Globalization and Financial Instability: Challenges for Exchange Rate and Monetary Policy

Helmut Wagner

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Globalization and Financial Instability: Challenges for Exchange Rate and Monetary Policy

By Helmut Wagner

This paper focuses on monetary aspects of globalization. It first deals with the implications of globalization for the choice of an appropriate exchange rate regime. Then it discusses different strategic aspects of monetary policy in the light of globalization. Finally, it examines the effect of globalization on inflation and the implications of this for the focus on monetary policy.

1 Introduction

The debate over globalization has been lively and passionate over the past years, and it has been associated with high emotions and sometimes even violent conflicts. However, “globalization” is a vague term under which the ongoing trend toward a deeply integrated world economy with all its economic, technological, political and cultural dimensions has been subsumed.

In economics, real (non-monetary) aspects or implications of globalization (with respect to international trade, income/wealth distribution, growth, employment, and the environment) largely dominated the discussion during most of the nineties. Only in the late nineties, after the Asian crisis, did the discussion on monetary aspects or implications of globalization develop on a broader scale. At that time, in particular the implications for optimal exchange rate regimes and financial stability were discussed, whereas monetary policy implications in the narrower sense have become a popular topic of research only in very recent years. This paper will mainly focus on this monetary aspect of globalization. Section 2 will deal with the implications of globalization for the choice of an appropriate (or optimal) exchange rate regime. Shortly after the Asian crisis, the mainstream view in international

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2 Exchange Rate Regimes under the constraints of globalization and financial instability

The 1990s witnessed a tremendous increase in capital mobility and financial globalization that occurred not only within the area of the industrialized world but also between the industrial countries and the emerging market economies. This period also saw serious...
financial and currency crises, in particular in emerging market economies. The most prominent one is the so-called Asian crisis in 1997 with its contagion effects onto other areas in 1998.  

The Asian crisis was characterised by an extreme volatility and reversal of international capital flows. While in 1996, 93 billion US-dollars flowed into the five countries most severely hit by the Asian crisis (Indonesia, Korea, Malaysia, Thailand, and the Philippines), 105 billion dollars flowed out in 1998. This reversal of capital flows was around 10 percent of the sum of the GDP of the 5 countries before the crisis. This sharp reversal of mainly portfolio and banking flows was possible because of the high share of short-term external debt in the total external debt of these countries, which was between 50 and 67 percent at the end of 1996. Moreover, the macroeconomic policy as well as the exchange rate regimes in these countries contributed to the increase in proneness to crisis. The countries typically reacted to the massive capital inflow by restricting their monetary policies in order to prevent an excessive increase in domestic demand. Hence, the domestic rates of interest increased, and this led to a further increase in capital inflows. In addition, the phoney stability of the exchange rate system (based on the official exchange rate pegging to the US-dollar in these countries) led to flawed assessments of the exchange rate risk and hence led to an extensive relinquishment of hedging of the external debts.

2.1 Soft Pegging

A main lesson from the Asian crisis is that a mixture of liberalised capital markets and imperfect institutional adjustment involves a problem for countries that choose soft pegging as their exchange rate system (Baig and Goldfajn 1999; Levy-Yeyati and Ubide 2000). A softly pegged exchange rate regime, although it may be a successful strategy for controlling inflation, may increase financial instability. This danger arises in particular in emerging markets with a weak banking and financial system. An exchange rate peg that has been stable

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6 The Asian crisis was also characterised by severe recessions in the affected countries: for example, real GDP decreased in 1998 by 14 % in Indonesia, 9.4 % in Thailand, 6.7 % in Malaysia, and 5.8 % in Korea.
7 A further lesson from the recent crises in Asian and Latin American emerging market economies is that market sentiment may shift from optimism to scepticism without a deteriorating change in fundamentals (cf. e.g. Ahluwalia 2000, Baig and Goldfajn 1999, Eichengreen and Mody 2000, Kaminsky and Schmuckler 1999, Levy-Yeyati and Ubide 2000). Empirical studies (e.g., Calvo and Reinhart 1996, Hernández, Mellado and Valdés 2001) show that international capital flows are in part driven by herd-like behaviour and contagion effects unrelated to economic fundamentals. The globalization of financial markets is seen as a key culprit behind the marked volatility of cross-border capital flows (Masson 2001).
8 See, for example, Berger and Wagner (2001).
for a rather long period of time may lead market participants to underestimate, or even totally neglect, the exchange rate risk. Excessive capital inflows are the consequence. This process is spurred on if the countries sterilise the massive capital inflows\textsuperscript{9} thereby raising domestic interest rates far above the international rates. Thus, a large amount of foreign-denominated debt is accumulated, which makes a country vulnerable to sudden shifts in market sentiment.\textsuperscript{10}

Furthermore, if bank supervision does not meet international standards, as is often the case in emerging markets, the likelihood of a financial crisis rises significantly\textsuperscript{11}. The capital inflows then typically lead to a lending boom and a financial or real estate bubble. If these bubbles burst, banks are left with a huge number of bad loans and exploding foreign debt if the financial crisis is accompanied by a successful speculative attack. The severe deterioration of banks’ and domestic firms’ balance sheets not only jeopardises the financial stability but also hampers economic growth.\textsuperscript{12}

This recurrent pattern of emerging market crises led the IMF and most observers to advise countries to take care of a sound and stable financial system before fully opening the capital account. The tasks of greatest importance were considered to be: strengthening domestic banking and financial systems; providing better information and policy transparency; strengthening corporate finance, including bankruptcy laws and their implementation; taking precautions against potential capital flow reversals; and last but not least, building packages of sound macroeconomic and exchange rate policies.\textsuperscript{13}

On the other hand, the experiences of the recent financial crises led many observers to ban intermediate regimes and advocate corner solutions as the appropriate menu of choice. This is also reflected in the practice of the last years which has shown a trend away from softly pegged exchanged rate regimes toward floating rates or hard pegs.\textsuperscript{14} Since the institutional

\textsuperscript{9} If they do not sterilise the capital inflows, there will be downward pressure on interest rates and upward pressure on the money supply, thereby potentially conflicting with the inflation goals.

\textsuperscript{10} A common feature of the recent emerging market crises was that the stock of foreign exchange reserves available in the short run was typically far lower than foreign debt.

\textsuperscript{11} Cf. Mishkin (2001).

\textsuperscript{12} Cf. World Bank (2001).

\textsuperscript{13} For more on these requirements see, e.g., Fischer (1999).

\textsuperscript{14} Cf. Fischer (2001) who notes that this trend seems to be well established, both for countries that are integrated into international capital markets and those that are not. However, as recently emphasized by the
framework (including the financial system) cannot be overhauled and completely reformed within a short period of time, the choice of exchange rate regimes gains a special significance for avoiding financial instability in emerging and transition economies. There are two polar regimes or corner solutions that could be implemented to avoid some of the severe consequences of financial instability associated with the intermediate regime, namely hard pegging and free floating.

2.2 Hard Pegs

The term “hard peg” refers to exchange rate systems, such as currency boards or dollarisation (euroisation), where monetary policy autonomy is completely given up. Hard pegs have gained prominence in the debate about the right exchange rate system for emerging markets because severe currency crises, which often have devastating consequences for the economy as a whole, are not possible under hard peg regimes. Thus, it can be excluded that a financial crisis, because of an underdeveloped institutional framework, results in a currency crisis. But before a hard peg can be established, certain institutional preconditions must be fulfilled. These include:

- a developed, well-supervised, and regulated financial system;
- access to a sufficient level of reserves;
- the rule of law;
- fiscal discipline
- wage and price flexibility.

ECB (2003), the recent literature suggests that regime shifts were not predominantly outwards, towards corner regimes but that most regime shifts originated in intermediate regimes. Consequently, claims of a “hollowing out” of regimes towards corner solutions for emerging market economies are regarded to be somewhat exaggerated. Although the popularity of intermediate regimes (such as conventional fixed pegs, horizontal bands, crawling pegs and bands, that were the norm in middle-income developing countries during the 1980s and early 1990s) has declined over the last decade, they are still widely pursued in (about a third of) the emerging market economies and in (about half of) the developing countries.

Crises are then confined to the financial and banking sector of an economy. Cf. Chang and Velasco (2000) who analyze financial instability under alternative exchange rate systems.

In considering the desirability of establishing a hard peg (euroisation or currency board), the crucial factors are, on the one hand, the gains to credibility of tying the hands of monetary authorities and of abolition of the exchange rate risk against the currency (area) to which it is linked, versus, on the other hand, the possible costs of inflexibility. Possible costs that have to be contrasted with the gains arise if the country concerned is likely to face different shocks from those hitting the currency area to which it is linked.

For more details see, for example, Wagner (2000a) and Gulde et al. (2000).

This includes not only well-supervised and regulated banks but also equity and bond markets in order to gather enough venture capital and to reduce the problem of interdependencies between banks and firms.

Other helpful preconditions are a foregoing wide use of the foreign currency in the economy, and a desire for further close integration with the currency partner(s).
However, many developing and emerging market countries do not yet fulfil these requirements. This has been made clear again after some very recent disappointments in countries that have tried to run hard pegs, such as Argentina.

2.3 Flexible Exchange Rates

Another polar regime or corner solution (besides hard pegging), that could avoid the pitfall of financial instability associated with the intermediate regime, would be free floating.\textsuperscript{20} Again, currency crises as a result of financial instability, which is a key problem in intermediate regimes, cannot occur. However, we know that free floating includes a tendency toward volatility. This exchange rate volatility is not always based on macroeconomic fundamentals and includes occasional speculative bubbles and crashes. Hence, exchange rate flexibility tends to raise the exchange rate risk premium. There are other caveats, too. One caveat is that flexible exchange rates cannot protect banks against panic by external creditors who hold short-term claims denominated in foreign currency.\textsuperscript{21} This was the case in Asia to a significant extent. Therefore, a flexible exchange rate system would have provided only limited protection.\textsuperscript{22} Furthermore, emerging economies set policy in a world in which their own financial markets are underdeveloped, many structural rigidities exist, and corporate sectors have very limited opportunities to hedge. In these emerging market economies, stock markets are a relatively recent phenomenon and bank lending is the dominant form of financing. Exchange rate movements are costly in this environment, and hence, the fixed option may look very attractive\textsuperscript{23}.\textsuperscript{24}

On the other hand, one has to consider that recent studies (e.g., Calvo and Reinhart 2002 or Bailliu et al. 2000) have emphasised that many countries that claim to have floating exchange rates do not, in practice, allow the exchange rate to float freely, but use interest rate and

\textsuperscript{20} Support for this conclusion for emerging markets is derived from the „inconsistent quartet”, which is the impossibility of having simultaneously openness to trade in goods and services, unrestricted capital flows, autonomy of monetary policy and a fixed exchange rate. See, e.g., ECB (2003)

\textsuperscript{21} They can only protect banks against the self-fulfilling pessimism of domestic depositors, i.e., of depositors whose claims are in local currency.

\textsuperscript{22} Floating rates, however, would have altered behaviour on the part of private lenders and borrowers but presumably without being able to prevent the crises.

\textsuperscript{23} See also G. Calvo, in IMF Survey, May 22, 2000.

\textsuperscript{24} This may be a main economic reason why the Central and Eastern European Candidate Countries (CEECCs) aspire to enter the European monetary union quickly. Before entering the EMU, however, the choice of a flexible exchange rate system may be useful for the CEECCs. This could make it easier to find the right real exchange rate before adopting the euro or entering ERM-II. Cf. Wagner (2002b,c) and Hochreiter and Wagner (2002).
intervention policies to affect its behaviour (“fear of floating”). That is, even those countries which claim to fully float, de facto apparently practise managed (“dirty”) floating.

3 Monetary Policy Strategies under Globalization

3.1 Is Inflation Targeting a Solution/Shield to the Financial Instability Problem?

In section 2, we argued that most emerging market economies seem to be overstrained by the high requirements of sustainable hard pegging, but show a “fear of floating” and, correspondingly, use managed floating or intermediate regimes. This would mean that the implementation of a “credible” nominal anchor becomes a particularly important macro-policy element in the fight against financial instability. When exchange rate flexibility increases, it is important for a country to determine the basis for its monetary policy, i.e., to choose an appropriate nominal anchor. The record of inflation targeting is often regarded to be a good one in this regard (see e.g., Bernanke et al. 1998, and Fischer 2001). Hence, supplementing managed floating with inflation targeting is sometimes regarded as the locally optimal solution for emerging countries (Chang and Velasco 2000), and for the CEECCs in particular (Masson 2000).

Inflation targeting here takes a significant role: it is expected not only to apply an appropriate nominal anchor but also to avoid the danger of financial instability associated with non-credible pegs (or managed floating) and to overcome or fill the lack of institutional conditions that are responsible for credibility problems. However, it is difficult to see how inflation targeting can meet these expectations. Inflation targeting tends to be overstrained with these tasks, in particular in emerging countries. In order to serve as a firm anchor for monetary policy in the context of a transparent and credible operating framework, inflation targeting needs to involve more than vague commitments to bring inflation down to EU levels. As argued in Masson et al. (1997), Wagner (1999a) and Carare et al. (2002), an effective and credible inflation targeting framework needs to satisfy certain prerequisites. They include a

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25 The interest-rate volatility (both real and nominal) as well as the reserve volatility have been found to be significantly higher in these countries than that of “true(r)” floaters (Calvo and Reinhart 2000). This “fear” of floating can be derived from the difficulty of many emerging market economies in issuing debt in domestic currency, a phenomenon known as “original sin”. Hence, foreign currency indebtedness is vulnerable to downward pressure in foreign exchange markets and the flexibility of the exchange rate is of no advantage.

26 Chang and Velasco (2000, p. 75) state: “(T)he evaluation of exchange-rate policy should move away from the ‘fix versus flex’ dichotomy, and toward the characterisation of optimal monetary policy in well-specified analytical frameworks.” Inflation-targeting is regarded to be one such framework.
quantitative framework linking policy instruments to inflation, and the freedom to carry out an independent monetary policy. However, most developing countries and also many of the CEECCs do not satisfy these prerequisites. For example, as inflation is not controllable in the short term by monetary policy, and hence hitting a target requires forecasting the effects of policy instruments at a one- or two-year horizon, it is essential to have a reliable and generally accepted way of making those forecasts. It is doubtful whether (many of) these countries are capable of meeting this requirement. In particular, one has to consider that, in general, the developing and emerging market economies often do not satisfy a main requirement of inflation targeting, namely the existence of a stable and predictable relationship linking monetary policy instruments to future inflation. Structural changes, which are natural in emerging and transition countries, are bound to affect the stability of relationships for forecasting inflation. If, however, inflation targeters do not have reliable inflation forecasting tools, inflation targeting, instead of helping to consolidate central bank credibility, will have the opposite effect. Furthermore, there are doubts whether the/all emerging economies already exhibit a political consensus in favour of low inflation and fears that the central bank independence in some of these countries is not solid (or only “legal”) so that it may eventually be ineffective and perhaps even counterproductive (Wagner 1999b). If a central bank is not believed to have the freedom to carry out an independent monetary policy, it can hardly gain enough credibility to sustain a price-stability oriented monetary policy. As a result, sometimes a “hybrid” system with some weight given to both inflation and the exchange rate is suggested (Masson 2000).

3.2 Is there a(n additional) Need for Asset Price Targeting?

Even if countries succeed in implementing inflation targeting and thereby in stabilizing price level expectations (as in many countries over the past years), doubts remain as to whether this can counteract the dangers of the globalization-induced increase in financial instability. Price

27 See also Eichengreen (2002) for additional difficulties of inflation targeting in emerging markets: Eichengreen emphasizes three reasons: emerging markets are open, their liabilities are dollarized, and their policy makers lack credibility. Openness, on the one hand, exposes their economies to external disturbances, makes inflation forecasting more difficult, and opens additional, exchange-rate related channels linking the central bank’s instruments and targets which operate with very different control lags. Liability dollarization, on the other hand, implies that financial institutions and their customers will be saddled with currency mismatches, given the difficulty these countries have in borrowing in their own currencies, so that an inflation targeting central bank will be reluctant to let the exchange rate move.

28 This will likely to be the alternative that most of the CEECCs will choose in the interim phase of ERM-II between EU admission and the adoption of the euro. Structural differences between the CEECCs and western Europe, however, may make adjustable pegs especially vulnerable to speculative attacks. Experiences with “hybrid” regimes, for example in Chile 1997-9 and in Poland 1995-8, seem to confirm this fear. Moreover, see the foregoing footnote.
stability does not guarantee financial stability as recent experience has shown: the booms and busts in stock markets in Japan in the 1980s and America in the 1990s both occurred at times of low inflation. This has prompted many economists\textsuperscript{29} to suggest that inflation targeting is not enough. Sometimes central bankers may need to raise interest rates to curb sharp rises in the prices of assets, such as equities and property, so as to prevent painful consequences when bubbles burst. In other words, central banks can or should no longer ignore surging assets prices by insisting that monetary policy should focus only on consumer-price inflation. Swings in asset prices can have big long-term consequences for inflation. Some central bankers, too, have now realised that they cannot afford to be so short-sighted. In late 2002, even Mervyn King, the deputy governor (and governor-designate) of the Bank of England (which itself uses inflation targeting), accepted that conventional inflation targeting may not be enough. Monetary policy, he admitted, may sometimes need to be tightened in response to economic imbalances caused by rising asset prices, even if inflation is well within its target range.\textsuperscript{30} Normally, central bankers target inflation up to two years ahead. But an asset-price boom can create imbalances that, if left unchecked, might cause inflation to fall outside its target range at a more distant date. Hence, there is a trade-off between deviations of inflation from target over the next year or two and deviations from target later. It may sometimes make sense to increase rates now, and accept that inflation will undershoot its target in the short run, in order to avoid undershooting by rather more later.

Otmar Issing, a member of the executive board of the European Central Bank (ECB), has also argued that short-run deviations from inflation targets may be desirable in order to preserve long-run price stability.\textsuperscript{31} Indeed, this is one (recent) justification for the ECB’s much-criticised special focus on monetary growth within its inflation-fighting framework (“2-pillar-strategy”). By paying particular attention to the money supply (and so to credit), the ECB (and the Bundesbank)\textsuperscript{32} believes it can help to stop the emergence of serious financial imbalances.

\textsuperscript{29} See, e.g., Cechetti et al (2000, 2002) and Borio and Lowe (2002).
\textsuperscript{30} See King (2002).
\textsuperscript{31} See Issing (2002) and Brousseau and Detken (2001).
\textsuperscript{32} See also Remsperger (2002) who is a member of the executive board (and the chief economist) of the Deutsche Bundesbank.
Other central bankers, such as Mervyn King, believe that the framework for inflation targeting can cope with policy dilemmas about asset prices. The solution in his opinion is to look at inflation over a longer period than usual. However, more and more economists nowadays argue that inflation targeting is not enough. They suggest that financial globalization requires central banks to revise their monetary policy rules. Hence, the issue discussed is whether a structural increase in asset price volatility calls for a structural change in monetary policy as well. The central question is: can macroeconomic stability be improved by explicitly reacting to asset prices.

Opponents of such an inclusion, such as Alan Greenspan and Ben Bernanke from the US Federal Reserve Bank, argue as follows.\textsuperscript{33} First, central banks can never tell a bubble from a more justified increase in asset prices. To do this, they would not only need to exactly assess the fundamental dates behind the asset values, but also be sure to have better information and capability to do this than the private market agents whose common information is reflected in the asset values. Second, interest rates are a blunt tool. A small rise in interest rates may have no effect; however, an increase big enough to pop an incipient bubble could cause a recession. Therefore, it is thought to be safer to wait for a bubble to burst by itself and then to mop up its after-effects by easing monetary policy, aggressively if need be.

Critics (e.g., Cecchetti, Gernsberg and Wadhwani 2002) retort that uncertainty about whether there is a bubble or not is no excuse for inaction; central banks always have to deal with uncertainty. Second, lowering interest rates when asset prices tumble (as the Fed has done) but not raising them when they soar creates a moral hazard that makes speculative bubbles more likely.\textsuperscript{34} And third, even if a rate increase does cause a recession, that may be better than the alternative. The longer a bubble is allowed to inflate, the more it encourages the build-up of other imbalances, such as excessive debt or overinvestment. The result may be a longer economic downturn.

So far the literature gives no clear-cut answer to the question of how monetary policy should respond to asset price fluctuations. There is a broad consensus among economists that asset price fluctuations can strongly affect the real economy. But there is, at least at present, no

\textsuperscript{33} See, e.g., in International Herald Tribune, December 23, 2002. See also Bernanke and Gertler (1999, 2001).

\textsuperscript{34} The reason is that the gain and loss risks from engagements on the asset markets are asymmetrically distributed for the market agents.
consensus about whether policymakers should respond actively to asset price movements. Both conflicting views on the role of asset prices for monetary policy that we presented above agree that asset price movements ought to be taken into account when inflation targeting central banks formulate their inflation forecast. However, they disagree strongly about whether this is a sufficient consideration of asset prices for monetary policy. Against this background one cannot make any final statement about whether an appropriate reaction of monetary policy to the increased asset price volatility consists of adopting a policy rule that includes asset prices.\(^{35}\) One can, however, conclude that the formulation of the central banks’ inflation forecasts will become more challenging and be subject to growing uncertainty since asset price volatility increases in globalized markets. Since the inflation forecast serves as the intermediate target for an inflation targeting central bank, it can be argued that financial globalization contributes to a loss of efficiency in central bank monetary policy.

4. Monetary Policy Goals under Globalization

Globalization not only affects the strategy of central banks but also has an impact on their goal considerations. A main topic in this context is the effect of globalization on inflation and the implications of this for the focus of monetary policy.

4.1 Does Globalization Reduce Inflation?

Inflation is the main goal variable for central banks. Maintaining price stability (or stabilizing the inflation rate at a certain low level) is nowadays regarded to be the main task and objective of central banks. However, globalization is argued to reduce inflationary pressures and therefore to “ease” the job of central banks. This is mainly substantiated by the argument that globalization leads to an increase in competition among firms and locations.

4.1.1 Increase in Competition

Globalization – and the accompanying market deregulation and liberalization process - increasingly exposes private agents and governments to international competition on different levels or fields.

\(^{35}\) However, it does not appear reasonable for a central bank to target asset prices on a day-by-day-basis. Instead, it only would make sense to react with interest rate adjustments (from time to time) to long-enduring strong asset price movements which go into the same direction.
In the private sector (on a microeconomic level), global economic integration leads to lower price markups and lower excess wage on all markets. “The disciplining effect of global financial markets applies ... to the private sector, by making it more difficult to sustain unwarranted price markups and nonproductivity driven wage increases” (Citrin and Fischer 2000, p. 27). This effect of globalization, however, will tend to result in one-time downward shifts in the price level rather than ongoing restraints on the rate of inflation.

In the state sector (on a macroeconomic level), global economic integration leads to new, fiercer competition on the world market as new countries (competitors) enter the global market. The increased openness to trade and capital flows, based on liberalization and deregulation, particularly on the financial markets, increases the locational or infrastructural competition between regions and countries. This in turn forces governments to reduce inefficiencies, and, as a consequence of this, inflation may be reduced (see in more detail, Wagner 2000, 2001, 2002a; Stanley Fischer (from the IMF) also argued that an aspect of globalization that is “likely to have a long-lasting influence on inflation is the discipline on domestic financial policies imposed by increased financial market integration” (Citrin and Fischer 2000, p. 26)).

This means, globalization tends to reduce inflation mainly through its impact on locational competition. Countries and regions have to provide good infrastructure (better infrastructure than competing countries or regions) to attract mobile production factors. Good infrastructure increases the incentive for foreign direct investors to invest in this country or region and improves the chances of domestic firms attracting foreign mobile production factors or keeping their own productive factors from moving outward. Here various so-called locational or infrastructural factors matter, for example on the national level: legal security (property rights, contract enforcement), social security, economic and political stability; and on the regional level: cultural offers or infrastructure, housing, roads, safety etc. Here we concentrate on macroeconomic stability as a key locational factor on the national level. Major indicators or signals of macroeconomic (in)stability are inflation, debt and the tax burden (Fischer 1991). Globalization in the above sense forces governments to exercise greater fiscal discipline and to ensure sound institutional and political frameworks. In other words, it does

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36 On the concept of “locational competition” (Standortkonkurrenz) see, for more details, Siebert (1996).

37 However, the domestic firms also have to fulfil their own part of the task insofar as they have to supply (comparatively) attractive working conditions and remuneration.
“act as a force for stability by limiting the scope for countries to pursue policies that are incompatible with medium–term financial stability” (Citrin and Fischer 2000, p. 27). Thus, governments feel pressured by the (globalization-driven) locational competition to promote international competitiveness through macroeconomic stability particularly by lowering taxes, government debt, and inflation. (On the relevance of macroeconomic and in particular price stability for FDI see, for example, Rogoff and Reinhart 2003.)

4.1.2 Effects on Inflation

It is reasonable, to differentiate between the effects of real and financial globalization on inflation.

(1) **Real** globalization in the sense of an increase in international trade or “openness” affects inflation, as has been discussed in recent years. The recent literature has identified openness as one of the countervailing forces that lessen the incentive to inflate. The argument, which is originally due to Romer (1993), is that, the more open the economy, the smaller the real benefits of higher output from surprise monetary expansion, and thus the lower the equilibrium rate of inflation. As domestic output increases, the terms of trade worsen: the more open the economy, the larger the fraction of foreign goods in domestic consumption, and the greater the welfare loss from the terms of trade loss. In short, more open economies may be blessed with a lower incentive to inflate.

(2) Here, however, we concentrate on the effects of financial globalization. **Financial** globalization in the sense of an increase in cross-border capital flows (portfolio investment as well as foreign direct investment) implies that the locational competition between countries or regions described above gains in importance. Theoretical and empirical research has shown that (high) inflation is an undesirable locational factor and a locational disadvantage in a globalized world (see, in more detail, Wagner 2002a). Inflation is regarded as a signal of bad policy and political and economic instability. As bad policy and political and economic instability are relevant locational factors or disadvantages, this contributes to capital flight in a globalized economy. The costs of a capital drain stem from the fact that investors and (productive) mobile factors are the basis of economic growth. When firms and mobile capital leave the country (or region), this means a loss of (potential) production, a decrease in the (potential) output, an increase in unemployment and a decrease in productivity (particularly

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38 See for example, Shiller (1997), Autschbach (1997), Mankiw (1999), and Rogoff and Reinhart (2003). In addition, it is often believed that (high) inflation may reduce economic growth, even though previous empirical evidence that links inflation with overall economic performance is not particularly robust.
if, as is often the case, the most productive factors and the most innovative investors are the most mobile ones). This tendency for capital flight in the case of bad locational factors (such as high inflation) is stronger, the higher are the integration and globalization of the financial markets. By contrast, the host country (recipient) profits from attracting foreign mobile capital. It profits from technology transfers, because foreign direct investment (FDI) allows the labour force in the host country to become better trained, and from profits and tax revenues.

Inflation, however, works like taxation. The real effective capital income tax rate rises as inflation increases. The effects on capital income taxes are a main mechanism by which the tax system becomes non-neutral to inflation.

Therefore, unless they are very myopic, when deciding about structural priorities, governments will consider the costs of a capital drain and of not being able to attract foreign capital, which functions as a source of finance for investments and economic growth. This insight (and the consequent change in behaviour) has found expression, for example, in the willingness of numerous governments all around the world to provide their central banks with greater legal independence. This trend towards increased central bank independence that has been witnessed in both industrialized and developing countries can be regarded as the most important inflation-decreasing effect of locational competition. This locational or institutional competition, which was described above as a characteristic or implication of globalization, tends to make institutions such as central bank independence into a “must” for

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39 See Wagner and Berger (2003).

40 See, e.g., Feldstein (1999).

41 Here, however, we have to differentiate between the short term and the long term. (Physical) capital can be withdrawn from one use, and directed toward another, only gradually. The fact that capital is thus not very mobile in the short term means that capital income can be a target for redistributive policy. Inflation or expansionary (inflation-producing) policy, can be looked at in the same way. That is, inflation can be regarded as a form of source-based capital income tax. Over time, however, when there are not favourable conditions, capital flows out of the jurisdiction, causing labour productivity and income to fall. That is, inflation may not only be regarded, as economic theory suggests, as a phenomenon that leads to the misallocation of resources, but it may also reduce economic growth. Moreover, increasing factor mobility tends to limit the effectiveness and the attractiveness of redistributive, inflationary policies (Wildasin 2000).

42 Within the former socialist countries of Central and Eastern Europe, economic transition has also been accompanied by substantial central bank reforms granting greater ‘goal’ and ‘instrument’ independence. In these countries, however, the question sometimes arises whether the delegation of independence to the central bank is actual or only legal (see Cukierman 1998, and, for the implications, Wagner 1999).

43 There is extensive empirical evidence suggesting that central bank independence helps to reduce inflation. For a survey of recent research on central bank independence see, e.g., Kißmer and Wagner (1999), and Berger, Haan and Eijffinger (2001).
a government in order to be able to sell bonds on the international financial markets, at least at a “reasonable” price.

The hypothesis that increasing locational competition reduces inflationary pressure has also been modelled (Wagner 2000c, 2001, Kißmer 2001). Inflation itself was caught in this literature as the result of inefficient structural conditions. These inefficiencies, which supposedly can only be reduced by (costly) structural reforms, were considered to be the consequence of a (rational) delay in reforms. By increasing locational competition, an increase in globalization increases the costs of this delay of reforms, and hence the cost of inflation. In a modified Calmfors (1998) approach, it was shown (Wagner 2001) that globalization may increase the extent of (labour market) reforms and decrease inflation.

4.2 Should Central Banks Change Their Focus?

The above arguments support the view that globalization tends to reduce inflation. Therefore, globalization appears to improve the conditions for maintaining price stability and thereby to ease the job of central bankers. This is sometimes used to argue that central banks (particularly the ECB, referring to the objectives as laid down in the EU-Treaty) could or should reduce their efforts in the fight against inflation in favour of supporting the general economic policies of the governments. However, there are caveats with this conclusion.

4.2.1 Trade-offs

There are trade-offs between different locational goods that a country or government tries to attain. That is, not only price stability is an important locational good. Also other locational goods matter. For example, absence of high fiscal burdens (direct tax load and indebtedness) have also to be considered as a locational good in the locational competition between

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44 This can be traced to a failure to make reforms in areas such as labour market rigidity, or financial and monetary policy aspects, for example inappropriate taxation and government debt or central bank dependency.

45 However, a decline in inflation there requires a certain amount of reform willingness that is dependent upon the credibility of the reform policy. (The effects of globalization on inflation and employment there depend upon policy commitment and the design of the relationship between the government and the central bank.) This necessary amount of reform willingness is not given automatically as there are reform costs, too. For the private sector, the costs consist of redistribution effects subjectively assessed as “unjust”, and, for the government, the costs are mainly in the probability of being voted out as reaction to these redistribution effects. Nevertheless, there are good reasons for arguing that an increase in globalization increases the perception/understanding of the competition pressure described above and hence the acceptance of the necessity of reforms in the private sector. Hence, the probability that a government will be voted out if it implements reforms is then reduced. Thus the reform willingness of the government will increase.
countries or governments. Moreover, it is not only taxes, expenditures and debt that are important locational factors in the competition for direct international capital investments; another important locational factor is the infrastructure, which includes physical goods such as roads, ports and telecommunications, institutional conditions such as property rights, contract enforcement and, last but not least, educational goods (a minimum threshold level of skills is needed to attract inward investment). This trade-off situation may result in a stronger pressure on the central bank to allow for an increase in the share of seigniorage (beyond the optimal share of seigniorage that may also rise) in financing government expenditures to supply those other locational goods (see, in more detail, Wagner 2002a, pp. 28-30). Therefore, there is no reason for central banks to conduct the price stability task under globalization more laxly (or even for the government to reduce the degree of central bank independence).

4.2.2 Credibility Trap

When globalization is believed to suppress inflation pressures, it is more tempting for specific social interest groups to pressure the central bank to reduce its efforts in the fight against inflation in favour of the fight against (for example) unemployment or economic recession. However, there are some pitfalls if the central bank gives in to this pressure. For example, central banks can be fooled by their own credibility for low inflation (based, for example, on the increase in competition induced by globalization described above) into being insufficiently pre-emptive in a business expansion (Goodfriend 2000). In the belief in the inflation-suppressing power of this competition, central banks may be inclined to delay monetary tightening when the economy moves beyond a presumed level of non-inflationary potential output. If, however, the economy continued to run above potential, the credibility for stable prices may, at some point, self-destruct. This would create a jump in inflation, so that the central bank would then be forced to react with tighter monetary policy. It would produce, what is often called a ‘hard landing’ for the economy. The outbreak of inflation would destroy a kind of implicit reputational equilibrium in which price and wage setters kept their part of an implicit bargain, which means that they did not inflate as long as the central bank (or the globalization-driven competition) was expected to maintain its commitment to price stability. An obvious conclusion to draw is that a central bank should be sufficiently pre-emptive in a boom (see Goodfriend 2000).  

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46 This argument is similar to that in section 3.2 there with respect to the danger of central banks neglecting, and hence not constraining asset price bubble effects.
4.2.3 Uncertainty

Most important, the many structural changes that are associated with the globalization process cause an increase in the number and extent of disturbances and hence increase the uncertainty surrounding monetary policy. On the one hand, they lead to an increase in uncertainty about how to interpret macroeconomic data/indicators (and hence the current/approaching state of the economy). This is partly due to time lags in acquiring reliable data after structural shocks (incompletely foreseen structural changes) and the associated problem of data corrections. On the other hand, the structural changes lead to an increase in uncertainty about how the policy instruments affect inflation and economic activity (i.e., the transmission mechanisms). This is due particularly to the heterogeneity of structures and policy transmission mechanisms among different countries, where the number of countries that are interlinked with each other and affected by the actions and developments in the other (partner) countries increases with the ongoing globalization process. Not only does the number of interlinked countries increase, but the intensity or extent of exchange and dependency also rises.

From this we can conclude that uncertainty increases. However, one may point out that real globalization will have the effect that social-political structures and social behaviour become/s more similar all over the world so that structural uncertainty for internationally acting investors and politicians should rather decrease instead of increase. This is correct if one looks at globalization in a comparative-static way, that is at how globalization in the end will change the world. This process, however, is a long-enduring process. Here, we look at globalization as an ongoing dynamic process. In other words, we look at the trajectory. During this long-term adjustment process, however, uncertainty increases, as new structures have to be learned or get familiar with. Hence, changes in and adaptation of social structures, and hence of transmission mechanisms, is a long-term process.

This issue has been examined in more detail in Wagner (2002a), therefore we shall restrict ourselves to some summarizing statements. In the context of a Taylor rule, the uncertainty about the output and inflation gaps, as well as the uncertainty about the monetary transmission mechanism and hence about the optimal reaction parameters, increase.

Importantly, this uncertainty is structural uncertainty and would have to be modelled as multiplicative or parameter uncertainty and not just as additive uncertainty.
With respect to the uncertainty about the output and inflation gaps, two aspects in particular are highlighted in Wagner (2002a). On the one hand, the structural changes associated with the globalization process increase the uncertainty with respect to productivity growth (and hence potential output), and, on the other hand, they decrease the information content of the price level. Both effects increase the uncertainty about the output gap and the inflation gap.

With respect to the uncertainty about the monetary transmission mechanism, one can refer to the new technology of e-money. The increasing use of e-money clouds the significance of conventional monetary aggregates. When the significance of conventional monetary aggregates weakens, the central bank becomes more uncertain about the monetary transmission mechanism, i.e. about how the monetary instruments affect inflation and economic activity, in terms of both size and timing.

Furthermore, as argued above, ongoing globalization implies that the degree to which individual national economies are dependent on the developments in other countries increases. Not only are they increasingly dependent on traditional trading partners, new partners also appear. The new partners arising out of the globalization process, however, have different economic, political, social and cultural structures that are incompletely known to the home country’s inhabitants. Therefore, the transmission mechanisms of national economic policies will not only change but also become more uncertain because of the home country’s increased dependency on and the corresponding (uncertain) feedback from structural and policy changes in these other countries.

Therefore, it can be assumed that ongoing globalization increases the complexity of the real economy and, as a consequence, transitorily the central bank has less understanding of the economic structure in which it acts. That is, if the ongoing structural change surrounding globalization is going to change the economic structure (in which the central bank acts) itself, the data, parameter and model uncertainty of the central bank will increase. The question, then, is what consequence this would or should have for monetary policy. The research on this issue, however, has only just begun (see Taylor 1998, Aoki 1999, Hansen/Sargent 2000, Gionanni 2002, Levin, Wieland and Williams 2003, EZB 2001), and no clear academic consensus has yet been reached.

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49 Usually, only the implications of single kinds of uncertainty have been modelled, however not that of the simultaneous appearance of data, parameter and model uncertainty. Nonetheless, recent studies have argued that the Brainard rule (1967) and its “conservatism principle” is not universally robust, but depends upon the
Furthermore, with increasing globalization of financial markets and the associated increase in financial and asset price volatility (see Wagner and Berger 2003), the conduct of monetary policy will become more challenging for inflation targeting central banks (but not only for them) since uncertainty about the inflation outlook will increase. The inflation forecast as the intermediate target will, therefore, have to be formulated in an environment of greater uncertainty so the efficiency of inflation targeting might be impaired.

4.2.4 Potential Dangers of Deflation

Even if globalization really erased the danger of inflation, and financial instability was suppressed by institutional precautions, this would not mean that central banks could relax. Globalization could generate another danger, namely making deflationary shocks more likely, and deflation (deflationary shocks) would create serious problems. First, deflation would decrease the value of assets and increase the real value of debts. Consequently, interest rates may go up (because of higher risk premiums based on the lower real value of assets and the higher real value of debts), and, more importantly, investors and consumers may have difficulties obtaining further credit. Therefore, reductions in investment demand and even increases in bankruptcies of firms, with the consequence of bad loans on the sheet balances of banks, may occur. Second, aggregate demand would decline. One reason for this is the reduction in investment demand based on the reduction (increase) in real asset (debt) values as just described.\(^{50}\) Another reason is the increase in the purchasing power of money because of lower prices. This makes hoarding of money more attractive because the pure holding of money promises a positive real interest. The consequence is that more private savings go into unproductive money holdings instead of being available for productive real investment. Moreover, delaying the purchase of (not-urgently needed) goods becomes a more attractive option. Hence, a vicious circle may be established that leads the economy into even more severe depression and deflation.

The question arises, how a country can avoid or get out of such a vicious circle. One way out of such a deflationary crisis is expansionary fiscal and/or monetary policy. However, the

\(^{50}\) The relevant transmission mechanisms are based on wealth effects, balance sheet effects and Tobin’s Q. See, for example, Mishkin (2001) or Wagner and Berger (2003).
scope for fiscal policy is limited if the government indebtedness is already high and then even increases because of deflation. Monetary policy also has problems if used to lead an economy out of such a vicious circle. Interest policy may be rather ineffective in a deflation as the example of Japan has exhibited: The central bank can only steer the nominal rate of interest whereas aggregate demand can only be increased by decreasing the real rate of interest, that is the difference between nominal interest rate and the rate of expected inflation. As long as the rate of expected inflation is negative (because deflation is expected), the real rate of interest rises. Moreover, if the nominal interest rate is near zero, the economy may drift into a liquidity trap where an increase in money supplied by the central bank, goes into money holding. It is difficult in such a situation to revert deflationary expectations, i.e. to create expected inflation. Perhaps a strong depreciation of the domestic exchange rate, as proposed by various economists, would help. However it may not be implementable politically because of the costs involved with it.

In sum, managing to reverse a deflationary process by fiscal and monetary policy is anything but easy, and it is apparently more difficult than reversing an inflationary process with these macro-policies (although both are costly for a society). If, however, neither fiscal nor monetary policy is sufficiently successful in reversing a deflationary crisis, structural reforms, particularly in the labour market, become most pressing. Without flexibility in money wages, deflation drives real wages up and further decreases aggregate demand and nourishes the vicious circle described above.

5 Conclusions

We have analyzed the challenges of globalization for monetary and exchange rate policy. The main challenge of globalization for exchange rate policy refers to the choice of an appropriate exchange rate regime. Exchange-rate policy is constrained by the financial instability

51 See, e.g., Oda and Okina (2001). But see also Ahearne et al (2002) who claim that the failure of monetary policy loosening to support asset prices and to boost the economy owed to offsetting shocks rather than to a genuine breakdown of the monetary transmission mechanism.

52 For such a proposal see Svensson (2001, 2003). Svensson’s “Foolproof Way” of escaping from a liquidity trap and deflation consists of announcing and implementing 1) an upward-sloping target path for the price level; 2) a depreciation and a temporary (crawling) peg of the currency; and 3) the future abandonment of the peg in favour of inflation targeting when the price-level target path has been reached. For a survey on other proposals see Svensson (2003).

53 See, e.g., Oda and Okina (2001). The main costs are the increase in interest rates that hit domestic groups, and the costs of devaluation that hurt foreign countries through a loss of competitiveness.
tendency effect of globalization insofar as intermediate exchange rate regimes tend to be very unstable. However, most emerging market economies seem to be overstrained by the high requirements of sustainable hard pegging, but show “fear of floating”, and hence they tend to conduct managed floats. This means that the implementation of a “credible” nominal anchor becomes a particularly important macro-policy element in the fight against financial instability. Inflation targeting is often regarded to be a good one in this regard. However, despite the apparent success of inflation targeting in stabilizing price level expectations, there are more and more doubts about inflation targeting being able to counteract the dangers of the globalization-induced increase in financial instability. Price stability does not guarantee financial stability, as recent experience has shown. This has prompted more and more economists to suggest that inflation targeting is not enough: Central banks should act in advance to reduce the danger of asset price bubbles. That is, central bankers may need to raise interest rates to curb sharp rises in the prices of assets, such as equities and property, so as to prevent painful consequences when bubbles burst. In other words, central banks can or should no longer ignore surging asset prices by insisting that monetary policy should focus only on consumer-price inflation. The question, however, is how this should be done. Currently, a much-discussed proposal is to include asset prices in the monetary policy rule, for example in a Taylor rule. This, however, may not be appropriate in the light of information, operational and communication problems associated with such a policy.

However, globalization may also create the desire to change the focus of monetary policy. Globalization is sometimes argued to reduce inflationary pressures and therefore to “ease” the job of central banks. This is mainly substantiated by the argument that globalization leads to an increase in competition among firms and among governments (locational competition). Therefore, globalization appears to improve the conditions for maintaining price stability and thereby to ease the job of central bankers. This is used to argue that central banks (particularly the ECB, referring to the objectives as laid down in the EU-Treaty) could or should reduce their efforts in the fight against inflation in favour of supporting the general economic policies of the governments. However, there are caveats with this conclusion or argument. First, there are trade-offs between different locational goods that a country or government tries to attain. This trade-off situation may result in stronger pressure on the central bank to allow for an increase in the share of seigniorage (beyond the optimal share of seigniorage that may also increase) in financing government expenditures. Second, central banks can be fooled by their own credibility for low inflation into being insufficiently pre-emptive in a
business expansion. In the belief in the inflation-suppressing power of the globalization-induced increase in competition, central banks may be inclined to delay monetary tightening when the economy moves beyond a certain level of non-inflationary potential output. If, however, the economy continued to run above potential, the credibility for stable prices may, at some point when some prices start to rise, self-destruct. Third, the many structural changes that are associated with the globalization process cause an increase in the number and extent of disturbances and hence increase the uncertainty surrounding monetary policy. This uncertainty refers to the interpretation of macroeconomic data or indicators, to the model parameters and to the economy model itself and so clouds the view of the monetary policy transmission mechanisms. Furthermore, the increase in financial and asset price volatility associated with globalization\textsuperscript{54} will force central banks to formulate their inflation forecasts in an environment of greater uncertainty so that the efficiency of the monetary policy of inflation targeting central banks (but not only of them) might be impaired. Fourth and finally, even if globalization really erased the danger of inflation, and financial instability was suppressed by institutional precautions, this would not mean that central banks could relax, since globalization may generate another, potentially even greater danger, namely deflation.

The challenges of globalization for exchange rate and monetary policy are far-reaching and very demanding. Therefore, there is no opportunity for central banks to sit back or reduce their efforts to fulfil their main task of maintaining price stability.

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\textsuperscript{54} See Wagner and Berger (2003).


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