EMPIRICAL ANALYSIS OF CURRENT ACCOUNT ADJUSTMENTS AT FIXED EXCHANGE RATES

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Current account imbalances of euro area member countries widened during the period 2000-08 and remain at a very high level today, despite some improvements after 2008. High current account deficits usually reflect an overvalued real effective exchange rate which undermines competitiveness. For countries with floating exchange rates, competitiveness can be improved through a depreciation of the nominal exchange rate. Countries with pegged exchange rate can decide to devaluate their currencies. On the contrary, for countries belonging to monetary unions or countries with pegged currency that do not want to devaluate their currency, the adjustment process has to rely mostly on an internal devaluation (depreciation of domestic prices). In this paper, we devise a methodology to identify current account adjustment episodes for countries under fixed exchange rates. We apply our methodology to a large set of 191 economies between 1980 and 2010, which enables us to identify 38 current account adjustment episodes during this period. We then classify these episodes into three categories labeled "forced adjustment", "autonomous adjustment" and "supported adjustment" depending on the relative role of external factors (market pressure, external demand, evolution of the terms of trade) and the type of domestic policies implemented to foster current account adjustment (policy mix and structural adjustments). Our work offers some conclusions for the current Euro area crisis. Regarding structural reforms in peripheral Europe, product market regulation seems to be in line with the OECD average (except for Greece), whereas employment regulation is more protective in these countries. In our sample, successful current account adjustments, driven by gains in competitiveness through wage moderation policies, are typically of long duration. These results call for international coordination to lengthen the period for adjustment in peripheral Europe in order to allow structural reforms to gradually bear fruit and to result in a more progressive rebalancing. Such cooperation would reduce the need for short-term policy actions, in response to financial stress, and the pertaining social costs.

1 Introduction

During 2000-08, current account imbalances in the euro area largely widened, notably due to the increasing gaps in competitiveness among member states. After 2008, current account imbalances began to decrease as demand shrank in countries running current account deficits but no reversals has occurred yet. Current account imbalances usually spring from misalignments in real effective exchange rates[1] and rebalancing may be driven by a depreciation of the nominal exchange rate, a reduction in domestic prices with respect to competitors', or a change in the trade structure. For countries under floating exchange rate regimes, rebalancing may occur spontaneously through a depreciation of nominal exchange rates, under the effects of market forces. Countries with pegged currencies may also adjust by depreciating their nominal exchange rates *vis-à-vis* the anchor. However, as shown in Bénassy-Quéré (1995), depreciation may erase the

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[1] The real effective exchange rate of country x is: $REER_x = \Pi_i [N_{x/i} \frac{P_x}{P_i}]^{\omega_i}$.

N_{xi} denotes the nominal bilateral exchange rate between country *i* and country *x*.

P_x denotes the consumer price index of country *x*.

ω_i denotes the trade structure of country *i*.

benefits of the peg in terms of credibility for the monetary authorities and low inflation for the private sector. Countries belonging to monetary unions can theoretically not depreciate the nominal exchange rate (assuming that monetary policy is fully determined by the supranational institutions)[2] – unless they decide to leave the union and to assume the pertaining costs. In order to gain competitiveness, countries which decide to avoid nominal depreciation have no choice but to reduce their price level with respect to competitors' or to change their trade structures so as to increase trade linkages with countries *vis-à-vis* which they are more competitive.

The impact of exchange rate variations on current account reversals has been widely studied. From a theoretical point of view, many authors (Obstfeld and Rogoff, 2000 and 2004; O'Neill and Hatzious, 2002 and 2004) find that depreciations of the real exchange rates facilitate the adjustment and mitigate the impact of the adjustment on growth. Several empirical studies confirm these theoretical findings for samples that contain industrialized countries (Freund and Warnock, 2005), Debelle and Galati, 2005), emerging economies (Milesi-Ferretti and Razin, 2000), and both (Edwards, 2002 and 2005b; Guidotti, Sturzenegger and Villar, 2004). In particular, building on a large sample ranging from 1974 to 2002, Guidotti, Sturzenegger and Villar (2004) find that recovery is more quickly with floating exchange rates. Edwards (2004) observes that countries with rigid exchange rates are less able to accommodate the shocks linked to current account reversals and Debelle and Galati (2005) find that current account reversals were typically associated with large exchange rate depreciations over the past 30 years. Conversely, under fixed exchange rate regimes, current account reversals in deficit countries are considered as a long and difficult process. In this vein, Lane and Milesi-Ferretti (2011) find that the largest external adjustments in deficit countries, in the aftermath of the crisis, were primarily driven by demand contraction, with a negative impact on growth and employment. To illustrate the difficulty of the process, Piton and Barra (2012) suggest that the implementation of internal devaluations in Latvia and Ireland, in the aftermath of the 2008 crisis, despite their high social costs, had only limited effects on competitiveness, because the reduction in public sector wages did not lead to substantial decreases in private sector wages and consumer prices (customer prices fell by 2.1 per cent in Ireland and surged by 6 per cent in Latvia during 2008-11). Compared to Ireland and Latvia, Darvas (2011) finds that Iceland, which allowed a great depreciation of its currency, exited to the crisis with a smallest fall in employment despite the greatest shock on the financial system.

While many of these studies underscore the role of exchange rate depreciation to facilitate the current account adjustment process, few empirical surveys, to our knowledge, review the past episodes of current account adjustment in fixed exchange rate regimes (pegged currencies and monetary unions) and document their practical feasibility. Building on the principles used to define current account adjustments, we devise a method to identify current account adjustment episodes, for countries with pegged currencies and members of monetary unions, and identify 38 cases for current account adjustments of more than 5 points GDP during 1980-2010.

Following the assessment of Milesi-Ferretti and Razin (1997), who observed that the probability of current account reversals depends on both external and domestic factors, we suggest a classification for current account adjustment cases, based on the relative role of external factors (market pressure, external demand, evolution of the terms of trade) and the type of domestic policies implemented to foster current account adjustment (short term and long term policies). Basically, we identified three types of adjustments, which we labeled "forced adjustment" – largely driven by financial stress and market pressures, "autonomous adjustment" – which were mostly based on structural reforms and gains in competitiveness in the long term, and "supported adjustment" in which external factors, transfers and commodity exports played a large part.

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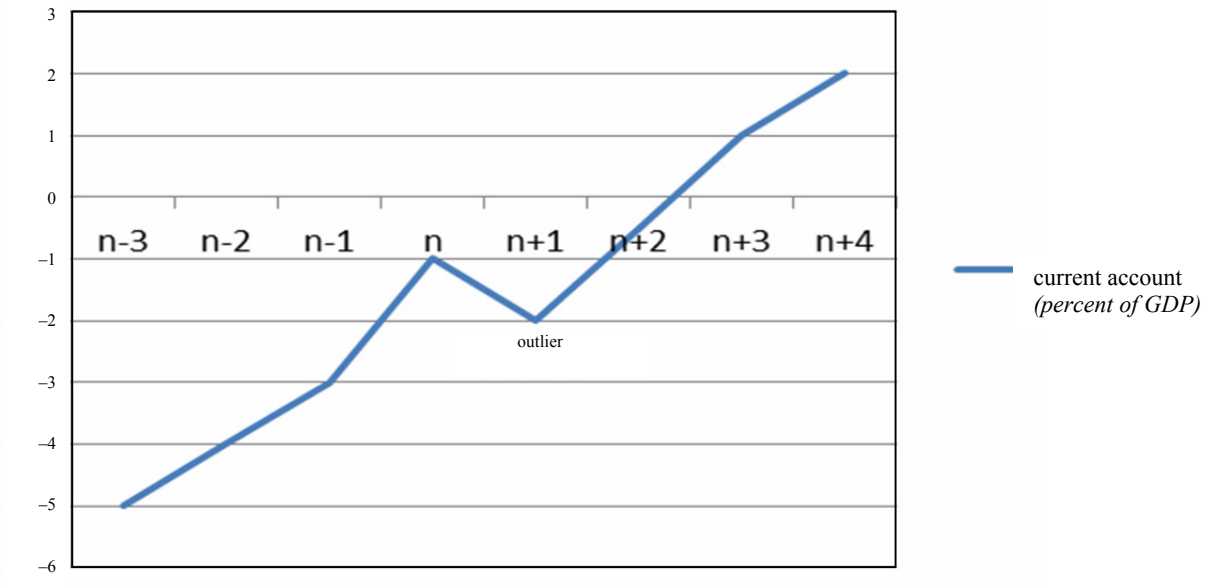
[2] However, financial turmoil in one country in a monetary area may have an impact on the whole monetary area – for example, the fiscal situation in Ivory Coast had an impact on the exchange rate policy of the WAEMU in 1993.

Figure 1

An Example of Outlier in Year *n*+1
Current Account
(percent of GDP)



Concerning the definition of outliers, we required two conditions in order to ensure that the outliers do not change the trend for current account adjustment.
- *CA(n+1) > CA(n–1)*, where *CA(n)* is the "current account"/"growth domestic product" ratio in year *n*.
- *CA(n+2)>CA(n)*.
These conditions require that, for adjustments that last more than six years, outliers cannot be consecutive.

Our work offers some conclusions for the current Euro-area crisis regarding the reforms that should be undertaken in peripheral Europe to gain competitiveness and what results seems reasonable to expect in terms of duration and social costs.

2 Methodology

2.1 Identification of "current account adjustments"

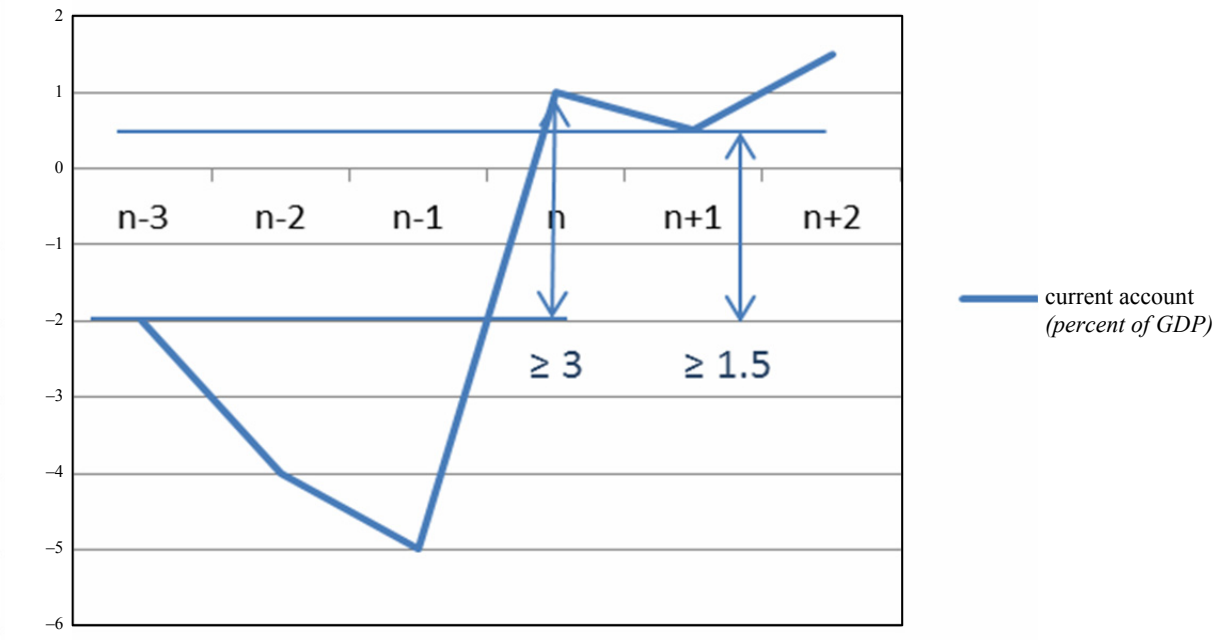
We define a current account adjustment as an increase in the current account balance of at least 5 points of GDP, to ensure that only the most significant ones are included in the sample. We do not require the current account to change sign (from deficit to surplus) during the event (therefore, the episodes are called "adjustment" and not "reversal"). One reason for this is that we try to find out the drivers of sizable increases in current accounts and the policy actions that induced them, even if current accounts remained in deficit or surplus.

In order to capture the diversity of the process, we introduce two definitions of current account adjustments in order to take into account the ones that are "gradual" (small improvements in the current account balance year after year) and the ones that are "ample" and not necessarily long.

Specifically, "Gradual adjustments" are continuous improvements in the current account balance for a period of at least four years. In order not to exclude cases for which there was a clear

Figure 2

An Example of "Ample Current Account Adjustment"
Current Account
(percent of GDP)



The period of the adjustment was the period in which the current account continuously improved including the adjustment year [n–1, n] and the size of the adjustment was the difference between CA(n) and CA(n–1), hence is equal to 6. The duration was 1 year.

trend for current account adjustment but whose process was temporarily thwarted (notably due to external factors), we also include in the sample episodes for which the current account balance deteriorated once during the process – an event which we call *outlier* (Figure 1) – if the adjustment lasted five years or more. We also include current account adjustment episodes that contain two outliers if the duration of the process was six years or more.

We define the *period* of the gradual adjustment as the years in which the current account/GDP ratio increased (including outliers if any).

"Ample adjustments" (Figure 2) are adjustment for which *(i)* the current account improved for at least 3 per cent of GDP in one year (n) and is greater in year (n) than in all of the three previous years (n–1, n–2, n–3) by more than 3 per cent GDP. In order to ensure that the process was durable, we also require that *(ii)* the current account balances are at least 1.5 per cent of GDP higher during the two next years (n+1, n+2) compared to the current account values in years n–1, n–2 and n–3. Since we worked with data between 1980 and 2010, we only include in the sample adjustments that happened in 1984 and after, in order to satisfy condition *(i)*. Condition *(ii)* was abandoned for countries which adjusted in 2008 and after in order to include in the sample adjustments that started after the recent crisis but which are not finished yet.

We define the *period* of the ample adjustment as the years around the year of adjustment (n) during which the current account continuously improved.

For gradual as well as ample adjustments, we define the *size* of the adjustment as the difference between the current account/GDP ratio at the end of the adjustment period and the

current account/GDP ratio at the beginning the adjustment period. The *duration* of the adjustment is the number of years of the period.

These choices are in line with the identification methodologies used in other studies, in particular regarding the minimal size of adjustments (5 per cent GDP). For example Edwards (2004) defined two types of adjustment: a shorter one (4 per cent GDP in one year) and a longer one (6 per cent GDP in three-years) and Edwards (2005a) requires that all adjustments should exceed 5 per cent GDP in three years and distinguishes adjustments that are more front-loaded (at least 4 per cent GDP of deficit reduction in one year) from those that are more evenly distributed in time (at least 2 per cent GDP of deficit reduction in one year). Milesi-Ferretti and Razin (1998) considered an average reduction of 3 per cent GDP and 5 per cent GDP, while Freund (2000) selected current account adjustments with a minimal size of only 2 per cent GDP – both studies used stronger conditions for large current account deficits. Similarly to the present paper, Milesi-Ferretti and Razin (1998) and Freund (2000) required current account improvements to be sustained, *i.e.*, not be immediately followed by a large deterioration. Moreover, in order not to select episodes in which the degradation of current accounts was due to temporary factors, the improvements in current accounts were computed with respect to the average current account value during the three years preceding the adjustment. However, contrary to the present study, only episodes for which there were current account deficits, in the first year, were taken into account.

2.2 Fixed exchange rate regimes

The identification of exchange rates regime is based on Reinhart and Rogoff classification (see Appendix 1). We consider fixed exchange rate regimes as the ones for which there is no separate legal tenders, a pre announced peg or a currency board arrangement, a pre announced horizontal band that is narrower than or equal to +/–2 per cent or a *de facto* peg. These exchange regimes are classified 1 in the coarse grid, and from 1 to 4 in the fine grid (Appendix 1).

For all current account adjustments, only countries whose exchange rate regimes remained fixed during the adjustment are taken into account. Countries which changed exchange rate regimes during the adjustment, those which depreciated their exchange rates during the adjustment or during the two years preceding the adjustment period are excluded from the sample.

2.3 Data

a) Data used for the identification of current account adjustments

Current account values are taken from the WEO. The data regarding fixed exchange rate regimes are those published by Ilzetski on the LSE website.[3] These data consist of 104 countries which have been classified for at least two consecutive years as fixed currencies.[4] This figure takes into account the removal of small countries, which are generally small open economies, sensitive to external factors, from the sample.[5] Other countries for which the statistical system has been

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[3] http://personal.lse.ac.uk/ilzetzki/IRRBack.htm

[4] Certain countries have not been classified during the 1980-2010 period. Other countries have never had fixed exchange rate regimes during the period. Countries are kept in the sample only if they had fixed exchange rate regimes for two consecutive years. Certain countries in the sample have not been classified for the whole period.

[5] The limit was arbitrarily set to 300,000 inhabitants in 2010, which excluded Anguilla, Antigua, Barbados, Dominica, Grenada, Kiribati, Liechtenstein, Marshall Islands, Micronesia, Monaco, Palau, San Marino, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines.

questionable during the adjustment period have also been excluded from the sample.[6] Oman, whose exchange rate regime has not been classified between 1998 and 2000 by Ilzetzki, is added to the sample – the rial was pegged to the US dollar during this period. Latvia, which maintained a peg with the euro between 2006 and 2009, and Lithuania, which maintained a *peg* with the euro between 2007 and 2009, are also included in the sample.[7]

Within the 104 countries, 43 current account adjustment episodes have been identified, out of which 5 episodes have been excluded because there was a nominal depreciation of the currency shortly before or during the adjustment period.[8]

b) Qualitative sources and data used for the classification of current account adjustment

The classification was built on an analysis of the Article IV published by the IMF, when available. This source of information was complemented by a set of documents, notably concerning the African countries of the sample.[9] We also took into account the evolution of the economic environment during the process (world growth, WEO database) and some domestic parameters (domestic growth, unemployment rate, WEO database). Thereafter, some relevant information about countries may not have been included, notably when the current account adjustment process is not documented well in the literature or when the information has not been taken into account in the IMF Article IV.

In order to assess gains of competitiveness during the adjustment, for some industrialized countries, we used product market regulation, employment protection legislation, unit labor costs and labor productivity indicators published by the OECD. The evolution of public debt and structural balance during the adjustment are computed from the WEO database.

3 Identification of current account adjustments

Thirty-eight current account adjustments of more than five points of GDP have been identified in thirty-two countries between 1980 and 2010 (Appendix 2). Saudi Arabia, Bahrain, Ivory Coast, Gabon, Lithuania and Swaziland all conducted two current account adjustments. This sample of thirty-eight current account adjustment episodes displays a great variety in terms of anchors, geographical areas, levels of development, adjustment features/policies and also in terms of international environments.

The sample contains countries from every continent, except Oceania. Africa, Europe and the Middle-East are the areas which contain the most cases of current account adjustments.

The sample contains cases of current account adjustments for both countries whose currencies are pegged to an anchor and countries which are members of monetary unions (Figure 3), the size of each group being relatively close, as shown in Figure 3.[10]

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[6] These countries are Bhutan and Bosnia. The observed current account adjustment in Bosnia in 2005-06 could spring from improvements in the domestic statistical system and, notably, improvements in export accounting (IMF, article IV).

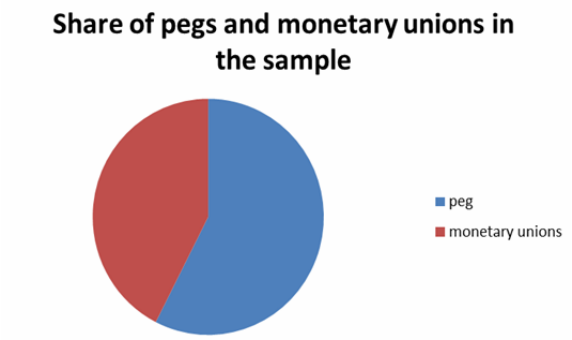
[7] These countries seem to have been misclassified during both periods of time.

[8] These episodes were Belgium 1981-86, Guinea Bissau 1998-2000, Iran 2004-07, Morocco 2000-01, and Solomon Islands 2000-04.

[9] *L'Economie ivoirienne, la fin du mirage* (Document de travail DIAL), *Les défis de la Centrafrique¸ Crise économique et ajustement structurel (1982-88) (Politiques africaines)*, *The Middle East and North Africa 2004 (Regional Surveys of the World).*

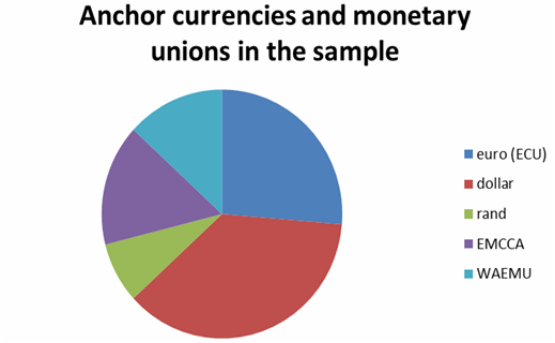
[10] Belgium and Austria are included in both groups because the currencies were pegged to the ECU at the beginning of the adjustment and the euro was legal tender in both countries at the end of the adjustment.

Figure 3



The sample contains approximately the same share of pegs and monetary unions.

Figure 4



The sample is balanced between the euro, the dollar and the CFA Franc (WAEMU and EMCCA).

- The sample contains examples of adjustments of countries using three different *pegs*: the euro (or ECU before 1999), the dollar and the South African rand.[11]
- The sample contains countries from three monetary areas: the euro area, the West African Economic and Monetary Union (WAEMU), the Economic and Monetary Community of Central Africa (EMCCA).

The share of each currency within the sample is displayed in Figure 4.[12] The CFA franc (WAEMU and EMCCA) have been pegged to the French franc until 1999, then to the euro. Lithuania was the only country which undertook two adjustments under two different pegs: the dollar during 1998-2001 and the euro during 2007-09.

Out of thirty-two countries, seven are advanced economies[13] (Germany, Austria, Belgium, Spain, Ireland, Hong Kong and the Netherlands). Nine countries are eligible to the Poverty Reduction and Growth Trust (PRGT)[14] (Burkina Faso, Central African Republic, Republic of Congo, Ivory Coast, Djibouti, Lesotho, Mali, Niger and Chad). Sixteen countries belong to the intermediary group (Saudi Arabia, Bahrain, Belize, Bulgaria, Equatorial Guinea, Estonia, Gabon, Jordan, Kuwait, Latvia, Lebanon, Lithuania, Malaysia, Oman, Qatar and Swaziland).The sample displays a great diversity in terms of size of adjustment (Figure 5, Table 1): the smallest adjustment was conducted in Spain (5.4 per cent of GDP in three years, still ongoing in 2010). The second smallest current account adjustment in Austria amounted to 5.5 per cent of GDP in seven years. The largest adjustment happened in Chad (108.4 per cent of GDP in 5 years). The average size was 20.9 per cent of GDP and the median value was 16.4 per cent of GDP in Bahrain during 2002-07 (if we exclude the current adjustments that were still ongoing in 2010, the average size reaches 22.1 per cent of GDP). The size of the adjustment was below 15 per cent GDP in 18 episodes and above 20 per cent GDP in 14 episodes (respectively 15 and 13 episodes if we exclude the adjustments that were still ongoing in 2010).

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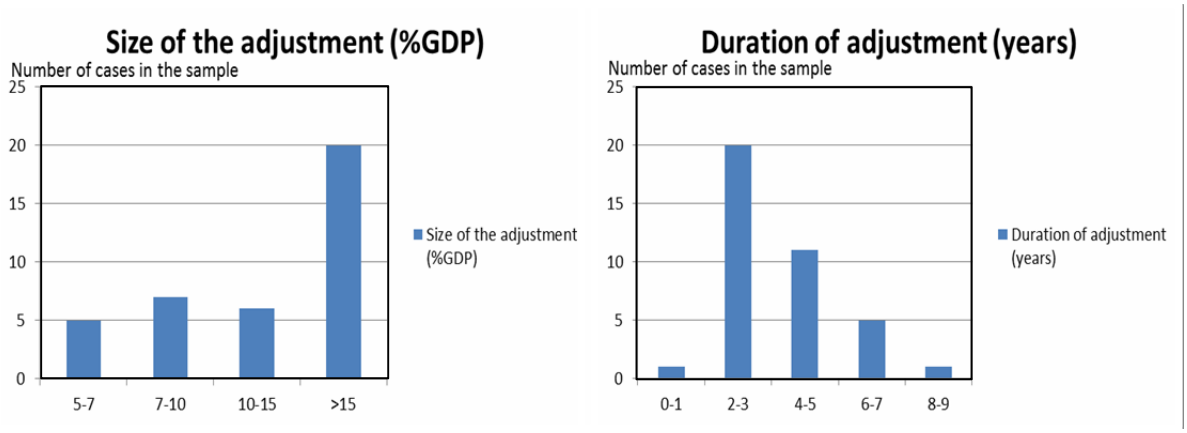
[11] While the South African rand is also legal tender in Lesotho and Swaziland, both countries issue their own currencies, which are pegged to the South African rand. Therefore, Lesotho and Swaziland are considered as countries issuing pegged currencies. They are members of the Multilateral Monetary Area (which replaced the Common Monetary Area in 1992) together with South Africa.

[12] Kuwait has been included in the group of dollar-pegged currencies, although the peg evolved to a basket of currencies during the adjustment.

[13] Under the classification published by the IMF in the WEO, September 2011, available at: http://www.imf.org/external/pubs/ft/wp/2011/wp1131.pdf

[14] The PRGT is a concessional assistance from the IMF.

Figure 5 **Figure 6**



Number of current account adjustment episodes in the sample in terms of size (Figure 5) and duration (Figure 6) of the adjustment. For example, in 5 cases, the size of the adjustment was between 5 and 7 per cent GDP. In 20 cases, the current account adjustment lasted between 2 and 3 years.

Table 1

Size and Duration of Current Account Adjustments Within the Sample

	Average Value	Min. Value	Max. Value	Median Value
Size *(percent of GDP)*	20.9	5.4	108.4	16.4
Duration *(years)*	3.6	1	9	3

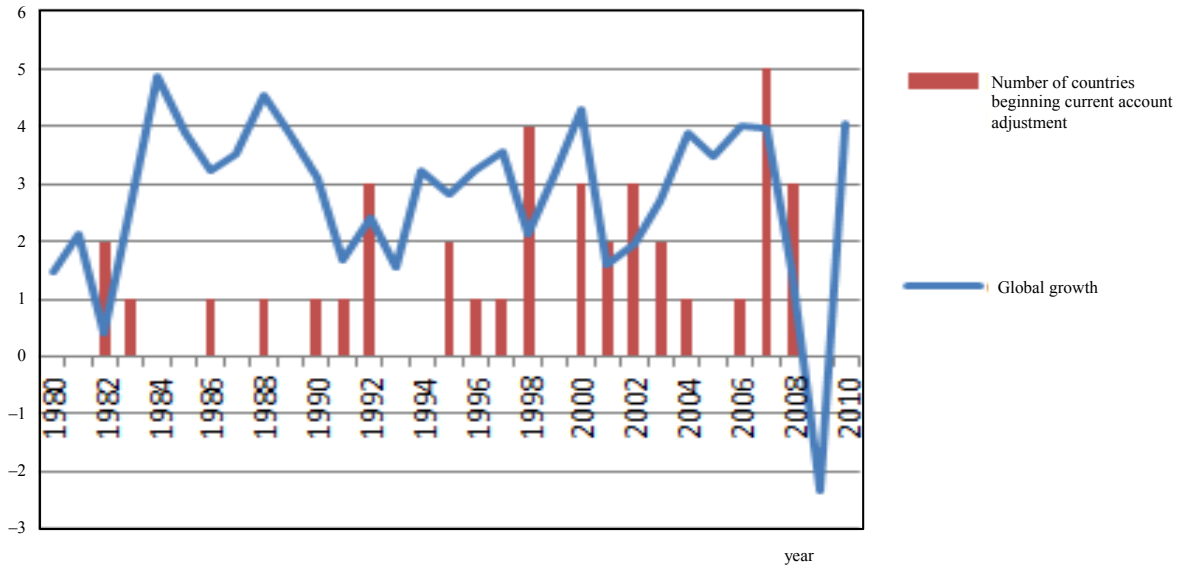
The duration of adjustment varied widely within the sample (Figure 6, Table 1): the minimal duration was 1 year (for Mali between 1986 and 1987). The maximal duration was nine years for Belgium between 1990 and 1999. The average duration was 3.6 years. The median duration was years. Thirteen adjustments lasted more than five years and sixteen adjustments lasted less than two years (thirteen if we exclude the current adjustments that were still ongoing in 2010 – in this case, the average duration was 3.8 years).

There was also diversity regarding the period of the adjustment. Figure 7 displays the annual global growth and the number of countries that undertook an adjustment process on a given year between 1980 and 2010. It seems that many countries began their adjustments when growth was about to fall or in periods where growth is relatively low: eight countries started their adjustment in 2009-10. 10 countries began their adjustment process in 2000-02. Four countries started to adjust in 1998. Three countries began to adjust in 1992. A lower global growth may be an indication of lower external demand, lower terms of trade for commodity producers and financial stress (eventually leading to flight-to-quality), which may foster current account adjustment. Conversely, a rebound in global growth in the following years is likely to facilitate the current account adjustment process.

Appendix 2 describes the thirty-eight cases for current account adjustment by alphabetical orders. Columns 2, 3 and 4 respectively describe the size, period and duration of the adjustment process computed following the methodology described in part II. Column 5 represents the anchor currency or the currency of the monetary union. Columns 6 and 7 in Appendix 2 describe features

Figure 7

Current Account Adjustment and Global Growth
(number of cases in the sample)



Number of countries beginning their current account adjustment process per year between 1980 and 2010.

from the economic environment and internal factors, which facilitated the adjustment or, conversely, which had an adverse effect on the adjustment process.

Thereafter, a case of current adjustment is referred to with the name of the country. Countries for which there was more than one case of current account adjustment are referred to with the name of the country followed by the period of adjustment. For example, the case for current adjustment in Saudi Arabia between 1991 and 1996 is denoted "Saudi Arabia 91-96".

4 A typology of current account adjustments – "forced, supported and autonomous current account adjustment"

The lack of numerical data for a large number of countries in the sample, the variety of factors which contributed to the adjustment and which may not be fully reflected in statistics (such as international pressures, structural reforms…), the difficulty to distinguish between the effects of domestic policies and the economic environment, when appropriate benchmarks are not readily available, make it arduous to express statistical relations between domestic policies and the current account adjustment process. Also, the quantitative effects of individual measures on growth and unemployment may be difficult to induce from the sample because of the differences of current account adjustment plans among the sample. Therefore, we made a more qualitative classification based on the drivers identified. Using the set of data (Section 2.2 b), we reviewed, for every episode, the factors that contributed to the adjustment and distinguished between external factors (external demand, global growth, real effective exchange rate, terms of trade, financial stress) and internal factors (fiscal consolidation, restrictive monetary policy, protectionism, structural reforms), which had a positive or negative impact on the adjustment process (Appendix 2, columns 6 and 7).

4.1 *Identification of three typical cases of current account adjustment – "forced, supported and autonomous current account adjustment"*

We classified the sample into three groups, which correspond to three typical cases. Situations in which the adjustment was largely due to external factors or internal factors that carried little policy actions by the government were classified as "supported adjustment". The remaining cases were classified into two groups: "forced adjustments" and "autonomous adjustments" depending on the financial constraints, during the adjustment process. Specifically:

- "*Supported adjustments*" are current account adjustments that were mainly due to external factors, such as transfers, improvements in the terms of trade or nominal depreciation of the anchor,[15] and internal factors that required little policy actions by the government, such as the exploitation of natural resources, better meteorological conditions in agricultural countries or recovery from political turmoil. We decided to classify as "supported adjustments" countries that benefitted substantially from external factors, even if there were some financial constraints or a political willingness to conduct a fiscal consolidation process. The "supported adjustment" group thus contains countries that conducted current account adjustment in times of crises, such as Burkina Faso, Central African Republic, Chad, Djibouti, Equatorial Guinea, Jordan, Lesotho, Mali, Niger, Republic of Congo, Swaziland and countries whose current account adjustment occurred outside crises such as Bahrain, Gabon, Kuwait, Malaysia, Oman, Qatar, Saudi Arabia. The "supported adjustment" group thus contains countries for which the adjustment process carried a high social cost (for example, GDP decreased by 20 per cent in Niger during the adjustment) and countries for which the adjustment provided social benefits due to exports of raw materials (for example, in Equatorial Guinea, GDP increased by 106 per cent during the adjustment).
- "*Forced adjustments*" are current account adjustments which were mainly driven by markets pressures and financial stress that forced countries to conduct policies facilitating the current account adjustment. For example, when interest rates were market-based, countries had to implement fiscal consolidation measures in response to higher interest rates. In countries whose currencies were pegged to an anchor, capital outflows and sudden stops of capital inflows often required the monetary authority to increase interest rates in order to maintain the peg and restrictive monetary policy often led to a contraction of domestic demand. From a theoretical point of view, the notion of "forced adjustment" does not mean that current account adjustment was the only response to market pressures. Countries can indeed default in response to higher interest rates and implement capital controls or exchange controls in order to maintain the peg. However, both options have side effects in terms of credibility that countries may prefer to avoid.
- "*Autonomous adjustments*" are current account adjustments which were the results of policy actions from the government, with little market pressures and little or no contribution from transfers and commodity exports. In most cases, the adjustment came from structural reforms (pension reforms, reform of the welfare system…), and also fiscal consolidation, persistently restrictive monetary policy to limit inflation, and fiscal devaluation. Productivity gains and price moderation, which were notably due to wage moderation, increases in competition, liberalization and deregulation, also facilitated current account adjustments.

Table 2 shows the classified current account adjustments of the sample.

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[15] The nominal depreciation of the anchor is here considered as an external factor although turmoil in a single country can induce the depreciation of the currency of the union, such as the devaluation of the CFA franc *vis-à-vis* the French franc, which was largely due to the turmoil Ivory Coast faced in 1993.

Table 2

Classification of the Current Account Adjustments Identified During 1980-2010 and Evolution of Major Macroeconomic Parameters During the Adjustment[16]

Type of Adjustment	Forced Adjustments	Autonomous Adjustments	Supported Adjustments	Total Sample
List of countries	Bulgaria, Estonia, Hong Kong, Ireland, Latvia, Lebanon, Lithuania 98-01, Lithuania 07-09, Spain	Austria, Germany, Belgium, Netherlands	Belize, Bahrain 02-07, Bahrain 92-96, Burkina Faso, Central Republic, Chad, Djibouti, Equatorial Guinea, Gabon 88-90, Gabon 92-96, Ivory Coast 92-94, Ivory Coast 00-02, Jordan, Kowait, Lesotho, Malaysia, Mali, Niger, Oman, Qatar, Republic of Congo, Saudi Arabia 91-96, Saudi Arabia 01-05, Swaziland 82-88, Swaziland, 98-03	
Average size *(percent of GDP)*	15.6	7.2	25.1	20.9
Average duration *(years)*	2.4	7.3	3.5	3.6
Evolution of unemployment rate	7.9	2.3	–0.1	4.0
Increase in GDP *(percent)*	–5.0	15.8	24.9	15.9
Average speed of the adjustment *(percent of GDP/year)*: size/duration	6.4	1.0	7.2	5.8
Increase in GDP *(percent)*/Average duration of adjustment ratio	–2.1	2.2	7.2	4.4

The three typical cases listed above do not provide an exclusive grid, in which every country would perfectly match with one and only one typical case. Indeed, the adjustment processes in several countries may display features from more than one typical type.[17] For example, many episodes (such as Niger and Mali) display features from the "forced adjustment group" such as tight financing constraints at the beginning of the adjustment and also features from the "supported adjustment groups" such as transfers, a nominal depreciation of the anchor, or improvements in the terms of trade. Also, better crops or exports of raw materials substantially contributed to the current

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[16] The evolution of the unemployment rate was computed only for countries for which data were available in the WEO database, *i.e.* Saudi Arabia 01-05, Jordan, Kuwait, Malaysia, Germany, Austria, Belgium, the Netherlands, Belize, Bulgaria, Spain, Estonia, Hong Kong, Ireland, Latvia, Lithuania 07-09. In particular, the statistic may not be significant for supported adjustments due to the lack of data for most cases. The evolution of the unemployment rate is computed as the difference between the peak in unemployment rate during the adjustment period and the unemployment rate the first year. When unemployment decreases during the adjustment, the evolution of unemployment is computed as the difference between the unemployment rate the last year and the first year of the adjustment.

[17] Specifically, the episodes in which the current account adjustment process matches features from several types are: Belize was classified as a "supported adjustment" because it benefitted largely from external factors (end of the veterinary crisis) whereas the decision to implement fiscal consolidation measures to forestall a current account crisis is a feature of an "autonomous adjustment". Although it received some financial assistance from the European Union, Latvia was classified as a "forced adjustment" because of the strong fiscal consolidation and internal devaluation conducted – the financial assistance from the EUR mostly consisted of loans.

account adjustment and to alleviate financing constraints in some countries, such as Mali and Central African Republic. Several (mostly African) countries undertook fiscal consolidation processes (and developed their open sectors), in a context of fiscal account deterioration or lenders' pressures. These countries were classified as "supported adjustment" when they benefitted from a substantial devaluation of the anchor (Ivory Coast 1992-94, Gabon 1992-96, Lesotho, Swaziland 1982-88, Swaziland 1998-03), better crops (Central African Republic, Mali), transfers or agreement on debt reduction (Ivory Coast 1992-94, Ivory Coast 2000-02, Gabon 1992-96, Jordan, Mali, Niger, Republic of Congo, Chad) and new resources from exports of raw materials. Most countries which benefited from a cessation of internal turmoil (Lesotho, Swaziland 1982-99, Ivory Coast 2000-02, and Republic of Congo) or recoveries from natural disasters (Belize, Burkina Faso, Mali, Niger) were classified as "supported adjustment".

Table 2 indicates that the three types of adjustments on average display a great variability in terms of size, duration, evolution in employment rates and GDP.

Countries that conducted a "supported current account adjustment" managed to improve their current account by 25.1 per cent GDP during the adjustment period. The adjustment was accompanied by increases in GDP by 24.4 per cent on average throughout the adjustment period and diminutions in unemployment (–0.1 point) on average.

Countries that conducted a "forced current account adjustment" managed to adjust by 15.6 per cent GDP on average and the duration was shorter on average than for the total sample average (2.4 years compared to 3.6 years). The adjustment was generally associated with high social costs: a decrease in GDP by 5 per cent on average and an increase in the unemployment rate by 7.9 points. Such result is coherent with Lane and Milesi-Ferretti (2011) who found that external adjustment in deficit countries was achieved mainly through demand compression in the aftermath of the crisis, inducing high social costs.

"Autonomous current account adjustments" were on average longer than the total sample average (7.2 years compared to 3.6 years) and their size was smaller (7.2 per cent of GDP compared to 20.9 per cent GDP). Compared to our study, Freund (2000) finds a shorter typical duration of 3 to 4 years for industrialized countries – one reason for this is that the minimal size of current account adjustments in our sample is larger (at least 5 per cent GDP) than in the definition chosen by Freund (2000) of at least 2 per cent GDP. The increase of the unemployment rate during the adjustment was smaller than for "forced adjustments" and smaller than for the total sample (2.3 points compared to 4.0 points). The increase in GDP was comparable to the total sample average (15.8 per cent compared to 15.9 per cent).

The longer duration for countries conducting an "autonomous current account adjustment" may be an indication that the reforms implemented gradually bore fruit and needed time to take effects on the current account balance. It may also indicate that the reforms undertaken were better accepted by the population and that the government had less market pressure to implement them than in "forced adjustment" cases.

The social cost and characteristics of the adjustment vary widely among the sample, which confirms that the adjustment process depends on a diversity of factors outside exchange rate regimes. In particular, Chinn and Wei (2008) found that the speed of current account adjustment does not depend on the exchange rate fixity. We observed that the speed for current account adjustment could vary widely among the fixed exchange rate groups: low average speed for autonomous adjustment (1.0 per cent GDP/year) and higher average speed for "forced adjustments" (6.4 per cent GDP/year) and "supported adjustments" (7.2 per cent GDP/year). It could be a point of interest to extend Chinn and Wei (2008) study and compare the speed of adjustment in each of the three groups to flexible exchange rate regimes. Actually, it seems that commodity exporters from the "supported adjustment" group benefit less from nominal depreciation, whereas gains in

competitiveness in the "autonomous adjustment" group, notably, could be facilitated by nominal depreciation.

The higher social costs carried by "forced adjustments" than by "autonomous adjustments" should be an incentive for countries to decide to undertake a current account adjustment in advance rather than let current account deficits aggravate and risk being forced to conduct current account adjustments under market pressures. However, few countries belong the "autonomous adjustment" group (4) which may indicate that most countries did not undertake a current account adjustment until they were forced by financial pressures – or benefited from external factors that made the current account adjustment less harmful.

We find that current account reversals did not always carry social costs, notably when countries benefited from a positive contribution of external factors, transfers and commodity exports – which is in line with previous findings, such as Milesi-Ferretti and Razin (1998), that current account adjustments do not always imply slowdowns in activity. Compared to Milesi-Ferretti and Razin (2000) who find that current account adjustments had negligible effects on short-term growth, we observe that, in fixed exchange rate regimes, there were some cases in which the negative impact on short-term growth could be sizeable, notably for countries conducting "forced adjustments". We find that the effect of current account adjustment on growth varied depending on the share of short-term policy actions implemented to foster the adjustment as well as the economic environment. The effects of current account adjustments on growth in emerging economies varied widely within the sample, notably depending on the role of commodity exports in the adjustment.

5 Role of external and internal factors in the current account adjustment process

5.1 Many current account adjustment were induced by external or domestic crises

In many cases, the beginning of the current account adjustment period coincided with the occurrence of a crisis and, as the economic environment improved during the adjustment period, the crisis factors disappeared. The sample contains different examples of crises, at a local, regional or global scale.

Specifically, a number of countries suffered from a deterioration of their credit conditions, which materialized by increases in sovereign rates, capital outflows and sudden stops of capital inflows or speculative attacks on the peg. In the context of the 2008 crisis, market conditions deteriorated for many, mostly European (Bulgaria, Spain, Estonia, Ireland, Latvia, Lithuania), countries. Market pressures induced increases in interest rates which triggered fiscal (and also private) consolidation processes. For many of these countries, local factors added to the financial turmoil, such as bursts of property bubbles in Ireland, Spain, Latvia and Lithuania or speculation against the lat in Latvia. In 2004, Lebanon suffered from capital outflows and speculative attacks on the peg. In 1998, Hong Kong faced speculative attacks on the peg, a deterioration of credit conditions and a loss in competitiveness due to the devaluation of the Yen, in the context of the Asian crisis. The same year, Lithuania suffered from strong capital outflows in the context of the Russian crisis.

Various countries in the sample suffered from natural disasters. In particular, many agricultural countries faced the consequences of bad meteorological conditions or the consequences of veterinary crises, for example Belize had to deal with the impact of a hurricane and a veterinary crisis at the beginning of the adjustment. Mali suffered from poor harvests at the beginning of the adjustment, due to grasshoppers. Niger and the Central African Republic suffered from the

consequences of a persistent drought at the beginning of the 1980s. Burkina Faso suffered from floods in 2008, at the beginning of the adjustment. Malaysia was also affected by SARS in 2001.

Many countries suffered from the consequences of political and military turmoil, which induced a contraction of private demand at the beginning of the adjustment, while public demand was often boosted by weapon purchases. Also, transfers happened to be temporarily stopped for countries facing internal turmoil. Republic of Congo and Ivory Coast suffered from strife, around year 2000. Saudi Arabia and Bahrain had large military spending during the Gulf War. Lebanon was the theater of political tensions after the murder of Rafic Hariri and suffered from a military conflict with Israel during the adjustment. Niger suffered from the conflict concerning the control of the resources of Lake Chad in the mid-1980s, which led a closure of the border with Nigeria in 1984. In Lesotho and Swaziland, there were internal disturbance in a context of political uncertainty.

While a number of countries in the sample suffered crises, more benign factors, such as losses in competitiveness, notably through terms of trade declines or increases in the real effective exchange rates, aggravated the current account deficits before the adjustments, in many countries.

5.2 Contribution of external factors and improvements in the economic environment to the current account adjustment

Most countries benefited from substantial improvements in their economic environment during the current account adjustment which naturally led to boost export value even with little action from economic agents.

a) Several external factors have contributed to the adjustment process

Among external factors, a rebound in external demand after a crisis often led to an increase in the volume of exports. The sample contains several cases of rebounds in exports after global crises, notably in Eastern Europe after the 2008 crisis, but also in Ireland and Spain, in Djibouti (higher demand for shipping), in Burkina Faso and in Jordan. Germany and the Netherlands benefited from an increase in external demand after the 2001 crisis. The sample also contains examples of countries which benefited from a rebound in external demand after a regional crisis (Hong Kong after the Asian crisis, Lithuania after the Russian crisis). There are also examples of local crisis, notably political and military turmoil, natural disasters or sanitary crisis, after which countries benefited from a rebound in external demand – when the effects of the crisis disappeared: Lebanon and Malaysia benefited from a rebound of tourism after the political crisis in Lebanon and after the SARS in Malaysia.

Improvements in the terms of trade substantially contributed to the adjustment in some countries, particularly in exporters of raw materials. Among noticeable examples, Burkina Faso benefited from increases in the price of gold. After, the 2001 crisis, many oil-exporting countries benefited from increases in the price of oil, such as Bahrain, Chad, Kuwait, Malaysia, Saudi Arabia. Agricultural countries such as Ivory Coast, Gabon and Mali benefited from improvements in the terms of trade at the end of the adjustment processes.

Depreciation of the real effective exchange rate due to external factors increased competitiveness in many countries – for example, through the depreciation of the anchor currency. Belize benefited from the depreciation of the US dollar between 2002 and 2006. Austria and Belgium benefited from the depreciation of the Deutsche Mark *vis-à-vis* the dollar at the end of the 1990s. Ivory Coast and Gabon benefited from the depreciation of the CFA franc *vis-à-vis* the French franc in 1993. In many cases, the peg contributed to anchor inflation expectations, for

example in Belgium and Austria in the context of the ECU. Last, changes in the trade structure could also play a role to foster current account adjustment: Austria and Lithuania benefited from high growth in Eastern Europe, Germany benefited from high demand in investment goods in Asia and the Middle East. Jordan benefitted from growth in the Middle East.

Many countries benefited from official transfers during the adjustment. Transfers could take the form of bilateral or multilateral financial supports, agreements on debt reduction in the Paris and London Club. The countries that benefitted from transfers were Belize, Burkina Faso, Chad, Ivory Coast, Gabon, Jordan, Lesotho, Mali, Niger, Niger, Republic of Congo and Swaziland. Many European countries benefited from the use of European structural funds during the crisis – but these funds were not specifically related to the crisis. Apart from subsidies, loans happened to alleviate financial constraints: for example, Latvia benefited from financial support from the European Union. Non official transfers and worker's remittances contributed to the adjustment in Jordan.

b) In some cases however, external factors did not all play a positive part in the adjustment process

In many cases, the adjustment had to be undertaken in a context of weak economic environment, sometimes due to crises. There are also cases in which the economic environment did not improve substantially during the adjustment. Niger, for example, did not benefit from a decisive surge in the demand for uranium or in uranium prices – and crops did not substantially improve. For countries which undertook current account adjustments in the aftermath of the 2008 crisis, external demand rebounded but remained sluggish, and many countries had to adjust in this context. Another example of adjustment in a weak external environment is that of Austria which was hurt by the effects of the 2001 crisis at the end of the adjustment.

The terms of trade had a negative contribution in some countries such as Belize and Djibouti. In many countries, the beginning of the adjustment coincides with a period of declining terms of trade (Ivory Coast, Gabon 92-96) – these countries benefited however from an improvement of the terms of trade during the adjustment.

For some countries the real effective exchange rate appreciated during the current account adjustment. In particular, some countries had to deal with an appreciation of the anchor currency *vis-à-vis* their trade partners. For example, in Germany and the Netherlands, the current account adjustment coincided with an appreciation of the euro *vis-à-vis* the dollar.

Last, transfers contributed negatively to the adjustments in some countries, for example Saudi Arabia.

5.3 Contribution of domestic policies to the current account adjustment

In most countries, external factors facilitated the current account adjustment process. However, even countries, which widely benefitted from an improvement of the economic environment, implemented policies that contributed to the adjustment. These measures can be classified into two groups: short-term policy measures and structural reforms – which were mostly oriented to the longer term even if they also had short-term effects. In most countries, the current account adjustment process was due to a combination of shorter-term and longer-term measures. The share of short-term policy measures and structural reforms notably depends on the time frame of the adjustment because the impact of structural reforms usually takes more time to be observed that short-term policy actions. In particular, countries under financial pressures, which implemented short-term policy actions to reduce the deficit, also implemented structural longer-term reforms.

a) Short term policy measures

In the sample, the short-term policy measures were often implemented in response to financial stress (as in the "forced adjustment" group, in general, and in some countries from the "supported adjustment" group with little access to markets) or by external parameters, such as the abidance by the Maastricht criteria (Austria, Belgium, Lithuania 1998-2001).

Countries with pegged currencies and members of monetary unions facing financial stress often had to implement measures to deal with capital outflows and/or increases in interest rates for public (and private) agents – when the interest rates were determined by market forces. Countries with sustained fiscal deficits and little access to financial markets had often no choice but to implement ambitious fiscal consolidation plans or request financial support from bilateral or multilateral institutions. In addition, some countries with pegged currencies sometimes faced speculative attacks on the peg and chose to react in order to maintain the level of the exchange rate.

Specifically,

(i) Increases in interest rates by monetary institutions to support the peg, as was the case in many Eastern European countries which were pegged to the euro after the 2008 crisis, in Lithuania during the Russia crisis, in Lebanon, in 2004, and in Hong Kong, in 1997, whose currencies were pegged to the dollar. In addition, the countries had to dip into their exchange reserves, eventually requesting financial assistance from abroad. Interestingly, most countries in the sample resisted the temptation to establish controls on capital outflows or exchange controls to limit downward pressure on the peg. Actually, whereas controls may provide countries with short-term gains, implementing such controls may threaten the credibility of countries and discourage investment.

(ii) Fiscal consolidation was conducted in most countries during the current account adjustment and consisted of a combination of tax hikes and spending cuts, whose respective shares vary largely among the sample. Countries under financial stress which conducted a "forced adjustment" notably had to restore fiscal sustainability rapidly. Countries which conducted an "autonomous adjustment" also implemented some short-term consolidation measures (in particular Belgium and Austria to abide by the Maastricht criteria), which complemented structural reforms. Among countries conducting a "supported adjustment" the need for fiscal consolidation varied widely. Some countries needed to implement ambitious consolidation plans in the short term to guarantee the sustainability of public debt, notably in Africa (Ivory Coast, Gabon 1992-96, Mali, Niger, Swaziland) or chose to implement adjustment policies even if they had more time (Belize) and other countries (mainly Gulf countries benefitted from large fiscal revenues from commodity exports). Among the short-term measures that were implemented, many countries increased the VAT rates, excise tax rates or sales tax (Burkina Faso, Djibouti, Spain, Estonia, Latvia, Lithuania 2007-09, Germany, the Netherlands, Ivory Coast 2000-02, Gabon 1992-96, Lesotho, Lebanon, Mali, Niger, Swaziland 1998-2003 among others). Among spending cuts, some countries reduced consumption expenses (Saudi Arabia 1991-96, Bahrain 1992-96, Ivory Coast) and investment expenses (Spain, Ivory Coast). Many countries applied wage moderation measures in the public sector to reduce public payroll through wage freezes, reductions in nominal wages or reduction in the number of civil servants (Germany, Austria, Bulgaria, Spain, Latvia, Ireland, Gabon 1992-96, Kuwait, Mali and Niger). Some countries reduced subsidies, notably to sectors that largely contributed to the current account imbalances, such as the energy sector (Jordan, Malaysia and Kuwait). The sample also contains examples of countries which did little consolidation during the adjustment. In certain cases, fiscal consolidation measures happened to be combined with tax cuts and increases in spending. Even countries undertaking a "forced adjustment process", such as Hong Kong and Lebanon, chose to alleviate the consequences of the financial tensions

through subsidies and fiscal deficit. Many exporters of raw materials increased public investment, notably to improve competitiveness and develop the open sector (see V 3 b).

(iii) Protectionist measures, such as increases in tariffs, were rarely applied among the sample, with the exception of Mali and Niger at the beginning of the 1980s. Both these countries increased taxes on imports. Niger also reduced taxation on cattle exports. Theoretically, increases in tariffs have short-term effects by reducing domestic prices and increasing the prices of imports but they may discourage investment in productivity. Thus, many countries in the sample reduced tariffs in order to increase competition (see V 3 b). Protectionist measures could also take the form of *fiscal devaluations* when increases in the sales tax or in the VAT were accompanied by other tax cuts.[18] Among the sample, Germany increased the VAT rate and decreased payroll tax and the Netherlands accompanied increases in the VAT rate by reductions in the income tax.

In general, short-term policy actions led to contractions in domestic demand on both the public and private sides. Another option for private agents, in countries conducting current account adjustment, was emigration with an uncertain effect on the current account: whereas emigration of low-skilled workers could reduce domestic unemployment and lead to an increase of remittances, emigration of high-skilled workers may have a negative impact on productivity.

b) Structural and longer-term policy actions

Along with short-term measures, many countries implemented policy actions and structural reforms that aimed at increasing competitiveness in the longer-term – whose benefits bore fruit after a longer period of time. Most countries, in all three groups, implemented structural reforms. However, the structural reforms were not necessarily the major drivers of the adjustment, notably for countries that implemented ambitious short-term policy actions or that benefited from substantial improvements of the economic environment.

Specifically, the structural reforms aimed at restoring competitiveness and boost exports:

(i) Prudential measures and persistent increases in interest rates were implemented in many countries in order to limit inflation, so as to avoid declines in price competitiveness or the formations of credit bubbles. For example, Malaysia increased its interest rates throughout the adjustment, Equatorial Guinea implemented a restrictive monetary policy, Oman limited credit (by restricting the volume of personal loans to 30 per cent of total loans), and Kuwait limited the loan/deposit ratio.

(ii) Many fiscal consolidation plans included pension reforms and reforms in social welfare, designed to improve or restore fiscal sustainability in the longer run, with a lower impact on short-term growth than the short-term policy measures (see V 3 a). Many of these reforms contributed to wage moderation notably by stimulating labor supply (cf. wage moderation).

Among the four countries that conducted "autonomous adjustment" processes (Table 3), public debt was substantially reduced in Belgium (–12 points of GDP) – public debt was very high at the beginning of the adjustment (126 points of GDP). Public debt also improved – to a lower extent – in the Netherlands and in Belgium (respectively by –6 points and –2 points of GDP), whereas it moderately deteriorated in Germany (5 points of GDP). The reduction in

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[18] Strictly speaking an increase in the VAT rate does not necessarily correspond to a fiscal devaluation when it is not accompanied by tax cuts – this is why increases in the VAT rate were listed among other fiscal consolidation measures. However, in a scenario that establishes fiscal consolidation targets, an increase in the VAT rate can be considered as a policy actions to increase competitiveness: If the VAT rate had not been increased, Governments would have had to increase other taxes – or reduce public spending – to achieve the same consolidation targets.

Table 3

Evolution of Public Debt During the Current Account Adjustment for Germany, Austria, Belgium and the Netherlands

Country	Public Debt *(percent of GDP)*			Structural Balance *(percent of potential GDP)*		
	Beg. Ajust.	**End Ajust.**	**Variation**	**Beg. Ajust.**	**End Ajust.**	**Variation**
Germany	60	65	5	–1.6	–1.1	0.5
Austria	68	66	–2	–5.6	–1.3	4.3
Belgium	126	114	–12	–8.3	–1.0	7.3
Netherlands	54	47	–6	0.5	0.1	–0.4

public debt in Austria and Belgium was largely driven by the political commitment to abide by the Maastricht criteria.

The adjustment path varied widely among the sample and was largely due to structural reforms accompanied by some short-term policy actions (Table 3). Austria reduced public spending by 8 points of GDP between 1995 and 2002. Belgium increased public incomes by 4 points of GDP. Belgium and Austria made a high structural effort (respectively of 7.3 and 4.3 points of potential GDP) as structural deficit was high at the beginning of the adjustment (respectively of –8.3 and –5.6 points of potential GDP). In both cases, long rates decreased during the adjustment, which indicates that the policies, designed to ensure the sustainability of public debt, were judged credible by markets. The example of Belgium, notably, proves that debt reduction is feasible and can raise market confidence even if the debt level is very high at the beginning of the adjustment – depending on the implementation of adequate reforms, the sufficient duration of the consolidation path (the mean duration in the "autonomous adjustment" group exceeds seven years) and the external environment.

(iii) Increases in labor and capital productivity contributed to gains in competitiveness. Many countries invested in education/training (Belgium, Niger, Malaysia, Burkina Faso and Bulgaria) and in the building of infrastructures (Lithuania 1998-2001, Niger, Gabon 1988-90, Oman, Lithuania 2007-09, Bulgaria and Burkina Faso). Austria launched a program of industrial restructuring in 1990s to increase productivity. The Netherlands launched a platform to support innovation to reallocate investment to fast-growing sectors. Germany increased productivity in the goods and services sectors. Generally speaking, labor productivity increased in most cases in the sample, with some exceptions (for example, Lithuania between 2007 and 2009). Theoretically, increases in productivity can foster current adjustment but only if they are higher than productivity gains for competitors, which notably corroborates Obstfeld and Rogoff (2004) estimate that the US current account adjustment problem would be exacerbated if productivity growth were faster in tradable goods outside the US.

(iv) Reforms of the product market and the business environment led to gains in competitiveness. Many countries increased competition to encourage firms to improve productivity, gain market shares, and exert downward pressures on price levels. Several countries (Austria, Belgium, Lebanon and the Netherlands) strengthened the role of the competition authority during the adjustment process. Many countries decreased tariffs and trade barriers, often in

accordance with regional (Schengen Space, Greater Arab Free Trade Area, South African Customs Unions) or multilateral (World Trade Organization) agreements.

Increases in competition were often accompanied by deregulatory measures (Burkina Faso, Spain, Jordan, Germany, Austria, the Netherlands, Lebanon, Lithuania, Ivory Coast 2000-02, Lesotho, Gabon 1992-96, Mali, Niger, Saudi Arabia 2001-05, Bulgaria, Bahrain, Qatar and Chad), aiming at reducing barriers to entry and limit rent effects. Most countries applied deregulatory policies in the network industries (telecom, energy) and in, some cases, in the financial sector (Malaysia, Lesotho). Deregulation often led to reduce the administrative burden for the private sector (Germany, Austria, the Netherlands, Lebanon, Bulgaria and Lithuania) and to improve the business climate. Along with deregulatory measures, privatization programs were implemented and public monopolies removed by many countries in the sample, with a positive impact on public finances in the short term and a potentially negative impact in the longer run. Privatization programs concerned notably network industries and, in some cases, the financial sector.

The Product Market Regulation (PMR) indicators published by the OECD can be used to evaluate the size of administrative reforms and regulatory reforms undertaken by countries during the adjustment process. These indicators are available for OECD members at only a few dates (1998, 2003 and 2008); hence the study of these indicators is relevant only for countries the adjustment period of which is sufficiently long and close to these dates. We thus limit the field of study to Germany, the Netherlands and Austria and to dates which were close to the adjustment period, namely 1998-2008 for Germany and the Netherlands and 1998-2003 for Austria (Table 4).

Regarding product market regulation, Germany, the Netherlands and Austria (which all belong to the "autonomous adjustment" group) implemented deregulatory policy actions in order to increase their competitiveness with respect to the OECD average. Basically, these measures aimed at increasing competition, in order to exert a negative effect on prices.

The deregulatory measures implemented in Germany, the Netherlands and Austria had various components. Germany and the Netherlands succeeded in reducing the administrative regulation indicator (notably by reducing the administrative burden on firms) by respectively 1.25 and 1.44 between 1998 and 2008 (whereas the administrative regulation indicator was reduced by only 0.9 in the same period of time in the OECD average). Germany reduced the domestic economic regulation indicator by 0.97, notably by reducing the size of the public sector, and barriers to entry in the network sectors by 2.15 (whereas these two indicators decreased respectively by 0.90 and 1.93 in the OECD average). In the Netherlands, these two indicators decreased less than the OECD average – but the values of these indicators remained still largely below the OECD average in 2008. Austria reduced the domestic economic regulation by 1.20 (compared to 0.64 for OECD average), mostly by restricting the role of the public sector, reduced barriers to entry in the network sectors by 2.42 compared to 1.32 for OECD average. In Austria, the product market regulation indicators decreased by the same order of magnitude (0.57) as in the OECD average (0.54). Conversely, administrative regulation is an example of field where Austria deregulated less (0.01) than the OECD average (0.59), which did not prevent Austria from gaining in competitiveness, for deregulation was ample in other areas.

These indicators show that competitiveness can be greatly increased in countries which implemented adequate policy actions but the rather long adjustment period may indicate that measures to increase competitiveness were more effective in the longer run.

(v) Reforms of the labor market and wage moderation led to gains in competitiveness. Wage moderation was sometimes required by law or the result of negotiations between social partners. In some countries, periodical wage increases depended on branch negotiations,

Table 4

Product Market Regulation Indicators for Germany, the Netherlands and Austria

Country	1998	2003	2008	2008/1998	2003/1998
Germany	2.00	1.53	1.27	–0.73	–0.46
Netherlands	1.59	1.30	0.90	–0.69	–0.29
Austria	2.25	1.69	1.38	–0.87	–0.57
OECD average	2.12	1.57	1.35	–0.76	–0.54

Administrative Regulation

Country	1998	2003	2008	2008/1998	2003/1998
Germany	2.51	1.87	1.26	–1.25	–0.64
Netherlands	2.12	1.98	0.68	–1.44	–0.14
Austria	1.68	1.67	1.06	–0.62	–0.01
OECD average	2.24	1.65	1.34	–0.90	–0.59

Domestic Economic Regulation

Country	1998	2003	2008	2008/1998	2003/1998
Germany	2.76	2.00	1.78	–0.97	–0.75
Netherlands	2.28	1.71	1.56	–0.72	–0.57
Austria	3.60	2.40	1.81	–1.79	–1.20
OECD average	2.87	2.23	1.97	–0.90	–0.64

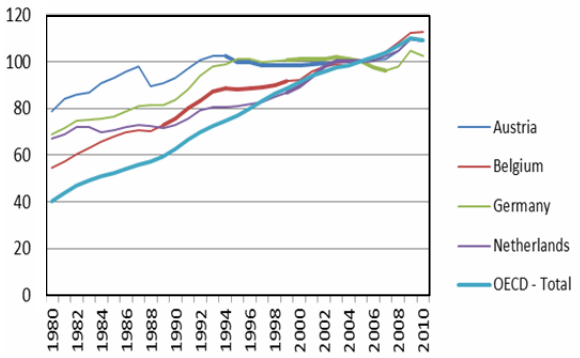
Barriers to Entry in Network Sectors

Country	1998	2003	2008	2008/1998	2003/1998
Germany	3.57	2.32	1.42	–2.15	–1.26
Netherlands	2.98	1.67	1.30	–1.69	–1.31
Austria	4.30	1.88	1.33	–2.98	–2.42
OECD average	3.90	2.58	1.97	–1.93	–1.32

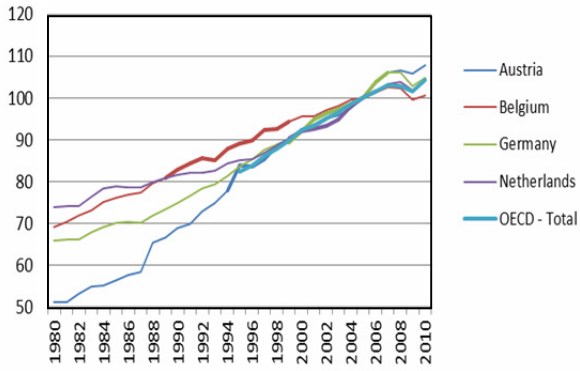
The blue cases refer to the relevant periods of adjustment for each country.
Source: OECD.

Figure 8 **Figure 9**

Unit Labor Costs



Labor Productivity



Unit labor costs (Figure 8) and labor productivity (Figure 9) in Germany, Austria, Belgium and the Netherlands during the adjustment. The thick lines correspond to adjustment periods for the "autonomous adjustment" group. Data for OECD –Total are available only after 1995. Unit labor costs are calculated as the ratio of total labor costs to real output. Labor productivity is calculated as the ratio of real output to work.

eventually leading to wage inflation loops: increases in inflation led to increases in wages, which, in return, tended to increase inflation. To break this loop, Belgium legislated in 1993 and 1996 to limit domestic wage increases based on wage increases in trade partners. Other measures aimed to reduce labor cost through cuts in payroll taxes (eventually by raising other taxes – as in Germany) were also implemented in the sample. It seems that wage moderation was more effective when it was implemented in the long run and resulted from consensual negotiations between social partners (Germany, Austria) than in certain countries in peripheral Europe in the aftermath of the 2008 crisis. In these countries, wage moderation in the public sector seemed to have little impact on the private sector as shown by Piton and Bara (2012).

Other reforms aimed at increasing labor supply so as to exert a negative pressure on wages, which could eventually lead to reduce real wages. The pension reforms implemented by many countries resulted in an increase in the workforce, by increasing the age of entitlement to pension, increasing the contribution period and disincentiving early retirement (Germany, the Netherlands). Also, modifying the system of unemployment compensations and social transfers, with a view to reducing the reservation salary may contribute to increase the workforce (Germany, the Netherlands and Ireland). The creation of unemployment agencies and improvements in educational programs to improve the skills of workers to help them meet new requirements may have contributed to increase the workforce in certain countries.

In the "autonomous adjustment" group, the decrease in unit labor costs compared to trade partners was mostly due to wage moderation. Unit labor costs increased less (or decreased) during the adjustment periods than the OECD average (Figure 8) in Germany (–5 per cent compared to +14 per cent in the OECD average), in Belgium (+21 per cent compared to +42 per cent) and in Austria (+0 per cent compared to +24 per cent) – the Netherlands are an exception as unit labor costs increased slightly more than the OECD average during the adjustment period (+13 per cent compared to 12 per cent). Labor productivity, in Germany, Austria, the Netherlands (Figure 9), increased by the same order of magnitude as the OECD average (data not available for Belgium). For these reasons, decreases in unit labor costs seem to be more due to wage moderation policies than to productivity gains. The decrease in unit labor costs compared to trade partners contributed to limit inflation.

Table 5

Employment Protection Legislation Indicators for Germany, the Netherlands and Austria, and Their Evolution During the Adjustment Periods

Country	Protection for Regular Employment			Protection for Temporary Employment		
	Beg. Ajust.	End Ajust.	Variation	Beg. Ajust	End Ajust.	Variation
Germany	2.68	3	0.32	2	1.25	–0.75
OECD av.	2.14	2.1	–0.04	1.85	1.79	–0.06
Netherlands	3.05	3.05	0	1.19	1.19	0
OECD av.	2.14	2.12	–0.02	1.85	1.78	–0.07
Austria (*)	2.92	2.92	0	1.5	1.5	0
OECD av.	2.13	2.14	0.01	1.9	1.79	–0.11

EPL *A decrease in the value indicates that employment protection legislation became less protective.*
(*) The beginning of the adjustment for Austria was taken in 1998 and not in 1995 because of the lack of available data.
Source: OECD.

Theoretically, the impact of wage moderation policies on nominal wages and unemployment mainly depends on wage rigidity. When employment legislation is protective, wage moderation tends to raise unemployment because of difficulties to adjust. If employment legislation is more flexible, wages tends to adjust more rapidly, with a positive impact on employment. Therefore, many countries in the sample increased labor flexibility during the current account adjustment process with a view to increase competitiveness (Estonia, Latvia, Bulgaria and Spain). Some countries tried to encourage teleworking (Bulgaria). The Employment Protection Legislation (EPL) indicators published by the OECD provide an indication of regarding the evolution of employment flexibility. These indicators have been published since 1998 for regular employment and for temporary employment for OECD members. We study here the evolution of these indicators during the adjustment period for Germany, Austria and the Netherlands (Table 5).

There did not seem to be a clear tendency towards more flexibility in Germany, Austria and the Netherlands during the adjustment period. Employment legislation (Table 5) became slightly less protective in the OECD average than in Austria and the Netherlands. In Germany, regular employment became more protective (0.32 compared to -0.04 for the OECD average), whereas temporary employment became less protective (–0.75 compared to –0.06 for the OECD average). Such evolution may indicate that the wage moderation policies in these countries did not lead to substantial decreases in nominal wages (for nominal wages have downward rigidities and employment legislation remained protective) – and wage moderation was largely due to inflation.

Wage moderation policies were not exempt from social costs, even when wage adjustments were driven by inflation in the long-run. In particular, Blanchard (2007) observes that the growth rate of Germany has been lower than that of the Euro area, after 1995, while nominal wages grew at a lower rate than productivity in Germany after 1992.

Table 6

Product Market Regulation and Employment Protection Legislation Indicators in 2008 in Peripheral Europe

2008		Greece	Ireland	Italy	Portugal	Spain	OECD av.
PMR	Product market regulation	2.30	0.86	1.32	1.35	0.96	1.35
	Administrative regulation	2.00	1.26	0.83	0.86	1.17	1.34
	Domestic economic regulation	3.18	1.17	2.08	2.36	1.50	1.97
	Barriers to entry in network	1.70	1.86	1.62	1.61	1.40	1.97
EPL	Regular employment	2.33	1.60	1.77	4.17	2.92	2.11
	Temporary employment	3.13	0.63	2.00	2.13	1.75	1.77

Source: OECD.

(vi) Many countries developed the open sector and trade – the impetus came from the public or private sector, with a positive impact on employment and growth. Outside the cases in which the contribution of exports to the adjustment was largely due to external factors (rebound of external demand, growth in trade partners), many countries developed the open sector where global demand was high – or growing, in fields where they had comparative advantages. Specifically, commodity exporters developed the production of natural resources, notably in the oil, mining or agricultural sectors. Many countries developed the production of natural resources, such as agriculture and forestry (Ivory Coast, Gabon and Chad), energy (Burkina Faso and Lesotho) or tourism (Lebanon and Oman) to adjust. Some commodity exporting countries also implemented programs to develop the non-commodity sector (Saudi Arabia, Bahrain 02-07, Oman, Qatar and Chad). Several countries developed the production of manufactured goods, notably where external demand was high. In the sample, Bulgaria developed exports of capital goods to Eastern Europe, Germany developed exports of investment goods to Asia and the Middle East. Several emerging and developing countries benefited from investment from abroad to develop the open sector – often to make the most of their low labor costs (Mali, Swaziland).

The sample contains various examples of options to finance the development of the open sector. Outside public funds and private sector investments, there are examples of alternative solutions, such as public-private partnerships (Saudi Arabia, Jordan) and support from multilateral or bilateral institutions, particularly in Africa.

6 Lessons for Europe

In order to gain insights into the necessary structural reforms to be implemented in Europe, we compare the product market regulation indicators and the employment regulation indicators in Portugal, Spain, Ireland and Greece to the OECD average. Outside Greece, product market regulation indicators in peripheral Europe were comparable to OECD in 2008 (Table 6). These indicators were even weaker in Ireland and Spain (0.86 and 0.96 respectively) than in the OECD average (1.35). In 2008, there did not seem to be any major weakness regarding administrative

regulation and barriers to entry in the network sectors for which indicators are generally lower than in the OECD average. However, in Greece, Italy, Portugal, the domestic economic regulation indicators were higher than in the OECD average which may reflect a stronger role of the public sector or barriers to competition.

Employment legislation was more protective in Southern Europe than in the OECD in 2008, which may have prevented nominal wage adjustments in the aftermath of the crisis (Table 6). The indicators however varied largely within countries of peripheral Europe. For regular jobs, employment legislation was more protective in Greece (2.33), in Portugal (4.17) and in Spain (2.92) compared to OECD average (2.11). For temporary jobs, it was more protective in Greece (3.13), in Italy (2.00) and in Portugal (2.13) than in the OECD average (1.77). It was less protective in Ireland. These indicators tend to reflect that wage moderation or downwards pressures on wages might hardly translate into decreases in nominal wages because of wage rigidity. Rather, it was likely to weigh on employment.

Zemanek, Belke and Schnabl (2009) underscore that public structural reforms and private sector restructuring are, rather than public transfers, the best way to preserve long-term economic stability in Europe. Such assessment may need to be specified. Structural reforms take time to take effects and countries under market pressures may not have a sufficient time frame for structural reforms to bear fruit and are forced to implement short-term policy actions with higher social costs. Therefore, structural reforms and public transfers should be considered as complementary options – not mutually exclusive options. While structural reforms are necessary, public transfers (which could take several forms: agreements on debt reduction, bilateral and multilateral transfers) and loans could alleviate the social impact of short-term policy measures.

7 Conclusion

The present paper assesses the feasibility of current account adjustment in countries that maintain a fixed exchange rate with an anchor currency or members of monetary unions. According to our own estimation, 38 current account adjustment cases occurred between 1980 and 2010 without any change in the exchange rate regime. The sample shows a great variety of anchor currencies, geographical areas, size, duration and period of the current account adjustment process and drivers of the adjustment.

Based on the drivers of the adjustment, three typical cases of current account adjustment have been identified: “forced adjustment” characterized by policy responses to financial stress, “autonomous adjustment” in which countries implemented policies to gain in competitiveness and “supported adjustment” for countries which largely benefitted from external factors (rebound in external demand, improvements in the terms of trade, transfers and depreciation of the anchor currency) or exports of commodities.

Some countries conducted their account adjustment without benefitting from a particularly strong external environment – as was the case for many countries in the “forced adjustment” group. Although many countries widely benefitted from exports of commodities or other external factors to adjust, there were often some external factors that contributed negatively to the adjustment – for example the appreciation of the euro in the 2000s for Germany and the Netherlands.

The drivers of the adjustment were rarely unique. Along with a generally positive contribution of the external environment, many countries applied a combination of short-term policy actions and structural measures to foster the current account adjustment process. On the one hand, short-term policy actions, which often included increases in interest rates or fiscal consolidation plans, had a negative effect on domestic demand to reduce imports and carried a generally high social cost. On the other hand, structural reforms, mostly designed to gain or restore

competitiveness seem to take time to be effective. In particular, the average duration of the current adjustment process in the "autonomous adjustment" group exceeds seven years.

Outside countries that benefited from agreements on public debt reduction, transfers or commodity exports, several countries managed to substantially reduce their public debt during the adjustment process. Compared to many countries from the "forced adjustment" group, notably in peripheral Europe, whose public debt largely increased during the adjustment despite the implementation of consolidation measures, this tends to show that consolidation is more effective when the timeframe is sufficiently long for structural reforms to bear fruit.

Many countries from the "forced adjustment" group implemented structural reforms along with short-term policy actions. However the effects of the structural reforms implemented on the current account deficit seem to have been moderate so far, in particular, deflationary measures and measures to gain in competitiveness had little impact on the price indexes in the short run. Actually, the lack of flexibility in nominal wages tended to reduce the scope of wage moderation policies. With this respect, current account adjustment was likely to be particularly long and difficult in the current context of generalized low inflation in industrialized countries. Also in the long term, wage moderation might carry a social cost through decreases in the power of purchase.

While product market regulation in peripheral Europe seems comparable to the OECD average in most countries (outside Greece), employment legislation seems more protective in Southern Europe than in the OECD average, which may limit the effects of wage moderation for rapid gains in competitiveness. Actually, many countries in peripheral Europe have managed to improve their current accounts through a contraction in domestic demand, because the structural reforms which they implemented need time to take full effects. This may call for future discussions on ways to alleviate the social costs of short-term policy actions in the short term in peripheral Europe, while ensuring that the necessary structural reforms are implemented.

APPENDIX 1
REINHART AND ROGOFF CLASSIFICATION OF EXCHANGE REGIMES

Fine and coarse classification of Reinhart and Rogoff regarding exchange regimes:

Natural Classification Bucket	**Number assigned to category in fine grid**	**Number assigned to category in coarse grid**
No separate legal tender	1	1
Pre announced peg or currency board arrangement	2	1
Pre announced horizontal band that is narrower than or equal to +/- 2%	3	1
De facto peg	4	1
Pre announced crawling peg	5	2
Pre announced crawling band that is narrower than or equal to +/- 2%	6	2
De facto crawling peg	7	2
De facto crawling band that is narrower than or equal to +/- 2%	8	2
Pre announced crawling band that is wide than or equal to +/- 2%	9	2
De facto crawling band that is narrower than or equal to +/- 5%	10	3
Moving band that is narrower than or equal to +/- 2% (*i.e.*, allows for both appreciation and depreciation over time)	11	3
Managed floating	12	3
Freely floating	13	4
Freely falling	14	5

APPENDIX 2
CHARACTERISTICS OF THE 38 CURRENT ACCOUNT ADJUSTMENTS IDENTIFIED

CB=current balance, beg=beginning, adjust=adjustment, auto = autonomous, forc = forced, supp = supported

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Austria	–2.9	2.6	5.5	1995-2002	7 years	ECU/ euro	auto.	High growth in trade partners, notably in Eastern Europe. Depreciation of the ECU/euro. Weakening economic environment at the end of the period (2001 crisis)	Strong fiscal consolidation in the context of euro integration. Increase in the taxable base. Wage moderation. Gains in competitiveness. Deregulation (gas, electricity, telecom, transports) and liberalization
Bahrain	–17.4	4.3	21.7	1992-96	4 years	dollar	supp.	Terms of trade weakened before a rebound at the end of the adjustment	Fiscal consolidation with decreasing imports (after the Gulf War). Development of the oil sector
Bahrain	–0.7	15.7	16.4	2002-07	5 years	dollar	supp.	Terms of trade improved, stronger external demand	Development of the oil and non-oil sector (carbohydrates, aluminium, tourism, financial services). Some prudential measures. Some fiscal consolidation measures, deregulation (in the aftermath of the GAFTA agreement). Privatizations

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Belgium	1.8	7.9	6.1	1990-99	9 years	ECU/ euro	auto.	Rebound in external demand after a deceleration during 1990-93. Depreciation of the REER. Decreasing interest rates after a surge at the beginning of the adjustment. Low inflation due to the peg	Strong fiscal consolidation in the context of integration into the euro, with tax hikes and spending moderation. Pension reform. Wage moderation. Productivity gains. Deregulation program in retailing, transport, electricity and telecom sectors. Increase in labour flexibility
Belize	–18.6	–2.5	16.1	2003-06	3 years	dollar	supp.	Weakening terms of trade. Higher external demand. Depreciation of the REER. Debt restructuration in 2006	Strong fiscal consolidation. Prudential measures. Recovery from the effect of a veterinary crisis and a hurricane at the beginning of the adjustment. Development of the open sector
Bulgaria	–30.2	–0.9	29.3	2007-…	en cours	euro	forc.	Weak economic environment (2008 crisis) then a rebound. Decreasing financial stress. Improving terms of trade. Appreciation of the REER. Use of EU funds	Strong contraction in public and private demand. Fiscal consolidation. Wage moderation notably in the public sector

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Burkina Faso	–11.2	–3.5	7.8	2008-…	en cours	WAEMU	supp.	Weak economic environment (2008 crisis), then a rebound. Improving terms of trade (gold). Transfers	Strong contraction in domestic demand in a context of crisis (flooding). Development of the mining sector. Good harvests. Construction of infrastructures. Improvement of education. VAT reform
Central African Republic	–12.8	–3.1	9.7	1983-85	2 years	EMCCA	supp.	Improving economic environment	Fiscal consolidation. Wage moderation in the public sector. Financial stabilization. Development of the open sector (notably agriculture). Better harvests after a drought at the beginning of the period. Development of education. Construction of infrastructures
Chad	–94.7	13.7	108.4	2002-07	5 years	EMCCA	supp.	Improving terms of trade, transfers (due to higher oil and cotton prices). Transfers (World Bank, African Development Bank)	Strong development of the oil sector and non-oil (cotton) sector. Better harvests. Fiscal consolidation. Trade liberalization. Construction of infrastructures
Djibouti	–24.3	–4.8	19.6	2008-…	ongoing	dollar	supp.	Contraction in global demand, notably shipping (2008 crisis) then a rebound. Decreasing terms of trade	Lower imports in response to lower investment. Low inflation. However credit grew and public expenses remained high. Growth in the construction sector sustained domestic demand

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Equatorial Guinea	–33.3	9.1	42.4	2003-08	5 years	EMCCA	supp.	Improving terms of trade	Strong development of the oil and gas sector (and derivatives). Reduction in public spendings. Restrictive monetary policy
Equatorial Guinea	–33.3	9.1	42.4	2003-08	5 years	EMCCA	supp.	Improving terms of trade	Strong development of the oil and gas sector (and derivatives). Reduction in public spendings. Restrictive monetary policy
Estonia	–17.2	4.5	21.7	2007-09	2 years	euro	forc.	Strong degradation (2008 crisis) then a rebound. Use of EU funds	Strong contraction of private and public domestic demand, after the burst in the property bubble. Wage moderation. Lower social welfare. Increase in VAT rate. Higher labour flexibility
Gabon	–15.7	2.5	18.2	1988-90	2 years	EMCCA	supp.	Improving terms of trade after a drop in oil prices	Fiscal consolidation, development of the oil (Rabi Kounga) and mining (phosphate) sectors. Development of infrastructures: a new ore harbour (Owendo) and the Transgabonais railway
Gabon	–4.0	15.6	19.6	1992-96	4 years	EMCCA	supp.	Weakening terms of trade at the beginning of the adjustment, then a rebound. Gains incompetitiveness after the depreciation of the CFA franc. Transfers. Agreement on debt reduction at the Paris and London club in 1994	Fiscal consolidation. Introduction of a VAT in 1995. Deflationary measures – which achieved little success before the devaluation of the CFA franc. Development of the non-oil sector. Increase in labor flexibility. Liberalization. Improvement of the business environment

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Germany	–1.7	7.5	9.2	2000-07	7 years	euro	auto.	Weak economic environment at the beginning (2001 crisis), then a rebound. High growth in trade partners, notably in Asia inducing stronger external demand	Wage moderation (Hartz reforms). Fiscal consolidation, notably through pension reforms. Gains in competitiveness. Low investment at the beginning of the period. Low credit growth following the impaired loan crisis at the beginning of the period. Fiscal devaluation
Hong Kong	–4.4	6.3	10.7	1997-99	2 years	dollar	forc.	Degradation (Asian crisis). Loss of competitiveness after the depreciation of the Yen. Speculative attack of the peg. Lower revenues from tourism, then a rebound	Strong contraction in private demand in response to financial stress, higher unemployment and drops in asset prices
Ireland	–5.7	0.4	6.1	2008-…	ongoing	euro	forc.	Strong degradation (2008 crisis), then a rebound. Financial stress	Contraction of public and private demand after the burst of the property bubble and due to higher interest rates. Support from non-cyclical industries (pharmaceutical...)

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Ivory Coast	–11.4	–0.9	10.4	1992-94	2 years	WAEMU	supp.	Weakening terms of trade then a rebound (of cocoa and coffee prices). Improving REER after the devaluation of the CFA Franc. Bilateral transfers and transfers from multilateral/ international institutions	Fiscal consolidation implying a strong reduction in domestic demand. Investment in agriculture (forestry)
Ivory Coast	–2.8	6.7	9.5	2000-02	2 years	WAEMU	supp.	Weakening terms of trade at the beginning of the period then a rebound. Weakening external demand then a rebound. Bilateral and multilateral transfers	Contraction in domestic demand (in a context of strife). Increase in VAT rate. Lower investment. Development of the oil sector from2002 onwards. Liberalization in agriculture and energy sectors. Some decrease in tariffs (in the context of WAEMU agreements)
Jordan	–17.2	–3.7	13.5	2007-09	2 years	dollar	supp.	Improving economic environment (after the Iraki war), then a degradation (2008 crisis).Improving terms of trade. Agreement at the Paris Club on debt reduction. High growth in trade partners in the Middle East and Asia. High non-official transfers	Contraction in public and private demand. Recovery and development of the open sector (after temporary stopovers in the mining industry). Higher interest rates and prudential measures to limit credit growth. Liberalization and privatization measures

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Kuwait	11.2	36.1	24.9	2002-06	4 years	MB (**)	supp.	Improving terms of trade	High inflation. Prudential measures to limit credit growth. Wage moderation. Development of the oil sector. Measures to increase the role of the private sector: deregulation (in the context of the GAFTA agreements) and increase in competition
Latvia	–22.5	8.6	31.1	2006-09	3 years	euro	forc.	Strong degradation (2008 crisis) then a rebound. Financial stress. Rebound in terms of trade before a decrease at the end of the period. Emigration to Western Europe. Support from international institutions to stabilize the peg	Strong contraction of public and private domestic demand. Internal devaluation with limited success of wage moderation. Increase in VAT rate. Development of the open sector
Lebanon	–15.3	–5.3	10.0	2004-06	2 years	dollar	forc.	Degradation (financial stress, capital outflows, speculative attack on the peg). Military conflict with Israel inducing a drop in revenues from tourism. REER depreciation	Contraction of domestic demand notably due to higher interest rates and a context of political (murder of R. Hariri) and financial tensions. Pension reform. Higher VAT rate. Deregulation and privatizations

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Lesotho	–37.9	6.1	44.0	1996-01	5 years	rand	supp.	Depreciation of the REER due to the depreciation of the rand. Transfers	Contraction of private demand (in the context of political turmoil). Development of the open sector with increased diversification. Introduction of a VAT. Privatizations. Deregulation
Lithuania	–11.5	–4.7	6.8	1998-01	3 years	dollar	forc.	Weakening competitiveness as the dollar appreciated *vis-à-vis* the euro. Improving terms of trade in 2001. Financial stress. Benefitted from growth in Western Europe during the Russian crisis, then from growth in Eastern Europe during the 2001 crisis	Contraction (recession in 1999) of domestic demand. Fiscal consolidation stimulated by the abidance to European criteria. Wage moderation. Improvement of the business environment. Deregulation and privatizations. Productivity gains
Lithuania	–14.6	4.4	19.0	2007-09	2 years	euro	forc.	Degradation (2008 crisis) then a rebound. Financial stress. Use of EU funds	Contraction in public and private domestic demand in response to financial stress and bank deleveraging. Reduction in public spendings. Increase in VAT rates. Development of the open sector (mining industry, pharmacy, transports, oil derivatives). Productivity gains. Improvement of education. Increase in labour productivity. Development of infrastructures

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Malaysia	7.9	16.5	8.6	2001-06	5 years	dollar	supp.	Degradation (in the aftermath of the Asian crisis, 2001 crisis and SARS), then a rebound, Improving terms of trade due to increasing oil prices	Contraction of domestic demand at the beginning of the period, then a rebound. Development of the oil (and non-oil sector – notably high valued added goods). Control of public expenditures. Liberalization (of financial instruments). Improvements in education
Mali	–4.9	2.8	7.7	1986-87	1 year	WAEMU	supp.	Improving terms of trade. High transfers	Fiscal consolidation. Increase in indirect taxes and tariffs. Poor harvests at the beginning of the period, then a rebound with large cereal surplus. Program of economic development financed by the US. Liberalization of agricultural commodity sector
Netherlands	1.9	9.7	7.8	2000-06	6 years	euro	auto.	Weak external demand (2001 crisis) then a rebound	Wage moderation. Gains in competitiveness. Fiscal consolidation at the beginning of the period. Low investment at the beginning of the period. Reforms in social welfare to widen the workforce. Pension reforms. Liberalization. Privatizations. Fiscal devaluation

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Niger	–11.6	–0.5	11.1	1982-84	2 years	WAEMU	supp.	Persistently weak demand in uranium. Closed border with Nigeria in 1984. Transfers	Strong fiscal consolidation with increase in (direct and indirect) tax rates and the taxable base. Restrictive monetary policy. Drop in the volume of credit. Lower investment. Higher tariffs. Persistently poor harvests due to drought. Development of the open sector. Improvement of education. Construction of infrastructures
Oman	–22.5	15.9	38.4	1998-2000	2 years	dollar	supp.	Improving terms of trade	Some policy measures to decrease domestic demand. Prudential measures. Reduction in public spendings. Development of the oil and non-oil sector (gas). Construction of infrastructures. Improvements in education. Privatization
Qatar	–31.0	27.3	58.4	1995-2001	6 years	dollar	supp.	Weakening terms of trade	Development of the export sector (oil, natural gas and related products, tourism). Fiscal adjustment notably through spending reductions. Wage moderation. Some prudential measures

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Republic of Congo	–28.5	13.5	42.1	1998-2000	2 years	EMCCA	supp.	Improving economic environment. IMF support	Contraction of private demand due to strifes at the beginning of the period. Recovery of the export sector, notably the non-oil sector
Saudi Arabia	–21.0	0.4	21.4	1991-96	5 years	dollar	supp.	Terms of trade weakened before a rebound at the end of the adjustment. High negative non-official transfers	Fiscal adjustment with decreasing imports (following Gulf War). Development of the oil sector. Development of trade following the signature of GATT agreements in 1993
Saudi Arabia	5.1	28.5	23.4	2001-05	4 years	dollar	supp.	Terms of trade improved. Quotas decreased in 2001 (OPEC)	Development of the oil (and non-oil) sector. Increasingly restrictive monetary policy. Some fiscal consolidation measures. Liberalization and deregulation (telecom). Privatizations. Lower protectionism (lower tariffs – Gulf Cooperation Council)
Spain	–10.0	–4.6	5.4	2007-…	ongoing	euro	forc.	Weakening economic environment. Financial stress (2008 crisis)	Strong contraction in domestic demand in a context of fiscal consolidation following the burst in the property bubble. Lower investment. (Limited) wage moderation. Deregulation. Increase in VAT rate

Country	Adjustment							Typology	
	CB beg. ajust	CBend ajust	Size (% GDP)	Period	Duration	Peg (*)	Type	Economic Environment	Internal Factors
Swaziland	–12.2	10.7	23.0	1982-88	6 years	rand	supp.	Depreciation of the REER due to the depreciation of the rand	Contraction of domestic demand in the context of political turmoil surrounding the succession of the king
Swaziland	–6.0	4.9	10.9	1998-2003	5 years	rand	supp.	Depreciation of the REER due to the depreciation of the rand. Weaker demand from South Africa. Lower transfers in 2001 then a rebound	Contraction of private demand due to higher consumption prices (inflation). Fiscal consolidation mostly based on higher taxes. Development of the open sector (African Growth and Opportunity Act). Productivity gains (agriculture). Increase in the sales tax. Lower tariffs in the context of the (South African Customs Union)

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