11	0.09	0.13
	(0.08)	(0.08)	(0.10)	(0.08)	(0.08)	(0.08)
Dom Cr/Y	-0.10***	-0.10***	-0.08***	-0.11***	-0.10***	-0.08***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Fin Mar	19.33***	18.83***	18.57***	17.49***	18.37***	19.09***
	(3.41)	(3.47)	(4.02)	(3.81)	(3.70)	(3.71)
Inf	0.00					
	(0.00)					
Gov C/Y		-0.10				
		(0.12)				
Ex Reg			-0.29**			
			(0.13)			
Cap Acc				1.04***		
				(0.33)		
Inv Risk					0.29	
					(0.20)	
Bank Cri						-0.95
						(0.93)
Constant	-13.06	-7.37	-37.68	-47.34	-3.32	-14.41
	(28.39)	(27.53)	(35.75)	(32.62)	(26.35)	(35.67)
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.94	0.93	0.38	0.83	0.97	0.98
Hansen	1.00	1.00	1.00	1.00	1.00	1.00
N	660	657	599	662	622	641

Note: The dependent variable is equity liabilities/total liabilities times 100. The explanatory variables are those utilized in the previous tables, and the rate of inflation, the Reinhart-Rogoff exchange rate classification, the Chinn-Ito capital openness index, and a dummy for bank crises, and the ICRG index of investment risk. Robust standard errors are reported in parentheses. The symbols *,**,*** denote statistical significance of 10%, 5% and 1%, respectively. The p-values for the Arellano-Bond tests for autocorrelation and the Hansen test for overidentification are reported.

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Appendix

Table A1

List of Countries

Emerging Markets		
Argentina	Indonesia	Peru
Brazil	Israel	Philippines
Chile	Jordan	South Africa
China	Malaysia	South Korea
Colombia	Mexico	Thailand
Egypt	Morocco	Turkey
India	Pakistan	Venezuela

Advanced		
Australia	Germany	Portugal
Austria	Greece	Spain
Belgium	Italy	Sweden
Canada	Japan	Switzerland
Denmark	Netherlands	United Kingdom
Finland	New Zealand	United States
France	Norway	

Appendix

Table A2

Data Sources

Symbol	Definition	Source
Bk Cr	Systemic Banking Crisis (=1)	Laeven and Valencia (2013)
Cap Acc	Capital account openness (higher values show more openness)	Chinn and Ito (2006)
DbtL/Lbt	Debt Liabilities/Total Liabilities (%)	*EWN*
Dom Cr/Y	Domestic Credit to Private Sector/GDP (%)	*FDS*
EqL/Lbt	Equity Liabilities/Total Liabilities (%)	*EWN*
Ex Reg	Exchange Rate Regime (1 – 13, higher numbers more flexible)	Reinhart and Rogoff (2004)
FDIL/Lbt	FDI Liabilities/Total Liabilities (%)	*EWN*
Fin Dev, Fin Ins, Fin Mkt	Financial Development, Financial Institutions, Financial Markets (0 – 1, higher values more developed)	Svirydzenka (2016)
Fin Open	External Assets + Liabilities/GDP (%)	*EWN*
Fr Res/Y	Foreign Exchange Assets of Central Bank/GDP (%)	*EWN*
Gov C/Y	Government consumption expenditures/GDP (%)	*WDI*
Inf	Change in Consumer Price Index (%)	*WDI*
Inv Risk	Investment Risk (higher numbers show less risk)	*ICRG*
PrtL/Lbt	Portfolio Liabilities/Total Liabilities (%)	*EWN*
Trd Open	Exports + Imports/GDP (%)	*WDI*
U.S. Tr 10	U.S. 10-year Treasury Rate	*FRED*
%ΔY	Annual growth rate of Real GDP (%)	*WDI*
Ln(Y)	Logarithm of current GDP (dollars)	*WDI*
Ln(Y/Pop)	Logarithm of GDP/Population (constant 2010 dollars)	*WDI*

Note: *EWN = External Wealth of Nations*; *FDS = Financial Development and Structure Dataset; FRED = Federal Reserve Economic Data*; *ICRG = International Country Risk Guide; WDI = World Development Indicators*

Table A3

Descriptive Statistics

Variable	Mean	Minimum	Maximum	Standard Dev
%Y	3.30	-13.45	18.67	3.58
Bk Cr	0.03	0.00	1.00	0.17
Cap Acc	0.65	-1.89	2.39	1.58
Dbt L/Y	67.34	19.64	97.52	18.51
Dom Cr/Y	63.28	2.96	212.90	40.60
EqL/Lbt	31.64	2.47	79.09	18.08
Ex Reg	8.21	1.00	15.00	4.07
FDIL/Lbt	22.08	0.62	66.12	22.08
Fin Dev	0.46	0.00	1.00	0.46
Fin Ins	0.52	0.00	1.00	0.52
Fin Mkt	0.40	0.00	1.00	0.40
Fin Open	198.35	8.80	2070.95	231.27
For Res/Y	9.59	0.10	72.38	9.57
Gov C/Y	16.63	2.98	41.48	5.28
Inf	32.72	-1.41	7481.66	245.72
Inv Risk	8.11	1.25	12	2.43
PrtL/Lbt	9.56	0.00	65.78	9.41
Trd Open	60.98	12.01	220.41	33.12
U.S. Tr 10	6.54	1.8	13.92	3.04
Ln (Y)	26.20	22.15	30.44	1.48
Ln (Y/Pop)	9.39	5.88	11.43	7.32