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Optimal adjustment paths in a monetary union

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ABSTRACT

What to do when a country experiences a sudden stop in capital inflows and has to adjust externally? Sticky wages make adjustment to an external imbalance more difficult within a monetary union. Periods of high unemployment are usually necessary to achieve the required real depreciation (internal devaluation). Gradual adjustment is usually recommended to distribute the output and employment cost over time. But a gradual adjustment also implies that current account deficits persist for longer, leading to higher debt, and higher debt-service costs. The optimal path of price and wage adjustment thus involves a trade-off between the pain (unemployment) and the gain (lower debt) from adjustment. A simple model shows the determinants of the optimal path in terms of deeper parameters, such as the slope of the Phillips curve and the degree of openness. The rules for the resolution of future crises within the euro area should take this into account. Gradual adjustment is not always the optimal choice, and sometimes the alternative path of introducing abrupt changes produces the desired results.

1. Introduction

If an external devaluation (of the exchange rate) is not possible, as within the euro area, internal devaluation may serve as a substitute, but this response requires *costly* declines in both wages and prices (Wasmer, 2012, p. 769).

This general problem acquired great practical and political relevance in Europe in the wake of the Great Financial Crisis. A number of countries had experienced large capital inflows during the credit boom that had accompanied what was then called the ‘Great Moderation’. However, when the crisis struck the capital inflows stopped suddenly, forcing the countries that had relied upon them to finance large current account deficits into a quick adjustment.

However, many of the countries that experienced this ‘sudden stop’ could not rely on the exchange rate as an adjustment instrument. One group comprises the five euro area member states which came under financial stress (Greece, Ireland, Italy, Portugal and Spain – often grouped under the acronym GIIPS). A second group comprises four newer EU Member States in Central and Eastern Europe, which had chosen a fixed exchange rate regime to the euro (Bulgaria, Estonia, Latvia and Lithuania, henceforth BELL).

Each of these nine countries faced the problem mentioned above: how to re-establish external equilibrium without being able to devalue. While there have been a lot of contributions on the optimal path

towards the Economic and Monetary Union or EMU (see, for instance, Fidrmuc, 2003), explicit models of the optimal path of adjustment for financially distressed countries, such as the so-called ‘program countries’ within EMU, are absent. We try to fill this gap with this contribution.

Deciding on the path for prices, wages and output under these conditions involves striking a balance between two apparently conflicting objectives. One approach is to go ‘cold Turkey’ by quickly restoring competitiveness and the external balance (Belke et al., 2015). The other is to keep employment and output from falling too much, but this requires financing for the continuing external deficits. “Debt outcomes are very sensitive to growth or variations in the speed of internal devaluation” (IMF, 2012, p. 90).

The fundamental problem in choosing the right speed of adjustment is that the only adjustment mechanism with a quick impact on the external balance is fiscal policy. Labor market reforms to remove downward wage rigidities and thus make wages more responsive to (un)employment were also widely adopted (Vogel, 2012, 2014) during the crisis. But it was clear from the beginning that the impact of these so-called structural reforms comes with a delay. They thus cannot avoid the need for immediate adjustment in expenditure (Alcidi et al., 2016; Gros et al., 2014).¹

Recent working papers from the IMF (the institution that designed much of the adjustment programs in Europe), such as those by Kang

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E-mail address: ansgar.belke@uni-due.de (A. Belke).¹ In practice, relative prices are adjusting at different speeds across countries and with different compositions of wage cuts and labour shedding. See Tressel and Wang (2014).<http://dx.doi.org/10.1016/j.econmod.2017.02.011>

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and Shambaugh (2013, 2014), Tressel et al. (2014) and Tressel and Wang (2014), emphasize certain patterns. The adjustment has been accompanied by a substantial recession and falling employment. Much of the initial current account improvements have been achieved through import compression due to the recession (see also IMF, 2013, p. 25).

These adjustment programs in the euro area have attracted much criticism because of the deep recessions that followed. The simple argument for more gradualism was that social loss functions are convex, which implies that it would be better to spread the pain over a longer period of time.

This controversy regarding the adjustment programs provides the motivation for our paper. Our contribution is conceptually simple: a slower adjustment also means that external debt continues to go up, thus requiring even more adjustment later because of higher debt service (Alcidi et al., 2016).

We build this inter-temporal budget constraint in a simple sticky price model and a standard convex social loss function. This basic framework leads to interesting results concerning the desirability of a gradual adjustment. We find that a quick adjustment that overshoots slightly at the beginning could be the best policy in times of crisis when the cost of capital is very high.

Our focus is different from the literature on what constitutes an optimum currency area (Mundell, 1961) and what kind of monetary and fiscal policies might be needed to sustain it. Instead we address a much narrower question, namely what to do when a country experiences a sudden stop in capital flows and has to adjust externally? This was the question policy makers in a number of euro area countries (and in Central Europe) had to answer during the crisis years. Given this narrow focus we do not take a position on whether the countries concerned should have received much more support and whether the euro area needs fiscal shock absorbers (Furceri and Zdienicka, 2015; IMF, 2013b, and Juncker et al., 2016). We only address the concrete problem policy makers faced in a very second-best world.

The remainder of the paper proceeds as follows. In Section 2, some stylized facts of the adjustment during the financial crisis in Europe are presented. Section 3 develops the macroeconomic framework with an eye on the role of ideology and different schools of thought. In Section 4, we come up with a simple model to assess whether gradual adjustment or a ‘cold turkey’ approach is preferable from a social welfare perspective. Among others, we derive the optimum speed of internal adjustment and assess the welfare effects of alternative policy instruments.

2. Adjustment and the path for internal devaluation – Stylized facts from the European experience

The nine European countries that faced a sudden stop in the availability of foreign capital present a diverse set of experiences. The countries from the euro area (called GIIPS) have received the most attention because their experience can be taken most clearly as an indication of the adjustment problems that might arise in a common currency area. However, the second group of countries, dubbed BELL, also deserves interest because these countries were on a fixed exchange rate and thus faced, at least from a macroeconomic point of view, the same problem: how to adjust without the benefit of an exchange rate instrument (Gros et al., 2014, Sippola, 2011).

Both groups experienced large macroeconomic imbalances before the crisis, whose most important manifestation for the purposes of this paper were large and persistent current account deficits. The underlying reasons for these deficits varied from one country to another. In Spain the excess of domestic absorption over domestic supply was mainly due to a construction boom. In Greece it was consumption expenditure fueled by large government deficits. In the Baltic states the key expenditure item during the boom years was investment, whereas the governments kept their deficits under control (Alcidi et al., 2016; Gros et al., 2014; Sippola, 2011).

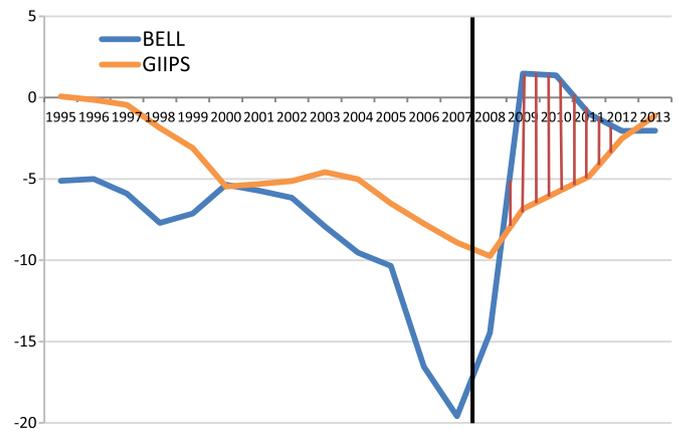


Fig. 1. Current account reversals under fixed exchange rates in Europe. Current account as % of GDP.

Source: Own calculations based on Eurostat data.

Fig. 1 below shows the domestic overspending relative to the resources available in the form of the current account balance, as a percentage of GDP. It is apparent that the BELL group had even larger external deficits when the crisis struck. But the adjustment was almost immediate, with the current account improving (on average) for this group by almost 20 percentage points of GDP within 2 years. In the GIIPS, by contrast, the external adjustment was much slower, with deficits being reduced at a rate of about 2 percentage points per annum.

The counterpart of the very rapid current account adjustment in the BELL group was also a higher variability of demand, unemployment and the output gap. Gros and Alcidi (2015) provide some measure of the present value of the cumulated output losses for the two groups of countries, looking at the period from 2009 to 2014 relative to a pre-crisis baseline. Given that the central aim of a slower adjustment is to postpone output losses, they provide a measure of the present value of output losses by summing the discounted present values of output gaps and unemployment, discounting later ones with an interest of 5%.²

The data reported in Table 1 suggest that both groups experienced very significant losses of output during the adjustment process. The first two columns show that the quicker adjustment in the BELL group resulted in a much lower accumulation of external debt, whether measured as a % of GDP or of exports. For the BELL countries the difference with the pre-crisis baseline was equivalent to 68% of GDP, compared to ‘only’ about 24% of GDP for the countries in the euro area (the GIIPS). The difference corresponds roughly to the shaded area in Fig. 1.

The last two columns in Table 1 show that the large output losses and that the differences in terms of both unemployment and the output gap were relatively small. These differences and similarities across different groups of countries (and also within these groups) raise the question whether the different adjustment paths were appropriate because of differences in domestic conditions.³ The model presented below provides a consistent framework to determine which factors would favor a quick adjustment. This allows one to go beyond the often ideologically charged criticism of the official adjustment programs as imposing unwarranted austerity.

² The rate of 5% is set in arbitrary way but the ranking it implies is robust.

³ Only one of the BELL countries (Latvia) had an adjustment program, whereas most of the GIIPS countries had either a formal program or came under heavy political pressure to undertake measures to reduce domestic absorption. The more rapid adjustment in the BELL countries thus mostly reflected domestic political choices and financing constraints.

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