

Richard Friberg (1999), "Exchange rates and the firm", Macmillan

14 Macroeconomic issues and their implications for exposure

We have now applied the concepts from Part II on Economic exposure to a discussion of EMU and how Operating exposure will change. The driving force for how Operating exposure changes is that relevant (real) exchange rates become much more predictable in most industries. There is less exchange rate risk. You should not put the book down however without reading the present chapter. Remember that economists are pretty much nonplused as to what drives exchange rates in the short- to medium run. This point should not be taken too far though – we know that ultimately exchange rates are driven by fundamentals (as are indeed other asset prices such as stock prices). We also know that when a country is hit by adverse shocks it can ease the adjustment process by having access to an independent monetary policy and the exchange rate instrument. Given that prices and wages tend to be sticky, expansionary monetary policy can increase the level of activity in the domestic economy if a country is faced with a recession. Similarly, monetary policy can be used to cool down an overheating economy. The issue of to what extent that monetary policy can affect any real variables is not entirely resolved but it is fair to say that the common wisdom amongst economists is that monetary policy can substantially affect the real economy in the short- to medium run. Going very deep into the reasons for price and wage stickiness would take the book too far afield.

14.1 Optimum currency areas and asymmetric shocks

The ability of monetary policy to affect the real economy is the very basis of the theory known as the theory of optimum currency areas. The way of thinking about what areas that should have a common monetary policy goes back to Robert Mundell, 1963. Calmfors et al. (1997) provide a thorough recent application with respect to whether Sweden should join EMU. The positive aspect of having the same currency is that having the same currency makes trade easier, at least to some extent, thus bringing the benefits that are associated with increased trade.¹ On the other hand, if prices and wages are sticky, making an adjustment of the relative price between traded and non-traded goods (the real exchange rate) is much easier by using the nominal exchange rate than by letting wages and prices adjust directly. By having your own monetary policy you can use this to stabilize the economy – for instance a monetary tightening can be used to try to rein in a bullish economy. Furthermore, a booming economy will tend to have an appreciating exchange rate which aids in cooling off the economy. To the extent that you lose influence over the monetary policy, and whoever influences monetary policy has different needs than you do, there will thus be costs associated with losing an independent monetary policy.

If you were always subject to the same shocks as the other areas with which you share monetary policy you would in this type of world lose nothing by having a common monetary policy. If you are subjected to different (asymmetric) shocks

than others in the currency area, the loss of monetary autonomy will typically be associated with greater variability of the real economy (for instance investment, demand, employment) in this framework. Hence the great emphasis on “asymmetric shocks” in the debate about whether EMU is a good thing or not. The more asymmetric shocks – the less suited are two countries to form a monetary union. The more likely are business cycles to be out of tune, and the more likely are you to have diverging monetary needs.

If you nevertheless are subjected to asymmetric shocks there are other ways to deal with the easing of adjustment. Take the US for instance, clearly an oil producing state as Texas is subject to different shocks than, say, New England idyll Vermont. Not only may states be subject to different shocks, they may also react differently to the same shock. The effect of drastic price increases of crude are likely to have a very different impact in oil producers such as Alaska or Texas compared with Motor City - Detroit. Bumper crops around the world will affect Iowa differently from Massachusetts. We have no idea how the US would look if it did indeed have different currencies, it might work better, what we do know is that it works decently, US is by far the world’s strongest economy. How then are asymmetric shocks handled? In the US they are typically handled by two mechanisms of which Europe has precious little – mobility of workers across regions and fiscal transfers. High unemployment and a depressed situation in a US region is handled by people moving out of the region and by the redistribution that lays in the federal tax system. Similarly a booming region will postpone shortages and inflationary

pressure by inflows of workers. It is well established that worker mobility in Europe has been very low, even within countries, and the scale of fiscal transfers on a Euroland-wide level is of course very small in comparison with that of countries. The other way in which price adjustment to handle asymmetric shocks can come about is by – that’s right – adjusting prices. The role for monetary and exchange rate policies stems from price rigidities in the first place, make prices more flexible and, *voilà*. This is what lies behind the periodic calls for more flexible prices and labor markets as EMU springs into life.

An implication of the above kind of discussion is the following: For reduction of exchange rate risk not to increase risk “somewhere else” (as in aggregate demand or interest rate risk) we require that exchange rates are driven mainly by noise. If the real exchange rates were only driven by real shocks (German reunification, disappearing of exports markets as in Finland, shocks to productivity, oil shocks, earthquakes and what have you) and wages and prices were sticky, it would clearly make for greater risk for a given country. If independent monetary policy eases the adjustment to real shocks there is clearly a large cost to losing that instrument if real shocks are important. This point was forcefully argued in Friedman (1953). Having a floating exchange rate may lower total risk at hand. Since we do have a very hard time predicting exchange rates based on fundamentals, it does indeed appear as if exchange rates to a considerable extent are driven by noise in the short run. This does not necessarily kill Friedman’s argument however, as long as there are some large real (asymmetric) shocks.

What has this got to do with you as a firm? The argument has been made for the economy as a whole. Do not jump to the conclusion that the risks faced by you as an exporter are the same as for society at large. They are typically not, but the point should not be forgotten. Greater real variability will affect for instance domestic demand or access to credit. Variables that will affect you as a firm. Take the following example – you are a Spanish firm catering mainly to the domestic market. You produce in Spain with a large share of domestic inputs. You face competition from a French firm and are thus exposed to exchange rates as long as the ESP/FFR rate is allowed to adjust. Assume now that both countries are part of the EMU but that for some reason wages increase at a faster rate in Spain than in the EMU area as a whole. The result is the same as when having an over-valued exchange rate, domestically produced goods are expensive relative to imported goods. Without access to independent monetary policy the way to correct the relative wage difference is through having wage cuts in Spain or (much slower) to have lower wage increases in Spain than in France until productivity adjusted wages are back in equilibrium. This is likely to be very drawn out process, lasting several years. A floating exchange rate would tend to depreciate in such a situation. Is it riskier to have a floating exchange rate in a situation such as this? The point is important – the lack of independent monetary policy can lead to very prolonged misalignments of the real exchange rate (price of imports relative to the price of domestic goods). It would have been dangerous to believe that there was no Operating exposure that remained. Remember that Operating exposure depends on

the real exchange rate – there will perhaps be no “surprises” in intra-EMU real exchange rates but there will be at least some prolonged misalignments with near certainty. Real exchange rates become more stable – for good and for bad. EMU notwithstanding the European countries will continue to be just that – countries – for at least some time to come. Their own wage negotiations, their own laws, their own language and their own culture.

I will exemplify with the case of Sweden. Figure 14.1 below shows the Swedish trade weighted real (adjusted by consumer price indexes) and nominal exchange rates during the period from 1980 onwards.

Figure 14.1 about here

The story is briefly this. Sweden had a fixed exchange rate against a basket of currencies up until May 1991 after which it had a fixed exchange rate against the ecu. The krona has floated since November 1992, there was a rapid depreciation following the decision to float. In addition there were devaluations in 1981 and 1982. All these depreciations are clearly visible in the diagram where a higher value is associated with a weaker exchange rate. We note that the jumps in the nominal exchange rates coincide with jumps in the real exchange rate – my reading, and that of most economists, is that clearly nominal exchange rate policy (monetary policy) has the power to affect the real exchange rates. The diagram has more to tell – from 1982 to 1992 Sweden had a fixed exchange rate. This shows up as the virtually

straight line during this period of the nominal exchange rate. We can also see that during this same period Sweden had a higher rate of inflation than most of our major trading partners – this is the reason for the continuing appreciation of the real exchange rate during this period. Prices increased more rapidly in Sweden than in our trading partners and the nominal exchange rate did not compensate for this. In a situation such as the early 1990s the real exchange rate was over-valued. It was expensive to produce in Sweden but cheap to import and cheap to travel. There was a “cost crises”. Basically there are two ways to adjust the real exchange rate – depreciation, the jump seen in the picture, or to lower prices and wages, in reality to have a lower level of inflation than your trading partners. The point is that no variation in the nominal exchange rate does not necessarily mean that the real exchange rate is stable. We should end by noting that a common monetary policy within the EMU will limit the potential for divergences in inflation within Euroland however.

One of the shocks that the European Central Bank (ECB) will have to deal with if the common currency does lead to price equalization across Euroland is the creation of EMU in itself. By definition price equalization means that some prices have to increase and/or others decrease. Expensive countries would face a downward pressure on prices whereas cheaper countries would face an upward pressure. If a firm has been able to segment different markets and has had different prices on these markets a price equalization should lead to goods becoming more expensive for the weaker group – the customers in the cheap country would face

rising prices. Remember for instance that pre-tax car prices differed by as much as 50 per cent within EU. How does one define Euroland price stability under these circumstances? Another asymmetric shock associated with the creation of EMU is the convergence of interest rates. Falling interest rates are associated with a stimulation to the economy. So in those countries that had much higher interest rates than Germany and the core in pre-EMU times, such as Italy, have had and will have a very expansionary (“monetary”) policy – something that normally is assumed to drive up prices. Figure 14.2 illustrates with the long term interest rates (government bond yield) from Italy, Netherlands and Spain.

Figure 14.2 about here

In the southern periphery of Euroland, Italy, Portugal, Spain, the creation of EMU will very possibly be associated with higher inflation – leading to overvalued real exchange rates.

A common monetary policy having different effects in different EMU countries is another example of asymmetric shocks. Depending on the characteristics of the economies, a change in monetary policy, in the interest rate, will have a different impact. In 1995 financial liabilities of the household sector ranged from 58 per cent of GDP in Spain to 24 per cent in Italy. Corporate bonds outstanding ranged from 61.2 per cent of GDP in Germany to 3.2 per cent in Ireland. Tax structure, the size of the public sector and share of energy consumption that is imported are other

structural differences within Euroland.² An often stated observation is that in the UK some 85 per cent of mortgage loans are taken at a variable interest rates whereas in France the corresponding figure is only 10 per cent. It is obvious that this will affect the speed with which monetary policy can affect the real economy and the demand of households. One should remember that the share of mortgage loans taken at a fixed rate is no law of nature – change the rules of the game and the behavior of agents will change – but typically only over time.

14.2 A common monetary policy

The point we have made so far in this chapter regards the exposure associated with asymmetric shocks (the shock being a “too-high” wage settlement, price equalization or an asymmetric response to common monetary policy). The second point that we would like to make about monetary policy in the EMU is that it is a giant institutional change, a number (eleven) of (still) sovereign nations with conflicting needs and perhaps interests shall share and determine a common monetary policy. Monetary policy will be conducted by an institution that may feel a need to show itself tough (a credible inflation fighter) and that is likely to lack popular support in large tracts of Europe. The ideas behind EMU range from a leftist urge to take power away from financial markets to a more liberal standpoint emphasizing a level playing field for business. These are views that are likely to clash in efforts to influence the ECB. The body deciding over monetary policy will be the 11 man strong governing council. It consists of the heads of the central banks

within EMU. The day to day running of monetary policy will be taken care of by the executive board headed by the President – Wim Duisenberg (followed by Trichet?) - and that will be consisting six members appointed for eight-year non-renewable terms.³ There is the risk for both an overly loose monetary policy as well as for an overly tight.⁴ These risks are further accentuated by uncertainty as to how the monetary transmission mechanism will operate in this new environment. There will be uncertainty as to how rapidly monetary policy will affect the real economy.

There has been very much focus on the credibility of the ECB. The background, which goes back on an article by Kydland and Prescott (1977), is intuitively the following. Governments want to surprise wage setters by using expansionary monetary policy. They wish to do so because they want to increase employment beyond its “natural” level. Wage setters, not stupid enough to be systematically fooled, realize the incentive for governments to play this trick and thus demand higher wages to begin with. In equilibrium you will have a higher rate of inflation but the same level of activity in the economy as if you could credibly commit to not having surprise inflation. One way to try to credibly commit to a low inflation is to delegate monetary policy to someone who doesn’t have to win elections or who has higher aversion of inflation and cares less about unemployment than the government – an independent central bank (Rogoff, 1985 also coined the phrase conservative central banker with the exact meaning of delegating monetary policy to someone attaching a higher weight to inflation and a lower weight to unemployment than the rest of society). This is the background for having an

independent central bank – the empirical and theoretical literature on the issue is huge. See for instance Persson and Tabellini (1990). For these reasons the doggedness of Jacques Chirac in pushing for a French head of the ECB was seen as a very bad signal on the independence of the central bank. I believe that the public debate has been too focused on credibility though and less alert on other issues. I would also see the longest luncheon in Brussels as a bad signal of how the ECB will be able to conduct a coordinated and active policy.

Let us take a highly simplified story to illustrate the issue. The story bears some resemblance to that of you knowing that you have a knack for eating at night and have a weight problem. You put a lock on the fridge and give the key to your wife. She doesn't like you fat so she'll open it less often than you would. She will open it sometimes though so you do not starve. This way you will be better off by delegating fridge policy to someone else. Now imagine that you are eleven fat guys having given the keys away to a committee of wives – your wives may be credible but there may be huge disagreement on the correct policy nevertheless. You all have to open the fridge at the same time, but some of you guys are starving while others certainly do not need another bite. If the wives care most about their own husbands, fridge policy can get pretty messy.

Let me tell you a little tale from the Great Depression in the United States. This version of the story comes from Friedman and Schwartz (1963). On page 299-300 they describe the events 'From the cyclical peak in August 1929 to the cyclical

trough in March 1933, the stock of money fell by over a third...The monetary collapse was not the inescapable consequence of other forces, but rather a largely independent factor which exerted a powerful influence on the course of events. The failure of the Federal Reserve System to prevent the collapse reflected not the impotence of monetary policy but rather the particular policies followed by the monetary authorities,...The contraction is in fact a tragic testimonial to the importance of monetary forces.’ They give their explanation on page 411-415, ‘The explanation for the contrast between Federal Reserve policy before 1929 and after, and hence for the inept policy after 1929, that emerges from the account in the earlier sections of this chapter is the shift of power within the System and the lack of understanding and experience of the individuals to whom the power shifted...The form which the power shift took – from New York as dominant of a five-man committee to New York as the head of an executive committee administering policies adopted by the twelve governors – also had an important effect. A committee of twelve men, each regarding himself as an equal of all the others and each the chief administrator of an institution established to strengthen regional independence, could much more easily agree on a policy of drift and inaction than on a coordinated policy involving the public assumption of responsibility for decisive and large-scale action.’

It should be noted that this version of the story is not uncontroversial. For instance economic historian Peter Temin (1989) of MIT has argued that (1989, p 26) ‘It is no secret that the Federal Reserve pursued a deflationary policy in the early 1930s.

It is also true that the Federal Reserve had been crafted to be independent of the federal administration. I want to argue, however, that Federal Reserve policy was part of a general governmental policy of deflation. It was not an artifact of the structure or personalities of the Federal Reserve system itself’.

No matter what one’s view of this episode, the general lesson is that the personalities and the composition of the Central bank board have the potential to matter. At least in the interpretation of some serious observers (Milton Friedman is not an amateur in the field of monetary economics) the personalities and the composition of the monetary committee were central to the development of the depression.

Think of EMU countries being hit by a common shock. For some reason the different members of the ECB board, coming from different countries, have different views on the correct policy action. Say that we have a stock market collapse common to all Europe. Half the board are of the view that stock market events should not influence monetary policy. The other half defend the view that this is the time for a monetary expansion to counteract the contraction implicit in a stock market collapse. Status quo ensures. Is the scenario unreasonable? I do not think so. Paul Krugman (1993b, p. 178-9) gives the view of him and many others on the stock market crash of 1987 ‘By purely financial measures, the crash of 1987 was every bit as bad as the initial financial panic in 1929...In 1987 the Federal Reserve chose not to repeat its previous mistake. Faced with the stock crash, it

rapidly expanded the supply of base money. The rest is already history. Instead of a Depression, there was faster growth in the year following the crash than in the year before.’ Would the ECB act as forcefully? Let us hope so.

Think of the much praised monetary policy of the Federal reserve in the 90s. Monetary policy, also by an independent central bank is the result from different views on the shocks affecting the economy, the lags of monetary policy and many others. Alan Greenspan states ‘I wish I could say that there is a bound volume of immutable instructions on my desk on how effectively to implement policy to achieve our goals of maximum employment, sustainable economic development, and price stability. Instead, we have to deal with a dynamic continuously evolving economy whose structure appears to change from business cycle to business cycle,...This process is not easy to get right at all times, and it is often difficult to convey to the American people, whose support is essential to our mission.’⁵ What I am saying is that monetary policy is not some machine which put in “price stability mode” after which everything is fine.

So why all this talk of monetary policy? The issue is that exchange rates depend on monetary policy. Change monetary policy (EMU) and you will change exchange rate risk. Changing monetary policy also changes the other risks facing firms – interest rate risk and macroeconomic risk in general. The point is not that we are bound to have a depression as EMU goes ahead. The point is that there are many uncertainties about how monetary policy will work within EMU when put to the

test. This carries with it its own risks that you should not be blind for. Times of uncertainty are not the best to be highly leveraged for instance.

One fact to remember is that monetary policy is more likely to be geared to the needs of the central powers of Euroland (such as Germany with 35 percent of Euroland GDP and France, 22 percent of Euroland GDP) than to the needs of the small guys on the block (such as Ireland, 1 percent of Euroland GDP). This would point in the direction of having lower macro risks in the major countries of EMU than in the smaller countries (all depending on correlations between shocks over countries).

The role of Euroland in the world may change relative to the sum of the present EMU-to be countries. This regards issues such as if the ECB should be part in G-7, the cooperation between the largest industrial economies. This has the potential to affect monetary policy and macroeconomic exposure outside EMU. That is, it regards the political ramifications on the international scene of European monetary integration. That will have to fall outside the scope of the present book.

14.3 The volatility of the euro

One last question of importance regards the variability of the euro vis-à-vis the US dollar and the yen. Will it become more or less volatile than what the European currencies are today? It should be noted that the creation of EMU and the switching

of reserve holdings by foreign central banks from dollars into euros will probably lead to high initial volatility. There is a lot of room for rumors and a lot of uncertainty when EMU starts – this is likely to lead to what the financial press has christened “nervous markets”. We are likely to see much variability in the early stages. In the longer run it is hard to know. In an interesting paper Harald Hau (1998) presents and tests hypotheses linked to the openness of countries. He studies a version of the coming theoretical work-horse (?) in international monetary economics, that of Obstfeld and Rogoff (1995). Hau allows for a share of goods to be non-traded and his model has rigid wages. One of the predictions of his model is that the more closed a country is, the more volatile is the exchange rate. Very broadly the intuition is that the fewer prices that are affected by the exchange rate, the more will the exchange rate have to move following a monetary shock in order to restore money market equilibrium. So that more closed countries should have more volatile exchange rates. Hau tests the prediction on 54 countries and finds that it holds – even more so when he just looks at the 21 OECD countries. He studies volatility over periods ranging from one month to three years over 1979-96. In simple terms one can say that his model and empirical findings provide an example of Krugman’s (1989) statement that ‘The exchange rate moves so much because it matters so little.’ Betts and Devereux (1996) explore a similar model to Hau but where they let the share of prices set in the importers’ currency vary. A higher share of price setting in the importers’ currency increases variability of the exchange rate in their model for the same reasons as in that of Hau. Substantive use of the euro for price setting of Euroland’s imports would then work in the direction of higher

volatility than what is the case of the D-Mark today. If one sees EMU as creating one large, relatively closed economy with monetary policy geared to the whole areas needs, rather than to those of Germany, as has predominantly been the case under EMS, the move to EMU should be expected to raise volatility against the other world currencies. Given exposure, higher volatility will imply more variability in cash flows for firms exposed to firms outside Euroland.

Summing up the section on monetary policy within EMU, what have we found? First of all we note that nominal exchange rate variability within EMU will disappear but that the relative price of traded versus non-traded goods can still vary. We also note that creating a monetary union with 11 countries entails its risk in what regards monetary policy. The implications for exchange rate exposure are that it might well be replaced by other exposures, at least in the medium run before new European institutions have emerged that are adapted to the new situation. Notably business cycles are likely to have higher peaks and lower troughs. Finally we have discussed what to expect as to the exchange rate variability of the euro – citing evidence that it might be higher than that of the D-Mark today. This would lead to higher variability of cash flows for firms with a euro exposure and for exposed Euroland firms. These points have been raised not because of some general euro-gloom, rather I want to point to a number of potential pit-falls. Exchange rate exposure will become easier in many ways and some aspects of it disappear – this is not to say that it is appropriate to let your guard down. It may just be a very smooth ride ahead, but then again, it is not called the dismal science for nothing.

Chapter 14

¹ This positive effect has been very hard to support empirically, see Friberg and Vredin (1997) for an overview of empirical evidence.

² Pennant-Rea et al. (1997) provide a discussion.

³ In the first round they will serve shorter terms so that one does not have to change the whole executive board at one time. Vice Chairman Christian Noyer of France will serve 4 years, Sirkka Hämäläinen of Finland 5 years, Germany's Otmar Issing 8 years, Italy's Tommaso Padoa Schioppa 7 years and Spain's Eugenio Domingo Solans 6 years. Whether Wim Duisenberg will serve the full 8 years or retire "voluntarily for personal reasons" after 4 remains to be seen.

⁴ An interesting study of ECB policy is Dornbusch, Favero and Giavazzi (1998).

⁵ Alan Greenspan, speech presented at the American Enterprise Institute for Public Policy Research in Washington D.C., December 6, 1996.