The case for flexible exchange rates after the Great Recession

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The Great Recession has revived interest in the question of the optimal exchange rate regime. This debate is of immense practical importance: we argue that the exchange rate regime may be a key element in explaining the different experiences of the Scandinavian countries in the Great Recession and their recovery experience thereafter. The recent literature has shown that, according to standard monetary models, fixed exchange rates can provide reasonable insulation against severe demand shocks of domestic origin. We show that, according to the same model, shocks that originate abroad, as arguably was the case for the Scandinavian countries in the Great Recession, seem to be best served by a regime of flexible exchange rates. We conclude that the classic case for flexible exchange rates appears to be alive and well.

1 Introduction

Going back at least to Friedman (1953), the classical case for flexible exchange rates rests on two arguments: first, exchange rate movements are an efficient way to adjust international relative prices in response to macroeconomic shocks; second, with flexible exchange rates, policymakers are free to choose and pursue their own inflation target, rather than shadowing the inflation rate abroad. In a world of high capital mobility, a country foregoes these options if, instead, it commits to an exchange-rate peg or joins a monetary union. These arguments have been debated ever since.

Before the Great Recession, there were two main arguments against this case for flexible exchange rates. A first counterargument is that the exchange rate may not help correct international relative prices. Then, perhaps, there is no great social loss in giving up flexibility (see, for example, Devereux and Engel, 2003 and Engel, 2011). A case in point is that of local currency pricing: if export prices are set in the export market's currency to start with, a nominal depreciation will not change international relative prices. Subsequent literature has pointed out, however, that flexible exchange rates may be valuable whether or not the exchange rate aligns international relative prices correctly. Indeed, a flexible rate regime allows a country to maintain monetary autonomy, and with that the ability to stabilize the economy using monetary policy (see for example Corsetti, 2006; Duarte and Obstfeld, 2008 and, more recently, Schmitt-Grohé and Uribe, 2016).[1]

1   Most importantly, even in the standard workhorse two country, two good monetary model of the open economy, under the optimal stabilization policy, exchange rate volatility may well be higher when export prices are sticky in the foreign currency (hence the exchange rate cannot correct relative prices appropriately), than when prices are sticky in the currency of the producers (Corsetti et al., 2010, pp. 906). These results hold independently of the presence of nontraded goods.

The second counterargument against Friedman's case for flexible exchange rates was practical in nature. Namely, there seemed to be little benefit left from choosing one's own long-run inflation target if all the major central banks had already agreed on roughly what that target should be, and had adopted inflation targeting (or some variant of it) as their monetary framework. If all central banks more or less target inflation in some range around 2 per cent per year, why would 'one's preferred rate' deviate, especially if one no longer had to insulate against foreign inflationary developments? Friedman's case no longer seemed relevant for the industrialized world today.

The Great Recession provided yet another important new argument against flexible exchange rates that is far from theoretical (brought forward by Cook and Devereux, 2016). The argument rests on the role that the exchange rate regime can have in anchoring long-run inflation expectations when central banks find themselves constrained by the zero lower bound (henceforth ZLB) on interest rates. If monetary authorities have a currency target, the argument goes, domestic inflation cannot deviate too much from foreign inflation. Even in response to large adverse domestic shocks, therefore, inflation expectations remain anchored. This prevents damaging deflationary dynamics. Under a floating exchange rate, instead, this external nominal anchor does not exist. Rather, once interest rates fall to the ZLB, falling inflation expectations can exacerbate the recession as they mean that real interest rates remain too high.

This argument against flexible exchange rates suggests that, precisely in a scenario that involves a very deep recession, flexible exchange rates may fail to provide macroeconomic stabilization. The 'straight-jacket' of fixed-exchange rate regimes may not be detrimental after all, given that our (advanced) economies seem to be vulnerable to the ZLB problem.[2]

There is at least one problem with this line of thought, however: it does not seem to align well with the actual experience of many countries during the crisis. To illustrate this, we produce a graph which shows the evolution of output and exchange rates vis-à-vis the euro in four Scandinavian countries during the Great Recession.

One reason for choosing the four Scandinavian countries to illustrate the case is that they have comparable income and cultural and institutional commonalities. Without downplaying relevant country-specific factors that weigh on the divergent response reported in the graph, in our view a crucial difference was made by the exchange rate arrangement. Another reason is that the Great Recession has affected the US and several non-Scandinavian countries in the euro area more directly and much more deeply than the Scandinavian economies, both in the initial phase of the financial crisis and, quite obviously, in the later years, when financial and macroeconomic conditions worsened in the euro area. Hence our four countries have been exposed to a strong and persistent deflationary environment among their closest economic partners.

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2   Admittedly, we ourselves may have played a role in starting this argument, as we had it spelled out (but also critically considered) in our paper on fiscal policy dating from 2010 (and published as Corsetti, Kuester and Müller, 2013).

Figure 1. Output and the exchange rate 2007–2012 in four Scandinavian countries
Real GDP (left) and change of exchange rate (end of quarter price euro, in local currency).
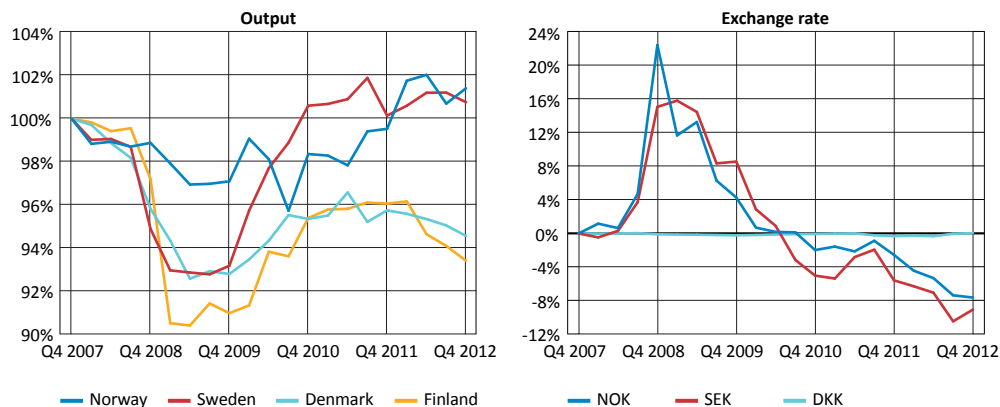
Note. The sample period is 2007Q4–2012Q4. GDP is normalized to 100 per cent in 2007Q4, and the exchange rate is expressed in percentage changes relative to 2007Q4. A positive value in the right-hand chart means a depreciation relative to 2007Q4.
Sources: OECD Economic Outlook 98 and Bundesbank

Out of the four countries in the graph, two have given up exchange rate flexibility vis-à-vis the euro: Finland is a member of the euro area; Denmark operates an independent currency, but maintains a narrow peg to the euro. The other two, Sweden and Norway, pursue inflation targeting and have flexible exchange rates.

The left panel of the figure shows a sizeable output contraction for Finland and Denmark, the countries with a fixed exchange rate to the euro, and for Sweden – but not for Norway. The contraction in Finland and Denmark is persistent. Sweden, instead, recovers fast. This is noteworthy. The fact that the recession was less persistent in countries with flexible exchange rates suggests that the monetary regime may be an important factor.

Indeed, the right panel shows that the Norwegian Krone depreciated sharply against the euro during the first year of the crisis – something you may expect in a country that does not face a constraint on its monetary policy and enjoys room to maneuver regarding policy rates. Crucially, however, flexible exchange rates also made a difference in Sweden. The Swedish Krona depreciated by almost as much as the Norwegian currency. This is all the more remarkable since Sweden in 2009–2010 was characterized precisely by the circumstances that have made some of the recent literature after Cook and Devereux (2016) lean towards *fixed* exchange rates. Namely, in Sweden, policy rates were at what was then considered the effective lower bound. Despite the limited room for a monetary easing, the Swedish Krona depreciated.[3]

With all the necessary caveats, the evidence in the graph provides support for Friedman's classic dictum in favour of flexible exchange rates. The benefits of flexible exchange rates do not necessarily seem to wither in a Great Recession scenario.[4] What proves important for explaining this, is that the Great Recession did not originate in Scandinavia.

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3   Some readers may wonder if our explanation captures the Sweden experience in its entirety. In particular, the Swedish depreciation may in part have been driven by the fact that some Swedish banks had large exposures in a few Baltic countries. This would make the evidence more consistent with our model, for the model would have argued that, from the global shock alone, the Swedish Krona should have depreciated somewhat less than the Norwegian Krone. An important piece of evidence for the mechanism in our model is the rapid recovery of Sweden after the Great Recession.
4   In addition to the issues discussed in this text, recent literature has reassessed exchange rate regimes in relation to the potentially destabilizing effects of large capital flows (see, for example, Obstfeld, Ostry and Qureshi, 2017) and/or currency wars (see, for example, Caballero, Farhi and Gourinchas, 2015). In both cases, the issues pertain more to the desirability of capital controls, macro pru and international policy cooperation than to the desirability of flexible versus fixed exchange rate regimes.

2 Friedman 1953 in a global Great Recession

In a recent paper (Corsetti, Kuester and Müller, 2017a), we provide the theory. We start from the same models and many of the same premises that have been brought to bear against flexible exchange rates. What we unveil, crucially, is the importance of where the recessionary shock originates and/or where it is stronger: in the domestic economy or abroad. The new case against flexible exchange rates (as put forward by Cook and Devereux, 2016) relies on the domestic economy being hit by a shock that is stronger at home than abroad. The main lesson from our work, instead, is that, from the vantage points of small open economies, flexible exchange rates retain important welfare benefits if the risk is a *rest-of-the-world* rather than a local recessionary shock. While the arguments are not exactly the same as the ones put forward by Friedman, the reasons clearly resonate with his view of the merits of flexible exchange rates as a cushion against foreign price drift.

To be as clear as possible, we are not questioning the validity of the results stressed in the existing literature – these and our results are all nested in the same framework. Rather, we change the way we interpret the crisis. Namely, we look at a Great Recession as a global shock that propagates asymmetrically across small open economies, rather than a shock that affects all economies symmetrically. We show new results, taking seriously the fact that the vast majority of countries in the world are exposed to large contractionary impulses from *abroad* – a risk clearly illustrated by the global crisis, and arguably still quite high today.

To develop our analysis, we rely on the most standard New-Open-Macroeconomics model – specified in such a way that we can derive tractable analytical expressions and thus inspect the transmission mechanism in a transparent fashion. We solve the model under three monetary regimes: an unconstrained float, where monetary policy can always pursue a conventional Taylor-type rule targeting the natural rate of interest (the 'Norway' case above); a float where monetary policy pursues a Taylor rule but is unable to adjust interest rates for an extended period (the 'Sweden' case); and a credible and permanent exchange-rate peg (the case of 'Denmark and Finland'). In other words, we contrast an unconstrained monetary regime to two constrained regimes. One is constrained by a currency peg, the other faces the ZLB.

The question we want to call attention to is: which exchange rate regime can ensure better macroeconomic and welfare performance vis-à-vis severe shocks? That is, vis-à-vis the possibility of a strong contractionary shock hitting the domestic economy more severely than abroad (as examined by the literature), and vis-à-vis a Great Recession that originates abroad and propagates so strongly as to send both global and domestic monetary policy to the ZLB constraint. We are interested in understanding which regime provides better 'insulation', and which regime could be best complemented by other stabilization policy, especially fiscal policy.

We find that the nature of macroeconomic risk associated with country-specific and global recessions differs. Therefore, large recessionary demand shocks that originate at home or abroad have fundamentally different policy implications.

Flexible exchange rates do provide a great deal of insulation to the domestic economy if the source of the recessionary shock is abroad. If foreign interest rates become constrained by their ZLB, foreign monetary policy cannot effectively cushion an adverse foreign demand shock. In this case, we show that flexible exchange rates are superior to fixed exchange rates, even if domestic monetary policy becomes itself constrained by the ZLB. Note that this lines up well with the figures shown above.

To appreciate the reason, it is useful to recall in detail how shocks propagate across borders. With a large persistent demand shock in the foreign economy, and if the foreign central bank cannot fully cushion the shock, foreign demand falls and the foreign price level falls as well. The demand effect of the shock, by assumption, is asymmetric – it is stronger abroad. If it can, the home central bank will stabilize domestic inflation and make sure that

the foreign shock only partially transmits to home activity. The home central bank does so by reducing nominal rates far enough so that the currency depreciates. Indeed, it makes sure that the currency depreciates sufficiently so that the home price of home-produced goods denoted in foreign currency falls by more than foreign prices (the home terms of trade depreciate). This supports demand for domestic goods and the domestic price level. Depreciation of the nominal exchange rate will continue for as long as the foreign deflationary crawl (the fall in the foreign price level) continues.

A key novel finding from our work is that some of this stabilizing effect of flexible exchange rates materializes even if the domestic central bank cannot reduce the nominal rate by as much as it would like, that is, if it reaches the ZLB. A flexible exchange rate still works to partially insulate the domestic economy from an adverse foreign demand shock.

Why? In the long run, purchasing power parity constrains the dynamic of the real exchange rate: because foreign prices decline more strongly than domestic prices in response to the shock originating abroad, either domestic prices have to continue to fall in the future (which the domestic central bank will not allow), or the nominal exchange rate has to depreciate at some point. Because the nominal interest rate is at the ZLB both in the home and the foreign economy, there cannot be an interest rate differential to sustain expectations of a depreciation over time (according to the uncovered interest parity condition).[5] A weaker future exchange rate is consistent with financial market equilibrium (absence of arbitrage) today only if the currency immediately depreciates by the full amount. When the shock hits, then, an immediate depreciation improves price competitiveness (the home terms of trade unambiguously depreciate). This stabilizes demand at home, albeit not quite as much as absent the ZLB constraint on domestic monetary policy.[6]

Thus, even if the domestic interest rate cannot be reduced due to the ZLB, the nominal exchange rate ensures that the home monetary stance is relatively more expansionary, per effect of the exchange rate on the trade in goods. Although interest rates are at the ZLB in home as well as in foreign, the home country experiences lower deflationary pressure.

The key take away point is that the home currency depreciates upfront even if the home authorities are unable to guarantee monetary stimulus via a sufficiently deep cut in policy rates[7] – the recent experience of Sweden arguably being the leading example.

Here, thus, is our reformulation of 'the classical case for floating rates in the XXI century:' on the one hand, upfront depreciation stabilizes demand, both external and domestic, for domestically produced goods;[8] on the other hand, it decouples domestic prices somewhat from any deflationary crawl, a crawl which may haunt the rest of the world in a global recession. In other words: the currency depreciation cushions the shock. As in Friedman's case for flexible exchange rates, the home country has the ability (if not, strictly speaking, the choice) to maintain its inflation closer to its target, in contrast to the rest of the world that is mired in a low-inflation recession.

Vis-à-vis such a world-wide recession, indeed, a currency peg performs quite poorly. Not only would a country give up the benefits of stabilizing current demand in such a regime, keeping the domestic economy fully exposed to the drop in international demand. But also, more importantly, a credible peg would anchor domestic prices to the foreign price level: if the rest of the world suffers a deflationary drift (as a consequence of being in a Great

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5   Recent work has shown that, during the global crisis, the uncovered interest parity (UIP) puzzle changes sign. Namely, the coefficient in the Fama regression, forecasting depreciation using the interest rate differential, turns from negative to positive, and is quite large in absolute value. Heuristically, at the ZLB, the UIP condition is violated in a different direction: positive interest differentials forecast excessive depreciation (Bussière et al., 2018).

6   The macroeconomic outlook is considerably worse if monetary policy is at the ZLB. Bodenstein et al. (2017) in particular show how the ZLB problem exacerbates the depth and persistence of adverse foreign shocks.

7   This is not the case if monetary policy abroad is not at the ZLB – that is, if the global recessionary shock can be effectively stabilized, so that there is no 'Great Recession.' In this case, if the Home economy happens to hit the ZLB, the home exchange rate appreciates.

8   This is indeed quite close to the point stressed by Friedman (1953), although his analysis ignores the ZLB and does not relate the exchange rate to the monetary stance at home relative to the one abroad.

Recession style liquidity trap), the domestic economy would be bound to import the drift. Much worse: with the nominal exchange rate fixed, the adjustment of the terms of trade depends on the relative adjustment of the price levels at home and in foreign economy only. Foreign prices decline more (since that is where the shock hits directly) than prices in home. With the nominal exchange rate fixed, the home terms of trade *appreciate*, making domestically produced goods relatively more expensive and further dampening demand for these. Fixed exchange rates also mean that even the (small) domestic economy will see the domestic price level eventually fall as much as foreign prices have fallen.

At the ZLB, expectations of low future inflation cause the real interest rate to rise endogenously at home, above the foreign level, depressing Home consumption demand further still. This compounds the negative effects of falling external demand. Last but not least, price adjustment takes time. This means that the recessionary effects linger: a country that pegs its currency gives up the benefits of stabilizing future demand as well (compare the rapid recovery of Sweden in the graphs to Denmark and Finland).

The importance of these results cannot be over-emphasized. A decade after the outburst of the global financial crisis, the world economy remains vulnerable to the risk that large global shocks once again will cause a new Great Recession. This is a challenge to policymaking in small open economies, which by their very openness are particularly vulnerable to external developments. In light of our findings, in such a world, the case for flexible exchange rates remains alive and well: per se, the risk of temporary liquidity traps that rule out efficient monetary stabilization is not a good enough reason to overturn Friedman's received wisdom.[9]

3 Exchange rates and the fiscal and monetary policy mix

In our analysis, the key lessons from the Great Recession reinforce, rather than undermine, the case for floating rates. We should add here that our results apply to those small open economies that can count on stable and efficient monetary and fiscal institutions (for example, institutions that prevent sovereign risk crises).

To frame our discussion of fiscal policy, however, it is important to consider the 'other' case in our analysis, whereby the contractionary shock has a domestic nature, that is, it hits asymmetrically the home economy without directly affecting the rest of the world. For this case, our results are in line with the literature (Cook and Devereux, 2016). If the shock does not originate in the rest of the world, but in the small open economy, inflation-averse foreign monetary authorities can keep world prices stable. The main difference with our previous analysis is, precisely, the missing response of world prices. With a large *rest-of-the-world* demand shock, prices in the rest of the world fall. In response to a *domestic* shock in a small economy, instead, rest-of-the-world prices do not move.

In this context, a peg, if credible, can provide a commitment to reflate the domestic economy toward a *stable* world price level. And a credible and *stable* nominal anchor is beneficial in a small open economy. In a liquidity trap of domestic origin, fixed exchange rates or, even better, an explicit and credible exchange rate target, may help – a point that resonates with Svensson's call for a fool-proof commitment to exchange rate depreciation (Svensson, 2003). The common message is that, absent either a currency peg or a credible commitment to depreciation (which can be seen as a crawling peg), domestic interest rates would be at the ZLB, economic activity would decline, and domestic prices would start to fall.

However, it is also fair to observe that, precisely in situations in which the ZLB problem would emerge amid flexible exchange rates in the domestic economy only (say, because of the large domestic demand shocks just discussed), there could also be a 'benign coincidence:'

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9   For a related discussion in the context of secular stagnation, see Corsetti et al. (2017).

provided that public debt is sustainable, fiscal policy can be expected to become a rather effective tool of stabilization. A strong inflationary impact of fiscal policy magnifies the size of the multiplier at the ZLB. In fact, it can be shown to exceed unity if the fiscal stimulus is well timed, namely if higher government spending comes online precisely while the ZLB binds (for example, Woodford, 2011 or Farhi and Werning, 2016). Importantly, this is so independently of the (domestic or external) origin of the shock. And indeed, in a recent empirical contribution based on long time series for the US, Ramey and Zubairy (2017) find that fiscal multipliers tend to be larger if interest rates are low. Similarly, Miyamoto, Nguyen and Sergeyev (2017) provide evidence from Japan that multipliers are indeed larger at the ZLB.

Conversely, as established in earlier work of ours (Corsetti, Kuester and Müller, 2013), fiscal policy tends to be less effective under a peg because, by anchoring long-run expectations of the price level to constant world prices, an exchange rate target limits the inflationary impact of public spending. This result can be seen as one more reason to hold that the ZLB problem does not necessarily weaken the case for flexible exchange rates in small open economies. However, details matter: Erceg and Lindé (2012) show that the fiscal multiplier at the ZLB may be smaller than one and also smaller than the multiplier under the peg if prices adjust slowly (and the fiscal stimulus is not well timed).

A stable fiscal framework, to be strengthened in good times in view of future downturn risk, is a clear prerequisite for good stabilization policies. The recourse to fiscal policy may nonetheless be limited by economic or institutional constraints. Here the literature has argued that even the emergence of sovereign and country risk in a downturn – complicating stabilization policy and, obviously, detrimental to social welfare – does not appear to undermine the benefits of floating rates relative to a currency peg (see Krugman, 2014, and previous work of ours – Corsetti, Kuester and Müller, 2016).

4 A lesson for Sweden and other relatively small open economies

To bring our analysis to bear on possible lessons that the Great Recession may have taught us concerning currency regimes, it is tempting to make qualified references to three classics.

Mundell (1961) has forcefully argued that the optimal exchange rate arrangement depends on how synchronized a country's business cycle is with those of its trading partners. What the modern literature adds to this is the emphasis that not only the type of shock that hits the domestic or foreign economy matters, but also the size and sign of the shock. With large enough contractionary shocks in part of the monetary union, the ZLB scenario considered in the current text may arise in the union as a whole, independently of the exchange rate regime. Costs and benefits of a currency area need to be re-discussed in light of this possibility.

Poole's (1970) classic paper has argued that the choice of instruments for stabilization depends on the source and transmission of shocks. As in Poole, also in our analysis the choice between a float or a peg vis-à-vis the risk of a ZLB is to be assessed in light of the implications of the exchange-rate regime on the type and propagation of large contractionary shocks. The analysis highlights that a credible exchange rate target can enhance the policymaker's ability to pursue macroeconomic stability when the risk of such large contractionary shocks is mostly of domestic origin. The main benefit of this regime consists of providing a nominal anchor. This prevents vicious feedback effects between insufficient demand and expectations of deflation. A floating rate is, instead, more efficient when there is a risk of large recessions in the rest of the world: even if the domestic policy interest rates fall to their ZLB like the rates abroad, in relative terms, the domestic monetary stance is expansionary: the currency depreciates in real terms and deflationary pressures abate. Exactly the opposite would occur if one adopts a currency peg.

Friedman (1953), the third classic reference, argued that domestic monetary autonomy insulates a country against foreign price level drift. Our paper emphasizes that the case for a flexible exchange rate applies to both directions of foreign price level drift: flexible exchange rates allow a country to steer clear of foreign inflation and foreign deflationary tendencies (a case relevant for the Great Depression and the Great Recession). Both directions remain relevant today.

In this paper, we have argued that, in a global recession, flexible exchange rates remain the best option for most countries to insulate their economy from the global slump, even if their own monetary policy becomes constrained by the zero lower bound. The experience of Sweden in the Great Recession bears this out, where the Swedish Krona depreciated in the Great Recession, providing insulation against falling foreign price levels.

Our argument is, however, not the only one standing in favour of exchange rate flexibility. Indeed, at the opposite end of the case for flexible exchange rates in the Great Recession, one can point to the experience of Switzerland. The Swiss franc *appreciated* vis-à-vis the euro, reflecting the fact that Switzerland's status as a financial 'safe haven' has led its currency to command a premium. The Swiss authorities have long resisted this appreciation, up to setting record negative rates, in part for the sake of cost-competitiveness of Swiss industries, in part to prevent an upward trending currency to feed further capital inflows. While `safe haven' considerations are arguably beyond the goals and scope of our model, the economic logic is simple. Any shock that translates into a stronger currency premium adds to pressure for appreciation, which can be resisted only by lowering policy rates further. Once rates are already negative, this is technically challenging. Most importantly, it becomes questionable in view of its implications for domestic stabilization.[10]

All things considered, past the global crisis and along the recovery from the Great Recession, the case for flexible exchange rates appears to be alive and well.

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10 With international interest rates being at the ZLB, financial market equilibrium would have required the Swiss Franc to depreciate in expectation over time (so as to remove the premium in returns). A nominal depreciation in the future only would have been commensurate with eventual domestic inflation. Instead, there was an appreciation on the spot (allowing the possibility of the currency depreciating from that higher level in the future without creating domestic inflationary pressures). Indeed, this case becomes particularly strong with the onset of the various asset purchase programs in the euro area. Their purpose was to create inflationary pressures in the euro area (so as to bring inflation closer to target in a currency area that saw weak activity). Switzerland, however, did not suffer a fiscal crisis, or particularly low activity.

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