65 ifo Forschungsberichte

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Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation
in der Deutschen Nationalbibliografie; detaillierte bibliografische
Daten sind im Internet über
http://dnb.d-nb.de
abrufbar

ISBN 978-3-88512-553-2

Druck: ifo Institut, München

ifo Institut im Internet:
http://www.cesifo-group.de

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1. Research Questions and Report Structure

The global community faces a number of pressing economic policy challenges, especially those related to the stability of the world economy and adequate responses to international economic crises, as well as the quality and inclusiveness of growth. In a globalized world, these economic policy challenges are of particular concern for emerging economies. On the one hand, the economic development of emerging economies increasingly has global implications. On the other hand, global challenges and related international regimes necessitate adjustments in those countries.

The study will cover different types of economic crises as well as different categories of economic policy responses. The main question of the study is: how can be the vulnerability of emerging economies to different types of crises reduced or, once a crisis occurs, how can its negative impacts at least be minimized? In order to tackle this task, the Ifo Institute has set up a team of five specialists: three from the institute itself, one from the Swiss Economic Institute (KOF) of the ETH Zurich and one who formerly worked with the Asian Development Bank (ADB) and is now a consultant in India. The research is carried out as a desk study based on literature assessments as well as on the authors' own know-how. Major methodological approaches adopted in the analysis are case studies and comparisons of cases.

More general conclusions are drawn from the cases by relating the findings to economic theory. From the theory based conclusions recommendations are derived. In addition, theses will be formulated to stimulate discussion and dialogue. The theses will be derived from the key results of the study, but their content may be more hypothetical (in a few cases even provocative), since they aim to stimulate debate and raise questions.

This report is structured as follows:
After the introductory remarks, in section 2 the various main crisis types are defined and their relevance for emerging economies, especially through contagion risks caused by the increased integration into global economic systems, is discussed and (as in all sections) conclusions are drawn and theses are formulated.
Sections 3 and 4 are of core analytical importance. In these two main parts of the study the country cases and crisis types will be analysed, conclusions will be drawn and recommendations will be made. Section 3 focuses on emerging economies and section 4 on Germany and selected OECD countries. Key importance is given to the Asian crisis in section 3. Comparisons are made with other crises such as the Latin American crisis of 1994/95 and the transformation crisis, including the performance of countries that formerly belonged to the former Soviet Union in the recent European recession. In section 4 the 'modern-time' German crisis and policy experience, which goes back for quite some time, is of foremost interest. Lessons from the re-unification are included and other OECD countries are used for comparison. It seems that Germany has a rather successful crisis management record, a great

deal of which could be feasibly applied to emerging countries. The central questions of these two sections are: what lessons for crisis prevention and resilience in emerging economies can be learned from the country-, crises- and policy cases?
Section 5 is focused on crisis monitoring and risk assessment systems. Such systems enable better crisis management decision-making. Feasible internationally applied systems, developed and tested for different crisis types, are presented.
Section 6 summarizes the overall conclusions and recommendations in a more structured way. Theses from previous sections are also condensed into key issues.
In section 7, very briefly, options for cooperation between emerging and industrialized countries in strengthening capacities for crisis management are listed.

2. Typologies for Different Economic Crises and Relevance for Emerging Countries

This section categorizes different types of economic crises with particular relevance for emerging economies. The origins and characteristics of each type are described. In addition, (historic) examples of each type of crisis are listed. Finally, the likelihood of future crises erupting is discussed.

2.1 Crisis Types and Vulnerability

A crisis as an economic event is a situation in which a country experiences a sudden downturn of its real economic sector: usually falling GDP, resulting in severe employment, income and welfare losses. Modern-time economic crises in nearly all cases originate from 'financial' crises. Crises can be classified into categories such as;

(1) Currency crisis,
(2) Financial sector (e.g. inflation/deflation, stock market or asset bubble crash etc.) crisis,
(3) Banking (financial institutions) crisis,
(4) Capital account crisis,
(5) Balance of payment crisis,
(6) Government debt crisis,
(7) Real economic sector crisis
(8) Food and energy crises as well as
(9) Natural and man-made disasters are other types of crises with economic and social relevance, but are usually not caused by financial crises. They originate from own specific causes and dynamics.

The currency crisis is defined as a sudden devaluation of a currency, which usually ends in a speculative attack in the foreign exchange market. A currency crisis is often caused by chronic balance-of-payments deficits and/or by market speculation regarding a government's

ability to back its currency. Currency crises affect fixed exchange rate regimes more strongly than floating regimes (see also Claessens and Kose, 2013).

The financial sector crisis (in a narrow sense) is applied broadly to describe situations in which some financial assets suddenly lose their nominal value. In general, many financial crises were associated with panics. Moreover, stock market crashes and the bursting of other financial bubbles (e.g. related to the real estate or IT sector) or galloping inflation have also been characterized as financial crisis. Banking crises may be included here, but some authors give the later crisis type a separate standing.[1]

The banking crises (as a specific type of financial sector crisis sometimes classified separately) include bank runs affecting single banks; banking panics hitting many banks; and systemic banking crises, in which a country experiences a large number of defaults and financial institutions and corporations face great difficulties repaying contracts.

The capital account crisis is generally defined as a series of severe macroeconomic adjustments forced, initially, by large inflows of private capital relative to underlying current-account deficits dominated by short-term loans, then followed by their sudden and massive reversal.

The balance-of-payment crisis occurs when a nation is unable to pay for essential imports and/or service its debt repayments. Typically, this is accompanied by a rapid decline in the value of the affected nation's currency. Such crises are generally preceded by large capital inflows in this nation, which are initially associated with rapid economic growth. However, when development gets slow, the overseas investors become concerned about the level of debt their inbound capital is generating, and decide to pull out their funds from this country, which also causes a rapid drop in the value of the affected nation's currency.

The government or sovereign debt crisis is the general term for a proliferation of massive public debt relative to tax revenues, especially in reference to Latin American countries during the 1980s, and the United States and the European Union since the mid-2000s.

The real sector crisis takes place when there is mismatch in the market coordination between the aggregate demand and the aggregate supply of goods and services, of which production takes place through combined utilization of raw materials and other production factors such as labour force, land and capital or by means of production process. Apart from the shortage of

[1] A financial sector crisis is typically defined as a situation in which a significant group of financial institutions have liabilities exceeding the market value of their assets, leading to bank runs and portfolio shifts, the collapse of some financial firms and government intervention. Additionally, a crisis is also characterised as a non-linear disruption to financial markets in which adverse selection and moral hazard problems become much worse, so that financial markets are unable to efficiently channel funds to those who have the most productive investment opportunities (see also Hahm and Mishkin, 2000; Pettis, 2001).

input factors, an important real sector imbalance for the developed nations has recently been caused by the failure of real wages to keep pace with productivity growth: this has created a structural flaw in the aggregate demand generating process that threatens to undermine general macroeconomic performance.

The short-term food and energy crises are caused by rapid increases in food and energy prices. The primary reason for international food price increases are, for example, droughts in grain-producing nations, a shift in agricultural production in major food producing countries towards non-food crops and often as a result of speculation. The rise in energy prices has recently been triggered by the weakness of the US dollar, a decline in worldwide petroleum reserves, rapidly increasing demand on the part of certain emerging economies (India and China) and on-going political tensions in the Middle East, as well as speculation.

Natural disasters and man-made disasters are natural or man-made (or technological) hazards resulting in an event of substantial magnitude causing significant physical damage or destruction, loss of life, or drastic change to the environment. Natural disasters include earthquakes, tsunamis, volcano eruptions, extreme weather, floods, storms and hail, while wars and terrorist attacks are the typical man-made disasters.

This report features no further analysis of the last two crisis types (8 and 9) (some more details are presented in appendix 1). This study will primarily focus on 'economic' crises (1 to 7) instead.

Most crises in modern times, as mentioned above, spread to other countries by contagion. But contagion implies that a victim country is 'vulnerable'. Financial vulnerability is defined as a situation in the financial system whereby it cannot allocate resources efficiently between activities and across time and cannot assess and manage financial risk, thereby weakening economic performance and wealth accumulation. At the same time, the system is not capable of absorbing shocks and thus cannot prevent adverse impacts. It is easy to measure the solvency of a financial institution, but rather difficult to measure the extent of vulnerability in a financial system.

There are several general causes of financial vulnerability. The major reasons include: (a) fragility of the financial sector or system, (b) weakness in prudential regulations and supervisions, (c) spill-over effects of weaknesses in the real sector in the real-estate, mortgage and non-bank financial sectors, credit cards, and derivative markets, (d) weaknesses in the governance of financial institutions and their supervising authorities and risk management, (e) a macroeconomic policy mismatch of financial and monetary policies, (f) contagion effects, (g) weaknesses in the international financial system or markets, (h) sudden financial liberalization and (i) weaknesses in legal infrastructure (see Houben et al., 2004). The

frequent causes of financial vulnerability are summarized under the category of the 'soundness' of a financial system.

Finally, it is important to note that the above crisis typology (1 to 7) relates to short- and medium-term crises, sometimes of a cyclical character. Structural, long-term crises have different characteristics. Sometimes structural and cyclical crises may overlap. The degree of vulnerability of a country may be high and its resilience capacities low, if structural crises do exist simultaneously with short term crises.

2.2 Cyclical, Financial and Structural Crises

Most of the crises of the last twenty-five years or so originated as financial crises of varying types and generated, after some time, a real sector crisis. Modern-time crises can hardly be classified by a single clear cut typology. They originate as one type and turn or lead into another one. They spread to other countries by contagion and may change their faces again. Only one classification can be applied uniformly at the final stage: they all lead to a real economic crisis. Therefore, for a general crisis analysis it appears to be adequate just to talk about financial and real sector (cyclical as well as structural) crises.

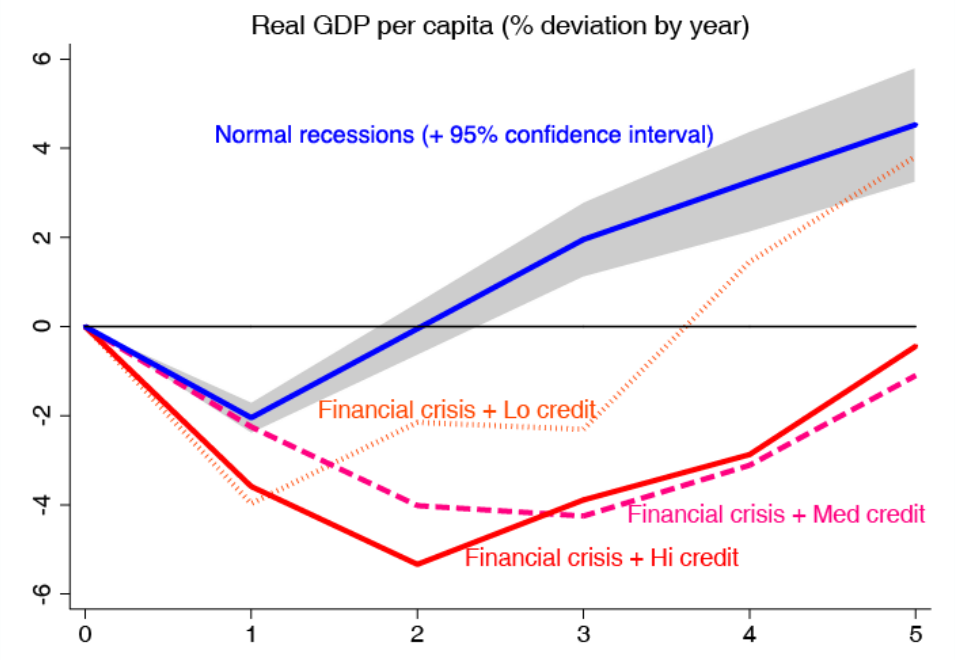
The severity of the 2007–09 recession and sluggishness of the subsequent recovery have led many economic analysts to question whether part of the decline in output and employment may be structural rather than cyclical. A structural crisis in the economy is one that is usually permanent or very long-lived; after a cyclical disturbance, by contrast, an economy tends to return to its previous level over a few years.

For example, many lenders underestimated the risks of subprime mortgages and mortgage-backed securities prior to the recession. As a result, subprime mortgage lending standards will probably not return to pre-recession levels within the next few years, if ever, representing a structural rather than a cyclical change. If mortgage lending standards are tighter, then a substantial part of the recession's decline in homebuilding is also likely to be structural rather than cyclical. Moreover, part of the large decline in employment during the recession may be structural because many residential construction workers must now find jobs in different fields for which they may be less well-qualified.

The extent to which a given change in the economy is structural rather than cyclical has important implications for monetary and fiscal policy. Structural changes are more permanent and cannot be offset very effectively by these policies. On the other hand, cyclical declines in output or employment are only temporary. Thus, monetary and fiscal stimulus means can help speed the transition back to pre-recession levels.

Financial crises have a major impact on economic activity and can trigger a recession. Financial-crisis recessions are much more costly than normal recessions in terms of lost output. They also last much longer than normal recessions (in the past an average of 5 years compared to 2 years of cyclical crises). These are some findings of a recent study based on over 200 recession episodes in 14 countries between 1870 and 2008 (Jordà, Schularick and Taylor, 2011). The main reason for these differences is the fact that a financial crisis recession is typically accompanied either by a credit crunch – due to weak banks – or by insufficient credit demand as companies expect a very low rate of return and thus delay investments in machinery, equipment and real estate. In a financial-crisis recession both banks and companies have to run through a more or less long deleveraging process, which is different from a normal recession where, as a rule, a temporary sharp decline in demand hits companies, but where the balance sheets of both companies and banks are not heavily distorted.

Figure 1
Length of Recessions Depending on the Existence of a Credit Crunch



Source: Jordà, Schularick and Taylor (2011).

There are indeed many recessions associated with a financial crisis: according to Claessens and Kose (2013) over 50% of the total number of recessions occurred in the world between 1960 and 2011 (= approximately 300) are associated with financial crises. Laeven and Valencia (2008) estimate that the cumulative cost of banking crises is on average about 23% of GDP during the first four years. Furceri and Zdzienicka (2012) report that debt crises are, in many cases, more costly than banking crises and are typically accompanied by output declines of 3-5% after one year and 6-12% after eight years. Furthermore, financial crises are

associated with significant declines in many macroeconomic aggregates: for example, the consumption decline during the recessions followed by financial crises is typically seven to ten times larger than those without such crises in emerging markets. In recessions without financial crises (e.g. cyclical crises), the growth rate of consumption slows down, but does not fall below zero (Claessens and Kose, 2013).

As dealt with in more detail in later sections, there are many questions about the best policy responses to financial crises and their real economic consequences. The global crisis and associated recessions have clearly shown the limits of policy measures in dealing with financial meltdowns – a fact that has recently promoted discussion of the ability of macroeconomic and financial sector policies to mitigate the costs stemming from such cases. Kannan, Scott and Terrones (2013) suggest that countercyclical policies may mitigate the costs and reduce the duration of recessions. Others, including Taylor (2009 and 2011), argue that such policies can worsen recession outcomes, while Baldacci, Gupta and Mulas-Granados (2013) find only limited effects associated with expansionary policies.

2.3 Overview and Classification of More Recent Historical Crises

According to worldwide experiences, financial crises, as mentioned, have led to real sector crises in victim countries. On the other hand, a weak real sector tends to make a country more vulnerable to financial crises (Weisbrot, 2007; Srinivasan, 2009; Antony and Broer, 2010). There are many similarities between crises episodes, even although the exact triggers for and timing of crises may vary (Ozkan and Unsal, 2012; Claessens and Kose, 2013). In the 1970s the crises were mainly of a 'current account' or 'balance-of-payment problem' nature. These crises took place primarily due to the inconsistency of macroeconomic policies, such as highly expansionary domestic policy with fixed exchange rate pegs or a massive deterioration in the terms of trade with a highly restrictive trade regime.

For example, the 1973/74 bear market crash, affecting all the major stock markets in the world,[2] came after the collapse of the Bretton Woods system over the previous two years, with the associated cancelling of the 'gold standard' and the US dollar devaluation under the Smithsonian Agreement.[3] It was compounded by the outbreak of the 1973 oil crisis in October of that year which had been initiated by OPEC's decision to raise the posted price of oil by 70%, to $5.11 a barrel. Rapid growth in world energy prices generated unprecedented current account surpluses for oil-exporting nations, much of which ended up being deposited in US banks. Thanks to such a 'petrodollar recycling' system a large share of these funds were, in

[2] For instance, between 11 January 1973 and 6 December 1974, the New York Stock Exchange's Dow Jones Industrial Average benchmark lost over 45% of its value.

[3] In the period of 1972-74 the US economy slowed from 7.2% real GDP growth to −2.1% contraction, while inflation (by CPI) jumped by around 9% from 3.4% in 1972 to 12.3% in 1974. In parallel, from a position of 5.1% real GDP growth in 1972, the UK went into recession in 1974, with GDP falling by 1.1%.

turn, lent to oil-importing developing nations (especially in South America, see below) to help them finance their energy imports. On the other hand, the increased energy prices dampened the economic growth of Western industrialized economies and fostered inflation at the same time – 'stagflation'.

During the 1980s and 1990s many developing and emerging countries became increasingly integrated into global financial markets through deregulation, liberalization, particularly through liberalization of the capital account, and market privatization. Several emerging market economies have witnessed a number of financial crises since the 1980s, which have caused serious economic, social, and political problems. The devastating impact of the 1982 and 1994/95 Mexican crisis, the 1997/98 Asian financial crisis and the 1998 Russian crisis suggest that maintaining financial sector stability by reducing vulnerability is crucial. However, financial crises were not limited to developing and emerging countries only. In the last decade, several advanced nations, including some countries in Europe (European currency crisis in 1992/93) and Japan have also witnessed financial crises.

Apart from the fact that the world economy generally suffered from stagflation in the 1970s and 1980s, the rapid increase in oil prices since 1973 has forced many developing countries to look for additional financial means (debts) aimed at covering the high prices of importing oil. As already mentioned above, OPEC countries invested their money with international banks, which 'recycled' a large share of the capital as loans to Latin American governments, in particular. As interest rates grew in the United States and Europe in 1979, the debt payment burden for these borrowing countries also increased. Moreover, due to the exchange rate deterioration with the US dollar, many South American governments ended up owing huge amounts of their national currencies, as well as losing purchasing power, whereas the contraction of world trade in 1981 additionally pushed the prices of primary resources (Latin America's largest export) down even further. *South American* countries continued to accumulate foreign debt as a result. The *debt crisis* occurred in August 1982 when Mexico declared that the country could not meet its payment due-dates, and unilaterally announced a moratorium of 90 days; it also requested a renegotiation of payment periods and new loans to fulfil its prior obligations. In the wake of Mexico's default, most commercial banks reduced and/or stopped new lending to Latin America. As much of Latin America's loans were short-term, a crisis ensued continent-wide when their refinancing was refused.

During the 1990s, emerging markets witnessed rapidly growing capital inflows resulting in much higher debt in the private sector compared to the public sector. Therefore, most of the crises in the 1990s were the so-called capital account crises that occur when owners of a country's debt lose confidence in that country's ability to service its debt in the future. As already mentioned above, countries with fixed exchange rate pegs and open capital accounts were highly vulnerable to such capital account crises when markets anticipated that exchange rate or debt service sustainability would not be maintained. The collapse of the value of the

currency led to a currency crisis. And the resultant failure to honour the debt servicing by banks and other financial institutions will increase the 'financial vulnerability' of the financial system leading to a banking or financial crisis.

When the Thai Baht first came under attack in July 1997, currencies and asset prices plunged throughout Asia, as capital (of around 100 billion US dollars) fled from countries once favoured by international investors. In 1997/98 Asian economies experienced the so-called twin (or triple) financial crisis – a type of crisis in which currency and banking woes are combined (see also Kaminsky and Reinhart, 1999; Hahm and Mishkin, 2000; Koo and Kiser, 2001). The Asian crisis, like the Latin American debt crisis of the 1980s and the Mexican crisis of 1994/95,[4] had a broad and devastating impact in the entire region (and particularly in Indonesia, Republic of Korea, Malaysia, Philippines, and Thailand): the open financial markets of these countries sparked a plunge in their currencies, stocks and other assets and severely damaged some of their financial institutions. Economies contracted and the living standards of millions of people worsened. Economic development was set back for years in some countries.

A weak real economy, an artificially high fixed exchange rate between the rouble and foreign currencies to avoid public turmoil, and a chronic fiscal deficit triggered the *Russian financial crisis* in 1998. The 1997 Asian financial crisis in particular and the subsequent declines in demand for (and thus the price of) crude oil and nonferrous metals, severely affected Russian foreign exchange reserves. Given Russia's fragile economy at that time, the rapid export decline of those natural resources led to an economic chaos in the country where GDP per capita fell, unemployment grew rapidly, and global investors liquidated their Russian assets. In spite of the government's efforts to increase the short-term Russian Government Treasury Bills and interest rates of up to 150%, capital flight and government debt problems continued to prevail. Moreover Russia failed to carry out the 'floating peg' policy with respect to its currency, forcing its Central Bank to keep the rouble-to-US dollar exchange rate within a range of 5.3 to 7.1. The crisis severely undermined confidence in the rouble's stability as a result, and was followed by an abrupt currency devaluation in August and September 1998.

Financial crises are not restricted to developing and emerging countries. The sudden expansion in the money supply of D-Marks caused by the 1-to-1 swap of East German Marks for D-Marks after reunification forced the German Bundesbank to carry out a restrictive monetary policy widening the (short-term) interest rate gap between Germany and the rest of

[4] The *Mexican peso crisis* of 1994-95 was primarily triggered by the government's erroneous decision to devalue its currency by 15%, followed by a massive speculation attack on the Peso and rapid capital flight. Consequently, real GDP declined significantly (by 6% in 1995 – see Goldstein et al., 2000) in Mexico, while the event also increased poverty. The incidence of poverty as defined by the poverty head count ratio increased by around 6% to reach 17% in 1996 from 10.6% in 1994, reversing the reduction in poverty seen between 1992 and 1994.

the world. This, in turn, increased demand for the D-Mark and led to its overvaluation. However, the intervention of the central banks in the EMS (European Monetary System) member states to safeguard the bilateral ERM (Exchange Rate Mechanism) remained in vain and caused the *1992 currency crisis in Europe*.

A sole real sector crisis appears to be rather seldom. To a certain extent the so-called dotcom crisis at the end of 1990s can be classified as this crisis type. The dotcom bubble, a stock market bubble fuelled by the rise of the internet and the technology industry, grew out of a combination of the presence of speculative or fad-based investing, the abundance of venture capital funding for start-ups and the failure of dotcoms to turn a profit. The bursting of this bubble triggered an economic recession, especially in the United States and some advanced countries.[5] The fall of the iron curtain in the late 1980s also caused a real sector crisis in countries with strong economic ties with Russia at the time like Finland, Estonia and Latvia.

Following the US subprime mortgage crisis (2007) and the collapse of the Lehman Brothers in 2008, not only the United States, but also Europe's economy has suffered from a series of crises since 2009. The on-going financial crisis started in September 2008 in the US and is an outbreak of: (i) gross financial irregularities (particularly of off-balance-sheet activities of financial institutions), (ii) the excesses in the housing and mortgage-backed securities markets, (iii) excessive risk taking, (iv) excess savings in emerging market economies (especially in Asia) with very low global interest rates causing speculation and asset market bubbles, (v) large global imbalances, and (vi) loose monetary policies in the US since the 2002 recession, among others.

In Europe there have already been lively (also controversial) discussions on the emergence of euro crisis, while the financial crisis has rapidly expanded to become a government debt crisis as well as a European banking crisis, which made joint financial support of euro countries urgently necessary to rescue some weak euro area members such as Greece, Portugal, Ireland and Spain and their large banks. The on-going EU economic crisis is rooted in the uneven growth performance of the Eurozone countries, the unsustainably large public debts of some EU periphery countries, and the Eurozone banks' weak position, including exposure to government debt (see also Pisani-Ferry, 2012).

2.4 Contagion and the Prevailing Danger for Emerging Economies

It is typical, as said already, that on many occasions these modern financial crises do not take place solely in one country but instead have a contagion effect to other countries in the region as well. For example, the Latin American crisis and the Asian crisis as well as the on-going crisis in Europe mentioned above affected many countries in the respective regions and across

[5] From its March peak of 5048, the NASDAQ slid to 2471 by the end of 2000.

countries. The most popular explanation of such a cross-border contagion (in literature on the subject the term 'infection' is often used synonymously) is based on the so-called '*economic linkages' hypothesis,* which highlights the case where a foreign financial crisis acts as a common shock to countries with strong economic and financial linkages to the country in crisis (see also Lowell, Neu and Tong, 1998).

As already mentioned above, the spread of currency as well as financial crises from a country to another, which are caused by the common less-disciplined monetary policy and financial sector vulnerabilities as well as the large trade imbalances, is often initiated by a series of simultaneous and/or subsequent speculative attacks (see also the Russian case). De Gregorio and Valdes (2001) also find for the case of 1994/95 Mexican crisis and 1997/98 Asian crisis that a neighbourhood effect is one of the determinants of which countries suffer from contagion, while trade links and pre-crisis growth similarities are also rather significant. In this context Goldfajn and Valdes (1997) highlight the particular importance of the intermediaries' role of transforming maturities, which in turn leads to large-scale cross-border capital movements, and shaping the danger of crisis (see in particular Asian crisis). In addition the contagion transmission of financial and banking crises appears to be a result of intact linkages among financial institutions located in different victim countries (see also Lagunoff and Schreft, 2001) - interrelated portfolios and payment commitments forge financial linkages among agents in different victims and shape the financial fragility of the individual country as well as the region. In this case a small initial liquidity preference shock can rapidly spread within the economy and be contagious beyond the border (see the three contagion mechanism hypotheses shown below), while the scope of contagion largely depends on the structure of international claims (see also the recent Eurozone crisis).

To a larger extent the latter aspects mentioned above also correspond to the second contagion mechanism called the '*portfolio adjustment'* approach describing what happens when the liquidity-constrained portfolio managers sell off other countries' assets in order to meet an expected increase in redemptions from a country in crisis (see also Calvo, 1999). Moreover the '*heightened awareness' argument* suggesting that investors with incomplete and/or asymmetric information may ignore the poor conditions of the economic and financial system in some countries until a crisis occurs somewhere else, at which point they dump their investments in those countries. Finally, after the Russian default in 1998 the so-called '*panic herd behaviour'* views have also proven to be quite popular, which suggest that investors abandon their investments largely in response to what they think other investors are doing (Lowell, Neu and Tong, 1998; Eichengreen, Hale and Mody, 2008).

Emerging economies, especially China and India, are presently leading the world out of the global recession. According to the IMF (2012),[6] output is already above pre-crisis trends in many emerging and developing economies, suggesting that the recovery is under way. This is good news. But this brighter outlook is balanced by fears of possible asset bubbles produced by the flood of investment capital into these emerging countries. This problem will be discussed under the term 'Minsky moment' in a subsequent section of this paper.

Inflation pressure in particular is becoming more widespread. In several of the larger emerging market economies, headline inflation is running close to or above central bank targets. Furthermore, some economies are experiencing a credit boom. The risk that food and energy price increases will start an inflationary spiral is much greater in emerging and developing economies than in advanced economies. In many emerging economies, real interest rates remain far below pre-crisis levels – another fact that makes these countries more susceptible to the future economic crisis, e.g. via the burst of asset bubbles. Economies which have experienced a huge capital inflow may be prone to a sudden reversal of capital flows.

2.5 Conclusions

The brief discussion of crisis typology has revealed that crises have changed their characteristics during the last 25 years. This changing character falls into line with certain aspects of the process of globalization. Thanks to globalization economies, and especially financial markets, have become increasingly interlinked and these linkages provide new channels for the diffusion of crises. The internationalization of the financial markets is also one reason why one financial crisis type may quickly generate another one. Nowadays clear-cut, single crisis types can hardly be observed. However, although the financial and other markets are closely interlinked internationally and provide new easy-going channels for crisis diffusion of all types, contagion still depends, to a large extent, on the vulnerability of an economic system. One key factor for the vulnerability is the financial soundness of a country. Since both, sound and less sound financial systems exist in emerging, as well as in OECD countries, the extent to which individual countries get economically damaged when the crisis spreads differs from one country to the other.

2.6 Theses

1) In a globalized economy financial crises types often quickly change and turn into other crisis types. While spreading to other countries they may change their type again. A strict separation of financial crisis types is therefore an artificial construct and may suit heuristic needs only.

[6] IMF (2012), World Economic Outlook: Growth Resuming, Dangers Remain, April, http://www.imf.org/external/pubs/ft/weo/2012/01/pdf/text.pdf

2) In most cases the real sector crises are generated by financial crisis events, at least since the early 1990s. Since modern financial crises more often last much longer than cyclical crises, the real economic sector crises resulting thereof may lose their short-term character and continue until the financial crisis problems are under control. The damage to the real economy done by financial crises is usually very serious.
3) Crisis vulnerability has increased over time for most emerging and a good number of advanced countries in the context of intensified globalization, especially since the fall of the Iron Curtain and the world-wide liberalization of financial markets thereafter.
4) Due to globalization modern crises are no longer limited to a single economy or a few countries. Crises spread by contagion to a large number of countries within a region and beyond. Due to the rise in worldwide economic and financial interactions, facilitated by electronic communication, crisis events in one country infect other countries quickly, often within minutes.

3. Impact of Crises on Economic and Social Indicators of Emerging Economies, Conclusions for Crisis Management and Policy Recommendations

This section is devoted to the analysis of crisis case studies from emerging countries. The crisis characteristics will be described and the crisis impact briefly assessed. The further analysis focuses on crisis generation, contagion and vulnerability. The crisis management is evaluated and conclusions for adequate policy making ex ante crisis, as well as during the event of a crisis are drawn. In a first step this is done on individual case by case basis, and in a second step by comparing all cases. The main results are summarized by theses.

3.1 Conceptual Basis for Case Study Selection

The more heterogeneous the selected cases are, the wider the scope of experience will be and the more policy conclusions can be drawn. Therefore, heterogeneous modern crises that had a severe impact on the real sector economy and representing three global regions have been selected:

- The Asian crisis of 1997/98 with a focus on South Korea,
- A Latin American crisis of the mid-1990s with a focus on Mexico and
- The transformation and subsequent financial crises of Eastern Europe after 1990 and during the world financial crisis of 2008/09 with a focus on Estonia,
- Comparative references are made to other countries and other (later/present day) crises.

In 1997 a group of economically highly successful Asian countries came under dramatic crisis pressure mainly because the economies in these countries had grown very fast – probably too fast – in a short period of time, thanks to heavy recourse to foreign capital inflow. However, in 1997 this ‘hot money’ was withdrawn at short notice after evidence accumulated that

economic growth could not be maintained at the same pace as previously. So **South Korea** in 1997/98 is an example of a crisis mainly caused by an indebted private sector. At a political level, the crisis was handled rather successfully. Moreover, South Korean society tolerated some rather drastic measures like high interest rates, wage cuts and a temporary sharp increase of unemployment, which helped to solve the crisis within a relatively short time.

The Latin American crisis, and particularly the **Mexican** one, is a typical example of a badly solved currency problem. The Mexican peso crisis of 1994/95 was not linked to external debt, which was at the centre of the financial crisis experienced by Mexico in the 1980s (starting in 1982), but to an overvalued currency. So the Mexican case clearly illustrates the dangers of politically defending an unrealistic exchange rate. It also offers an example of bad political crisis management. Chile, on the other hand, is an example of successful political crisis handling in Latin America. This case will also be dealt with briefly for comparative purposes.

With the breakup of the former USSR in the early 1990s, the system of specialization of its regions collapsed almost overnight. The individual countries had to find a new business model to cope with the structural challenges and spill-over effects of external crises like the Russian economic crisis in 1998 and the worldwide recession in 2008/09. **Estonia** had been rather successful in the Soviet economic system. This country managed not only the structural crisis caused by economic transformation, but also the subsequent financial turbulence rather effectively. Estonia, therefore, represents a case of successful crisis management among transition economies.

3.2 The Asian Crisis with a Focus on South Korea

The Asian financial crisis became a unique case due to a combination of three types of crises: capital account, currency and banking crises. The East Asian economies (namely Thailand, Malaysia, Indonesia, Philippines, Singapore and South Korea) affected by the crisis were well integrated with the global market, as well as within themselves. The international competitiveness of these economies was high, but most of them had financial sectors with weak institutional powers and little capacity for economic policy-making. In addition, a strong contagion effect emerged in this crisis spreading from Thailand to other Southeast Asia economies, as well as to South Korea, due to strong trade integration among these economies. The study of the Asian crisis is therefore crucial to understanding the policies needed to mitigate a complex and multifaceted crisis with a contagion impact.

3.2.1 Impact

What began with the panic triggered by the failure of the Thai financial system led to the rapid economic downturn of some of the globe’s most dynamic economies in 1997 and 1998.

For South Korea in particular, the consequences of financial and economic crisis and the intervention of the IMF in overcoming the accompanying problems were extremely painful. These problems included, for example, a large number of bankruptcies of industrial firms and private banks, increasing pressure on industrial firms to carry out rapid restructuring and specialization in a limited number of competitive areas including the so-called 'big deal' of exchanging business activities among large conglomerates, the massive dismissal of workers and the subsequent insecurity in businesses and society, the increase of production costs caused by the won devaluation and the change in the relative prices of imported goods such as semiconductors and natural resources like petroleum, the drastic decrease in demand from domestic households and firms' investment spending caused by income reduction and high interest rates, etc.

Table 1
Changes in Major Economic Indicators (in %*), before and after the Crisis in South Korea

	GDP Growth	Inflation	Private Consumption	Gross Fixed Capital Formation	Export	Import
1997 1Q	4.9	1.8	4.5	0.8	-5.6	3.9
2Q	6.2	1.6	4.4	2.2	7.1	0.8
3Q	5.5	2.4	5.3	-3.6	15.6	-3.8
4Q	3.6	8.2	-1.0	-7.2	3.6	-14.8
1998 1Q	-4.6	11.9	-11.9	-19.9	8.4	-36.2
2Q	-8.0	6.3	-13.3	-23.8	-1.8	-37.0
3Q	-8.1	4.1	-12.5	-22.4	-10.8	-39.9
4Q	-5.9	-0.5	-9.2	-18.3	-5.5	-28.7
1999 1Q	5.4	-5.6	7.9	-4.6	-6.1	8.1
2Q	10.8	-3.5	10.9	4.2	2.5	22.2
3Q	12.8	-0.4	12.4	6.7	15.1	38.7
4Q	13.0	1.2	12.8	7.2	22.7	44.8

Note: * Year-over-year percentage change.
Source: Korean Statistical Office.

In fact, Korea experienced a real economy crisis caused by the so-called twin (or, more precisely, triple) financial crisis – a type of crisis in which currency and banking (as well as

capital account) woes are combined (see also; Hahm and Mishkin, 2000; Koo and Kiser, 2001).[7]

3.2.2 Analysis

a) Causes of the Crisis

For the appropriate design of anti-crisis measures the causalities of a crisis must be known. One common phenomenon for all Asian crisis countries was the long period of high growth, misallocation of resources, and imbalance between currency and stock markets witnessed by all affected countries prior to the crisis. This economic boom was primarily financed by foreign capital and these funds were inefficiently managed by firms, banks and governments domestically. The financial intermediaries and capital markets were not mature enough to manage such high growth rates. Each country faced some major socio-economic issues, including political or social problems in Philippines and Indonesia; a real-estate bubble in Thailand; an ageing industrial structure in South Korea; and the launch of very large-scale, ambitious projects in Malaysia. At the same time, liberalization and the opening up of the financial markets, along with the free movement of capital and capital account convertibility of domestic currencies that it entailed, also helped to make these economies more vulnerable. The financial sector was not simply sound enough to cope with liberalization.

The list of major causes for the crisis in South Korea is long. The more important financial factors that led to the crisis generally include: a serious asset-liability mismatches of domestic firms, an over-reliance on foreign debts partly caused by the government's badly designed financial liberalization schedule, a poorly-developed and domestic financial system with poor transparency, insufficient foreign currency reserves, the moral hazard resulting from close relations between governments and large firms, as well as the so-called cross-firm debt guarantee within a conglomerate (see also Amess and Demetriades, 2001).[8]

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[7] As discussed in section 2, a financial crisis is generally defined as a situation in which a significant group of financial institutions have liabilities exceeding the market value of their assets, leading to runs and other portfolio shifts, the collapse of some financial firms and government intervention. Additionally, it is also characterised as a non-linear disruption to financial markets in which adverse selection and moral hazard problems become much worse, so that financial markets are unable to efficiently channel funds to those who have the most productive investment opportunities (see also Hahm and Mishkin, 2000; Pettis, 2001). The Korean case not only demonstrates all the aspects of a financial crisis under the first definition, but also fulfils the criteria posited by the latter definition (see also Shin and Hahn, 1998). In addition, this type of financial crisis was accompanied by the currency crisis (i.e. strong depreciation of the won) in the fourth quarter of 1997, on average, the won was devalued from ca. 844 won/US$ in 1996 to 1,850 won/US$ in 1997.

[8] This view is also reflected in the IMF program for Korea, which demanded that the government should take measures to weaken the large, diversified, family-owned chaebols (Kwon, 2008). The proposed measures included the banning of mutual payment guarantees among the member firms of the same chaebol, the publication of consolidated balance sheets for the whole chaebol (rather than for individual firms), and the strengthening of minority shareholder rights through stricter disclosure requirements (Chang et al., 1998). The implemented big-deal business activity exchange program among large conglomerates mentioned above was the result of these measures.

In addition, some macro- and meso-economic conditions and weaknesses not only made the Korean economy vulnerable to external shocks, but also contributed to sudden capital flight by investors and the subsequent economic collapse. Major real sector problems were, for example, the (expectation of a) decline in the economic growth rate as of 1995 and the slow growth in export revenues in 1996 (mainly due to the worldwide decrease in the price of computer chips – Korea's most important export item in the 1990s), the sharp increase in the trade deficit in 1995/96 caused by growing imports of petroleum and sophisticated semiconductors, the intensive modernization efforts of Korean firms, and competitive pressure caused by the increase in labour costs and the devaluation of the Chinese Yuan (by around 40% in 1994) and the Japanese yen (by over 25% in the period of 1995/96), to name a few of the more important problems.

Furthermore, policy errors made by the Korean government and the IMF during the early stages of the panic appear to have deepened the economic distress. For example, the increase in real interest rates combined with tax increases, cuts in government spending, etc. which were demanded by the IMF in return for bail-out funds, depressed Korean firms' cash flow and raised their fixed-payment obligations, plunging them more deeply into insolvency.

The unstable development of important Asian currencies, including the Korean won, the transmission of bubbles from one country to another and the related less-disciplined monetary policy practices of individual Asian countries since the mid-1980s were the initiators of the Asian crisis. In this context it was argued that more intensive co-ordination in the fields of monetary and exchange rate policy-making, debt negotiations and expansions would be necessary in Asia to prevent and overcome the crisis (Eichengreen and Bayoumi, 1996; Cartapanis et al., 2002).[9] The negative impacts of all these crises-factors caused a total economic breakdown in South Korea within a short period of time. Yet the country managed the combined crisis well, and its macroeconomic indicators, including GDP growth rate, unemployment, inflation and the current account deficit – improved rapidly in 1999 (see Table 1).

The design of anti-crisis policy measures must be based on the causes of a particular crisis. One of the major reasons behind the Asian financial crisis in 1997 was the excessive dependence of the Asian economies on commercial banks and foreign currency dominated short-term loans for domestic financing. The major sources of corporate financing were banks because other major sources of financing, namely bond markets, were underdeveloped and fairly small in size. Furthermore, the de facto peg of these economies' currencies to the US

[9] Although some economists and politicians supported the idea of establishing a type of Asian monetary union (with a common currency and central bank), its realization has remained fruitless due to significant economic disparities, structural differences and different financial systems in Asian countries (Wade, 1998). Moreover, Asia lacks the kind of political solidarity and institutional processes that have played an important role in the economic integration of the EU since the 1950s.

dollar minimized currency risks for both borrowers and lenders. This encouraged local borrowers to take on foreign currency denominated loans as currency risks were deemed low while there was significant difference between local and foreign interest rates. From the point of view of lenders, higher growth rates in the region relative to other parts of the world also encouraged foreign capital inflow. Asian economies faced the 'double mismatch' problem or the 'twin risk' problem, namely currency and maturity risks. Corporate borrowers predominantly created this problem by raising funds in foreign currency on a short-term basis. The Asian corporate sector borrowed short-term from commercial banks in foreign currency for long-term domestic investment. When credit dried up, these corporate borrowers were not able to borrow capital for their outstanding investments. As default cases increased, it became more difficult and more expensive to borrow credit. As capital outflow continued, the currency depreciated. The inability of corporate firms and banks to pay became more severe as their debt in terms of the local currency rose significantly.

The Asian crisis spawned a huge body of literature on the economics of crisis, in which numerous hypotheses have been advanced on the origin, development, and resolution of crises. There are, however, two main explanations for the Asian crisis:

- First generation models attributed the crisis to weak economic fundamentals such as unsustainable economic policies, the vulnerability of the financial sector, and structural imbalances. This traces the crisis back to inconsistency in policies such as monetization of persistently large budget deficits under a regime of fixed exchange rates (Krugman, 1979).
- Second generation models, on the other hand, linked the crisis to arbitrary shifts in market sentiment and emphasized the role of panics and self-fulfilling expectations (Pesenti and Tille, 2000; Estanislao, Manzano and Pasadilla, 2000).

The general understanding is that the financial crisis in Asia was multifaceted and a combination of capital account, currency and banking crises. As Pesenti and Tille (2000) emphasize, the fundamental imbalances stressed by first generation models make a country vulnerable to shifts in investor sentiment; thereafter, once the crisis has begun, the second generation models explain the spiral and self-fulfilling nature of speculation.

b) Contagion as a Causal Factor

As explained earlier, on many occasions financial crises do not happen solely in one country, but instead have a contagion effect and spread to other countries in the region as well. For example, the Latin American crisis of 1994 and the Asian crisis of 1997 affected many countries in the respective regions and sometimes across countries. Since 2 July 1997 following the devaluations of Thailand's currency, the local currencies of Malaysia, Indonesia, Philippines and later Singapore rapidly weakened. This crisis also adversely

affected several non-Asian developing countries including Russia and Brazil due to the market perception of increased vulnerabilities in all emerging market economies.

In view of the strong contagion effect of the Asian crisis of 1997, it is important to analyse the regional economies, and especially their financial markets, to better understand the linkages across markets and countries. There is a common consensus on the regional character of the crisis, with its non-significant impact on large economies outside the region, like the US or the EU, and the prominent role of regional financial linkages across markets as well as across countries, mainly attributed to the portfolio rebalancing effects of financial investors.

In the literature there are different approaches to defining contagion and distinguishing this concept from interdependence. The most accepted definition is the Forbes and Rigobon (2002) approach. They define "contagion as a significant increase in co-movement of markets after initial shock".

Note on Measuring Contagion

Edwards and Susmel (2001), for example, use weekly stock market data for a group of Latin American countries to analyse the behaviour of volatility over time. They find strong evidence of volatility co-movements across countries, especially among the Mercosur countries.

Empirical results for 11 Asian stock markets show that there was mean and volatility contagion in the Asian crisis. Brailsford et al. (2006) investigate risk and return in the banking sector in Taiwan, China and Hong Kong. The study focuses on the risk-return relation in a conditional factor GARCH-M framework that controls for time-series effects. Finally, the study provides evidence of these relations before and after the Asian financial crisis. Dungey et al. (2010) propose an identified structural GARCH model to disentangle the dynamics of financial market crises. They apply this method to data on the 1997/98 Asian financial crises, which consisted of a complex set of interacting crises. They find significant hypersensitivity and contagion between markets and show that links can strengthen or weaken. Empirical evidence shows that volatility is contagious from the US market to several of the markets examined. Engle et al. (2012) model the interrelations of equity market volatility in eight East Asian countries before, during, and after the Asian currency crisis. Using a new class of asymmetric volatility multiplicative error models based on the daily range, they find that the dynamic propagation of volatility shocks occurs through a network of interdependencies, and shocks originating in Hong Kong might be amplified in their transmission throughout the system, posing greater risks to the region than shocks originating elsewhere.

c) Policy Errors as a Crisis Re-enforcement Factor

During the Asian crisis, like crises in other regions, the IMF imposed strong conditionality for granting credit facilities to South Korea, Indonesia, and Thailand. The conditions attached to IMF loans in most cases required the borrowing country to heavily slash government spending and raise interest rates for slowing down monetary growth and inflation. The IMF as a rule insisted on a combination of tight macroeconomic policies, including cuts in public spending and higher interest rates, as well as, the deregulation of sectors formally protected from domestic and foreign competition. Improved financial reporting from the banking sector was also required.

After the breakout of the crisis, the IMF and particularly the governments of Thailand, South Korea and Indonesia made policy errors during the early stages of panic, which deepened their countries' economic distress. These crucial policy errors included the tightening of monetary policy through an increase in real interest rates combined with tax increases, a reduction in government expenditure and credit restrictions by banks. The IMF imposed the conditions described above in return for bail-out funds. These policies, in general, depressed firms' cash flow and raised their fixed-payment obligations, plunging them more deeply into insolvency.

Jonson (1998) argued that the IMF roared into Asia and promised to supply US$17 billion to Bangkok, US$40 billion to Jakarta, and US$57 billion to Seoul. In return, it demanded austerity budgets, high interest rates, and sales of local businesses to foreign bargain-hunters. It claimed that these measures would restore economic health to the Asian tigers. According to the IMF, "high [real] interest rates would encourage domestic capital to stay at home and foreign lenders to resume lending, which would boost the currency. The currency boost would both make it easier for domestic firms to repay their foreign debts and check the danger of competitive [devaluation]. ... In practice, [however] the increase in real interest rate combined with [tax increases, cuts in government expenditure and other restrictive measures which also led to compression of private consumption] only depressed firms' cash flow and raised their fixed-payment obligations, tipping more and more into insolvency, accelerating the [capital] outflows and reducing inflows. The IMF [appeared to forget] that private cash flows are cyclical ... When a whole economy is [in trouble], foreign capital will not return whatever the interest rate. ... Requiring a sharp rise in bank capital adequacy standards in the midst of the crisis caused a cut in credit, a rise in non-performing loans, and further bankruptcies. ... The IMF also required [Asian] governments to guarantee the foreign debts of local firms and banks. Protected from default, foreign creditors hung back on rescheduling or rolling over the debt. This worsened the hard currency squeeze on local debtors, pushing them to buy foreign exchange to cover their increased dollar needs and adding to the exchange rate collapse" (Wade, 1998, p. 700-701).

d) Lessons Learned

In a policy turnaround, the IMF recently recognised that a combination of fiscal austerity and tight monetary policy was not a good strategy for mitigating the crisis and reviving growth. During the recent global financial crisis of 2008, many of the world's economies, including emerging Asian economies, adopted strong fiscal stimulus and easy monetary policy to maintain growth and employment generation.

The IMF's anti-crisis policy is often criticized. One point made by its critics is that tight macroeconomic policies are inappropriate for countries that are suffering not from excessive government spending and inflation, but from a private sector debt crisis with deflationary tendencies. For Thailand, the IMF required the Thai government to increase taxes, cut public spending, privatize several state-owned businesses, and raise interest rates – all steps designed to cool down Thailand's overheated economy. Furthermore, the IMF required Thailand to close illiquid financial institutions. In December 1997 the government shut down some 56 financial institutions, laying off 16,000 people with the effect of further deepening the recession that gripped the country. Governments had to devalue the local currency, raise interest rates, and face a recession in order to stabilize the economy. Their critics argue that high interest rates on their own do not sufficiently restore investor confidence. Moreover, the negative effect of devaluation, as a rule, is much greater in the first year than originally anticipated. The initial budget cuts in Korea and Thailand had severe unexpected negative effects on the real economy. This strict conditionality had immense costs in Thailand in terms of recession and slow growth for a prolonged period and in terms of social costs. An alternative, the critics argue, would have been to provide a strong fiscal stimulus, particularly for infrastructural investments, to kick-start the economy. This was one strategy adopted to reduce the economic and social costs of the 2008 global financial crisis. However, the ability of a nation to stabilize its economy and implement effective policy measures depends heavily on the fiscal position prior to the crisis.

A second criticism of the IMF policy is that its rescue efforts are exacerbating a problem known to economists as moral hazard. Moral hazard arises when people behave recklessly because they know they will be saved if things go wrong. In the case of Asia, critics point out that many Japanese and Western banks were far too willing to lend large amounts of capital to over-leveraged Asian companies during the boom years of the 1990s. The critics argue that the banks should be forced to pay the price for their rash lending policies in a crisis, even if that means some banks must be shut down. Only by taking such drastic action, so the argument goes, will banks learn lessons from their errors. By providing support in bailing out the banking sector, the IMF is providing an incentive (moral hazard) for over-lending and the resulting debt default to the very banks whose loan policies gave rise to this crisis situation.

In managing a combined financial crisis like that of South Korea, stabilization of the currency market has the highest priority because banking sector turmoil cannot be controlled without currency market stabilization (Koo and Kiser, 2001). The short-term debt rescheduling by the government,[10] the IMF bailout (with a loan of 57 billion US dollars to the South Korean government) and the strong reduction of import demand, as well as a tight monetary policy stabilized the won. Keeping the interest rate on the high side, tight monetary policy stabilized the market primarily by severely reducing domestic economic activities. For example, in the 3rd quarter of 1998 private consumption dropped by 12.5% and private investment decreased by 22.4% from the previous year (see Table 1). However, monetary policy quickly changed course, turning expansive as of mid-1998 and helping the South Korean economy to recover more rapidly from the crisis (Lee and Rhee, 2007).

Another reason for South Korea's rapid recovery is that its government strictly controlled the financial institutions during the crisis period to rapidly restore financial stability and to maintain the country's credit system intact (see Kim, 2000; Lee and Rhee, 2007). The government's control became tighter following the nationalization of two major commercial banks (Korea First Bank and Seoul Bank), the implementation of full deposit government guarantees for all financial institutions, and the massive centralized purchasing action of nonperforming loans by the Korea Asset Management Corporation (KAMCO) – a bad asset management bank.[11]

The South Korean labour market responded immediately to the financial crisis and the subsequent legal and institutional reforms, which weakened the power of labour unions and made employment adjustment, i.e. layoff and wage cuts, easier.[12] In addition, temporary jobs replaced many permanent ones. The unemployment rate soared to 8.6% by early 1999 as a result, up from 2.0% at the end of 1997, while the real employment cost per worker in the manufacturing sector dropped by 6.8% in 1998.[13] A large number of South Korean companies primarily owed their survival to the rapid reduction in labour costs.

However, Lee and Rhee (2007) emphasized that the fast recovery from the 1997 crisis also had some serious negative effects on the South Korean economy: the aggressive fiscal expansion during the crisis in terms of the sales of government guaranteed bonds, for example, and the implementation of public credit guarantee programs significantly increased sovereign liabilities, thereby lowering the transparency of the official fiscal stance.

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[10] In January 1998 the South Korean government converted US$ 24 billion of short-term private debt (mostly by commercial and merchant banks) into claims of one- to three-year maturities with government guarantees.

[11] Around 25 billion US dollars were spent for this purpose (Koo and Kiser, 2001). The capital of KAMCO is financed by the government, the Korea Finance Corporation and financial institutions.

[12] In February 1998 government, business and workers made a Tripartite Agreement that facilitated employment adjustment in the South Korean labour market.

[13] Such reductions of per worker employment cost reflect nominal wage cuts, the replacement of permanent positions with temporary ones and decreased working hours (see also Koo and Kiser, 2001).

3.2.3 Conclusions and Policy Recommendations

For an overview of implemented policies – see Appendix 2 (Policy Actions by the Affected Countries, Korea in Comparison with Thailand and Indonesia).

a) Two General Explanation Approaches

As explained earlier, on many occasions financial crises do not happen solely in one country but instead have a contagion effect on other countries in the region as well. The Asian crisis of 1997, for example, affected many countries in the respective regions and sometimes across countries. Since 2 July 1997 following the devaluations of Thailand's currency, the local currencies of Malaysia, Indonesia, Philippines and later Singapore rapidly weakened. This crisis also adversely affected several non-Asian developing countries, including Russia and Brazil, due to the market perception of increased vulnerabilities in all emerging market economies.

Once market perception of increased vulnerabilities creates panics and self-fulfilling expectations, crises and their contagion are almost impossible to control using policy measures. If, however, financial vulnerability can be reduced, the possibilities of vulnerability speculation can also be diminished. It is therefore of great importance, and this may be the most crucial lesson of the Asian crisis, to reduce the high vulnerability of financial sectors in many emerging economies. Three approaches, namely local currency bonds, required reserve ratios and both national and regional safety nets, can go a long way towards achieving this end.

b) The Need for Financial Sector Reforms

Introduction and Expansion of Local Currency (as well as Regional) Bond Markets

The capital markets, and particularly the banking sectors of the affected countries, were weak prior to the crisis. This calls for a robust financial sector reform.

The major factors in the crisis include market rigidities and deficiencies in the structure of the financial system. The financial system was antiquated, fragile and almost entirely dependent on commercial banks to provide lending for economic growth. Financial institutions were poorly regulated and highly leveraged. The major reasons for the weak banking system include greed, cronyism and incompetency. In addition, other factors that made the banking system more vulnerable include (i) low standards of financial management and a credit culture; (ii) directed lending, and (iii) the poor quality of commercial laws and regulatory environment. The banks over-borrowed in US dollars and lent too much money to the wrong borrowers.

Currency bond markets will reduce currency and maturity risks. Although Asia's bond markets have witnessed considerable growth in recent years, bond market financing, as in most other emerging countries, remains fairly small-scale, particularly compared to the size of the corporate bond market. Despite experiences in the Asian financial crisis, the corporate sector of Asian economies continues to depend heavily on bank lending. Since banks are highly leveraged institutions, economies heavily dependent on bank financing are much more vulnerable to a financial crisis. The presence of such instability in the banking system can halt or delay important investment projects and reduce aggregate demand (Herring and Chatuspripiak, 2000). The continuing double-mismatch risk could be reduced if more corporate borrowers were to finance their needs through well-diversified portfolios, particularly through bonds. This calls for the development of sound and sustainable domestic currency bond markets in Asia. Developing stable and liquid bond markets will reduce the dependence of the corporate sector on banks and foreign currency financing. Through the local bond market, the corporate sector can borrow for longer maturity periods in local currency, which matches their investment needs and can thus avoid balance sheet mismatches (Eichengreen and Luengnaruemitchai, 2004).

In recent years, East Asia[14] has been the fastest growing region in the world. During 2003-2008, China exhibited the highest economic growth rates, followed by Vietnam. However, Asia is once again faced with another crisis as a result of the 2008 global financial crisis, which originated in the United States. Nevertheless, these emerging countries witnessed strong growth rates compared to other developed and emerging economies (ADB, 2009). However, investor uncertainty still caused capital outflow in most Asian economies. Like the Asian financial crisis experience, the corporate sector in Asia faces severe constraints in securing foreign as well as local currency financing due to the lack of investor confidence in the financial markets. In addition, the 2008 global financial crisis and the ongoing debt crisis in Europe caused a sudden drop in liquidity, particularly in the US dollar for Asian countries.

Well-developed bond markets can provide countries in general with alternative sources of financing and at the same time improve a region's financial resilience by offsetting dependence on the banking sector. Achieving a better balance between bank finance and bond markets requires a more focused, top-down approach. Asian countries, like other emerging economies, also need to utilize their huge savings and international reserves to meet the extensive need for productive investment in the region, particularly in infrastructure through bond market development. Regional cooperation schemes can be an important instrument for facilitating regional bond market development. There is an urgent need to strengthen, expand and deepen the exiting initiatives in bond markets like the Asian Bond Market Development Initiatives. In this respect, multilateral development banks (MDBs) like the ADB have an

[14] This study defines emerging East Asian economies as PRC, Hong Kong, China, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

important role to play in developing bond markets. New initiatives, like developing liquid corporate bond market and broadening the issuer base, may also prove useful. In order to further integrate and deepen bond markets, emerging economies need to adopt several measures including harmonization and the strengthening of financial regulation and credit and trading standards; legal and regulatory framework conducive to investors; developing innovative financial instruments and promoting better access to regional and international investors;

(a) Regional guarantee mechanism;
(b) Harmonized regional clearing and settlement system and
(c) Enhanced local and regional credit rating system.

Strengthening, integrating and deepening local bond markets, particularly in local currencies can play a significant role in mobilizing the funds required to enhance connectivity in the region. The rationale behind such investment is that it will not only stimulate domestic economies, but will also enhance regional-level connectivity and integration, thereby increasing regional demand and intra-regional trade and thus re-balancing growth away from high dependence on exports to advanced economies like the United States and Europe.

Furthermore, to further develop and integrate bond market, emerging countries need to promote bond issuers and investors from both within and outside the region. This requires a legal and regulatory framework conducive to investors, a regional guarantee mechanism, harmonized credit and trading standards, a regional clearing and settlement system and an enhanced local and regional credit rating system. Regional development banks like the ADB in Asia and other multilateral development banks such as the World Bank and international finance corporations with knowledge and financial resources have played an important role in developing the aforementioned bond market infrastructure. They may, however, need to play a more prominent role in strengthening bond markets in emerging countries in the future.

Well-developed local currency bond markets can enhance the resilience of the domestic financial sector to economic shocks by offsetting excessive dependence on the banking sector and thus reducing currency and maturity mismatches, and can better intermediate savings into productive investments. Economic growth and rapid demographic transformation in most emerging countries have created a huge demand for an efficient and resilient financial market and effective asset management. The development of the bond markets can address these challenges and provide alternative sources of financing for public and private investment and provide alternative modes of wealth holdings for private households.

Introduction of a Required Reserve Ratio (RRR)

Another lesson to be learnt from past financial crises is that a more flexible approach is required to banking supervision duties. The introduction of a flexible handling of the

'Required Reserve Ratio' (RRR) imposed by the banking supervision of a country appears to be very useful, particularly in emerging countries. One may conclude that a flexible reserve requirement is applied in most emerging economies as a complementary tool of traditional monetary policy owing to the reluctance of many countries to reduce interest rates in economically bad times for fear of letting their currency depreciate rapidly (leading to a rapid surge in import prices in their own currency) or to raise interest rates in economically good times for fear of attracting even more capital inflows. The RRR provides a potential way of curbing excessively strong credit growth. An increase in RRR can reduce excessive credit growth without attracting new capital inflows and causing the exchange rate to appreciate. Moreover, when increases in RRR dampen capital inflows, this can create greater scope for maneuver for traditional monetary policy like increasing the policy interest rate (Tovar et al., 2012).

National and International Financial Safety Nets

Not directly related to the Asian crisis, but still a long-term consequence of it, a number of Asian countries joined the East Asia's Chiang Mai Initiative (CMI) for a regional financial safety net. In the case of East Asia, under the regional financial and monetary cooperation agenda, the Association of Southeast Asian nations (ASEAN+3),[15] established a regional financial safety net, namely the Chiang Mai Initiative (CMI) in May 2000. This initiative expanded bilateral swap arrangements among ASEAN countries to include the People's Republic of China, Japan, and the Republic of Korea. The proposal includes the establishment of regional surveillance and monitoring, especially of capital flows, and a network of bilateral swap arrangements that can provide liquidity support for member economies in case of a crisis. In 2010, ASEAN+3 announced expanded CMI, the Chiang Mai Initiative Multi-lateralization (CMIM) with a commitment of US$ 120 billion and collaboration with the IMF on surveillance activities.

Like East Asia, other emerging regions should set up similar regional financial safety nets to enhance confidence in their financial markets. There is also an urgent need to establish regional financial stability boards along the lines of the European Stability Board to boost market confidence and minimize the contagion effect of crisis.

3.3 Experience of Crises in Latin America with a Focus on Mexico

Since many aspects of modern crisis origination, crisis management and policy recommendations have been dealt with in the context of the Asian crisis, only specific and new issues will be discussed in this section.

[15] ASEAN+3 consists of the 10 countries of ASEAN (Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) plus China, South Korea and Japan.

In 1993 the North America Free Trade Agreement (NAFTA) was approved and the economic future of Mexico looked bright. Thanks to this positive outlook foreign capital amounting to 81.2 billion US dollars went to Mexico in 1993 alone, amounting to about 20% of Mexico's GDP at that time. This foreign capital was mainly used to finance domestic consumption in Mexico, not gainful investments. In line with this development Mexico's current account deficit grew dramatically in the years 1990 to 1994 and amounted to no less than 8% of GDP in 1994 (see De Luna Martinez, 2002). In December 1994 the short-term foreign debt (debt with less than six months maturity) totalled 42 billion US dollars, with foreign currency reserves standing at only 6 billion US dollars. There was sufficient evidence that the Mexican peso, which after the financial crisis in the 1980s was tied to the US dollar, was significantly overvalued. However, a presidential election was due in August 1994 and the outgoing president did not want to devalue the peso during his term of office. The attempt to maintain an over-valued peso created huge problems for the Mexican economy: the price competitiveness of Mexican goods deteriorated drastically and discouraged foreign buyers from buying Mexican products while encouraging Mexicans to buy foreign products. Furthermore, investors with funds held in Mexico – Mexican or foreign – could see that a devaluation was likely and began converting their peso assets into US dollar assets. In order to defend the (by economic fundamentals) unjustified exchange rate, the Mexican government used up foreign currency holdings to buy its own currency. Within a short period, Mexico's gross international reserves declined from 24.5 billion US dollars to 6.1 billion US dollars in 1994.

a) Impact and Conclusions for Policy Making

In December 1994 the newly elected government of President Zedillo devalued the peso vis-à-vis the US dollar by 15%. As this was not regarded as sufficient, a massive capital flight out of the Mexican peso set in. As the Mexican central bank no longer had sufficient foreign currency reserves to defend the newly established peso/dollar parity the peso lost over 40% of its value within a short time, which caused a severe currency crisis. Debtors were unable to repay their foreign currency debt as a result, with immediate repercussions on the real economy.

Thanks to emergency credits granted by the IMF and the World Bank, the currency situation was stabilized relatively quickly. The credit conditions, however, were tough, and hefty cuts to social programs in particular adversely impacted the socio-economic situation of Mexico. As a result of the restrictive economic policy course pursued, domestic demand in the crisis year 1995 declined by 14% and GDP dropped by 6.2% (both in real terms). Despite the restrictive policy, consumer-price inflation reached 52% in 1995.

Table 2
Annual Changes in Major Economic Indicators (in % Respectively Billion US$), before and after the 1995 Crisis in Mexico

	GDP Growth	Inflation	Private Consumption	Gross Fixed Capital Formation	Export (billion US$)	Import (billion US$)
1994	4.5	7.0	4.5	9.5	8.4	18.4
1995	-6.2	35.0	-8.5	-30.5	23.9	-13.4
1996	5.1	34.4	2,1	13.5	18.5	23.0
1997	6.8	20.6	6.5	23.5	14.8	22.8

Source: OECD Economic Outlook, Paris December 1999 and BANCO DE MÉXICO, Documento de Investigación No.9905, May 1999.

The slump in domestic demand hit retailing, and small and medium sized industrial companies particularly hard, the majority of which produces exclusively for the Mexican market. As the strict course of fiscal policy was accompanied by a restrictive monetary policy with significantly higher interest rates, many indebted companies went bankrupt. The number of persons employed declined in the formal sector of the economy by over one million in 1995, while real wages fell by about 20%.

According to the UN Economic Commission for Latin America, the income of around 45 million Mexicans – almost half of the population – was not sufficient to buy enough food to lead a healthy life. The demand for basic food products declined by almost 30% in the first 18 months of the crisis.

The harsh reform course followed by President Zedillo after the outbreak of the crisis led to a pickup in economic growth as early as 1996 and inflation declined in 1997. Public deficits shrank significantly and the foreign currency reserves of the Mexican central bank rose to 28 billion US dollars in 1997 after they had sinking in the course of the peso crisis in 1994, as mentioned above, to 6 billion US dollars.

So in the end, the management of the 1994/95 peso crisis was successful in stabilizing the economy, but the social costs were immense. An earlier floating of the exchange rate could have either prevented the outbreak of the currency crisis in 1994, or could at least have very significantly reduced its impact on the real sector of the economy and, by extension, on the social costs.

In conclusion, the exchange rate is a crucial factor in the competitiveness of an economy. The continued existence of a significantly overvalued exchange rate in a rather open economy entails very severe risks of a currency crisis with a very serious negative impact on the real economy and on social conditions. A balanced exchange rate, as illustrated by the Mexican crisis, is a key condition for crisis prevention.

b) Comparison with Chile

A more positive example of handling a crisis in Latin America is Chile, which shall be discussed briefly. The handling of modern economic crises by Chile is quite different from that in Mexico.

There may be some political doubts as to whether this conclusion is fully appropriate as Chile had to undergo difficult years under Pinochet's military dictatorship. The fact is that, after experiencing chronic inflation reaching highs of 140 percent per annum in the early 1970s and having practically no foreign reserves, Chile has been regarded as the best performing economy in Latin America since about 2005.

However, the road for Chile was not always smooth. In the early restructuring phase, for instance, Chile's GDP dropped by 14.1% in 1982 during a deep worldwide recession. Although many other countries in the region underwent similar crises, none of them suffered as extreme a one-year decline as Chile. The reason lay in the fact that Chile's economy depended heavily on the price of copper and in worldwide recessions, demand for copper and the prices of it fell steeply. Thanks to a rigorous opening up of the economy, prudent financial supervision and careful regulation, Chile's financial system has proven sound since the late 1980s. Moreover, in the more recent 2008/09 worldwide recession Chile continued to enjoy the benefits of low government debt and positive net financial assets in the private sector. It could thus afford to continue to implement of the fiscal stimulus measures it had introduced during the crisis in 2010 to provide further support to domestic demand and to withdraw these stimuli only gradually in 2011/12. In 2010, Chile was the first nation in South America to win membership to the OECD, an organization restricted to the world's most economically developed countries.

To sum up, the case of Chile indicates that choosing the more difficult (and often, for politicians, more painful) way of achieving a sound financial situation, makes an economy more resistant to contagion and, most importantly, makes it possible to apply stimulus measures (demand increasing policies) and accelerate recovery from a real economic crisis.

3.4 Experiences of Eastern European Transformation and Subsequent Financial Crises with a Focus on Estonia

Before the fall of the Iron Curtain in 1989/90, the Estonian economy was integrated into the Soviet economic system. According to Eamets (1994), the industrial sector in Estonia was characterized by:

- A high degree of factory concentration in the industrial sector, with about 20% of all companies responsible for total industrial output;

- Strong reliance on inputs imported from the former Soviet Union (FSU); and
- High dependence on the markets of the FSU.

This country, like practically all other former Soviet Union member states, entered an extreme structural crisis. There was no return to positive growth rates until 1995. The transition phase of Estonia starting in late 1990 was characterized by a fall in total production of almost 50% in the period from 1991 to 1994. Due to a fairly flexible labour market, the decline in employment was far smaller than the fall in GDP (about -15% in the period of 1990-1993).

Estonia stabilized its economy under much less favourable conditions than most Central and Eastern European Countries and Russia. Firstly, Estonia was hit by trade shocks of greater magnitude, due to both its high dependence on energy imports and to relatively lower energy prices than in the old days of the former Soviet Union.[16] Secondly, as a small country, it was more affected by the collapse in trade than the larger countries in transition. Thirdly, Estonia probably inherited a more distorted economy than, say, Poland or Hungary, which had introduced some market economy elements during the previous decades. Almost the only sense in which Estonia had better initial conditions was her start from a position of zero foreign debt, as Russia took over all of the foreign assets and liabilities of the former Soviet Union (Hansson, 1997).

The radical and rapid introduction of market oriented institutions accompanied by high social costs are the most distinct features of Estonian economic reforms. In general, the following characteristics describe Estonian economic policy reforms in the early 1990s:

- An annually balanced state budget,
- A fixed exchange rate and currency board type of monetary system,
- A flexible labour market,
- A liberal trade policy, openness of economy,
- High speed of privatization and
- Flat income tax at a low tax burden.

It is important to note that these policy options did not change during different political coalitions. Despite the different ideological platforms of individual parties forming the respective governments, liberal economic policy, low taxes, currency board arrangements and balanced budgets had always enjoyed highest economic priority. This created trust and credibility and Estonia had one of the highest inflows of Foreign Direct Investment (FDI) per capita among post-communist countries (Eamets, Varblane and Sõstra, 2003).

[16] Saavalainen (1995) reports that in 1992 the magnitude of the trade shock was around 10% for Estonia, as compared to 3-5.5% in Poland, Hungary and the former Czechoslovakia, respectively.

Thanks to annually balanced budgets, a low tax burden and the currency board system, it is obvious that fiscal policy and monetary policy tools of government were very limited. Moreover, the Estonian economy is an extremely open economy, with both exports and imports constituting about 80-90% of GDP. Therefore, the only buffer for economic adjustment is the labour market (Eamets, 2001). In such a situation crisis management relies heavily on market forces. As a result of the government's pro-cyclical fiscal policy, GDP fluctuations were, as a rule, very high: ranging from up to 10% of the increase during boom times to a decline of up to 15% during recessions.

The initial upswing in 1995 quickly gained momentum and was accompanied by strongly rising share prices. Most of the structural crisis was overcome. Share prices, however, reached the heights of a bubble, which burst in the autumn of 1997, hurting several banks that were deeply involved in the stock market. The banking crisis did not last long as Scandinavian banks took over bankrupt banks in Estonia. However, in August 1998 the Russian crisis occurred with strong spill-over effects to the Estonian economy. Due to its high degree of market integration with Russia, Estonia remained vulnerable to contagion from Russia and was hit by a severe recession as a result.

However, due to the extremely flexible labour market, the real sector of the economy again recovered quickly by regaining and improving its competitiveness and GDP growth in 2000 was at around 8%. The 2001 economic crisis in many Western countries (caused by the bursting of the internet-bubble and subsequently aggravated by the 11 September 2012 disaster in New York and Washington DC), did not greatly affect the Estonian economy in the financial or the real sector.

However, the world recession in 2008/09 had a very damaging effect on Estonia (GDP declined in 2009 by almost 15%). Estonia (like other Baltic countries) is characterized by large fluctuations in employment levels: a quick fall in the level of employment during the crisis and a fast increase during the boom. During the boom the employment rate reached 73%, whereas it toppled down to 60.4% at the lowest point of the crisis. A similar picture is true for the unemployment rate; during the boom (end of 2007) it dropped to 4%. Although the 2007 boom period was succeeded by a recession as early as the second quarter of 2008, the unemployment rate did not peak until the first quarter of 2010 (at 18%) due to typical cyclical lags in the labour market. Total working hours declined in Estonia during the 2009 recession by 3.8%. The biggest declines took place in construction and the hotel sector. Nominal wages dropped in some sectors by up to 20%, particularly in the construction and public sectors (see Eamets, 2012). Estonia went ahead with structural reforms to improve its fiscal and competitive position in the midst of the on-going recession in 2009 and 2010.

What conclusions from the Estonian case study can be drawn for other countries? The main finding is that there is no way out of a crisis that hits the real economy without a reduction in

wages and salaries and without embracing other elements of a flexible labour market like dismissals and short-time work. A quick economic recovery only appears possible if a country's population is willing to accept such temporary hardships. In Estonia, this process was eased by relatively weak trade unions. As a result, tight austerity measures were introduced. The cut in the total government budget amounted to about 10% of GDP and was mainly implemented by measures such as an increase in indirect taxes (VAT from 18% to 20%) and the postponement of some government investment.

The other Baltic countries also behaved in a rather similar way to Estonia in the financial crisis following the 2007 economic boom. Table 3 demonstrates how drastic short-term economic changes in a small country like Estonia can be.

Table 3
Changes in Selected Macro-economic Data for Estonia from 2007 to 2010

Macro-economic data	Boom Period (2007)	Recession Period (2009/10)
GDP change	10.1 %	-14.1%
Inflation	10.4 %	-0.1 %
Nominal wage change	20.5 %	- 5 %
Unemployment rate (absolute)	4.9 %	17.6 %
Credit growth	37 %	- 9.8 %
Current account	-15.9 %	3.4 %

Sources: National Central Bank and Statistical Office of Estonia.

Estonia cut expenditure and investments, while direct and indirect taxes were increased and public pensions were decreased. In 'old' EU countries the opposite was true in many cases. As a result, the debt burden increased drastically in more industrialized EU countries, while the share of government debt remained below the Maastricht criteria in the Baltic countries. In the Estonian case it totalled around 10% of GDP over this period. One can conclude that the burden of crises in many cases was shifted at least partly to the shoulders of the next generation in old EU member states, while in Estonia (and all of the Baltic countries) the crisis managers significantly reduced the wellbeing of today's population.

To sum up: a small country like Estonia cannot prevent the spill-over of a crisis from the outside world, so the chances of preventing a crisis are rather slim. The more important issue is effective crisis management, which in this case was mainly achieved by increasing competitiveness. In this context an increase in labour market flexibility was the most important instrument for getting out of an imported economic crisis. However, there was a social consensus (or at least no open resistance) from large strata of the population that

extreme austerity measures should be accepted as a means of getting out of the crisis quickly. Such acceptance cannot be expected in countries with strong labour interest organizations.

3.5 Conclusions from a Comparison of Emerging Country Cases

a) On Crisis Generation

Even although no clear-cut definition of crisis exists in economic theory, there is a general consensus that this phenomenon is characterized – among other elements – by a pronounced disequilibrium between the demand and the supply side in the goods and/or factor markets (for capital and labour). These disequilibria might be caused by exogenous shocks like a jump in oil prices or may be the result of huge institutional changes caused by events like the fall of the iron curtain in the late 1980s and early 1990s of the previous century or could have endogenous causes like, for example, a strong loss of competitiveness due to a sharp rise in (non-wage) labour costs and currency or maturity mismatches in international borrowing by domestic firms.

According to neo-classical economic thinking, a market economy tends via the price mechanism towards an equilibrium between supply and demand both in the goods and factor markets. Thus, according to this theoretical approach, an economic crisis should only be a short-term phenomenon that will quickly disappear as soon as the price mechanism is allowed to work effectively. According to the strict neo-classical view of the overall economy, further policy actions are not necessary. Underlying virtually all of the economic and financial reasoning of its proponents is an implicit belief that a global capitalist market economy is intrinsically stable, albeit with a few tolerable cyclical fluctuations. Really serious problems only arise, according to this belief, from the actions of the governments.

As is well-known, there have been strong objections to this neo-classical view in economic history. An interesting explanation of economic crises that often start in the financial sphere of developed economies was given by Minsky, who belongs to the followers group of Keynes (Post-Keynesianism). According to him, both entrepreneurs and consumers in a real economy that performs strongly in the long-term and experiences relatively tame consumer price inflation may become overconfident concerning long-term economic development and enter more risky investment-projects, e.g. in the form of foreign direct investments from abroad, particularly in emerging countries that promise much faster growth than at home, in new technical fields like solar energy, for example, or in the real-estate sector, to name just a few examples. This process can go on for a relatively long time until some projects suddenly fail and herd behaviour sends shock waves around the globe. In such cases many investors simultaneously try to pull out of their risky projects and bring their money back to a presumably safe heaven. This Minsky moment can explain some cases where after a long

period of steady economic development suddenly a financial crisis threatens the global economy.

A Minsky moment is a sudden major collapse of asset values which is part of the credit cycle or business cycle. Such moments occur because long periods of prosperity and increasing value of investments lead to increasing speculation using borrowed money. The spiraling debt incurred in financing speculative investments leads to cash flow problems for investors. The cash generated by their assets no longer is sufficient to pay off the debt they took to acquire them. Losses on such speculative assets prompt lenders to call in their loans. This is likely to lead to a collapse of asset values. Meanwhile, the over-indebted investors are forced to sell even their less-speculative positions to make good on their loans. However, at this point the counterparty can be found to bid at the high asking prices previously quoted. This starts a major sell-off, leading to a sudden and precipitous collapse in market-clearing asset prices, a sharp drop in market liquidity, and a severe demand for cash (Minsky moment, Wikipedia).

An example is the relatively smooth economic development in the first phase of the 21st century, when till 2007 economists even talked of the 'great moderation' in economic development – i.e. inflation-free, stable economic growth worldwide without significant cyclical fluctuations – before the US bad mortgage debt crisis suddenly gave rise to panic in the financial world in the course of 2008, which spread to most industrialized countries, as well as the emerging economies, which had formerly driven the world economy. The developing countries were not hit by the crisis initially because they had been only marginally involved in the preceding exuberance of highly developed countries and many emerging countries, but they suffered later on from the second round effects of the global crisis (see Didier, Hevia and Schmukler, 2011).

As early as the late 1990s, a global crisis was initiated by the bursting of the internet-bubble, causing another Minsky moment in the developed world, although this was not nearly as bad as that of the 2008/09 crisis, which was the most serious economic crisis since the Great Depression in the late 1920s.

Apart from these two global crises in the not so distant past, the Asian crisis in 1997/98 also had some elements of a Minsky moment, as foreign investors tried to repatriate their capital in a rush when problems emerged based on the expectation that the Asian countries would not be able to fulfil their international financial obligations.

The Minsky-type cycles, in which an investment boom, triggered by a real economic incentive gets pushed too far by speculation and leverage, appear to be a by-product of globalization process. Monetary policy has only limited ability to counteract this phenomenon. Nominal interest rates would have had to be pushed up to unrealistically high levels to short-circuit the dot-com bubble or the housing bubble with asset prices increasing

by at least 20% per year. Only early, strict regulation of the financial markets and rigorous macro-prudential supervision and monitoring of the financial sector could perhaps have helped to avoid most of the excesses.

As a preliminary general conclusion it can be stated that the accelerated globalization process, since China's entry into the world economy and the fall of the iron curtain in the late 1980s, has changed the type of fluctuations faced by capitalist economies.

Economic cycles before the mid-1980s were, as a rule, the result of a policy response to inflation, itself often caused by previous stimulating monetary policy. Since the mid-1980s, however, no recession has had this origin. Each crisis has been the result of an asset boom accompanied by excess investment, leading to a smash – from the US savings & loans crisis, through the Japanese crash of 1990, right up to 2008 and the sub-prime crisis.

It appears that with globalization, economies have left a post-World War II period lasting over forty years and characterized by more monetary policy-induced business cycles, behind them and have re-entered a period of occasional investment booms and busts, typical of the 19th century and the first part of the 20th century.

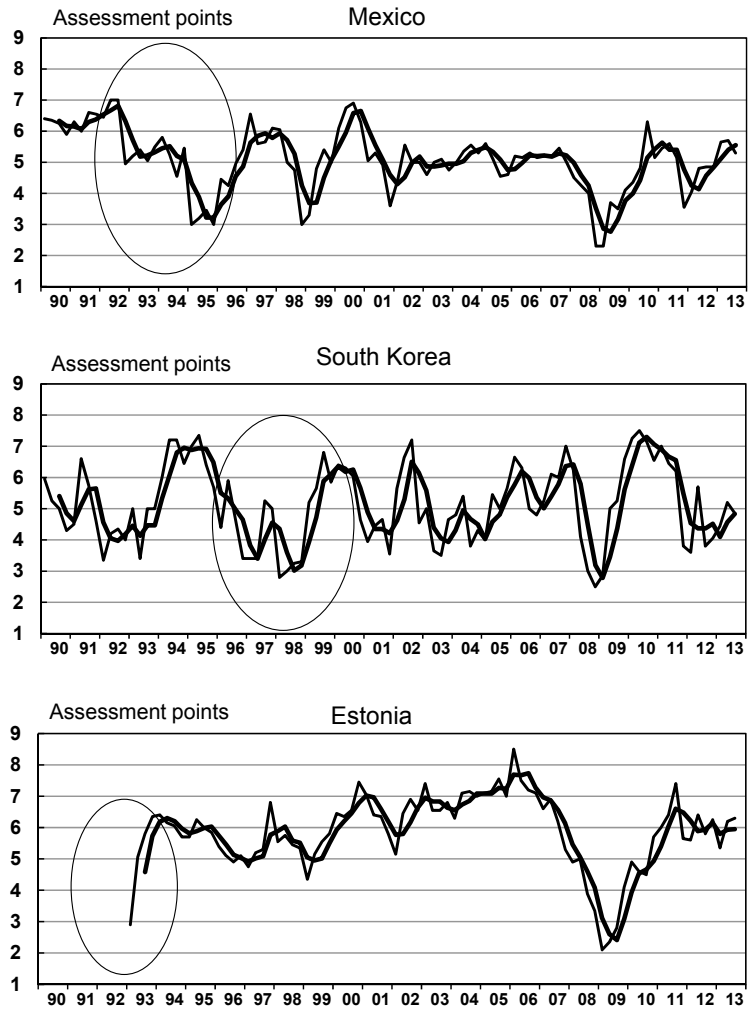
The old Keynes' recipe of deficit spending faces growing resistance due to the build-up of public debt in most countries. People have become reluctant to pay taxes to finance additional government expenditure.

b) On Contagion and Confidence (Empirical Assessments)

This assessment is based on the results of a quarterly Worldwide Economic Survey (WES) conducted by the Ifo Institute - in cooperation with the International Chamber of Commerce (ICC) in Paris. Economic decision-makers working on site are regularly asked to make assessments of economic issues in each of about one hundred countries. The 'economic climate' is a leading indicator for GDP development. At the same time, however, the economic climate can be used to assess contagion because it reflects the mainstream perception of economic situations in a country. For interpretation of the charts below, it is important to note that the climate indicator reflects a change in the perception of real economic tendencies and does not indicate the accumulated growth of an economy.

The three graphs for the three country case studies show that worldwide contagion occurred solely during the 2008/09 crisis. All other crises events are of a regional or individual country character. The Mexican currency crisis was perceived in 1992 already and the negative perception of economic decision makers lasted until 1995, when credible policy measures were introduced. A sudden upswing indicated that confidence in the country's development was re-established.

Figure 2
Economic Climate: Mexico, South Korea, Estonia



(Original data: thin line; data smoothed by a moving 3-period average: thick line)

Source: Ifo Institute WES III/2013.

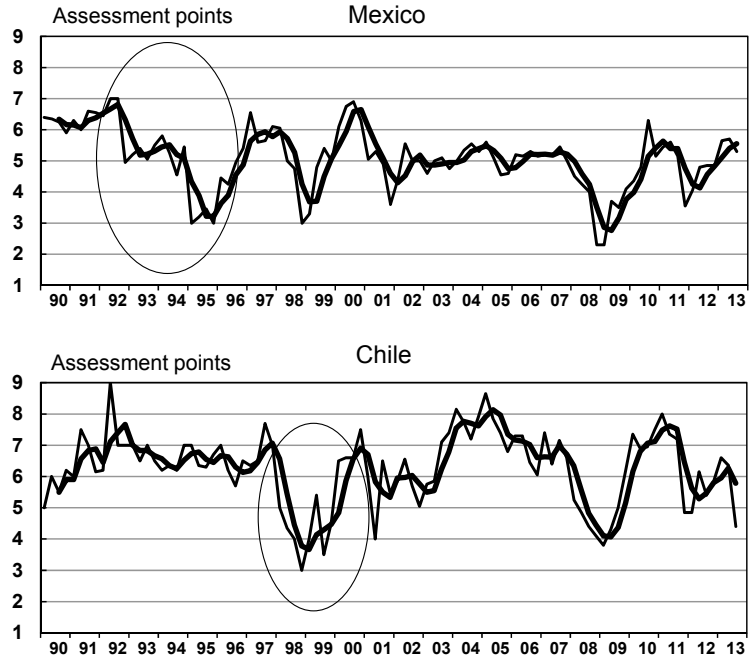
The Asian crisis actually started in the perception of mainstream economic decision makers as early as in 1995 for South Korea. They perceived a change for the worse in economic fundamentals. Panic developments among decision makers began after 1986 when the climate fell continuously to a very low level. This can be explained by contagion only, because the fundamentals in South Korea did not deteriorate accordingly.

In Estonia the climate improved rapidly after the disintegration of the Soviet economic system for a long period. The structural improvements were strong and even the global crisis effects of the American Trade Center disaster did not affect the positive climate. No contagion occurred.

It was only the sovereign debt crisis of 2008 that led to panic developments in all three cases. Contagion was strong all over. However, in Estonia economic imbalances were perceived as early as 2006, which escalated into panic-type developments as a result of the global crisis.

During the Mexican peso crisis Chile remained stable. Thanks to Chile's dependence on copper exports, the economic climate in Chile is volatile to global demand. The outbreak of contagion-based panic can be seen in 1998 and again after 2007. In general, however, the level of confidence remains higher in Chile than in Mexico.

Figure 3
Economic Climate: Mexico, Chile



(Original data: thin line; data smoothed by a moving 3-period average: thick line)

Source: Ifo Institute WES III/2013.

c) On Policies

Another main conclusion is that, in general, it is impossible to prevent economic crises from occurring. Nevertheless, with regard to financial crises, good macro-prudential policy should act in the first place as a crisis-prevention tool, reducing the risk of a full-blown economic crisis and in the second place – if prevention was not or only partly successful – to support crisis management.

Despite all of the possible improvements in preventing or at least better handling economic crises, there are always major country- or culturally-specific differences in opinion on how to best master crises. Following a black-and-white line of argument, the Anglo-Saxon approach

appears to favour combat economic crises by giving the private sector additional growth incentives at an early stage, whereas the official European Union (and particularly the German) attitude focuses more on speeding up the fiscal consolidation process and is far more cautious about 'growing out of the crisis'. For that reason economic crises in Europe may tend to last longer than, for example, in the United States. The new big players in world economy, particularly BRIC countries (Brazil, Russia, India and China) tend to prefer the more aggressive growth-based approach of the US to the more cautious EU approach. However, the idea that economic crises cannot be prevented remains very controversial. It will be discussed again in the context of the German crisis management experience (see section 4).

Based on the above studies, one can conclude that the effective formulation and implementation of a sound macroeconomic and financial policy framework is of the utmost importance in enhancing the resiliency of emerging economies to crisis. An appropriate monetary and fiscal policy can minimize the adverse impact of a crisis on the economy, promote economic growth and raise the employment rate by reducing interest rates and making more money available for business, strengthening credit access, and by providing tax incentives to accommodate higher spending.

Promoting the effective use of scarce financial resources, removing tax distortions, and making resources cheaper are just some of the ways that appropriate and sound monetary and fiscal policies can contribute to economic growth. Proper liberalizations of markets together with adequate safeguards and regulations can send the right signals to investors. A good fiscal policy should be anti-cyclical by strengthening the fiscal situation during economic upturns and thus building up an adequate financial safety net for downturns. At the same time, governments need to manage their debt carefully to meet their debt obligations while ensuring sustainable growth. A high debt to GDP ratio not only increases borrowing costs, it also makes an economy more vulnerable to rising global interest rates. At the same time, a high ratio discourages private investment and reduces the flexibility of fiscal policy. In addition to building a stronger financial sector, emerging countries should set high corporate governance standards to promote a healthy private sector. As seen in many of the past crises discussed above, poor standards and governance can adversely affect business performance and, in turn, economic growth prospects, particularly by denting investor confidence.

3.6 Theses

1) South Korea was hit by the triple currency, banking and capital account crisis very severely because it was extremely vulnerable to external shocks. This high degree of vulnerability was primarily due to its weak institutional and unsound financial system. The case of South Korea shows that a sound financial system prior to a crisis is of the

utmost importance in reducing the impact of crisis contagion and giving a country the resources to counteract a crisis when it strikes.

2) The problems arising from the subsequent crisis in South Korea's real economic sector were deepened dramatically by policy errors made by its government and the IMF. Fairly extreme austerity measures, including a tied monetary policy, were introduced as early as possible without consideration for economic expansion. This policy led to a far more severe recession than necessary.
3) Once it had changed its anti-crisis policy, South Korea achieved stabilization rather quickly, but because this change came late, it entailed enormous social and economic costs. After achieving a significant reduction in labour costs, companies regained competitiveness and survived, but at the price of higher unemployment and income losses for large swathes of the population. A less rigid policy, and especially an expansive monetary policy implemented earlier on and under the framework conditions that existed for South Korea, would lead to less economic and social losses.
4) The Mexican peso crisis demonstrates that delayed policies to counter high crisis risks lead to very severe economic problems and do not prevent the subsequent eruption of a real sector crisis. Any delay to the harsh reform course required to overcome a real economic crisis, again entails very high social costs, which can be avoided or greatly reduced by pursuing more effective policies (in the case of Mexico, for example, by a far earlier introduction of a currency floating system).
5) Chile, which faced serious crisis problems as early as the beginning of the 1980s, continuously reformed its economy and stabilized its financial system as of that point. The economy has been sound since the late 1980s and was fairly well-prepared to withstand crises as a result. Although Chile's economy was heavily dependent on a single export commodity (copper) and was consequently infected by all subsequent international crises, it was able to counteract contagion very effectively by using fiscal stimulus measures. Its sound financial situation reduced the country's vulnerability and strengthened its resilience. This re-enforces our earlier thesis that a sound ex ante crisis financial system is the best protection against the severe effects of a crisis.
6) Estonia, a small economy heavily dependent on the global economy, cannot avoid being seriously hit by international crises. However, its tireless efforts to create a sound financial situation and its high labour market flexibility gave the country greater scope to counteract crisis effects with expansionary policies and other measures to strengthen its resilience. The capacity to improve a country's competitiveness (by reducing labour costs) contributes greatly to overcoming crisis attacks. This, however, can only be achieved with a labour force prepared to tolerate harsh austerity measures. In countries with strong labour organizations the implementation of very harsh austerity measures can hardly be expected.
7) In general: to combining rigid austerity measures with tight monetary policy leads to an unnecessary deepening of the crisis, especially as regards unemployment, bankruptcies

and income losses in general. Expansionary monetary policies at an early stage will avoid the deepening of a crisis once financial credibility has been regained. Expansionary fiscal policies should only be applied in situations where the financial markets consider public debt not to be serious.

8) In general: emerging countries will be much more crisis resistant and will have new options for crisis management if they develop local and/or regional currency bond markets and thus reduce their high dependency on short-term bank lending in foreign currencies (as well as short-term capital inflow requirements). They will further improve their crisis management capacities by introducing a Required Reserve Ratio (RRR) and national and international/regional financial safety nets.
9) In general: a sound macro-prudential consolidation policy ex ante crisis and flexible labour markets are the best way of defending an economy against crisis attacks; and once a crisis has penetrated a country, they are the best pre-condition for controlling crisis effects and implementing effective measures for getting out of a crisis. However, the degree of acceptance of both austerity measures and labour market flexibility is a function of both the strength of labour interest organization and of socio-cultural attitudes typical for a society. Therefore, no standardized or uniform crisis management policies can be recommended for all countries.
10) In general: the accelerated globalization process has changed the type of fluctuations faced by economies. Emerging (as well as highly developed) economies are attacked by crises in a similar way. Every economic crisis since the mid-1980s has originated in an asset boom accompanied by excess investment, leading to a smash (Minsky moment) – from the US savings and loan crisis, through the Japanese crash of 1990, right to 2008 and the sub-prime crisis. Globalization has re-introduced the crisis phenomenon for emerging and advanced countries, thought to be under control after the Second World War.

4. Policy Measures for Crisis Prevention and Crisis Management in Economically Developed Countries with Focus on Germany

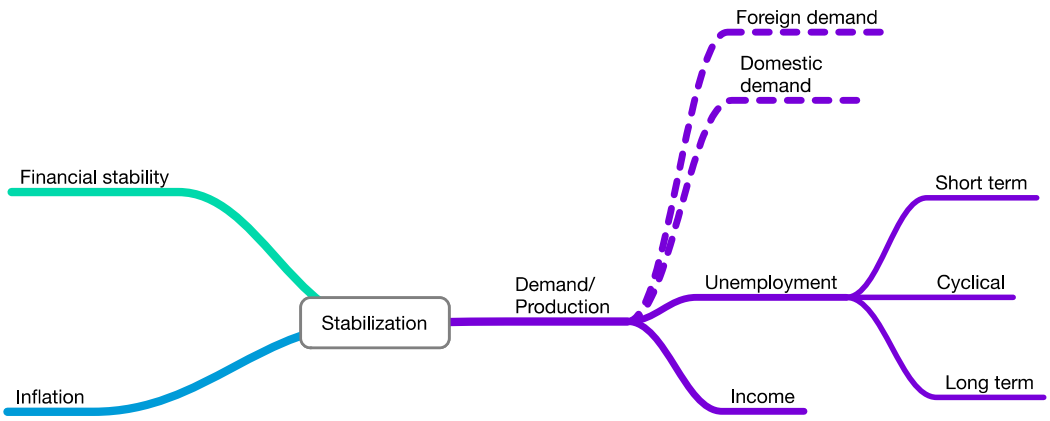
While the previous section focused on emerging countries, this section primarily analyses policy experience in Germany. Since Germany has a good reputation as a stability anchor in Europe, its past and present experiences of crisis management will be evaluated with respect to their replication, or at least their relevance for emerging economies. To complement the German policy experience, four other country cases – Australia, Canada, Norway and Switzerland – are briefly assessed and compared.

4.1 Conceptual Basis for Case Study Selection

Germany's economy is generally highly developed, internationally competitive and well integrated. It is endowed with efficient financial markets and institutions. Germany is usually a net exporter of goods and capital. Therefore, crisis policy does not have to focus much on risks like sudden capital outflows or capital account crises. In Germany, therefore, policies focus more on the real and the banking sector respectively than on financial crises. In the following this policy will be referred to as 'Stabilization Policy'. The measures implemented by Germany to overcome the financial crisis of 2008/09 are dealt with in section 4.2 c) and d).

Stabilization policies aim to reduce the effect of shocks on economic activity, especially on demand and employment. They try to moderate the amplitude of activity fluctuations and thus prevent a downswing from escalating into a crisis. Of course, other economic policy dimensions also have to be taken into consideration to ensure adequate shock absorption. As mentioned already, the depth and duration of a crisis also depends on structural characteristics, so structural policies also have to be included. The following figure illustrates the major components or dimensions relevant for an adequate stability policy.

Figure 4
Dimensions of Stabilization Policy (Authors' Conception)



Financial stability and inflation are usually controlled by national banks and, in some cases, other regulators. Stabilization policy for the real economy usually focuses on demand, production and employment respectively. Demand/production shocks may be triggered by various sources. There can be a shock in foreign demand (due to an international recession, for example). Some emerging countries, for instance, suffered from weak demand in the euro area during the euro crisis.

There are other causes of demand shocks: utility shifts can create domestic demand weaknesses. Moreover, financial crises or commodity price surges may hit real income and destabilize the economy. If demand falls, unemployment usually rises. Indeed, there are more interdependencies in the system, as can be shown in a simple graph like Figure 4. A bursting housing bubble may affect financial stability, which may in addition result in a household income shock and increased unemployment. The interdependencies then lead to shock effects spreading throughout the whole economic system.

Unemployment is of utmost policy concern in Germany. Employment policies, especially during a crisis, may imply contradictions. Short-term employment protection may reduce cyclical unemployment and the depth of a real economic crisis, but it may increase the risk of long-term employment generation and a loss of international competitiveness resulting in losses of growth potential. This is why balanced policies are required that address both, short-term crisis resilience, as well as long-term growth policies.

Cyclical unemployment can be countered successfully by demand-led work promotion schemes. This hypothesis is examined in the case of Germany and other countries. However, the difficulty in policy-making rests in the fact that long-term unemployment of a structural nature cannot be addressed by demand-led work promotion schemes. Such schemes hinder the structural changes required and lead to increased structural unemployment. In reality, cyclical as well as structural unemployment may exist simultaneously and adequate policies are desperately needed that reduce cyclical problems without creating increased structural problems. Case studies of countries that show (at least some) success in both improved crisis resilience and not worsened, or even improved, structural characteristics, may help us to find more general and replicable policy solutions.

As a hypothesis, economic policy should try to stabilize the system in advance or exert stabilization measures in crises times. A flexible labour market and an innovative and competitive private sector provide the structural basis for a flexible economy to overcome external shocks fairly quickly. In addition, however, (automatic) stabilizers in the system may greatly help to dampen the immediate effect of shocks. This hypothesis will be tested for the German case and complemented by other examples.

4.2 Experience from Germany

a) German Growth and Stability Law as a Key Crisis Prevention Policy in the 1960s and 1970s

Since the Second World War, Germany has faced six recessions. In 1966/67 the reconstruction boom after the war ended. Then there were two oil price shocks (1974 and 1979/80). A recession followed in 1993 after the unification boom and in 2002/03 after the dot-com bubble. The last recession was in 2008/09 after the subprime crisis. In this last

recession some banks also had major problems and a public rescue scheme was introduced. Prior to that point there had been no banking crises in Germany since 1931. There had also been no public debt restructuring since the foundation of the Federal Republic. However, banking crises did occur in countries close to Germany, for example in 1990-1992 in Sweden and at about the same time in Switzerland. Both banking crises had their roots in phases of very low interest rates, excessive lending and real-estate bubbles.

A major legal bill, the Law of Stability and Growth (Gesetz zur Förderung der Stabilität und des Wachstums der Wirtschaft) was introduced in 1967 to prevent real economic crises. With some modifications, this law is still valid. It established the legal basis for the principle that political institutions have to adhere to macro-economic equilibrium requirements. Defined objectives are:

1. Price stability
2. High employment
3. Foreign economic equilibrium
4. Continuous and reasonable growth.

The law explicitly lists measures that can be used to maintain stability. On the one hand some measures directly affect household and business demand (Keynesian approach). These are mainly adaptions of tax rates to influence private spending. Public spending should be smoothed by a cyclical reserve to be accumulated in good times at the German Bundesbank. In bad times this money can be spent. In addition the public budget is allowed to increase deficits to some extent. But the success of the law has been limited. The huge surge of demand at the end of the 1960s could not be decelerated and the strong rise in unemployment in the 1970s could not be prevented. A subsequent change in policy focus took place towards a supply-led policy. Since the 1980s the public sector's financial scope for maneuver has been limited anyway. The unions have refused since 1977 until today to participate in the "concerted action" or a policy arrangement to achieve socially consenting decisions.

Until the 1980s numerous discretionary measures were implemented. Gaul (2008) and Horstmann (1991) give detailed overviews of these measures. For a long period (until the mid-1970s) public spending for construction and infrastructure were mainly used to stimulate economic activity. Later tax reductions for private households and incentives for private residential construction were also implemented. In 1984 the Scientific Advisory Board to the Federal Ministry of Economic Affairs evaluated these measures and identified reasons for their failure (or limited success). The following reasons were identified:

- There is a time lag (longer than expected) until the measures have their full impact. This reduces the effectiveness of measures targeting short-term objectives. Kloten (1976) assesses that the first stimulus packages implemented under the stabilization law already

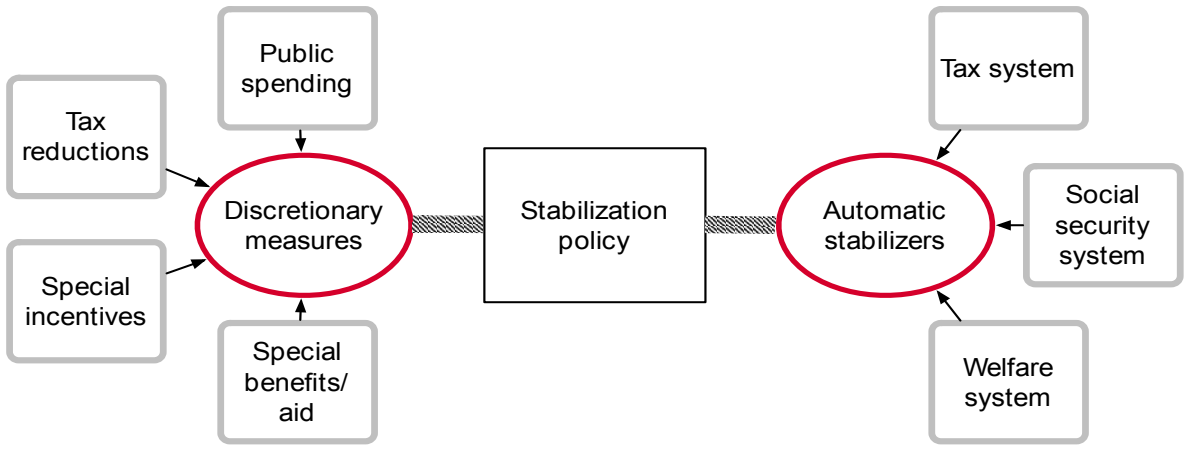
led to unsustainably high capacity utilisation rates in 1968, even before all of the stimulus measures were implemented.

- In 1973 and 1979 the economy was hit by oil price shocks. The stimulus measures added to inflationary pressure. Inflation was accelerated as a result and unemployment was not reduced.
- Unemployment, as recognized at the time, was not only a cyclical problem, but also a structural issue. Structural unemployment cannot effectively be reduced with measures to promote cyclical demand.
- The increasing internationalization of the German economy reduced the effectiveness of national stimuli continuously.
- The change in the currency regime to flexible exchange rates led to an overvalued deutsche Mark.
- Rising public economic policy involvement reduced the flexibility of the economy.
- Credit-financed public spending crowded out private investment and contributed to a state governed, less flexible economy.

However, there are also parts of the law that were successful. A key point that remains very important for crisis management is transparency. The Federal Government has to publish a report explaining its assessment of the economic situation and the targets for the year under consideration at the beginning of every year. Economic analysis and assessment requires a sound system of economic data. So, transparency of political action and a sound economic monitoring system became an important factor in maintaining economic stability.

Today stabilization policies in Germany focus more on automatic stabilizers. The following figure shows the system of discretionary policies and automatic stabilizers to reduce crisis vulnerability in Germany.

Figure 5
Discretionary Policy vs. Automatic Stabilizers (Authors' Conception)



b) Automatic Stabilizers and Public Debt Management

Since the experience with the early discretionary policy in Germany was not really successful, crisis-prevention policies relying mainly on automatic stabilizers are currently preferred. Automatic stabilizers are those income and output correctives of the public budgets, which absorb economic shocks or stimulate the economy without special ad-hoc policy measures. One example of such a stabilizer is the unemployment insurance. In boom phases the deposits rise, since there are more persons employed and more individuals paying insurance fees. In a recession this turns around completely: the deposits of the insurers sink and the disbursements rise. The automatism helps to overcome some problems of many discretionary measures. There is no decision and implementation lag, because the system works automatically in response to cyclical events. They are also temporarily limited and end automatically. In addition, they stabilize expectations because people know that these measures work independently of political decision-making.

Automatic stabilizers usually work through:

- Tax systems: income taxes are progressive in Germany. Households pay lower taxes when incomes fall and vice versa. Corporate taxes depend on profits and therefore have countercyclical effects. Sales taxes also fall when prices dip during a recession.
- Transfer payments: in downturns more people benefit from unemployment insurance and other public support.

The automatic stabilizers lead to the absorption of shocks by public finance activities, because reductions of private disposable incomes are partially offset by higher public spending. Dolls et al. (2010) analyse the effectiveness of the tax and transfer system in the European Union and the United States as automatic stabilizers in the economic crisis of 2008/09. They find that automatic stabilizers absorb 38% of an income shock in the EU, compared to 32% in the US. In the case of an unemployment shock, 47% of the shock is absorbed in the EU, compared to 34% in the US. They also find a high degree of heterogeneity within the EU. In Germany 48% of an income shock is absorbed and 62% of an unemployment shock. In Germany, conclude the authors, automatic stabilizers are quite important for economic stabilization with respect to crisis prevention.

They also conclude that, if fiscal policy were to stick to the concept of an automatic anti-cyclical financial policy, there is generally no problem in the medium and long-term. Automatic stabilizers and temporary discretionary measures only lead to a temporary increase in public debt. However, some countries have huge public debt ratios, and their debts are increased by structural deficits. In such cases the government cannot implement discretionary measures in an economic crisis, and cannot even allow the automatic stabilizers to work fully.

Consolidation measures may be required, perhaps parallel to the automatic stabilizer. This, however, would counteract the stabilization policy.

Germany has implemented new rules for public debt to maintain a suitable public debt position. It introduced the 'Schuldenbremse' in 2009, or a debt break that consists of strict budget rules. In the future only minor structural deficits are allowed. However, there is provision for cyclical deficits. Therefore, the automatic stabilizers can work fully and, in the case of crises, discretionary measures are also possible. The deficits, however, must be strictly compensated for. Subject to this condition, fiscal policy can be used to stabilize the economy.

c) Financial Market Stabilization during the Financial Crisis of 2008/09

The international financial crisis intensified in the course of 2008. After the housing bubble burst in the United States, financial institutions suffered from declining equity capital. The insolvency of Lehman Brothers in September triggered a loss of confidence in the financial system. In addition to monetary policies, the German government implemented measures to stabilize the financial system.[17] It implemented the Financial-Market Stabilization Fund – FMS (SoFFin).

The design of the fund was orientated towards certain characteristics common to most of the crisis measures used during various banking crises in different countries. To stop the loss of confidence, bank deposits were guaranteed by the government in a first policy step. This reduced the liquidity problems of banks. However, these guarantees may lead to high costs for public budgets and may also function as wrong incentives for banks. That is the reason why it is often proposed to combine such measures with restructuring measures for the banking system.[18] In a second step banks with solvency (not only short-term liquidity problems) had to be addressed. Either the capital basis of the problem banks had to be expanded, or some of these banks had to be liquidated without infecting other banks.

The German SoFFin consists mainly of guarantees, resources to recapitalize banks and the possibility for banks to transfer risky positions to the fund.[19] In addition, the possibility of founding bad banks was introduced in 2009. Until the end of 2012[20] guarantees were used by 9 institutes (the maximum volume used was 168 billion euros), capital measures by 4 institutes (maximum volume used 29.4 billion euros) and risk transfers by 1 institute (maximum volume used 5.9 billion euros). In addition, 2 institutes were turned into winding-up agencies (maximum volume used 16.6 billion euros). Overall, the measures introduced

[17] http://www.bis.org/bcbs/basel3.htm (accessed April 2013).

[18] See Calomiris and Mason (2003).

[19] See "Act on the Establishment of a Financial-Market Stabilization Fund (Financial-Market Stabilization Fund Act – FMStFG)" for details (available at www.fmsa.de).

[20] Source www.fmsa.de (accessed April 2013).

succeeded in avoiding a meltdown of the financial system in Germany. Moreover, bank runs did not occur. However, most policy makers agree that adaptions in regulatory framework rules should be made to avoid, or at least reduce, banking crises in the future. The government should not be forced to use tax payer's money to save banks. Basel III is a comprehensive set of reform measures, developed by the Basel Committee on Banking Supervision, to strengthen the regulation, supervision and risk management of the banking sector. These measures are designed to:

- Improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source
- Improve risk management and governance
- Strengthen banks' transparency and disclosures.[21]

Appendix 3 gives an overview of the measures implemented in Basel III. The intention of the new rules is that banks can save themselves. Although there is some experience on how to tackle banking crises with measures like the German SoFFin, there are still worries that public rescue measures may lead to wrong incentives for bankers, encouraging them to accept high speculative risks, because a public rescue system may save them from high losses.

d) Selected Stimulus Measures in the Crisis 2008/09

Due to negative experiences with economic fine-tuning (discretionary measures) in Germany, the anti-crisis policy is primarily based, as already explained, on automatic stabilizers. However, the German Council of Economic Advisers notes in its 2008 report[22] that discretionary measures should only be considered for severe economic crisis threats. In such situations, it might be adequate to introduce discretionary countercyclical measures in addition to automatic stabilizers. The Council formulated some requirements that the measures have to fulfil. These include:

1. Timeliness: the measures should be introduced at an early stage and function fast.
2. Specific: measures should be chosen that lead to high incentives for countercyclical behaviour.
3. Temporary: the measures should be strictly limited in terms of time. Even temporary measures increase public debt and lead to future liabilities. However, debt resulting from temporary measures and in relation to future public income can be compensated for during the next upswing. It is important to maintain enough room for anti-crisis policies in future downturns.

[21] http://www.bis.org/bcbs/basel3.htm (accessed April 2013).
[22] Sachverständigenrat (2008).

In autumn 2008, after the collapse of the Lehman Brothers, a majority of economist and politicians expected a recession in 2009. For the first time (since a long strict anti-Keynesian policy period) two explicit discretionary incentive packages where introduced. The first one was implemented in November 2008 and the second one followed in January 2009. The two packages contained a mixture of various instruments:

1. Tax and duty reductions, increase in child benefits
2. Increase in public fixed investments
3. Measures to stabilize employment (especially through short work public subsidy programs)
4. Demand related support for the automobile industry
5. Strengthening of research and development in medium-sized companies
6. Loan promotion programs to avoid a credit crunch.

The two packages included various measures. Important ones will be presented here.[23] The focus will be on the first four instruments

- One of the first measures introduced was the rise in child benefits. This should stabilize private consumption. Usually families have below-average saving rates so the benefits should lead to a relatively high consumption incentive
- Temporary reduction in unemployment insurance fees
- Speeding up of public investments in traffic infrastructure
- Degressive amortization of private fixed investments by small and medium-sized companies
- Exemptions from motor car taxes for new cars
- Scrapping bonus for old cars, when a new car is bought (Umwelt- or Abwrackpraemie)
- Extension of short-work-program
- Increase in public fixed investment.

This bunch of measures was targeted to strengthen the disposable income of private households, to secure employment and to stimulate economic activity by investment activities.

There are controversial views within the economic science community on the effectiveness of these measures.[24] Many studies suggest that infrastructure spending had a higher impact on crisis control than tax cuts. In addition, they suggest that public investment may stimulate

[23] Bundesministerium der Finanzen (2009).
[24] In economic terms this means those measures that have the highest multiplier effects.

long-term growth.[25] However, economic policy in Germany chose a mixture of measures including demand and supply oriented approaches. This mixture has been positively evaluated by the German Council of Economic Advisers.[26] Due to the high degree of uncertainty about the economic performance and the behaviour of households, as well as businesses, a mixture of measures was designed to minimize the danger of a major failure of the incentive packages. The council concluded that the anti-crisis policy packages in Germany had been a success overall. They helped to dampen the recession. However, in a special report[27] conducted for the Federal Government, the Council also states that discretionary measures should be an exception. They should be implemented, as mentioned, only when severe negative developments are expected. Normal shocks do not require special measures and should be overcome with the help of automatic stabilizers. In addition, the public debt has to be reduced during economic upswings to generate the financial firepower for measures to soften the negative impact of future downturns and crises. The government can only utilize both instruments - the automatic stabilizers and, if necessary in more severe cases, special discretionary measures – if its financial position is sound.

The positive evaluation of both stimulus program approaches and the mixture of the programs does not mean that every component of the program has been evaluated as equally successful. An exceptional achievement was the short working promotion scheme. With the help of this scheme businesses had incentives to use the phase of low demand to qualify their employees in the spare time instead of laying them off. So this measure is very well-suited for overcoming a short demand slump. On the other hand, the scrapping bonus for old cars was criticized by many economists. Although the bonus did help to dampen the demand slump, it was seen as a measure that delayed necessary structural adaptions in the automobile industry. So economists were worried that the demand slump was used as an excuse for necessary structural capacity reductions. This implies a general problem when stimulus measures are implemented on a sector specific base. It is often unclear whether a certain sector is only faced with short-term problems or with long term structural problems.

During the crisis in the euro area, which began in Greece in 2009/10, Germany is a stable ‘anchor’. This is the reason why some economists are advocating an even more expansive fiscal policy in Germany to boost domestic demand and stimulate imports from other European countries. However, other economists, as well as the leading economic institutes in Germany see no room for such a policy. These institutes propose a rather moderate restrictive fiscal policy using arguments such as the demographic development, which implies high additional future expenses. They recommend a continuation of public budget consolidation.[28]

[25] Romp and de Hahn (2007).
[26] Sachverständigenrat (2009a), p. 168.
[27] Sachverständigenrat (2009b), chapter 5.
[28] See Projektgruppe Gemeinschaftsdiagnose (2013).

Besides those discussions in Germany, there is an intense discussion among economists in many countries about the role of austerity. Many developed economies are also suffering from high public debt and need measures to maintain or regain the confidence of lenders. Questions are raised like: is it wise to follow an austerity policy during a downswing period or a recession? Is there a critical level (measurable indicator) of a public debt rate from which point long-term growth will suffer? An overview of various arguments in this discussion is delivered by the book "Austerity: Too much of a good thing?" by VoxEU (2013). The authors have divergent opinions regarding the need for austerity policies in the short run. However, they almost all agree on the need for fiscal discipline in general. The debate is more about the extent to which spending cuts and tax hikes in the short run are desirable and effective in reducing sovereign risk crises. Some authors warn about a vicious circle triggered by 'inadequate' spending cuts. Other economists like Alesina and Giavazzi conclude, that an 'adequate' budget consolidation accompanied by the structural supply-led policies tends to be even less recessionary, or may even have a positive impact on growth. To make these more restrictive policies 'adequate', they have to be accompanied by policies such as lax monetary policy, the liberalization of goods and labour markets and other structural reforms increasing competitiveness and, in this manner, boosting employment and income-generating export opportunities.

From the discussion of the adequacy of austerity policy, one definitely can learn the lesson, that a sound medium and long-term debt control policy is indispensable for crisis prevention and control capacities. Only on the basis of a sound debt position do governments have the capacities to allow automatic stabilizers to work and to implement discretionary measures. If public debt is already relatively high in good times, capacities to adequately react before and during crisis events are rather limited and, what is worse, a confidence crisis regarding public solvency can occur very easily and may deepen a crisis event tremendously.

4.3 Experiences from German Reunification

The reunification of Germany was a tremendous challenge for fiscal policy. The unification and measures implemented in the aftermath had similar effects as stimulus measures. However, they were not stimulus measures in the strict sense of the term because they were not designed as measures to avoid a cyclical downturn. During this period economic policy in Germany can be considered as an anti-crisis policy because the economy of Eastern Germany was immediately integrated into western markets and its productivity was too low to compete. Demand for locally-produced products in Eastern Germany fell dramatically and East German demand shifted to western goods. Export demand fell to near zero, because prices (and production costs respectively) were internationally no more competitive after the introduction of the deutsche Mark. The rapid rise of wages in East Germany, generated by political and social attempts to bring living conditions in both parts of Germany to similar levels as soon as

possible, worsened the competitiveness situation. East Germany would have suffered a disastrous recession without tremendous support from West Germany.

A great variety of economic policy measures were implemented to facilitate German reunification, giving economists the opportunity to consider and evaluate these measures as a huge policy experiment. There were measures in almost all fields of economic, social and institutional policy aimed at 'revolutionary' structural changes. The policy was based on the assumption that deep structural changes, combined with massive resource transfers, will prevent a major crisis and generate faster economic growth than in West Germany, securing the convergence of both parts in the medium-term.

One of the convergence problems was the need for huge fixed investments in Eastern Germany to overcome a large capital stock and productivity gap. However, private investment was weak at that time because of uncertainties about legal aspects regarding ownership, weak demand expectations for products from Eastern Germany and a restrictive monetary policy. Although this situation was specific to German reunification, certain problem structures were similar to crisis situations elsewhere. Lessons can therefore be drawn for crisis management in general as well. In this situation investment promotion schemes were introduced in 1991. They were designed to stimulate additional investment in various fields very quickly. The main stimulation measures were:[29]

- Investment allowances and grants
- Public investment spending on infrastructure projects
- Special tax reductions (special depreciation, tax-free economic activities, suspension of business tax)
- Low-interest loans (e.g. equity loan scheme, housing modernization scheme, investment credits)
- Guarantee schemes (guarantees for large investment credits, export guarantees, guarantees for former public enterprises).

Some of these instruments were not new. Western Germany within the EU had a scheme of regional development for the areas which border on former East Germany and CSSR. Investment promotion schemes were applied to stimulate economic development in these areas a long time previously.

In the years following reunification labour productivity in Eastern Germany rose quickly. According to Barrell and te Velde (1999), in the period from 1990 through 1997 real labour productivity in East Germany increased by nearly 80%, while real labour productivity in

[29] Sachverständigenrat (1991).

Poland, Ireland, and Hungary only increased by about 30%. Many empirical studies suggest that the investment promotion schemes led to an additional capital flow into Eastern Germany.[30] So the measures of this program obviously worked. Burda (2007) describes the situation as follows: "The reallocation of production factors is arguably the most impressive aspect of the German unification episode: in the years 1991-2002, EUR 1.2 trillion of new investments (1995 prices) was undertaken on behalf of about 15 million residents in the East, making this episode one of the most intensive periods of net capital formation in economic history, on a per capita basis". However, there are worries that capital intensity was overshooting due to the strong investment promotion. The higher capital intensity might have gone along with a lower level of output.[31]

In the mid-1990s the convergence process between Eastern Germany and Western Germany slowed down. There are various explanations for this, among them the argument that an overshooting of capital intensity was the reason. However, according to Sinn (2002) the so-called 'Mezzogiorno effect' ranks highest among the explanations. This effect means that unions and employers' fixed a time path for the convergence of eastern wages with western salaries, which had no or little relationship to the productivity increases in Eastern Germany. This led to a continuation of a serious competitiveness gap resulting in a continued high public transfer need, which finally created a high public debt situation for Germany.

High unemployment in the aftermath of reunification, and especially in the mid-1990s, forced the German government to implement far-reaching labour market and social security reforms. The reforms called the Agenda 2010 led to more flexible labour market in Germany and is seen as one of the measures that led to economic strength in Germany after 2005. The Agenda 2010 consisted of various measures in labour policy, education, health insurance and pension schemes. The main measures were the weakening of protection against dismissals, a cut in the amounts and durations of social benefits and the reasonableness of work offers has been aggravated. Another important measure was the deregulation of temporary employment, which led to a strong increase in this kind of work. Temporary work allows businesses to increase their staff bases quickly, but also to reduce their staff numbers very easily. The employees are hired from a temporary work agency, which is the real employer of the workers. The various measures of Agenda 2010 made the German labour market much more flexible.

Overall, the main lesson to be learnt from German reunification is that investment promotion schemes can work. Capital intensity can be increased with various measures. In the medium-term, however, a flexible economy and a flexible labour force are the keys to reducing the vulnerability of the economy.

[30] See, for example, Deutsches Institut für Wirtschaftsforschung et al. (2003); Hall and Ludwig (2006).
[31] See Sinn (2002).

4.4 Experiences from other Economically Developed Countries

In the following explorations some examples of economic policy in economically developed countries are briefly discussed. The focus in the selection is not on measures used to absorb current crises like the automatic stabilizers or discretionary measures described above. The aim is to show examples of how structural reforms can make an economy more crisis-resilient in the medium-term.

The first two examples are Australia and Canada. Both countries have many economic similarities. Both were part of the British imperial trading system. They had similar trade policies during the first half of the twentieth century,[32] protecting industrial sectors behind high tariffs. Both countries opened up their economies and, by doing so, increased their competitiveness dramatically within a relatively short time.

A very different example is Norway. Norway benefits from oil revenues. It has established a wealth fund to support government saving and an intergenerational transfer of resources. More recent examples come from Switzerland, which is a small open economy. Switzerland was one of the first countries to introduce strict public debt rules. It also uses the instrument of countercyclical capital buffers to moderate housing booms.

a) Australia

The 2002/03 OECD Economic Survey of Australia states:[33] "Dogged pursuit of structural reforms across a very broad front, and prudent macroeconomic policies firmly set in a medium-term framework, have combined to make the Australian economy one of the best performers in the OECD, and also one notably resilient to shocks, both internal and external. Income growth has remained brisk, employment is expanding, inflation is under control, and public finances are healthy. All the indications are that the continuing effects of previous reforms will continue to help the economy to combat shocks in the immediate future".

The country had a long way to go before achieving this economic resilience. According to Megalogenis (2012) the path began in 1973: "Although accused of a lack of interest in economics, Gough Whitlam surprised the nation just seven months into his term by embracing the most aggressive pro-market reform on the policy menu. Without warning, he announced that on 18 July 1973 all tariffs would be reduced by 25 percent. The Australian deregulation program began here, two years after the end of the Bretton Woods Agreement, and a decade before the next labour government floated the dollar".

[32] See Pomfret (2000a and 2000b).
[33] See OECD (2003), p. 10.

Since the 1970s a basket of reforms has been launched to make the Australian economy resilient. Major reforms were (see de Brouwer, 2003):

- **The reduction and partial removal of the tariff system** reduced inflationary pressure and made the private sector more competitive. The excessive domestic orientation and lack of an export focus of the country's manufacturing sector was a concern. Through special industrial restructuring plans, temporary funds were invested into part of manufacturing industries to help modernize them the and substantially scaled down the high level of protection afforded to them. One remarkable effect of the reduction in tariffs and industrial protection has been a sharp rise in international trade in the Australian economy. International trade accounted for about 45% of the economy in 2003, up from 20% in 1980.

- **Deregulation and liberalization of financial markets and institutions.** The financial reforms have both external and domestic aspects. A key international aspect of the reform program was the broad removal of capital controls in 1983. The floating of the Australian dollar began in 1983. Allowance of foreign financial institutions into domestic markets was granted in 1985. Three major elements of domestic reforms were: the removal of controls and requirements over financial institutions assets and liabilities in the early 1980s. The liberalization of interest rates on loans, deposits and other financial instruments was then carried out in two steps in the early 1980s and in 1987. Consolidation of the regulatory and prudential systems governing the financial system as a whole took place from 1998 onwards.

- **Labour market reforms.** On an international level labour migration into Australia was eased. Domestic labour reforms sought to decentralize wage fixing from a centralized wage system to individuals and unions.

- **National competition policy and business reforms.** In the 1990s a national competition policy was implemented, which was designed to reduce market power of monopolies and oligopolies.

- **Tax reform.** In 2000 a new tax system was introduced. The main elements were the introduction of a goods and services tax on all goods (except food) and services, the elimination of the wholesale tax system, reductions in income tax and changes to business tax payment arrangements.

- **Monetary and fiscal policy frameworks**. Since the early 1990s the Reserve Bank of Australia has aimed to set interest rates so that inflation averages between 2 and 3% a year in the medium term.

According to de Brouwer, the various reforms resulted in a more diverse economy, which is better able to deal with the various shocks that inevitably occur. Labour productivity has

increased substantially across many sectors, leading to a more competitive economy. A flexible and competitive economy can cope better with shocks that other ones. Opening up an economy may lead to problems in the short-term. When the opening up leads to a competitive economy, it should be better able to absorb shocks.

b) Canada

In the 1990s the Wall Street Journal wrote that its growing debt was making Canada an 'honorary member of the third world' with the 'northern peso' as its currency. Ten Cate and Laryea (2005) characterize the 1990s in Canada as the decade in which the country faced serious challenges to its overall competitiveness. Relatively high wage growth, weak productivity gains and exchange rate appreciations relative to the late 1980 burdened the economy. In addition, there was a rapid build-up of public debt. Further economic challenges were a poor labour market performance and the transition to a more open trade environment following the introductions of the Canada-US Free Trade Agreement (1988) and the North America Free Trade Agreement (1993). Canada introduced several measures to deal with these problems. According to Ten Cate and Laryea (2005) these were:

- **Fiscal and monetary discipline.** Beginning in 1990 with the Expenditure Control Act, the federal government froze or limited spending growth in every area of public expenditure. A government-wide process known as the Program Review was kicked off with the 1994 Budget. The Program Review required ministers and senior officials to subject all programs and activities they delivered to tough scrutiny. In February 1991, the Government of Canada and the Bank of Canada agreed to put in place an inflation-targeting framework for an initial five year period, with the aim of achieving price stability. The inflation-control target range was set at 1 to 3%, and the target range has subsequently been reviewed and renewed several times.

- **Public pension reform.** Several changes to the pension scheme were passed by Parliament in December 1997, which helped to ensure the financial sustainability of the program. The changes included an increase in contribution rates; changes to the administration and calculation of benefits; and the establishment of the Canada Pension Plan Investment Board in order to invest those funds in excess of the amount needed for current benefit payments in a broader range of financial market instruments so as to maximize the return on them.

- **Labour market reforms.** In the wake of the Free Trade Agreement (FTA, 1988) and NAFTA (1993), the federal government worked to enhance internal trade and labour mobility through the Agreement on Internal Trade (AIT). The AIT came into effect in July 1995 and its objectives included the reduction and elimination, where possible, of barriers in the provinces and territories to the free movement of persons, goods, services and investments in Canada. Unemployment Insurance reform started in the late 1980s and included the elimination of

benefits for those who voluntarily quit their jobs, as well as other changes to disqualification penalties. Major reform occurred in 1996 when the Unemployment Insurance Act was replaced by the Employment Insurance Act (EI Act). In 1997, the Government of Canada launched the Youth Employment Strategy (YES). This strategy was designed to develop Canada's workforce of the future by providing young Canadians (aged 15-30) with access to programs and services to help them gain the skills, knowledge, career information and work experience they need to find and maintain employment and make a successful transition into the labour market. This is only a selection of reforms, and other reforms were also implemented that are not listed here.

The Canadian dollar is not a weak currency anymore. The Canadian dollar is at near parity with the US dollar. The 2012 OECD survey of Canada (OECD 2012) contains the statement: "Canada weathered the global economic crisis well, mainly reflecting sustained growth in domestic pending, and the economy is continuing to grow despite the persistence of international turbulence, most recently stemming from the euro zone sovereign debt crisis". It also mentions that Canada enjoys strong institutions and policy credibility, although further reforms are still needed.

One lesson that can be learned from the Canadian experience is that a mobile, flexible and well-educated labour force is a key to cultivating resilience to crises. To benefit from international trade, an economy has to concentrate on its comparative advantages. This goes hand in hand with shifting labour into profitable sectors and giving up or reducing in other sectors.

c) Norway

From the Norwegian economy we have chosen to highlight only one aspect as an example of good practice. This is the Norwegian Oil Fund that is currently named the Government Pension Fund Global (GPF). This example shows how a country can manage wealth resulting from the exploitation of rich natural resources. The International Monetary Fund (IMF) describes the Norwegian fund as a model for wealth funds.[34] It lists some features of the GPF that, in its view, can be considered as best practice for international standards:

- The GPF's stated aim is to support government saving and promote an intergenerational transfer of resources. The fund facilitates the long-term management of the government's petroleum revenues. In view of forecast population ageing in Norway, it serves to pre-fund public pension expenditure.
- The GPF functions as a fiscal policy tool, which, together with the fiscal guideline, serves to limit government spending. The fund's capital consists of revenues from petroleum activities.

[34] See http://www.imf.org/external/pubs/ft/survey/so/2008/pol070908a.htm

The fund's expenditure is a transfer to the fiscal budget to finance the non-oil budget deficit. The fiscal guideline, introduced in 2001, calls for a limit on the non-oil structural central government deficit of around 4% of the GPF's assets. Since 4% is the estimated long-run real rate of return, this rule amounts to saving the real capital of the fund and spending only its return (akin to an endowment fund).

- The fund is fully integrated into the budget. The net allocation to the fund forms part of an integrated budgetary process. This process makes transparent the actual surplus of the fiscal budget and the state's use of petroleum revenues.
- It pursues a highly transparent investment strategy. The Ministry of Finance – the fund's owner – reports regularly on the governance framework, the fund's goals, investment strategy and results, and ethical guidelines. The Central Bank – the fund's operational manager – publishes quarterly and annual reports on the management of the fund, including its performance and an annual listing of all investments. Detailed information on the fun's voting in shareholders' meetings is also published.
- Its assets are invested exclusively abroad. This strategy ensures risk diversification and good financial returns. Moreover, it helps to shield the non-oil economy from shocks in the oil sector, which can put pressure on the exchange rate (the so-called Dutch disease effects). The GPF has small ownership shares in over 7,000 individual companies worldwide (the average ownership stake at end-2007 was 0.6 percent, against a maximum allowed of 5%).
- Its high-return, moderate-risk investment strategy has been hitting the mark. Currently, the fund is adjusting its portfolio to its new strategic benchmark of 60% of assets in equities and 40% in fixed income. There are plans to move gradually into real-estate to improve the risk-return trade-off. The investment strategy has produced a healthy 4.3% average annual real return during the past decade.
- Its asset management is governed by a set of ethical guidelines. These guidelines, established by the Ministry of Finance, are based on internationally accepted principles developed by the UN and the OECD. Two policy instruments are used to promote the fund's ethical commitments. Firstly, the fund exercises ownership rights in companies in which it invests with a view to promoting good and responsible conduct and respecting human rights and the environment in cases where this is consistent with the fund's financial interests. Secondly, the Ministry of Finance can decide to avoid fund investments in specific companies whose practices constitute an unacceptable risk that the fund could become complicit in grossly unethical activities.

In 2008 Norway's GPF was the second largest fund (measured by assets in US$) of the world. The largest fund was run by the United Arab Emirates. For an overview of the various wealth funds – see, for example, Bahgat (2008). Norway is an example of best practice regarding wealth management. There are strict rules regarding the use of wealth from natural resources. The policy focus on the medium-term and wealth can be used to dampen the effects of shocks on the economy.

d) Switzerland

Switzerland is a small open economy. Its economy is often regarded as very successful and stable. Two mechanisms introduced in Switzerland are briefly presented here. Firstly, a fiscal rule – the so-called debt brake – which is also used in Germany and other countries within Europe. Another measure used in Switzerland is a countercyclical capital buffer, which aims to moderate credit cycles. This buffer was activated in Switzerland in 2013 to moderate the dangers of a housing boom.

The debt brake was introduced in Switzerland in 2003. The debt brake is designed as a structurally balanced budget rule.[35] It requires a balanced budget in cyclical adjusted terms. Switzerland experienced a steep rise in the debt ratio in the 1990s. According to Geier (2011) this expansion was perceived to reflect flaws in the budget process. Fiscal rules are a possible response to a perceived deficit bias as they are geared towards correcting incentives in order to make policy more sustainable. Geier (2011) describes the general rule as follows: "The debt brake is a structural deficit rule that limits expenditures to the amount of structural (or cyclically adjusted) revenues. The amount of annual federal government expenditures has a ceiling, which is calculated as a function of revenues and the position of the economy in the business cycle. This system aims at keeping total federal government expenditures relatively independent of cyclical variations, whereas tax revenues are supposed to function as automatic stabilizers".

In 2013 banks in Switzerland were obliged to hold a countercyclical capital buffer. The buffer is targeted at mortgage loans financing residential properties located in Switzerland. As far as the law is concerned, the Swiss National Bank (SNB) can submit a proposal to activate the buffer to the Federal Council if the national bank believes it is necessary to strengthen the banking sector against the risks of excessive credit growth, or to combat excessive credit growth. In 2013 the Swiss National Bank published a press release[36] stating that it had submitted just such a proposal. It justified the proposal as follows: "The SNB's proposal is motivated by strong growth in both bank credit and real estate prices over the last several years, which has resulted in imbalances on the residential mortgage and real estate markets. These imbalances intensified further during the second half of 2012, reaching levels that pose a risk to the stability of the banking sector, and hence to the Swiss economy". The reason for the implementation of this measure is that the burst of a housing bubble is often a tipping point and triggers crises in the financial sector, as well as in the real economy because of the wealth effects on private households. The countercyclical capital buffer is on instrument to prevent a bubble development.

[35] See Geier (2011) for a more detailed description of the Swiss debt brake.
[36] See Swiss National Bank (2013).

The Swiss example of the debt break, which was followed by Germany (and is presently in the process of being introduced in many European countries) shows the usefulness of medium-term rules. These rules strengthen confidence in the political ability to cope with financial problems and, in addition, widen the options for taking action against the effects of crises.

4.5 Conclusions from Developed Country Analysis and Repercussions for Emerging Countries

Some conclusion can be drawn From the German stabilization strategy and the examples from selected other countries. There should be always a clear, reliable and transparent medium-term course of economic policy. This leaves more room for manoeuver in the short term. Business cycles and mild crises could then be stabilized by automatic stabilizers. In serious crises discretionary measures can be implemented in addition. Moreover, if such a strategy is convincing ex ante a crisis, the expectations of economic agents are less volatile as well. This will also contribute to the avoidance of panic and may ultimately lead to a more stable development.

Other well-known structural factors will contribute to a less vulnerable economy or provide more room for crisis prevention and crisis management measures. A highly competitive economy, a flexible labour market and a flexible and qualified labour force may be a pre-condition for an economy that is able to react quickly and adequately to international developments and shocks. Reforms to this end have contributed to making Germany an outstanding stable anchor in the European crisis.

More generally, many studies find that output volatility in economies is usually inversely correlated with the level of development (see Lane, 2003). Since economic fluctuations are typically larger and more persistent for emerging countries relative to the industrial nations, a lack of effective stabilization tools is especially costly. In times of crisis the key elements of a policy package in emerging countries include supportive macroeconomic policies, easing monetary policy and pursuing expansionary fiscal policies without jeopardizing policy credibility and the sustainability of public finances (Gosh et al., 2009). In crises nearly all emerging countries would contend – albeit to different degrees – with a loss of external financing that constrains their policy options. Weakening economic activity during a crisis would, in general, call for fiscal easing to support demand. However, the scope for manoeuver largely depends on the credibility of a country. Negative expectations can move an economy deeper into a crisis (or even from prosperity into a crisis). A formal institutional framework can do a great deal to reduce uncertainty about medium-term economic prospects. In that sense important lessons from the experience of industrialized countries like Germany can be drawn for emerging countries. Stabilization policy in Germany relies strongly on rule-based instruments like automatic stabilizers and rules like the debt break. Fiscal and monetary rules

are also seen as useful vehicles both for cementing policy credibility emerging markets, and for preventing rapid shifts in investor sentiment and attenuating vulnerability to financial crises (see Kopits, 2004). Kopits (2004, p.1) concludes: "Accordingly, fiscal policy rules – if well designed and properly implemented – are viewed as potentially useful commitment technology for emerging market economies exposed to macroeconomic volatility and high capital mobility". However, specific measures must be tailored to individual country conditions.

The following two graphs show, in a stylized pattern, the typical origin of modern crises (Figure 6) and the options for crisis exit policies (Figure 7). Both graphs relate to emerging as well as advanced economies. However, emerging economies often face higher risks, since many of them are in a more vulnerable position (by contagion).

Figure 6
Modern Crisis Origination and Impact (stylized, Authors' Conception)

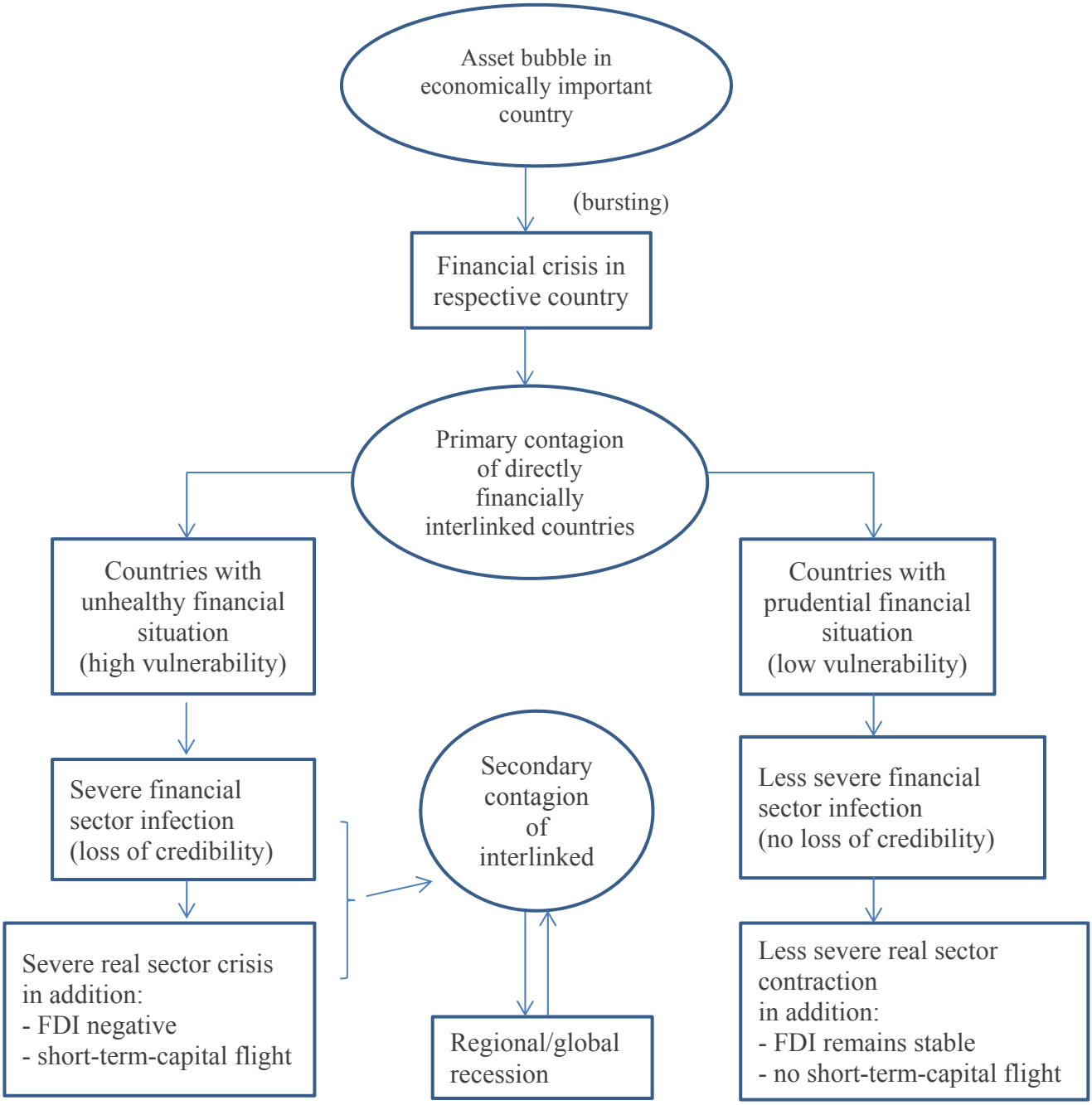
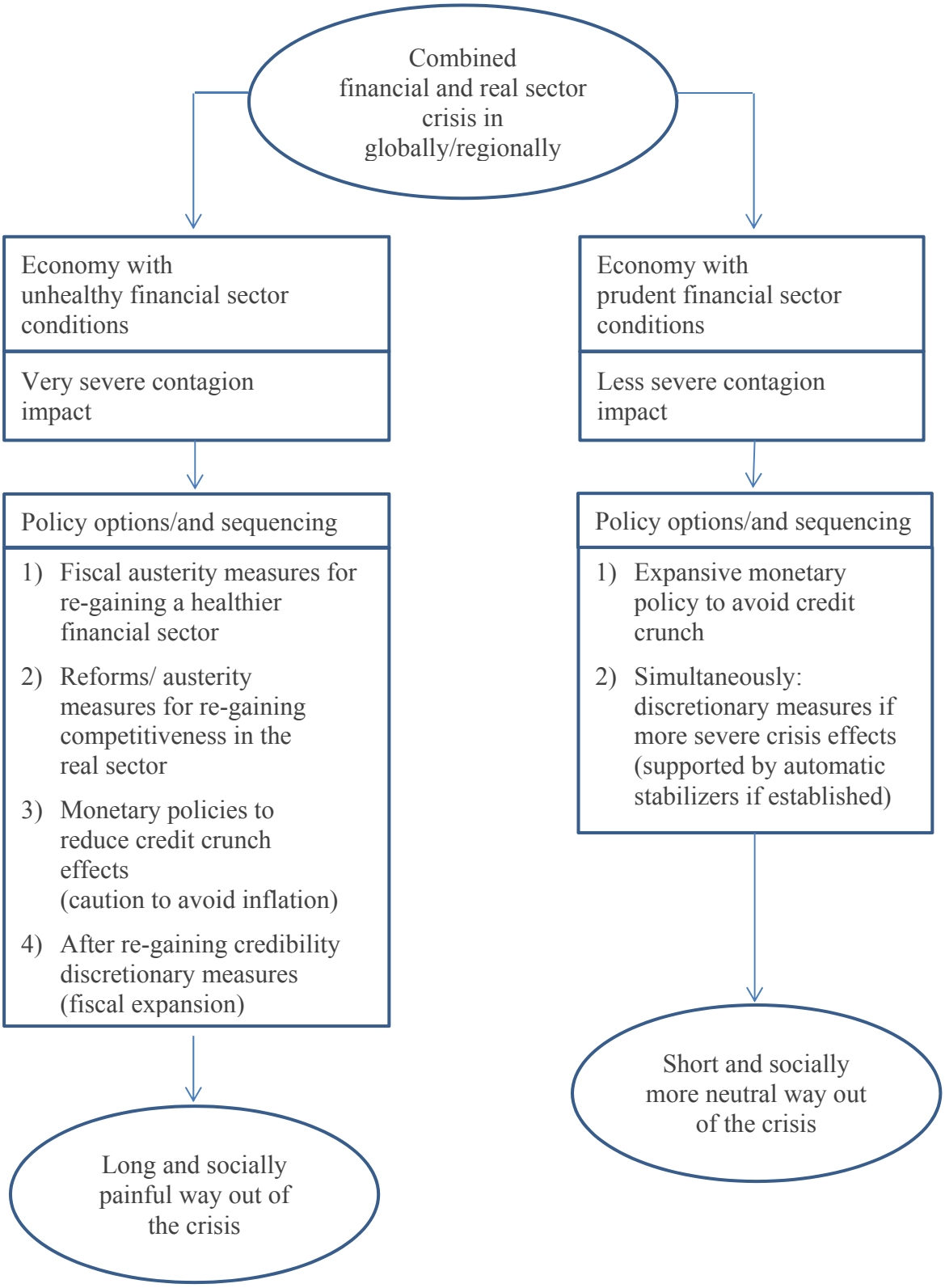


Figure 7
Exit Options from Modern Crisis (stylized, Authors' Conception)



4.6 Theses

1) The present German type stabilization concept of combining automatic stabilizers with stimulus measures under a fairly strict prudential financial regime is a most effective tool for crisis prevention and resilience. It is the main reason that Germany's performance during the banking-, sovereign debt- and euro crises has been outstanding in Europe.

2) The stabilization concept has been developed over time (since the early 1960s). It has been changed or adjusted on basis of practical experience several times. The practical testing conducted is a major advantage of this concept.

3) The concept aims to reduce volatile developments in general. It is geared towards four targets: price stability, foreign economic equilibrium, high employment and long-term reasonable growth. During crisis events the targets of high employment and maintaining long-term growth de facto are turned into a priority concern.

   A balanced target system, in the short-term and with flexible target priorities according to needs, makes the concept adaptable to varying crisis situations.

4) Lessons learned from the experience of the German stabilization policy are:

   a) Economic shocks and recessions cannot be countered by purely demand-led (Keynesian) policies. However, a purely supply-led policy also proved to be ineffective in the short-term.

   b) Cyclical turbulences and economic shocks of a normal dimension should be countered by automatic stabilizers (especially through the tax system and transfer payments). If such events are of an unusual serious dimension, discretionary measures should be added (demand-led as well as measures to improve competitiveness and long-term growth).

   c) Since cyclical and other short-term crises often occur simultaneously with ongoing structural crises (such as long-term unemployment and low investment rates), demand-led policies must be complemented by structural reforms, especially increasing labour market flexibility, labour force qualification, infrastructural improvements and supply-led in general policies.

   d) The ability to counteract crises with automatic stabilizers, as well as discretionary measures, and even more so by applying structural reforms depends to a large extent on the pre-crisis fiscal situation. A sound pre-crisis fiscal position enables governments to effectively counteract crises. High public indebtedness before a crisis, by contrast, reduces the options for crisis prevention and resilience. In severe cases a country may slip into a vicious circle driven by austerity measures and declining demand.

e) If further deficit spending is no longer possible (a government may not receive additional credits if it has lost credibility) severe austerity measures are unavoidable. Austerity measures will lead to a deepening of the recession and tax revenues will decline further. Developments in the economy will be disastrous until credibility in the financial markets can be regained.

f) To avoid economic disasters in countries that have entered the vicious circle of austerity measures and demand decline, financial assistance on the basis of solidarity from other countries is a realistic solution. Such assistance, however, will be effective only if the receiving country takes adequate measures to improve its competitiveness and re-enters a sustainable growth path.

5) Other successful OECD country cases support the German experience and provide additional experiences:

a) Australia: A flexible and competitive economy can cope better with shocks. Opening up an economy may lead to problems in the short-term. When the liberalization leads to a competitive economy, it should be better able to absorb shocks.

b) Canada: A mobile, flexible and well educated labour force is a key to crisis resilience. To benefit from international trade, an economy has to concentrate on its comparative advantages. This goes hand in hand with shifting labour into profitable sectors and reducing it in other sectors, or withdrawing from them entirely.

c) Norway: An outstanding example of wealth management. There are strict rules regarding the use of wealth from natural resources. The policy focus on the medium term and wealth can be used to dampen the effects of shocks on the economy.

d) Switzerland: The example of the debt break, which was followed by Germany (and is presently in the process of being introduced in many countries of Europe) shows the usefulness of medium-term rules. These rules strengthen confidence in the political ability to cope with financial problems and, in addition, widen the options for counteracting the effects of crises.

6) The lessons learned from the German and other OECD countries' stabilization policy are replicable in emerging countries, at least in many cases.

5. The Importance of Crisis Monitoring and Early Warning Systems

The value of such systems for enabling policymakers to more adequately control crisis events will be explained using practical examples. Most of these systems are based on indicator methodologies. Crisis prevention policies require data by which crisis risks can be assessed and adequate measures can be derived. Once an outbreak of a crisis has occurred, data are

again needed to design adequate resilience policies. Together with statisticians, economists have developed various systems that produce such data.

5.1 Conceptual Basis for Selection of Systems

Most of these monitoring and alert systems are based more on indicator approaches and less on econometric models. Macroeconomic monitoring by indicator approaches have a long tradition.

The OECD has calculated composite leading indicators for its member countries and other selected countries for nearly two decades. Various indicators, some of them based on monthly surveys, are combined and constitute a monitoring system for international cyclical economic developments.

Specific monitoring systems for individual countries also exist. The Asian currency crises in the late 1990s triggered a further development of indicator systems. The aim was often to develop a warning system that helps to monitor that a country may be slipping into a currency crisis. A well-known methodological framework for this objective was designed and tested by Kaminsky et al. (1998). Their system, called the 'Signal Approach', involves monitoring the evolution of several indicators that tend to exhibit unusual behaviour in the periods preceding a crisis. When an indicator exceeds a certain threshold, this is interpreted as a warning signal that a currency crisis may take place in the near future.

The global recession in 2008/09 and the recent euro crisis reinforced the interest in the development of monitoring systems. Because the recession was mainly a financial and banking crisis,[37] efforts were undertaken to develop or improve macro-prudential[38] monitoring systems. Macro-prudential indicators monitor the risks of financial instability. Implementing macro-prudential policies is supposed to reduce the risk of a financial crisis. The tools used apply to the financial sector. For example, the capital requirements will be strengthened or the volume of bank lending will be reduced.

Some aspects, usually monitored in macro-prudential indicator systems, are also important for monitoring the real economy. This relates to the construction and the real-estate market. A crisis in these markets often hits not only the financial sector, but also households that cannot repay their mortgages. The real economy is then affected through the financial market as well as through falling consumption, due to worsened mortgage conditions for private households.

[37] See Blinder (2013).

[38] For the origins and the evolution of the term macro-prudential, see Clement (2010).

In general two types of indicator systems are in use: input-dashboards deliver data and indicator descriptions and provide a base for interpretations. Output-dashboards go further and give quantifications of crisis risks. For quantification statistical methods are needed.[39]

Input-dashboards imply that economic experts interpret the results of the monitoring system. Based on their specific experience, the experts draw conclusions (expert judgments). This procedure has strengths and weaknesses. One weakness is that the decision-making process is not always fully transparent. The great advantage, however, is the high flexibility of the system's application (e.g. different options can be quickly assessed), which is important for time pressured policy making.

Output-dashboards give quantified figures (e.g. scale values) for crises risks. The conclusions of the output-dashboard are more transparent and more objective. The results of output-dashboards are also easier to interpret in scientific terms than the diverse signals of input-dashboards. However, the statistical methods behind the quantifications are based on the specific availability of data and require permanent data maintenance. Statistics experts have to carry out well-designed and, therefore, more time-consuming analyses. In addition, statistical quantification methods are constructed from historical data (previous crisis experience is evaluated and used to analyse new crisis risks). During new (not yet experienced) crisis situations, the historical causalities and model parameters may not be fully relevant and conclusions can therefore only be drawn on a limited scale.

The monitoring systems presently used by important institutions are briefly characterized below.

5.2 Important International Institutions-based Risk Information Systems and Analysis Concepts

a) Monitoring and Early Warning Systems Used by the OECD (Leading Indicators Approach)

In the 1970s the OECD developed a system of leading indicators providing early signals for turning points in the business cycle. The OECD system is a long established monitoring system of the international business cycle.[40] It is, indeed, not an explicit crisis warning system. However, the system consists of cyclical country indicators for all OECD members and some others, especially emerging countries. A few single indicators are selected for each country separately, depending on data availability and statistical analysis capacities. The single indicators are condensed into one composite indicator for each country. This procedure leads

[39] For an application of quantification of the risk of a currency crisis with the signal approach, see Abberger et al. (2009).

[40] The indicators are published regularly on the website of OECD, http://www.oecd.org/std/leadingindicatorsandtendencysurveys/

to a system for monitoring the international business cycle (cycle being defined as deviation from trend). Countries are further summed up to regional indicators and an overall indicator.

The OECD leading indicators form not only an indicator system for monitoring and forecasting short-term international economic GDP variations, they could also be of value for national indicator dashboards or even for the construction of national composite indicators. Countries with large export shares, small open economies, countries heavily affected by commodity price movements or countries with weak statistical data about their own export sector could use foreign data to monitor potential spill-over effects for their own economy. For example, the KOF Barometer,[41] which is the most important composite leading indicator for the Swiss economy uses data from other countries. In the Swiss case Business Tendency Survey data are mainly used instead of the OECD indicators. (Business Tendency Survey data will be discussed later). The OECD early indicators would be another candidate for this purpose. And indeed, the OECD indicators also make heavy use of Business Tendency Survey data.

Condensing the information into one composite indicator for crisis risk assessment is appealing, because it is easier to interpret one indicator than a set of indicators. That is why it is very popular to have, for example, one composite indicator signalling the cyclical situation of an economy. For crisis alert mechanisms, the use of one single (composite) indicator only is not common, because its construction would have to be very complex since there are various sources of risks and several macroeconomic dimensions need to be monitored. An overall composite (leading) indicator could be an important achievement for crisis monitoring systems, but despite efforts it still has not been constructed in a satisfactory way yet.

Data availability is often a problem in designing composite indicators. Proxy methods in countries with weaknesses in their national accounts system have been developed. For the construction of proxy indicators various data sources might be of relevance, for example, foreign data like the OECD early indicators, price data, data from associations etc. Abberger and Nierhaus (2011) give an example of how a composite indicator could be constructed in a sparse data environment.

b) Monitoring and Early Warning Systems Used by the EU/Eurostat (Scoreboard Approach)

In 2011 the European Union substantially revised the economic governance framework as a reaction to the lack of compliance with the existing rules prior to the euro area crisis. The so-called Six Pack introduced stricter rules for public finances, as well as a scoreboard for monitoring structural developments and imbalances. The Macroeconomic Imbalance Procedure (MIP) introduced a new surveillance methodology for the prevention and

[41] KOF, www.kof.ethz.ch

correction of macroeconomic imbalances. Under its preventive arm, the MIP aims to detect the emergence of imbalances at an early stage. In case of existing serious imbalances, the corrective arm of the procedure requires the member state to put in place a detailed policy plan to achieve correction and to provide the means to effectively enforce it. The MIP is built around a two-step approach. The first step is an alert mechanism that works as a filter. The objective of the alert mechanism is to focus attention on observed risks early and to identify the countries for which, in the second step, more in-depth analysis appears warranted to assess their vulnerability and draft policy recommendations.[42]

The alert system uses a scoreboard of 10 indicators, as well as detailed country studies. Each indicator is given a threshold. A large deviation from the threshold is seen as a warning signal. The 10 indicators are divided into two areas: external and internal imbalances. Some of the indicators are listed in Appendix 4.

Compared with input- and output-dashboards, the scoreboard leaves more room for interpretation of the indicators than a purely input-dashboard because the threshold may signal just unusual or potential crisis developments. However, it is not really an output-dashboard because the risk is not quantified with probabilities. The 10 indicators are selected out of a number of candidate indicators. Various data transformations and thresholds also have to be analysed to design a scoreboard. In the appendix a brief criteria catalogue for the selection of the indicators is given.

Based on the scoreboard approach, the European Commission annually publishes an Alert Mechanism Report.[43] The data are regularly updated and published by Eurostat.[44]

c) Monitoring and Early Warning Systems Used by the IMF (Financial Soundness Indicators Approach)

The Financial Soundness Indicators of the IMF form an international macro-prudential monitoring system. It is used as one system assessing the strength and vulnerability of financial systems. The financial soundness indicators provide information on the financial health and soundness of the entire sector of financial institutions in a country, as well as on the corporate and household sectors that are clients of the financial institutions. The IMF prepared guidelines to help countries to compile financial soundness indicators.[45] A list with IMF proposed indicators is given in Appendix 4. The compilation of these data requires

[42] European Commission (2012).

[43] Available at EU, http://ec.europa.eu/economy_finance/economic_governance/macroeconomic_imbalance_procedure/index_en.htm

[44] EUROSTAT, http://epp.eurostat.ec.europa.eu/portal/page/portal/excessive_imbalance_procedure/imbalance_scoreboard

[45] International Monetary Fund (2006).

skilled staff with thorough knowledge of financial sector data. A national system of financial soundness indicators might, therefore, be compiled by specialists from a national bank or a banking regulation authority.

d) Monitoring and Early Warning Systems Used by the ESRB (Risk Dashboards)

In response to the financial crisis 2008/09 and the need to rescue banks a European Systemic Risk Board (ESRB) was established[46] in the EU. According to the ESRB regulation, "the ESRB shall be responsible for the macro-prudential oversight of the financial system within the Union in order to contribute to the prevention or mitigation of systemic risks to financial stability in the Union that arise from developments within the financial system and taking into account macroeconomic developments, so as to avoid periods of widespread financial distress. It shall contribute to the smooth functioning of the internal market and thereby ensure a sustainable contribution of the financial sector to economic growth". One purpose of the ESRB is "developing a common set of quantitative and qualitative indicators (risk dashboard) to identify and measure systemic risk". The scope of the ESRB is financial stability, therefore, its dashboard also focuses on financial risks. However, it also has a module for the monitoring of macroeconomic developments that may be of interest for the study at hand. The indicators of the dashboard reflect the following issues:

A. Inter-linkages and composite measures of systemic risk

B. Macro risk

C. Credit risk

D. Funding and liquidity

E. Market risk

F. Profitability and solvency.

Although some indicators of various groups of the ESRB dashboard might be of interest for a macroeconomic warning system, only the indicators of the group macro risks are listed here. The macro risk group consists of the following indicators:

Current and forecast real GDP growth

Domestic credit-to-GDP gap

Current account balance-to-GDP ratio

Unemployment rate

General government debt-to-GDP ratio

[46] Information on the establishment of the ESRB and its legislation are on the website of the ESRB: http://www.esrb.europa.eu/about/background/html/index.en.html

General government deficit-to-GDP ratio

Credit default swap premia on sovereign debt in selected EU countries

Sovereign debt redemptions

Non-financial corporations' debt-to-GDP ratio

Households' debt-to-gross disposable income ratio

Economic sentiment indicator

Global PMI output and industrial production

Gold and brent crude oil prices.

Apart from the last two issue points, all indicators are made for all European countries. The last two focus on global risks. To some extent there is an overlap with the EU Dashboard, but even the presentation of the same indicators may differ. In addition, aspects covered by EU indicators include current GDP growth, economic sentiment and indicators for the global environment. Alongside the risk report, the ESRB publishes two annexes on its website describing the indicators and their economic meaning.[47] For example, the comprehension of economic sentiment is reasoned as follows: "The dashboard incorporates the Economic Sentiment Indicator of the European Commission, an important survey-based indicator, characterized by a significant forward-looking component. As a composite indicator of confidence in different economic sectors, this measure is an informative signal of the diverse economic environment that various businesses and industries expect to face in the near future. Economic sentiment is, therefore, a leading indicator of future developments in economic fundamentals, which, in turn, shed light on the performance and stability of financial markets".

The ESRB risk dashboard is explicitly an input-dashboard. No quantification of the risk or thresholds for indicators are given. The risk dashboard is an information basis for the discussions and assessments of the ESRB. The risk board is even published with a disclaimer: "The dashboard is a set of quantitative indicators and not an early warning system. Users may not rely on the indicators as a basis for any mechanical form of inference". The rationale behind this procedure is that a more or less automatic risk warning issued by the ESRB could act as a self-fulfilling activator of a systemic crisis. That is why the ESRB avoids an output-dashboard or a publication strategy that suggests results or warnings automatically. The dashboard provides a data basis for the discussions of the board. The results of the dashboards are published with verbal descriptions of the indicators, not with conclusions or quantifications.

[47] See: http://www.esrb.europa.eu/home/html/index.en.html

e) Some Further Monitoring/Early Warning Systems Used by Other Institutions

The Franco-German Ministerial Council asked the French Conseil d'Analyse Économique (CAE) and the German Council of Economic Experts (GCEE) to follow-up on the outcome of the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz-Sen-Fitoussi Commission, or SSFC[48]). The CAE and GCEE fulfilled this request by preparing a report on Monitoring Economic Performance, Quality of Life and Sustainability. The report[49] discusses how the comprehensiveness and accuracy of an indicator set might be treated to provide a reliable basis for regular, timely and digestible reporting on three key issues regarding economic performance, quality of life and sustainability.

A main focus of the report deals with the question of how quality of life could be measured. This leads to measurement of economic performance beyond GDP. The report also contains a section on sustainability and this section contains a discussion of indicators for macroeconomic sustainability. This set of indicators does not try to immediately monitor crisis risks, but focuses on a longer-term perspective. It is intended to detect unsustainable developments long before crises risks emerge. Macroeconomic sustainability is divided into three dimensions: growth sustainability, external sustainability and fiscal sustainability. Indicators suggested by the two councils are:

- Ratio of net investment (capital formation) to GDP
- Ratio of R&D investment to GDP
- Cyclically adjusted fiscal balance and public net investment
- Fiscal sustainability gap.

In addition to macroeconomic sustainability, a set of indicators for financial sustainability is also presented in the report.

Business tendency surveys are an important tool for obtaining timely indicators, especially in countries with limited national accounts data. However, tendency surveys are also common in industrialized economies. An international system of business tendency surveys is organized by the European Commission, which, through the Directorate-General for Economic and Financial Affairs (DG ECFIN), launched a harmonized survey program within the EU member states and the candidate countries in 1961. Common standards and a set of harmonized questions were developed and described in a user guide.[50] This standardization leads to indicators that could be used for international comparisons. That business tendency survey results lead to good national indicators is shown in many studies, for example for Germany by Abberger and Nierhaus (2010 and 2012).

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[48] See: www.stiglitz-sen-fitoussi.fr

[49] Franco-German Ministerial Council (2010).

[50] The user guide is available at the website: DG ECFIN, http://ec.europa.eu/economy_finance/db_indicators/surveys/method_guides/index_en.htm

5.3 Conclusions

Economic crises may also have very different origins in emerging and developing economies. It is impossible to avoid crisis events completely. However, since the next crisis usually has a different origin to its predecessor, a 'perfect' monitoring system for an economy should include indicators for the real economy, for the soundness of the financial sector and for the international economic environment.

With the growing integration of an economy into the world economy, monitoring of both the international environment and the financial sector becomes increasingly important. The financial sector often acts as the link between global financial markets and domestic borrowers, and thus transfers international crises.

Other channels through which foreign developments can affect the domestic economy are, for example, foreign demand shocks or price shocks in internationally traded goods. International demand shocks may occur when, for some reason, demand in export markets slows down abruptly. This is one way that the euro-area crisis affects growth in export-oriented emerging markets. Price shocks in internationally traded goods, especially commodity prices like prices for oil or food are also a source of foreign shock transmitters.

All crisis monitoring systems should therefore have an international component. However, a crisis can be triggered by domestic developments too. Only a multidimensional system is really sensitive enough to detect problematic developments. Export demand can slow-down because of a loss in competitiveness. Domestic credit or housing bubbles can burst. An indicator system cannot cover all sources of potential problems, because it has to be practicable. However, the combination of the foreign and domestic development dimension and the financial and real development dimension should be covered to some extent. The exact selection of indicators depends on the specific situation of the economy under consideration and on data availability.

5.4 Theses

1) Crisis prevention and resilience policies can only be designed on the basis of adequate information systems. This important condition is overlooked in a good number of emerging countries. Science-based information systems have been advanced enabling more adequate crisis prevention and resilience policies.
2) Historically and over time systems have been designed and tested that cater for various single crisis types.

a) The OECD monitors international cyclical real economic development (and real economic crises) by the Leading Composite Indicators Approach. This is an adequate method of short-term monitoring.

b) After the Asian crisis the Signal Approach was designed (Kaminsky et al., 1998) as an adequate early warning system for currency crises.

c) More recently, a system to monitor risk developments in the financial sector was developed with the name of Prudential Indicators Approach under the lead of the IMF. It is equally well-suited to emerging and developed countries. National banks and/or regulatory authorities are the agencies that implement these macro-prudential monitoring systems.

However, these single crisis alert and monitoring systems are deficient in the sense that they cannot cope with interrelated crisis types.

3) Far more successful in terms of the objective of generating a crisis alert and monitoring system for multiple crises events and causalities is the EU's Scoreboard Approach. This is an adequate instrument for monitoring macro-economic imbalances and covers the real, as well as the financial sector, including the international environment of a country.

6. Summary of Conclusions and Recommendations for Emerging Countries

Formulated in brief and in theses-style, this section presents the more important results of the study. Firstly, the typical characteristics of modern crises as regards crisis origination and contagion are shown and then the repercussions for more general crisis management as well as specific policy instruments, relevant for emerging countries, are listed. Finally, the monitoring requirements are summarized.

6.1 Changed Crisis Origination

The accelerated globalization process, at least since the entry of China into the world economy and the disintegration of the Soviet Union, has changed the type of fluctuations faced by economies.

Cycles generally used to be the result of a policy response to inflation. Since the mid-1980s, however, no recession has had this origin. Each had been the result of an asset boom accompanied by excess investment, leading to a smash (Minsky moment).

With economic globalization, the world appears to have left the period lasting for over forty years that followed World War II and was characterized by more monetary policy-induced business cycles; and has re-entered a period of occasional investment booms and busts. The

economic science and policy mainstream had the position that this type of crisis had been overcome thanks a better combination of monetary and fiscal policy.

6.2 Indebtedness and Loss of Financial Credibility as Key Factors for Modern Crisis Vulnerability

In some emerging, as well as in a good number of fully industrialized countries governments are extremely indebted. Expansionary financial stimuli for counteracting crisis effects would merely increase indebtedness and reduce faith in a government's ability to repay debts. The fiscal position of the country would worsen.

The corporate sector of many emerging countries depends primarily on bank lending. Since banks are highly leveraged institutions, economies that are heavily dependent on bank financing are much more vulnerable to a financial crisis, especially if the banking sector depends on foreign finance. Massive capital inflows lead to asset booms and increase vulnerability beyond control. Many emerging countries find themselves in this situation and are therefore highly crisis vulnerable.

However, an unsound financial position is not unique for a number of emerging economies. During the last two decades it has also become a typical feature of a good number of advanced countries as well. Many economically advanced societies have decided to finance parts of their welfare with public debt creating a permanent pressure on governments to increase revenues. To avoid resistance from the electorate, governments raise revenues from productive activities increasing their costs. Long-term demographic developments aggravate this pressure. Therefore, in a good number of more advanced countries, a steady loss of international competitiveness was observed and their crisis risks (vulnerability) were increased as a result. Crisis risks in more developed economies due to their economic interactions are also a thread for vulnerable emerging countries.

In addition, banks in advanced countries benefitted tremendously from the globalization of financial markets. They became used to risky international operations (supported by bailing-out policies) and steadily increased their vulnerability in this manner. Unfortunately these banks not only became more vulnerable themselves, as lenders to banks of emerging countries, they also transmitted their own vulnerability to the financial sector of emerging economies.

As a result of these developments, governments in a number of advanced countries also have little or no financial room for counteracting crises by fiscal means and the financial sector of many advanced countries has become rather vulnerable. Many advanced economies developed an unsound financial situation increasing worldwide crisis risks dramatically.

Global financial market integration eased risk transfers from one country to another on a scale never previously experienced during classical crisis events. Though the origins of present day crises might appear similar to the old classical ones, crises today occur under very different framework conditions. Whilst vulnerabilities and contagion risks have increased, classical options for anti-crisis policies have narrowed down.

6.3 General Crisis Management Concepts

Effective modern crisis management, therefore, involves policy requirements that can handle new problem structures in both emerging and advanced economies. Anti-crisis and crisis management policies to deal with present crisis situations have been developed and tested in both emerging and advanced economies. The best policy, and nearly all case studies prove this, is to strengthen crisis resistance by building up a sound financial position prior to crisis events. A country with a sound financial position is better placed to withstand and recover from a crisis. An important additional general condition must be fulfilled, however, to enable a country to overcome a crisis: the economy must increase its international competitiveness to regain economic growth.

Building up a sound financial position and a competitive private sector should therefore constitute the basic anti-crisis policy. A sound financial position relates to the public sector, as well as to financial institutions. Once a crisis has erupted in an unsound financial environment there is no chance of escaping the crisis sustainably without avoiding a painful recovery process. The blueprint for getting out of a crisis suggests a complex policy approach: the private financial sector must undergo structural reforms (in reality closing down or downscaling unsound institutions) and the government must apply fiscal austerity measures to reduce public debt, regain credibility and thereby create new fiscal options for counteracting crisis effects.

As mentioned, this is usually not enough to bring a country out of a crisis. Reforms must also be introduced to increase competitiveness as well, and in the short-term this unfortunately is primarily only possible by reducing labour costs in most cases. Labour costs can be lowered by increasing labour market flexibility (e.g. by easier hiring and firing and higher wage spreads, especially towards the lower wage scale) and by measures that directly reduce labour costs. The result of such measures will be an increase in unemployment and in felt unemployment risks by large population groups, as well as general real income losses from labour. The fiscal austerity measures will also reduce economic activities and thus aggravate social problems. These negative effects of getting out of a crisis are the most crucial and controversial policy issue. People and their interest organizations, to a greatly varying extent, will accept or refuse such austerity and competitiveness measures.

Should such reforms be implemented and considered adequate by the relevant economic subjects, the credibility of the country is expected to be re-established and new investment and credit flows may stimulate economic recovery. At this stage it may also become adequate for the government to introduce fiscal growth stimuli to shorten the recovery period and reduce the negative social effects. This policy blueprint of getting out of a crisis is equally relevant for emerging as well as advanced countries. In general it is accepted among mainstream economists. There is, however, serious controversy about the timing and the volume of fiscal incentives for recovery. The Anglo-American stream tends more towards an early and aggressive expansionary fiscal policy, the official EU position (and very markedly that of Germany) prefers a more careful and more conditioned expansionary policy. The one position believes that getting out of the crisis situation as fast as possible is the most important aspect in order to avoid more severe losses in social and economic terms, while the other position suggests that getting out must lead to sustainable growth and greater crisis resistance and resilience in the future. Both positions have their pros and cons, and the position to be favoured may depend on specific country and crisis situations, as well as on social and cultural factors.

Despite these differing positions it is generally accepted that, if inflation is not a major problem, an expansionary monetary policy should be introduced towards the beginning of a fiscal austerity and reform program. Loose monetary policy is expected to potentially stimulate private economic activities, to compensate for economic activity losses due to fiscal austerity measures.

Another position prevailing in the EU is to bail out EU member countries that agree to undergo fiscal consolidation and competitiveness improving reforms. However, the degree to which healthier economies should transfer resources to crisis prone countries is highly controversial. To establish such a transfer system may also set, it is argued, wrong incentives, because it would make it less risky for governments to follow policies leading to an unsound financial situation.

Another crucial factor for successful reform-based anti-crisis policies is the acceptability of structural reform measures by the individuals concerned and their interest organizations. A social consent (to a certain extent) has to be achieved (formally or informally) between politics, labour and employers. Without such a consent, reform policies as required do not seem to be implementable. In the successful country cases of both emerging and developed countries, this consent could be achieved with carefully designed strong efforts to achieve ‘tripartite’ agreement, or at least toleration.

A number of emerging countries are not very used to tripartite agreement policies. Enforced measures against major stakeholders of the relevant societal sections will create open or hidden resistance and failing reform programs are the result of such a political approach.

Reform policies, especially if they implicate painful measures for certain social groups, must be designed and based on the consent of the relevant social groups. This definitely constitutes one key lesson to be learned from countries that successfully manage crises.

6.4 Specific Policy Instruments

Meanwhile some emerging economies have established a sort of safety net system to assist each other financially to improve crisis resistance and to recover from crises more quickly. In the case of East Asia, under the Regional Financial and Monetary Cooperation agenda, the Association of Southeast Asian Nations established a regional financial safety net, namely, the Chiang Mai Initiative. This initiative expands bilateral swap arrangements among ASEAN countries and China, Japan, and Korea. The project includes the establishment of regional surveillance and monitoring, especially capital flows, and a network of bilateral swap arrangements that can provide liquidity support for member economies in case of a crisis. Such initiatives may substantially help to improve the crisis management capacities of member countries.

Some resource-rich countries have established their own public stabilizing buffer funds. Norway is an extraordinarily successful example of such fund management. These funds are designed to be increased during growth periods and then to permit expansionary spending during recessionary developments. The expansionary spending is an additional advantage because it can easily be geared towards long-term growth generating investments. The establishment of such stabilizing reserves is a highly recommended instrument for improving resilience capacities. It is very feasible for resource-rich emerging countries.

A further proposal for emerging countries to reduce the risks in connection with the high share of foreign-bank lending is the establishment and expansion of local currency and regional bond markets. Such bond markets would substantially reduce the volatility created by the usually dominant short-term foreign financed bank lending and from capital inflows. Reduced lending volatility also implies the reduced vulnerability of the financial sector and the real economy.

Lastly, a tool currently used to foster crisis resistance in the banking sector, especially in emerging countries, is the introduction and crisis-related flexible handling of a Required Reserve Ratio (RRR) by banking supervisory authorities. The RRR can be used as an effective counter-cyclical stimulus instrument independently of fiscal policies.

Emerging countries can learn a great deal from Germany’s practical crisis management experience. Germany’s approach to crisis prevention and resilience has a long tradition; and its introduction goes back several decades and has an experimental character. Originally it followed a Keynesian demand-led approach. Within a law-based stabilization policy

programme, the government applied counter-cyclical discretionary stimulus measures. Over time, however, this policy proved to be rather ineffective, and above all, generated undesirable structures finally reducing the capacity to counteract crises. Demand-led measures became increasingly ineffective due to the increasing globalization of the German real sector economy. Instead of more stability, the demand-led measures increased inflation and unemployment and could not be controlled. Over a longer period, they also created rigidities by giving the government an increasing role in economic policy making. The structural reforms required to continuously strengthen international competitiveness were neglected. Germany about twenty years ago was considered a case of economic 'sickness' by many analysts.

After the less successful Keynesian period German stabilization policies switched towards a supply-led, structural reform-based policy to stabilize economic development. The reforms aimed at generating more economic flexibility and higher competitiveness via fairly strict fiscal discipline and reasonably low relative labour and social welfare costs. In 2003 the government announced the Agenda 2010, a massive labour market and social welfare reform program, to improve the soundness of public finances and increase the competitiveness of the German economy by reducing labour and social welfare costs. The effective implementation of this policy is the basic reason why Germany was able to overcome recent crisis events without suffering from excessively negative effects.

At the forefront of short-term measures the stabilization measures were based on a system of automatic stabilizers. Automatic stabilizers are those income and output correctives of public budgets that absorb economic shocks or stimulate growth (by demand) without special ad-hoc policy measures. Such stabilizers work through a well-designed (crisis-elastic) tax and social welfare transfer systems. Of course, automatic stabilizers work effectively only through well-functioning institutions and they must have a wide coverage, conditions that emerging economies often do not satisfy initially. Automatic stabilizers have a great advantage, because they are effective instantly and without delay and they stabilize expectations of economic agents, because they are convinced that the fiscal situation is adjusted definitely (to a certain extent at least) without the long-lasting 'compromising' of policy negotiations.

However, although institutional deficiencies and a rather limited coverage may be common in emerging countries, it will still be useful to continuously develop automatic stabilizer functions there, because even if their fluctuation dampening effects are minor initially, they still contribute to better crisis management and have a scope to be further developed.

During the severe financial crisis of 2008/09, the automatic stabilization mechanism in Germany proved to be not sufficiently strong for stabilization and had to be complemented by a whole range of discretionary stimuli. Of utmost importance were the short work public

subsidy programs. However, public investment programs in infrastructure, subsidies for R&D activities (in medium-sized companies) and measures to strengthen private consumption were also introduced. The references cited above (and obvious experience) show that the combination of automatic stabilizers with discretionary measures effectively stabilized the real economic sector and even increased its competitiveness at the same during this severe crisis.

German government also had to stabilize the financial sector by specific interventions. It introduced guarantees for bank deposits up to a certain ceiling, implemented a Financial Stabilization Fund (FMS) to rescue banks in severe difficulties and restructured certain problem banks. Finally the bad bank was established. Although it is still early to judge the effectiveness of these financial sector interventions, one can at least observe a financial consolidation process in Germany. Moreover, despite the serious international crisis situation, Germany was able to save its employment situation and secure positive GDP growth rates. Its economy is presently considered an anchor of stabilization in Europe.

No reason can be found to contradict the statement that the financial sector interventions applied in Germany for stabilization can be also be applied to emerging economies. The successful performance of other developed countries - Australia, Canada, Norway and Switzerland - during the present crisis confirm by and large that a committed structural reform policy prior to the crisis (to some extent implying social hardships which, however, can be minimized by social support programs) combined with the creation of a prudential financial sector situation is the most successful approach to reducing crisis vulnerability and strengthening resilience.

6.5 Crisis Risk and Performance Monitoring Requirements

Information on crisis risks, as well as on crisis performance, is an indispensable pre-condition for appropriate crisis management decision-making. Such information generation systems have already been developed and tested on a wide scale. The business cycle surveys and analysis systems in combination with composite indicator approaches have been providing information on the performance of the real economy, and especially on the imminence of cyclical turning points, for a long time. The procedures are largely standardized and applied in practically all OECD countries. They can be replicated in emerging economies if they have not yet been applied already.

Prudential indicator systems are usually implemented and used by financial supervisory authorities. They are propagated by international finance institutions. Most emerging countries use such data for their Financial Stability Reports, but adequate survey methodologies are often deficient.

For currency crisis risk indication Signal Approach is a useful tool. It is used in Turkey, for example, but how far this tool is applied in other emerging countries is not known. However, it is strongly propagated by the Asian Development Bank, for instance. Countries facing currency crisis risks from time to time should definitely use this very helpful instrument for assessing the currency risk situation, which may change over time and reach dangerous levels, indicating the need for policy action to pre-empt the outbreak of a crisis.

As a general crisis alert system the EU has established the Scoreboard Approach, which has the capacity to include most relevant crisis factors and even to identify crisis factors not previously experienced. Scoreboards are highly flexible and adjustable systems for analysis under specific country and economic structural conditions. They are replicable in emerging countries and are very useful instruments for general crisis risk assessments. The depth and detail of the scoreboards, however, depends on data availability.

Abbreviations

ADB Asian Development Bank

AIT Agreement on Internal Trade

ASEAN Association of Southeast Asian Nations

ASEAN+ 3 Associations of Southeast Asian Nations plus China, Japan and South Korea

BRIC Brazil, Russia, India, China

CAE French Conseil d'Analyse Économique

CEEC Central Eastern Europe Countries

CMI Chiang Mai Initiative

CMIM Chiang Mai Initiative Multilateralization

CPI Consumer Price Index

CSSR Czechoslovakia

DG ECFIN European Directorate-General for Economic and Financial Affairs

DM Deutsche Mark (German Mark)

EI ACT Employment Insurance Act

ESRB European Systemic Risk Board

ETH Eidgenössische Technische Hochschule (Zurich University)

EU European Union

EUR Euro Currency

FDI Foreign Direct Investment

FIDF Financial Institutions Development Fund

FMS (SoFFin) Financial-Market Stabilization Fund

FSU Former Soviet Union

FTA Free Trade Agreement

G7 Group of 7 Leading Industry States (USA, UK, France, Germany, Italy, Canada and Japan)

GARCH – M Stochastic Model for Time Series Analysis

GCEE German Council of Economic Experts

GDP Gross Domestic Product

GKO Russian Federal Loan Obligation

GPF Government Pension Fund Global

GPP Global Partnership Program

Ifo Ifo Institute - Leibniz Institute for Economic Research at the University of Munich

IMF International Monetary Fund

KAMCO Korea Asset Management Cooperation

KOF Swiss Economic Institute (ETH, Zurich)

MDBs Multilateral Development Banks

MIP Macroeconomic Imbalance Procedure

NAFTA North America Free Trade Agreement

NASDAQ National Association of Securities Dealers Automated Quotations (US Stock Market)

OECD Organization for Economic Co-operation and Development

PRC People's Republic of China

Q Quarter

R&D Research and Development

RRR Required Reserve Ratio

SNB Swiss National Bank

ULC Unit Labor Costs

UN United Nations

US, USA United States, United States of America

VAT Value Added Tax

YES Youth Employment Strategy

References

Abberger, K. and W. Nierhaus (2012), 40 Jahre ifo Geschäftsklima in der gewerblichen Wirtschaft: Ein zuverlässiger Indikator für die Konjunkturentwicklung in Deutschland, in: Wagner, A. and U. Heilemann (eds.), Empirische Makroökonomik und Mehr, Lucius Verlag, Stuttgart, 211-228.

Abberger, K. and W. Nierhaus (2011), Construction of Composite Business Cycle Indicators in a Sparse Data Environment, CESifo Working Paper 3557.

Abberger, K. and W. Nierhaus (2010), Markov-Switching and the Ifo Business Climate: The Ifo Business Cycle Traffic Lights, CESifo Working Paper 2936.

Abberger, K., W. Nierhaus and S. Shaikh (2009), Findings of the Signal Approach for Financial Monitoring in Kazakhstan, CESifo Working Paper 2774.

Alesina, A. and F. Gavazzi, (2012), How Is as Important as How Much, VoxEU, 3 April.

Amess, K. and P. Demetriades (2001), Financial Liberalisation and the South Korean Financial Crisis: Some Qualitative Evidence, Discussion Papers in Economics 01/3, University of Leicester.

Antony, J. and P. Boer (2010), Linkages between the Financial and the Real Sector of the Economy: A Literature Survey, CPB Document 216, The Hague: CPB Netherlands Bureau for Economic Analysis.

Bahgat, G. (2008), Sovereign Wealth Funds: Dangers and Opportunities, International Economic Affairs, 84, 1189-1204.

Baldacci, E., S. Gupta and C. Mulas-Granados (2013), How Effective Is Fiscal Policy Response in Financial Crises?, in: Claessens, S., M.A. Kose, L. Laeven and F. Valencia (eds.), Financial Crises, Consequences, and Policy Responses (forthcoming).

Barrell, R. and D.W. te Velde (2000), Catching-up of East German Labour Productivity in the 1990s, German Economic Review, 1, 271-297.

Bhattacharyay, B., D. Dlugosch, B. Kolb, K. Lahiri, I. Mukhametov and G. Nerb (2009), Early Warning System for Economic and Financial Risks in Kazakhstan, CESifo Working Paper 2832.

Blinder, A.S. (2013), After the Music Stopped – The Financial Crisis, the Response, and the Work Ahead, The Penguin Press, New York.

Brailsford, S. et al. (2006), A New Approach for Estimating Relationships between Stock Market Return: Evidence of Financial Integration in South-East Asian Region, International Financial Review, 8, 17-38.

Bundesministerium der Finanzen (2009), Informationen zum Konjunkturpaket vom Januar 2009, Monatsbericht des BMF, Januar 2009, 5-7.

Burda, M. (2007), What Kind of Shock Was It? Regional Integration and Structural Change in Germany after Unification, Kiel Working Papers 1306, IFW Kiel.

Calomiris, C.W. and J.R. Mason (2003), How to Restructure Failed Banking Systems: Lessons from the U.S. in the 1930's and Japan in the 1990's, NBER Working Paper 9624.

Calvo, G.A. and C.A. Vegh (1999), Inflation, Stabilization and BOP Crises in Developing Countries, NBER Working Paper 6925.

Cartapanis, A., V. Dropsy and S. Mametz (2002), The Asian Currency Crises: Vulnerability, Contagion, or Unsustainability, Review of International Economics, 10, 79-91.

Cavallo, E. and I. Noy (2010), The Aftermath of Natural Disasters: Beyond Destruction, CESifo Forum, 11 (2), 25-35.

Chang, H.J., H.J. Park and C.G. Yoo (1998), Interpreting the Korean Crisis: Financial Liberalisation, Industrial Policy and Corporate Governance, Cambridge Journal of Economics, 22, 735-746.

Claessens, S. and M.A. Kose (2013), Financial Crises: Explanations, Types, and Implications, IMF Working Paper WP/13/28.

Clement, P. (2010), The Term Macroprudential: Origins and Evolution, BIS Quarterly Review, March 2010, 59-67.

De Brouwer, G. (2003), Economic Reform and Growth in Australia, Paper prepared for the Australian Studies Association of Japan, Symposium in Nagoya, 14-15 June.

De Gregorio, J. and R.O. Valdes (2001), Crisis Transmission: Evidence from the Debt, Tequila, and Asian Flu Crises, World Bank Economic Review, 15, 289-314.

De Luna Martinez, J. (2002), Globalisierung und Finanzkrisen: Lehren aus Mexiko und Südkorea, Logos Verlag, Berlin.

Deutsches Institut für Wirtschaftsforschung (DIW Berlin), Institut für Arbeitsmarkt- und Berufsforschung (IAB), Institut für Weltwirtschaft an der Universität Kiel (IfW), Institut für Wirtschaftsforschung Halle (IWH), Zentrum für Europäische Wirtschaftsforschung (ZEW) (2003), Zweiter Fortschrittsbericht wirtschaftswissenschaftlicher Institute über die wirtschaftliche Entwicklung in Ostdeutschland, DIW, Berlin.

Didier, T., C. Hevia and S. Schmukler (2011), How Resilient and Countercyclical Were Emerging Economies?, World Bank Policy Research Working Paper 5637.

Dolls, M., C. Fuest and A. Peichl (2010), Automatic Stabilisers and the Economic Crisis: US vs Europe, EUROMOD Working Paper EM2/10.

Dungey, M. et al. (2010), Detecting Contagion with Correlation: Volatility and Timing Matter, Centre for Financial Analysis and Policy, Working Paper 35.

Eamets, R. (1994), Labour Market and Employment Issues of Transition Economies: The Case of Estonia, Communist Economies & Economic Transformation, 6 (1), 55-73.

Eamets, R (2012), Labour Market in Estonia: Responding to the Global Finance Crisis, CESifo DICE Report, 10 (2), 34-39.

Eamets, R. (2001), Reallocation of Labour during Transition, Disequilibrium and Policy Issues, The Case of Estonia, Dissertatsiones Rerum Oeconomicarum Universitatis Tartuensis (PhD Thesis in Economics), 5, Tartu University Press.

Eamets, R., U. Varblane and K. Sõstra, K. (2003), External Macroeconomic Shocks and the Estonian Economy: How Did the Russian Financial Crisis affect Estonian Unemployment and Foreign Trade?, Baltic Journal of Economics, 3 (2), 5-24.

Edwards, S. and R. Susmel (2001), Volatility Dependence and Contagion in Emerging Equity Markets, NBER Working Paper 8506.

Eichengreen, B. and T. Bayoumi (1996), Is Asia an Optimum Currency Area? Can It Become One? Regional, Global and Historical Perspectives on Asian Monetary Relations, Center for International and Development Economic Research Working Paper C96/081, University of California Berkeley.

Eichengreen, B., G. Hale and A. Mody (2008), Financial Contagion, en.wikipedia org/wiki/ Financial_Contagion

Eichengreen, B. and P. Luengnaruemitchai (2004), Why Doesn't Asia Have Bigger Bond Markets?, NBER Working Paper 10576.

Estanislao, J.P., G.N. Manzano and G.O. Pasadilla (2000), The Asian Financial Crisis: An East Asian Perspective, Asian-Pacific Economic Literature, 14 (1), 23-35.

European Commission (2012), Scoreboard for the Surveillance of Macroeconomic Imbalances, Occasional Papers 92, Brussels.

European Commission (2011), Scoreboard for the Surveillance of Macroeconomic Imbalances: Envisaged Initial Design, Comission Staff Working Paper, SEC (2011) 1361, Brussels.

Forbes, K. J. and R. Rigobou (2002), Financial Contagion, en.wikipedia.org/wiki/Financial_Contagion

Franco-German Ministerial Council (2010), Monitoring Economic Performance, Quality of Life and Sustainability, Joint Report, http://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/Expertisen/2010/ex10_en.pdf

Frederico, P., C.A. Vegh and G. Vuletin (2012), Macro-prudential Policies over the Business Cycle, www.bde.es/webbde/gap/secciones/solaprensa/Vegh¬_Carlos.pdf

Furceri, D. and A. Zdzienicka (2012), How Costly Are Debt Crises?, Journal of International Money and Finance, 31, 726-742.

Gaul, C.-M. (2008), Konjunkturprogramme in der Geschichte der Bundesrepublik Deutschland: Einordnung und Bewertung der Globalsteuerung von 1967 bis 1982, Info Brief des wissenschaftlichen Dienstes des Bundestages.

Geier, A. (2011), The Debt Brake – the Swiss Fiscal Rule at the Federal Level, FFA Working Paper 15.

Ghosh, A.R., M. Chamon, C. Crowe, J.I. Kim and J.D. Ostry (2009), Coping with the Crisis: Policy Options for Emerging Market Countries. IMF Staff Position Note, 23 April, SPN/09/08.

Gnan, E. (2009), Energy, Commodity and Food Price Volatility: What Policy Responses?, CESifo Forum, 10 (1), 21-28.

Goldfajn, I. and R.O. Valdes (1997), Are Currency Crises Predictable?, IMF Working Paper WP/97/159.

Goldstein, M., G. Kaminsky and C. Reinhart (2000), Assessing Financial Vulnerability: An Early Warning System for Emerging Markets, Institute for International Economics, Washington DC.

Gordon, P., J.E. Moore, J. Park and H.W. Richardson (2010), Short-Run Economic Impacts of Hurricane Katrina (and Rita), CESifo Forum, 11 (2), 73-79.

Hahm, J.H. and F.S. Mishkin (2000), The Korean Financial Crisis: An Asymmetric Information Perspective, Emerging Markets Review, 1, 21-52.

Hall, J.B. and U. Ludwig (2006), Economic Convergence across German Regions in Light of Empirical Findings, Cambridge Journal of Economics, 30, 941-953.

Hallegatte, S. and V. Przyluski (2010), The Economics of Natural Disasters, CESifo Forum, 11 (2), 14-24.

Hansson, A. (1997), Macroeconomic Stabilization in the Baltic States, in: Blejer, M.J. and M. Skreb (eds.), Macroeconomic Stabilization in Transition Economies, Cambridge University Press, Cambridge.

Herring, R.J. and N. Chatuspripiak (2000), The Case of Missing Market: the Bond Market and Why It Matters for Financial Development, Paper presented at the Asian Development Bank.

Houben, A., J. Kakes and G. Schinasi (2004), Towards a Framework for Financial Stability, De Netherlandische Bank Occasional Paper 2 (1), http://www.dnb.nl/binaries/OS%20Vol-2%20Nr-1_tcm46-146641.pdf

International Monetary Fund, (2006), Financial Soundness Indicators – Compilation Guide, Washington DC.

Johnson, C. (1998), Economic Crisis in East Asia: The Clash of Capitalisms, Cambridge Journal of Economics, 22, 653-661.

Jordà, O., M. Schularick and A.M. Taylor (2011), When Credit Bites back: Leverage, Business Cycles, and Crises, NBER Working Paper 17621.

Kaminsky, G., S. Lizondo and C. M. Reinhart (1998), Leading Indicators of Currency Crises, IMF Staff Papers, 45, 1-48**.**

Kaminsky, G.L. and C.M. Reinhart (1999), The Twin Crisis: The Causes of Banking and Balance-of-Payment Problems, American Economic Review, 89, 473-500.

Kannan, P., A. Scott and M.E. Terrones (2013), From Recession to Recovery: How Soon and How Strong, in: Claessens, S. M.A., Kose, L. Laeven and F. Valencia (eds.), Financial Crises, Consequences, and Policy Responses (forthcoming).

Kloten, N. (1976), Erfolg und Misserfolg der Stabilisierungspolitik (1969-1974), in: Deutsche Bundesbank (ed.), Währung und Wirtschaft in Deutschland 1876-1975, Frankfurt am Main, 643-690.

Koo, J. and S.L. Kiser (2001), Recovery from a Financial Crisis: The Case of South Korea, Economic & Financial Review, 4, 24-36, http://www.dallasfed.org/assets/documents/research/efr/2001/efr0104c.pdf

Kopits, G. (2004), Rules-Based Fiscal Policy in Emerging Markets, Washington DC.

Kron, W. (2010), Natural Catastrophes: Do We Have to Live with Them?, CESifo Forum, 11 (2), 3-13.

Krugman, P. (1979), A Model of Balance-of-Payments Crises, Journal of Money, Credit and Banking, 11, 311-325.

Laeven, L. and F. Valencia (2008), Systemic Banking Crises: A New Database, IMF Working Paper 08/224.

Lagunoff, R. and S.L. Schreft (2001), A Model of Financial Fragility, Journal of Economic Theory, 99, 220-264.

Lane, R.P. (2003), Business Cycles and Macroeconomic Policy in Emerging Market Economies, International Finance, 6, 89–108.

Lee, J.L. and C. Rhee (2007), Crisis and Recovery: What We Have Learned from the South Korean Experiences?, Asian Economic Policy Review, 2, 146-164.

Lowell, J., C.R. Neu and D. Tong (1998), Financial Crisis and Contagion in Emerging Market Countries, Rand Corporation, Santa Monica.

Mazzocchi, M., F. Hansstein and M. Ragona (2010), The 2010 Volcanic Ash Cloud and Its Financial Impact on the European Airline Industry, CESifo Forum, 11 (2), 92-100.

Megalogenis, G. (2012), The Australian Moment, Penguin Books, New York.

OECD (2003), OECD Economic Surveys: Australia, Volume 2003/4, March, Paris.

OECD (2003), OECD Economic Surveys: Canada, Volume 2012, March, Paris.

Okuyama, Y. (2010), Globalization and Localization of Disaster Impacts: An Empirical Examination, CESifo Forum, 11 (2), 56-66.

Ozkan, F.G. and D.F. Unsal (2012), Global Financial Crises, Financial Contagion and Emerging Markets, IMF Working Paper WP/12/293.

Pesenti, P. and C. Tille (2000), The Economics of Currency Crises and Contagion: An Introduction, Federal Reserve Bank of New York Economic Policy Review, 6 (3), 3-16.

Pettis, M. (2001), The Volatility Machine: Emerging Economies and the Threat of Financial Collapse, Oxford University Press, Oxford.

Pisani-Ferry, J. (2012), The Euro Crisis and the New Impossible Trinity, http://www.bruegel.org/publications/publication-detail/publication/674-the-euro-crisis-and-the-new-impossible-trinity/.

Pomfret, R. (2000), Trade Policy in Canada and Australia in the Twentieth Century, Australian Economic History Review, Special Issue: Canada and Australia in the International Economy, 40, 114-126.

Projektgruppe Gemeinschaftsdiagnose (2013), Deutsche Konjunktur erholt sich – Wirtschaftspolitik stärker an der langen Frist ausrichten, Frühjahr 2013, Halle, chapter 5.

Romp, W. and J. de Haan (2007), Public Capital and Economic Growth: A Critical Survey, Perspektiven der Wirtschaftspolitik, 8, 6-52.

Saavalainen, T. (1995), Policy Experiences and Issues in the Baltics, Russia, and Other Countries of Former Soviet Union, IMF Occational Papers 133.

Sachverständigenrat (1991), Jahresgutachten 1991/92, Die wirtschaftliche Integration in Deutschland. Perspektiven - Wege - Risiken, Wiesbaden.

Sachverständigenrat (2008), Jahresgutachten 2008/09, Die Finanzkrise meistern - Wachstumskräfte stärken, Wiesbaden.

Sachverständigenrat (2009), Jahresgutachten 2009/10, Die Zukunft nicht aufs Spiel setzen, Wiesbaden.

Sachverständigenrat (2009), Sondergutachten: Deutschland im internationalen Konjunkturzusammenhang, Wiesbaden.

Shin, I. and J.H. Hahm (1998), The Korean Crisis - Causes and Resolution, Paper presented at the East-West Center/Korea Development Institute Conference on the Korean Crisis, 8 August, Honolulu.

Sinn H.-W. (2002), Germany's Economic Unification: An Assessment after Ten Years, Review of International Economics, 10, 113–128.

Srinivasan, T.N. (2009), Real and Financial Sector Linkages and Global Economic Crises: India and China, http://www.isb.edu/ISBWEB/ISBCMS/File/TNSrinivasans.pdf.

Swiss National Bank (2013), Counter Cyclical Capital Buffer: Proposal of the Swiss National Bank and Decision of the Federal Council, Press Release.

Taylor, J.B. (2009), The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong, NBER Working Paper 14631.

Taylor, J.B. (2011), An Empirical Analysis of the Revival of Fiscal Activism in the 2000s, Journal of Economic Literature, 49, 686-702.

Ten Cate, A. and S. Laryea (2005), Reform Experiences of Asian-Pacific Countries: The Case of Canada, OECD, http://www.oecd.org/employment/emp/37788394.pdf

Tovar, C., M. Garcia-Escribano and M.V. Mart (2012), Credit Growth and the Effectiveness of Reserve Requirements and Other Macro-prudential Instruments in Latin America, IMF Working Paper 12/142.

VoxEU (2013), Austerity: Too Much of a Good Thing?, http://www.voxeu.org/epubs/cepr-reports/austerity-too-much-good-thing

Wade, R. (1998), From Miracle to Cronyism: Explaining the Great Asian Slump, Cambridge Journal of Economics, 22, 693-706.

Weisbrot, M (2007), Ten Years After: The Lasting Impact of the Asian Financial Crisis, Center for Economic and Policy Research, www.cepr.net/documents/publications/asia_crisis_2007_08.pdf

Appendix

Appendix 1
Some Brief Remarks on Food and Energy Crises, and Natural and Man-made Disasters

(a) Food and Energy Crises

In parallel to the recent 'economic' crises mentioned above, world *food prices* increased during the period of 2007 and 2008,[51] creating another global crisis and causing economic instability in developing and developed nations, as well as in emerging economies. Triggered by the economic crisis, food prices fell for a brief period in 2009, but quickly started to rise again to reach a 2010 level that even exceeded the prices seen in 2008. The systemic causes of worldwide increases in food prices continue to be the subject of public debate. One of the major causes of the food price increase is droughts in grain-producing nations. Price volatility and uncertainty about food security also increased because large export countries have temporarily limited their exports. Oil price increases also caused general escalations in the costs of fertilizers, food transportation, and industrial agriculture. Root causes may be the increasing use of biofuels in developed countries ('food vs. fuel'). These factors, accompanied by falling world-food stockpiles, contributed to the recent worldwide rise in food prices.

In July 2008 the *price of a barrel of crude oil* peaked at around US$ 147, compared to around US$ 30 during 2003 and US$ 60 in August 2005 creating a short-term *energy crisis*. The major reasons for such a sudden price increase were the weakness of the US dollar, a decline in world-wide petroleum reserves combined with the worries over peak oil, on-going political tension in the Middle East, oil price speculation, etc. The recent global recession rapidly decreased the demand for energy in late 2008, causing oil prices to plummet to US$ 32 in December 2008.

As countries develop, industry, rapid urbanization and higher living standards drive up energy use, and most frequently that of oil. Emerging economies like China and India are quickly becoming large oil consumers. China has seen oil consumption grow by 8% on an annual basis since 2002, doubling its consumption within 10 years between 1996 and 2006. India's oil imports are expected to more than triple from 2005 levels by 2020, rising to 5 million barrels per day.[52] Furthermore, major oil exporting countries (like Indonesia,[53] Mexico, Iran and Russia) are rapidly developing; and because they are using more oil domestically, less oil may be available on the international market. This

[51] FAO: http://www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/

[52] US Energy Information Administration, International Energy Statistics, http://www.eia.gov/countries/data.cfm; and US Energy Information Administration, "China and India: A Rage for Oil", *Business Week* of 25 August 2005.

[53] Indonesia is now a net importer of oil.

effect could significantly reduce the oil available for trade and cause prices to rise further.

According to Gnan (2009), *energy and food prices* have also partly triggered the current economic crisis through the following channels: firstly, the marked terms of trade deterioration in industrialised, oil and food-importing countries affected conditions for production and dampened private household purchasing power and demand. Secondly, against the background of sharply rising inflation rates, signs of indirect price effects on other sectors of the economy and incipient second-round effects on wages, central banks had to tighten monetary policy in order to avoid wage-price spirals and an upward de-anchoring of inflation expectations. This, in turn, accelerated a bursting of various asset price bubbles, which had been building up since the turn of the millennium.

(b) Natural and Man-made Disasters

Nowadays not only economic, but also environmental systems are under stress worldwide. The impact of climate change has recently become more evident as temperature increases and the more frequent occurrence of extreme weather events (like earthquakes, tsunamis, volcano eruptions, flooding, storms and hail) loom on the horizon. In this context, the environmental challenges require both structural changes and strategic *investments in the global context.* According to the Global Risk Report 2013, which also identifies the *failure of climate change adaptation* and *rising greenhouse gas emissions,* more than 250 million people each year are affected by such natural disasters. The annual number of natural disasters has more than doubled since 1980 as a result of climate change, population increase and rapid urbanization.[54] The number of man-made disasters (like wars, terrorist attacks, etc.) worldwide has also been reduced very little in recent years, and such disasters have continued to cause pollution, kill people, damage property and reduce investment. Repeatedly both disaster types seriously affect infrastructure and physical capital, employment, farm and industrial production, energy and other aspects of an economy (including health-care sectors), typically producing long-lasting effects that perpetuate underdevelopment. The severity of these negative effects on the larger economy depends on various factors, including the scope and characteristics of disaster itself, the affected area and the capacity of national and regional institutions to provide relief and begin efforts to rebuild.

[54] WEF, http://www.weforum.org/issues/disaster-management and also WEF, http://www3.weforum.org/docs/WEF_GlobalRisks_Report_2013.pdf
For further information on the economic effects of natural catastrophe - see Kron (2010); Hallegatte and Przyluski (2010); Cavallo and Noy (2010); Okuyama (2010); Gordon et al. (2010); Mazzocchi et al. (2010).

Appendix 2
Policy Actions by the Asian Crisis-Afflicted Countries (A comparison of South Korea, Thailand and Indonesia)

The South Korea, Thailand and Indonesia, who availed of the IMF rescue package, had to undertake the following general policy actions:

- Reduce their growth rates;
- Keep short-term interest rates relatively high;
- Introduce measures to keep inflation low.
- Reduce the government budget.
- Give foreign investors open access to their financial markets;

In addition, each country had to take specific policy actions. South Korea, for example, took the following additional policy actions. It:

- Achieved a current account surplus;
- Pursued a flexible exchange rate policy;
- Increased its foreign reserves to US$ 30 billion by 1998;
- Provided assistance to small and medium sized companies;
- Achieved a small fiscal surplus;
- Established proper control of the banking system;
- Implemented bank restructuring;
- Ensured greater transparency in financial statements;
- Introduced a new bankruptcy law; and
- Introduced a new labour law providing labour market flexibility.

The additional specific policy actions in terms of rehabilitation of the financial sector undertaken by South Korea, Thailand and Indonesia are stated below.

South Korea

1. Control over two commercial banks, namely Korea First Bank and Seoul Bank, was taken by the government to recapitalize and restructure them through mergers with other institutions or through outright sales to foreigners;
2. The government has asked all merchant banks to submit rehabilitation plans, particularly with respect to solvency and liquidity. About 50% of these banks were suspended due to their lack of potential rehabilitation;
3. A Korean Asset Management Corporation was established to buy bad quality assets without recourse to distressed financial institutions at a price reflecting their actual realizable values;
4. Should a financial institution be closed, the shareholders and uninsured creditors will not be compensated, but insured creditors will be taken care of; and

5. The government had a guaranteed deposit insurance scheme for all depositors prior to the crisis. These blanket guarantees should be replaced and only small depositors should be protected.

Thailand

1. All commercial banks had to adopt move strict loan classification and provisioning rules in terms of non-performing loans;
2. Regulations were introduced whereby the inability to meet capital requirements results in a capital reduction and management of the bank is taken over by the authorities;
3. The government had to suspend 56 out of 91 finance companies with shareholder equity and sub-ordinated debt written down and depositors' claims were restructured. The Financial Institutions Development Fund (FIDF), a government-owned body, had to take care of the claims of the depositors and creditors of the remaining finance companies; and
4. The FIDF was prohibited from using any public funds to recapitalize finance companies. The liquidity support could be provided as loans at a high interest rate.

Indonesia

1. The government was not allowed to provide any financial support to private sector non-financial corporations;
2. A deposit insurance scheme was introduced;
3. All insolvent banks were closed. Shareholders, creditors and large depositors were not compensated and their claims were resolved through bankruptcy laws. Small depositors with deposits below US$1,000 were compensated;
4. The government undertook to downsize the state and regional development banks and gradually privatize them. The liquidity loans provided by the government were collateralized according to stringent conditions, including a punitive interest rate; and
5. The government promised to rehabilitate weak banks either through mergers or on their own.

Appendix 3
Basel III Framework

Source: Bank for International Settlements.

Appendix 4
Ad Monitoring Systems

4.1 The EU/Eurostat Scoreboard indicators

The external imbalances and competitiveness comprise the following:

(1) three-year average of current account balance as a percent of GDP (with an indicative threshold of between plus 6 percent and minus 4 percent);
(2) net international investment position as a percent of GDP (minus 35-percent lower quartile);
(3) three-year percentage change in real effective exchange rate (between plus and minus 5 percent);
(4) five-year percentage change in export market shares (minus 6-percent lower quartile);
(5) three-year percentage change in unit labor costs;
(6) the internal imbalances comprise the following:
year-on-year change in deflated house prices (plus 6-percent upper quartile);
(7) private sector credit flow as a percent of GDP (plus 15-percent upper quartile);
(8) private-sector debt as a percent of GDP (160-percent upper quartile);
(9) general government debt as a percent of GDP (60 percent) and
(10) three-year average of the unemployment rate (10 percent).

This appendix provides a very brief overview of the rationale behind the indicators. For a detailed description of the economic meaning of the indicators and considerations behind transformations and thresholds, see European Commission (2012 and 2011). The indicators can be described as follows:[55]

- **Current account balance**: The current external balance/current account balance is the major driver of net lending/borrowing of the economy as a whole and thereby provides important information about the economic relations of the country with the rest of the world. A high current account deficit indicates that the economy is borrowing, and typically is importing in excess of its exports. Current account deficits can be a sign of an excessive imbalance if, for instance, the volume of borrowing is such that it leads to an unsustainable external debt position.
- **Net international investment position**: The net international investment position records the net financial position (assets minus liabilities) of the domestic sectors of the economy versus the rest of the world. It provides an aggregate view of the net external position of a country and is also frequently used in economic analysis and research, focusing on external vulnerability of countries and the risk of crisis. As it is the stock counterpart to the current account balance, it allows for a stock-flow analysis of external positions.

[55] European Commission (2012).

- **Real effective exchange rate**: The scoreboard includes a measure of the real effective exchange rate based on consumer prices in order to capture the drivers of persistent changes in the price and cost competitiveness of an economy relative to its major trading partners. In contrast to assessing relative competitiveness through relative production costs, this indicator accounts for broader price developments and thus casts a more comprehensive picture of global price pressure on domestic producers in a medium-term perspective. Since it is closely related to the terms-of-trade concept, this indicator also exemplifies the attractiveness of imports over domestic production.
- **Export market shares**: This indicator aims to capture structural losses in competitiveness. A country might lose shares of the export market not only if exports decline, but most importantly if its exports do not grow at the same rate as world exports and its relative position at the global level deteriorates.
- **Unit labor costs**: The scoreboard incorporates a nominal unit labour costs (ULC) indicator with a view to monitoring developments in price and cost competitiveness across EU member states. The ULC measures the average cost of labour per unit of output. A rise in an economy's nominal unit labour costs corresponds to a rise in labour costs that exceeds the increase in labour productivity. This can potentially be a threat to an economy's cost competitiveness, if other costs (e.g. cost of capital) are not adjusted to compensate.
- **Deflated house prices**: The rationale for including an indicator on housing price developments is that large movements in real asset markets have been traditionally associated with a number of economic crises and have also figured prominently in the recent financial crisis. Monitoring real asset prices is important as booms and busts in housing markets affect the real economy through a variety of channels.
- **Private sector credit flow**: Empirically, high credit growth is found to be associated with higher crisis incidence. Credit growth is a proxy of banking system vulnerability, as rapid credit expansion is likely to be associated with a decline in lending standards.
- **Private-sector debt**: The latest financial crisis pointed to the fact that excessively high private sector debt implies risks for growth and financial stability and increases vulnerability to economic shocks.
- **General government debt**: A high level of general government debt increases the vulnerability of an economy and weakens its scope for manoeuver to deal with crisis situations.
- **Unemployment rate**: High unemployment points towards a potential misallocation of resources (mismatch) and a general lack of adjustment capacity in the economy.

4.2 IMF Financial Soundness Indicators

The Executive Board of the IMF identified a set of indicators of financial indicators and encouraged countries to compile these indicators. The IMF promotes the cross-country comparability of these data and has published a compilation guide. The list differentiates between a core set and an encouraged set of indicators. The core set is seen as central to any analysis of the health and soundness of a national financial system.

Financial Soundness Indicators: The Core and Encouraged Sets

	Core Set
Capital adequacy	Regulatory capital to risk-weighted assets
	Regulatory Tier I capital to risk-weighted assets
	Nonperforming loans net of provisions to capital
Asset quality	Nonperforming loans to total gross loans
	Sectorial distribution of loans to total loans
Earnings and profitability	Return on assets
	Return on equity Interest margin to gross income
	Noninterest expenses to gross income
Liquidity	Liquid assets to total assets (liquid asset ratio)
	Liquid assets to short-term liabilities
Sensitivity to market risk	Net open position in foreign exchange to capital
	Encouraged Set
Deposit takers	Capital to assets
	Large exposures to capital
	Geographical distribution of loans to total loans
	Gross asset position in financial derivatives to capital
	Gross liability position in financial derivatives to capital
	Trading income to total income
	Personnel expenses to noninterest expenses
	Spread between reference lending and deposit rates
	Spread between highest and lowest interbank rate
	Customer deposits to total (non-interbank) loans

	Foreign-currency-denominated loans to total loans
	Foreign-currency-denominated liabilities to total liabilities
	Net open position in equities to capital
Other financial corporations	
	Assets to total financial system assets
	Assets to GDP.
Nonfinancial corporations sector	
	Total debt to equity
	Return on equity
	Earnings to interest and principal expenses
	Net foreign exchange exposure to equity
	Number of applications for protection from creditors
Households	Household debt to GDP
	Household debt service and principal payments to income
Market liquidity	Average bid-ask spread in the securities market
	Average daily turnover ratio in the securities market
Real estate markets	Real estate prices
	Residential real estate loans to total loans
	Commercial real estate loans to total loans.