Dutch Disease Symposium

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Remarks by Sebastián Claro

Panel Discussion: Potential policy responses: What are they, and are they necessary?

It is a great opportunity to be in this fascinating conference, both because of its high-level participants as well as for the relevance of the theme. The Dutch- disease concept was coined in the mid 1970s to analyze the impact on the Netherlands' economy of the surge in oil prices.[1] Since then, the impact of fluctuations in terms of trade and/or capital flows has been often analyzed keeping the Dutch-disease framework in mind: a boom in commodity prices puts an upward pressure on the real exchange rate, affecting the competitiveness position of other tradable sectors not benefited by the boom.

In the last decade or so, with the expansion of China and the so-called super cycle in commodities, a revival of this discussion has taken place. The question is whether natural-resource-abundant countries like Canada or Chile are headed toward de-industrialization caused by real exchange rate pressures, and, if so, what policy responses would be needed to counterbalance this phenomenon.

What I would like to do in this talk is go over what I see as the main questions that arise: (1) is there evidence of a Dutch disease?, (2) is it really a disease?, and finally, (3) is there room for policies to counter-balance it?. I will try to answer these questions from the perspective of a small developing economy like Chile, and from the point of view of a central banker.

1. Is there evidence of a Dutch disease?

The super cycle of commodity prices since the early 2000s has led to a boom in mining exports — mainly copper —, which have increased more than fourfold between 2003 and 2012. In contrast, exports of agricultural and manufactured products grew 150% in the same period (see figure 1). By far, the largest contributor to this difference has been the copper price, which has virtually quadrupled in the last decade. After deflating figures by a sector-specific export price index (see figure 2), the opposite patterns arise: real copper exports have grown 10% in the last nine years, while agricultural and manufacturing exports have grown 80% and 50%, respectively (see figure 3).

Overall, we observe a mild effect of the copper boom on Chile's exports. There are several explanations for this. First, to some extent other tradable goods produced in Chile —mainly food and food processed goods— have also been subject to a terms-of-trade shock. At the end, the same forces driving copper prices up have pushed other commodities up. Chile's export mix – both

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[1] The Economist, "The Dutch Disease", November 26th, 1977.

in agriculture and manufacturing – is highly concentrated in natural-resource-intensive products, including beverages, food and fish processing, among others.

Also, the capacity constraints in copper production have limited the impact of the change in relative prices on factor reallocation. But at the same time, investments in the mining industry have raised demand for machinery and metal products, a small part of which is located domestically. Finally, although real exchange rate indices at the sector level show an appreciating trend for agricultural and industrial products (see figure 4), these sectors have been able to compensate such forces with high productivity growth. This is especially true in agriculture, where average labor productivity has increased three times faster than in the aggregate. Industry, on the other hand, has had a trend similar to the aggregate while the mining industry has experienced a significant fall in average labor productivity. (See figure 5) This evidence is consistent with the hypothesis – though not proof of - that productivity gains could be an endogenous response to competitiveness pressures.

This is consistent with the evidence that, at the aggregate level, the appreciation of Chile's real exchange rate has been lower than that of other countries. (See table 1). For example, Chile's currency is currently 16% more appreciated in real terms than its average level in 2002, while the same numbers for other countries are 56% for Australia, 68% for Brazil, 36% for Canada, 31% for New Zealand and 9% for Peru.

Of course, the high intensity of natural-resource-based trade in Chile —which to some extent has shielded Chile from a Dutch-disease type phenomenon— reflects the small share that traditional manufacturing sectors that apparently have increasing returns[2] (i.e. pharmaceutical, electronic and non-electric machinery, motor vehicles and instruments) have. I will come back to this issue at the end of the talk.

Finally, another explanation for the milder appreciation of the real exchange rate is that non-tradable services have experienced very significant productivity growth, limiting the impact on domestic factor prices of demand growth. This brings us to the question of whether this phenomenon requires any policy intervention.

2. Is this really a disease?

Usually, the concept of disease is related to the hypothesis that factor reallocation toward natural resources hurts long-run growth because the other tradable sectors have economies of scale or great chances of productivity growth. This reallocation depresses growth by shrinking the

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[2] Antweiler, W. and D. Trefler (2002), "Increasing Returns and All that: A View from Trade", American Economic Review 92(1): 93-119.

increasing-returns manufacturing sector. This is the basis of the export-led growth literature, and hence some room for policy action appears to compensate for such externality.[3]

As we mentioned before, tradable sectors that traditionally have been associated with increasing returns to scale are hardly present in Chile's output structure. Also, agriculture and manufacturing have shown a reasonable performance, in part due to higher-than-average productivity growth.

Interestingly, the services sector has not only shown a large rate of growth (as expected given the terms-of-trade gains in the economy and the real exchange rate appreciation), but also it has experienced high productivity growth. For example, average labor productivity in Commerce and Financial Services have grown more than twice as fast as in the aggregate. (See figure 6) Similar evidence can be found in construction and telecommunication services, for example. As a consequence, a large flow of foreign direct investment to these sectors in other Latin American countries has taken place. This represents evidence that there is ample room for productivity growth in the services sector and that there is also capacity to "export technology". This implies that the traditional distinction of tradable and non-tradable sectors that provides the last name to the Dutch phenomena has become increasingly blurry.

An interesting book edited by the Inter American Development Bank in 2010 shows that commerce explains a significant share of the productivity gap between Latin America and the developed world. To some extent, it is the distribution/infrastructure sectors which represent a bottleneck for its development. Of course this does not mean that boosting these sectors will necessarily be welfare enhancing, but it does suggest that the expansion of services enhanced by a Dutch-disease phenomenon can be a source of output and productivity growth.

This phenomenon need not be exclusive to developing countries. According to Rajan (2010), many export-oriented strategies followed by developed countries —like Japan— have ended up protecting highly inefficient domestic-oriented production. These inefficiencies in the provision of services represent a hurdle for long-run growth.[4]

3. Is there room for policies?

In my opinion, the policy question should distinguish two phenomena. A first one is related to the structural changes that a Dutch disease might impose, and their growth implications. A second one is related to cyclical considerations and the role of macro policies. Let me first turn to some structural challenges.

3.1 Structural challenge

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[3] Magud, N. and S. Sosa (2010), "When and Why Worry About Real Exchange Rate Appreciation? The Missing Link between Dutch Disease and Growth," IMF Working Papers 10/271.

[4] Rajan, R. (2010), *Fault Lines*, Princeton University Press.

If there is evidence that the appreciating trend of the real exchange rate results from fundamental market forces that affect negatively some increasing-returns sectors, the focus should be on sector-specific policies rather than aggregate policies. Besides the obvious difficulties on providing justification for such interventions, the point I would like to make is that in any case the focus should be on the specific sectors that require assistance and on dealing with the market failures directly. The aggregate impact of fiscal and/or monetary policies in dealing with these phenomena is ineffective.

In many developing countries, like Chile, I think the most fundamental question is not about finding those areas in need of protection but rather establishing the institutional setting for using this extraordinary income. In the last several decades, the most harmful policy of developing countries has been the tendency of governments to spend the transitory income —and much more— in transfers that raise government expenditures beyond their medium run possibilities, and that also distort relative prices. After some years, everything is gone, and no fundamental change in the economy has taken place. Now, the region has another opportunity to benefit in the long run from the terms-of-trade windfall. The absence of a traditional IRS manufacturing base in Chile reflects the scarcity of human capital, and the past experiences of protectionism to enhance those sectors proved wrong.

For this, it is critical to make sure that the resources are —over time— invested in highly profitable projects rather than consumed. This is what will determine the comparative advantages in the years to come. In Chile, there is a clear deficit in education, which makes the labor force not adequately prepared to confront the challenges of the information society. Investing in quality education is probably the best decision. This has implications both for government programs that promote education within a framework that assures that resources go where they are needed and also to public policies, which should not introduce distortions in the price signal individuals receive for their education decisions. Policies that distort educational wage premium may end up deterring the incentives for people to invest in human capital.

Another dimension of this disease —not originally associated with the Dutch phenomenon— has a more cyclical aspect. Even if there is no such externality in the tradable sector, a transitory real exchange rate appreciation —due to exuberant expectations or highly pro-cyclical fiscal policy— can have negative consequences in some areas with sector-specific investment (physical of human capital). A transitory contraction/disappearance of an industry might be suboptimal if the forces driving the appreciation will reverse. Again, sectoral policies are called for if such phenomenon is perceived to occur.

3.2 Cyclical challenge

A second set of questions regarding the Dutch disease are related to its cyclical implications. Because it is very difficult to assess whether a commodity cycle is permanent or transitory, expectations and fiscal (in)discipline could generate a boom that eventually could end up in a debt/financial crisis. This is especially true in a context of weak supervision of the financial system.

The vast experience of developing countries with boom/bust cycles suggests that excessive cyclical fluctuations should be deterred. Here, fiscal and monetary policies have a fundamental role to play.

A prudent fiscal policy, conservative supervision of the financial sectors and a flexible exchange rate has been a good combination for many countries to deal ex-ante with these boom/bust cycles. The ability of the governments to run surpluses and save the extraordinary revenues has exchange rate implications, and hence it could be seen as a counter-balancing force for a Dutch-disease phenomenon. But it should not. The benefits of a prudent fiscal policy should be evaluated in its own merit, rather than thought of as a mechanism for helping some particular industries. And there is abundant evidence that saving the extraordinary revenues from a terms-of-trade windfall is a sound fiscal policy.

Over the medium term, monetary policy is unable to counter-balance the appreciation forces coming from fundamental variables. Some possibility to smooth out the appreciation is possible in the short run, but it has no material effect on the exchange rate trend, which fundamentally determines the de-industrialization forces that might be in place. A loose monetary policy aimed at depreciating the nominal exchange rate will end up in higher inflation.

Neither is there strong evidence about the capacity of monetary policies to affect the equilibrium trend in the real exchange rate with capital controls. Although the conceptual case for capital controls is related to the existence of speculative capital flows, the literature has found mixed effects of capital controls on the real exchange rate and capital flows.[5] Indeed, it is possible to argue that capital controls —because of their limited nature and the sophistication of financial markets — can end up attracting speculative capital inflows because of the expected capital gains associated with the expected further appreciation of the currency in the context of regular FX interventions.

Room for monetary policy interventions appears when the appreciative forces are stronger than what fundamentals suggest. In that case, a monetary intervention can put the exchange rate back on a sustainable path without affecting the inflation rate. In practice, the presence of such bubbles or speculative forces is very difficult to observe. In the current cycle in Chile there is no evidence of

[5] Edwards, S (1999), "How Effective are Capital Controls?", Journal of Economic Perspectives, 13(4):65-84, Fall; De Gregorio, J., S. Edwards, and R. Valdés (2000), "Controls on Capital Inflows: Do they Work?", Journal of Development Economics, 63(1):59-83; Larrain, F (ed), (2000) *Private Capital Flows, Capital Controls and Currency Crises: Latin America in the 1990s*, University of Michigan Press; Valdes, S., and M. Soto (2000), "Selective Capital Controls: Theory and Evidence", in Private *Capital Flows, Capital Controls & Currency: Latin America in the 1990s*, F. Larrain (ed.) The University of Michigan Press; Gallego, F., Hernandez, L. and Schmidt-Hebbel, K., (2001), "Capital Controls in Chile: Were They Effective?", in *Banking, Financial Integration, and International Crises,* L. Hernandez y K. Schmidt-Hebbel (eds). Series on Central Banking, Analysis, and Economic Policies, Central Bank of Chile

speculative forces driving the peso beyond what its fundamentals suggest, but this is something for which central banks are always on the lookout.
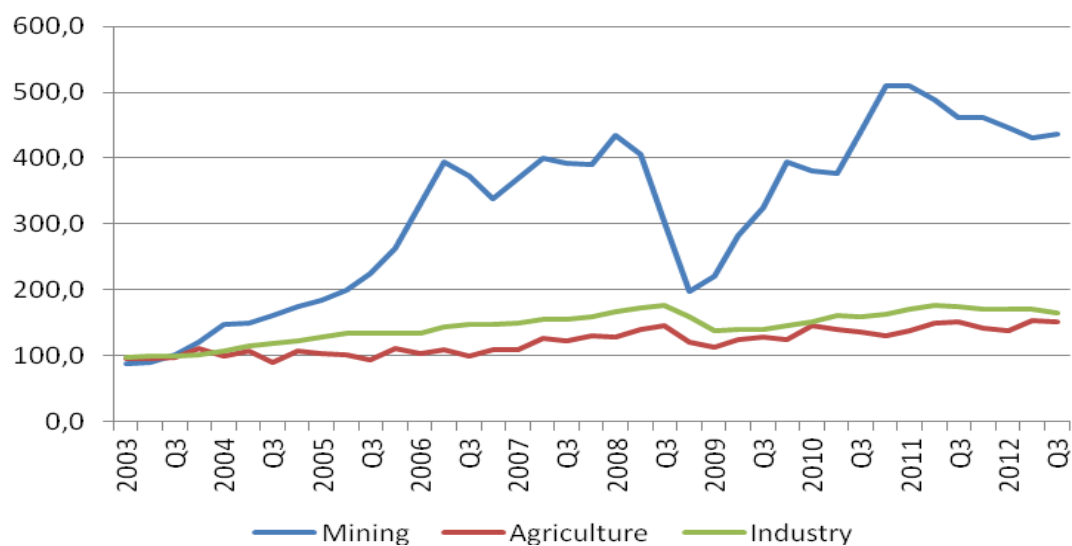
Thank you.

Figure 1: Cumulative growth in nominal exports, 2003-2012 (%)
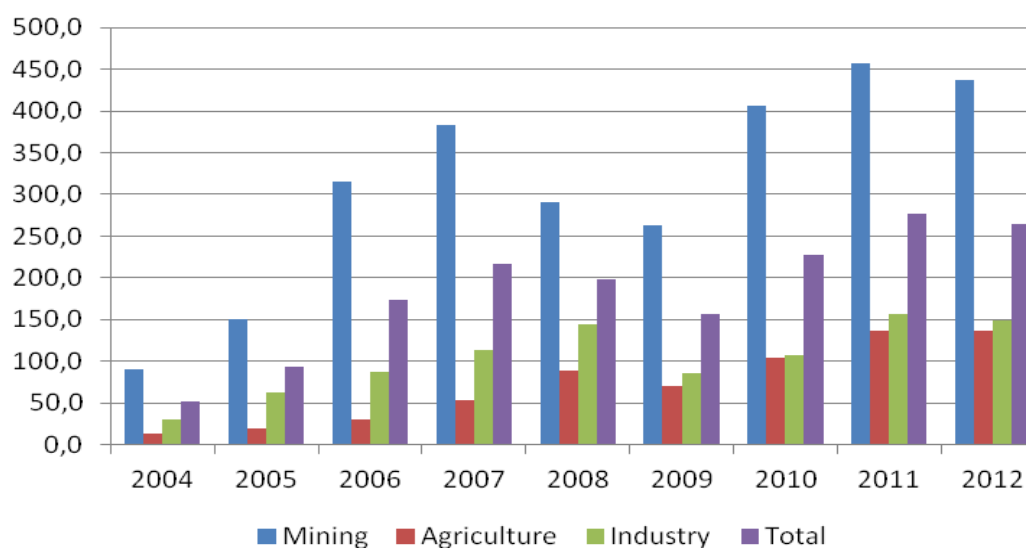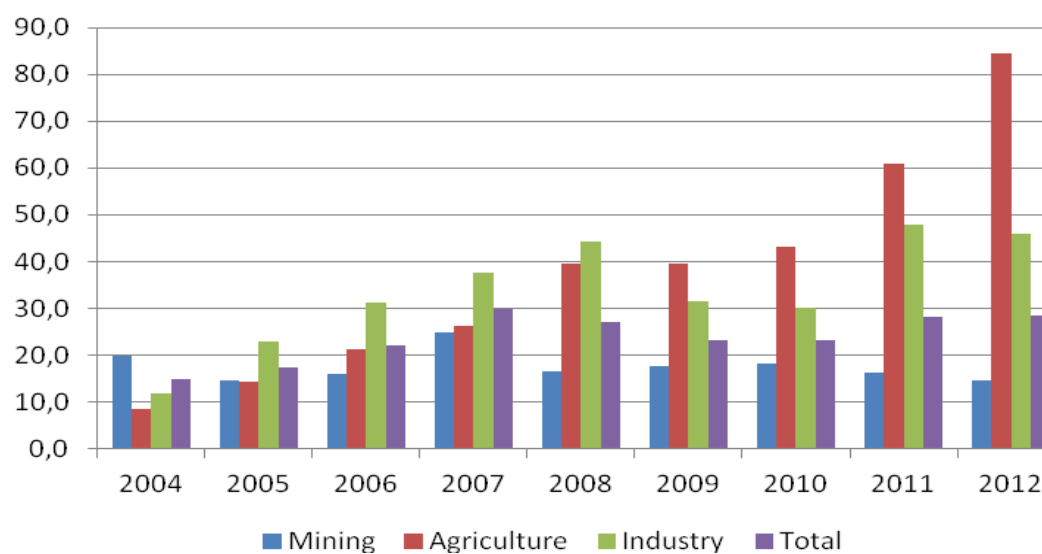

Source: Central Bank of Chile

Figure 2: Chile's export price index (USD)

IVUX index: 2003=100
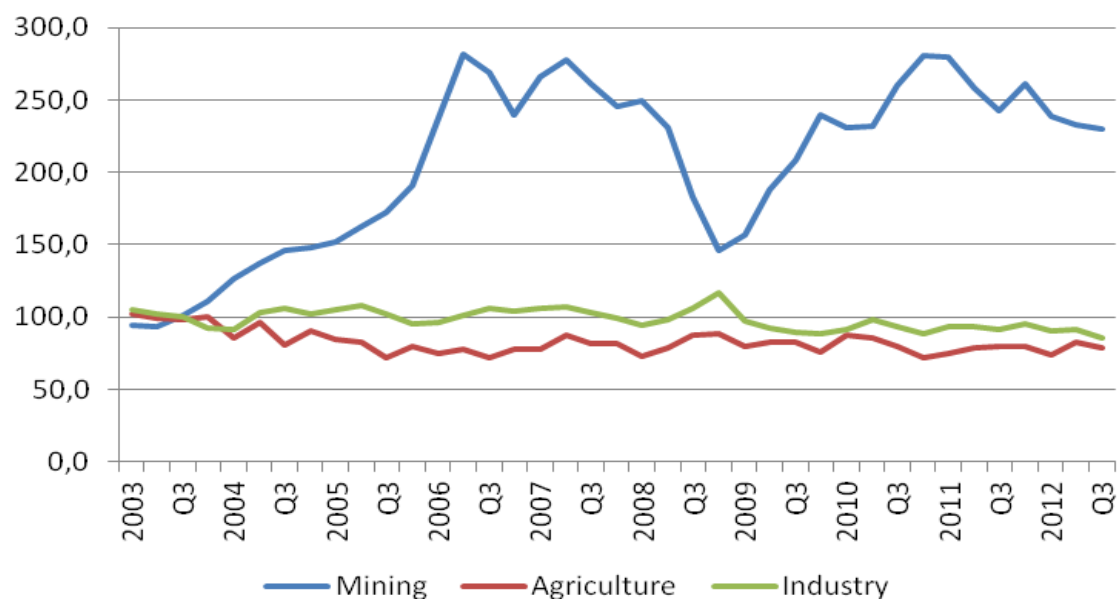

Source: Central Bank of Chile

Figure 3: Cumulative growth of real exports, 2003-2012 (%)

Source: Central Bank of Chile

Figure 4: Sectoral Real Exchange Rates
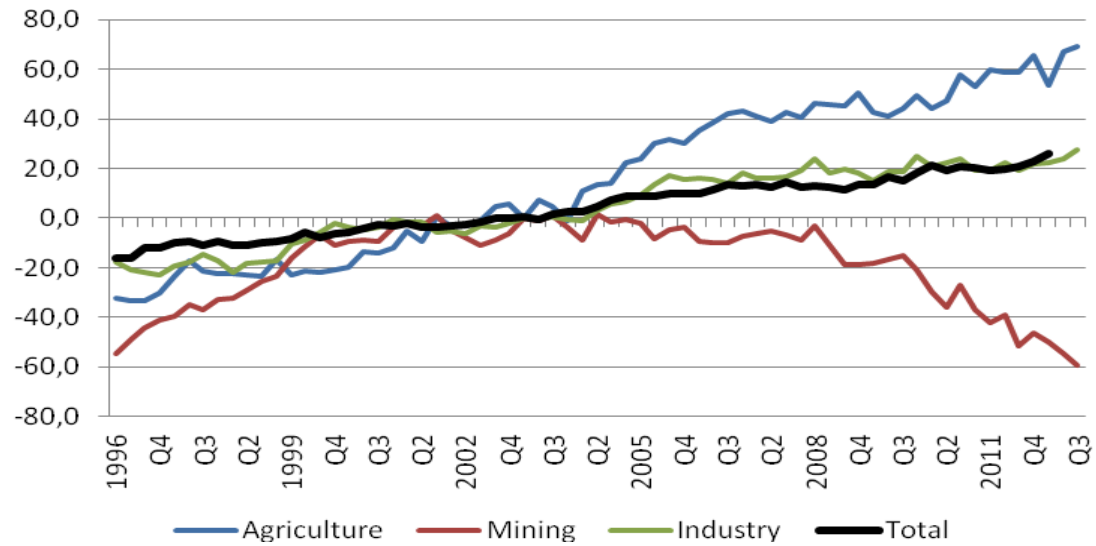
Index 2003=100

Source: Central Bank of Chile

Figure 5: Average labor productivity growth in agriculture, mining and manufacturing: 1996 - 2012q3
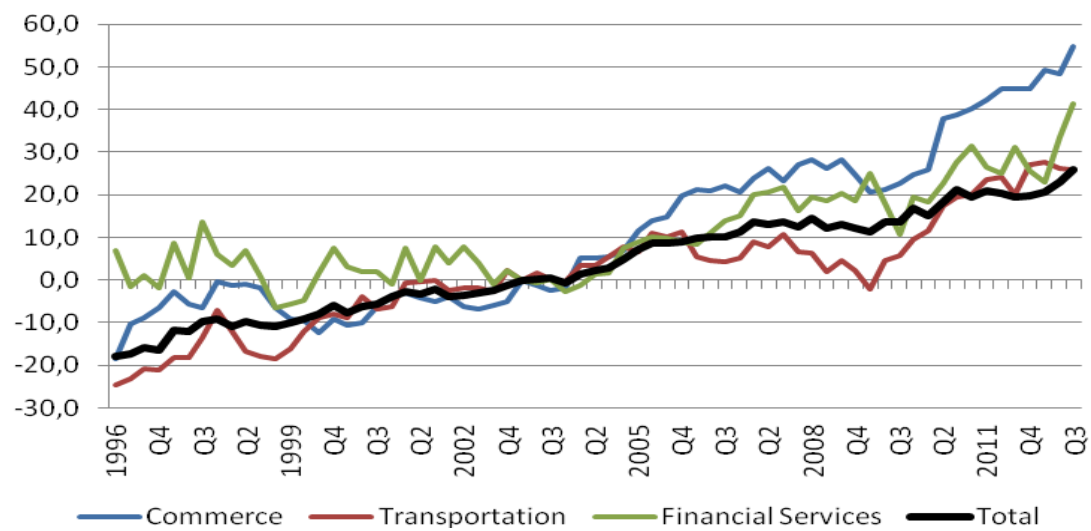
Percentage change relative to 2003

Source: Central Bank of Chile

Figure 6: Average labor productivity growth in services: 1996-2012q3

Percentage change relative to 2003

Source: Central Bank of Chile

Table 1: BIS Effective Exchange Rate

Real (CPI-based), Broad Indices, Monthly Averages

	Australia	Brazil	Canada	Chile	New Zealand	Peru
1994	85,0	120,0	90,9	99,3	81,8	108,2
1995	83,0	131,5	88,7	105,6	87,2	108,1
1996	90,8	138,7	89,1	108,1	93,1	110,3
1997	90,0	142,5	88,8	115,7	94,7	111,3
1998	82,5	139,9	84,3	114,9	84,0	111,4
1999	82,9	92,7	83,4	108,6	79,7	99,8
2000	79,0	100,1	84,1	107,3	71,8	100,4
2001	76,0	84,6	81,9	97,0	70,8	104,1
2002	80,3	79,7	81,2	94,4	77,7	105,9
2003	90,2	77,5	89,8	88,8	88,6	103,0
2004	97,2	81,0	94,3	94,5	94,9	101,5
2005	100,0	100,0	100,0	100,0	100,0	100,0
2006	99,4	111,8	105,5	104,1	92,7	97,9
2007	105,6	120,8	109,0	102,0	99,5	96,3
2008	102,8	126,6	106,0	102,9	92,2	99,9
2009	99,5	126,4	101,0	98,4	85,9	102,5
2010	113,7	144,3	110,3	104,3	93,3	105,8
2011	121,6	151,0	112,0	105,2	96,9	103,9
2012	123,6	136,5	111,2	107,6	99,4	112,0
Last	125,0	133,9	110,8	109,6	101,7	115,0

Source: BIS