

Policy Department External Policies

THE IMPACT OF EXCHANGE-RATE FLUCTUATIONS ON TRADE POLICY

INTERNATIONAL TRADE



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The impact of exchange-rate fluctuations on trade policy

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Author: **Michel Dupuy**
Professor of Economics
Researcher at the Laboratory for Analysis and Research in
Economics – International Economics and Finance (LARE-efi)

Executive administrator: **Dominique Delaunay**
Directorate-General for External Policies of the Union
Policy Department
WIB 06M053
rue Wiertz
B-1047 Brussels
E-mail: dominique.delaunay@europarl.europa.eu

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SUMMARY

In recent years certain trading partners of the European Union, including China, Japan and the United States, appear to be manipulating their exchange rates by way of different instruments (verbal declarations, interventions in the foreign-exchange market, interest rates, etc.) in order to stimulate exports and support growth. This in turn leads to an appreciation in the value of the euro and a deterioration in the price-competitiveness of European industry.

While these policies do present risks for the countries that practise them (increase in monetary aggregate, inflationist trends and so on) they have a particularly harmful effect on the partner countries, whose exchange rates are determined freely on the money market. Today international monetary disorder exerts a deflationary influence on European economies by way of a deterioration in current and trading balances: a 10% appreciation in the value of the euro costs Europe between 0.5 and 1 growth point.

Insofar as the European Central Bank does not officially plan to introduce any changes it seems unlikely that this institution would intervene directly or indirectly to reduce the price of the euro. The problem of currency undervaluation therefore has to be resolved on a multilateral level: the WTO and the IMF need to pool their efforts to combat competitive depreciation. The IMF would play a technical role by identifying and evaluating monetary distortion, while the WTO would lay down the rules and would be responsible for settling the trade disputes caused by this distortion.

While tariff and non-tariff measures are in decline, more subtle forms of protectionism are now appearing and being developed. Of these, exchange-rate manipulation – whose objective is to use various means to influence the exchange rate so that it reaches a level that is different from that which would normally result from market free-play – occupies a special place.

Some of the European Union's trading partners, including China, Japan and the United States, appear to be manipulating their currencies to an artificially low level in order to stimulate their exports and sustain growth, which in turn leads to an appreciation in the value of the euro and a deterioration in the price competitiveness of European industry. According to the principle of Purchasing Power Parity (PPP) the euro is overvalued against the dollar by 20 to 25%. Europe is therefore paying for 'the collateral effects of the undervaluation of the yuan and dollar with a downward price trend for these two currencies' (Siroën, 2007). In fact, given the absence of any adjustment in yuan-dollar parity Europe alone is bearing the burden of the US current balance adjustment.

The aim of this note is to set out in more detail the issues connected with the undervaluation policies being practised by the European Union's main trading partners. The first part of the study describes the exchange-rate strategies of these countries and examines the domestic impact of this on the main economic variables (growth, inflation, foreign accounts). The second part assesses how the exchange-rate policies practised by the EU's trading partners are affecting the European economies. Finally, the last part shows that the problem of currency undervaluation requires a multilateral response: the IMF and the WTO have to cooperate in order to ensure exchange-rate stability.

1. Exchange-rate manipulation: a commercial weapon in the service of the main trading partners of the European Union

Exchange-rate undervaluation is a key growth factor because it stimulates ‘the sectors of the economy that are expanding the most’ (Rodrik, 2007a). As productivity is higher in the traded goods sector any stimulation here due to currency undervaluation will serve to improve the economic performance of the home country: growth will be higher and unemployment will fall. The growth models for free market economies (Rodrik, 2007b) illustrate more precisely the mechanisms by which the exchange rate is likely to affect growth. This shows in particular that when economic distortions (market deficiencies and/or weaknesses in the institutions) hit the exchangeable goods sector harder than the non-exchangeable goods sector the depreciation in the real exchange rate acts as an incentive to invest in the primary sector and so becomes a ‘second best’ instrument for offsetting the cost of these various distortions, as differentiated according to the different sectors of activity.

An undervalued currency will therefore enable emerging nations, whose growth is being slowed by the distortions referred-to above, to integrate more easily into the global economy and to converge more quickly, on the basis of good export performance. The results of the econometric study carried out by Rodrik (2007b)¹, who studied the experiences of 184 countries over eleven periods of five years from 1950-54 to 2000-2004, show that for the emerging countries *a 10% undervaluation over a period of five years adds 0.3% of growth on this sub-period*. For the industrialised countries, on the other hand, undervaluation has no significant impact on growth.

This explains why emerging countries that opt for an exports-based growth model do not hesitate to manipulate their exchange rate by different means. This is especially true in the case of China.

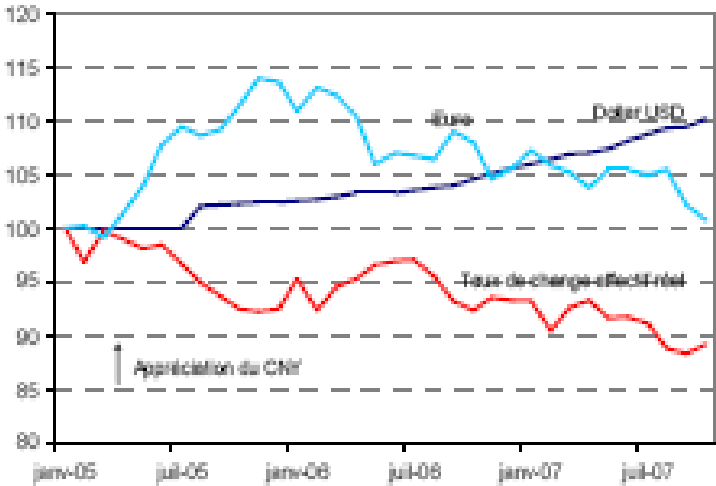
¹ The author has estimated the following relationship:

$$\text{Growth}_{it} = \alpha + \beta \log(\text{initial revenue})_{it-1} + \delta \log(\text{underevaluation})_{it} + f_i + f_t + u_{it}$$

f_i and f_t are silent variables.

Since the beginning of the decade the Chinese Central Bank has intervened extensively in the foreign-exchange markets – China’s foreign-exchange reserves reached 1 528 billion dollars at the end of December 2007, a rise of 43% in one year (having increased by 25% in 2006, by 32% in 2005 and by 51% in 2004) – in order to maintain the undervaluation of the yuan and preserve the price competitiveness of home-produced goods. Most empirical studies conducted recently conclude that the yuan is undervalued by some 15 to 30%. The yuan has depreciated significantly in relation to the euro (12% between November 2005 and November 2007) and its real exchange rate has been on a bearish trend since 2005 (see Graph 1). In the absence of any intervention on the part of the Central Bank China’s currency would appreciate as a result of the growing current surplus and the country’s massive economic expansion.

Graph 1
Changes in value of the Yuan (CNY) in % (base value 100 on 1 January 2005)



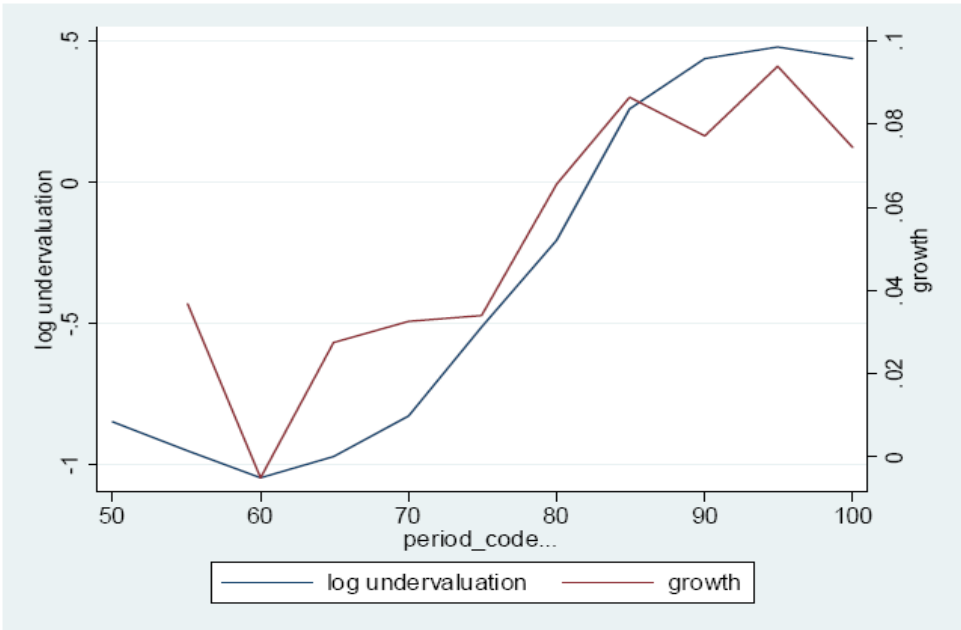
Source: Economic missions, Business report, December 2007

The policy of undervaluing the yuan has therefore helped to swell China’s external accounts (the current surplus is reported to have reached 361 billion dollars in 2007, which represents 11.2 % of GDP) and support the country’s growth. In fact there is a strong correlation between the rate of growth of the Chinese economy and the undervaluation of the yuan (Graph 2). Moreover, the yuan’s undervaluation allows China to assimilate its underemployed

population into the manufacturing sector on the strength of national exports (Dooley et al., 2004, and Bouveret, Mestiri and Sterdyniak, 2005).

In order to neutralise the effects of an increase in foreign-exchange reserves on monetary aggregates and inflation China's monetary authorities sterilise their interventions on the foreign-exchange market. While between 2004 and 2006 sterilisation was mainly based on the depositing of short-term securities (sterilisation bonds) with the commercial banks,

Graph 2
China: undervaluation of the yuan and economic growth



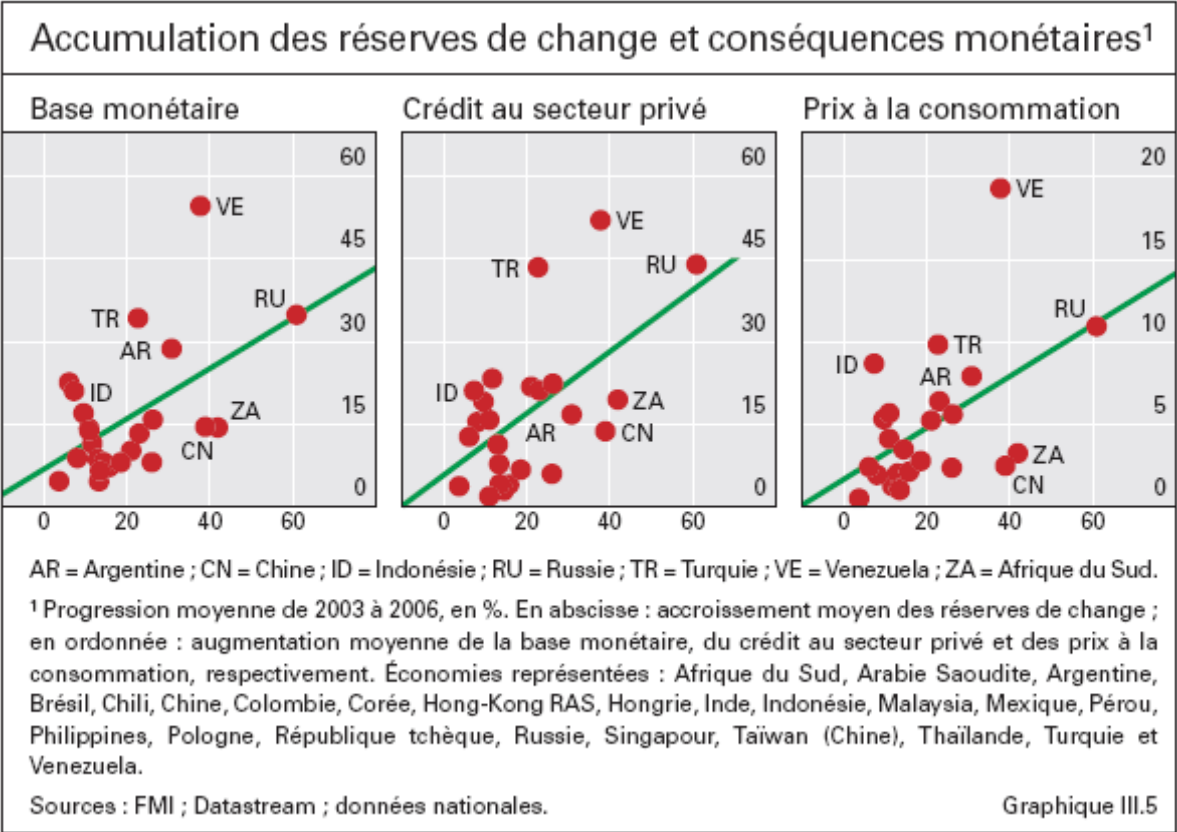
Source: Rodrik (2007b)

the Chinese Central Bank has more recently resorted to increasing compulsory reserves (in 2007 the increase in the level of compulsory reserves would have provided two-thirds of sterilisation). Whatever the method decided on, sterilisation comes at a cost. This cost is essentially borne by the commercial banks, which are forced to hold low-return securities and/or to increase their unremunerated deposits with the Central Bank. Moreover, it appears that the sterilisation activities of the monetary authorities are not proving to be completely effective. A study conducted by the Bank for International Settlements (BIS) in 2007, for

example, shows that over the period 2003-2006 the accumulation of foreign-exchange reserves by the emerging countries has gone hand in hand with a rapid growth in monetary aggregates, as well as with a sharp increase in inflation (Graph 3). Thus, by the end of 2007 credit growth in China had exceeded the target set by the monetary authorities and inflation increased (4.4 % in 2007 as against 3.1 % in 2006). Finally, by holding large amounts of reserves the Chinese Central Bank is able to bear huge opportunity costs: instead of being deposited as bonds with the US Treasury the reserves could be invested locally and in this way yield higher returns. According to Rodrik (2006), the social cost to the emerging nations of holding foreign-exchange reserves is in the order of 1% of these countries' GDP.

All these factors clearly indicate that China, like any other emerging nation, will not be able indefinitely to accumulate reserves in order to maintain the undervaluation of its currency.

Graph 3



Source: BIS, Annual Report 2007

The emerging nations are not the only countries manipulating their exchange rates. A number of countries in the developed world, including the US and Japan, also have exchange-rate objectives.

In the face of a slow-down in the growth of demand at home the United States is now being strongly urged to adopt a weak-currency strategy in order to revitalise the economy. The policy of pursuing low key interest rates, which began in September 2007, would therefore enable the US monetary authorities to achieve their foreign-exchange targets by discouraging international investors from taking out securities in dollars. Officially the US Administration remains tied to a strong dollar – Harry Paulson, the US Treasury Secretary, has stated on several occasions that ‘a strong dollar is in the interests of the United States’ – but unofficially, and in the face of calls for protection from various US pressure groups, the depreciation of the dollar is often presented as the best way to stimulate exports and reduce imports. To what extent, therefore, will a depreciation in the value of the dollar help improve US external accounts?

Even if the depreciation in the real exchange rate of the dollar since mid-2002 (around 20% by the end of 2007) were to start having an effect on US external accounts (in 2007 the volume of US exports of goods and services increased by 8.1%, while imports only rose by 2.1%, as against 5.9% in 2005 and in 2006), numerous studies show that the depreciation of the dollar has a limited effect on the current US balance of payments. Thus, according to estimates produced by standard econometric models, a real depreciation of between 10 and 20% in the value of dollar would only yield an improvement of 1 point in the current deficit-GDP ratio (Krugman, 2006; Edwards, 2005). The feeble reaction of US external accounts to a variation in the dollar can be explained, firstly, by the poor price flexibility of US foreign trade (of the order of 0.5 for exports and 0.4 for imports) and, secondly, by the low degree of exchange rate pass-through to the price of traded goods: in the short run the coefficient for the knock-on effect of variations in the exchange rate on the price of imports is only 0.42 in the United States, as against 0.81 in the euro zone and 0.64 in the OECD countries. The very incomplete knock-on effect of variations in the dollar on the price of US imports is due to the

fact that imported goods are subject to tough competition in the United States and that exporters to the US operate fairly sizeable margins (overseas exporters greatly reduce their prices in the national currency in order to preserve their share of the US market).

It is also worth noting that with the currencies of many emerging nations (in Asia and Latin America) tied to the dollar, the latter will have to depreciate significantly against the key currencies, especially the euro, in order to absorb the current US deficit. According to calculations by the French Research Centre for International Economics (CEPII) the absence of an adjustment in China would require something like an additional 10% appreciation in the value of the euro.

It therefore seems that the current US balance can only be improved significantly through a relatively large depreciation in the dollar. The thing is, the United States is not ready to cut the dollar loose, and for two reasons at least. For one thing a weak dollar could encourage central banks overseas, and especially those in Asia, to diversify their foreign-exchange reserves to the detriment of the dollar and in favour of the euro (two-thirds of the reserves held by the central banks are now made out in dollars) in order to limit the losses on their dollar-based assets. According to a study carried out by the Centre for Economic Policy Research (CEPR) in 2004 an average fall of 22.8% in the dollar would cost China 93 billion dollars, or 5.3% of its GDP.

This policy of non-US central banks seeking to diversify their foreign-exchange reserves, if confirmed and, more importantly, if it is carried out suddenly, would pose major problems for the United States. In fact, no longer able to count on the Asian central banks to finance their external deficits the United States would have to increase their interest rates considerably so that private investors would take over from the central banks by acquiring assets in a depreciating currency. Any increase in US interest rates would only serve to accentuate the recessionary effects associated with the current financial crisis.

The second reason is that by increasing the price of goods imported by the United States a new fall in the value of the dollar would reduce the purchasing power of Americans at a time when the US economy is slowing down dramatically.

In years gone by Japan also practised a systematic policy of undervaluation of the yen in order to stimulate exports. This was tried mainly between 1960 and 1985. More recently Japan has managed to preserve the undervaluation of the yen (at the end of the first quarter 2007 the real exchange rate of the yen was at its lowest level since 1985) by encouraging ‘yen carry trade’. This consisted of borrowing yen-based capital at very low interest rates and then investing the funds in higher yielding assets in euros and in dollars. The investors then simply pocketed the interest-rate differential. Between 1994 and 2007 the cumulative yield from this practice was estimated at 60%, and this was almost completely due to the interest-rate differential (Bourguinat, Teïletche and Dupuy, 2007). In recent years massive ‘yen carry trade’ operations led to an appreciation in the value of the euro and dollar against the yen.

By maintaining very low interest rates the Japanese Central Bank therefore succeeded in encouraging carry trade and this in turn accentuated the undervaluation of the yen. The recent increase in risk aversion, born out of fears of a continuation and worsening of the present financial crisis, has however led numerous operators to unwind the yen carry trade altogether. This trend has helped the yen to make up ground on the dollar and euro.

2. Undervaluation of the currencies of the EU’s main trading partners and its impact on European economies

The loss in price-competitiveness of the European economy as a result of overvaluation of the euro (since 2001 the real exchange rate of the euro has gone up by 30%) threatens the trading performance of the EU and therefore affects growth. European businesses that invoice their exports in dollars with cost prices quoted in euros are especially hard hit by the appreciation in the single currency. This applies particularly to companies operating in the aeronautical, automotive and defence sectors. These undertakings are also planning to relocate part of their production in order to improve their competitiveness. In 2007 EU-27 recorded a trade deficit

of 186 billion euros, as compared with 45 billion in 2002. Between 2002 and 2007 the EU trade deficit with China passed the 55 billion euro mark to reach a figure of 170 billion euros. Of the Member States, Germany, the Netherlands and Ireland recorded the biggest surplus, while the UK, Spain and France showed the biggest deficits. The poor trading performance of the UK – in 2007 the trade deficit reached 87 billion pounds sterling – can be attributed, for one thing, to the loss of price competitiveness as a result of the appreciation in the real exchange rate of the pound. The UK currency is in fact overvalued in relation to the dollar (by between 10 and 20% according to estimates). The persistence of the current deficits being registered by most of the new-accession states of Eastern Europe also reflects, to some extent, the deterioration in the price competitiveness of these countries as a result of the appreciation in real exchange rates (Table 1).

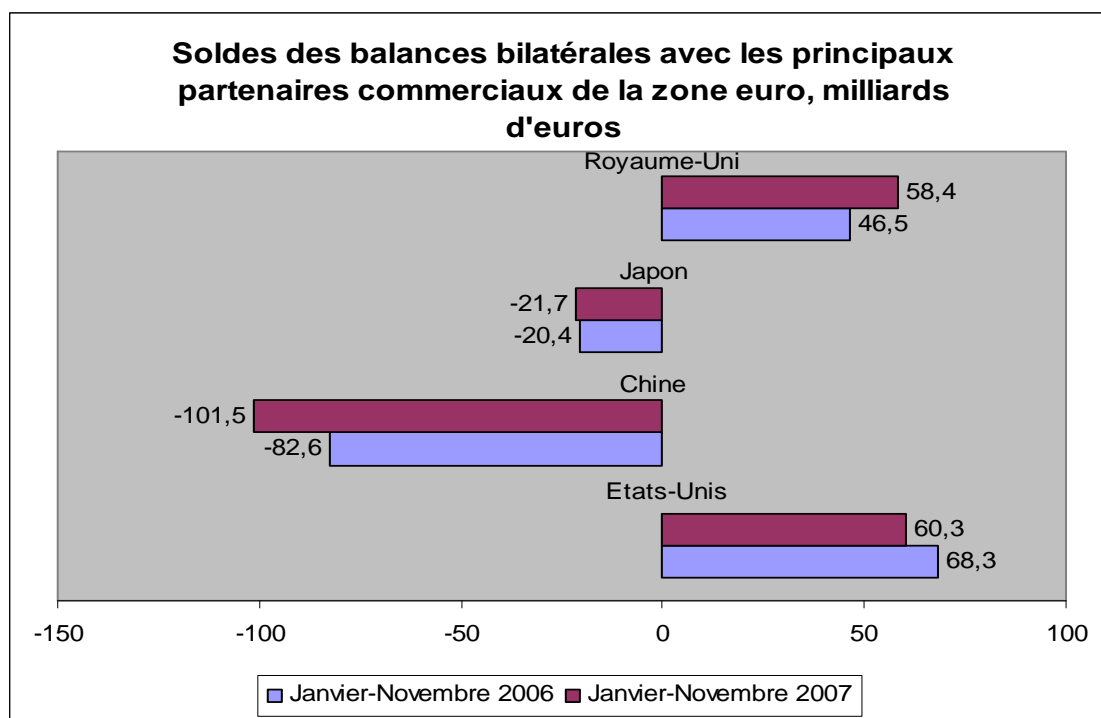
Table 1
Current accounts of new EU Member States and real exchange rates

	Balance of current transactions (% of GDP)		Real exchange rate
	2000	2007	(% variation 2000 - 2007, appreciation (+), depreciation (-))
Bulgaria	-5.5	-19.5	+34
Czech Republic	-4.8	-2.8	+36.8
Estonia	-5.3	-14.6	+23
Latvia	-4.8	-23.8	+7
Lithuania	-6.0	-13.9	+8
Hungary	-8.4	-4.4	+42.5
Poland	-5.8	-4.3	+14.1
Romania	-3.7	-13.7	+40.5
Slovenia	-2.7	-3.5	na
Slovakia	-3.5	-4.4	+58.1

Source: Eurostat and IMF

In 2007 the euro zone recorded a trading surplus of 28 billion euros, as compared with a deficit of 9.3 billion in 2006. However, there has been a deterioration in the bilateral balances between the euro zone and those countries with undervalued currencies (United States, China and Japan) (Graph 4).

Graph 4



Source: Eurostat

International monetary disorder certainly has a deflationary effect on the European economies. The results obtained from simulations carried out using macroeconomic models, which take account of all the positive effects (reduced inflation and strengthening of competition due to the fall in imported goods) and negative effects (loss of competitiveness and loss of market segments) of an appreciation in the value of the euro, indicate that *a 10% appreciation in the value of the euro costs Europe between 0.5 and 1 growth point*. According to the German Ministry of Finance a 30% depreciation in the dollar would cost Germany 1 growth point.

An appreciation in the value of the euro is felt differently from country to country (see above). Indeed various factors show that fluctuations in the price of the euro have an asymmetric impact on the euro zone. This means that all countries are not equal when faced with a strong euro.

For one thing, because of the geographic structure of their trading activities and the inflation differential with their trading partners the countries of the euro zone experience different levels of fluctuation in their real exchange rates, and hence in their price competitiveness. The importance of intra-zone trade therefore varies from country to country: the euro zone represents between 30% (Ireland) and 65% (Portugal) of the trade engaged-in by zone members. Between March 2002 and June 2007, for example, Germany's real exchange rate only appreciated by 9%, while that of Ireland appreciated by 26%. Germany, which has a greater volume of trade with the new EU Member States than do the other European nations (see Table 2), has particularly benefited from the euro's depreciation against the currencies of the new accession countries.

Table 2
Geographic distribution of trading activities of the main European countries, 2001

%	France	Germany	United Kingdom	Italy
France	-	9	8	10
Germany	16	-	12	15
United Kingdom	9	7	-	6
Italy	8	7	5	-
UE15(as quoted)	25	26	25	20
UE28(as quoted)	3	8	3	6
Rest of Europe	2	1	1	2
Mediterranean countries	6	4	5	6
Other Africa and oil producing states	10	11	15	10
United States	4	4	5	5
Rest of America	6	7	9	6
Developed nations of Asia and Oceania	3	4	3	3
China and Hong-Kong	3	3	4	3
Other developing countries in Asia	5	7	4	7

Source: Daudin et al. (2008)

Some euro-zone countries went on to adopt measures to cushion the effects of an appreciating euro. In Germany, for example, the implementation of reforms aimed at reducing the company tax burden and making the labour market more flexible helped improve cost competitiveness by 4% between 2002 and 2006. By contrast, over the same period cost competitiveness deteriorated in most of the other countries in the euro zone: 8% in Spain, 13% in France and 16% in Italy (CEPII, 2007).

Finally, it has been observed that the way in which the prices of traded goods react to an exchange-rate shock varies from country to country. Thus, while French exporters are able to absorb 34% of the exchange-rate fluctuations in their profit margins, this figure drops to 16% where German exporters are concerned (Gaulier, Lahrière-Révil and Méjean, 2005). When the euro appreciates by 10% French exporters therefore reduce their margins by 3.4% in order to offset the loss in price competitiveness resulting from the increased value of the currency (the price of exports expressed in foreign currency only increases by 6.6%), whereas German exporters only reduce their margins by 1.6%. This difference in response between French and German exporters indicates that the market power of the first group is more limited. German

exporters are in fact present in a greater number of markets and on average occupy, for each basic sector, a greater share of the importing country's market (35% as against 28% in the case of France). In the event of an appreciation in the euro German exporters are therefore able, because of their greater market power, to withstand a greater reduction in the volume of goods exported¹. On the other hand, the greater squeeze on margins suffered by French exporters tends to weaken French companies. In fact, the lowering of margins leads to an immediate fall in profits, which in turn forces businesses to reduce their investment effort – and this jeopardises future growth.

The undervaluation of the currencies of the EU's main trading partners threatens the global growth of Europe's economies, even though international monetary disorder is felt differently by the members of the EU bloc. The ECB has so far appeared powerless to act in the face of these uncoordinated fluctuations in the exchange rate. Insofar as the ECB does not officially have an exchange-rate target (its key objective is price stability) it is in fact hardly likely that it will intervene directly or indirectly in order to bring down the price of the euro. Notwithstanding the improbability of such a move, any intervention by the ECB could prove to be ineffective if it were to accelerate the race for currency undervaluation. In response to a lowering of interest rates by the ECB the United States could be prompted to strengthen its expansionist monetary policy and China could be tempted to buy euros in order to limit the drop in price. Finally, it is not at all certain that the euro would depreciate against the yuan and the dollar (Siroën, 2007). The problem of currency undervaluation therefore has to be tackled on a multilateral level.

3. The need for a multilateral response to the problem of currency undervaluation

Under the terms of the Bretton Woods Agreement exchange rates were fixed and any small-scale modification to exchange parity had to be justified. The IMF therefore presided over exchange-rate stability in order to prevent attempts at competitive devaluation². However, since the beginning of the 1970s currencies have been floated and the IMF no longer has any

¹ Price flexibility on exports is similar for both countries.

² During the inter-war period competitive devaluation led to a serious decline in international trade.

reason to oversee exchange rates since the latter are now determined freely on the currency markets by the interplay between supply and demand. Contrary to one of the anticipated effects of floating currencies, however, exchange rates do not converge spontaneously towards their equilibrium value: currencies are often under- or overvalued for a period, however long. The WTO, for its part, is setting out to liberalise trade, as GATT did before, by reducing customs duties and the most visible non-tariff barriers. However, while agreeing to reduce their customs duties and non-tariff barriers, many countries – and especially the industrialised nations – have put in place protectionist measures that are less transparent and not controlled by the WTO, such as exchange-rate manipulation and social and environmental dumping. Finally, the global level of protection has not diminished on the same scale as that of tariff and non-tariff protectionism.

The IMF and the WTO now need to cooperate more than ever to stamp out currency undervaluation¹. According to some authors (Mattoo and Subramanian, 2008), the WTO could play a central role in this struggle. While the IMF has lost credibility since the international financial crises of the 1990s and 2000s the WTO, on the other hand, has gained credibility ever since it was created. More particularly, the WTO – through its Dispute Settlement Body – has access to an impartial procedure for settling trade disputes. Unlike the IMF, the WTO also has the capacity to enforce the decisions that it takes: countries that refuse to implement the recommendations of the WTO are then liable to retaliatory measures that are agreed multilaterally.

The WTO should therefore be able to use its proven jurisdictional system to resolve trade disputes relating to monetary dumping. The main problem that the WTO could encounter in carrying out its mission would be to identify cases of undervaluation resulting from the deliberate actions of one country or another. This will involve being able to distinguish, as far as possible, between monetary disadjustments due to state intervention and those resulting from the actions of other actors, especially speculators. The WTO would then be able to call on the technical expertise of the IMF (whose research department has developed a model for

¹ In 1993 the final Ministerial Declaration of the Uruguay Round was already stressing the need for ‘coherence in drawing up economic policy at global level’ and called on the WTO to cooperate with the IMF.

determining the equilibrium exchange rate) to assess the monetary disadjustment. The intended aim of the WTO is not to prohibit all forms of exchange rate-based protection but rather to control the use of this protectionist instrument. Only the poorest countries would be allowed, on certain conditions, to manipulate the exchange rate in order to facilitate their integration into the world economy. *The WTO therefore needs to define new rules* on foreign-exchange rates that can take their place alongside those currently applying to export subsidies and customs duties.

Other authors have gone so far as to propose merging the WTO and the IMF to create a new organisation. This includes Maurice Allais, Nobel Prize Laureate in Economics, for whom ‘each of the institutions (at that time the IMF and the GATT) has been set up to facilitate international trade and oppose distortion due to competition and the emergence of pernicious imbalances.’ Such a merger would therefore help put in place ‘mechanisms for ensuring the proper valuation of currencies with regard to trade movements’ (Lenoir and Metzger, 2006).

GENERAL CONCLUSION

For several years now many emerging and industrialised countries have been using a variety of instruments (verbal declarations, interventions on the foreign-exchange market, interest rates and so on) to manipulate their exchange rates in order to improve their price competitiveness and sustain growth.

These foreign-exchange policies, while they present risks for those countries practising them, do particular damage to those trading partners whose exchange rates are determined freely on the open market. Thus the EU countries are currently being hit very hard by the repercussions from the undervaluation of the yuan, dollar and yen. As the ECB has no wish to engage in a race for competitive depreciation the problem of monetary dumping can only be solved by way of a multilateral response: the WTO and the IMF have to pool their efforts in order to combat competitive depreciation. The IMF would play a technical role by identifying and assessing cases of monetary distortion, while the WTO would lay down the rules and would be responsible for settling any trade disputes generated by such distortions.

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