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For The Encyclopedia of Financial Globalization

The Varieties of European Crises

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I. Introduction

In the last decade of the 20th century and the first decade of the 21st Western Europe has been subject to a variety of currency and financial crises. These came in two major waves. The first round began in the late 80s with banking crises or near-crises in the Nordic countries caused by bursting real estate bubbles in the Nordic countries as well as in Belgium and the UK. The break up of the Soviet Union contributed as well. While the Nordic banking sectors were still in crises the European Monetary System of adjustably pegged exchange rates blew up in 1992 and 1993. (Strictly speaking, what fell was the system's Exchange Rate Mechanism, where in the 1993 part of the crisis the bands of permissible exchange rate fluctuations were broadened so widely as to become virtually meaningless.)

The second wave came toward the end of the first decade of the 21st century and began with the spread of the United States subprime mortgage crisis across the globe. Not all the crises of the first wave were due to defective exchange rate policies, however, nor was all of the second wave due to contagion from the United States crisis. Careful analysis of these episodes has shown that there were a number of different types of crises with different primary causes.

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While this much is clear, there has been considerable disagreement among both economists and policy officials about the prime causes of a number of these crises and also about their relevance for the different types of models that economists use to analyze crises. For example, many French officials argued that France was the innocent victim of destabilizing, self-fulfilling speculation, while on the other extreme, Nobel winner Paul Krugman argued that these attacks were a standard case of a fundamental crisis. Likewise, in the second phase of the second wave of European crises in 2010 and 2011, many German officials viewed the crises as largely the result of lack of fiscal discipline while influential Financial Times columnist, Martin Wolf, argued that while this analysis has considerable relevance for Greece, the problems of Ireland and Spain were primarily the result of financial sector decisions gone bad, especially with respect to borrowing and lending in the real estate markets à la the U.S. subprime fiasco and the Nordic countries in the late 80s..

In this entry we attempt to give an “honest broker’s” overview of what we see as the essential aspects of a substantial number of these European crises, showing how they illustrate a wide variety of ways in which private sector behavior and public policies can go wrong. We will point out where there are major differences of interpretation and while we will commonly offer our own judgments about such controversies, we will also conclude that in some cases, the evidence as to causes is ambiguous so that reasonable people have room to differ in their interpretations. We will also note cases where different major causes and types of crises interacted with one another to worsen the situation. The frequency of twin crises, i.e. currency and financial crises, is a case in point.

In the next section we offer a very brief overview of a key set of economists’ models or types of explanations for different major types of crises as background for

our analysis of the specific episodes. These approaches are presented in much more detail in other contributions to this encyclopedia. In section III, we discuss the wave of crises in the early 1990s and in section IV, we discuss the wave of crises that began toward the end of the first decade of the 21st century.

II. A Brief Overview of the Varieties of Finance Crises with Illustrations from Europe

Financial crises come in many varieties. The most common types are currency crises, banking crises, sovereign debt crises, inflation crises, and stock market crises. (See Reinhart and Rogoff (2009)). Our analysis will focus on the first three types.

Currency crises

Currency crises may also be called balance of payments crises since they generally result from serious current or anticipated payments imbalances at the reigning exchange rates. Typically they reflect market anticipations that domestic policies will not be adjusted sufficiently so that changes in exchange rates can be avoided. Adjustably pegged exchange rates are a frequent contributor to such currency crises, generating one way speculative options. This has given rise to the unstable middle hypothesis which argues, with considerable empirical support, that regimes at the two ends of the exchange rate spectrum, hard fixes like currency boards and currencies at one end and floating rates at the other are much less prone to currency crisis than intermediate regimes with flexibility that is substantially limited.¹ The European crises of 1992-93 provide examples of this problem.

Within a currency union such as the Eurozone changes in exchange rates are unlikely, but concerns about persistent deficits and /or fears about the credit worthiness

¹ For analysis and references, see Angkinand et al (2009) and Willett (2007).

of borrowers can lead to an increase in outflows of private capital and a decline in inflows, resulting in higher risk premium in interest rates and an increase in the payments deficit. Unless offset by policy corrections and/or official financing, the result will be a decline in the money supply within the country with subsequent adverse effects on economic activity.

Banking crises

Banking crises are often also labeled financial crises in the narrower sense, and typically result from fears that bad loans and investments by financial institutions will lead to their insolvency. This in turn generates an outflow of funds and the possibility of contagion through bank runs and interbank positions. Even a solvent bank may face a liquidity crisis. The recent crisis demonstrated that not only banks but financial institutions more generally can be vulnerable to liquidity crises. There can also be pure liquidity crises where institutions remain solvent – at least if not forced to sell off a sizeable portion of their assets at distress prices – but where their access to liquidity has dried up. Sometimes this may reflect market concerns about a particular institution, but often it reflects a general seizing-up of the short-term financial markets, thus depriving institutions of the short-term borrowing on which they frequently rely. These broad events are referred to as systemic crises as contrasted with crises affecting only one or a small group of institutions. With modern, highly interconnected financial institutions, serious concerns about even one major institution may raise doubts about many of the other institutions with which it deals, giving rise to concerns that some financial institutions are too big or too interconnected (or politically influential) to be allowed to fail.

Historically, bank runs primarily took the form of depositors attempting to withdraw their funds. Today with widespread deposit insurance, this type of run is rare

(although there was such a run on Northern Rock in the U.K. in the early stages of the global financial crisis of 2007-2009²). Today, much more important is the drying up of institutions' ability to access for short-term borrowing, such as in the repo market, i.e., a lack of funding liquidity.

Economists have typically focused on excessive monetary and credit expansion as the primary cause of such crises, although in recent years, more attention is being given to the combination of perverse incentives in the private sector and tendencies of market participants to engage in less than fully rational behavior, especially a tendency toward hubris and over-optimism stimulated by periods of stability. Both the crises of 1992-93 and of recent years appear consistent with such interpretations having more than a little explanatory power. While once viewed as a distinctly minority view, the financial instability hypotheses of Hyman Minsky and Charles Kindleberger have gained considerable currency. (For one of the best expositions of this view, see Kindleberger and Aliber (2005)). Recent research in behavioral and neuroeconomics and finance also support this view as a possible source of financial crisis. While official complaints and much and much of the discussion focuses on excessive market pessimism once a crisis is underway, in our judgment excessive optimism, hubris and inattention to mounting risks before crises often plays a much more important role.

Currency crises can also generate or exacerbate banking crises. Fears of depreciation can limit banks access to foreign borrowing and, where banks have large unhedged foreign liabilities, depreciation can increase the domestic currency value of their debt, in some cases leading to fears of insolvency. This channel was relevant for

² The run on Northern Rock can be explained to some extent by the UK deposit insurance system that relied on co-insurance for all depositors as opposed to a deposit insurance system with full coverage up to a certain amount.

some Central and Eastern European countries during the global financial crisis as well as Nordic banks in the early 90s³. In turn, through their effects on capital flows banking crises can turn a reasonably valued pegged exchange rate into an overvalued one and thus generate a currency crisis. This channel fits some of the Asian crisis countries in 1997.

A systemic banking crisis can also stimulate a fiscal crisis if governments feel it is necessary to step in and make good the banking sector's obligations in order to reduce the risks of contagion and a greater financial crisis. Ireland in 2010 is a potent example of this mechanism.

Sovereign Debt Crises

Sovereign debt crises occur when the combination of the level of a government's debt and the prospects of continued fiscal deficits combine to raise doubts about its ability or willingness to pay off all of its obligations at face value. These risks tend to be greater the larger are current deficits and the level of debt, the lower are projected rates of economic growth, the higher are interest rates and the greater the leverage of households, corporations and financial institutions. There is no exact combination of such factors that makes a fiscal situation unsustainable and market opinion often shifts rather rapidly from seeing little risks to having great concerns. As the difficulties of financing mount and the risk premium in interest rates rises, the likely sustainability of the fiscal situation worsens, giving rise to the possibility of self-fulfilling fears. This tendency for investors to sometimes see solvency risks as an on-off phenomenon rather than a gradually changing variable was clearly demonstrated within

³ Although a currency depreciation generally would increase the value of banks' loans to domestic firms, accounting standards did not recognize these gains for Nordic banks while the domestic currency value of foreign currency debt increased. Furthermore, capital requirements became more binding when the domestic currency value of total assets increased.

the euro zone. For many years after the creation of the euro sovereign risk spreads of the euro zone governments were extremely small and a number of analysts expressed concerns that risk was priced much too low. As the crises broke out there were rapid reevaluations of risk and the interest rates on the debt of suspect countries skyrocketed. The same occurred with respect to financial institutions, and not just in the euro zone. The global financial crisis led to a substantial repricing of risk, and sovereign risk spreads within the euro zone began to widen. The full-fledged fiscal crisis for Greece broke out in 2009 when the newly elected Greek government made public that the fiscal situation was much worse than the previous government had reported.

For countries outside of the euro zone, fiscal crises can generate currency crisis in the same manner as banking crises, through large net shifts in capital flows. Within the euro zone one can also get large shifts in net capital flows as occurred with Greece, although this makes itself felt through balance of payments problems rather than currency crisis. This is an especially acute problem when the country is already running a large current account deficit as was the case with Greece. Such concerns can also make banking crises more likely as financial institutions face increasing difficulties in borrowing abroad.

Different Models of Currency Crises

Traditional analysis of currency crises focused on unsustainable international payments imbalances generated by rates of inflation incompatible with the maintenance of pegged exchange rates. As fears of depreciation grew, net capital outflows would be added to the underlying payments deficit and a full-fledged currency crisis would breakout. In the terminology of Bretton Woods, such crises reflected the failure to adjust in time to fundamental disequilibrium and in the language of economists' modern crisis models this would be a first generation crisis. While often presented as the

consequence of continued fiscal deficits financed by money creation, there could be many other causes of such fundamental disequilibrium. While much milder than the classic Latin American crisis, this type of analysis fits well the Italian currency crisis of 1992.

Many of the crisis episodes in the European crises of 1992 and 1993 did not seem to fit this classic type of situation, however. Indeed, these events helped to spawn a new generation of crisis models that focused more on the political economy of government reactions to payments difficulties and to the possibility that a country's fundamentals were neither so strong that there could be no rational speculative attack, nor so bad that such an attack was inevitable as in the first generation crises models. The second generation crises models added the realistic case of intermediate fundamentals, where with good luck a peg is sustainable without placing severe constraints on domestic macroeconomic policies, while with bad luck, the country could face successful speculative attacks.

Since speculative attacks raise the costs of defending a currency, this gives rise to the possibility of self-fulfilling speculative attacks. This, in turn, has led some commentators to assert that these models depict unjustified speculative attacks against countries with good fundamentals. While such attacks may be possible in a world of destabilizing speculation, this cannot occur in the world depicted by the second generation crises models. A country's fundamentals need not be awful for it to be successfully attacked, but they do need to be weak enough to be in the vulnerable zone. Thus it is incorrect to equate the possibility of self-fulfilling speculation in second generation models with unjustified speculation as some have done.

The formal models do not include analysis of the causes of the shifts in market expectations that generate shifts from good to bad equilibrium. This has led to an

unfortunate tendency to treat these shifts as arbitrary. This is, of course possible, but as we will discuss in section III, in reality such shifts generally occur for plausible reasons. In the case of the ERM crises, the failure of the Dutch referendum on joining the euro zone and the near failure of the French referendum are frequently pointed to as generating substantial shifts in market sentiment.

As we will also discuss in section III, there has been considerable controversy about the extent to which second generation crisis models help explain the ERM crisis of the early 1990s. See, for example, the exchange between Krugman (1996) and Obstfeld (1996). There is a natural tendency of officials in countries which suffer speculative attacks to argue that they are innocent victims of unjustified attacks. There is also a possibility of a country being an innocent victim even though a speculative attack is justified. It must be remembered that balance of payments and exchange disequilibria reflect the conditions in one country vis a vis its trading partners. We will argue, in section III that while Italy was not an innocent victim because of its inflation rate that was high relative to its trading partners, France was indeed an innocent victim. Its macroeconomic variables were on the whole behaving better than Germany's. But the speculative attacks on the franc were not unjustified. Rather, they were the result of a disequilibrium generated by the large German fiscal deficits associated with reunification coupled with the Bundesbank's tight money policy. The result was high interest rates in Germany that attracted large capital flows from France and other countries. European efforts at negotiating down German interest rates were unsuccessful and the result was enormous pressure on the franc at a time when economic growth in France was weak and the market consequently judged that France was more likely to depreciate the franc rather than endure substantial interest rate

increases. Which way the French government would react was of course not known for certain, but these market expectations were certainly plausible ones.

More recently a third generation of models have been developed which capture a more diverse set of situations which can generate currency crises. Some of these models focus on moral hazard and others focus on the types of situations emphasized in models of bank runs. While the first and second generation models focused on disequilibria in flows, many of the third generation models focus on problems where maturity and currency transformations can generate problems which make countries vulnerable to liquidity crises. Such considerations help explain the problems during the global financial crisis of a number of the central and Eastern European countries as well as some euro zone countries that had come to rely heavily on international borrowing. While the literature on sudden stops of capital flows was developed largely in the context of Latin American and Asia, Europe was far from immune to this phenomenon during the global financial crisis.

Finally we come to a set of explanations which are typically not embedded in formal models, but seem to have considerable explanatory power. Almost all of the formal currency crisis models assume rational speculation. But in these terms, it is hard to explain why there was so little market anticipation of either the first or second wave of European crises reflected in rising risk premium in interest rates before the crisis hit. Since most of these crises were not the result of unanticipated shocks the assumption of well-informed rational speculation seems suspect. Market myopia could be an explanation (Again see Krugman (1996), and Obstfeld (1996)).

While there is no general agreement on the causes of capital flow surges and sudden stops, it seems doubtful that these can be fully explained by rational expectations behavior. While official accounts generally focus on arguments that

markets are being excessively pessimistic, as we noted above, we place more emphasis on markets often being insufficiently skeptical during good times and as a result, contributing to the buildup of disequilibria that help generate crises. We see this phenomenon as being particularly pronounced during the euro zone sovereign debt crisis. While German policy has tended to focus on fiscal laxness as the primary cause of the euro crisis, a strong case can be made that this view misses much. Even with Greece, where fiscal laxity before the crisis played the largest role, large current account deficits had developed well before the crisis hit and these had been financed largely by private capital inflows. In Ireland and Spain excessive international borrowing, combined with bad investments in real estate were the root causes of their crises. Of course the public sector bears considerable responsibility for letting these situations build up, but private sector behavior gone bad has considerable explanatory power.

In summary, we have a wide variety of types of financial crises as well as a large number of possible causes. As we have suggested in this section and will explore in more detail in the following two sections, Europe provides vivid examples of many of these.

III. The Crises of the European Monetary System 1992-93 and Nordic Banking Crises

One of the most widely accepted propositions among international monetary economist is that in a world of substantial capital mobility, intermediate exchange rate regimes tend to be quite crisis-prone. This is due to a combination of economic and political economy considerations. With pegged exchange rates devaluations can be politically costly to devaluing governments. As a result they often tend to delay needed adjustments for too long in the hopes that things will improve and the devaluation won't be necessary. Not being subject to this bias, private actors are likely to see a need for

action before this is accepted by the government. Such delays in adjustment generate what is known as the one-way speculative option. Market actors do not know for certain whether a country will devalue over a given time period, but they do know the direction of change in the exchange rate if there is one. Prudent hedging as well as outright speculative incentives dictates that market actors should attempt to acquire short positions in the suspect currency. This in turn generates capital outflows and worsens the country's payment deficit.

While officials often label such capital flows as destabilizing speculation, this is frequently not correct in terms of the standard economic definition of destabilizing speculations which refers to speculation that moves a price away from its equilibrium level. Such capital flows are often disruptive, but typically they are the messengers not the basic cause of the crisis – the latter being the attempt to maintain a pegged rate at a disequilibrium level.

We cannot measure the levels of equilibrium exchange rates with great precision so there are often differences of opinion about whether a currency is seriously over or under valued. In particular cases officials may be right and the market wrong. Our studies of history, however, convince us that most often under adjustable peg regimes it is the officials who are wrong.

This problem with adjustable pegs under high capital mobility was vividly illustrated by the breakdown of the Bretton Woods adjustable peg regime in the early 1970s. Well aware of this problem, when creating the Exchange Rate Mechanism of the European Monetary System in the late 1970s European officials designed a more flexible system with wider bands of permissible exchange rate fluctuations and a presumption of more frequent parity adjustments so that such adjustments need not affect market rates.

Economists are divided about how far away from the dead center of types of exchange rate regimes – the narrow band adjustable peg of Bretton Woods – countries must move in order to substantially reduce the incidence of currency crises. The view that one must go all the way to one of the extremes of hard fixes or floating rates is called the two-corners or bipolar hypothesis. Unlike the milder unstable middle version, the evidence for the extreme bipolar hypothesis is not strong and in its early days, the more flexible version of limited exchange rate flexibility worked well and avoided major currency crises. Over time, however, the system became increasingly sticky, just as the Bretton Woods regime, and by the late 1980s little exchange rate flexibility remained, but the creation of hard fix currency union was still over a decade away.

At roughly the same time as exchange rates became more rigid in the short-run, the Single European Act signed in February 1986 generated the dismantling of most remaining capital controls. Thus from the perspective of the unstable middle hypothesis what was surprising was not that these developments were followed by currency crises, but that these crises waited so long to happen.

Several of the cases in the first round of crises in 1992 are easy to explain. Countries such as Italy, Portugal, and Spain had steadily lost competitiveness as their inflation rates continued to exceed those of Germany by considerably more than their currencies had depreciated. The only surprising aspects of these cases is the currency crises did not occur much sooner. The reasons for such delayed speculation are far from completely clear, but they likely included the development of over confidence in the stability of the European Monetary System, a phenomenon that we see repeated in the euro zone before the outbreak of the global financial crisis. Some of the explanation may lie in something as simple as the adoption of faulty mental analysis by market

participants. A frequent problem with efforts at exchange rate-based stabilization (ERBS) is that while they often quite successful in bringing down inflation rates fairly quickly, these falls are frequently not sufficient to bring competitiveness in line with low inflation countries. During this period ERBS had become quite popular among economists and officials alike, with the initial favorable effects being emphasized and the potential of lagged crises being minimized.

The idea of borrowing credibility from low inflation Germany was a major motivation for exchange rate policy in higher inflation countries such as Italy and Spain. This idea of borrowing credibility did work in terms of bringing down inflation and interest rates fairly rapidly. What seems to have been missed by many officials and market participants alike was that while the inflation differential was narrowing, the loss of competitiveness was continuing to increase, just at a slower rate. Informal experiments that we have conducted suggests that this confusion between levels and rates of change is one to which individuals are often susceptible. For these countries there is little reason to believe that their currency crises were not examples of first generation crisis models based on fundamental disequilibrium.

The response of both Italy and Spain to their crises illustrates an important policy lesson. Devaluations that are viewed by the market as being too small to eliminate the disequilibrium are likely to generate more rather than less speculation. In both cases the small initial devaluations of around seven percent were viewed by the market as too small. Having demonstrated that the countries were willing to devalue, this stimulated increase in speculation against their currencies. In both cases the governments soon gave up and let their currencies float.

The case of the UK, made famous by George Soros' huge speculative gains from his attack on the pound, is not as clear cut. Inflation in the UK was not high, but

many believed that its late entry into the ERM in October 1990 had been at too high a rate. The fall of the lira and depreciation by Finland slightly earlier had broken the faith that pegs would not be altered and served to increase concerns about other currencies. Whether this phenomenon is better described as contagion or as a more rational wakeup call is a matter of some dispute. There is likely to be some truth in both descriptions, although we are inclined to give more weight to the later.

Buiter et al (1998) make the important point that the Italian devaluation was especially significant because it was unilateral rather than part of a multilateral realignment as had been common in the EMS. Efforts to negotiate a multilateral realignment that included the German mark had failed and Buiter et al suggest that this had an important effect on attitudes about the strength of the glue that held the EMS together. Thus they stress the implications of the unilateral devaluation for perceptions of the system as a whole. This gave an additional reason for market participants to become more concerned about other parities. As Buiter et al argue “The ERM crisis was the crisis of an exchange rate system, not the collapse of a collection of unilateral pegs pursued by each country on its own” (p. 2). The market’s faith in European governments’ commitment to monetary coordination had already suffered a blow from the negative outcome of the Danish referendum on the Maastricht Treaty and was hardly reassured by the narrowness of the yes vote in France on September 20. The latter helped prompt an unsuccessful speculative attack on the franc.

An important element of the second generation crisis models is that recessions increase the cost to a government of adopting tighter monetary and fiscal policies to defend its currency. This explanation fits the UK case well as it had entered its worst recession of the post-war period. There has been dispute among economists about the extent to which this case was one of self-fulfilling speculation and whether if

speculative attacks had occurred earlier they would have still succeeded, and whether if the lira had not devalued, the attack might have been avoided. There is little question, however, that its fundamentals put the UK in a vulnerable zone and that there is little if any basis for labeling the speculative attack as unjustified. Nor is there reason to believe that the attack was due to some arbitrary shift in speculative attitudes. The shift from a good to a bad equilibrium wasn't generated by sunspots. While most of the crises of this period were pure currency crises, in Sweden a banking crisis was also involved. We return to the Nordic countries below.

Perhaps the most controversy about causes has surrounded the second wave of speculative crises that hit the EMS in 1993 particularly with respect to France. This is understandable because a number of important elements were in play and in our interpretation elements of both the first and second generation of crisis models were at work. Furthermore, to a large degree France was an innocent victim. Since the early days of the socialist Mitterrand government's over expansionary policies, French policy had strongly reversed and a strong franc became a keystone of conservative macroeconomic policies. At the time of the crisis, French inflation was low and its fiscal and current account positions were strong. Indeed the French were able to brag that their macroeconomic fundamentals had become superior to Germany. In the absence of any substantial evidence of overvaluation of the franc France was an innocent victim of the speculative attacks on the franc that led to the effective abandonment of the ERM through a widening of the bands to +15 percent, functionally converting it to a floating rate system.

That France was an innocent victim need not imply, however, that the cause of the fall of the franc was unjustified destabilizing speculation. Rather France was the victim of the financial consequences of German reunification and the policies which

Germany adopted in response. Reunification was accompanied by a large increase in government expenditures which for domestic political reasons were largely financed by issuing debt rather than raising taxes. Combined with the traditional conservative monetary policies of the Bundesbank this led to a substantial increase in German interest rates. As was predicted by the famous Mundell-Fleming model of international monetary relationships, in a world of high capital mobility this combination of easy fiscal and tight monetary policy led to a balance of payments surplus for Germany and strong pressures on the other EMS currencies. The magnitude of this shock certainly constituted the generation of a fundamental disequilibrium à la the first generation crisis models. However, for France and many of the other EMS countries the fundamental disequilibrium was generated by external developments, not inappropriate domestic policies as emphasized in these models.

Important aspects of the second generation models were also present. The EMS was based on the principle of policy cooperation. While the system was designed to be symmetrical, in practice Germany had become the core country much as the United States had become in the Bretton Woods system. In the face of the pressures from the high interest rates in Germany the non-core countries lobbied forcefully for policy adjustments in Germany that would lower their interest rates. À la the second generation models there was the possibility of government policy adjustments that would avoid a speculative crisis.

Germany did indeed make some policy adjustments that resulted in lowering their interest rates, but these were not nearly enough to eliminate the disequilibrium. Furthermore, as with the UK the year before, France was slipping into recession substantially raising the costs of an interest rate defense of the franc.

For much of the first half of 1993 tensions had eased a good deal. After the devaluation of the Irish punt the foreign exchange markets calm. In both March and April Germany lowered its policy interest rates. Speculative pressures focused primarily on Spain and Portugal who devalued again in May. By mid-July, however, the franc was again under pressure. One spark was the decision of the Bundesbank in mid-July not to lower interest rates further.

In tugs between surplus and deficit countries about who should make policy adjustments the balance of power generally rests with the surplus countries. The EMS had been designed to investigate this imbalance. The Basle-Nyborg agreement of 1987 increased the provision of short-term financing for deficit countries within the EMS. In effect Germany was obligated to recycle the capital flows it received from France back to France. This requirement substantially strengthened the bargaining power of deficit countries when negotiating for policy adjustments. An important factor in influencing the market's perception that France could not hold out in its defense of the franc was a widespread belief that the Bundesbank had a secret agreement with the German government that if speculative inflows reached the point that they could not be effectively sterilized and threatened German monetary stability, then the Bundesbank had permission to stop recycling. While this would violate the Bosle-Nyborg agreement many in the market perceived that the Bundesbank and German governments concerns with monetary stability would dominate. In consequence much more pressure would be placed on France. Under these circumstances the speculative attacks on the franc seem quite rational. France was an innocent victim and the speculative attack was self-fulfilling, but it was not unjustified.

*Nordic Banking and Currency Crisis*⁴

Among the Nordic countries, Norway, Sweden and Finland in particular were part of the realignments of 1992 while Denmark continued its hard peg to the DEM. As noted in the Introduction all these countries experienced more or less severe banking crises during the period 1985-1995. In all cases the crises were caused by a boom followed by bust in commercial real estate prices in particular. The real estate boom and bust was compounded by other more country specific factors.

Denmark was the first country facing declining real estate prices and a banking system under stress in the late 80s but a systemic crisis did not develop. Some small banks failed and there was a run on the second-largest Danish bank before the central bank issued a guarantee of its deposits. Apart from these events the system remained intact. One reason is that the Danish banks were already relatively well capitalized prior to the implementation of the Basel capital requirements in 1990.⁵ Denmark was also able to stick to the peg of the Danish Krone to the DEM.

Norway became the first industrialized country after WWII to suffer a systemic banking crisis. Rapidly increasing oil revenues in the early 80s led to a real estate boom interrupted by a sharp decline caused by falling oil prices and revenue beginning in 1985. Relatively small banks faced problems first but at the peak of the crisis in 1990 banks accounting for 60 percent of bank lending needed support. Three of the four largest banks failed in 1990. They were taken over by the government and recapitalized.

⁴ The Nordic crises are described and analyzed in detail in Ostrup (2008). Honkapohja (2009) provides an overview in English.

⁵ Bernard et al (1995) argue that Danish banks were better capitalized than other countries banks because mark-to market accounting had already been implemented to some degree. The variability of asset values associated with market valuation of bonds induced banks to hold a greater capital buffer. The Danish financial supervisor was also known to be strict with respect to required capital before the international (weaker) standard was implemented.

Norway is the country that actually developed what many believe is the Swedish model for resolving a banking crisis, i.e. rapid nationalization of the banking system, capital injection and division of the loan portfolio into good and bad loans.

The impact of the banking crisis on the economy was exacerbated by a high real interest rate, The real interest rate remained relatively high during the recession, partly to defend a pegged exchange rate. The peg was abandoned in Dec. 1992.

The Swedish banking crisis looks similar although the rise in real estate values was not driven by oil revenues but by credit growth and economic expansion following what many believed was an excessive depreciation in 1982. High inflation during the second half of the 80s led to an increasing overvaluation of the Swedish Krona that forced real interest rates up in defense of the currency. A tax reform in 1989 reduced the tax shield from interest rate deductions, adding to the after tax real interest rates. These factors combined caused a sharp decline in commercial real estate prices in 1990.⁶ After having four of the five major banks among the 10 most profitable banks in the world in 1989, credit losses started to mount in 1990 and in 1991 a systemic crisis had developed. Worst hit was the only state owned bank (PK-bank). This bank needed capital injections but the other major banks recovered after a blanket guarantee of all bank liabilities was issued in 1992. One medium sized bank was allowed to fail and was absorbed by the state-owned bank.

In the depth of the banking crisis and economic recession the government stubbornly defended the peg to the DEM in spite of the overvaluation. At one time in March 1992, the Central Bank raised the overnight interest rate to 500 percent to defend

⁶ Swedish Finance companies closely linked to the major banks were heavily involved in commercial real estate in Brussels and London as well. The Swedish investments in these markets peaked at the same time as the prices in 1989.

against a speculative attack. The attack subsided for some months but when the pressure on the krona increased again in November 1992 the Central bank and the government capitulated. The Swedish krona, like the Norwegian, has been floating since this time. The depreciation, economic recovery and the blanket guarantee of bank liabilities combined to rapidly restore the health of the banks during 1993.

The Finnish crisis was similar to the Swedish in many ways but a contributing factor to recession, credit losses on commercial property loans, and currency overvaluation was the fall of communism and the break up of the Soviet Union; a major importer of Finnish goods. Like Sweden and Norway, Finland abandoned the peg to the DEM in November 1992 in favor of a float.⁷

The Nordic crises fit into the category characterized by collapse of real estate prices after a period of rapid increases fueled by credit growth after financial liberalization. Overvalued currencies exacerbated the credit losses. Except in Denmark the crises were resolved with decisive government capital injections into the banking systems, blanket guarantees of bank liabilities and substantial depreciations.

The Nordic approaches to resolving banking crises have been seen as models for others to imitates. The recent crisis has shown that people have become less tolerant in both the US and Europe with government bail-outs and tax payer support of large banks. The Nordic approaches relied on such support. There were other problems associated with the state support of the banking systems. We refer to Ostrup, Oxelheim and Wihlborg (2009) for a discussions of selecting and valuing “bad Loans.” This valuation determines the subsidy to the surviving banks.

⁷ Finland joined the euro zone in 1999, Denmark has remained on an unchanged peg to the German currency since 1987 while Sweden and Norway have been floating their currencies since Dec 1992.

IV. Europe in the Global Financial Crisis 2007-2009

Financial crisis 2007-2009

As with the crises of the European Monetary System in the 1990s, the global financial crisis that started in the US subprime market hit Europe in different waves and involved a variety of types of crises. The US crisis spread directly to Europe through the direct exposure of European financial firms to U.S. mortgage-related financial products. According to one estimate, one third of U.S. mortgage-backed securities had moved offshore and to Europe in particular.⁸ In August 2007 two German banks – IKB and Landesbank Sachsen – collapsed due to losses on mortgage exposures in the U.S. market. Among the large European banks, the Union Bank of Switzerland (UBS) suffered particularly large losses.

The crisis in Europe also had a substantial home-grown element. In many European countries real estate prices had risen to levels which appeared incompatible with long-term equilibrium already in 2007. Table 1 shows that housing price increases in, for example, the United Kingdom, Spain and the Nordic countries have been even steeper than in the United States. (See Ostrup et al 2009)

Rush to liquidity as a result of fear of insolvency caused financing difficulties for a number of European banks. In September 2007 depositors started massive withdrawals from the British bank Northern Rock which had relied on the wholesale financing market.⁹ The European Central Bank reacted early to the difficulties in the wholesale financing markets by suspending a rise in its policy rate which was expected to take place in September 2007. In addition, it reacted through a large increase in its

⁸ Blundell-Wignall et al (2008).

⁹ The British government intervened by guaranteeing all claims on Northern Rock. As no acquirers could subsequently be found, Northern Rock was taken over by the British government in February 2008.

lending facilities for banks. In September 2007, the Bank of England and several other central banks decided to lower their policy rates. Further cuts in policy rates were implemented from December 2007. The Federal Reserve introduced similar measures in the US.

In mid-September 2008 several large European financial firms had to be supported through the injection of capital from governments. One of the largest European financial groups, Fortis, was taken over by the Benelux governments. Dexia was taken over by the coordinated actions of the governments of Belgium, France and Luxembourg. In Britain the government acquired controlling stakes in three of the eight largest banks. In Germany the government stepped in to save the mortgage lender Hypo Real Estate and, in January 2009, it acquired 25% of the equity in Commerzbank, the second-largest German bank. In Iceland, three major banks with international operations were taken over by the government. In December 2008, the Irish government took over one of the largest banks. In Denmark, seven smaller banks collapsed in the autumn of 2008. In Sweden, the government took control of a medium-sized investment bank.

As noted above the Nordic approach to resolving banking crises in the early 90 seems to have served as a model for European governments as the crisis worsened in 2008. They reacted to the financial crisis through rescue packages for banks and other financial institutions. The first package was implemented in Ireland where all claims on the six largest Irish-owned banks became guaranteed in September 2008. To a varying extent the European rescue packages included government guarantees for debt obligations; government purchases of bad ('toxic') assets from banks; government injection of capital to banks in return for direct share holdings;

lending facilities for the purchase of commercial papers; and direct government purchases of assets, e.g. mortgage-backed securities.

Effects on Central and Eastern Europe

In spite of the early interventions by the central banks most experts, official and private, substantially underestimated how strong the negative effects of the financial crises would be on the economics of the United States and Western Europe.

There was a widespread view that since emerging market countries had little direct exposure to the bad financial assets generated by the housing bubbles in the United States and Western Europe, they would be largely immune to the effects of the crisis.

As the financial crisis worsened in the US, however, the effects of the crisis began to spread to the emerging market countries and a number of countries in Central and Eastern Europe were hit by major balance of payments or currency crises. These were examples of classic sudden stops of capital flows that had been seen in Asian and Latin America. As is typically the case, especially hard hit were countries with high levels of foreign borrowing and large current account deficits. (The crisis in Iceland also fits the story.)

Following the failures of Fanny Mae and Freddy Mac, Lehman Brothers, and AIG, in early 2008, there was a widespread flight to safety and many financial markets seized up. Consequently both private institutions and countries that were heavily reliant on short term borrowing found themselves in grave difficulties. This was the situation in a number of the Central and Eastern European countries such as Estonia, Hungary, and Poland and as capital inflows dried up they faced serious balance of payments pressures.

Much of their borrowing had been from financial institutions in Western Europe so that over and above the general flight to safety, the large current and expected failure losses facing many of these institutions cut further into their ability and willingness to continue their capital flows to Central and Eastern Europe. As their financial crises plunged the advanced economies into recession their demand for imports fell sharply. As world trade fell this of course hit the emerging markets with another blow from falling exports. Thus many countries in Central and Eastern Europe were hit hard by contagion through both the financial and real sectors.

The Eurozone countries appeared to be largely immune to the problems of the sudden stops of international capital flows and a number of commentators trumpeted this as an illustration of the virtues of the single currency. But underneath this relative benign surface another set of crises was brewing relating to problems internal to the Eurozone.

Sovereign debt crisis 2010-

For its first decade the euro experiment on whether one could have an effective monetary union without broader economic, especially fiscal union, had been quite successful. While it had not met the higher growth prospects posited by many of its supporters neither had it generated the disasters due to the lack of sufficient internal adjustment mechanisms posited by some of its strongest critics. (Again see the analysis and references in Willett et al (2010)).

Below the surface, however, the picture was not so rosy. The hopes of advocates that the act of creating the single currency would endogenously produce substantial improvements in the flexibility of the intra euro adjustment mechanisms met with quite limited success. See the analysis and references in Willett et al (2010)). Ironically the

pressures from the fixed exchange rate helped generate much greater improvements in competitiveness in Germany than in a number of the traditionally weaker economies.

Nor was there a quantum jump in fiscal policy coordination. There was concern with the possibility that large fiscal deficits could place undue pressures on the European central bank for excessively expansionary monetary policy. Therefore, limits were placed on the sizes of budget deficits and debt to GDP ratios. To further reduce fiscal moral hazard a no bail out rule was adopted. Many criticized these measures for being too stringent but in practice the enforcement of these provisions proved to be effective primarily in reducing deficits to meet the entry criteria (and even then there was a good bit of fudging with accounting tricks and one time fiscal actions). When France and Germany began to violate the limits on fiscal deficits set by the Growth and Stability Pact they placed strong pressure on other governments to not take action. Thus the recommendations of the European Commission to issue formal warnings as had been done with smaller countries was overruled. Thus the fiscal limitations were effectively emasculated by the actions of countries that were initially among their strongest supporters. While not the major cause of Greece's subsequent fiscal crisis, it created a permissive atmosphere which certainly did not help.

Membership in the Eurozone was expected by its advocates to be a powerful force for economic convergence among its members. In fact it helped promote divergence among a number of economies. A major contributor to this divergence was the behavior of private capital flows which in their optimism over the euro paid little attention to the divergences of risk within the Eurozone. Spreads among the interest rates on the sovereign debt of the member countries was shockingly low and capital continued to pour into countries that were losing competitiveness through above average wage and price increases and as a consequence were developing large current

account deficits. Because of this ease of obtaining financing from other Eurozone members instead of being a source of healthy discipline, the behavior of the financial markets aided and abetted the buildup of disequilibrium, just as they did with the development of the housing bubble and its financial counterparts in the United States. Such intra-Eurozone capital mobility likewise contributed importantly to the magnitude of the real estate bubbles in countries such as Ireland and Spain.

In the run up to entry into the Euro zone, a good deal of policy adjustments were undertaken to meet the entry criteria. Once in, however, instead of continuing this process many governments relaxed their efforts substantially due in no small part to a combination of euro euphoria and reforms fatigue. As analyzed in Wihlborg et al (2010) the so called PIGS (Portugal, Ireland, Greece and Spain) who became the center of the sovereign debt crisis all developed substantially higher inflation rates than countries such as Germany and France. Furthermore, the above average wage and price increases in these countries couldn't be explained by higher rates of productivity growth. As a consequence the competitiveness of the euro countries on balance diverged rather than converging as had been expected. The result was large current deficits in the PIGS, financed to a considerable extent by capital inflows from the surplus euro countries.

In Greece and Portugal the loss of competitiveness was compounded by fiscal laxity. Greece ran a budget deficit of almost 8 percent of GDP in 2004 and Portugal ran a deficit of 6 percent of GDP in 2005. Both countries registered short reductions in their deficits in 2006. Thus the markets perhaps had some basis for optimism before the global crisis hit. Greece's deficit began to worsen rapidly, however, well before their sovereign debt crisis erupted.

Ireland, on the other hand, was a model of fiscal responsibility for most of the euro period. It had large surpluses in many years and did not record a substantial deficit until 2008. Their current fiscal problems are due much more to the recession and the costs of their support for their distressed financial sector rather than lax budget policies.

Ireland's problems are due primarily to private sector behavior gone bad and the failure of regulators to control such behavior.

Spain also displayed fiscal responsibility for most of the euro period. Starting with small deficits at the beginning of the decade, it recorded rather steady improvements reaching a surplus of 2 percent of GDP in 2006. Like Ireland, albeit much more mildly, it has been a victim primarily of a real estate bubble and lax behavior by private sector lenders and borrowers.

While as noted above much attention was given to potential fiscal problems that might occur within the euro zone, little official attention was given to the possibility that capital flows might operate to destabilize the adjustment process within the euro zone.

The round of crises in the Eurozone periphery that started with the revelations that Greece's fiscal deficits had been greatly understated some Eurozone officials have argued that the failure of the financial markets to respond favorably to various rescue efforts has been due largely to destabilizing speculation, our argument is that the much more important element of market misbehavior was in its excessive optimism and lack of due diligence as problems mounted before the crisis rather than excessively negative reactions once the crisis was underway. It is not possible to put very precise values on what the efficient market risk premium should have been over time for countries like Greece, Ireland, and Portugal, but it is clear that they were much too low for a considerable before the outbreak of the crisis. And once the crisis broke out market

prices appear to be much closer to the mark than the optimistic official pronouncements that there would be zero possibility of any sovereign debt defaults. (For reference, in late March 2011 the probability of default over the next five years implied by interest rate spreads and the prices of credit default swaps was around 60 percent for Greece, above 30 percent for Portugal, and around 40 percent for Ireland. By June 2011 the implied probability of default by Greece had risen to over 80 percent).

In our judgment the spread of the crisis from Greece to Ireland to Portugal was not due primarily to irrational contagion and herding behavior as some have argued. It was due more to growing recognition of the scope of the financial problems faced by these countries. Indeed one could plausibly argue that rather than being too pessimistic during the crisis the major market malfunction was its failure to give early warning signals about the growing disequilibria in fiscal situations, loss of competitiveness, and real estate bubbles. While there has undoubtedly been some herding behavior during the crisis the markets have clearly shown the ability to differentiate among countries. Spain is understandably seen by the market as having problems, but ones that are much more manageable than Greece, Ireland, and Portugal.

Of course this is not to argue that every bump and dip in interest rates and CDS prices during the crisis have been fully rational responses to new developments. Inevitably some developments will be misinterpreted by the market and valuations will be influenced to some extent by changing moods from optimism to pessimism and back as captured in discussions of risk on and risk off attitudes in the market. On average, however, the markets' valuations have coincided more closely with those of independent economists than with the typical optimistic pronouncements of officials.

In mid July 2011 the crisis hit Italy, with interest rates on sovereign debt rising from less than 5 per cent to over 6 per cent in less than a week before falling back a little.

Again to some this was a sign of irrational contagion and a plausible case can be made that the market did overreact somewhat. But there were good reasons for the demand for Italian debt to fall substantially following the public disagreement between the prime minister and his highly respected finance minister over proposals for fiscal reform. This was added to increasing concerns about the failure for EU governments to reach agreement about the terms of new financing for Greece and the degree of private sector involvement.

The Inadequacy of the Official Responses to the Crisis

While the European Central bank did a good job of providing liquidity to help keep markets functioning and avoiding the types of massive financial disruptions that occurred at the height of the global financial crisis, the official actions of the EU, with support from the IMF, did little to calm the financial markets and lower interest rates and CDS spreads for the crisis countries on a sustained basis over the first eighteen months of the crisis. Large bailout funds were created and substantial loans were given to Greece, Ireland and Portugal conditional on drastic reductions of fiscal imbalances and improvements of the economies.

To many officials the disappointing response to the rescue packages was an example of markets swinging to excessive pessimism. References by officials to the high interest rates as due mainly to speculators behaving as locusts are an example. Likewise there has been much official complaint about the downgrades of debt ratings by the credit rating agencies. As with the behavior of the private financial markets we believe the major errors of the ratings agencies have been to wait much too long to begin downgrades rather than excessive reactions during the crisis.

A major reason for the continued worsening of the crisis was increasing concern by the market (and many economists) that the EU, with complicity from the ECB and IMF,

continually refused to face up the severity of the situation. Time and again the result of EU meetings was to take actions to get by a little longer- what has commonly become labeled kicking the can down the road. Fear of post Lehman type contagion led to strong efforts to protect private investors through guarantees and massive transfers that clearly violate the spirit if not the letter of the no bail out clause.

No default was the official mantra. Long ago defaults had begun to be referred to by the more polite label of restructurings. EU officials did this one better with a new term- reprofiling. Official pronouncements that there was no plan B did little to boost market confidence. Market participants were well aware that the strongest official pronouncements that policy will not be changed often come shortly before they are. Only in mid July of 2011 did governments begin to give signs of recognition that there initial strategy wasn't working

Default, by whatever name, is certainly not an easy way out, but few independent economists and analysts see how it will be possible to combine fiscal retrenchment with sufficient economic growth to make repayment of all of Greece's sovereign debt feasible, even if given a grace period of many years to bring this about. With fiscal tightening contributing to the size of recessions it is hard to realistically see substantial economic growth in these countries for a considerable period. This in turn makes it much harder to trim fiscal deficits. This problem is compounded by the substantial loss of competitiveness for many of the crisis countries. The resulting continuing high unemployment rates greatly increase the political difficulties of bringing fiscal positions to sustainable levels even without the need for future repayments of the bail out loans.

It is certainly possible that a default would lead to the tremendous contagion that EU officials fear, but this is far from certain. Experiences with contagion have been quite

variable and we generally find that contagion is much greater from surprise developments than ones that are largely anticipated. Interest rates and CDS prices clearly indicate that the market views a defaults as far from unlikely. It also matters a great deal how a default is managed. The concept of an orderly default may strike one as an extreme of optimistic thinking but it certainly has been true that some sovereign defaults have been much more disorderly than others.

Governments in the crisis countries have displayed considerable seriousness in their willingness to accept considerable pain to maintain solvency, but many analysts doubt the political feasibility of continuing such retrenchment for a number of years. The fall of the government in Portugal over its policy proposals is an example of such difficulties, as are the riots in Greece.

Nor is social opposition to austerity policies in the crisis countries the only source of complaint from the public. Considerable complaints were heard from the public and opposition politicians in the surplus countries that the bailouts have been excessive and that the euro zone is being turned into a transfer union. This led the German government to begin to insist that there be some private sector involvement. Because of strong opposition to this from the ECB and some of the other EU governments a compromise position was reached that any private sector involvement would be voluntary. But the scope for truly voluntary rollovers and stretching out of current debts was much too small to solve the basic economic problems, as opposed to reducing domestic political heat in countries like Germany. The amount of wrangling among governments and banks over voluntary rollovers and the conditions for these to not be classified as selective defaults offers gave further evidence that the EU governments were not focusing on the difficult basic problems and thus further undermined market confidence.

Further complicating the position of governments like France and Germany was the high exposure of their banking systems to debt of the crisis countries. The economic solution to this problem likely requires the use of public funds to recapitalize these banks so that they can weather losses on these assets, but again this would require political actions that would be extremely unpopular domestically.

While policies focused on saving the banks are quite understandable in terms of the short term risks and pressures facing policy makers, they are extremely unlikely to be successful. To many economists and market participants these policies are seen as primarily being band-aids that put off the day of reckoning rather than initiating fundamental solutions. Thus, in our interpretation the continuation of the crisis is due much more to the unwillingness of national governments and EU officials to face up to the political costs of adopting effective policy reactions rather than greatly excessive pessimism on the part of markets. There is no good way out of the crisis, and initial delaying strategies may often make sense to allow institutions time to prepare to deal with the coming shock, but historical experience suggests that continual delaying tactics are likely to multiply the eventual costs of the crisis. It is no wonder that it has become popular to refer to Greece as Argentina on the Aegean.

Concluding Remarks; Lessons from European Crises

We have seen that the crises in Europe have come in many forms. Poor government plays a substantial role in all of them. There have been a variety of types of policy mistakes ranging from poorly conceived and executed exchange rate policies to poor supervision and regulation of financial sectors to fiscal irresponsibility. Unfortunately the European crises also show that we cannot always count on the private finance markets to get things right,. Too often instead of disciplining government policies in the early stages of their running astray, financial markets aided the continuation of such

policies through the provision of easy financing. Once crises erupt the markets can and usually do impose harsh discipline but this often comes too late to head of problems. And as we can see with the debt crisis in the euro zone often once a crisis erupts there may be no good way out. We face choices among imperfect markets and imperfect government policies. We need major efforts for improvement in both sectors.

One major lesson from these crises is that countries need to pay careful attention to their choice of exchange rate regimes and should not underestimate the potential costs of pegged and fixed exchange rates nor overestimate the ability of such regimes to promote reforms in domestic policies and substantially greater policy coordination. Since the major costs of adopting such regimes tend to come later than the benefits it is important for governments to look beyond the short run. Of course political pressures can make this quite difficult

Another major lesson of the European crises for government policy is that the partly justified mistrust of the rationality of markets has lead European governments to conduct policies with insufficient regard for and understanding of market forces. Responses to banking crises has been to bail out banks and protect all their creditors. These policies may have reduced the short term costs of crises but they have also reduced concerns with risk among banks' creditors and enhanced incentives to shift risk to tax payers and deposit insurance funds. The belief in capital regulation and supervisors' ability to control risk-taking has been strong; in hindsight excessive.

Government responses to the banking crises in the 90s were considerably more successful than responses in this century but the scale of problems has multiplied greatly. Thus, new approaches to resolution of banking crises are called for.

The public sector's lack of policies to deal with banking crises has contributed to the inability of the euro zone to manage the sovereign debt crisis in Greece, in particular. Fear of a banking crisis has led to promises of bail-outs of euro zone crisis countries and their creditors, but the failure to begin to deal seriously with the longer term problems and their continued assertions that the markets (and ratings agencies) are much too pessimistic about the situation has had the consequence that politicians' statements lost credibility. ***The public squabbles among national governments and with the ECB and the lack of early forceful actions to deal with insolvency as well as liquidity issues resulted in large financial commitments failing to calm the situation. This was much more a case of poor crisis management by officials than excessive reactions by the private sector.*** To the contrary the European experiences suggest that where the financial markets have erred most is in remaining too optimistic for too long before crises erupt rather than being too pessimistic once the crises have hit.

The lack of acceptance market forces has shaped responses to currency crises as well. In fact, one of the driving forces behind the EMU was to create a currency system that would be invulnerable to speculative activity. A currency union is by definition free from currency crises but this "freedom" does not translate into freedom from market forces in labor, goods and bond markets. Crises in a currency union come in other forms. Many EMU politicians seem to have believed that once their countries were in the euro there was no longer need for structural and labor market reform, and that the interest rate on government debt would always remain close to the German bond interest rate.

One of the most urgently needed reforms is the implementation of predictable and credible bank resolution procedures that will enable even large banks to fail

without severe repercussions for the whole financial system. The Basel Committee is working on reforms of this kind but it remains to be seen whether they will be strong enough to make it possible for governments not to bail out banks in distress. Without successful reform of bank resolution procedures the financial system will remain crisis prone and approaches to sovereign debt crises will be characterized by the “tail (banks) wagging the dog (public finances).”

References

- Angkinand, P., E. Chiu, and T. Willett (2009) “Testing the Unstable Middle and Two Corners Hypotheses about exchange rate regimes” *Open Economies Review* 20: pp. 61-8
- Bernard, V.L., R.C. Merton, and K.G. Palepu (1995), “Mark to Market Accounting for Banks and Thrifts. Lessons from The Danish Experience, *Journal of Accounting Research*, 3, Spring, 1-32.
- Blundall-Wignall, A., P. Atkinson and S. H. Lee (2008). *The Current Financial Crisis: Causes and Policy Issues*, Financial Market Trends, ISSN 1995-2864, OECD
- Buiter, Willem, G. Corsetti, and P. Pesenti (1998). *Financial Markets and European Financial Cooperation: The Lessons of the 92-93 ERM Crisis*, Cambridge University Press.
- Honkapohja, S. (2009), “The 1990's Financial Crises in Nordic Countries, Bank of Finland Research Discussion Paper No. 5/2009
- Kindleberger, C. and R. Aliber (2005) *MANIAS, PANICS, AND CRASHES: A HISTORY OF FINANCIAL CRISES*, 5th edn, John Wiley and Sons
- Krugman, Paul (1996) “Are Currency Crises Self-Fulfilling?” *NBER Macroeconomics Annual*.
- Obstfeld, M., J. (1996) "Comment" *NBER Macroeconomics Annual*
- Ostrup, F. (2008), *Finansielle Kriser (Financial Crises)*, Thomson, Copenhagen

Ostrup, F., L. Oxelheim and C. Wihlborg (2009), "Origins and Resolution of Financial Crises; Lessons from the Current and Northern European Crises" Asian Economic Papers, Vol 8 (3).

Reinhart, C. and K. Rogoff (2009) *This Time Is Different* Princeton University Press

Wihlborg, C., Thomas Willett and Nan Zhang, (2010) "The Euro Debt Crisis," *World Economics* Volume 11 Nr. 4, pp. 51-77

Willett, T. (2007) "Why the Middle Is Unstable: The Political Economy of Exchange Rate Regimes and Currency Crises" *The World Economy* Vol. 30, no. 5, pp. 709-732

Willett, T, Permpoon, O. and Wihlborg, C. (2010) "The Political Economy of Endogenous OCA Analysis" *The World Economy* Volume 33, Issue 7, July, pp. 851–872