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Macroeconomic Impacts of Remittance Inflows:

A Central American Perspective

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List of Abbreviations

FDI – Foreign Direct Investment

NTCs – Northern Triangle Countries

TPS – Temporary Protected Status

DACA – Deferred Action for Children Arrivals

RER – Real Exchange Rate

NER – Nominal Exchange Rate

I. Introduction

In the last decades, remittances have increasingly gained importance as a development tool as they have quickly become an important source of foreign capital for developing economies. Inflows to Latin American countries, in fact, grew from around 2 billion US dollars in 1980 to over 89 billion in 2018. In many economies, remittances have become increasingly larger than foreign direct investment (FDI) and official aid, highlighting their potential and importance. In the Latin American region, most of these inflows are directed to Mexico and Central American countries and originate in the United States. As a percentage of GDP, remittances represent large inflows for small Central American economies, especially for Northern Triangle Countries (NTCs)– El Salvador (20.6%), Guatemala (12%) and Honduras (20%).

The literature has widely discussed micro and macro-level impacts of remittances on recipient countries. Generally, positive effects have been identified as they tend to address poverty, smooth consumption patterns and provide a stable source of foreign exchange. However, the literature provides inconclusive results on whether remittances can, in fact, serve as a development tool by promoting a healthy macroeconomic environment. Furthermore, despite the importance of remittances for Central American economies and within the Latin American region, there are few studies that focus on the effects of these inflows specifically for these countries. With the spotlight on these nations after the recent migrant caravans caused public outcry, it has become increasingly important to assess the impact of inflows that, to an extent, rely on such outflow of migrants. Hence, this paper will aim to fill the gap in the literature by answering the research question: *What are the macroeconomic implications of remittance inflows, specifically for Central American economies?* To which the hypothesis is: *Remittances have become a stable source of foreign exchange that have the potential to address poverty and promote economic activity. However, risks associated with these inflows may dampen the potential benefits and cause detrimental effects for macroeconomic performance.*

To answer this question, the potential benefits and macroeconomic risks of remittance inflows will be identified and an analysis of the transmission mechanisms will be provided. This will be done through literature review and theoretical discussion. Furthermore, descriptive empirics and a review of empirical evidence for Central American countries will be provided to establish an adequate perspective and assessment. The

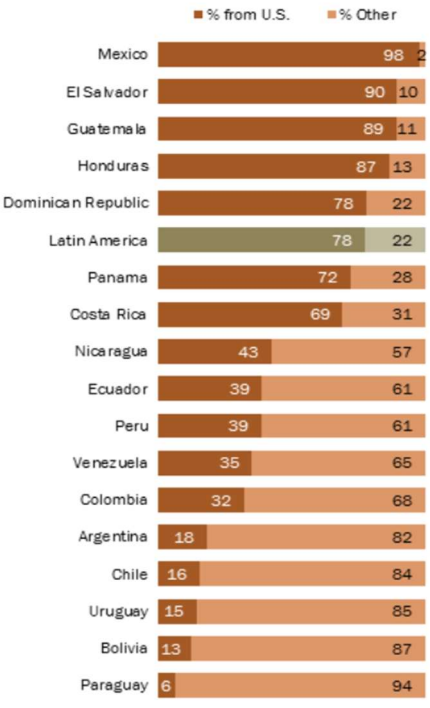
analysis will mainly focus on NTCs, as these have the highest inflows, making the discussion more relevant.

The rest of the paper will be structured as follows: Chapter 2 will contextualize the case of remittances and migration from a Central American perspective; Chapter 3 and 4 will present a discussion on the macroeconomic benefits and risks of remittance inflows, respectively; Chapter 5 will provide an assessment and policy recommendations by country and Chapter 6 will conclude.

II. Contextualizing Remittances and Migration: The Case of Central America

Since the 1970s, Latin America started to become one of the main regions of origin for immigrants to developed countries (Mayoral and Proaño, 2015 p. 145). Political unrest, economic crises and the "lost decade" were major drivers for Latin Americans to begin searching for opportunities outside their nations (Gomez Quintero 2005, p. 168). Because of proximity and some immigration policies, the United States of America became the main destination for Latin American migrants. It is estimated that of all migrants from the region, around 65% settle in the North American country, followed by 18% settling in other Latin American country and around 13% settling in Europe.

Figure 1. Percentage of Total Country Remittances from U.S., 2012



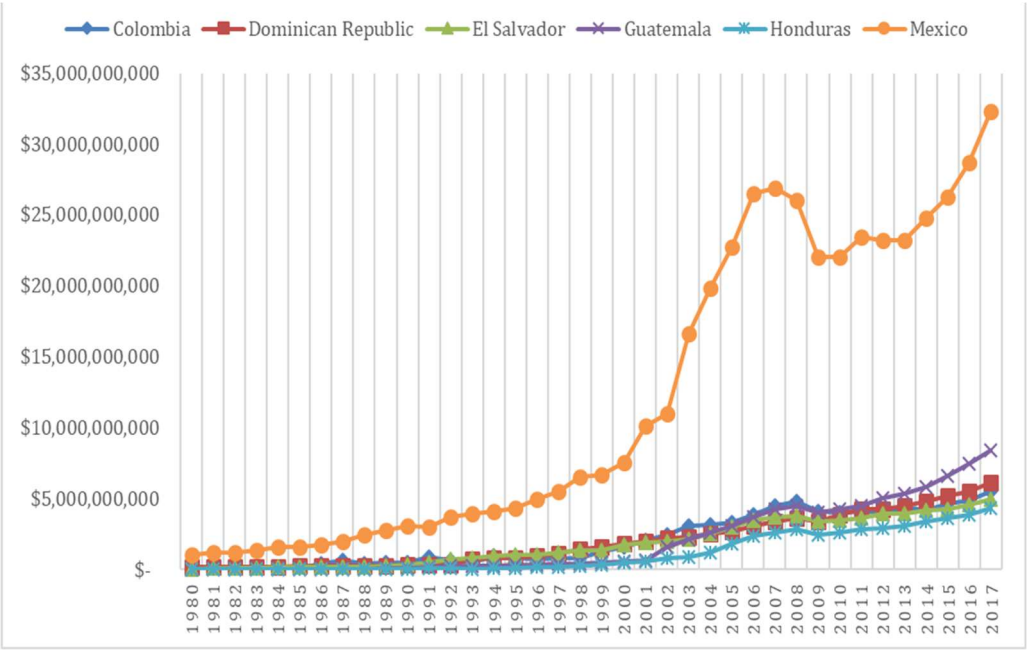
Source: Cohn, Gonzalez-Barrera and Cuddington (2013)

The importance of Latin American migration to the US is also highlighted by the country's importance as the main source of remittances to the region. According to the Cohn, Gonzalez-Barrera and Cuddington (2013), around three quarters of remittances to Spanish-speaking Latin American countries come from the US. Spain and Canada, the second and third supplier of remittances to Latin America, accounted for a mere 8 and 1 percent of the inflows, respectively.

Nevertheless, when dividing the region by subregion, it becomes evident that Mexico and Central American countries are the main drivers of the overall Latin American trend. In fact, while 97 and 80 percent of Mexican and Central American immigrants, respectively, have the US as destination, only 26% of South American immigrants belong to this group (CEMLA, 2019). Furthermore, while remittances coming from the US account for over 65% of the inflows to Mexico and most Central American economies, this is less than 40% for all South American Spanish-speaking countries, as portrayed by figure 1 (Cohn, Gonzalez-Barrera and Cuddington, 2013).

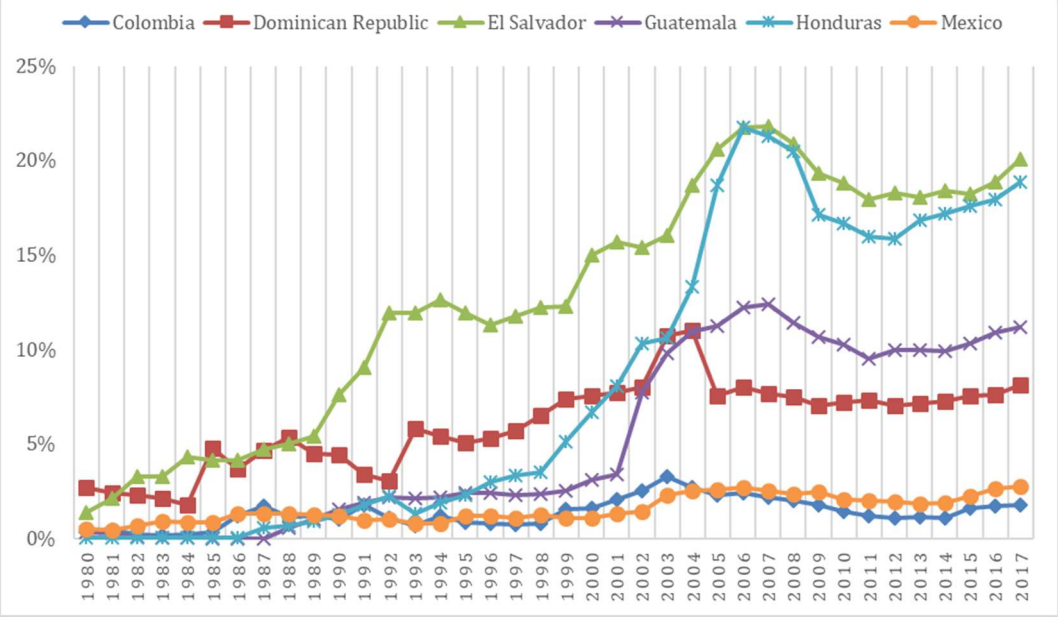
Thus far, these observations have highlighted the importance of the US as a destination for immigrants and a source of remittances for Latin American countries, but, most starkly, for Mexico and Central American countries. Indeed, when looking at data for remittance inflows in Latin America, it is these countries that, predominantly, come out as the top recipients of remittances in absolute values (see figure 2). In relation to the size of their economy, however, the northern triangle countries (NTCs) of Central America - El Salvador, Guatemala and Honduras - have, without a doubt, the most significant inflow, as portrayed in figure 3 below.

Figure 2. Top 6 Latin American Remittance-Receiving Countries (in US dollars), 1980-2017



Source: World Bank, 2020, own representation

Figure 3. Top 6 Latin American Remittance-Receiving Countries (as % of GDP), 1980-2017



Source: World Bank, 2020, own representation

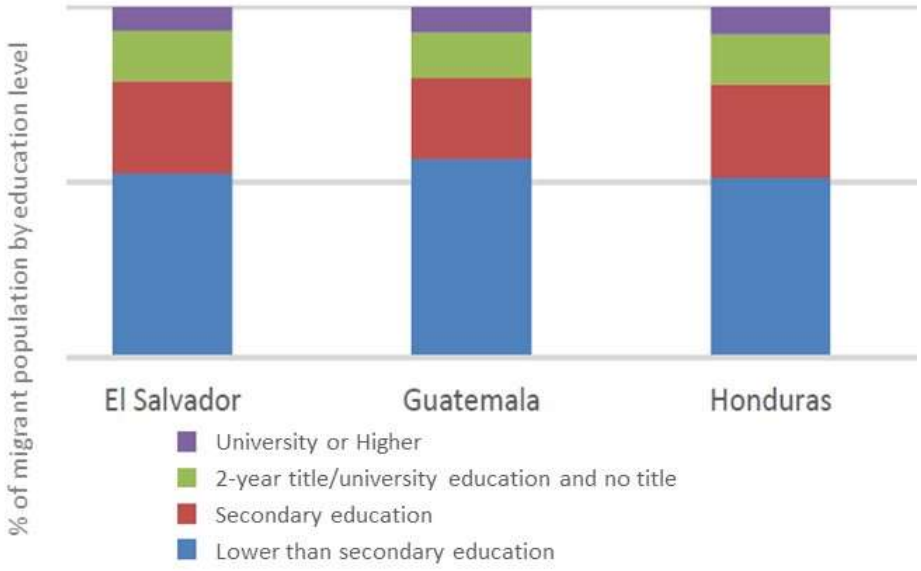
The literature, however, largely ignores the specificities and importance of these inflows for the small economies of Central America, despite their evident magnitude and relevance within the Latin American region when referring to remittances. To this end, this chapter will provide the context necessary to assess the macroeconomic impact of remittances, specifically for Central American countries.

II.i. Central American Migrants: Stylized Facts and Figures

As already shown above, most Central American migrants settle in the United States. As of 2017, in fact, there were over 3.5 million Central American immigrants in the North American country. Of these immigrants, around 85% come from Northern Triangle Countries. The NTCs, in fact, are only behind Mexico in terms of Latin American immigrants living in the United States (CEMLA, 2019). The estimates show that around 23%, 8% and 6% of all people born in El Salvador, Honduras and Guatemala, respectively, live in the US (Abuelafila 2018, p. 6) - a sizable percentage of these small countries. These immigrants tend to be fleeing violence and looking for better work opportunities than those offered in their countries of origin. Most of these immigrants, however, would be

considered “low-skilled workers”, since they tend to have a secondary education at best, as shown in figure 4 below (Abuelafila 2018 p. 6).

Figure 4. Migrant Population by Education Level, NTCs



Source: Abuelafila, 2018 (p. 6)

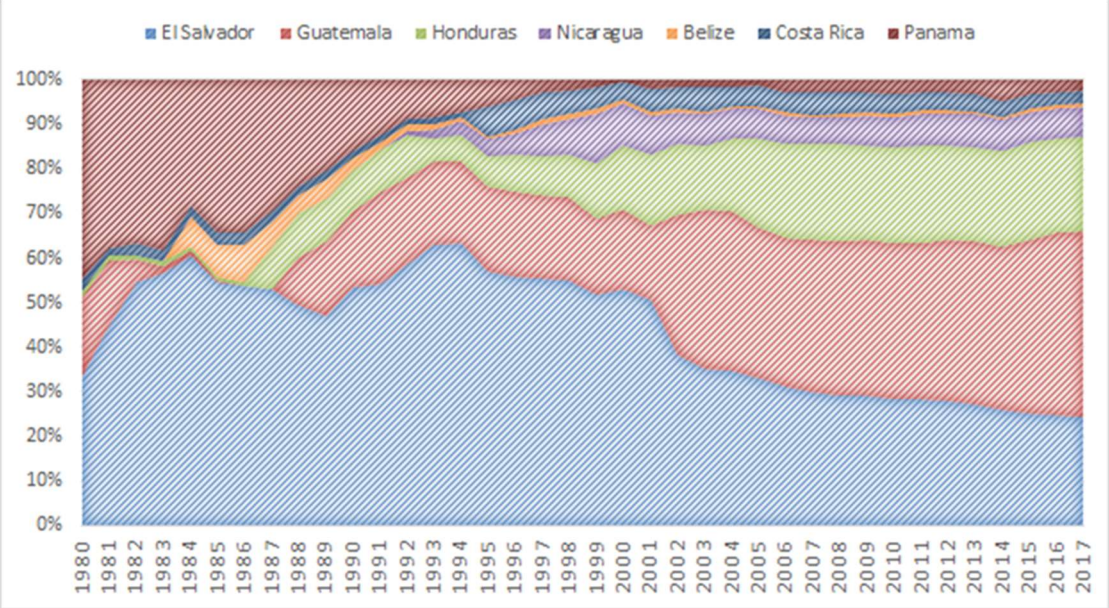
Although many immigrants from NTCs in the US are undocumented, programs such as Temporary Protected Status (TPS)[1] have enabled 195 thousand El Salvadorans and 57 thousand Hondurans to live in the United States legally for over 10 years. Moreover, there are well over 40 thousand people from NTCs who are beneficiaries of the Deferred Action for Children Arrivals (DACA)[2] program living in the United States (Abuelafila 2018, p. 6). With the Trump Administration continuously threatening the TPS and DACA beneficiaries, Central American economies have become increasingly wary of the consequences of a mass return of migrants to their countries of origin and the impact on remittance flows.

[1]Temporary Protected Status (TPS) is an immigration policy which prevents immigrants from certain nationalities to be deported to their countries of origin because it is considered dangerous to do so. El Salvadoran and Honduran immigrants have been set to lose their TPS in 2019 and 2020 respectively.
[2] Deferred Action for Children Arrivals (DACA) is an immigration policy that protects immigrants who were brought into the US as children by preventing their deportation.

II.ii. Remittance Inflows in Central America: Stylized Facts and Figures

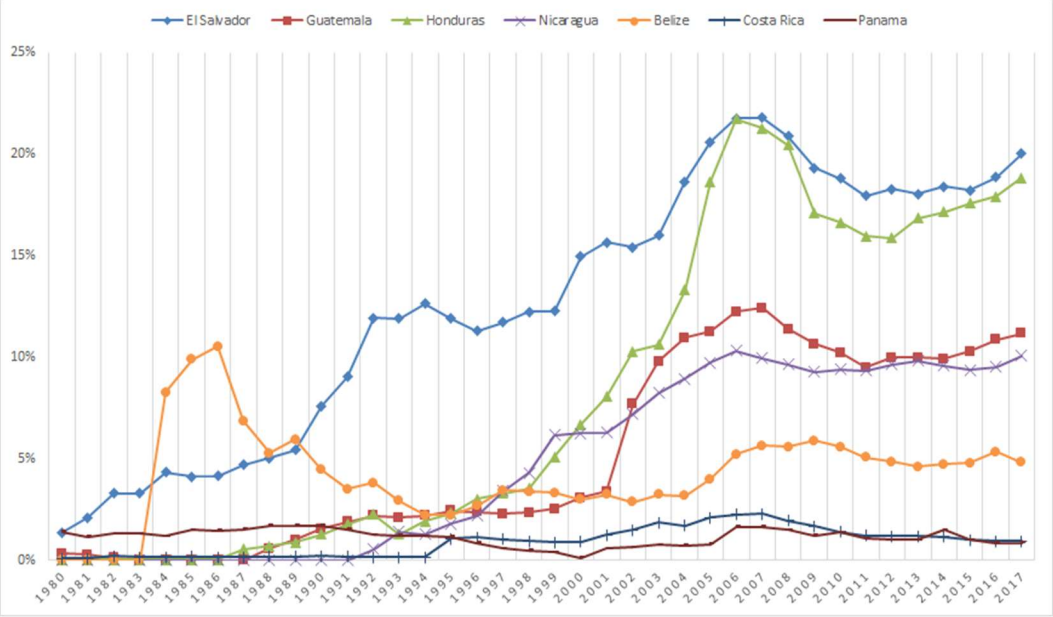
The important emigration trend out of NTCs explained above has undoubtedly been accompanied by a trend of increasing remittance inflows into these economies. In the 1980s, remittance inflows to Central America were a mere 146 million US dollars, compared to the 20 billion recei ved in 2017 - with an average yearly growth of 15%, based on World Bank (2020) data. Inflows to NTCs account for around 85% of the total inflows to Central America (see figure 5), highlighting the importance of focusing on these nations. In relation to the size of their economies, remittance inflows to NTCs are also the highest, as can be observed in figure 6, with only Nicaragua coming close to their level.

Figure 5. Remittance Inflows to Central America by Country, 1980-2017



Source: World Bank, 2020, own representation

Figure 6. Central American Countries: Remittance Inflows as % of GDP, 1980-2017



Source: World Bank, 2020, own representation

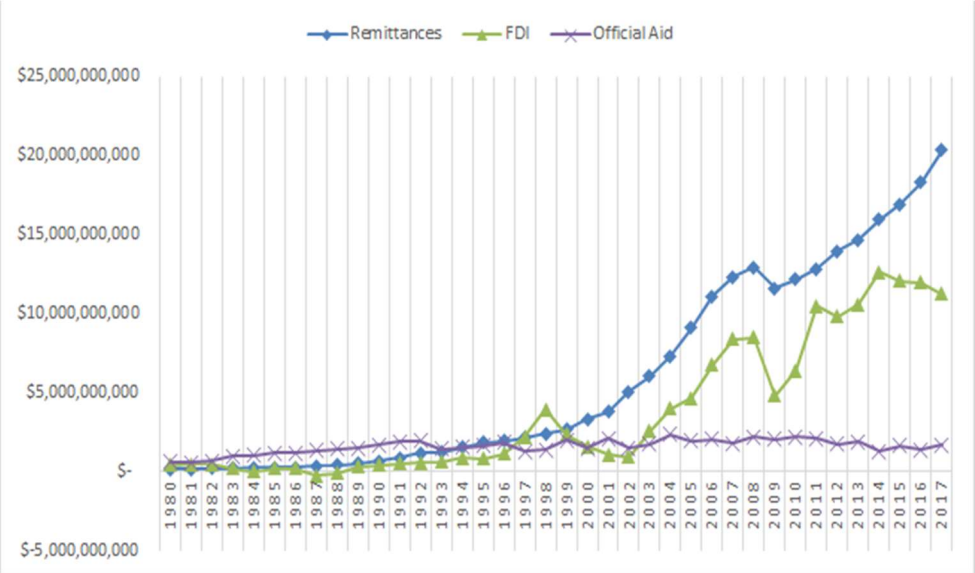
Remittances versus Other Inflows

These massive inflows have surpassed foreign aid and foreign direct investment (FDI) net inflows as the largest source of foreign capital for the Central American region. For NTCs, the spread between FDI and remittances is even larger (see figures 7 and 8). NTCs, therefore, rely much more on remittances as a source of foreign exchange. This has important implications because these inflows are fundamentally different to foreign aid and FDI. Remittances are widely considered more stable because they are usually family obligations that are consistent (Bakker 2015, Chapter 1 p. 4). This can be observed in the differences between the drops in remittances and FDI during the crisis period (2008-2010). While FDI dropped significantly, remittances dropped only slightly and picked up quickly. In fact, Chami *et al*. (2008) found that remittances are the least volatile inflow to emerging economies[3] (p. 15). The lower volatility of remittance inflows may also be explained by the fact that they tend to be interest-rate insensitive and countercyclical (Banco Central de Honduras, 2006; Barajas *et al*., 2016; Chami *et al*., 2008). Furthermore, these inflows are

[3] The authors compared workers' remittances to foreign aid, FDI, Non-FDI private inflows and exports. They found that workers' remittances have the least volatility, according to their estimations.

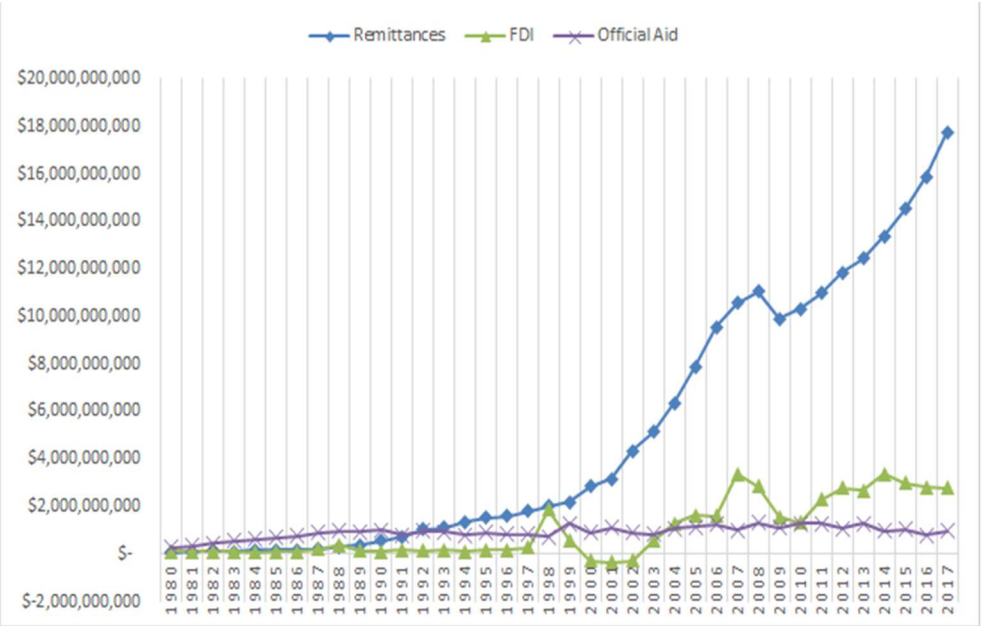
not tied to political obligations, unlike foreign aid (Barajas *et al.*, 2016), which makes them more reliable despite changes in the political climate. Therefore, remittances have provided NTCs with a stable and increasing flow of foreign capital for more than two decades, which they have grown to rely on, especially in the times of economic down-turns.

Figure 7. Inflows to Central American Economies, 1980-2017



Source: World Bank, 2020, own representation

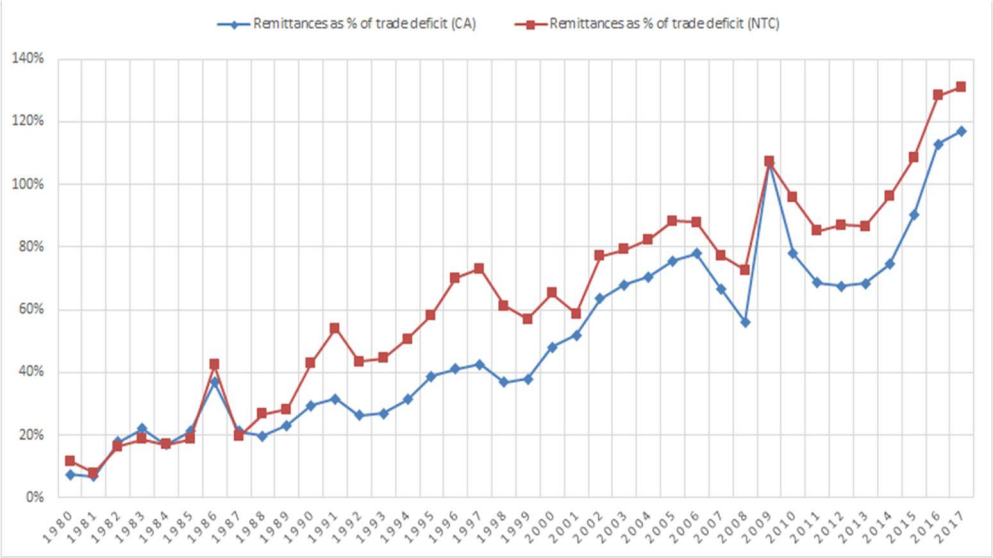
Figure 8. Inflows to NTC Economies, 1980-2017



Source: World Bank, 2020, own representation

Another important source of foreign exchange for emerging markets is export revenue. When comparing remittances to the trade deficit, the importance of these inflows is highlighted once again for the Central American region. In recent years, remittance inflows to Central America have become enough to cover the trade deficit of the region, as observed in figure 9. As with the previous trends, NTCs show a higher reliance on remittances again - with remittances amounting to over 120% of their trade deficit. Therefore, although remittances are not, by any means, higher than export revenue, they are enough to cover the trade deficit of these countries, which may add stability to their balance-of-payments.

Figure 9. Remittance Inflows as % of Trade Deficit, 1980-2017



Source: World Bank, 2020, own representation and calculation

Remittances: Collection, Uses and Beneficiaries

The currency in which remittances are collected, the ways in which they are spent, and who benefits from them all provide important context to understand how these inflows may impact the macroeconomic environment. Because this kind of micro-level data on remittance inflows to Central American countries is often limited, some generalizations will be made in this section for the purpose of providing the adequate context for the chapters that follow.

Data on the currency in which remittances are collected is especially hard to find. This is, in part, because there are many informal channels through which remittances are sent to Central American households, and there is no regulation or estimation on the currency in which this money is paid out to the beneficiary. For this reason, we will focus on the collection methods of official remittance transfers and assume this to set the trend for the countries. A publication by the Central Bank of Honduras summarized the methods by which official remittances are usually collected in most Central American economies. The bank states that there is no regulation in place for remittances in Honduras, Guatemala, Nicaragua, El Salvador or Costa Rica[4] (Banco Central de Honduras 2006, p.39). However, there are some differences on the collection methods amongst countries. For El Salvador, a fully dollarized economy, remittance payments are always done in dollars - the local currency. For Guatemala, Costa Rica and Nicaragua, remittances can be paid out in local currency or, without any additional cost, in dollars. Nevertheless, according to the publication, most remittances in Guatemala are collected in their local currency, the quetzal (Banco Central de Honduras 2006, p. 36). In Honduras, however, collection of remittances in local currency is encouraged by regulations of foreign exchange that require the beneficiary to provide a dollar-denominated bank account if he or she wishes to collect remittances in dollars (Banco Central de Honduras, 2006). This comes at an additional cost for the owner of the account, which is why the president of the Central Bank of Honduras estimates that only 8% of remittances were actually collected in dollars (Rodriguez, 2016). This percentage is expected to be higher in Guatemala for example, given the higher level of leniency.

Data on the uses and beneficiaries of remittances is collected via surveys and is more accessible for researchers. Reports published in 2016 by the Interamerican Development Bank (IDB) have provided a visual summary of these surveys. According to reports on El Salvador and Honduras, over 80% of remittance-receiving households report using remittance income for daily consumption expenditure (Keller and Rouse, 2016a, 2016c). In fact, according to Orozco's (2007) estimations, daily expenditures such as rent, food or mortgage payments are, by far, the main uses of remittances in all NTCs. Other common uses are savings, education and entrepreneurial investment (Orozco 2007, p. 328).

[4] The publication leaves out Panama and Belize

For Guatemala, recent reports suggest around 50% of remittances are invested or saved (Recinos, 2018).

Table 1. Uses of Remittances in NTCs

Type of Expense	Guatemala (%)	Honduras (%)	El Salvador (%)
Total	**100**	**100**	**100**
Every day expenses (credit, mortgage, rent, food, daily use products)	68	77	84
Savings	11	4	4
Entrepreneurial Activities	10	4	4
Education	7	10	4
Other Expenses	3	3	2
Property Purchase	1	2	1
No Knowledge/No Answer	0	0	2

Source: Orozco, 2007 (p.328), author's own representation

The socio-economic profile of remittance beneficiaries in NTCs tends to be very consistent. Beneficiaries are almost equally divided between rural and urban households; they tend to have low levels of education and are more likely to be out of the labour force than the general population. According to the report on El Salvador, beneficiaries are also more likely to work in the informal sector. Most importantly, between 80-88% of remittance-receiving households are classified as "poor" or "at risk of falling into poverty" (Keller and Rouse, 2016a, 2016b, 2016c). This highlights how remittances tend to directly address poverty for these economies or, as Acevedo and Cabrera (2012) suggest, build a "safety net" around the solidarity within families (p. 1).

III. Macroeconomic Benefits of Remittance Inflows

Remittance inflows, as shown in the previous chapter, are an important source of foreign exchange for Central American countries. These inflows can help these countries

cover their trade deficit and improve their credit rating (Amuedo-Dorantes 2014, p. 6). Furthermore, they have the potential to increase international reserves, allowing Central Banks to have more intervention power and ability to promote economic stability. Remittances are also often considered beneficial for their potential to increase economic activity via consumption (Didri *et* al., 2019), poverty reduction (Amuedo-Dorantes 2014, p. 6; Medina Fonseca, 2019) and accumulation of human capital.

This chapter will aim to analyze what the potential macroeconomic benefits of remittance inflows may be and to what extent these potentials are feasible for Central American countries.

III.i. Central Bank's Intervention Ability

Central Banks from NTCs cite promoting financial stability and price stability as part of their mandate (Banco de Guatemala, n.d.; Banco Central de Honduras, n.d. (b); Banco Central de la Reserva de El Salvador, 2012). To this end, the Honduran and El Salvadoran Central Banks have it in their mission and objective to promote the stability of their national currency[5]. Remittance inflows, if successful in increasing the international reserves of Central Banks, may allow these entities to be better equipped to fulfill this role by allowing them to achieve exchange rate stability and provide foreign exchange liquidity to the financial sector when necessary.

A higher level of international reserves, which include foreign exchange, would allow Central Banks to provide credibility and better manage the exchange rate (Medina Fonseca, 2019). The exchange rate in Guatemala and Honduras, for example, is determined through supply and demand of dollars in the economy, and Central Banks interfere to achieve a desirable or stable exchange rate to the US dollar (Banco de Guatemala, 2011; Banco Central de Honduras, n.d. (a)). International reserves are the necessary tool for these Central Banks to fulfill this obligation, as the credibility they provide serves to prevent speculative attacks.

Higher reserves also mean higher liquidity for the Central Bank. This liquidity is important because it serves as an important tool for Central Banks to deal with a currency,

[5] Although this was cited as the initial objective of the central bank of El Salvador (Banco Central de la Reserva de El Salvador), the country became fully dollarized in 2000. Therefore, this is no longer one of the bank's main functions.

banking or twin crisis, for example, through their role as lender of last resort. In the case of El Salvador, a fully dollarized economy, the Central Bank is already limited in its role as lender of last resort, given it cannot print money to provide liquidity in case of a crisis (Ibarra *et al*. 2004, p. 81). Therefore, the Central Bank of El Salvador would rely almost entirely on its reserves to ensure stability.

Remittances and International Reserves

As shown in the previous chapter, remittance inflows are one of the most important sources of foreign exchange for Central American economies, only behind export revenue. It should follow, therefore, that remittances would tend to have a positive effect on the accumulation of foreign exchange and international reserves for the Central Banks of recipient countries. This will depend, however, on the actions of Central Banks and, as suggested by Vacaflores and Kishan (2014), on their exchange rate policy. For example, if a Central Bank chooses to intervene and buy foreign exchange to protect or better manage the exchange rate, then it would follow that remittance inflows to this country would have higher positive effects on accumulation of reserves (Vacaflores and Kishan, 2014). A more fixed exchange rate system, which requires more intervention from the Central Bank, therefore, will coincide with a higher accumulation of reserves in relation to a more flexible system (Vacaflores and Kishan 2014, p. 114).

Although the relation between remittances and reserves seems initially positive, it is possible that remittances have negative effects in the accumulation of foreign exchange reserves if the inflows are used by households to increase their consumption of imported products. If this is the case, then this will drain the reserves of the Central Bank. Similarly, if remittances cause the export sector to lose competitiveness through the appreciation of the real exchange rate, then it is possible that this negatively affects the position of the Central Bank in terms of reserves, as less foreign exchange is collected through exports (Vacaflores and Kishan 2014, p. 101).

Therefore, the extent to which remittances may be positive for the accumulation of foreign exchange reserves depends on the Central Bank policy and the effects of said inflows on the trade balance. Empirically, however, Vacaflores and Kishan (2014) found that remittances tend to have a positive effect on the accumulation of reserves across the board for a set of 9 Latin American countries (which include NTC). They also found that

the trade balance tends to be less important than remittances in the accumulation process. Nevertheless, the authors also found that remittance inflows have a larger impact on reserves for countries with lower remittance-to-GDP ratios, which may reflect the problem that countries with large amounts of remittances relative to the size of their economies tend to experience a bigger increase in imports. This narrative is also suggested by Caceres and Saca (2006) on their empirical analysis of El Salvador for the period of 1995-2004. The authors, in this case, find that there is an initial increase in the level of international reserves after a positive shock of remittances which is followed by a consistent decreasing trend. This, they argue, can be explained by a drainage in reserves caused by increased consumption of imported goods.

Short Assessment

Thus far, this analysis suggests that remittances have the potential to increase international reserves, which can enhance the ability of central banks to achieve exchange rate stability and increase their intervention ability in the face of a crisis. Similarly, two key factors have been identified to assess the conditions under which this potential can be fulfilled.

Firstly, the policies of the monetary authorities in the recipient country will affect the extent to which remittances can increase their ability to fulfill their mandate as providers of financial stability. In the case of El Salvador, a dollarized economy, remittance inflows are necessary for the country to accumulate the necessary amounts of foreign exchange to maintain such system. In this case, the Central Bank has no possibility to apply monetary policy to absorb shocks (Medina Fonseca, 2019) and has a limited role as lender of last resort, which makes remittances and the accumulation and return of international reserves more relevant. Although Honduras and Guatemala are more similar, they differ in the policies of their Central Banks. The Honduran Central Bank has adopted a more conservative position, in which they intervene in the foreign exchange market more actively. All foreign exchange is required to be transferred to the Central Bank, which it buys at the determined exchange rate. Bank of Guatemala, on the other hand, has more lenient policies that allow foreign exchange to be managed by private parties and has adopted a far more flexible exchange rate system (Ibarra *et al*. 2004, p. 77). In this sense, based on the policies of the monetary authority, we would initially expect to see a higher

accumulation of reserves by the Honduran entity, given its level of intervention in the foreign exchange market. However, the average yearly change in net reserves for Honduras was 10%, while it was 12% for Guatemala[6]. This is likely due to the higher levels of debt Honduras has in comparison to Guatemala.

Secondly, the extent to which this potential can be reached also depends on the effect of remittances on the trade balance, which would also affect the accumulation of foreign exchange. In so far as remittance inflows tend to increase the consumption of imported goods and services (Banco Central de Honduras 2006, p. 13) and reduce the competitiveness of exports through an appreciation of the real exchange rate (RER) (Barajas *et al*., 2010; Amuedo-Dorantes and Pozo, 2004; Acosta, Baerg and Mandelman, 2009), these inflows may limit the accumulation or deplete foreign exchange reserves. This will be further discussed in the next chapter on macroeconomic risks.

III.ii. Government Debt Sustainability and Fiscal Policy

The inflows of foreign exchange of remittance recipient countries may also create the potential for higher government debt sustainability. As opposed to developed countries such as the US or most members of the European Union, small developing countries are often unable to raise funds in their own currency, which means they are usually forced to indebt themselves in foreign currency. In a sense, therefore, small developing countries may experience a constraint on fiscal policy given by the sustainable amount of foreign debt they can have given their foreign exchange inflows. Remittances may reduce this constraint through the increase in foreign exchange in a country and, more indirectly, through the potential for higher tax revenues, as suggested by Chami *et al*. (2008). This section will aim to explain how these mechanisms may take place.

Remittances and Foreign Indebtedness

Foreign indebtedness, as emphasized by Metzger (1999, 2001), can create a policy dilemma about the exchange rate and may lead to a balance of payments crisis. A country that is indebted in a foreign currency requires a stable exchange rate to be able to repay

[6] Data since 2002. See table 3 in annex for calculations

their debt but also requires increased international competitiveness to be able to raise enough foreign exchange via export revenue to do so. While the former requires a stable or appreciated foreign currency, the latter requires a depreciation, which creates a dilemma for policy makers (Metzger 1999, pp. 92-93). Furthermore, foreign indebtedness may increase depreciation expectations, which may ultimately lead to a balance of payments crisis, as exemplified in the Latin American debt crisis of the 1980s (Metzger, 2001). To make up for depreciation expectations and their negative effect on the local currency's liquidity premium, the domestic interest rate must rise, which may have negative effects on economic activity and decrease the sustainability of local debt since it becomes more expensive (Metzger 2001, p. 208). Therefore, foreign indebtedness comes at certain risks. These risks, as will be discussed here, may be eased by remittance inflows.

Remittances, by providing foreign exchange inflows that are less volatile than exports (Chami *et al*. 2008, p. 15) and do not necessarily respond negatively to the appreciation of the exchange rate, may provide a solution to the dilemma described above. In other words, remittances can provide a stable flow of foreign exchange necessary to repay foreign debt. Nevertheless, it is important to note that remittance may also lead to the appreciation of the local currency, as will be discussed in the chapter on macroeconomic risks, so the dilemma can still hold if this affects the trade balance enough so that remittances cannot compensate for it. However, as shown in the previous chapter, remittance inflows to Central American countries are 120% of the trade deficit, suggesting these inflows may already be large enough to cover for a larger deficit. Similarly, a stable inflow of foreign exchange such as remittances may decrease depreciation expectations, which could result in the avoidance of a currency crisis.

Furthermore, the negative effect of foreign indebtedness on the liquidity premium described above may be counteracted by the positive effect of increasing international reserves on the liquidity premium. As discussed in the previous section, remittances can result in the increase of international reserves, and higher reserves can result in a higher liquidity premium which allows for a lower domestic interest rate. In this sense, it becomes cheaper to sustain a certain level of debt. Similarly, Amuedo-Dorantes (2014) suggests these stable inflows of foreign exchange may improve a country's credit rating (p.6), and

Vacaflores and Kishan (2014) suggest their effect on international reserves may reduce the risk premium (p.99). Both would also result in the ability to issue debt at a cheaper rate.

Remittances, therefore, can allow recipient countries to have the necessary amounts of foreign exchange to service and repay their debt and, furthermore, may result in lower costs for servicing the debt via a lower interest rate. Moreover, this reliable source of foreign exchange may allow recipient countries to have easier access to external funds, with less concern about solvency and currency crisis from market actors.

Remittances and Tax Revenues

Chami *et al*. (2008) discuss another mechanism through which remittances may increase government debt sustainability: tax revenues. Although there are policies that suggest taxing remittance income, Chami *et al.* (2008) argue that this is not necessary to increase the tax revenues of the government in recipient countries (pp. 42-43). According to their analysis, remittances have the potential to increase tax revenue indirectly through the increased consumption that results from these inflows. This would raise the revenues from the government, allowing them to sustain a higher level of debt, assuming an initial sustainable amount. Nevertheless, the extent to which remittances may increase tax revenues via consumption taxes also depends on how much of them are consumed in the informal sector of the economy (Medina Fonseca, 2019).

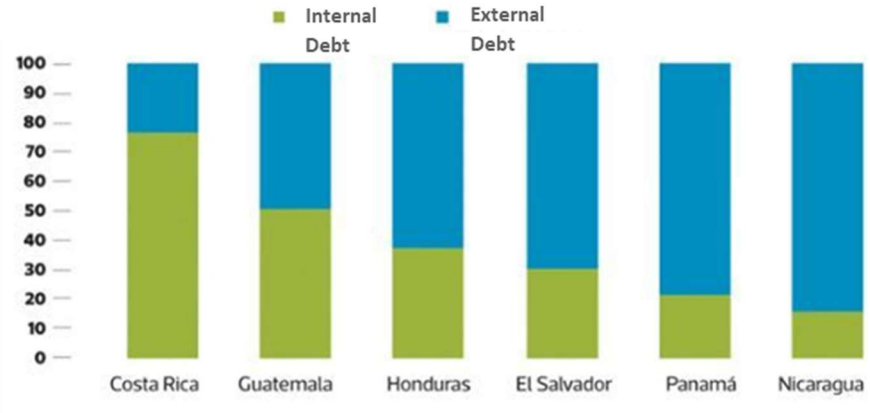
An Argument for Expansionary Fiscal Policy

Fiscal policy is one of the main tools the government has to incentivize the economy. In fact, from a Post-Keynesian perspective, long-run growth trends in an "open economy with government activity […] are affected by the growth of demand sources which are external to the private sector, *the development of government expenditure and government deficits* and the development of exports and export surpluses" (Hein 2014, Ch. 5 p. 235, emphasis added). Therefore, constraints to fiscal policy via a country's ability to raise and sustain certain levels of debt can also be interpreted as a constraint to their growth trend. Through the mechanisms described above, remittance inflows may create the conditions for governments to pursue a more active role in incentivizing the economy.

Short Assessment

Central American economies, as most developing economies, are indebted in foreign currency. In fact, a large percentage of public debt of these countries is external debt (Cisneros, 2016), which is generally denominated in foreign currency (Vacaflores and Kishan 2014, p. 99). Figure 10 below shows the segmentation of public debt by country. Debt to foreign creditors (ie. external debt) is widely considered to have more favorable maturity and interest rate conditions (Cisneros, 2016). However, countries that are indebted in foreign currency are subject to the risks described above.

Figure 10. External vs Internal Debt, Central American countries (%)



Source: Cisneros, 2016

Remittances, as shown in this section, have the potential of easing these risks by providing a large inflow of foreign exchange and by making public debt easier to repay through a lower interest, given higher international reserves and liquidity premium. In the same way, these inflows may also add to the stability of the economy by providing stable flows that could prevent liquidity problems and a balance of payments crisis. It is important to note, however, that these potentials also rely on remittances increasing foreign exchange reserves. As already discussed in the previous section, this requires some level of intervention in the foreign exchange market. This intervention is costly for the Central Banks, since they often choose to sterilize their purchase of foreign exchange by issuing bonds in the local currency which tend to have a higher interest rate than what they get from the instruments they hold as international reserves (Medina Fonseca, 2019). Although

sterilization may be irrelevant for El Salvador and Panama, since their local currency is also the dollar, it must be considered for the rest of the Central American economies.

III.iii. Increased Economic Activity

Many authors have discussed the impact of remittance inflows on macroeconomic growth. As reviewed by Mayoral and Proaño (2015), these inflows may have a positive impact on economic growth through multiplier effects given the higher consumption of recipient households. Furthermore, remittances may increase human capital accumulation, given this additional income for recipient households may lower constraints for access to education (Mayoral and Proaño 2015, p. 142). Although the authors review potential risks that would result in lower economic growth, this section will focus on the potential benefits by breaking down the mechanisms through which remittances can increase economic activity through higher consumption and investment.

Consumption and Investment

As discussed in the previous chapter, remittance income tends to be used for consumption expenditure. Generally, we can assume that part of that consumption will be on locally produced goods and services, while the other will be spent on imports. This section will focus on those remittances used for the former, as the latter will be further discussed in the macroeconomic risks chapter of this analysis.

Theoretically, increased consumption of national goods and services may create multiplier effects that will positively affect the macroeconomy (Gonzales and Sovilla, 2014; Dridi *et al*., 2019; Mayoral and Proaño, 2015). Dridi *et al*. (2019) discuss the impact of remittances on economic activity by looking at "how changes in aggregate demand due to additional income from household's remittances propagate through a network of input-output linkages in Sub-Saharan countries" (p.2). The authors suggest that if remittances are spent in one sector of the economy, the increase in output of this sector may require an increase in output of the sectors that provide the inputs. Therefore, the authors conclude that remittances that are spent on sectors with strong linkages with the rest of the economy are more beneficial (Dridi *et al*. 2019, p. 29). Similarly, they suggest that economies that

are more diversified and with more integrated production structures will tend to benefit more from consumption expenditure financed by remittances (Didri *et al*. 2019, p. 6).

Although Dridi *et al*. (2019) suggest that the mechanisms described above may result in firms investing more, they do not expand on the mechanisms through which this may happen, as they focus more on the multiplier effect of consumption, rather than increased investment. The extension of the post-Kaleckian model presented in Hein (2014, Ch. 8, pp. 314-317) may be used to explain how an increase in consumption may lead to higher capital accumulation. In this model, capital accumulation is positively affected by animal spirits, the profit share, capacity utilization (which indicates expected demand), and productivity growth. In this sense, an increase in consumption will result in an increase in capacity utilization (ie. expected demand), which will have a positive effect on accumulation. This means that as firms expect a higher level of demand, they utilize more of their resources and decide to invest more.

Thus far, this analysis suggests that remittances have the potential to increase economic activity and incentivize growth via higher consumption expenditure. Nevertheless, the extent to which this will ultimately result in a positive effect for the recipient economy depends on how the trade balance is also affected. In fact, because the Post-Kaleckian model described above is extended to open economies, the author points out that "if domestic demand grows at a faster rate than foreign demand, net exports will decline, *ceteris paribus*" (Hein 2014, Ch. 8, p. 316). Therefore, the increase in capacity utilization described above will have a negative effect on net exports. These effects have been ignored so far, as the purpose of this section has been to show how higher consumption may be beneficial for the recipient economy. Nevertheless, the deterioration of the trade balance is an important macroeconomic risk that will be discussed in the following chapter.

Education and Macroeconomic Growth

As discussed above, another positive impact of remittance inflows is lower constraints for access to education, which can positively affect economic growth (Mayoral and Proaño 2015, p. 143). Higher investment in education (ie. human capital) can result in economic growth. For this to take place, however, one must assume that the micro-level impact of remittances increasing access to education will translate into a macro-level one.

Furthermore, this would also require for the beneficiaries of remittances who received higher education to stay in the country, rather than become immigrants themselves, and to participate in the labour market (Mayoral and Proaño 2015, p. 143). Fajnzylber and Lopez (2007) find, in fact, that only 15-20 percent of college graduates in Mexico and Central America end up becoming immigrants, a far less concerning statistic than that of Caribbean countries, for example (p. 11). Finally, the link from education to growth would also rely on education increasing labour productivity. In Post-Keynesian literature, labour productivity and growth are mainly related via Kaldor's technical progress function, in which higher productivity growth requires higher capital accumulation[7] (Hein 2014, Ch. 4, p. 141). Therefore, if remittances succeed in increasing the level of education in a country and labour productivity, we would expect higher growth.

Short Assessment

In theory, remittances could also promote economic activity if these are used for entrepreneurial activity or productive investment. This may be the case in Guatemala, in which 50% of inflows are saved or invested. Recipients of remittances in Honduras and El Salvador, however, report using this income for every day consumption expenditures and, to some extent, education. Generally, these do not finance productive investments (Mayoral and Proaño 2015, p. 157). This section has aimed to show how, in theory, these inflows may nevertheless promote investment via multiplier effects, increased capacity utilization and labour productivity.

However, it is important to note that in order for remittances to promote economic growth, the effects on consumption and investment must be larger than the negative effects caused by the macroeconomic risks that will be discussed in the following chapter - namely, a deteriorating trade balance. In fact, Mayoral and Proaño (2015) find that for a panel of Latin American countries from 1975-2012, remittance inflows did not have a significative impact on economic growth until after the 2008 crisis – highlighting the importance of these inflows as a stabilizing and countercyclical tool. The authors argue increased consumption of imports and lower labour force participation may be some of the main reasons why remittances do not promote economic growth in Latin American

[7] According to the model, labour productivity and capital-labour ratio must grow at the same rate to satisfy the long-period equilibrium condition (Hein 2014, Ch. 4, pp. 141-140), hence, with constant labour, capital must increase.

countries (Mayoral and Proaño 2015, p. 157). The authors, however, also highlight the problems in determining causality from remittance inflows to growth, since countries with lower growth tend to have higher outward migration, which makes them more likely to receive remittances (Mayoral and Proaño 2015, p. 151).

III.iv. Poverty Reduction

The final macroeconomic benefit that will be discussed is the potential of remittances to reduce poverty. The Central American region has the largest percentage of its population living in extreme poverty in Latin America, excluding the Caribbean (CEPAL 2019, p. 98). In fact, 2018 estimates suggest around 50% of the population lives in poverty or extreme poverty. To the extent that remittances are usually directed to poorer household, as shown in the previous chapter, these inflows are widely considered as a tool to directly address poverty (UNCTAD 2010, p. 8). According to a 2010 UNCTAD publication, in fact, studies suggest that a 10% increase in the amount of remittance inflows to a country can result to a reduction of poverty rates of up to 3.6%, on average (p. 9).

Empirically, remittance inflows to Central American economies seem to have, in fact, somewhat alleviated poverty. According to the Economic Commission for Latin America and the Caribbean (2006), remittances could slightly lower poverty rates in Central American countries, but their effect is much more visible when looking at poverty reduction of only remittance recipient households (as cited in Agunias, 2006). For Guatemala, Adams (2006) found that while international remittances are not necessarily associated with poverty reduction in levels, they are successful at reducing the depth of poverty (pp. 77-78).

Fajnzylber and Lopez (2007) provide a somewhat deeper analysis on the impact of remittances on poverty and find that the countries with larger reductions in poverty due to remittances tend to be those with the higher remittance to GDP ratios (p. 15).

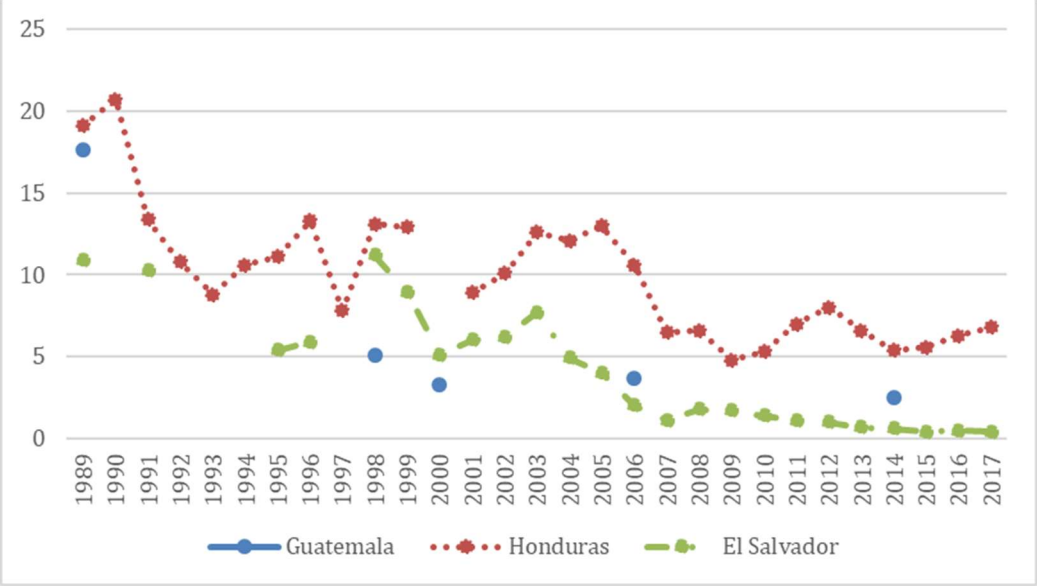
Short Assessment

Remittances may, indeed, reduce the poverty levels or the depth of poverty, as explained by Adams (2006), for remittance recipient households. The main question of whether this entails a potential benefit for the *macroeconomy* lies on whether this effect at the micro-level will be translated into a macro one. The empirical work cited above seems

to suggest it is at the household level that the benefits are observed, more than at the macroeconomic one.

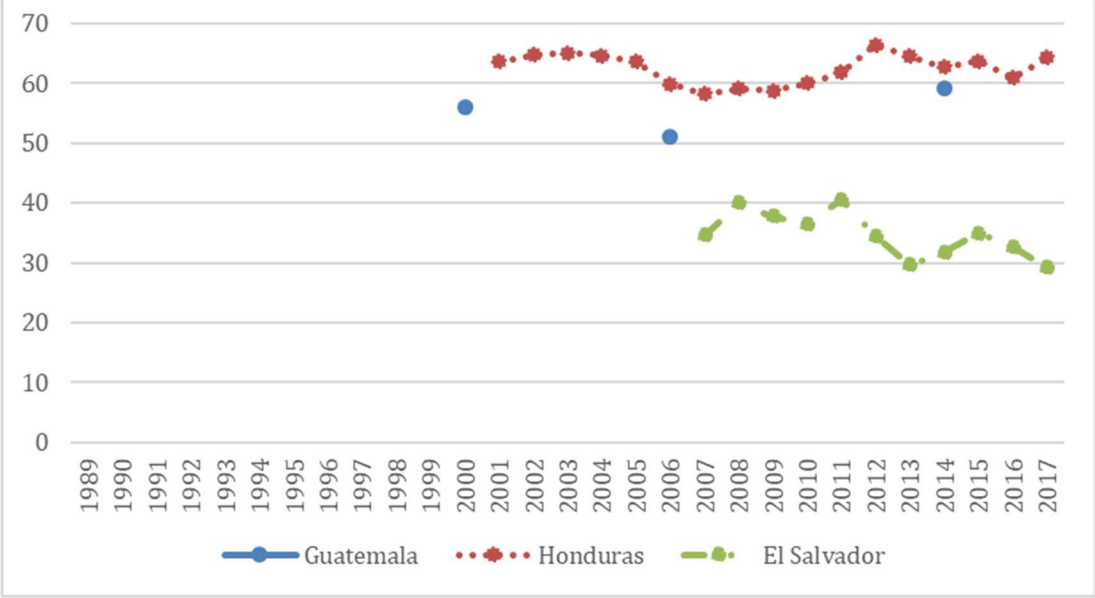
Fajnzylber and Lopez (2007) discuss some explanations as to why the important impact of remittances on poverty of households may not translate into the macroeconomy. As will be explained in the following section, the risks that come with remittance inflows may result in lower economic growth and income via its effects on the trade balance, which may dampen the positive effects of remittances on poverty (Fajnzylber and Lopez 2007, p. 12). Therefore, although remittances remain an important tool to address poverty of households in the Central American region, the extent to which this entails a reduction in the *level* of poverty rather than the *depth* depends on the fulfillment of other macroeconomic benefits and mitigation of risks. Thus far, for NTCs, it appears that depth of poverty, measured by the poverty gap at $1.90 a day, has shown a downward trend (see figure 11). In contrast, the level of poverty, measured by poverty headcount ratio, seems to have remained relatively unchanged for Honduras and Guatemala and only somewhat decreased for El Salvador (see figure 12).

Figure 11. Poverty Gap at $1.90 a day (2011 PPP), NTCs, 1989-2017



Source: World Bank, 2020, own representation.

Figure 12. Poverty Headcount Ration at National Poverty Lines (% of population), NTCs, 1989-2017



Source: World Bank, 2020, own representation.

Therefore, the causality between remittances and poverty reduction, although straightforward if recipients are poor households, is not necessarily as direct. Another explanation that will be suggested in the following chapter on macroeconomic risks is that governments in these countries tend to be less responsive to citizen's needs (Chami *et al*. 2018b, p. 46); therefore, social spending may decrease, leaving poorer households more vulnerable.

IV. Macroeconomic Risks of Remittance Inflows

The previous chapter has discussed the potential benefits of remittance inflows for recipient economies. This chapter will now provide an analysis of potential macroeconomic risks that may arise from sustained foreign-currency denominated inflows.

One of the main risks discussed in the literature relates to the appreciation of the real exchange rate (RER) that results from large increases in income due to capital inflows such as remittances. Similarly, because these inflows are usually dollar-denominated for Central American economies, there is a risk of tendency toward partial dollarization. The

analysis will also discuss two risks described in the literature as "moral hazard problems": neglect of the government and labour market participation.

Through a review of theoretical linkages and empirical evidence, this chapter will aim to analyse the mechanisms through which remittances may negatively impact the macroeconomy via risks that arise from these inflows.

IV.i. Dutch Disease Risk

One of the most widely discussed risk of remittance inflows for recipient economies is what is known as "Dutch disease". Named after a crisis in the Netherlands following the discovery of natural gas reserves, this term is used to refer to the phenomenon in which large increases in a country's income lead to a decline in the competitiveness of manufactured exports and an increase in imports (Amuedo-Dorantes 2014, p. 2). This increase in income may be due to a natural resource boom, foreign aid, foreign direct investment or remittances, for example.

Remittances can generate Dutch disease effects through the appreciation of the real exchange rate (RER) (Barajas *et al.,* 2010; Amuedo-Dorantes and Pozo, 2004; Acosta, Baerg and Mandelman, 2009; Catañeda and Catalán 2007) and the consequent deterioration of the trade balance. As will be discussed below, the literature argues that remittance inflows tend to add inflationary pressures in the recipient country and increase the price of non tradables, which may result in RER appreciation. The appreciation of the RER will make national exports less competitive. Similarly, increases in income will tend to increase consumption of imports, adding to the negative effects on the trade balance.

Prices and the Exchange Rate

The relationship between remittance inflows and prices is generally the starting point in the literature that associates these inflows with Dutch disease. This is because increasing prices will reflect in RER appreciation through which Dutch disease effects are generated. As discussed by Catañeda and Catalán (2007) there are two commonly used definitions of the RER (pp. 6-7). These are shown in formulas 1 and 2 below, in which NER stands for nominal exchange rate; p_f and p_l for foreign and local prices, respectively; and p_{NT} and p_T for prices of non tradables and tradables, respectively.

$$RER_1 = NER * {}^{p_f}/_{p_l}$$

$$RER_2 = \frac{p_{NT}}{p_T}$$

Generally, the literature uses formula 2 to describe RER appreciation, which consists in the ratio of non tradable to tradable prices increasing, in relation to remittances and Dutch Disease. As explained by Acosta, Baerg and Mandelman (2009), in a scenario in which prices for tradables are exogenously determined[8], the increased consumption of households due to remittance inflows would result in increasing prices in the non tradable sector. This, in turn, will create an expansion of the non tradable sector, which adds additional upward pressure to the RER_2 (p. 2). Catañeda and Catalán (2007) point out, however, that this can only happen in the short-term because "there is not enough time for productive factors to adjust" (p. 8). In a sense, a certain constraint in the short-run is necessary for prices to rise in the non tradable sector with an increase in demand.

A similar argument applies when the RER is defined as in equation 1. In this case, an appreciation would mean that the value of the RER_1 decreases. Several authors have discussed how patterns of increased consumption in remittance recipient countries can result in increasing local prices (Acosta, Baerg and Mandelman, 2009; Narayan, Narayan and Mishra, 2011; Amuedo-Dorantes and Pozo, 2004). This is usually referred to as the "spending effect". In this sense, higher demand can put upward pressure on prices, creating the first-round effect of spending on inflation. A second-round effect may happen if higher prices are followed by workers demanding higher wages, given the cost of living has increased. If workers' wages increase, prices will likely increase to compensate for higher costs, resulting in a higher price level.

According to the mechanisms described above, remittances may result in RER appreciation, mainly, because of higher consumption demand. However, from a Post-Keynesian view, Kaleckian theory states that a rise in demand is not always followed by rising prices, but, rather, by an adjustment in the quantities supplied by producers (Hein 2014, Ch. 5 p. 183). According to this view, the agricultural sector of the economy may

[8] This assumption is realistic in the Central American case since these small economies tend to price takers in the international market.

need to adjust prices with changes in demand because it cannot immediately adjust output. For the manufacturing sector, however, the expected effect would be an adjustment in quantity rather than prices; the same logic can be applied to the service sector (Kalecki as cited in Hein 2014, Ch. 5 pp. 183-184). If this is the case, then the increased demand for non tradables, for example, will not necessarily result in increasing prices. Therefore, some sort of supply constraint is necessary for this mechanism to take place, as suggested by Catañeda and Catalán (2007, p. 8) and explained above.

In the case of RER_1, however, there is another mechanism through which it may appreciate: changes in the nominal exchange rate (NER) will be reflected in the RER_1. If the NER appreciated, meaning the value decreases[9], then the value of the RER_1 will also decrease (appreciate). Remittance inflows may lead to NER appreciation by increasing the amount of foreign exchange, in this case dollars, in an economy. As discussed in the previous chapter, nominal exchange rates in Guatemala and Honduras, for example, are determined through supply and demand of dollars. An increased supply of this currency, therefore, would result in a lower price for it and an appreciation of the local currency. Therefore, remittances, through the NER, may also cause RER appreciation. It is important to note, however, that if remittance inflows result in increased demand of dollar, through dollarization for example, then the effect would depend on how sensitive the NER is to changes in the supply and demand of dollars.

Empirically, researchers have, indeed, found evidence that remittance inflows tend to add pressure for the appreciation of the RER (Barajas *et al*., 2010; Amuedo-Dorantes and Pozo, 2004; Acosta, Baerg and Mandelman, 2009). For Latin American countries, Amuedo-Dorantes and Pozo (2004) find that these inflows tend to, as discussed above, increase consumption of non tradables and prices, appreciating the RER. Evidence of this is more predominant in smaller economies and harder to find for larger economies such as Mexico (Amuedo-Dorantes 2014, p. 4).

Trade Balance and Dutch Disease

The appreciation of the RER discussed above entails a loss of international competitiveness of exports, creating a deteriorating trade balance and other Dutch disease

[9] The NER is defined as the amount of local currency needed to purchase foreign currency. Therefore, a lower NER constitutes and appreciation.

symptoms. The short-term effect of the appreciation of the local currency is a lower level of exports due to loss of competitiveness. Although this causality is straightforward, Dutch disease effects are far more menacing than just temporary loss of competitiveness.

The higher consumption of non-tradables discussed above, has also been suggested to cause a contraction of the tradables sector (Chami *et al*. 2008, p. 38) and a movement of resources from the tradable to non-tradable sector of the economy (Acosta, Baerg and Mandelman 2009, p. 2; Catañeda and Catalán, 2007, p. 21). The loss of competitiveness, if accompanied by an actual movement of resources, could result in export production to not only decline, but to make it difficult for it to recover in the long-run. Dutch disease, therefore, can have negative long-term effects on local exports, which are sustained through the financing provided by remittance inflows. This is particularly hurtful for economic growth as the tradable sector tends to be the most technologically dynamic (Gonzales and Sovilla 2014, p. 551).

Furthermore, remittances, the inflow that triggers Dutch disease effects, will likely be accompanied by an increase in the consumption of imports. The appreciation of the local currency will make imports more affordable, which will increase demand for them. The inflow of foreign exchange, similarly, lowers the constraint in the balance of payments, as economies do not need to produce this via exports to be able to consume imports (Catañeda and Catalán 2007, p. 19). The effects described here on import demand would add to the deterioration of the trade balance.

Short Assessment

Dutch disease, therefore, will be observed in short and long-term effects on the trade balance through increased inflationary pressures and appreciation of the RER, but also through the incentivization of import demand. Moreover, the contraction of the tradable sector that could potentially arise from Dutch disease would cause a structural change in the economy resulting in remittance inflows gaining more importance in relation to exports.

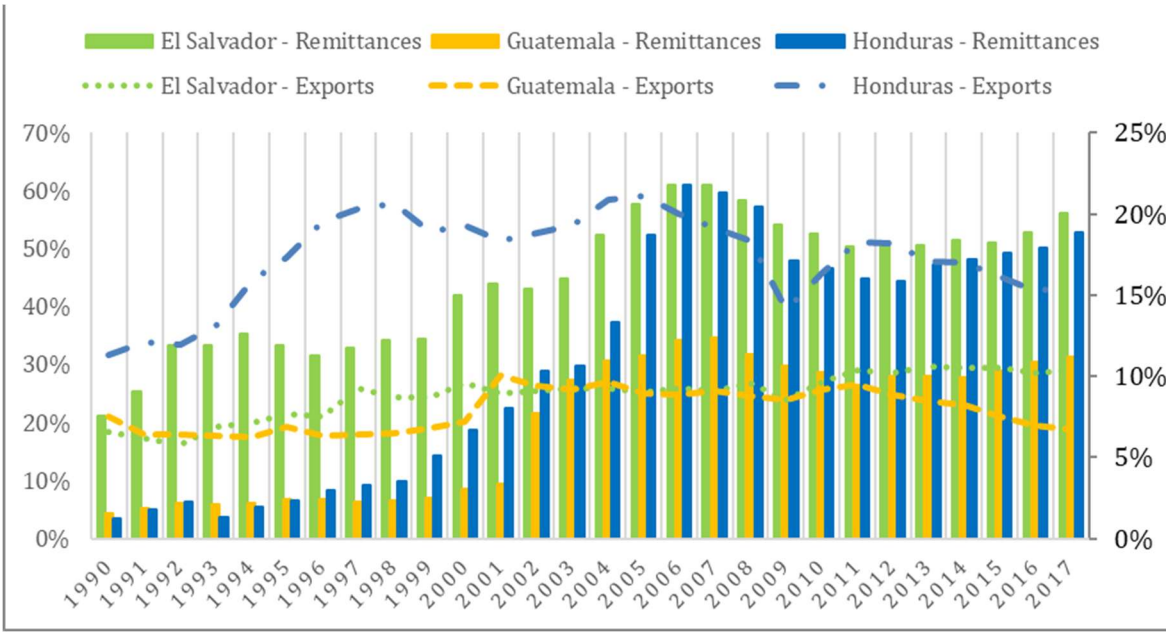
The effects of Dutch Disease described above also have implications for macroeconomic growth. As has been discussed in the previous chapter, remittances have the potential to increase economic activity through higher consumption and investment.

These effects, however, will not result in economic growth if the trade balance deteriorates, for example. In fact, in the theoretical model developed by Gonzales and Sovilla (2014), the authors conclude that remittances reduce equilibrium income by the value of remittance inflows in local currency, meaning the remittance multiplier is -1 (p. 546), because "the multiplier of the external sector (with a negative sign) is greater than that of consumption (with a positive sign)" (p. 553).

Similarly, by incentivizing import demand, remittances may also prevent the Central Bank from accumulating more international reserves; thereby, hindering the potential for intervention and government debt sustainability discussed in the previous chapter. Therefore, Dutch Disease effects caused by remittance inflows do not only present a risk in itself for the macroeconomy but are also obstacles for the realization of the potential benefits of these inflows.

The extent to which remittances have actually hurt the trade balance of NTCs is still unclear. Figures 13 and 14 below, for example, relate exports and imports to remittance inflows. Although there seems to be a trend in which remittances are negatively related to exports and positively related to imports, it is not so pronounced for all countries. When looking at Honduras, for example, one can see the trend more clearly than when looking at El Salvador, which tends to have more stable exports and imports. Similarly, trade liberalization policies and, for El Salvador, a change to dollarization may have also contributed to these trends. The literature does not necessarily provide clear empirical evidence that RER appreciation has ultimately resulted in a deteriorated trade balance. Casteñeda and Catalán (2007), for example, provide evidence that the tradable sector in Guatemala has contracted in line with the RER appreciation, but do not look specifically at the trade balance to measure this. Similarly, Acosta, Lartey and Mandelman (2009) provide evidence of Dutch Disease effects in El Salvador (ie. RER appreciation), but do not further discuss the effects on the trade balance.

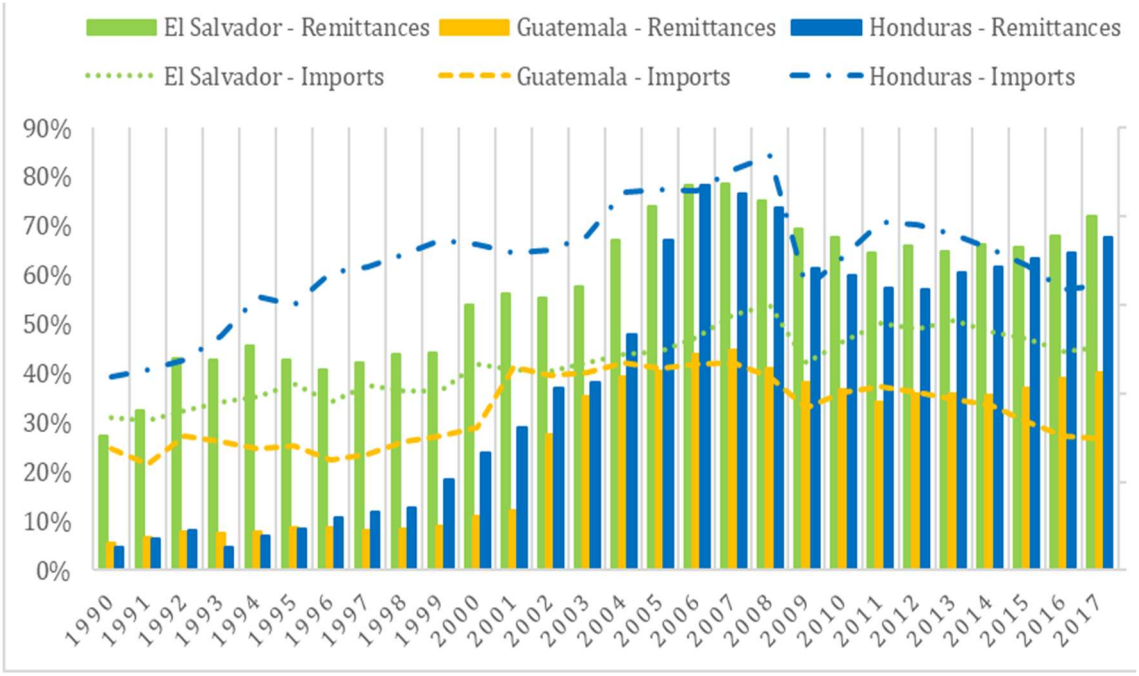
Figure 13. Exports and Remittances (% of GDP), NTCs, 1990-2017



Source: World Bank, 2020, own representation and calculations

Note: Left axis corresponds to exports and right axis to remittances

Figure 14. Imports and Remittances (% of GDP), NTCs, 1990-2017



Source: World Bank, 2020, own representation and calculations

Note: Left axis corresponds to imports and right axis to remittances

IV.ii. Dollarization Risk

Another important implication of increased dollar-denominated inflows received directly by households is the possible threat of dollarization for the recipient economy. Dollarization, in this case, refers to a phenomenon in which a foreign currency, in this case the US dollar, is used for transactions in a country, whether real or financial (Heysen 2005, p. 44)[10]. This is usually seen th

rough the growth of dual currency banking (Honohan, 2007), in which the banking sector of an economy has a balance sheet that has assets and liabilities denominated in local and foreign currency. Heysen (2005) suggests that dollarization is mainly a response to instability of the local currency, which may drive citizens to opt for keeping dollar-denominated assets.

Dollarization could, therefore, be seen as a reflection of the erosion of the local currency's role as a medium of exchange or store of value. This presents important challenges for the economy. If citizens and other market actors prefer to use dollars for transactions and store of value, then this would cause the demand for dollars to rise, which would cause the NER to depreciate, as briefly discussed in the previous section. The depreciation of the local currency may cause market actors to readjust their expectations of future exchange rate movements, which will end up enhancing the depreciation of the local currency as they demand more dollars fearing further depreciation (Honohan 2007, pp. 11-14). Therefore, dollarization may induce a process in which the local currency has consistent pressure to depreciate, which would have detrimental effects in the financial sector and government debt sustainability through enhanced exchange-rate, liquidity and solvency risks (Heysen 2005, pp. 44-45). Therefore, if dollarization results in consistent depreciation, then foreign debt sustainability of a country will decrease, since it becomes more expensive to service debt. This would dampen the positive effects of remittances on government debt sustainability.

Remittance inflows could fuel dollarization of an economy if these inflows are not converted to the local currency and households prefer to save them, for example, in dollar-denominated accounts. Furthermore, if remittances result in increasing prices, as discussed

[10] The term "dollarization" is also used to refer to economies that are fully dollarized, but for the purpose of this research the risk of remittances would be increasing dollarization of the economy, rather than full dollarization.

above, then market actors may choose to keep dollar-denominated assets to avoid the erosion of value. Similarly, one could also argue that remittance inflows serve as an enabler of dollarization, since these consistent and reliable foreign-exchange inflows allow for such a system to be sustained without present destabilizing effects. If remittances were to suffer a sharp decrease, it would be difficult for economies of NTCs, which rely heavily on these inflows, to supply the amounts of foreign-currency necessary to sustain such a system in which the Central Bank is constrained in their role as lender of last resort.

Short Assessment

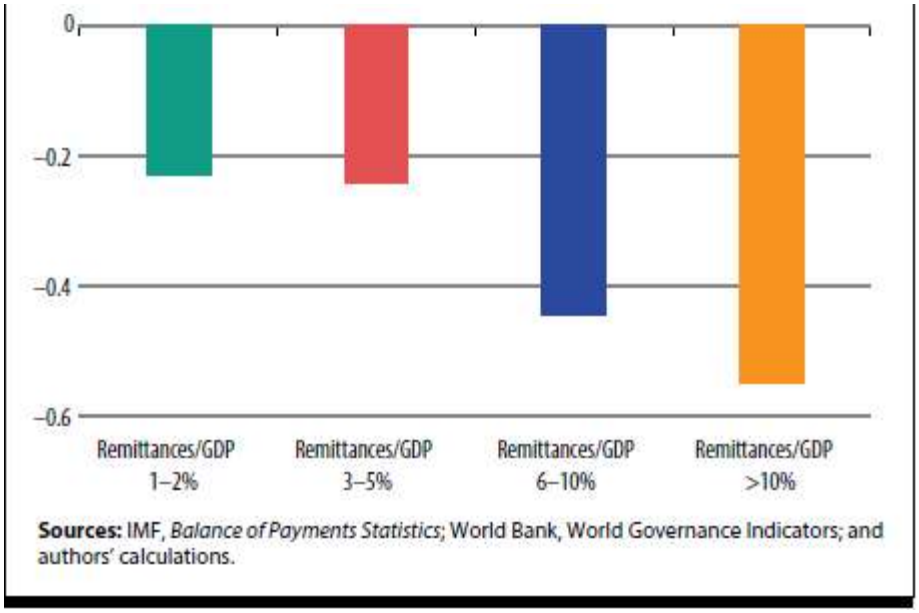
Dollarization has been increasing in Guatemala and Honduras in the last years. Whereas in 1990 deposits denominated in foreign currency were 0% and 1.8% of total deposits, by 2004 they had grown to 14.9% and 35.7% in Guatemala and Honduras, respectively (Rennhack and Nozaki 2006, p. 80). Despite the risks dual-currency system poses, the financial sectors of these countries have had no liquidity or solvency crises during this period. Nevertheless, if flows of foreign exchange would suffer a sharp decline and the dollar would sharply appreciate against the local currency, the exposure of the financial sector to exchange-rate risk would be exposed. In a sense, therefore, by allowing for better management of the exchange rate and providing liquidity of dollars, remittances have had stabilizing effects in the macroeconomic environment in the face of dollarization. Nevertheless, an argument can be made that remittances have fueled this system by sustaining it, in which case economies face a dilemma – increased inflows fuel further dollarization but a stop of said inflows would have potentially disastrous effects on the financial sector and macroeconomic stability.

IV.iii. The Government Sector: Free-rider Risk

Some authors (Mayoral and Proaño, 2015; Chami *et al*., 2018b) have discussed the moral hazzard problem of governments becoming less efficient in remittance recipient countries. Mayoral and Proaño (2015), for example, explain that households that receive remittance tend to pay less attention to government policies that should be in place for the benefit of citizens, since they receive income that is independent from the performance of the government (p. 145). Chami *et al*. (2018b), on the other hand, argue that governments

in countries that receive high amounts of remittances tend to be less responsive to the needs of their citizens, as shown in figure 15. Both views, while differing in the mechanism, point to the risk that governments may "free-ride" on the benefits provided to remittance recipient households, by ignoring and neglecting their role as providers of social welfare.

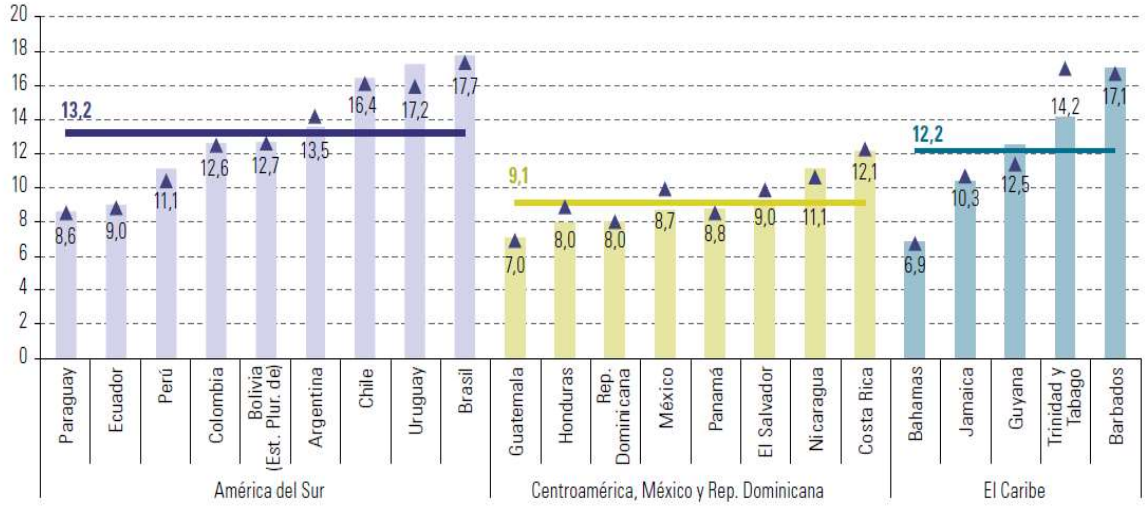
Figure 15. Government Effectiveness in Relation to Remittance-to-GDP Ratio



Source: Chami *et al*., 2018b (p.144)

Although figure 15 above shows a relation between government effectiveness and remittances-to-GDP ratio, it is possible the causality runs either way. For example, countries that have an ineffective government may tend to have more outward migration, resulting in more remittance inflows. Nevertheless, an argument can be made for the opposite causality in Central American economies. For example, the governments of Central America report spending the least in social expenditures, in comparison to other government in the Latin American region (see figure 16 below) – despite having one of the largest percentages of population living in extreme poverty. Since remittances are usually directed at poorer households, it can be argued that governments have less incentive to engage in high social expenditure, given poorer households will regardless count with this additional income.

Figure 16. Latin America Social Expenditure by Country (as % of GDP), 2018



Source: CEPAL, 2019 (p. 132)

Chami *et al*. (2018b) also suggest that governments in recipient countries welcome high inflows of remittances because it makes "politician's jobs easier" (p. 47). The authors argue this is because remittance income tends to protect recipients and the economy from economic shocks and also tends to increase governments' tax revenues, as explained in the previous chapter. Therefore, governments become less accountable to their citizens and can spend additional funds in programs that will get them re-elected. Generally, as thoroughly discussed by Bakker (2015), governments have been eager to accept remittances as a market-based development tool to promote growth, even despite the lack of evidence of remittance-led growth (Chami *et al*. 2018b, p. 47). Therefore, an argument could be made that the governments' detachment from their role as provider of social welfare constitutes, in a sense, a free-rider problem, in which leaders rely on citizens emigrating to reap benefits for themselves as well. This problem constitutes a macroeconomic risk since it may misallocate funds and make fiscal policy less effective in promoting growth and stability.

At this point, it is also worth noting how dangerous this is from a political economy perspective, as well. As shown in Chapter 2, migrants from Central America tend to be low-skilled workers from poor households. Many of them choose to migrate illegally. Generally, economic research looks upon this as smaller, labour-abundant economies supplying labour to the rest of the world. However, as Bakker (2015) emphasizes at the end of his book, there is little attention paid to how little options a migrant has for legal

migration, which exposes them to separation from family members and death-threatening treks (Ch. 6, p. 216). Therefore, for governments of recipient countries to not only become less responsive, but to actively rely on migrants leaving their countries under these conditions, is not only detrimental to the macroeconomy for the reasons described above, but it is also unsustainable. The recent migrant caravans coming from NTCs have highlighted this unsustainability through rising tensions with the US, the separation of families, and public outcry.

IV.iv. Labour Market Effects

One of the most widely discussed risks of remittance inflows are the effects on the labour market – namely, lower labour force participation (Mayoral and Proaño, 2015; Amuedo-Dorantes, 2014; Chami *et al*., 2018a, 2018b; Acosta, 2006). A decrease in labour supply is associated with lower economic activity and growth (Mayoral and Proaño 2015, 144). Similarly, as discussed by Chami *et al*. (2018a), this is also associated with an increase in wages, which can result in increasing prices. This presents an important macroeconomic risk because it may result in loss of competitiveness of exports and higher need for imports, which would hurt economic growth and incentivize further migration to be able to afford a higher cost of living (p. 47). This section will analyze the extent to which remittance inflows can result in negative labour market effects that would constitute a risk for the macroeconomy.

Usually, the literature begins from a micro-level view to argue the macro-level impact of remittance inflows. Using household level data, for example, researchers have found that labour force participation tends to be lower for people who receive remittances (Chami *et al*. 2018a, p. 8), which is generally explained as recipients substituting leisure for work. Furthermore, researchers have argued that remittances are associated with a movement from the formal to informal sector of the economy, or even unpaid work, for recipients (as cited in Chami *et al*. 2018a, p. 9). By assuming the household-level impact will translate into macroeconomic effects, one could argue that these would result in lower labour supply in the formal sector and, consequently, higher wages. Chami *et al*. (2018a), therefore, use aggregate data to test whether this holds true and better examine the impact

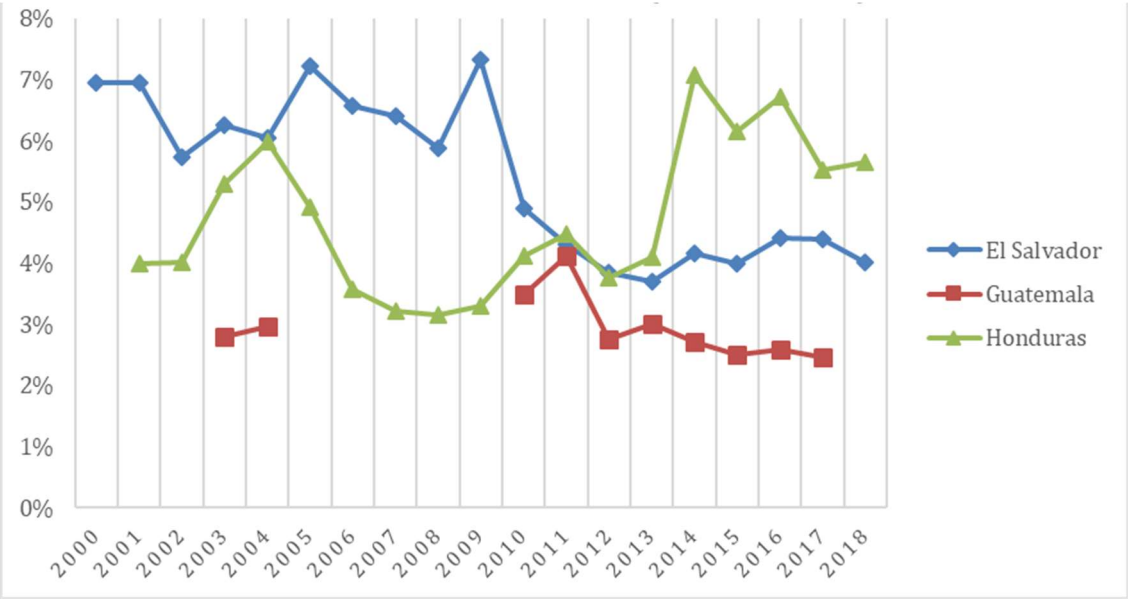
of remtitances on the labour market and macroeconomy. The authors find that these inflows tend to reduce unemployment, labour supply, wage growth and productivity growth.

Although their findings confirm labour supply decreases, the effects on wage and productivity growth are puzzling given the theory. The authors explain this by suggesting Dutch Disease symptoms affect these variables. To the extent that Dutch Disease causes a contraction of the tradable sector, a movement of labour to the non tradable, which expands, will take place. Because the non tradable sector tends to be less productive than the tradable sector, the movement of labour may still result in lower unemployment and lower wage and productivity growth (Chami et al. 2018a, p. 23). The effects on the labour market, therefore, would point to the main risks of lower labour supply and productivity growth.

Short Assessment

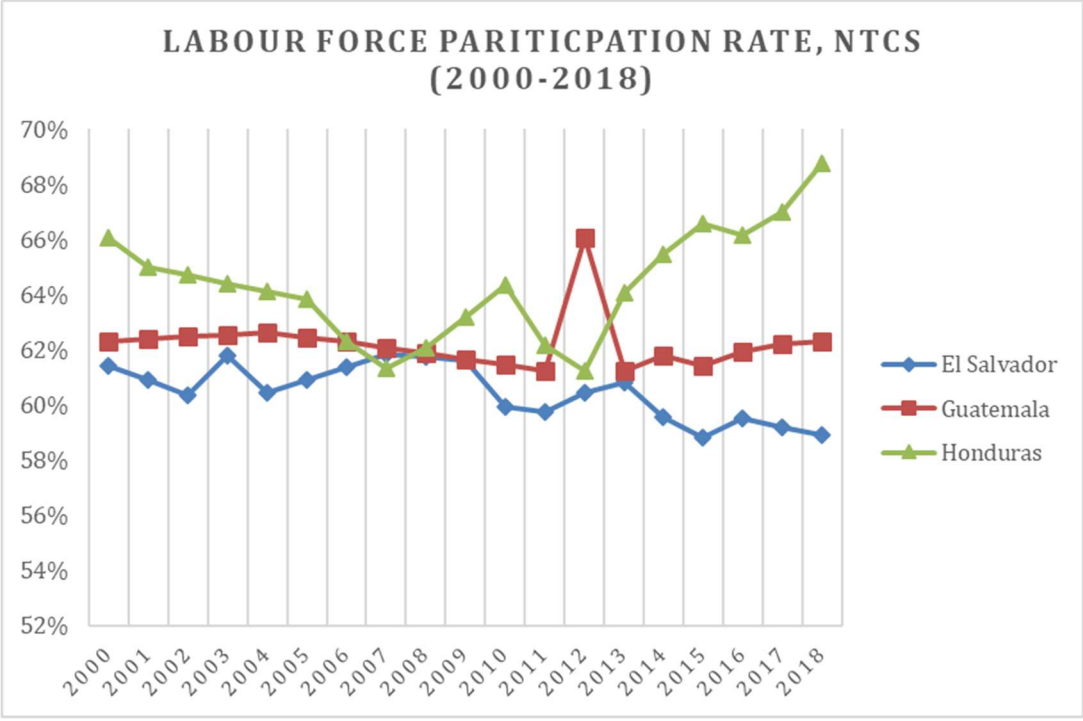
Although it is possible that recipients of remittances will exit the labour force, whether this constitutes a macroeconomic risk is questionable for labour-abundant countries such as NTCs. If this would present a macroeconomic risk, we would see a sharp decline in unemployment and labour force participation, meaning there is a labour supply constraint being met (ie. there are not enough people willing to work). El Salvador, for example, seems to follow this trend. If unemployment is high and labour force participation is stable or increasing, then this means there is more labour supply than demand (ie. there are more people willing to work that cannot find a job). Honduras, for example, follows this trend. Guatemala, on the other hand, seems to have no apparent decline in labour force participation, but a slight reduction in unemployment – meaning more of the people who want to work can find jobs. See figures 17 and 18 below.

Figure 17. Unemployment Rate, NTCs, 2000-2018



Source: ILOSTAT, 2020, own representation

Figure 18. Labour Force Participation Rate, NTCs, 2000-2018



Source: ILOSTAT, 2020, own representation

V. Assessment and Policy Recommendations

The previous two chapters have identified the potential macroeconomic benefits and risks of remittance inflows. An analysis has been provided on the transmission mechanisms and the extent to which these are relevant for Central American economies, specifically NTCs. This chapter will summarize some of the main findings and provide policy recommendations for the fulfilment of the potentials identified and mitigation of the risks.

Although, as shown in the previous chapter, there are several potential benefits of remittance inflows on the macroeconomy, these may be dampened or not fulfilled because of the risks that also arise. Table 2 below summarizes the ways in which the risks can negatively affect the fulfilment of the benefits. As shown, Dutch Disease has the most detrimental effects on the benefits identified. Mainly, this is through the deterioration of the trade balance, which results in the depletion of reserves and dampens potential benefits on economic growth. Therefore, when isolating the impact of remittance inflows on the macroeconomy, this is the main risk policy-makers should assess and attempt to mitigate.

Nevertheless, to make appropriate policy recommendations, an assessment of the main risks and benefits of remittance inflows by country must be presented. As discussed in the previous chapters, some of the transmission mechanisms identified are more relevant to certain economies. Therefore, the following sections will provide a summary of the findings and recommendations by Northern Triangle Country, serving as representative of the rest of Central American economies.

Table 2. Negative effects of macroeconomic risks of remittance inflows on potential benefits

	Dutch Disease	Dollarization Risk	Government: Free-rider Risk	Labour Market Effects
Central Bank Intervention Ability	Lower international reserves via higher imports and lower exports will diminish the ability of Central Banks to intervene in achieving exchange rate stability or in the face of a currency crisis	Constraints Central Bank in their role as lender of last resort in case of a liquidity crisis		
Government Debt Sustainability and Fiscal Policy	Lower international reserves via higher imports and lower exports. This will dampen positive effects in debt sustainability	Add pressures for depreciation which will make it more expensive for the government to service their foreign-currency denominated debt	May cause misallocation of government funds and reduce the impact of fiscal policy on economic growth	
Increased Economic Acitivity	Deteriorating trade balance will dampen positive effects of remittances via consumption and investment on economic growth			Lower labour force participation rates and labour productivity growth will be associated with lower growth, dampening potential benefits from consumption and investment
Poverty Reduction	Negative effects on the trade balance and economic growth may dampen effect on poverty at the aggregate level		Reduced responsiveness to citizens' needs will dampen potential benefits of remittances on poverty reduction	

V. i. Assessment and Recommendations by Country

El Salvador

The effects of remittance inflows on El Salvador are different to those in other NTCs because it is a fully dollarized economy. Taken this into account, the main benefit of these inflows is that they increase the amount of dollars in the country, which helps sustain the dollarized system. This points to a potential for increased ability of the Central Bank to intervene in case of a liquidity crisis, to the extent that remittances increase international reserves. Although this also raises the country's debt sustainability, no argument for expansionary fiscal policy can be made since the country has the highest amount of public debt, measured as a percentage of GDP, in Central America – amounting to 70% of GDP (Donis and Medina 2019, p. 19). Furthermore, the role of remittances in addressing poverty seems to be a potential for this country, which can be observed in the significant gains in poverty reduction shown in figures 11 and 12 in Chapter 3.

In terms of the risks, this analysis has found that El Salvador is particularly vulnerable to Dutch Disease and adverse labour market effects. The dollarization regime makes the country vulnerable to appreciation of its currency (the dollar) to other currencies it trades or competes with (ie. other currencies in Central America), which its Central Bank cannot interfere with. Acosta, Lartey and Mandelman (2009) have presented empirical evidence of RER appreciation, which points to Dutch Disease symptoms. In terms of the labour market, some evidence was provided in the previous chapter that shows lower labour force participation for El Salvador, which has been accompanied with a reduction in unemployment – meaning there are less people willing to work and the economy may be hitting a supply constraint. Whether the decrease in labour supply is due to remittance inflows remains unclear, although empirical evidence at the household level does suggest this for El Salvador (Acosta, 2006).

Policy-makers should, in this case, focus on the effects of remittances resulting in Dutch Disease. This risk is the one that has been shown to dampen all potential benefits of these inflows. Furthermore, Dutch Disease may have long-term effects that would be especially detrimental for the economy of El Salvador. A dollarized economy needs stable flows of foreign exchange (ie. dollar) to be sustained, and Dutch Disease may result in the contraction of the tradable sector, which would decrease export revenue and increase the

country's reliance on remittances. Therefore, policies aimed at increasing productivity and investment in the tradable sector would be beneficial. Similarly, policies aimed at preventing RER appreciation may also be helpful. According to the literature, higher consumption causes prices to increase and the RER to appreciate. If this is the case, then policies that channel remittances to productive investment rather than consumption could also prevent further RER appreciation. Acosta, Baerg and Mandelman (2009), for example, find that more sophisticated financial markets tend to ease pressure on the exchange rate to appreciate, suggesting countries should aim to develop their financial sector so funds (ie. remittances) are better channelled for investment.

Regarding the effects on the labour market, further analysis needs to be done as to why workers would choose to exit the labour force. Although the general idea in the literature is that households substitute leisure for work, it may be that workers stop working because of poor or dangerous work-environments. Similarly, it could be that recipients decide to pursue an education, which would ultimately be beneficial for the country, if the beneficiary does not decide to migrate. Policy-makers, in this case, should identify the reasons the labour supply decreases to adequately create policies.

Guatemala

Although Guatemala has the higher amount of remittance inflows in Central America, Honduras and El Salvador remain at the top of the list when measured as a percentage of GDP. These inflows are, nevertheless, important for this economy as a source of foreign exchange. In fact, the accumulation of reserves is one of the main benefits found in this analysis. Similarly, Guatemala can better take advantage of this inflows given it has the lowest level of public debt, as a percentage of GDP, of all Central American countries – amounting 24.7% (Donis and Medina 2019, p. 19). In fact, Guatemala is only behind Costa Rica in terms of credit rating for sovereign debt (Donis and Medina 2019, p. 23). Therefore, Guatemala can benefit from a higher intervention ability of their Central Bank, as well as an increase in government debt sustainability *and* potential for expansionary fiscal policy. Poverty reduction is also a potential benefit for this economy, which has seen an increase in poverty from 2006 to 2015 (see figure 12).

Guatemala seems to be most vulnerable to Dutch Disease effects and a free-rider problem in the government sector. Both risks negatively affect the potential benefits. Guatemala has shown a strong appreciation of the RER (Medina Fonseca, 2019) and empirical evidence exists of the consequent contraction of the tradable sector (Castañeda and Catalán, 2007). This, as in the case of El Salvador, can lead to the deterioration of the trade balance and cause a lower accumulation of reserves. A contraction of the tradable sector, however, also implies lower productivity growth, as this is the most productive sector. In terms of the free-rider problem, Guatemala has the lowest social expenditure, measured as a percentage of GDP, while having a large percentage of population living in poverty. This low level of spending is despite the space they have for expansionary fiscal policy given their relatively low level of debt.

Policy-makers in Guatemala will need to respond to Dutch Disease risk similarly to El Salvador. For example, a more developed financial market, as suggested by Acosta, Baerg and Mandelman (2009), may channel remittance inflows toward investment more efficiently, which would diminish pressures for the local currency to appreciate. However, other authors also argue that decreasing sterilization efforts of the Central Bank may also ease pressures on the exchange rate. This is because these tend to increase the interest rate, which attracts more inflows and enhances the appreciation effect. Furthermore, if the government does have space for more expansionary fiscal policy, this should be used for the generation of incentives to improve the tradable sector, since export revenue remains an important source of foreign exchange.

Incentives can also be used to address observations from free-rider risk. For example, policies that create incentives for immigrants to return home may be used to tackle both of the risks discussed here. Such policies have been suggested by the Honduran Central Bank (Banco Central de Honduras, 2006). Incentivizing investment in the tradable sector through lower import tariffs of machinery, promoting loans to immigrants that return home, among others, could increase investment in the tradable sector and incentivize a return of those who wish to come back to their home country. Similarly, matching programs may also provide the space for authorities to address the needs of citizens, while also promoting projects that can better communities and reduce migration. In this case, it is important the matching programs fund relevant needs of citizens.

Honduras

As other NTCs, Honduras benefits from remittance inflows mainly from the accumulation of reserves and potential to address poverty. International reserves increase the intervention ability of the Central Bank and allow it to better manage the exchange-rate, which is one of the main goals of the Honduran monetary authority. Although the accumulation of reserves also has positive effects on the sustainability of government debt, there is no argument that can be made for expansionary fiscal policy. As El Salvador, Honduras has a relatively high level of public debt, amounting around 49% of GDP. This is the maximum "sustainable" amount of debt according to financial institutions (Donis and Medina 2019, p. 19). This analysis also identifies poverty reduction as a potential benefit for Honduras, as well as the need for it. Honduras has the highest level of poverty among NTCs, and it has not experienced a significant reduction in overall poverty (see figure 12).

Although it is possible that remittances have caused the RER to appreciate in Honduras, there is no conclusive evidence of Dutch Disease effects. Figures 13 and 14 in Chapter 4 show that exports and imports, as a percentage of GDP, tend to be negatively and positively impacted by remittances, respectively. This suggests there is some effect on the trade balance due to these inflows but no testing or further empirical evidence has been found. More importantly, although from a political economy perspective, this analysis has identified a free-rider risk as the main risk for Honduras, since their social expenditure is the second lowest for Central America, despite high levels of poverty. In fact, for the current fiscal year, the government has cut the budget for health and education. To some extent the inability of the government to address the needs of citizens may be explained by the unsustainable amount of debt, which forces the government to increase spending on servicing and repaying debt (Donis and Medina, 2019).

V. ii. Additional Remarks

Thus far, this research has identified Dutch Disease as the main risk for NTCs. Similarly, poverty reduction and increased intervention ability of Central Banks have been identified as the main potentials. The potential for increased economic activity, however, has not been discussed. Although this is a theoretical potential, the extent to which it would be met depends on how much of remittance inflows are spent in locally produced goods

and services. Additionally, data on the sectoral linkages would also allow for a better assessment. Because of lack of data, no assessment by country has been provided for this. Nevertheless, it is important to highlight that the mechanisms through which remittances may increase economic activity remain an important theoretical discussion.

Similarly, no discussion on dollarization risk by country has been done. This is because there is insufficient evidence that remittance inflows specifically increase dollarization. However, as previously explained, remittances may serve as a tool to sustain dollarization of an economy by providing the necessary amounts of foreign exchange to avoid liquidity issues. In this case, it is important for policy-makers to understand that sharp declines in remittances may uncover currency mismatches arising from partial dollarization, highlighting the need for policies that address this issue.

VI. Conclusions

Remittance inflows, as emphasized throughout this paper, constitute one of the largest and the most stable sources of foreign exchange for Central American countries. Although several potential macroeconomic benefits of said inflows have been identified, macroeconomic risks have dampening effects on all of these, which have been thoroughly explained in the previous chapter.

Remittances have the potential to increase the intervention ability of Central Banks and government debt sustainability by providing large amounts of foreign exchange, which are related to the accumulation of reserves. To the extent that they are directed at poor households, remittances may contribute to the reduction of poverty – mainly, the depth of poverty rather than the level. Furthermore, remittances may increase economic activity through consumption expenditure and investment, but the effects of this on economic growth can be dampened by the negative effects of Dutch Disease on the trade balance. In fact, Dutch Disease effects have been identified as the main risk diminishing the positive effects of remittances on the macroeconomy. Through the deterioration of the trade balance, this risk contributes to the depletion of reserves and lower economic growth.

According to this analysis, Central American countries can benefit mostly from the accumulation of reserves and poverty reduction potential but are also prone to Dutch

Disease and a government free-rider problem. Therefore, the analysis has confirmed the hypothesis and highlighted the different relationships between benefits and risks, specifically for Central American countries. Similarly, this analysis raises the question of whether remittances can indeed be a development tool to promote macroeconomic growth. Thus far, this research points mainly to the stabilizing effect of remittances on the macroeconomy, but whether these constitute as a strategy for macroeconomic development remains questionable.

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Table 3. Net International Reserves in millions of US dollars, Guatemala, Honduras and El Salvador (2002-2019)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	AVERAGE
Guatemala	2,369.60	2,919.30	3,528.00	3,782.40	4,061.10	4,320.30	4,658.80	5,212.60	5,953.80	6,187.90	6,693.80	7,272.60	7,333.40	7,751.20	9,160.40	11,769.50	12,755.60	14,789.00	
Honduras	1349.623	1282.478	1800.704	2162.799	2613.679	2514.301	2460.01	2116.336	2719.349	2820.686	2570.931	3055.936	3516.483	3822.265	3887.605	4785.641	4853.139	5808.857	
El Salvador	1588.8	1904.1	1886.7	1828	1905.8	2196.1	2539.5	2983.4	2880.7	2502	3172.9	2720.7	2661.2	2670.2	2922.99	3273.16	3353.55	3936.49	
Guatemala, yearly growth		23%	21%	7%	7%	6%	8%	12%	14%	4%	8%	9%	1%	6%	18%	28%	8%	16%	12%
Honduras, yearly growth		-5%	40%	20%	21%	-4%	-2%	-14%	28%	4%	-9%	19%	15%	9%	2%	23%	1%	20%	10%
El Salvador, yearly growth		20%	-1%	-3%	4%	15%	16%	17%	-3%	-13%	27%	-14%	-2%	0%	9%	12%	2%	17%	6%

Source: Banco de Guatemala, Banco Central de Honduras, Banco de la Reserva de El Salvador. *Author's own representation*

Table 4. Conditions met by country for fulfilment of potential benefits

Potential Macroeconomic Benefit	Conditions needed	Condition met by the Country		
		El Salvador	**Guatemala**	**Honduras**
Central Bank Intervention Ability	Remittances converted to local currency, accumulation of international reserves	Remittances in US dollars are already denominated in local currency. Annual growth of Int. Reserves averaged 6% from 2002-2019. Empirical evidence that remittances lead to accumulation of reserves exists for CA countries (Vacaflores and Kishan, 2014).	Data on currency in which remittances are collected in unknown, although policies suggest more ease in collection in dollars. Annual growth of Int. Reserves averaged 12% from 2002-2019. Empirical evidence that remittances lead to accumulation of reserves exists for CA countries (Vacaflores and Kishan, 2014).	Most remittances collected in local currency, according to Central Bank president (Rodriguez, 2016). Annual growth of Int. Reserves averaged 10% from 2002-2019. Empirical evidence that remittances lead to accumulation of reserves exists for CA countries (Vacaflores and Kishan, 2014).
Government Debt Sustainability and Fiscal policy	Remittances converted to local currency, accumulation of international reserves, sustainable amount of debt (as % of GDP, for example)	Although other conditions met, country has highest amount of debt as % of GDP in Central America (70% in 2019).	Lowest amount of debt as % of GDP in Central America (24.7% in 2019)	Although other conditions met, country has the average amount of debt as % of GDP compared to Central American region (49% in 2019)
Increased Economic Acitivity	Higher consumption of remittances in domestic goods and services and/or investment, rather than on imports. Expenditure on education to increase productivity	To the extent remittances are spent in education, rent, mortgage payments, services, etc. Proportion spent on imports is unknown	To the extent remittances are spent in education, rent, mortgage payments, services, etc. Proportion spent on imports is unknown. Higher amount of remittances spent in investment and savings.	To the extent remittances are spent in education, rent, mortgage payments, services, etc. Proportion spent on imports is unknown
Poverty Reduction	Remittances directed to poor households	79% of recipient households classified as poor or at risk of falling into poverty (Keller and Rouse, 2016a)	88% of recipient households classified as poor or at risk of falling into poverty (Keller and Rouse, 2016b)	83% of recipient households classified as poor or at risk of falling into poverty (Keller and Rouse, 2016c)

Note: The cells marked in green correspond to a positive assessment, meaning the country meets the conditions for fulfillment of benefit. Cells marked in red correspond to a negative assessment. Additionally, orange cells have been marked when there was no sufficient evidence to provide an assessment.

Table 5. Conditions met by country for fulfilment of potential risk

Potential Macroeconomic Risk	Conditions needed	Condition met by the Country		
		El Salvador	**Guatemala**	**Honduras**
Dutch Disease	Inflows resulting in increasing prices, RER appreciation, contraction of tradable sector	Theoretically, a supply constraint is necessary for higher consumption to result in increased prices. Vacaflores (2012) provides empirical evidence of inflation in recipient countries. Acosta, Lartey and Mandelman (2009) provide empirical evidence of RER appreciation in El Salvador. Dollarized economy may suffer from appreciation of the dollar (which it cannot control) and changes in prices. Low exports/GDP ratio	Theoretically, a supply constraint is necessary for higher consumption to result in increased prices. Vacaflores (2012) provides empirical evidence of inflation in recipient countries. More flexible exchange rate, which allows it to fluctuate more and appreciate with inlow of dollars. Castañeda and Catalán (2007) provide evidence of RER appreciation. Low exports/GDP ratio	Theoretically, a supply constraint is necessary for higher consumption to result in increased prices. Vacaflores (2012) provides empirical evidence of inflation in recipient countries. Central Bank actively manages the exchange rate, which allows it to smooth pressures to appreciate. No empirical evidence provided for Honduras specifically, but Amuedo-Dorantes and Pozo (2004) find evidence for Latin American countries. Relatively higher exports/GDP ratio
Dollarization Risk	Inflows being collected, spent or saved in dolalrs. Loss of local currency's role as medium of exchange or store of value.	Dollarized economy, which makes this risk irrelevant. If anything, remittance inflows help sustain this system	No evidence remittances increase dollarization	No evidence remittances increase dollarization
Government Sector: Free-rider problem	Remittances directed at poorer households incentivize government to decrease social expenditures and address citizens' needs	Country has highest remittance/GDP ratio, highest social expenditure as % of GDP and more gains in poverty reduction than other NTCs	Country has lowest social expenditure as % of GDP in Central America and growing or stable trend in poverty	Country has second lowest social expenditure as % of GDP in Central America and highest poverty levels in NTCs
Labour Market Effects	Remittances incentivizing lower labour force participation. Labour movement to nontradable or informal sector, decreasing labour productivity	Large decrease in unemployment and slight decrease in labour force participation may indicate existance of this problem. At the household level, Acosta (2006) finds some evidence of lower labour force participation, specially for women. No evidence of movement toward non tradable sector	Slightly decrease unemployment rate and stable labour force participation. No evidence of movement toward non tradable sector	Higher unemployment rate in the last 5 years and increase labour force participation. No evidence households would decide to stop working

Note: The cells marked in green correspond to a positive assessment, meaning the country does ***not*** *meet conditions for fullfilment of risk. Cells marked in red correspond to a negative assessment. Additionally, orange cells have been marked when there was no sufficient evidence to provide an assessment.*

Interview Transcript

Email correspondence with Mr. Miguel Medina Fonseca, Expert Macroeconomist at Central American Bank for Economic Integration.

Disclosure: the argumentation here does not reflect the views of the bank.

Q1. Does the BCIE (Central American Bank for Economic Integration) have a special approach regarding remittances?
BCIE has no program or product related to remittances. Nevertheless, indirectly, the contribution BCIE makes toward economic and social development across the region through their interventions generate more employment opportunities and, therefore, less pressures to migrate. Nevertheless, there is no measurement for this impact.

Q2. The nominal exchange rate in Honduras is determined through an auction. Does Guatemala apply a similar process? In your view, given this, how do remittance inflows impact the determination of the exchange rate?
Banco de Guatemala (Guatemala's Central Bank) has a rule of participation in the foreign exchange market which is regulated by the monetary institution through different criteria defined in the buying and selling of dollars through auction. Attached the resolution of the monetary institution of 2011 in which the law was established.
The exchange rate is a price, and, like in any other market, its equilibrium point is defined by supply and demand of dollars in the economy (with the exception of a dirty float regime). The supply is given by the inflow of foreign exchange generated through remittances, tourism, exports, FDI, international credits, etc. On the other hand, the demand is determined by the outflow of dollars generated through imports, remittance outflows (relevant for Costa Rica), interest and principal payment, etc…
A high and sustained flow of remittances can reduce the pressures of depreciation and devaluation of the exchange rate. Nevertheless, the final impact will depend on the inflows and outflows of dollars in the economy, in addition to the decisions of the central bank in the foreign exchange market.

Q3. El Salvador is a dollarized economy. In which way do you think remittances are relevant to sustain dollarization? Are there risks?
The dollarization of an economy eliminates the option for monetary policy for the central bank, and with it the power to absorb shocks through the interest rate or the exchange rate policy. For this reason, the adjustments in these economies will be reduced to countercyclical fiscal policy, which is a challenge for a country if it has little fiscal capacity, whether this is because of rigidity in expenses, persistent fiscal deficits or high levels of public debt. A sudden and prolonged halt of foreign exchange flows into the country would generate pressures to exit dollarization.

Q4. Remittances are generally regarded in a positive way given their effects in poverty reduction and investment in human capital. Nevertheless, there are some risks that arise from continuous inflows of foreign currency. For example, the literature cites Dutch Disease and dollarization. To what extent to you think NTCs are affected by this?

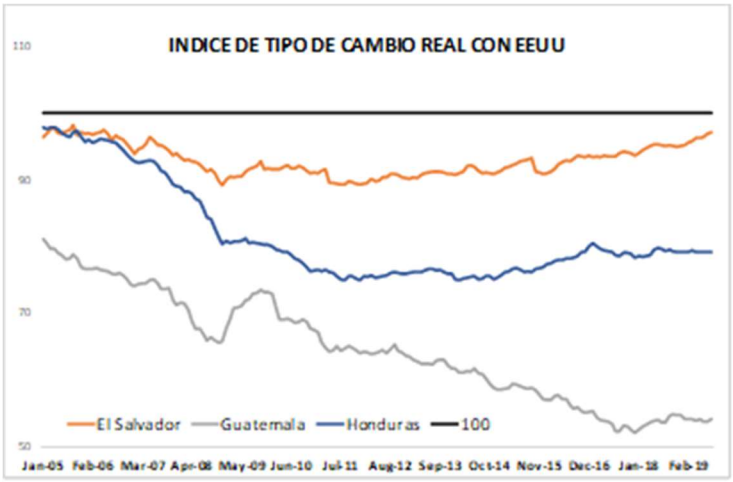
Some evidence on Dutch Disease for El Salvador exists. However, it has a transmission mechanism different to that of a non-dollarized economy. Remittance inflows encourages households to demand more tradable and non tradable goods. Because they are a small open economy and a price-taker, a higher demand for tradables does not translate to a higher price. Nevertheless, the demand for non tradables, given their prices are set through supply and demand, tends to increase prices, with which it becomes more profitable. In the medium-run, more resources such as labour and capital will transfer to it.

For Honduras and Guatemala, there is an observable exchange rate stability during the last 10 years. Remittances have probably contributed to this, as have other net inflows of foreign exchange. Similarly, we observe the existence of an appreciation of the real exchange rate in the last 15 years, with the index maintained below 100.

Promedio anual de la variación del tipo de cambio nominal a diciembre de cada año 2009 a 2018

Costa Rica	Guatemala	Honduras	Nicaragua	República Dominicana
1.05	0.01	2.58	5.00	3.60

Fuente: Elaboración propia con información de la SECMCA.



Fuente: Elaboración propia con información de la SECMCA

The annual rate of growth of remittance inflows to the region has been greater than the one for exports between the yars 2010-2018, 6.7% and 4.7% respectively. Even though the exchange rate has had no movement, the dynamic of these variable hint at Dutch Disease. Some evidence is found for Guatemala (Look at Cateneda and Catalan, 2007).

Crecimiento anual de remesas (promedio 2010-2018)

Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	República Dominicana	Panamá
0.36	5.5	10.09	8.24	7.75	8.92	5.83

Crecimiento anual de exportaciones (promedio 2010-2018)

Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	República Dominicana	Panamá
5.54	4.2	3.62	4.42	5.91	6.28	1.66

The main effect of Dutch Disease is that this can further increase migration, given prices are distorted, which may increase migration, and furthermore making less profitable the investment in the non tradable sector. What we can observe is that the remittance sector is growing more than the export sector, which may have these consequences. However, there needs to be deeper analysis and more statistical evidence.

Q5. Remittances are an important source of foreign exchange for NTCS. This may have the benefit of increasing the accumulation of international reserves, which may increase the sustainability of the government's external debt. Similarly, some authors have discussed the potential of remittances to increase tax revenues once these are consumed. How should governments act, if this is the case?

The relationships in this question are a bit confusing. Attached some separate ideas that may help you guide the arguments. I suggest consulting some of the literature and testing some relationships.

The accumulation of international reserves in the Central Bank has a cost, given the interest rate offered by the monetary authority when it issues bonds in local currency (to sterilize the increase in money supply given the purchase of dollars) is higher than that which they charge on instruments in which reserves are invested.

International reserves cannot be utilized for the payment of the country's external debt, given their purpose is to provide credibility to the exchange rate regime when this is fixed or based on mini-devaluations, or to moderate the volatility when this is a dirty float.

Effectively, a larger consumption expenditure financed by remittances does increase taxes such as IVA. Nevertheless, the solution to fiscal deficits and sustainability of debt relies on increasing tax revenues (by increase tax rates or the tax base), generating savings of the current account, increasing economic growth or containing fiscal expenditures.

Finally, Although remittances finance a large part of consumption, the increase in tax revenues might not be linear, since the proportion of these which are consumed in the informal sector is unknown.

Q6. What is the main benefit of remittances for Central American countries? Do you think our economies rely on them? If so, are there programs that can reduce this reliance?

The main benefit lies on the capacity to increase domestic consumption and the reduction of poverty. Additionally, remittances help finance the trade deficit of countries in the region. There is more relevance for some countries than for others. For example, in El

Salvador and Honduras, remittances are more than 20% of GDP, in Guatemala and Nicaragua, these are 12%, Dominican Republic close to 8%, Costa Rica and Panama are not even 1%. To depend on these inflows, there needs to be a way in which these create economic growth, which requires a profound industrial transformation, for example, by incentivizing industries that generate massive employment or provide more value added or complexity to the production of exports, increase the quality of education, adopt new technologies, etc. Finally, remittances in the context of migration highlight some of the structural problems that vary from country to country.