ISSN: 2281-1346

Department of Economics and Management

DEM Working Paper Series

Finance, Foreign (Direct) Investment and Dutch Disease: The Case of Colombia

Alberto Botta
(Università Mediterranea di Reggio Calabria)

Antoine Godin
(University of Limerick)

Marco Missaglia
(Universidad Nacional de Colombia)

 # 90 (09-14)

Via San Felice, 5
I-27100 Pavia
http://epmq.unipv.eu/site/home.html

September 2014

Finance, Foreign (Direct) Investment and Dutch Disease: the Case of Colombia*

Alberto Botta†, Antoine Godin‡ and Marco Missaglia§

September 3, 2014

Abstract In the recent years the Colombian economy grew relatively rapidly, but it was a biased growth. The energy sector (the *locomotora minero-energetica*, to use the rhetorical expression of President Juan Manuel Santos) grew much faster than the rest of the economy. The manufacturing sector registered a negative rate of growth. These are the symptoms of the well-known "Dutch disease" and the case of Colombia has been already widely analyzed in the literature. In this paper, we investigate a different reason why an economy may suffer from an expansion of the mining sector. In particular, we want to shed some light on the *financial* side of the economy and its links with a resource-boom. We can observe several unsustainable dynamics: (i) a traditional Dutch Disease due to a large increase in mining exports and a significant exchange rate appreciation, (ii) a massive increase in foreign direct investment (FDI), particularly in the mining sector (iii) a rather passive monetary policy, aiming at increasing purchasing power via exchange rate appreciation, (iv) recently, a large dividends distribution from Colombia to the rest of the world and the accumulation of mounting financial liabilities. The paper shows why these dynamics may be interpreted as a case of *financial* Dutch disease and constitute a potential danger for the stability of the Colombian economy. Some policy recommendations are discussed.

Keywords: Colombia, Dutch Disease, Balance of Payments
JEL Codes: F40, F21, F32

* We thank Diego Guevara, Miguel Uribe, Stephen Kinsella for their valuables comments. All errors remaining are ours. The authors gratefully acknowledge funding support of the Institute for New Economic Thinking.
† Mediterranean University of Reggio Calabria (Italy), abotta@eco.unipv.it
‡ University of Limerick (Ireland), antoine.godin@ul.ie
§ Universidad Nacional de Colombia (Colombia), mmissaglia@unal.edu.co

1. Colombia: a bonanza for international investors?

Since 2011, CIVETS stands out as the new word and perhaps dogma in the near future, circulating among financial operators. In the jargon of financial markets, this term is nothing but the acronym of six developing countries[1] international investors should bet upon in search for high (and safe?) returns.

Most observers believe that recent macroeconomic data fully confirm optimistic perspectives on Colombia. In 2013, The Economist Intelligence Unit (EIU) portrays Colombia as a "success story [which] is now one of the most open and most business-friendly countries in Latin America [...and in which] new opportunities are opening up for foreign investors, particularly in hydrocarbons and mining, construction, and electricity, and there is free-trade access to the US market (EIU, 2013, p. 8)." Park Madison Partners (PMP), a New York-based business leader in the real estate sector, acknowledges Colombian achievements due to the (sound) macroeconomic management of the economy. According to PMP, fiscal discipline and a successful inflation-targeting monetary policy have contributed to create a stable macroeconomic environment on top of persistently positive growth rates, even in the wake of the most recent worldwide financial crisis,[2] see figure 1. PMP further notes that Colombian monetary authorities have wisely decided not to obstacle market-driven appreciations of the Colombian peso in order to reassure foreign investors' about political commitment to avoid market distortions and policy-induced exchange rate risks. Thanks to such policy stands, Colombia is now characterized by "a vibrant and developing capital market [...and the above] attractive fundamentals also create significant opportunities in the real estate (PMP, 2013, p. 12)". The increasing Balance of Payments surpluses (figure 1) and mounting capital inflows seem to confirm Colombia's bright future.

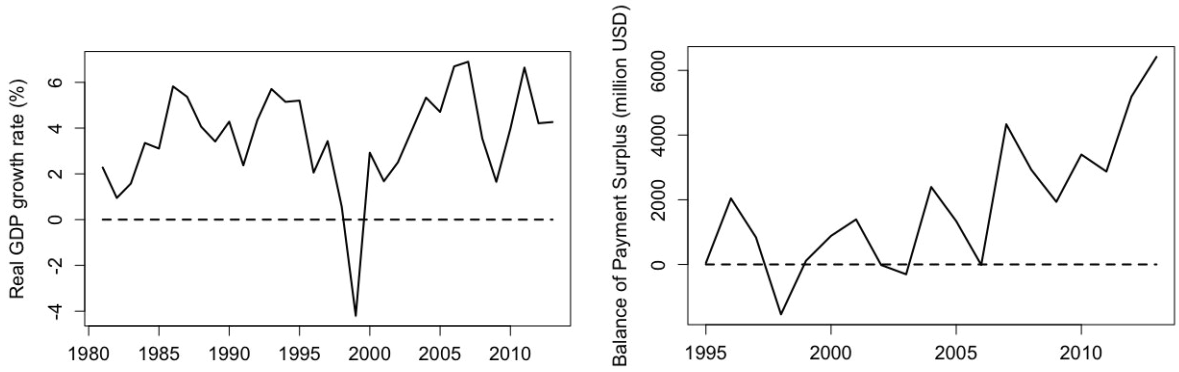

Figure 1: Annual real GDP growth (left), Balance of Payments surplus (right). Source DANE.

[1] CIVETS stands for Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa.

[2] In the last decade, Colombian per capita income grew at rates that are certainly not comparable to the fastest-growing Asian economies. Still, despite an inevitable slowdown from 2007 to 2009, Colombian per capita GNI grew annually at an average of 5.3% between 2004 and 2013.

The above reports and recent analyses by the Colombian government[3] tend to describe a perfectly sound economy enjoying high and stable growth. In this paper, we argue that there is much more to this story and such seemingly good performances hide more disturbing processes. On the one hand, past and prospected macroeconomic records largely depended on and will hinge upon the increasing exploitation of Colombian natural resources, as well as high commodity prices on international markets. On the other hand, and perhaps more fundamentally, two dangerous processes currently unfold in the Colombian economy: (i) a premature de-industrialization process; (ii) the dependence on foreign capital inflow to support a surprising current account deficit.[4] We believe these facts might cast serious challenges to Colombian development in the near future. In this paper, we aim to analyze in more details what we believe to be a particular case of Dutch Disease for Colombia.

International and domestic institutions have shared some of the above concerns. OECD (2013), for instance, explicitly points out the *relative*, and at times absolute, contraction of the non-resource-based tradable good sector with respect to the energy and mining industry. In a working paper published by the Central Bank, Ojeda et al. (2014) elaborate a DSGE model to assess the effects of a natural resource boom in the context of a three-sector small open economy. Both analyses share the description of the structural (sectorial) changes of the Colombian economy following the lines of a standard Dutch disease phenomenon. In a nutshell, the expansion of the energy sector and the ensuing foreign revenue windfall first raise domestic expenditures and lead to a *real* exchange rate appreciation. This, in turn, makes domestic manufacture less profitable and less attractive for investment, thus downsizing it. The two papers conclude on similar policy implications. For example, they advise for counter-cyclical fiscal policies in order to cut expenditures and soften real exchange rate appreciation. In this paper, we argue that the de-industrialization and the current account deficit are certainly the two faces of a same coin (as they are in the standard model of Dutch disease), but represent symptoms of a rather different kind of Dutch disease – we will call it *financial* Dutch disease.

The astonishing expansion of the energy and mining industry in Colombia mostly relies on Foreign Direct Investment (FDI) targeting the sector. The idea of this paper is to check whether such a boom might give rise to financial fragility (boom-and bust cycles) and a deterioration of growth prospects. The mechanics we have in mind is the following. A large FDI inflow leads to balance of payments surpluses and, in a flexible exchange rate regime, to *nominal* (and real) appreciation of the domestic currency. At first, such an appreciation jeopardizes Colombian manufacture's competitiveness and exports, thus inducing considerable manufactured goods trade deficits and a premature de-industrialization.[5] On top of this, the exchange rate nominal appreciation attracts short-term portfolio

[3] See Ministry of Finance and Public Credit (2014a), "An Outlook of the Colombian Economy", freely available for download at http://www.minhacienda.gov.co/HomeMinhacienda/saladeprensa/Presentaciones.

[4] Increasing exploitation of domestic natural resources and high commodity prices are usually associated to long-lasting current account surpluses, see Ojeda et al. (2014) for an example.

[5] Goda and Torres (2013) perform an econometric analysis in order to test the existence of any effects of FDI on Colombian real exchange rate and, in turn, on manufacturing development. Their sample coverage runs from 1996 (first quarter) to 2012 (first quarter). On the one hand, they conclude that "net FDI and net other inflows are the main drivers of

investments, thus further appreciation, further de-industrialization and mounting foreign debt. Eventually, the repatriation of profits accruing to foreign investors in the energy sector as well as the growing manufacturing trade deficit leads to a deterioration in the current account such that the overall balance of payments may turn negative. The "boom" turns into a "bust" and, without central bank's interventions, the exchange rate depreciates. Such medium run cyclical dynamics may be detrimental to long run growth because it is likely to reduce (both directly and indirectly) the share of manufacture in total GDP and manufacturing constitutes, *à la* Kaldor, the ultimate source of labor productivity growth and long-run development. Should this story make sense, it is clear that it strongly depends on exchange rate, balance of payments and portfolio investments volatility. None of this is included in the traditional idea on Dutch disease (see next section) and this is why we label our hypothesis as *financial* Dutch disease.

In this paper, we will describe the peculiar mechanisms that characterize such a financial Dutch disease by analyzing the prevailing trends in the most relevant Colombian macro variables since the mid-1990s. We will focus both on real and monetary variables. Differently from previous contributions on the same topic, we will then take into account the monetary/financial side of natural resource-induced structural changes, and thus frame the Dutch disease story in a wider macro perspective. Section 2 briefly outlines the abundant literature on Dutch disease. Section 3 provides evidences supporting the idea that Colombia is currently experiencing a de-industrialization process, a widely accepted symptom of Dutch disease. Section 4 continues the analysis by observing manifestations of what we labeled a financial Dutch disease. Namely, we look at changes in the sectorial destination of Foreign Direct Investments and at the decoupling in the dynamics of the current account and trade balance. Section 5 recapitulates our finding and describes briefly our concept of financial Dutch disease. Furthermore, we provide a scenario analysis, assessing the financial stability of the current process occurring in the Colombian economy. We conclude offering policy option to cope with the highlighted processes.

2. Dutch disease

Dutch disease is a well-known issue in the field of development economics. According to the original contribution by Corden and Neary (1982), it refers to the structural consequences in the sectorial composition of an economy due to a boom in the exploitation of domestic natural resources. The story goes as follows. A technological progress in the energy sector,[6] the discovery of new natural resource endowments, and/or rising international prices of primary commodities increase input productivity in the energy sector. In a general equilibrium framework, productive inputs employed elsewhere in the economic system are relocated and drawn into the expanding energy industry. The

---

the post-2003 capital inflow appreciation effect in Colombia (Goda and Torres, 2013, p. 16)". On the other hand, they find that real exchange rate appreciation explains most of the de-industrialization episode currently underway in Colombia.

[6] Corden and Neary (1982) assume a Hicks-neutral technological progress to take place in the energy sector, raising both labor and capital productivity in that sector. Similar results, however, could be obtained if an increase of primary commodities' prices is assumed and the country under consideration is a net exporter of primary energy commodities, or if there is an increase in the endowment of the natural resource input specific to the energy sector.

non resource-based tradable industry, say manufacturing, and the non-tradable sector of the economy, say services, both shrink. Besides this, larger abundance of natural resources increase domestic income, hence expenditures, on both manufactured goods and services. In a small open economy, whilst the price of manufactured goods is generally fixed and set on international markets, the price of services increases to clear the market. A real exchange rate appreciation thus takes place. The relatively low profitability of domestic manufacturing forces it to downsize even further.

While it is worth studying such structural changes on their own, they are even more important if they entail consequences on the long-run growth potential of the economy. Indeed, several studies interpret Dutch disease as the main source of a natural resource curse, i.e. the general disappointing economic performance of natural resource-rich countries with respect to natural resource-poor economies (see Sachs and Warner, 1995, 2001). The core point of the Dutch disease-natural resource curse nexus lies in the growth-enhancing properties generally attributed to manufacturing. Sachs and Warner (1995), for instance, propose a theoretical model in which learning-by-doing is the only source of long-run growth and depends on the size of the manufacturing sector. Accordingly, a contraction of manufacturing induced by a natural resource boom provokes the growth rate to slow down (at least temporary with respect to a given steady state growth path) in the following years.[7] Sachs and Warner (1999) and Ros (2001) reach similar results through theoretical models in which growth comes from the interaction between increasing returns to scale (IRS) in the production of intermediate goods and backward productive linkages characterizing manufacturing. Here, the expansion of manufacturing induces an increase in the production of intermediates or in their variety (this last case is extremely close to Adam Smith's description of "division of labor"). Due to the existence of increasing returns to scale in the intermediate-good sector, both real wages and the profit rate rise. Eventually, they turn out to be higher in sufficiently large manufacturing-based economy with respect to countries specialized in non-manufacturing and non-tradable sectors (Ros, 2001).[8] Ha-Joon-Chang (2010) offers a very convincing explanation as to why manufacturing, even in this digital era, still constitutes the engine of long-run growth.[9]

Tregenna (2011) identifies three possible processes leading to de-industrialization as measured by a reduction of the manufacturing employment share. First, a reduction in labor-intensity (increase in labor productivity) coupled with a contraction of that sector output; second, a reduction in labor-intensity that outweighs the expansion of sector production; finally, the contraction of sectorial activity that outweighs the increase in labor-intensity (decline in labor productivity). Such processes, all giving rise to a lower manufacturing employment share, are likely to prompt different and perhaps

[7] Torvik (2001) allows for different results by admitting for learning-by-doing to take place in the non-tradable sector as well, and technological spill-over running both ways (from manufacturing to services and vice versa).

[8] Gylfason and Zoega (2006) present an aggregated model, in which large dependence on natural resources cut optimal savings, physical and human capital accumulation, hence long-run growth.

[9] His point is that the so-called "de-industrialization" in rich countries does not come primarily from Chinese competition or Engel Law. Rather, it comes from the reduction in industrial products' relative price, which is in turn the outcome of the (relatively) rapid technical progress in manufacturing.

opposite effects on overall economic records.[10] This is also the reason why analogous trends in manufacturing employment in Asian and Latin American economies (Colombia among them) have been often associated to diverging economic performances. Whilst the former registered increasing manufacturing value added shares and even stronger improvements in manufacturing labor productivity, most Latin American economies experienced worrisome *premature* reductions in manufacturing GDP shares, and dismal increases in labor productivity by international standards.[11]

Regardless of the specific mechanisms at work and their theoretical or empirical character, all these analyses share the common aspect to be real side studies without a well-defined macroeconomic framework based on national accounting. In a way, they seem to follow the original contribution of Corden and Neary (1982, p.825) by "ignoring the monetary implications" of natural resource booms and the ensuing structural changes, i.e. the effects such events may trigger off on the external balance and financial solidity of the economies under observation. Sachs and Warner (1995, 1999), for instance, assume the current account of the balance of payments to be always in equilibrium thanks to natural resource "manna" counterbalancing trade deficits arising from increased imports of tradable goods. Gylfason, Herbertsson, and Zoega (1999) assume an exogenous trade surplus in order to meet interest payments on a given and constant stock of foreign debt. When capital movements and financial transactions are considered (see Mansoorian, 1991), they are formalized in a perfect foresight infinite life framework, in which international borrowing and accumulating foreign debt today are repaid through expanding manufacturing productions, increasing domestic savings and rising current account surpluses tomorrow.[12] Accordingly, in these models boom-and-bust cycles linked to mounting foreign debts are ignored by assumption, even though they may represent relevant ways natural resource booms may influence long-run economic dynamics (Manzano and Rigobon, 2001).

Our contribution draws inspirations from previous works by Dutt (1997) and Taylor (2004). Dutt (1997) emphasizes that incoming FDI may induce detrimental effects on developing countries' catching-up process on developed economies, depending on the productive sector targeted by FDI.

[10] "If a decrease in manufacturing employment share is primarily accounted for by falling labor-intensity of manufacturing, this calls into question the extent to which 'de-industrialization' is an appropriate characterization. The point is that a fall in the share of manufacturing employment that is mostly accounted for by falling labor intensity (i.e. increasing labor productivity) would not necessary have a negative impact on growth. This is different from the case where the fall in the share of manufacturing employment is associated primarily with a decline of the manufacturing sector as a share of GDP. In such a scenario, an economy would be particularly at risk of losing out on the growth-pulling effects of manufacturing (Tregenna, 2011, p.15)".

[11] "Despite the fact that manufacturing was generally a lower share of total value added in these countries than in the Asian newly industrializing countries (NICs), manufacturing shrank as a share of total value added in the Latin American countries while growing further in the Asian NICs (Tregenna, 2011, pp.14-15)".

[12] Actually, different conclusions with respect to the standard "Dutch disease" literature can be obtained when inter-temporal optimization and consumption smoothing is allowed through financial market mechanisms. Mansoorian (1991), for instance, finds that a real depreciation and an expanding manufacturing sector could emerge in the long run as the optimal response to over-borrowing, real exchange rate appreciation and de-industrialization in the short run. These conclusions reinforce those provided by Bruno and Sachs, who stress that "optimizing far-sight households (and government) will not consume all current oil revenues, but will rather save in anticipation of the future decline […] to the extent that the current revenues overstate the 'perpetuity equivalent' of oil earnings, a focus on current production levels overstates the resource allocation consequences of the oil sector (Bruno and Sachs,1982, p. 858)."

Taylor (2004, chapter 12) describes the cyclical boom-and-bust dynamics possibly set in motion by temporary capital inflows in developing economies. Our paper represents an attempt at putting these two perspectives together to offer a non-standard interpretation of Colombian Dutch disease.

3. Structural Change and Sectorial dynamics in Colombia

Colombia already went through various episodes of de-industrialization.[13] On top of the current sharp decline in the manufacture's share in real value added, a similar trend also emerged from 1990 to 1999. Colombian 1990s de-industrialization episode was likely due to the radical switch in economic policy Colombia went through during that period. The reform process, centered on trade liberalization, is deemed to have harshly hit Colombian industry, manufacturing in particular, which had been traditionally supported by a protectionist trade regime (Ocampo, 1994). Colombian manufacturing output share eventually reached a minimum point in 1999, also due to the deep economic downturn affecting Colombia in that year as a result of the contagion from financial crises in other emerging countries.

After such initial shock, Colombian manufacturing partially recovered at the beginning of the 2000s. Once again, since 2007, the share of the manufacturing sector has been shrinking in a remarkable and consistent way. The current episode of de-industrialization (or, better, de-manufacturing) does not consist in a general and somewhat proportional decline of all the several components of the industrial sector. A contracting manufacturing is now accompanied by an increase in the energy sector real GDP share. By the first quarter in 2014, Colombian manufacturing accounts for less than 11% of real GDP, while the energy sector share has been constantly expanding.

Figure 2 shows quarterly growth rate differential for the mining and manufacture sectors with respect to GDP. We observe first that the volatility of the mining sector growth rate is much higher than the manufacture one. Aside from this high volatility, there seem to be no distinct trend until mid-2007, when the mining sector starts enjoying a growth rate mostly above GDP while the opposite is true for the manufacture sector.

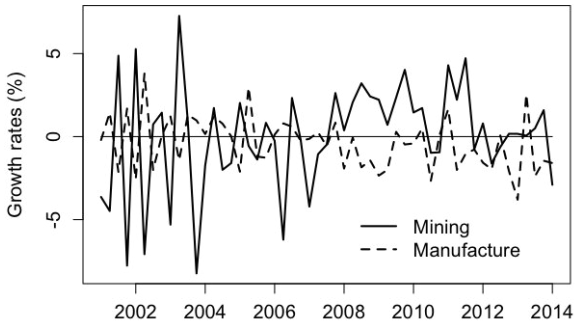

Figure 2: Sectorial quarterly growth rates differential. Source: Central Bank of Colombia.

[13] The debate on Colombian deindustrialization dates back to at least 1986, see Kamas (1986).

We use standard Chow test to validate the structural break that seem to emerge from the data. The data set consists of 53 quarterly observations from 2001 Q1 to 2014 Q1. Unfortunately, due to a change in the methodology used by the Colombian statistical office (DANE) we cannot include previous data. Table 1 and Table 2 show the estimation results for the mining and manufacture sector. The tests indicate that there seems to be a structural break for both series in 2007Q3. There is no clear trend before 2007Q3. The mining sector seems to grow less than GDP (1.07% below GDP, not statistically significant), while the manufacture is growing at par with GDP (0.13% above GDP, not statistically significant). After 2007Q3, the trend is instead very clear. The mining sector experienced an above-than-GDP growth rate (+1.15%) while the manufacture sector is growing at a rate lower than GDP (-0.99%).

Variable	Full sample	2001Q1-2007Q3	2007Q4-2012Q4
Constant	0.02 (0.45)	−1.07(0.75)	1.15**(0.37)
Chow Test (2007Q3)	6.79 (0.01)		

Table 1: Estimation of Mining sector to GDP growth rate differential.

Variable	Full sample	2001Q1-2007Q3	2007Q4-2012Q4
Constant	-0.42 (0.22)	0.13(0.29)	−0.99**(0.28)
Chow Test (2007Q3)	7.23* (0.01)		

Table 2: Estimation of Manufacture sector to GDP growth rate differential.

All the above-mentioned de-industrialization episodes are consistent with the worst de-industrialization case stressed by Tregenna (2011). From 1985 to 1995, Colombia is the only developing economy in which the contraction of the manufacturing sector outweighed the increase in labor-intensity (a decreasing labor productivity). Sadly, these findings are confirmed for the 2007-2013 period.[14] Data reported in table 3 show that a negative variation in manufacturing employment share in the order of 1,8 percentage points is due to the significant contraction of manufacturing participation to GDP. Such a contraction outweighs the reduction in manufacturing labor productivity. These puzzling and worrisome dynamics in Colombian manufacturing labor productivity can be partially explained by manufacturing sub-sectors' dynamics. Since 2000, more disaggregated data (see DANE, 2014) reveal that production of basic metallic and non-metallic goods have expanded their participation in manufacturing value added. On the contrary, the manufacturing value added share imputed to the chemical industry has decreased. The same story applies to the capital good sector. While the formers are usually classified as labor-intensive and low-skill sectors, with little scope for innovation and productivity growth, the latters are medium and high-skill technology intensive

[14] Variations in the sectorial employment share can be decomposed into three elements: variations in the labor-intensity characterizing sector's production (i.e. the labor-intensity effect); variations in the sectorial GDP share (i.e. the sector share effect); variations of overall labor productivity, which obviously affect overall employment dynamics (i.e. the above labor-productivity effects). We can represent the sectorial employment share (hence its variation) according to this formula: $\frac{L_{it}}{L_t} = \frac{L_{it}}{Y_{it}} * \frac{Y_{it}}{Y_t} * \frac{Y_t}{L_t}$, L_{it} being employment level in sector *i* at time *t*, Y_{it} sectorial production at time *t*, L_t and Y_t overall employment and production levels.

sectors characterized by stronger (productivity) growth opportunities.[15] Overall, it seems that Colombian manufacturing not only is shrinking in relative and absolute terms, but it is concentrating in labor-intensive low-skill industries. Hence, there might be the reasonable concern that the ongoing de-industrialization process might seriously impinge on Colombian long run development, provided that the non-traditional sophisticated tradable good sectors still represent a fundamental source of labor productivity dynamics (Rodrik, 2007; Szirmai, 2012).

labor share variation	labor-intensity variation	sector share variation	overall labor productivity variation
-1,8	0,8	-3,0	0,4

Table 3: Decomposition of the manufacturing employment share's variation, 2007-2013, source Central Bank of Colombia, ILO (Labor Force Survey) and Authors' computation.

4. Real exchange rate dynamics, Foreign Direct Investments, and the Colombian external account.

The macroeconomic dynamics briefly sketched in the first sections of this paper depend on a wide range of endogenous and exogenous factors of both long- and short-run nature. In 2008 and 2009, there is no doubt that temporary circumstances linked to the worldwide "Great Recession" have negatively affected Colombian GDP growth. At a more profound level, Colombian performances are likely to be affected by some radical changes in the Colombian domestic policy framework. Since the end of the 80s, Colombia is experiencing a long-lasting and deep reform process. At the beginning of the 90s, the so-called "*apertura hacia adentro*" was launched aiming to move Colombia, and the Colombian industrial sector in particular, from a fairly protected trade regime to an open and liberalized setting. More recently, this process has continued through a long series of free trade agreements.[16] Further, since the mid-2000s the regulation of the mining and energy sectors has been subject to important modifications. In 2004, the government lifted the restrictions to foreign companies' exploitation of domestic oil resources (UNCTAD, 2006). Accordingly, the monopolistic control of the oil sector by domestic firms has been removed and the national company Ecopetrol partially privatized. Such a regime shift, together with significant natural resource discoveries and high prices of primary commodities have stimulated massive foreign direct investment towards Colombia.

4.1 The FDI-exchange rate nexus

Most economists would interpret the recent appreciation of the Colombian peso as the main factor curtailing the profitability and viability of Colombian manufacturing. Such an appreciation

[15] See UNCTAD (2014), "Manufactured goods by degree of manufacturing", freely available for download from http://unctadstat.unctad.org/EN/Classifications.html.

[16] United States of America (22/11/2006), Chile (27/11/2006), Northern Triangle (El Salvador, Guatemala and Honduras, 09/08/2007), Canada (21/11/2008), European Free Trade Association (25/11/2011) and European Union (26/06/2012), source: Organization of American State's Foreign Trade Information System, http://www.sice.oas.org.

would in turn be attributed to a natural resource boom raising domestic expenditures and lifting inflation, in particular non-tradable sector inflation.

Since 2003, the Colombian real exchange rate has appreciated by 6.6% yearly on average (see figure 3)[17]. However, differently from what expected, most of this trend comes from nominal appreciation, in the order of 6.4% yearly, rather than strong inflationary pressures. Data from international economic organizations confirm that Colombian inflation has been under control and has remarkably decreased since 2008. Since 2003 Colombia has experienced the lowest inflation rates among CIVETS countries.[18] Colombian inflation has often been lower than that registered in many of its most relevant trading partners, Latin American ones in particular. According to IMF (2014), it was below 3% in 2013 and it is expected to be around 1,9% in 2014.[19]

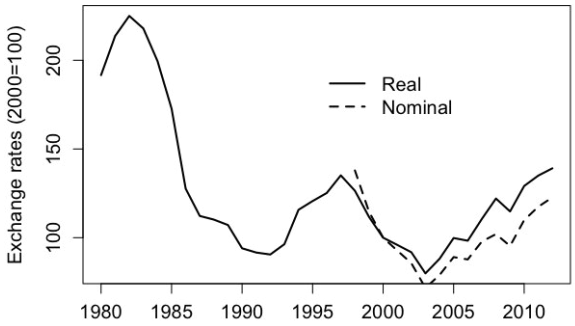

Figure 3: Colombian effective real and nominal exchange rate (index number). Source: UNCTAD Datastat.

Of course, nominal and real appreciation of the Colombian peso might come from Colombian trade and current account surpluses, one might say. Data on Colombian external account show this is not the case. Since 2001, Colombia experienced a persistent although modest trade deficit only replaced by a mild surplus in 2011. Yet, Colombian current account has remained in deficit, and it has surprisingly worsened and diverged from an improving trade account. It is now in the order of more than 3% of GDP.

In order to understand why despite a growing current account deficit the Colombian peso revaluated so heavily over the last ten years, it is instructive to have a look to all the different components of the Colombian balance of payments. It is crucial to be emphasize is that the capital account surplus more than compensated the current account deficit. In the period 2002-2013 the cumulated current account deficit amounted to US$ 67 billion, whereas the capital account surplus reached more than US$ 97 billion. These numbers make us suspect that the origin of the Colombian Dutch disease is perhaps to be found in the macro sphere, in the financial one in particular.

[17] In Figure 3, according to UNCTAD data, upward trends in the nominal and real effective exchange rate indexes stand for appreciations. Depreciations are represented by downward sloping sections in exchange rates dynamics.

[18] According to data provided by the IMF (2014), from 2003 to 2012, Colombia has experienced average inflation rates significantly lower than those observed in other emerging economies such as Brazil (1,6 percentage point less), India (2,6), South Africa (0,8) and Turkey (5,7).

[19] See IMF World Economic Outlook (April 2014). Data freely available from http://www.imf.org.

In the case of Colombia, Foreign Direct Investment has shown some degree of volatility and instability due to exogenous economic factors (i.e. the worldwide "Great Recession"), and their links to one-shot investment opportunities. SABMiller Company's acquisition of the local beer brand Bavaria lies behind the erratic jump in Colombian FDI in 2005, for instance. This fact notwithstanding, Colombia has experienced a significant and apparently structural increase in incoming FDI since 2005. Indeed, before 2005 and all along the 1990s, overall Foreign Direct Investments in Colombia have rarely been higher than 3% of GDP (according to UNCTAD, they stood out at 4,37% of GDP only in 1997). On the contrary, they picked up to almost 7% of Colombian GDP in 2005, and have remained systematically and remarkably above 3% of GDP since then (with the only exception of 2010). In absolute terms, from 1990 to 2004, net FDI were equal to US$ 1,6 billion on a yearly average. Since 2005, they averaged US$ 6,5 billion. In 2012, net FDI represented almost 100% of the positive net Colombian financial account, these same figures being far higher than 50% in 2007 and 2008.

Beyond such aggregate data, it is worth noting that the composition and nature of Colombian incoming FDI has changed remarkably in the last decade. In 2003, the real price of oil started increasing and peaked in 2008 (well above the level it reached in the 1982, at the top of the second oil shock). Today, it is more than 150% higher than it was in 2000 (Missaglia, 2012). Faced with such tremendously strong incentives, global oil companies accelerated their investment processes and oil-rich countries experienced a rapid growth of incoming FDI and an important expansion of mining sectors. Colombia was no exception. According to a more disaggregated sectorial perspective, since 2006, FDI in the energy sector have accounted for more or close to 50% of all Colombian incoming FDI on an annual base. Figure 4 below shows quarterly FDI per sector (Oil or Other) from 1996Q1 to 2012Q4 (68 observations).

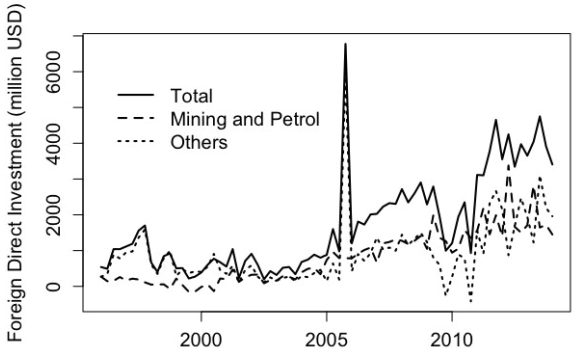

Figure 4: FDI in Mining and Petrol, Others, and Total. Source: DANE.

The data seems to indicate a change in FDI distribution from around 2001 onwards. As for the previous exercise, we ran Chow tests to check for structural breaks and estimated the average shares for different samples. Table 4 presents the results. First, there is a structural break in 2001Q2 where the share of FDI accruing to Oil and Other sector has substantially changed. Second, the Oil (resp. Other) sector has observed an increase (resp. decrease) in FDI share.

Variable	Full sample	1996Q1-2001Q2	2001Q3-2012Q4
Petrol and Mining share	0.42***(0.04)	0.12 (0.06)	0.56***(0.03)
Chow Test (2007Q3)	52.08*** (0)		

Table 4: Estimation of FDI share accruing to Oil and Other sectors

Incoming Foreign Direct Investment, in particular those targeting the domestic energy sector, have greatly contributed to the surplus in the Colombian capital account and overall Balance of Payments since 2004. On top of this, in the last five years increasing net foreign portfolio investment has further reinforced the macroeconomic implications, read Colombian peso's nominal and real exchange rate appreciation, of the above mentioned FDI flows. Indeed, in the first part of the 2000s, net foreign portfolio investment in Colombia was low or even negative. A remarkable change has apparently taken place since 2007. With the only exception of 2008 (likely due to the worldwide consequences of the subprime financial turmoil), since that year net foreign portfolio investment has been always positive and increasing. In 2007, it amounted to 1.3 billion dollars, i.e. 0.64% of Colombian GDP. From 2011 to 2013 they surged to far more than 5.5 billion dollars yearly, i.e. more than 1.5% of Colombian GDP. According to data provided by the Central Bank of Colombia, they amounted to 2.5 billion dollars in the first quarter of 2014.

A sort of self-reinforcing process between FDI flows, portfolio investment, and exchange rate appreciation seems thus to characterize the more recent evolution of the Colombian external account. Mounting FDI flows have provided the first move for Colombian peso's ongoing appreciation. International investors' enthusiasm about Colombian growth opportunities and, say, exchange rate-induced capital gains have then led to increasing net foreign short-term portfolio investment. In light of the structural (sectorial) consequences of such macroeconomic trends and of the current account imbalances reported in next section, it is straightforward to wonder whether such a self-feeding process may turn on to be unsustainable in the near future.

4.2 The Colombian trade and current account

Figure 5 provides a closer look at the evolution of the Colombian current account and of its sub-components. Colombian structural dependence on imports of manufactured goods comes up strikingly clear. Despite of fluctuations linked to economic cycles, trade deficit in manufactured goods is increasing since the beginning of the 2000s. It is now close to 10% of GDP. Needless to say, these figures change radically when trade flows linked to the energy and mining sectors are taken into account. Since 2001, the overall trade account in goods and services has registered deficits no higher than 2% of GDP. In the last four years, it has been close to balance, even though not positive yet (except of 2009), thanks to high prices of primary commodities.

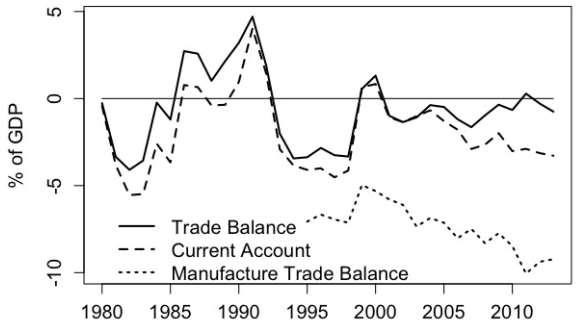

Figure 5. Colombian trade and current account balances, source: Central Bank of Colombia and Authors' computations.

Interestingly, before 2005, Colombian trade and current accounts showed closely similar dynamics and positively co-moved. Rising (decreasing) trade deficits were associated to increasing (decreasing) current account deficits. Since 2005, however, diverging trends have emerged. While the overall trade account has kept on being close to balance, current account deficit has steadily increased to above 3 percent of GDP. Such apparently puzzling fact can be explained through data portrayed in figure 6. Here we describe the dynamics of some of the above components of the current account, (net) repatriated profits linked to FDIs in particular. Data are expressed as index numbers, 1995 being the base year. Both the current account deficit and manufacturing trade deficit show an upward trend. In 2013, the manufacturing trade deficit is more than four times higher than it was in 1995. What is more, net factor income show an astonishing dynamics. While they amounted to 0.29 percent of GDP in 1995, they stand at the 2.85 percent of Colombian GDP in 2013 (practically the whole current account deficit). Their 2013 value is more than 30 times higher than the initial 1995 value.

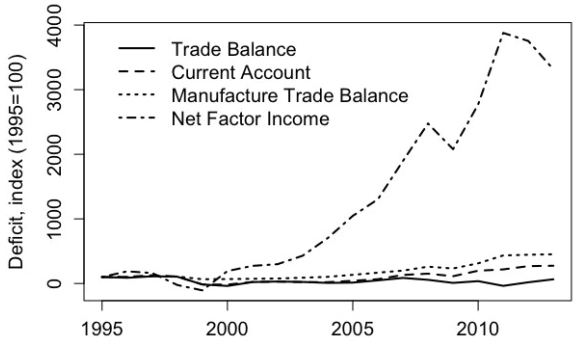

Figure 6: Overall current account and selected components' dynamics, source: from Central Bank of Colombia and Author's computation.

5. The Macroeconomics of the Financial Dutch Disease: Possible real and financial consequences

According to the literature reviewed in section 2 and to the empirical evidence presented in sections 3 and 4, the picture we have described so far seems to suggest the existence of a strange sort of Dutch disease in Colombia. Its peculiar ingredients and the main mechanisms at work can be summarized in a few points.

First, the Colombian peso has significantly revaluated in the last decade, both in nominal and real terms. The excess world demand for Colombian pesos, however, does not come from the need to finance a rest-of-the-world current account deficit vis-à-vis Colombia. The world is not invaded by Colombian exports. Well on the contrary, Colombia continues to experience a structural and increasing manufacturing trade deficit. High international prices of primary commodities and an expanding energy sector have helped to bring the overall Colombian trade account back to equilibrium. Yet, the Colombian current account is negative and worsening.

Second, Colombian peso revaluation is explained by the dynamics of capital inflows, and among them FDI are overwhelmingly important. In the more recent period, Colombian peso's appreciation has also fed back with positive and increasing net foreign portfolio investment aiming to exploit profit and capital gain opportunities emerging in the economy. A brief sectorial analysis also reveals that FDI are more and more directed toward the oil sector. Both facts (the exchange rate revaluation and massive energy sector-oriented FDI) contribute to shift the Colombian productive structure away from manufacturing and to make it increasingly dependent on the exploitation of domestic natural resources.

Third, this kind of FDI generates high returns, but profits are typically expatriated. Indeed, between 2009 and 2012, the incoming flows of FDI (39,306 US$ millions) have been lower than the outgoing flow of profits (42,469 US$ millions), see Cabrera Galvis (2013). This fact is worrisome on a twofold level. First, before being expatriated, these profits are not taxed. Following Ocampo, "this reflects Colombia's inability to take advantage of commodities' prices boom through taxation […] this was done in the past during the coffee price boom. This contrast is even more striking when thinking that coffee profits were captured by someone in the country. On the contrary, today's oil profits are essentially going to foreign enterprises (Ocampo 2013, p.15)". Second, huge profits repatriation by foreign investment in the Colombian oil sector emerges as the leading force behind Colombian current account imbalances. Whilst these imbalances may easily turn out to be structural and permanent, we cannot say the same as to the FDIs that have so far financed such external gap.

The kind of productive changes and external imbalances currently underway in Colombia cast serious doubts on its long-run growth potential and financial stability. Let us discuss in more details these topics and portray some possible future scenarios.[20]

[20] The R source code and the datasets used to generate all graphs and econometric results of this paper can be found on the website http://www.antoinegodin.eu/ColombiaDutchDisease.

5.1 Possible future scenarios

We have already emphasized our concern about a negative link between de-industrialization and productivity dynamics. Even more so if we think that the current reduction in manufacturing participation to GDP couples with a decreasing manufacturing labor productivity. Needless to say, such facts are at odds with those historically observed in developed and successful East Asian catching-up countries. The relative concentration of Colombian manufacturing in labor-intensive low-skill productions may significantly downsize Colombia opportunities as to the accumulation of human capital and generation of innovation and technological spillovers on the rest of the economy. It will likely weaken productivity dynamics and harm economic development.

Persistent and large current account imbalances have been often perceived as destabilizing factors, potentially leading to exchange rate crises and financial turmoil in developing countries. Colombia makes no exception and data presented in section 4 make us wonder whether the current Colombian development pattern is *financially* sustainable. In order to address this issue, we perform some scenario analysis on the possible evolutions of the various components of the Colombian Balance of Payments. Our analysis relies on the data provided by the Colombian government as to the expected dynamics of oil prices, oil production and exports, GDP and imports growth rates (Ministry of Finance and Public Credit, 2014a).[21] We also know government's expectations in terms of current account dynamics and net capital inflows and variation in foreign reserves. We do not dispose of additional information concerning net factor payments, profit repatriation in particular, and non-oil exports. The aim of our analysis is twofold. First, we compute the required evolutions in our "unknown" variables, net factor payments' or non-oil exports alternatively, in order to meet government's expectations. Second, we simulate future possible dynamics of some relevant components of Colombian Balance of Payments according to past-observed trends. We are interested in the implications of such trends, should they persist in the upcoming years, in terms of current account, capital account, foreign reserve accumulation. In this sense, we want to test the consistency of these emerging figures with government expectations.

The right-hand side of figure 7 reproduces government's expectations in terms of foreign capital inflows and current account. The left-hand side of figure 7 in turn portrays government projections as to oil exports and overall imports of goods and services. Government's expectations are such that a persistent current account deficit should slightly decrease from 3,6% of GDP in 2014 to around 3% of GDP in 2024. Capital account and net FDI inflows are expected to remain, on average, in the order of 4% and 3.7% of GDP, respectively (in 2014, Colombian government expects a capital account surplus close to 5% of GDP). The capital account surplus is thus expected to fully cover current account deficits and allow Colombian foreign reserves to pile up even further.

[21] Unfortunately, we do not have detailed yearly values for the capital account and Foreign Direct Investment but only averages over the time period.

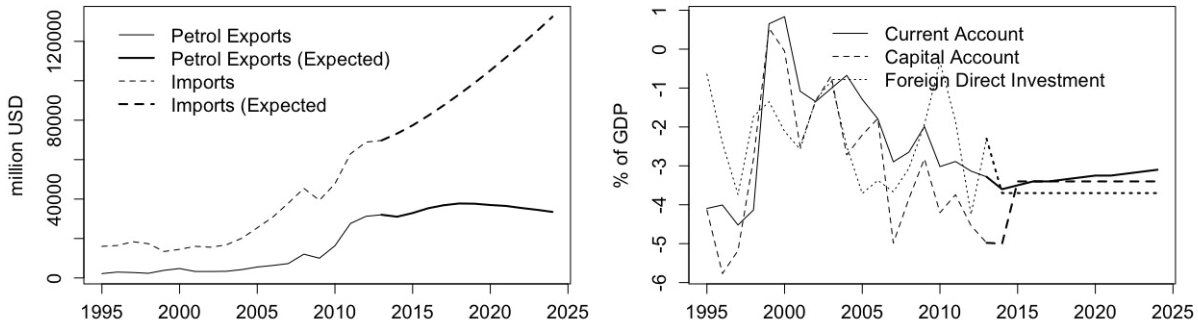

Figure 7: Government trade flow forecasts and expectations on current and capital account, and net FDI, source: Ministry of Finance and Public Credit (2014b), Central Bank of Colombia and Authors' computation.

In the left-hand side of figure 8, we show the current dynamics of Colombian net factor payments. Consistently with figure 6, it has become astonishingly negative in the last decade mainly due to an enormous increase in FDIs profit repatriation. We assume three possible scenarios as to future net factor payments evolution. First, we assume it maintains a constant nominal value, equal to its 2013 level, all along the next ten years (dashed line). Second, we assume NFP to move at the same pace than Colombian nominal GDP, i.e. the NFP/GDP ratio is constant (dotted line). Finally, we projected possible increases in NFP Colombian outflows using an HP-filter trend (dashed-dotted line). In the right-hand side of figure 8, we plot the required increase in Colombian non-oil export in order to meet government's current account expectations. The three different dynamics are portrayed in line with different assumptions on NFP evolution and with expected dynamics of total imports and oil export flows. What emerges clearly is the enormous increase of non-oil export (as a percentage of GDP) that should take place since 2020 on in order to bring the trade balance under control and maintain the overall current account deficit around 3% of GDP by the end of 2024.

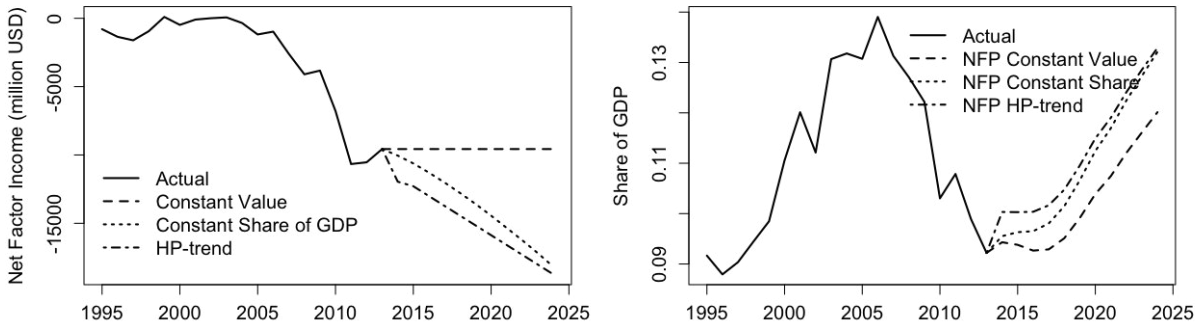

Figure 8: NFP (different scenarios) and required non-oil exports to meet government's CA target, source: Ministry of Finance and Public Credit (2014b), Central Bank of Colombia and Authors' computation.

Figure 9 present the results of the opposite exercise. Here we make two different hypotheses on possible future evolution of Colombian non-oil exports. First, we assume them to growth at par with GDP (dashed line in figure 9, left-hand side). Alternatively, we assume non-oil exports to grow according to its trend, as calculated through the HP filter applied to annual data from 1995 to 2013 (dotted line). In the right part of figure 9, we show implications of the aforementioned scenarios on NFP dynamics in order to meet government current account target. What emerges is that NFP will remain reasonably negative for some year ahead. Nonetheless, since 2020 on, the increasing gap between total imports and oil exports, and the ensuing widening overall trade deficit (in goods and services), together with an expected reduction in the current account deficit, will imply NFP to switch from negative to positive values. Needless to say, such a scenario appears at the very least unrealistic. This is even more so if it is coupled with government's expectations on persistently positive net FDI on the next ten years.

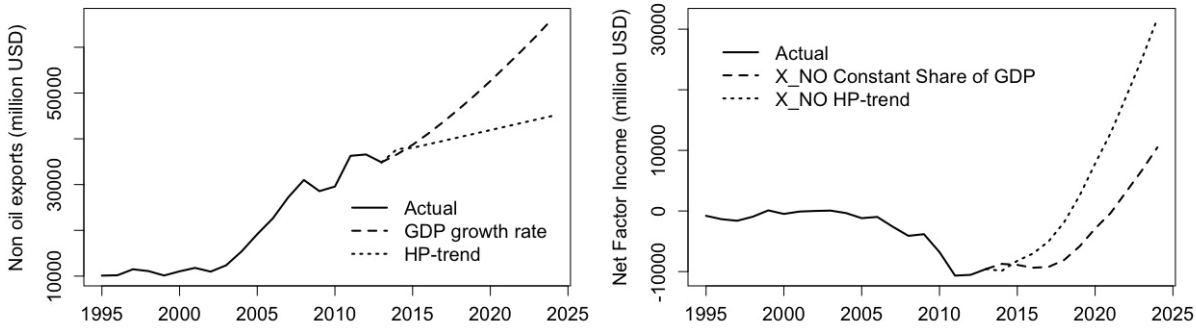

Figure 9: Non-oil exports (different scenarios) and required NFP to meet government's CA target, source: from Ministry of Finance and Public Credit (2014b), Central Bank of Colombia and Authors' computation.

Figures 8 and 9 describe "implicit" dynamics in non-oil Colombian exports or, alternatively, in NFP consistent with governmental target on the overall current account balance. Let's now modify our perspective and assume that the Colombian current account is endogenous and determined by the prevailing trends in their several components. According to the different scenarios we assume, Colombian current account may actually assume values rather distant from government expectations.

The left-hand side of figure 10 below portrays the government target expected value of Colombian current account (dashed line). Government expected CA dynamics stays in stark contrast with alternative records that would emerge in case non-oil exports and NFP would grow at the same pace of Colombian GDP (dotted line) or, even worst, should they grow according to past trends. In these two cases, it turns out strikingly clear that effective Colombian current account deficit may eventually turn out much deeper than what expected. The right-hand side of figure 10 derives the needed dynamics of the capital account in order to maintain Colombian foreign reserve constant, according to the various scenarios for the current account dynamics. Should government's expectation been confirmed, decreasing net positive capital inflows (as a ratio of GDP) would be more than enough to

match the current account deficit and ensure stable Colombian foreign reserves (small dashed line). In the last decade Colombia has experienced a remarkable surge in net capital inflows. Things change radically if we assume that the Colombian current account will be the result of non-oil exports and net factor payments moving at part with GDP (dash-dotted line) or, even worst, following past HP trends (long dash line). In both scenarios, Colombia would need constantly growing and indeed mounting capital account surpluses in order to cover huge current account imbalances.

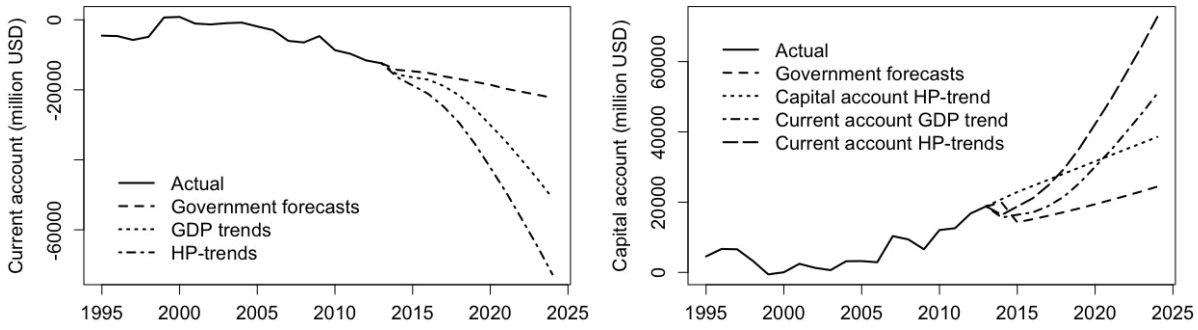

Figure 10: current account and capital account under different scenarios, source: from Ministry of Finance and Public Credit (2014b), Central Bank of Colombia and Authors' computation.

Figure 11 finally portrays the effects of different scenarios on the accumulation of foreign reserves. We assume two trends for each account of the balance of payment accounts, thus implying four different scenarios. Both trends of the current account are based on the expectations of the government on imports and oil exports. The first trend assumes non-oil exports and net factor payment to follow the GDP growth while the second trend assume HP-filter trends for these two components of the current account. The first trend of the capital account is based on government's expectation and the second trend is constructed using the HP-filter trend.

The possible increase, or stabilization, of Colombian foreign reserves basically requires foreign net capital inflows to move accordingly to observed dynamics in the current account. In the event that the Colombian current account deficit would effectively follow the expected trajectory by the government, decreasing net capital inflows (in percentage of GDP) since 2014 and in line with government expectations (3,4% of GDP yearly from 2014 to 2015) will ensure a slightly increase in foreign reserves (small dashed line). Things get even better whether foreign capitals follow their HP-filter trend (scenario 3 and 4). In such a case, a large capital account surplus will materialize and allow Colombian foreign reserves to increase at first even in the event that non-oil exports and, above all, NFP move at par with GDP (scenario 3). However, in this scenario, the Balance of payment surplus turns negative from 2018 onwards and the reserve stock starts decreasing and reaches 0 in 2023. In the case of the HP-filter trend of the current account (scenario 4) foreign reserves will actually increase until 2020, where they reach almost $ 83 billion.

However, things may change dramatically in the case of the capital account meeting government forecasts (scenario 1 and 2). If non-oil exports and NFP grow according to GDP growth trends (scenario 1), foreign reserves start decreasing immediately and turn negative by 2022 (dash-dotted line). Needless to say, such a reduction will be even faster should NFP and non-oil exports follow their HP-filter trends (scenario 2)[22]. In such a scenario, Colombian foreign reserves will be driven close to zero by the end of 2019.

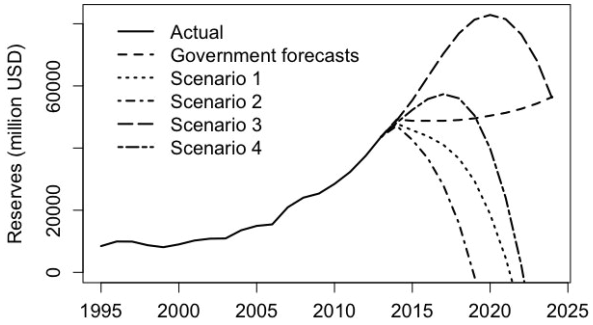

Figure 11: Expected dynamics in Colombian foreign reserves stock (different scenarios) , source: from Ministry of Finance and Public Credit (2014b), Central Bank of Colombia and Authors' computation.

5.2 Policy Options

Which are the policy implications of these scenarios and expected dynamics in Colombian foreign reserves? In the last decade, the Colombian economy has become far more dependent on the exploitation and exports of its own natural resources in order to pay for increasing imports of capital goods. The exports of oil and related products represent in 2012 much more than 50% of Colombian exports. According to data provided by DANE (2014), by the end of 2012, foreign imports represent more than 60% of the total supply (domestic production plus imports) of capital goods. This ratio was less than 47% in 2000. Such a deep structural change in the Colombian economy implies that the nominal exchange rate appreciation is a fundamental macroeconomic variable affecting Colombian capability to invest, accumulate capital stock and support economic growth. A depreciation of the exchange rate, by making imported capital goods more expensive, could easily curtail investments and growth. In order to avoid such an event to take place, available foreign reserves play a fundamental role – they are the weapon in the hands of the Central Bank to defend the domestic currency. A shortage of foreign reserves might start a financial crisis.

Our analysis shows that there is no risk such events will take place very soon in Colombia. The right-hand side of figure 8, for instance, reveals that slightly increasing non-oil exports, as a share of

[22] It must be emphasized that, due to the mining-sector boom, the evolution of non-primary exports over the last decade has been particularly disappointing. The share of primary export (oil, coffee, flowers, bananas, etc.) in total exports rose from 74% in 2001 to 81% in 2012 (Consejo Privado de Competitividad, 2013).

GDP, will be enough to compensate for negative NFP and guarantee the Colombian current account to get government's target in the next 2-3 years. Similarly, negative NFP do not need to be immediately reduced in order to ensure an easy management of the Colombian external account and Colombian peso. Yet, our analysis also shows that some trends characterizing Colombia since the mid 2000s are *unsustainable* in the long run. Should huge profit repatriation continue in the upcoming years according to the astonishing dynamics registered so far, net positive capital inflows will not suffice, even in the best possible scenario, to preserve Colombian foreign reserve to decline and possibly to avoid an exchange rate crisis[23].

On top of this, government optimistic forecasts rely upon a sort of "capital account-current account counter-balancing" mechanism that might be suitable to address short-term problems, but is likely to give rise to a vicious unstable dynamics in the long run. In the end, it may turn out to be the main source of Colombia possible financial instability. According to Singh, "FDI investment creates foreign exchange liabilities not only now but also into the future. This characteristic leads to the danger that unfettered FDI may create a time profile of foreign exchange outflows (in the form of dividends payments or profit repatriation) and inflows (i.e. fresh FDI) which may be time inconsistent (Singh, 2003, p. 209)". To put it another way, huge current foreign capital inflows, FDI in particular, for sure provide the country with foreign currency flows covering current account deficits and, possibly, stabilizing the exchange rate (or create room for an exchange rate stabilization). However, they also create the basis for even higher foreign currency outlays in the upcoming years, hence the need for even stronger capital account inflows. Such a spiral may have a weak basis and may easily break down. Should capital inflows, FDI in particular, decrease due to, let's say, a reduction in natural resource sector's profitability, a fundamental source of foreign currency inflows will stop playing while foreign currency outflows will be still on the ground. This is the kind of risk Singh was putting forward and Colombia may face in the medium/long-run.

In order to tackle with such possible undesirable outcomes in advance, two policy measures come at mind. They are strictly linked each other. First, Colombia should reduce its dependence on foreign direct investment as both source of foreign currency inflows and productive investment. In order to be clear, this does not imply that Colombia should discourage FDI to take place, in particular those that may lead to a diversification of its productive and export pattern. We are simply saying that FDI should represent only part, perhaps not the most relevant one, of Colombian capital accumulation and development process together with productive initiatives undertaken by domestic actors. Second, and accordingly with the previous point, Colombian government should implement policies devoted to significantly diversify its export base. The Colombian government foresee a reduction in the production of oil since 2017 on. There is not any guarantee that non-oil export (which also include other primary commodities) dynamics will be sustained enough to avoid a widening current account deficit to take place or to pay for larger repatriation of foreign companies' profits. The expansion of Colombian product and export space may provide the required dynamics. In the end, such a strategy would be absolutely in line with the most recent evidence on successful episodes of long-run

[23] See Ocampo (2009) on the disruptive effects on the Colombian external account of a possible reduction in the price of primary commodities.

economic development. The kind of goods you export matters for growth (Haussmann et al. 2007), and product diversification characterize a relevant part of the development process (Imbs and Wacziarg, 2003; Rodrik, 2007). Apparently Colombia has followed a radically different development pattern that put too much emphasis on the exploitation of domestic natural resources as main source of economic growth (the so called “locomotora minera-energetica”). It might be wise to exploit natural in advance resource revenues to support a clear diversification strategy that might at least partially change and make more balanced the development strategy followed so far.

References

Bruno M. and Sachs J.D. (1982) – Energy and Resource Allocation: A Dynamic Model of the "Dutch Disease", *Review of Economic Studies*, vol. 49 (5), pp. 845 – 859.

Cabrera Galvis M.C. (2013) – *Diez Años de Revaluación*, Bogotà: Editorial Oveja Negra.

Claveijo C., Vera A. and Fandino R. (2014) – *De-industrialization in Colombia: Quantitative Analysis of the Determinants*, ANIF Estudios Especiales 2014, freely available for download from http://anif.co/node/10697.

Chang H.J. (2010) – *23 Things They Don't Tell You About Capitalism*, London: Penguin Books.

Consejo Privado de Competitividad (2013) – Informe Nacional de Competitividad 2013-2014, Bogotá, Colombia.

Corden W.M. and Neary J.P. (1982) – Booming Sector and De-industrialization in a small open economy, *The Economic Journal*, vol. 92 (368), pp. 825 – 848.

DANE (2014) – *DANE Supply and Uses Matrix Table*, freely available for download from https://www.dane.gov.co/index.php/cuentas-economicas/cuentas-anuales.

Dutt A.K. (1997) – The Pattern of Direct Foreign Investment and Economic Growth, *World Development*, vol. 25 (11), pp. 1925 – 1936.

The Economist Intelligence Unit (2013) – *Latin America as an FDI Hotspot: Opportunities and Risks*.

Gylfason T., Herbertsson T.T. and Zoega G. (1999) – A Mixed Blessing: Natural Resources and Economic Growth, *Macroeconomic Dynamics*, vol. 3 (2), pp. 204 – 225.

Gylfason T. and Zoega G. (2006) – Natural Resources and Economic Growth: The Role of Investment, *The World Economy*, vol. 29 (8), pp. 1091 – 1115.

Goda T. and Torres A. (2013) – *Overvaluation of the Real Exchange rate and the Dutch Disease: The Colombian Case*, CIEF Working Paper n. 28-13.

Hausmman R. Hwang J. and Rodrik D. (2007) – What you export matters, *Journal of Economic Growth*, vol. 12 (1), pp. 1 – 25.

Kamas L. (1986) – Dutch Disease Economics and the Colombian Export Boom, *World Development*, vol. 14 (9), pp. 1177 – 1198.

Imbs J. and Wacziarg R. (2003) - Stages of Diversification, *American Economic Review*, vol. 93 (1), pp. 63-86.

IMF (2014) – *World Economic Outlook April 2014*.

Mansoorian A. (1991) – Resource Discoveries and Excessive External Borrowing, *The Economic Journal*, vol. 101 (409), pp. 1497-1509.

Manzano O. and Rigobon R. (2001) – Resource Curse or Debt Overhang, *NBER Working Paper* n. 8390.

Missaglia M. (2012) - *Finanza, Povertà e Tensioni Internazionali*, in Strazzari F. (ed.), Mercati di Guerra, il Mulino.

Ministry of Finance and Public Credit (2014a) – *An Outlook of the Colombian Economy*, freely available for download at http://www.minhacienda.gov.co.

Ministero of Finance and Public Credit (2014b) – *Marco Fiscal de Mediano Plazo*, June 2014.

Ocampo, J. A. (1994) – *Trade Policy and Industrialization in Colombia*, 1967 – 91, in Helleiner G.K. (ed.) – Trade Policy and Industrialization in Turbulent Times, London and New York: Routhledge, pp. 132 – 169.

Ocampo J. A. (2009) – *Performance and Challenges of the Colombian Economy*, freely available for download from http://policydialogue.org/publications.

Ocampo J. A. (2013) – *Prologo*, in Cabrera Galvis M.C. - Diez Años de Revaluación, Bogotà: Editorial Oveja Negra.

OECD (2013) – *OECD Economic Assessment of Colombia 2013*, available from www.oecd.org/Colombia.

Ojeda J.N., Parra-Polonia A. and Vargas C.O. (2014) – *Natural-Resource Booms, Fiscal Rules and Welfare in a Small Open Economy*, Banco de la Republica Colombiana Borradores de Economia n. 807.

Park Madison Partners (2013) – *Colombia's Rise: A Primer for International Investors*, freely available for download from http://www.parkmadisonpartners.com/cgi-bin/news.pl.

Rodrik D. (2007) – Industrial Development: Some Stylised Facts and Policy Directions", in UN-DESA (ed.), *Industrial Development for the 21st Century: Sustainable Development Perspectives*, New York: UN Publishing.

Ros J. (2001) – Industrial Policy, Comparative Advantages and Growth, *CEPAL Review*, vol. 73, pp. 127 – 145.

Sachs J.D. and Warner A.M. (1995) – Natural Resource Abundance and Economic Growth, *NBER Working Paper* n. 5398.

Sachs J.D. and Warner A.M. (1999) – The Big Push, Natural resource Booms and Growth, *Journal of Development Economics*, vol. 59 (1), pp. 43-76.

Sachs J.D., and Warner A.M. (2001) – The Curse of natural resources, *European Economic Review*, vol. 45 (4), pp. 827-838.

Singh A. (2003) – Capital Account Liberalization, Free long-term Capital Flows, Financial Crises and Economic Development, *Eastern Economic Journal*, vol. 29 (2), pp. 191 – 216.

Szirmai (2012) – Industrialization as an Engine of Growth in Developing Countries, 1950 – 2005, *Structural Change and Economic Dynamics*, vol. 23 (4), pp. 406 – 420.

Taylor L. (2004) – *Reconstructing Macroeocnomics: Structuralist Proposals and Critiques to the Mainstream*, Harvard University Press.

Torvik R. (2001) – Learning by Doing and the Dutch Disease, *European Economic Review*, vol. 45 (2), pp. 285-306.

Tregenna F. (2011) - Manufacturing Productivity, Deindustrialisation and Reindustrialisation, *UNU-WIDER, Working Paper* No. 2011/57.

UNCTAD (2006) – *Investment Policy Review*: Colombia. Geneva: United Nations Press.

UNCTAD (2014) – *Manufactured goods by degree of manufacturing*, freely available for download from http://unctadstat.unctad.org/EN/Classifications.html.