

Possible transmission of adverse shocks from the recent financial crisis to Central America through trade finance

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UNITED NATIONS



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Abstract

In this paper we explore trade finance as a transmission channel of adverse shocks to Central America. We analyze data on trade and trade finance flows, and show that they largely follow the same pattern in the region. A contraction of trade finance supply to Central America will affect trade exports negatively, and consequently impact economic growth and jobs. While until now the region has weathered the financial and European debt crises relatively well, shocks may come from a further contraction of lending in developed countries. The lending contraction can arise from losses from the recent financial crisis that have not yet been fully recognized on the balance sheets of financial institutions, from regulatory changes in raising capital requirements, and from further adverse shocks, such as the lack of a solution to the euro area sovereign debt crisis, or from all of the above. Finally, we put forward policy recommendations to mitigate the risk of transmission of shocks through trade finance to Central America.

I. Introduction

While some Latin American countries had negative growth rates during the financial crisis, the region on the whole weathered the crisis better than most developed countries. GDP in the region contracted by 1.9% in 2009, compared to the 4% contraction seen in OECD countries over the same period. In 2010 the average GDP growth in Latin America and the Caribbean was 6%, while OECD countries grew by only 3.1% on average.¹ Although the most recent financial crisis is seen as the worst crisis in decades, in contrast to previous periods of crises, Latin America did not experience currency and debt crises, and bank runs. Improved macroeconomic fundamentals and the perception of sound domestic banking systems helped to shield the region from the most severe effects of the crisis (Izquierdo and Talvi, 2010). The Central American countries also performed better than OECD economies on average, with a lower GDP contraction in 2009 and a higher growth rate in 2010.

While Central America may so far have not been severely impacted by the financial crisis, this is no guarantee that the region will be able to escape its long term effects. The proposed global financial regulatory changes are significant, mainly in terms of raising capital requirements of financial institutions, which could have an impact on lending to developing countries. There are signs that global financial stability is once again deteriorating with the sovereign debt crisis in the euro area continuing. Developed country financial institutions are also still recovering from the losses of the recent financial crisis, which makes them vulnerable to further shocks and could reduce lending.

¹ Data from World Bank World Development Indicators.

As the financial crisis has demonstrated, one of the defining features of the financial sector is interconnectedness. The problems in the US housing market quickly spread throughout the US financial sector and internationally. This interconnectedness between financial institutions nationally and internationally implies that Central America will experience the consequences of the problems in other regions. Considering that the financial crisis has impacted the availability and price of credit worldwide, trade finance could be a likely channel of contagion from other regions to Central America. Trade finance products are particularly important for developing countries, as they offer a higher level of security, in the case of documentary trade finance products such as letters of credit, and a way to access financing in the case of pre-export financing.

This paper is structured as follows. Section II summarizes prior relevant research on trade finance and transmission channels. Section III examines the effects of the financial crisis on global and Central American trade flows. Section IV focuses on the link between trade flows and trade finance globally and in Central America, and analyses data from the period 2005 to 2011 on trade finance flows. In Section V we consider the future impacts of the financial crisis in Central America. Section VI gives policy recommendations to mitigate the risk of trade finance being a transmission channel for adverse shocks and section VII provides a conclusion. Throughout this paper we refer to Central America as Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and the Dominican Republic.

II. Related literature

This paper explores the role of trade finance as a channel of transmission for future effects of the financial crisis to Central America. As part of this paper we also analyze the connection between trade finance and the decline of trade during the financial crisis both globally and in Central America. While our interest does not lie in the past effects of trade finance, but in its potential future impact, this paper is also part of the growing literature on the reasons for the decline in trade during the financial crisis. The decline in global trade was far greater than the decrease in global output and there have been a number of studies on the factors leading to the decline in trade from late 2008 onwards, with a particularly large body of work focusing on the decline of US imports. These studies are of specific interest to understanding the past and future effects of trade finance flows to Central America, given that the United States is the largest trading partner of many of the countries in the region. Chor and Manova (2009) found in their empirical study on monthly US imports between November 2006 and October 2009, that countries with higher interbank rates exported less to the United States than countries with more favorable credit conditions. Alessandria and others (2010) found evidence of the role of inventory adjustment in the decline of imports to the United States during the financial crisis, with this being particularly true for the automotive sector where the inventories had become fairly high relative to sales before the crisis. The empirical work of Levchenko and others (2010) on disaggregated data for US imports and exports suggests that the position of the sectors in the supply chain had an effect on the degree to which imports and exports declined, with a higher decrease taking place in sectors that are used as intermediate inputs. There have also been studies on the link between financial shocks and trade flows from emerging markets (Balakrishnan and others, 2011; Thomas, 2009), which show that financial flows are an important transmission

mechanism of shocks. While Central American countries are not generally classified as emerging markets, the countries examined are closer to Central American countries than studies with advanced economies.

Research has also been undertaken on the transmission channels of shocks in a more general context and not purely in the context of trade flows or emerging or developing countries. The financial channel is found to be significant in transmitting shocks within NAFTA, with it accounting for more than half of spillovers (Swiston and Bayoumi, 2008). Van Rijckeghem and Weder (2003) analyzed bank lending data and found that banks' exposures to Mexico in the Mexican currency crisis and to Thailand in the Thai currency crisis enhanced the transmission of shocks to third countries. This is the so-called common lender effect where a bank has to withdraw from a country after experiencing an unexpected loss in another country in order to meet its capital adequacy ratios or other regulatory requirements. Cetorelli and Goldberg (2011) have identified three possible transmission channels of liquidity shocks from global banks to emerging market countries distinguishing between the case of a foreign parent and a domestic affiliate and a domestically owned bank.

Another aspect of an adverse liquidity shock to consider is credit rationing by banks. Credit rationing is understood as a situation in which there are groups of loan applicants who would not get a loan even if they offered to pay more, but would get a loan if the credit supply were greater (Stiglitz and Weiss, 1981). In their classic model Stiglitz and Weiss show how a bank would not want to increase the loan supply even if the loan applicants are willing to pay higher interest rates or to offer more collateral. The authors show that increasing the interest rates or accepting more collateral could increase the riskiness of the bank's loan portfolio, 'either by discouraging safer investors, or by inducing borrowers to invest in riskier projects'.

The recent financial crisis was also a period of credit rationing by banks. The scarcity of credit was accompanied by credit rationing where lending to large corporations was preferred over what were perceived as riskier counterparties. What suffered in particular was lending to small and medium sized enterprises (SMEs). Artola and Genre (2011), for instance, show that in the euro area SMEs were more affected than larger companies by the scarcity of credit during the recent financial crisis. These types of companies, 'have higher risk, more opacity, serious agency problems, and wider information asymmetries',² making it harder for them to obtain credit during times of crisis. The work of Bustillo and Velloso (2012) also indicates that the financial crisis impacted particularly negatively on the access of Central American and Caribbean countries to international capital markets. They found that on the whole the Central American and Caribbean region has been more severely affected than the whole Latin American region when sovereign spreads, bond issuance, and credit ratings evolution are considered.

Although there is a large body of work on the financial crisis and its effects, much less work has been undertaken on the potential future effects, in particular on the effects on developing countries. The financial crisis exposed severe weaknesses in the regulation of different financial sectors around the world, with issues ranging from inadequate risk management in financial institutions to inappropriate remuneration structures, which make changes urgent. Consequently, initiatives to reform financial regulation have been undertaken at national and international levels. We agree that there is an urgent need to regulate better in order to ensure that the financial sector functions in an appropriate way. However, what we also must do is understand the impact of the new regulations on Central America and take measures to mitigate any negative impacts. While the reforms will clearly benefit the financial sectors of the countries they concern, they can have wider unintended impacts, in particular for developing countries, Central American Countries can become casualties of war. There have been concerns over the effect of Basel III regulations on trade finance flows (WTO; World Bank; ICC). Basel III has the overall effect of raising capital requirements for financial institutions, which may have an impact on lending to developing countries. This may impact the availability of pre-export financing by banks in developing countries. With regard to documentary trade finance products, these are generally considered as some of the lowest risk products available, as they are highly collateralized and self-

² The SME Financing Gap (Vol. II), Proceedings of the Brasilia Conference, 27-30 March 2006, Part 1, OECD Publishing.

liquidating (Auboin, 2011). Yet some provisions of Basel III may have the effect of increasing the cost of this type of trade finance products (Auboin, 2011). The issue in particular is the introduction of a leverage ratio of 100% credit conversion factor on off-balance-sheet items, which include trade finance products such as letters of credit. The idea behind introducing this leverage ratio is to reduce excessive leveraging. However, trade finance products are not used for leverage, as long as they are backed by either goods or services (Auboin, 2011). Although the Basel Committee on Banking Supervision made some changes to Basel III in response to concerns over the cost and availability of trade finance, the provision on the leverage ratio was not amended because it is needed from a regulatory point of view.

There has not been a great deal of analysis on the long term effects of the financial crisis on the balance sheets of financial institutions, their lending behavior and business models, and even less on how this will impact developing countries. Notwithstanding changes in capital requirements that will impact the cost and volume of lending, many financial institutions are also focusing on recovering from the losses they experienced during the financial crisis. It is also important to remember that although the world economy has started to recover, with world output growing by 4.2% in 2010, the sovereign debt crisis in the euro area continues and is already having a negative impact on the balance sheets of European banks. It could have deep repercussions for developing countries due to the interconnected nature of the international financial system. This is especially true for Latin America due to the presence of European banks in the region. The World Bank has lowered its growth expectations for 2012 in response to the euro area crisis and amid concerns that an escalation of the crisis would lead to both lower trade flows and a reversal of capital flows. The impact of the reversal of capital flows would hit Eastern Europe and Latin America hard given their outstanding debt payments. Massa and others (2011) discuss three broad categories of possible transmission channels of shocks in the euro area to developing countries: financial contagion, lower growth in the euro area economies and exchange rate movements. For instance, if euro area countries default on their debt, European banks would experience significant losses and could lower lending to developing countries in order to meet their capital requirements.

III. The effects of the financial crisis

The financial crisis, which began from problems in the US sub-prime mortgage markets in mid-2007, led to a disruption of the financial intermediation role of financial institutions. Due to the repackaging of sub-prime mortgages into other products, the problems quickly spread around the financial system. Financial institutions became reluctant to lend because of the uncertainty over the location of risks within the financial system, as well as because of concerns over the extent of their own potential losses. Liquidity evaporated from the market despite injections of capital by central banks. With more and more financial institutions struggling with considerable losses, governments orchestrated nationalizations and bailouts to keep the financial system working. At the same time the financial crisis had a profound impact on the real economy with major economies entering into a recession in 2009. The world output grew by only 1.4% in 2008 and contracted by 2.3% in 2009.³

The crisis affected developing countries through several different channels. In Latin America remittances grew very little in 2008 and declined in 2009 (World Bank, 2011). This is an important effect, given that in many Central American countries remittances contribute significantly to GDP. Private financial flows, including interbank lending, and trade have been other channels of transmission of shocks to developing countries. Foreign bank lending to developing countries responded with a lag to the crisis, with a trough attained at the start of 2009 (Adams-Kane and others, 2012).

³ Data from World Bank World Development Indicators.

One of the main ways in which the effects of the financial crisis were transmitted to developing countries was through the reduced volume of global trade and through lower prices for commodities. According to the World Trade Organisation (WTO), the onset of the financial crisis in 2007 led to a sharp decline in global trade starting from late 2008. In 2009 the volume of world merchandise exports declined by 12% percent from the previous year (WTO). Merchandise trade exports started to recover in 2010 with an increase of 13.8% and, according to WTO preliminary figures, in 2011 world exports increased only by 5%. The WTO is estimating that the growth in world trade in terms of volume will slow further in 2012 to 3.7%, and increase again in 2013 to 5.6%.

The flows of trade exports from Central America also decreased in response to the financial crisis, but the decline in value terms was smaller than that of world exports. Table 1 shows that merchandise exports from all Central American countries except from the Dominican Republic were increasing during the period 2005-2008. In the Dominican Republic exports were increasing from 2005 to 2007 and started to decline in 2008. Similar to aggregate global exports, the majority of the countries experienced a decrease in 2009, which was followed by an increase in 2010. The percentage decrease in exports between 2008 and 2009 varies between 5.5% and 22.2%, with no country experiencing a decline in value higher than the 22.4% decline in world exports, and with the average decline in Central America being 9.8%. Table 1 shows that Panama is the exception, as it did not experience a decrease in exports during the crisis. (Mainly re-exports from the free trade areas).

TABLE 1
MERCHANDISE TRADE EXPORTS FROM CENTRAL AMERICAN
COUNTRIES, 2005-2011

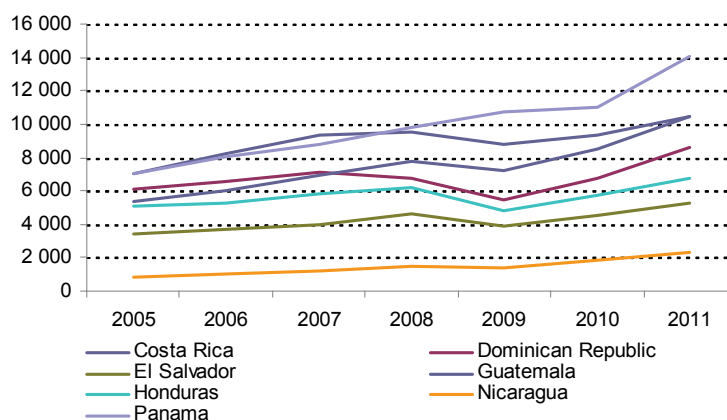
Country	2005	2006	2007	2008	2009	2010	2011
Costa Rica	7 026	8 200	9 337	9 504	8 784	9 385	10 408
Dominican Republic	6 145	6 610	7 160	6 748	5 483	6 755	8 600
El Salvador	3 418	3 706	4 015	4 641	3 866	4 499	5 309
Guatemala	5 381	6 025	6 898	7 737	7 214	8 466	10 463
Honduras	5 048	5 277	5 784	6 199	4 825	5 742	6 790
Nicaragua	866	1 050	1 222	1 475	1 394	1 851	2 282
Panama	7 050	8 034	8 821	9 817	10 717	10 987	14 100

Source: World Trade Organization.

Data is in US dollars at current prices (millions).

Manufacturing was the hardest hit sector in global trade, with a decline in value of 20.1% in 2009. Manufacturing exports from Central America followed a similar pattern, with an average decline of 16.4% for the region from 2008 to 2009. Given that a large part of the population of the Central American countries are employed in the manufacturing sector, the decline in manufacturing exports has a significant effect on employment. Table 2 shows that the percentage decline in manufacturing exports between 2008 and 2009 varies from 7% in Costa Rica to 26.9% in Panama. While in the global aggregate data the value of manufacturing exports recovers in 2010 with a growth rate of 19.6%, at country level in Central America the picture is mixed. The Dominican Republic, El Salvador, Guatemala, Honduras and Panama experienced growth in manufacturing exports from 2009 to 2010 and Costa Rica and Nicaragua experienced a further decrease. However, on the whole the manufacturing exports of Central America show a similar pattern to world manufacturing exports. The data on total merchandise trade exports from Central America and the data on manufacturing exports, therefore, show how trade exports from the region closely follow changes in world trade flows.

FIGURE 1
MERCHANDISE TRADE EXPORTS FROM CENTRAL AMERICAN COUNTRIES, 2005-2011



Source: World Trade Organization.

Data is in US dollars at current prices (millions).

TABLE 2
MANUFACTURING TRADE EXPORTS FROM CENTRAL AMERICAN COUNTRIES, 2005-2010

Country	2005	2006	2007	2008	2009	2010	08-09% change
Costa Rica	4 571	5 376	5 583	5 929	5 514	5 488	-7.0
Dominican Republic	4 951	5 187	4 546	4 185	3 293	4 104	-21.3
El Salvador	2 690	2 860	2 986	3 352	2 701	3 219	-19.4
Guatemala	3 052	3 316	3 424	3 630	3 107	3 607	-14.4
Honduras	3 059	3 146	3 356	3 431	3 109	3 528	-9.4
Nicaragua	85	87	117	151	126	116	-16.4
Panama	87	102	120	100	73	91	-26.9

Source: World Trade Organization.

Data is in US dollars at current prices (millions).

It is also of interest to examine the decrease of imports to Central America given that imports are used by the manufacturing and commerce sectors to produce goods and these sectors employ a large part of the population of the countries. Table 3 shows that, similar to exports, imports to the region declined between 2008 and 2009 and increased again in 2010. This is logical given that manufacturing exports declined during this period and that these types of companies are one of the main users of imports.

TABLE 3
MERCHANDISE TRADE IMPORTS TO CENTRAL AMERICAN COUNTRIES, 2005-2011

Country	2005	2006	2007	2008	2009	2010	2011
Costa Rica	9 824	11 548	12 952	15 372	11 395	13 570	16 220
Dominican Republic	9 869	12 174	13 597	15 993	12 296	15 299	17 600
El Salvador	6 690	7 663	8 821	9 818	7 325	8 498	10 118
Guatemala	10 499	11 915	13 576	14 547	11 531	13 838	16 610
Honduras	6 545	7 303	8 888	10 453	7 299	8 550	10 140
Nicaragua	2 623	3 026	3 611	4 317	3 489	4 173	5 210
Panama	9 600	10 775	13 269	15 737	13 877	16 737	21 600

Source: World Trade Organization.

Data is in US dollars at current prices (millions).

The decrease in trade in Central America was disproportionate to the contraction of the global economy and to that of the main trading partners of Central American countries. Global GDP grew by only 1.4% in 2008 and contracted by 2.3% in 2009,⁴ with the growth rate of the output of most of the main trading partners of Central American countries contracting by even more, as shown in table 4. At the same time, the average decrease in trade exports in Central America between 2008 and 2009 was 9.8%. When the world economy started to recover in 2010, trade exports of most of the Central American countries started to increase, but except for Guatemala, Nicaragua and Panama remained below their pre-crisis levels.⁵ At the same time the GDP of the majority of the main trading partners had more or less returned to 2008 levels, with the exception of the European Union and Venezuela. One could therefore expect that the trade exports of Central American countries would have recovered to 2008 levels. However, on the contrary we see a disproportionate decrease in trade exports in response to the crisis and a lower than expected increase during the recovery of the world economy. There have been suggestions that declining economic activity alone cannot explain the decline in trade and a contraction in the supply of trade finance could also be an important reason (e.g. Dorsey, 2009).

TABLE 4
GDP GROWTH OF THE MAIN TRADING PARTNERS OF CENTRAL AMERICAN COUNTRIES IN PERCENTAGES, 2005-2010

Country or Area	2005	2006	2007	2008	2009	2010
China	11.3	12.7	14.2	9.6	9.2	10.3
European Union	1.9	3.2	2.9	0.4	-4.3	1.9
Mexico	3.2	5.2	3.3	1.5	-6.1	5.5
United States	3.1	2.7	1.9	0.0	-2.7	2.9
Venezuela (Bolivarian Republic of)	10.3	9.9	8.2	4.8	-3.3	-1.9

Source: World Bank World Development Indicators.

⁴ Source: World Bank World Development Indicators.

⁵ 2008 is taken as the pre-crisis level of exports for all of the countries except for the Dominican Republic where 2007 is used as this was the pre-crisis peak year for the country. Much of the decrease in exports from the Dominican Republic between 2007 and 2008 is attributable to a halt in ferronickel production.

IV. Explaining the decrease in trade; the role of trade finance

In this section we explore the role of trade finance in the decline in trade from Central America and the potential future effects of the financial crisis through trade finance to Central America. We focus on the role of financial institutions in offering trade finance products. The wider definition of trade finance encompasses lending for trade facilitation by export credit agencies and multilateral development banks. Trade finance is generally understood as products offered by financial institutions to mitigate risks associated with trade, namely that the importer does not pay for the goods, or that the goods are not delivered to the importer, and to facilitate trade exports through pre-export financing. The first type of products facilitates imports, giving the exporter greater security that the importer will pay for the goods. The most common documentary trade finance product is a letter of credit, which the importer's bank would issue to the exporter as a guarantee that the exported goods will be paid for, provided that the exporter fulfils certain conditions. The bank intermediates between the two parties and transfers the funds once the conditions are met. These types of products are important for the manufacturing and commerce sectors of Central American countries, as these sectors import inputs for production. Not all trade transactions involve financial institutions since transactions can be also directly settled between the two counterparties through open account trading. However, it is estimated that 20% of world trade involves some type of documentary trade finance product offered by financial institutions, with the figure being higher for developing countries (ICC, 2009). The second type of products enables the exporters to have access to credit and to produce goods. The main and sometimes only requirement for banks to offer pre-export financing is for the exporters to have contracts set up with importers

known to the banker. Trade finance in the form of pre-export financing is particularly important for Central American countries as it is an important source of working capital for primary goods producers in Central America. These producers in turn are one of the main sources of employment in Central America. In general, trade finance can be particularly important for developing countries, such as the Central American countries that are the focus of this paper, because these countries tend to have more limited access to financing.

Trade finance can help companies in developing countries access financing, with the companies only needing to have future contracts secured. The World Bank (2004) reports that in almost every year between 1980 and 2003, noninvestment-grade and developing countries have had a higher share of trade finance commitments in total bank lending than investment grade countries. Over time the share of investment grade countries has gradually declined highlighting how they can access other forms of finance, and how important trade finance is for developing countries. In addition, documentary trade finance products are particularly important for imports to developing countries because these products offer a higher level of security to the exporters that importers in developing countries will pay for the goods.

An adverse liquidity shock could reduce trade finance flows to Central America. Cetorelli and Goldberg (2011) have identified three possible transmission channels of liquidity shocks from global banks to emerging market countries. In the case of a foreign parent with an affiliate in the emerging economy, a liquidity shock can either be transmitted through the parent decreasing cross-border lending to the affiliate, or through the parent actually borrowing from the affiliate through internal capital markets. In the case of a domestically owned bank the transmission channel is through the decrease in the cross-border interbank borrowing. During the recent years foreign banks have become more present in the banking systems of Central American countries, with the degree of penetration ranging from low in Guatemala and the Dominican Republic to very high in El Salvador (Wezel, 2010). In addition, Central American banks have also forged informal relationships with foreign banks (Singh, 2005). However, Cetorelli and Goldberg (2011) find that the key factor determining the impact on emerging markets is not the degree of openness of their economies, but whether the emerging markets were exposed to source country banking sectors that were ex ante more vulnerable to the financial crisis. Following their findings, the effect on Central America could therefore depend on whether Central American countries were exposed to, for example, American and European financial institutions, which were more vulnerable to the financial crisis.

In order to see the extent to which the negative liquidity shock of the financial crisis was transmitted to Central America and what impact it had on the trade flows from the region, we have analyzed statistics on both global trade finance flows and flows to Central America. While there is anecdotal evidence of a restriction of trade finance, detailed statistics on trade finance flows have been scarce so far. For our analysis of global trade finance flows we have used the results of the surveys conducted by the International Chamber of Commerce (ICC). This data concerns documentary trade finance products and relates to the imports side of our discussion. For our analysis of trade finance flows to Central America we have used finance flows from foreign banks to Central American banks as a proxy. These statistics have to do with pre-export financing and relate to the exports side of our analysis.

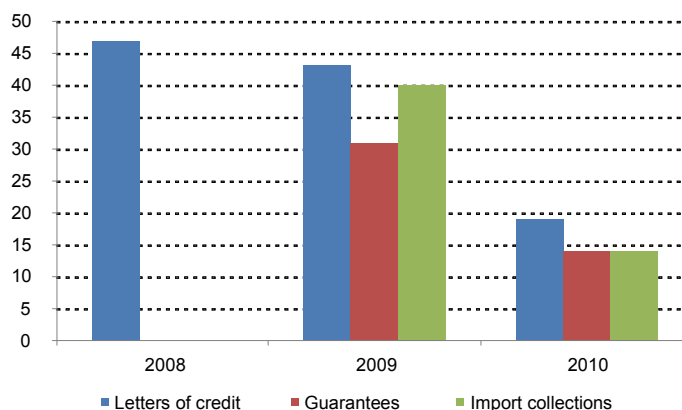
A. Global trade finance flows

The ICC has conducted surveys on how banks view trade finance since March 2009 to gauge the impact of the financial crisis on documentary trade finance products. According to the ICC, these account for around 15-20% of the total volume of trade transactions. Information is primarily collected via a questionnaire and the respondents consist of financial institutions, with participation ranging from 122 to 210 responses. The surveys have a global coverage with the number of countries surveyed ranging from 59 to 75, and with Europe and Asia dominating the geographic distribution.

The surveys show that a significant proportion of financial institutions report decreases in the value and volume of trade finance, as well as higher pricing for trade finance products as compared to pre-crisis levels. Figure 2 shows that a large proportion of respondents indicated decreases in the volume of trade finance products from 2007 to 2009. It is important to highlight that the decreases are

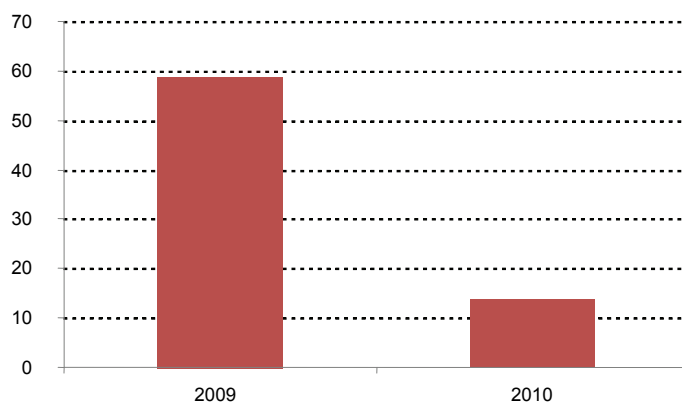
cumulative, that is, they are changes from the previous year and not from the pre-crisis period. This means that there are financial institutions that are decreasing their trade finance transactions from the already decreased volumes of the previous year. While data for the value of trade finance is missing the change from 2007 to 2008, it otherwise exhibits a similar pattern to the volume of trade finance. Figure 4 shows that the financial crisis has not only led to the decrease of the volume and value of trade finance, but also to the deterioration of the affordability of trade finance products, as a high percentage of respondents indicated increases in the pricing.

FIGURE 2
PERCENTAGE OF RESPONDENTS INDICATING DECREASES IN THE VOLUME OF TRADE FINANCE PRODUCTS FROM THE PREVIOUS YEAR, 2008-2010⁶



Source: Surveys conducted by the International Chamber of Commerce.

FIGURE 3
PERCENTAGE OF RESPONDENTS INDICATING DECREASES IN THE VALUE OF TRADE FINANCE INSTRUMENTS FROM THE PREVIOUS YEAR, 2009-2010⁷

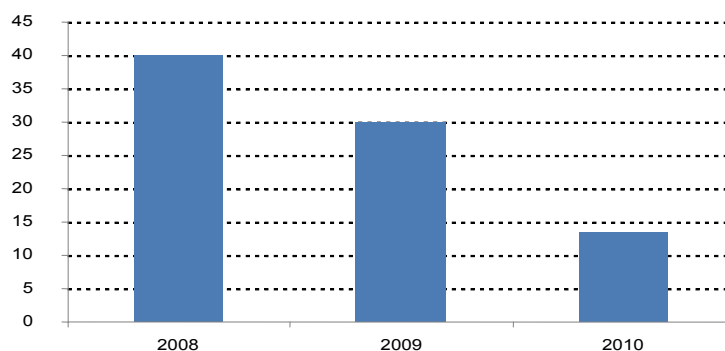


Source: Surveys conducted by the International Chamber of Commerce.

⁶ Data for guarantees and import collections is not available for the percentage change 2007-2008.

⁷ Data for the value of all trade finance instruments is not available for the percentage change from 2007 to 2008. The ICC survey reports the percentage of respondents indicating decreases from 2008 to 2009 as over 40%, and as 12-15% from 2009 to 2010. Simple average has been taken for 2009 to 2010 and 40% has been taken as the value for 2008 to 2009.

FIGURE 4
PERCENTAGE OF RESPONDENTS INDICATING INCREASES IN THE
PRICE OF TRADE FINANCE PRODUCTS, 2008-2010



Source: Surveys conducted by the International Chamber of Commerce.

In addition to the responses to the questionnaire, the ICC analyses SWIFT trade volume statistics; that is the live transaction messages sent through SWIFT network. SWIFT is a global provider of financial messaging services, allowing financial institutions and corporations to exchange information securely. Similarly to the ICC surveys, the SWIFT live transaction messages statistics concern those trade transactions where banks play a role; meaning trade that is not settled on an open account basis. As SWIFT trade traffic fell between 2007 and 2009, but started to increase again in 2010, the SWIFT trade traffic statistics corroborate the responses to the ICC questionnaires on the volume of trade finance.

The picture emerging from these surveys is that of a decrease in 2008 and 2009, and of a partial recovery between 2009 and 2010. The findings therefore indicate that trade finance and trade are closely linked, with trade finance starting to decrease before the decline of trade flows at the end of 2009, and with the increase in trade finance preceding the recovery of world trade in 2010. It is important to note that the recovery has been geographically uneven. The ICC 2011 survey reports with regard to Latin America that while ‘liquidity has returned...there is still a market gap resulting from a general deterioration in the credit-worthiness of traders, coupled with greater risk aversion by commercial banks. As a result, the cost of trade finance in these regions remains disturbingly high.’ We should also highlight that while the ICC surveys indicate that trade finance flows are increasing, this does not mean that their rate of growth is the same as before the financial crisis or that they can sustain the pre-crisis growth rate of trade. In addition, we stress that while the ICC surveys are useful in indicating the current trend of trade finance, they can neither predict the trend in the future, nor foresee what the particular situation of Central America will be.

B. Statistics on trade finance flows in Central America

The previous sections of this paper have shown that global trade exports and trade exports from Central American countries moved in the same direction in response to the global financial crisis, and how global trade and global flows of documentary trade finance products are linked. In this section we examine whether there is a link between pre-export financing flows to Central America and trade flows.

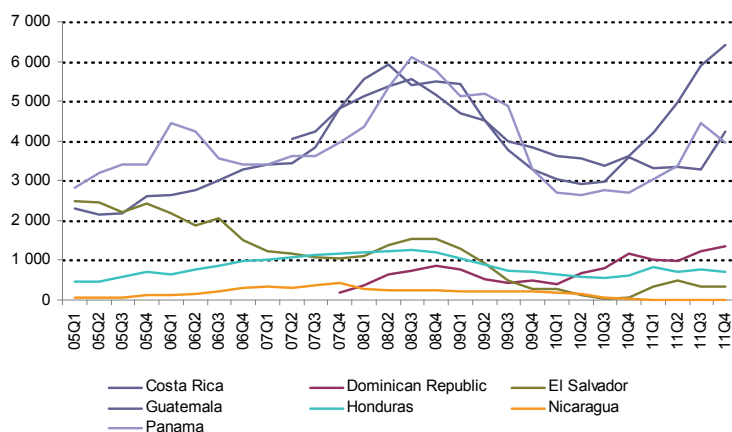
In order to analyze the connection between trade finance flows in Central America and Central American trade exports, we have compiled quarterly trade finance statistics for the period 2005 to 2011 using finance flows from banks in other countries to banks in Central American countries as a proxy for trade finance.⁸ These finance flows are mainly used for pre-export financing by banks in Central

⁸ This is a good proxy because most bank lending from abroad is for trade finance purposes. Banks from abroad lend to domestic banks that then provide pre-export financing to producers.

America. Figure 5 shows how the Central American countries started experiencing a decrease in trade finance flows from the third quarter of 2008 and a recovery from the third quarter of 2010, therefore following the pattern of global and Central American trade exports. Trade finance flows to Nicaragua exhibit a different pattern, however, with a 37.2% decrease between the fourth quarter of 2007 and the first quarter of 2008, and then a continuing decrease until the fourth quarter of 2011. The value of trade finance flows to Nicaragua in the fourth quarter of 2011 represents only 1.4% of the value of the peak trade finance flows in the fourth quarter of 2007. This situation can be explained by the financial flows from Venezuela to Nicaragua which have replaced cross-border banking flows as a source of funding. The Venezuelan government gives donations and loans to Nicaraguan companies,⁹ which are then directed to the banking system as deposits and later lent on as pre-export credits to producers. The size of the donations is substantial, surpassing the sum of the total donations from the international community. Taking this into account, the cross-border banking flows statistics misrepresent the actual size of trade finance in Nicaragua.

While detailed comparison of trade and trade finance data is difficult due to the lack of quarterly trade data for all of the countries, we can say that during the crisis there was a close connection between trade and trade finance in Central America, with all of the countries experiencing either a simultaneous decrease in trade and trade finance or a decrease in trade finance preceding the decrease in trade. Data also shows that for the majority of the countries, trade exports were growing in 2010 while the trade finance flows to most countries were decreasing until the fourth quarter of 2011. These countries include Nicaragua, which had very low trade finance flows as compared to the pre-crisis period. The trade finance flows, however, picked up again in late 2010 and early 2011 with all countries apart from Nicaragua experiencing increases in trade finance. The improvement in the world economy increased global demand and hence global trade in 2010, but the problems in the financial intermediation role of the banks kept trade finance from increasing until late 2010. Trade and trade finance in Nicaragua, however, continue moving in opposite directions with a decrease of trade finance of 92.1% between 2010 and 2011. As explained earlier, this could be explained by the financial flows from Venezuela. While trade finance flows to other countries have been increasing on the whole since the crisis, the flows are fluctuating with some quarters registering decreases.

FIGURE 5
FINANCE FLOWS FROM FOREIGN BANKS TO CENTRAL AMERICAN BANKS¹⁰



Source: Data has been compiled from the reports of the financial regulators and central banks of the Central American countries.

Data in thousands of US dollars.

⁹ Companies from the Alba Group.

¹⁰ Data is not available for the Dominican Republic before the fourth quarter of 2007.

Despite the increases in trade flows in 2010 and in trade finance in late 2010, we can see from table 1 and figure 5 how in the majority of the countries both trade and trade finance flows are below their pre-crisis peak levels in 2010. In contrast global trade flows recovered to their 2008 peak levels in 2010. However, although global trade flows outperformed those of Central America, according to the WTO global trade did not return to its previous growth path in 2010. Neither in Central America, nor globally did trade return to the pre-crisis growth levels. Many reasons, such as high unemployment rates and reduced fiscal stimuli in developed countries dampening import demand, can explain this situation. Our analysis of trade and trade finance data suggests that there is a connection between the two and that a lower supply of trade finance can also explain lower trade export growth.

Data suggests that one of the reasons why trade exports from Central America did not recover as much as global trade could be decrease of trade finance products in the region. Developing countries tend to rely more on documentary trade finance products than on open account financing due to these products bringing higher security and being more appreciated (Auboin, 2011). Pre-export financing, on the other hand, allows developing country companies to obtain financing which may otherwise not be available to them. A lower supply of trade finance impact companies in developing countries harder than those in developed countries, given that these companies may have fewer alternative sources of finance.

Alarming, the recent decrease in the supply of trade finance can also be a part of a more general trend. Wang and Tadesse (2005) argue that there is a long term trend of a decreased willingness of the banking sector to provide trade finance in times of crisis. Under modern capital markets banks have fewer incentives to supply trade finance because banks no longer provide both trade finance and long term financing. Previously banks would be more willing to supply trade finance during a crisis because this could help the economies of the countries to which they were supplying long term financing. Wang and Tadesse (2005) also cite the blurring of the distinction between trade finance and financial credits, and the removal of exchange rate controls and capital market liberalization in many countries as factors contributing to the decreased willingness to supply trade finance. These past developments in international finance, which restrict trade finance in times of crisis, together with the changes resulting from the most recent financial crisis could dampen the future growth of trade. Lower availability and higher prices of trade credit would be especially detrimental to developing countries for whom formal guarantees are often required for trade to take place.

We should also keep in mind that some features of the Central American economies such as their openness, reliance on exports as drivers of growth, and their close links with developed countries, in particular the United States, make the region more vulnerable to negative shocks (Bustillo and Velloso, 2012). For instance, during the recent financial crisis a number of countries from the region had their credit ratings downgraded. While the ratings of Costa Rica, Guatemala and Panama have recovered, Honduras and El Salvador have not regained their former ratings.¹¹ Bustillo and Velloso (2012) also show that the share of Central America and the Caribbean in the total bond issuance of Latin America has decreased since the onset of the financial crisis.¹² The bond issuance and credit ratings data point to an increased cost of borrowing for Central American sovereigns and corporations. The effect of the recent crisis on the region therefore goes beyond trade finance flows and concerns more generally the region's access to international capital markets.

¹¹ Information is from Moody's, Standard & Poor's and Fitch.

¹² Data is based on information provided by Latin Finance, JPMorgan and Bank of America-Merrill Lynch and includes all Central American and Caribbean issuers.

V. Future effects of the financial crisis on Central America

Our analysis of trade export flows and trade finance flows suggests that the two are connected in Central America and globally. There have been various studies on the reasons for the decline in trade during the recent crisis, with a particular focus on the United States imports. These studies on the United States are of specific interest to understand past and future effects of trade finance flows to Central America, given that the United States is the largest trading partner for the region. Alessandria and others (2010) found evidence of the role of inventory adjustment in the decline of imports to the United States during the financial crisis, with this being particularly true for the automotive sector where the inventories had become fairly high relative to the sales before the crisis. The empirical work of Levchenko and others (2010) on disaggregated data on US imports and exports suggests that the position of the sectors in the supply chain had an effect on the degree to which imports and exports declined, with a higher decrease taking place in sectors that are used as intermediate inputs. While we do not contest that inventory adjustments and supply chains may have also played a role in the recent decline in trade, we argue that the decline in trade can also be attributed to a lower supply of trade finance and that a higher cost of credit in general is a relevant factor. Chor and Manova (2009), for example, found in their empirical study on monthly US imports during November 2006 and October 2009 that countries with higher interbank rates exported less to the United States than countries with more favorable credit conditions. There also have been studies on the link between financial shocks and trade flows from emerging markets (Balakrishnan and others, 2011; Thomas, 2009), which show that financial flows are an important transmission mechanism for shocks. While Central American countries are not generally classified as emerging markets, the countries examined are closer to Central American countries than studies for advanced economies.

Having analyzed the behavior of trade flows from Central America and trade finance flows to Central America during the recent financial crisis, we consider what the future effects of the financial crisis could be for the region. While Central America has weathered the crisis relatively well thus far, this does not mean that further shocks from the crisis or its aftermath cannot be transmitted to the region. Moreover, as shown in the previous section of this paper, data on bond issuance and credit ratings in the region indicate that, in general, the region's access to finance worsened during the recent crisis and, in case of some countries, has not yet recovered to its pre-crisis levels. Central America therefore seems to be particularly vulnerable to negative shocks through financial channels.

We argue that trade finance can be a transmission channel of shocks to Central America. Trade finance products are important to the region as a source of finance, which maybe otherwise hard to obtain, and also bring higher security. If foreign financial institutions need to contract their lending, it is likely that trade finance flows to Central America would decrease. There are two main reasons for lending to contract or to grow at a slower pace than prior to the financial crisis. Firstly, many financial institutions are still dealing with losses from the financial crisis and there are renewed concerns over financial stability. Secondly, we argue that the financial crisis is changing the regulatory framework of the financial sector and these changes can and will have a negative effect on developing countries via bank lending contraction.

A. Legacy effects of the financial crisis and new risks

It is estimated that up to early 2010 the financial crisis had led to losses valued at US\$2.3 trillion for the financial sector in terms of write-downs and loan provisions.¹³ Furthermore, not all of the losses have yet been recognized on the balance sheets of financial institutions. In addition to past losses, it seems that the crisis is not over yet as there are renewed concerns over the stability of the global financial sector. In its September 2011 Global Financial Stability Report, the IMF argues that for the first time since its October 2008 report, 'risks to global financial stability have increased'. The continuing sovereign debt crisis in the euro area is of particular concern to financial stability not only for solvency reasons but also for the increase in liquidity risks for European banks. A number of countries in the euro area have experienced downgrades of their sovereign ratings amid growing concern over their economies. Despite rescue packages, such as the creation of the European Financial Stability Facility in 2010, the crisis continues with uncertainty over what the true losses could be and which countries are vulnerable. Massa and others (2011) refer to estimates of losses of €63 billion for euro area banks in the event of an 80% write-off of Greek debt. In the case that defaults on sovereign debt spread to countries other than Greece, losses for banks would be higher. However, even before a major default of a sovereign, sovereign risks have spilled over to the banking system. According to the IMF September 2011 Global Financial Stability Report, nearly half of the €6.5 trillion stock of government debt issued by the governments in the euro area started to have increased credit risk. This means that not only the governments but also the financial institutions holding significant amounts of the riskier sovereign debt are facing funding constraints. The IMF report also describes two non-direct effects on the financial sector from the sovereign debt crisis. One is a spillover of risks to financial institutions that have exposure to financial institutions holding risky sovereign debt. The other is a wider effect on the liabilities side of the balance sheets of financial institutions. The sovereign debt crisis of the euro area erodes the value of government guarantees, decreases the value of government bonds used as collateral, increases margin calls, and leads to downgrades in the ratings of financial institutions. All of these increased pressures on financial institutions can lead to a contraction of lending. We argue that trade finance can be a transmission channel of the pressures facing foreign financial institutions to Central America. European financial institutions both hold significant amounts of Greek sovereign debt and are a major source of trade finance for Central American countries, and if they have to contract their lending this would also impact their trade finance operations. In the case of a major default of a sovereign, the contraction in lending would be more severe. This would consequently affect trade finance flows to Central America even more.

¹³ Estimate is from the IMF Global Financial Stability Report April 2010.

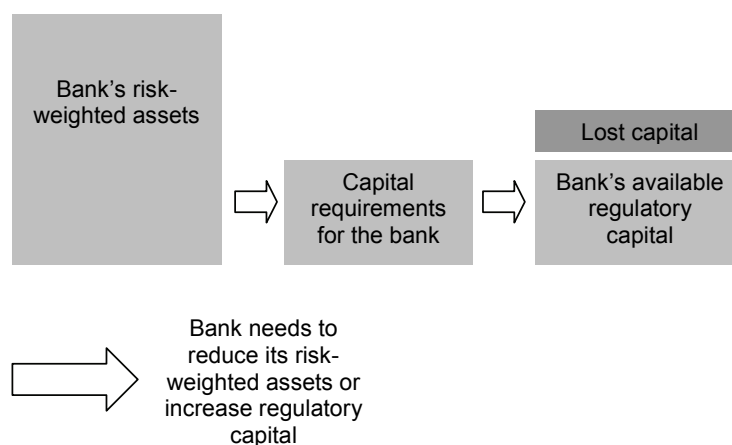
Figure 6 illustrates the impact of losses during a financial crisis on bank lending. We see that the losses reduce the regulatory capital that is available to meet the regulatory capital requirements. The bank therefore has to either reduce its risk-weighted assets or raise more regulatory capital. Reducing the size or riskiness of the loan supply is one way and would likely impact lending to developing countries. However, losses during a financial crisis can also have other impacts. During the most recent financial crisis most banks actually did meet their minimum capital requirements (Demirguc-Kunt and others, 2010). The problem was rather a loss of confidence in the financial stability of the financial sector as a whole and uncertainty over the location of risks, which led to an adverse liquidity shock. Bank losses can therefore have an indirect impact on bank lending through a systemic effect. Another issue to consider is the impact of losses on liquidity requirements.¹⁴ Losses could mean that the bank no longer complies with regulatory liquidity requirements and therefore it has to adjust its asset composition. This adjustment may have an impact on lending to developing countries.

Several studies have found evidence of the importance of bank lending in the transmission of shocks to other countries (Balakrishnan and others, 2011; Thomas, 2009). Following Cetorelli and Goldberg (2011) we argue that bank lending as a transmission channel can function in three different ways. In section III we referred to the work of Cetorelli and Goldberg (2011) on different transmission channels of liquidity shocks from global banks to emerging markets, distinguishing between the case of a foreign parent and a domestic affiliate, and a domestically owned bank. If there is an adverse shock to a foreign financial institution, this institution will have reduced capital and most likely a reduced rating in the context of the European sovereign debt crisis. The likely approach to meet its capital requirements is to reduce lending and to hold on to capital. This contraction of available capital can be transmitted to a developing country in two main ways. If the foreign financial institution does not have affiliates in the developing country, it will simply reduce its cross-border lending to the financial institutions in the country. If the foreign financial institution has domestic affiliates in the country, it can either decrease its cross-border lending to the affiliate or borrow funds from the affiliate through internal capital markets to meet its own capital requirements. An adverse shock may also mean that the foreign financial institution is in breach of its liquidity requirements. In this case the institution needs to change its asset composition to more liquid assets (this usually favors government bonds). This adjustment may have an impact on lending to developing country banks.

Interestingly, Cetorelli and Goldberg (2011), in their work on emerging markets, find that the key factor determining the impact of an adverse shock on emerging markets is not the degree of openness of their economies, but whether the emerging markets were exposed to source country banking sectors that were ex ante more vulnerable to the financial crisis. Balakrishnan and others (2011), who studied the transmission of financial stress from advanced to emerging economies, suggested that degree of transmission depends on the extent to which the emerging countries have liabilities with advanced economies. They find that banks in Western Europe have been the main source of stress in the recent crisis. In their work on transmission channels of shocks from the euro area to developing countries, Massa and others (2011) discuss three possible channels: financial contagion, lower growth in the euro area economies and exchange rate movements. For instance, if euro area countries defaulted on their debt, European banks would experience significant losses and could lower lending to developing countries in order to meet their capital requirements. The problems in the euro area are exacerbated by the size of the debt (Greece owes \$483 billion and Italy about \$2.5 trillion) and fewer policy options due to the common currency. In light of the work of Cetorelli and Goldberg (2011), Balakrishnan and others (2011) and Massa and others (2011), the current problems in the euro area, and the role of euro area financial institutions as providers of trade finance to Central America, the impact on Central America of adverse shocks could be significant.

¹⁴ While liquidity requirements are already in place in some jurisdictions, the requirements are currently being strengthened internationally and also in some cases nationally. Basel III will introduce a Liquidity Coverage Ratio and Net Stable Funding Ratio. On a national level, for example, the Financial Services Authority in the United Kingdom is strengthening the liquidity requirements.

FIGURE 6
ILLUSTRATION OF THE EFFECTS OF LOSSES FROM THE FINANCIAL CRISIS
ON BANK LENDING



Source: Elaborated by the author.

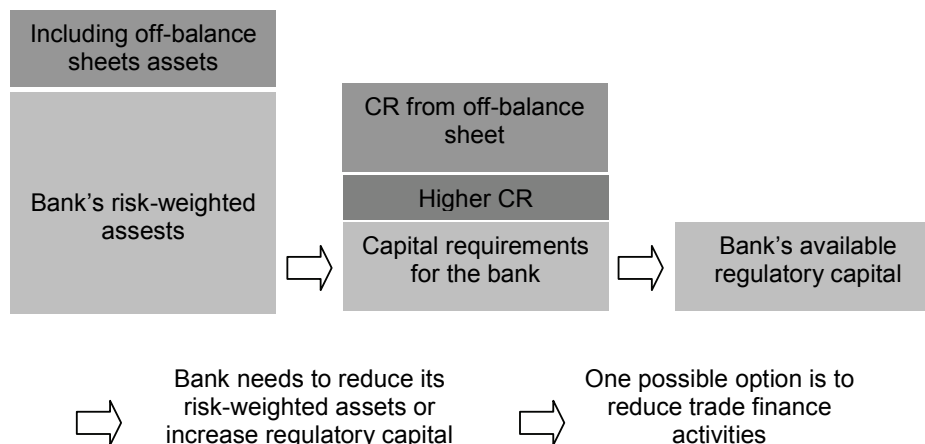
B. The effects of regulation

The recent financial crisis has changed the regulatory landscape with significant potential effects for developing countries. The crisis exposed gaps in the regulation of the financial sector and led to changes in regulations both nationally and internationally. There have been concerns over the impact of the imminent Basel III (Box 1), an international regulatory framework for banks, on developing countries. Basel III raises minimum capital requirements for financial institutions, increases the risk coverage of regulations on capital requirements, and raises the quality of capital. While according to the Basel Committee (2010), the long term economic benefits outweigh the costs associated with Basel III, and even in shorter term the impact on economic growth is moderate, we suggest that the costs may be disproportionate to small developing countries. The abovementioned features of Basel III may have an impact on lending to developing countries. Figure 7 illustrates the effects of higher capital requirements on bank lending. A bank has two ways of meeting higher capital requirements: either it raises more capital that is eligible for regulatory capital, or it reduces its risk-weighted assets. The first can be accomplished, for example, by injections of capital, issuing shares, or not paying dividends. The second can be achieved by reducing either the riskiness of the loan portfolio, or the size of the outstanding loans. There is a body of research incorporating regulatory capital requirements into models on bank lending (e.g. Van den Heuvel, 2007) with higher capital requirements acting as a constraint on lending activities. Notwithstanding regulatory capital ratios, banks also generally have their internal capital adequacy targets and research shows that banks adjust loan supply to meet these targets. Francis and Osborne (2009) analyzed the impact of regulatory capital requirements on lending in their study of around 200 banks in the United Kingdom from 1996 to 2007. They found that regulatory capital requirements are important for determining banks' internal capital targets and that these internal targets influence banks' loan supply. Higher capital requirements could therefore lower lending to developing countries, especially as lending to developing countries often attracts higher capital requirements due to the higher risks and therefore one way of reducing the riskiness of a loan portfolio would be to reduce lending to developing countries.

Figure 7 also illustrates the effect that an increase in the risk coverage of regulations has on the lending activities of banks. Widening the risk coverage of regulations by including off-balance sheet items is one of the features of Basel III. While one of the problems in the recent financial crisis was that financial institutions kept many assets off their balance sheets and hence real risks were not known, bringing off-

balance sheet items into the balance sheet has the effect of raising regulatory capital requirements. As explained earlier, this may also lead to a contraction of lending to developing countries.

FIGURE 7
ILLUSTRATION OF THE EFFECTS OF HIGHER CAPITAL REQUIREMENTS (CR)
FOR A BANK



Source: Elaborated by the author.

There are also particular concerns over the impact of Basel III on trade finance products (WTO, 2011, World Bank, ICC). Even though documentary trade finance products are generally considered to be some of the lowest risk products available, as they are highly collateralized and self-liquidating, some provisions of Basel III may have the effect of increasing the cost of this type of trade finance products (Auboin, 2011). Following consultation with the WTO, World Bank and ICC, the Basel Committee made two changes to the Basel III capital framework. The Committee waived the one-year maturity floor for some trade finance products under the advanced internal ratings-based approach for credit risk. This is an important change as most trade finance transactions have durations that are significantly less than one year. The change therefore reduces capital requirements for banks using the advanced approach. The second change made by the Basel Committee is waiving the sovereign floor for some trade-finance related claims on banks using the standardized approach for credit risk. This is a particularly important change for developing countries. The risk weighting of a counterparty bank cannot be lower than the risk weighting of the country in which the bank is domiciled. The change to Basel III allows this floor to be waived and hence reduces the capital requirement for the exposure to a developing country bank, which acts as a counterparty to a trade finance transaction. The issue that remains is the introduction of a leverage ratio of 100% credit conversion factor on off-balance-sheet items. The leverage ratio will cover both on and off-balance sheet items, with the latter including trade finance products such as letters of credit. The transmission of this effect to Central America could be via higher cost documentary trade finance products for Central American imports and via higher cost lending to Central American banks, which will lead to an increase in the cost of pre-export financing. While the idea behind introducing this leverage ratio is to reduce excessive leveraging, documentary trade finance products are not used for leverage, as they are backed by either goods or services (Auboin, 2011). Pre-export financing, on the other hand, is given on the condition that companies have contracts set up with well known companies in developed countries. The rationale of the Basel Committee of not amending the leverage ratio is that the calculation of this ratio was meant to be simple and not give different risk weightings to different types of products. Another feature of Basel III that may impact trade finance lending to Central America is the strengthening of liquidity requirements. Similar to capital requirements, liquidity requirements may not only set a regulatory ceiling for a bank's lending activities, but may also affect a bank's internal targets. Banks may choose to maintain internal liquidity ratios, which are higher than the regulatory requirements. Higher regulatory liquidity requirements would

reduce the amount of excess liquid assets that a bank wishes to hold¹⁵ and therefore reduce lending as the bank would increase its liquid assets. Basel III will set a Liquidity Coverage Ratio to ensure that there are high quality liquid assets available for one month in case of a stress. Basel III will also introduce a Net Stable Funding Ratio, which will set minimum requirements for stable sources of funding over a one-year horizon. The effect of liquidity requirements is an increased demand for liquid assets, such as cash, on behalf of banks and an increase in the interest rate that banks will require as a return for lending. This increase in the price of lending can reduce the volume of flows to developing country banks and consequently the amount of pre-export financing given to developing country companies.

BOX 1
EVOLUTION OF THE BASEL INTERNATIONAL REGULATORY FRAMEWORK FOR BANKS

<p>Basel I (1988)</p> <p>Simple minimum capital requirements:</p> <p>Based on only credit and market risk</p> <p>8% capital requirement on risk weighted assets with four asset categories</p>	<p>Basel II (2006)</p> <p>Capital requirements are more risk based:</p> <p>Operational risk included as a separate category</p> <p>Greater allowance for banks to use their own approaches for measuring risks</p> <p>Introduction of the supervisory review process to evaluate how well banks are assessing their capital adequacy</p> <p>Expansion of disclosure requirements</p> <p>More reliance on credit rating Institutions.</p>	<p>Basel III</p> <p>Minimum capital requirements will be higher (Common Equity Tier 1: 2% → 4.5%, Tier 1 Capital: 4% → 6%, Total capital remains 8% but the introduction of capital conservation buffer gives an effective requirement of 10.5%)</p> <p>Will address pro-cyclicality through capital conservation buffers and countercyclical buffers</p> <p>Risk coverage will be increased by bringing in off-balance sheet items</p> <p>Introduction of a minimum Tier 1 leverage ratio of 3%*</p> <p>Introduction of a liquidity coverage ratio and net stable funding ratio will address system</p>
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Basel Committee on Banking Supervision (2011), Basel III: A global regulatory framework for more resilient banks and banking systems, Bank for International Settlements.

Basel Committee on Banking Supervision (2006), Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version, Bank for International Settlements.

Secretariat of the Basel Committee on Banking Supervision (2001), The New Basel Capital Accord: an explanatory note, Bank for International Settlements.

In addition, some types of borrowers can be constrained not only because of a lower supply of lending due to higher capital requirements or new liquidity requirements, but also because of credit rationing by banks. Credit rationing is understood as a situation in which there are groups of loan applicants who would not get a loan even if they offered to pay more but would get a loan if the credit supply were greater (Stiglitz and Weiss, 1981). In their classic model Stiglitz and Weiss show how a bank would not want to increase the loan supply even if the loan applicants are willing to pay higher interest rates or to offer more collateral. The authors show that increasing the interest rates or accepting more collateral could increase the riskiness of the bank's loan portfolio, 'either by discouraging safer investors, or by inducing borrowers to invest in riskier projects'. The equilibrium is therefore a situation of credit rationing.

The recent financial crisis was a period of credit rationing by banks. As the crisis progressed liquidity evaporated from the market. Banks held on to their assets due to the uncertainty over the location of risks and the extent of losses that would need to be written off. The scarcity of credit was

¹⁵ Basel Committee on Banking Supervision, The policy implications of transmission channels between the financial system and the real economy, Working Paper No 20, May 2012.

accompanied by credit rationing where lending to large corporations was preferred over what were perceived as riskier counterparties. What suffered in particular was lending to small and medium sized companies (SMEs). Artola and Genre (2011), for instance, show that in the euro area SMEs were more affected than larger companies by the scarcity of credit during the recent financial crisis. These types of companies 'have higher risk, more opacity, serious agency problems, and wider information asymmetries',¹⁶ making it harder for them to obtain credit during times of crisis.

Developing country governments and companies often have lower credit ratings and can in general have more difficulty in accessing credit. However, the situation is particularly complicated for developing country SMEs due to credit rationing. Given that in developed economies there are policies in place to support SMEs, credit rationing generally constrains developing country SMEs to a greater extent than it does developed country SMEs. This has widespread consequences since SMEs play a vital role in job creation in most countries and the majority of the people in developing countries work in SMEs.¹⁷ The combination of higher regulatory capital requirements and credit rationing in case of a renewed financial crisis can have very detrimental effects on developing country SMEs and hence employment in these countries.

C. Strengths and weaknesses of the region

The Latin American and Caribbean region has not been as affected by the recent financial crisis as most developed countries. In particular, the region avoided the problems it experienced during past crises, such as currency and debt crises and bank runs. Izquierdo and Talvi (2010) refer to the external and fiscal surpluses, a sound banking system, a large stock of international reserves and more flexible exchange rate regimes as reasons for the region's performance. These factors added to improved macroeconomic conditions and allowed the governments in the region to use countercyclical monetary, fiscal, and credit policies to mitigate the impact of the crisis. However, Izquierdo and Talvi (2010) provide empirical evidence that the key factor for the region's resilience was not only the macroeconomic fundamentals, but the willingness of developed countries and multilateral institutions to act as a lender of last resort to emerging markets. They argue that this is a marked difference from previous global crises. This suggests that the region is somewhat reliant on the readiness of the international community to provide assistance in times of crises. There may not always be the will for this.

In addition, there are further weaknesses apparent in the region. Growth in Latin America and the Caribbean is expected to slow to 3.6% in 2012 (World Bank, 2012). Furthermore, many of the countries in Central America have growing deficits which will be harder to finance if the cost of borrowing increases. The growing deficits of countries, in Central America and elsewhere, have already been reflected in the downgrades by credit rating agencies. Some of the countries in Central America are also projected to have high external financing need, the cost of which could increase dramatically if there are adverse shocks to their lenders. Given that Nicaragua currently receives significant concessional lending from Venezuela, its external financing needs are very dependent on its diplomatic relations with Venezuela. The Central American region is also likely to be affected by the growth prospects of its main trading partner, the United States. Slower growth in the United States will not only affect trade, but also revenues from tourism and remittances. Many of the countries in Central America receive significant remittances, with most of them coming from the United States (World Bank, 2012).

The World Bank (2012) predicts that the rate of growth in developed countries will continue to be low due to the effects of the financial crisis and that therefore developing countries will have to look for growth opportunities within the developing world. South-South trade tripled between 1996 and 2006, with nearly half of imports to developing countries coming from within the developing world (World Bank, 2010). South-South trade is predicted to further increase in importance in the future and to have a larger share of world trade than North-North trade by 2018 (ECLAC, 2011). However, one of the

¹⁶ The SME Financing Gap (Vol. II), Proceedings of the Brasilia Conference, 27-30 March 2006, Part 1, OECD Publishing.

¹⁷ The SME Financing Gap (Vol. II), Proceedings of the Brasilia Conference, 27-30 March 2006, Part 1, OECD Publishing.

preconditions to allow for further growth is the availability of trade finance. Due to the higher perceived risks of developing country companies, trade finance products are particularly important for South-South trade. Contraction of lending to developing countries due to regulatory changes or adverse shocks from the recent financial crisis or the continuing euro area sovereign debt crisis may therefore, in the absence of appropriate public policy response, harm trade finance and consequently South-South trade. The increasing openness of the banking systems of Central American countries may facilitate the transmission of shocks.

Another issue to keep in mind is that if world economy and financial stability deteriorate, they will deteriorate from an already weakened level. Countries will therefore have to cope with a second crisis, or further effects from the first crisis, within the framework of an already weakened global economy. The likely effect is that both developing and developed countries alike will be less equipped to withstand new shocks. The Central American region may therefore be more affected by the future effects of the crisis, and in particular by lending contraction from developed economies, especially because their fiscal position has also weakened.

VI. Policy recommendations

In the previous sections we have concluded that bank lending and trade finance in particular are important for trade. We argue that trade finance can be an important transmission channel of further shocks from the recent financial crisis to Central America. The question then is what can be done to mitigate this risk.

Mitigating the risks of trade finance being a transmission channel of shocks to Central America requires a combination of different urgent actions, and these actions must come from both Central American countries themselves and from developed countries and multilateral institutions. In their work on financial contagion, Van Rijckghem and Weder (2003) distinguish between ‘common-lender’ and ‘wake-up call’ effects. The first refers to a financial institution withdrawing from one country after experiencing losses elsewhere to meet its capital requirements. The second refers to either a general shift in risk aversion or a change in perception for an entire class of assets. We refer to their proposals on different policy actions to confront these two different effects and use them in the context of Central America. With respect to the common-lender effect, Central American countries must diversify their sources of trade financing and avoid borrowing significantly from one single creditor (reduce concentration risk). Balakrishnan and others (2011) suggested that the degree of transmission depends on the extent to which the emerging countries have liabilities with specific advanced economies. Their work supports the view that diversifying sources of funding would mitigate the risk of transmission of adverse shocks. This can be done through the opening of new sources of credit in emerging market countries such as China, India, Brazil and Mexico. On the other hand in the case of a ‘wake-up call’ effect Van Rijckghem and Weder (2003) propose that countries should lengthen the maturity structure of their debt and rely more on foreign direct investment than debt financing. In the context of

trade finance, a 'wake-up call' effect can be addressed through regional institutions like CABEL, with a call for political action coming from CABEL and Governors of the bank forcing their institution to comply with its mandate.

During the crisis regional development banks increased the lending capacity of their trade finance facilitation programmes. For instance, in 2009 the IADB increased the size of its Trade Finance Facilitation Program from \$400 million to \$1 billion. In May 2009 the Global Trade Liquidity Program was set up by a number of multilateral development banks and donor countries. Latin America and the Caribbean received about one third of the volume of the programme. These types of programmes can improve access to trade finance for some sectors and can be used in a targeted manner to, for instance, improve the access of SMEs, which otherwise may not be able to use trade finance products.

CABEL strategy must be revised under the light of a possible liquidity risk in the Central American financial market and trade finance credit instruments must be developed so they are ready if needed. In contrast to other multilateral development banks with operations in Central America, CABEL is managed by the countries of the region. This puts the bank in a unique position to support Central American countries with trade financing. Trade finance funding from CABEL could be more competitively priced than funding from non-regional banks. There are a number of ways in which CABEL could facilitate trade finance. First, the bank could sell bonds now, when it can obtain inexpensive credit and set up a fund for trade finance with the proceeds. This fund can be used in the case of crisis. If CABEL waits until the next crisis to sell bonds, the price of credit will likely rise substantially. Secondly, CABEL could raise funds from donors to be placed in the trade finance fund. The Non-Regional member countries of the bank include Republic of China (Taiwan) and Mexico. In addition, given the increasing role of China in Central America, this country could be a possible donor for a trade finance fund. Lastly, CABEL could guarantee debt issued by well rated Central American financial institutions.

Some of the countries that weathered the recent financial crisis well ensured the availability of credit for SMEs, by using national development banks. Brazil experienced a GDP contraction of only 0.6% in 2009 and robust growth of 7.5% in 2010. India performed even better with a GDP growth of 9.1% in 2009, followed by 8.8% in 2010. Both countries quickly injected funds into government-owned export-import banks and state development banks so that liquidity could be restored. In Brazil the funds were mainly channeled through BNDES, the Brazilian Development Bank. For instance, in early 2009 BNDES was given a credit facility amounting to 3.3% of the GDP, which 'aimed at augmenting its credit for working capital and for small and medium-sized enterprises as well as for boosting private investment in sectors with high income multiplier effects' (Nassif, 2010). The lending activities of BNDES have in fact grown to such an extent that they are no longer limited to activities within Brazil (Monteiro and Gradilone, 2009). In India the government implemented a rapid fiscal stimulus package at the onset of the crisis, including additional support for exports and credit for small enterprises (Nassif, 2010). India's initial fiscal stimuli amounted to an additional public spending of around 3% of GDP in the fiscal year 2008-2009 (Nassif, 2010).

Central American countries should consider strengthening the role of CABEL with regard to trade finance funds, and, at national level, setting up or giving more resources to national development banks or supporting well rated commercial banks specialized in SMEs. The latter can also help companies in the region outside of a crisis. According to Titelman (2003) and Alcas (2005), there is not a sufficient supply of long-term lending in Latin America despite financial reforms in the 1990s, with SMEs and relatively higher risk sectors being particularly affected. A national development bank can help to ensure a better supply of lending and higher production in Central America (Titelman, 2003). However, there is no one way to set up or increase the role of a national development bank, and each country must find a solution that suits its needs and characteristics (Alcas, 2005).

Another way of diversifying funding sources is a better use of export credit agencies. Over time developing country export credit agencies could play a role in both diversifying sources of trade finance and in increasing supply. Considering the growing importance of both South-South trade and the significant amount of trade that takes place within Central America, developing country export credit

agencies could also become a source of know-how on South-South and regional trade. In the short run the key action is to strengthen the technical capacity of developing country export credit agencies whether they are public or private. Developed country export credit agencies already provide technical assistance for least developed countries to set up export credit agencies; for example, there is cooperation in Asia between the Asian Development Bank, the Berne Union and local export credit agencies (Auboin, 2007). Similar arrangements could strengthen export credit agencies in Central America through CABEL, IDB or the World Bank. In our view coordinated action on mitigating a possible contraction in the supply of trade finance is essential.

Mitigating the second effect described by Van Rijckghem and Weder (2003), the ‘wake-up call’ effect, requires ensuring that regulation on trade finance products is appropriate. In the previous section we described some concerns over the effect of Basel III on the supply and cost of trade finance products. Regulation of trade finance products must be appropriate for the risks of trade finance products, which are normally low. The recent financial crisis led to a general shift in risk aversion and reduced willingness of financial institutions to lend. One way of mitigating this ‘wake-up call’ effect for trade finance products is to design regulatory capital requirements in such a way that they do not discourage trade finance lending at national and regional level, for the later it will be essential that the Central American Council of Bank Supervisors include such issues on their agenda.

In any case for both the ‘wake-up call effect’ and the ‘common-lender’ effect, it is important that an appropriate framework is in place before a crisis, and that countries and institutions take the necessary actions quickly when a crisis begins. For instance, Nassif (2010) compares the economic performance of Brazil and India during the recent financial crisis and shows how India weathered the crisis better due to its prompt reaction to the crisis. However speed is not the only relevant consideration; the reaction to a crisis must also be coordinated between the different actors. It is essential that cooperation between national development banks, and regional and multilateral development banks, as well as governments and other domestic agents, be coordinated in order to avoid any duplication. By having an appropriate framework in place before a crisis we are not only referring to a suitable network of institutions, which can respond to a crisis, but also to appropriate pre-crisis conditions.

VII. Conclusion

This paper examined trade finance as a transmission channel of future adverse shocks to Central America. We found that trade finance and trade flows followed the same pattern during the recent financial crisis with trade finance flows declining before the decrease in trade exports from Central America. While the region has so far weathered the financial crisis well, in this paper we considered several reasons why further shocks could be transmitted to the region via a contraction in the supply of trade finance. The financial crisis led to both weakened balance sheets of financial institutions and the need for stronger regulation. These factors together with the continuing euro area sovereign debt crisis could lead to a lower supply of trade finance to Central America. In order to mitigate the consequences of this risk it is essential for the countries in the region to diversify their sources of funding and not rely on a small number of creditors. CABI can help to ensure that there is a better supply of trade finance in the event of a crisis by building up a trade finance fund before a crisis and by guaranteeing debt issued by well rated Central American financial institutions during a crisis. National development banks and an increased role for export credit agencies are additional ways to diversify funding sources for the region. At the same time multilateral development banks must increase the capacity of their trade facilitation programmes, and the international community should ensure that there is a process for increasing funds in case of severe adverse shocks to the global financial system. Lastly, it is important that regulations give appropriate treatment to trade finance products and do not discourage lending for trade finance purposes. For this to be done, proper action of the Central American Banks Supervisors Council is needed.

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