FINANCIAL CRISIS:

INSTITUTIONS AND POLICIES

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1 Core versus Periphery in the Recent Recession as Compared to the Great Depression

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1.1 Introduction and Outline

The focus of this chapter is to compare the spread of the Recent Crisis across regions and to compare the pattern this time round to that in the Great Depression in the nineteen thirties. It is too early to make a final analysis for at least four reasons: (i) the crisis has not ended in all regions, (ii) unsolved problems which led to the crisis or which made countries more vulnerable (to financial shocks, external and fiscal imbalances; regulatory failures) still persist, (iii) new problems have been added during the crisis (public deficits, unemployment) and (iv) the policy reaction in the exit phase remains unknown. Nevertheless, some tentative conclusions are possible. These are specifically interesting if compared to those hypotheses and predictions at the start or during the first phase of the crises. There are at least three interesting hypotheses for which we can offer tentative answers.

- First the hypothesis that this crisis could become as deep as the Great Depression;
- Second the "gravity hypothesis" that the crisis should have its deepest impact in the economy in which it started (and with decreasing impact according to distance);
- Thirdly the "core-periphery hypothesis" that economic crises always have a stronger impact on the periphery (as marginal suppliers or suppliers of raw material, food) as compared with the core of the world economy.

We use a data set made available by WIFO to compare the activity for industrialized countries for both crises and enlarge the WIFO Long-term Database for the Recent Crisis with the standard data sets by the IMF, Oxford, and Eurostat (Ameco). Section 2 summarizes the causes of the Recent Crisis according to provide some understanding of the author's point of view. Section 3 presents general stylized facts on the comparison of the depth of the crisis according to different activity indicators, following Aiginger (2010). Section 4 describes the differences in the depth of the crises, between the US (the originator), Western Europe (defined as EU-15), the New Member Countries (defined as EU-10; without Malta and Cyprus), South America (defined as Latin America from Mexico to South America proper) and Asia. Where possible we relate the experience in the regions to the experience in the nineteen thirties. Section 5 summarizes the differences between industrialized countries, non-industrialized countries and EU-10 and presents caveats; Section 6 summarizes the whole chapter.

1.2 The Recent Crisis: Causes and Transmission

i. The Trigger

The Financial Crisis had its origin in the "subprime crisis" in the United States. Credits were given to house owners without checking their ability to pay back the credits. Since property prices had been soaring for more than a decade, rising property values were accepted as sufficient collateral for banks and other financial institutions. Economic policy backed this practice, with the aim that everybody should be able to have affordable housing, including immigrants and people on low incomes and even those without continuous employment records. People accepted the offers of credit since installments were delayed, with low interest payments over the first few years. If problems came up, the annuities or interest rates could be covered by taking on a new credit, since the house prices had risen in the meantime thus providing the basis for this higher credit. In the worst case scenario the debtor could simply return the keys, since credits were connected to the property, not the individuals. Risks for the bank were "outsourced" (distributed), since credits were bundled into mortgage backed securities and sold to other institutions (from hedge funds to government agencies). Rating agencies helped to slice these securities into risk classes and then to evaluate the risk of the bundles. If the securities were still too risky they were re-bundled with other securities, or insurance was provided etc. Many people knew this system could not be sustainable, but nobody knew how long it would work and the actual extent of the risks. The subprime market for US-houses was,

however, only the tip of the iceberg and it could not have caused the whole financial system to explode in the manner it did if there had not been deeper rooted problems[1].

ii. *Three causes*

The deeper rooted problems behind the Recent Crisis can be classified into three different types of problem – macroeconomic, microeconomic and regulatory failure (see Aiginger, 2009). One macroeconomic problem was the disequilibria between two of the main economies in the world: the large trade surpluses of China (and oil and raw material exporting countries) on the one hand and the triple deficits of the US (in trade, savings, and public budgets). The surplus countries did not want to allow their currency to appreciate; the US did not need to depreciate since capital inflow maintained to be large. The second macroeconomic problem was that the US-Fed had tried to prevent a recession on two occasions namely after the dot-com bubble and then after the terror attack on September 11th. It continued this expansionary monetary policy longer than can be regarded as optimal by hindsight. The result of the disequilibria plus the monetary policy was an oversupply of money looking for investment opportunities and investors who were gradually taking more and more risks. On the microeconomic level innovations in the financial sector provided these investment opportunities by bundling credits, insuring risk, increasing speculation, betting on falling and rising prices with or without being engaged in or acquainted with the business. Shortages of raw materials and oil, and emerging economies provided new investment opportunities for speculators. The diversity of investments and new products created the euphoric notion that high, two digit yields were feasible. They did in fact exist under specific circumstances in some countries and for some products. Specifically profitable were high leveraged products in which a narrow asset base was used to create a large amount of credit. If leverage ratios looked too high, new forms of assets (equity capital) were created or liabilities were shifted to conduits and other special institutions where the requirements for own capital were not monitored. The reward systems for managers were slanted towards bonuses and these bonuses were based on short-run performances. Financial regulation should prevent just this series of events. High and incalculable risks and too much leveraging should be prevented. Financial innovation should be tested, since it is well known that waves of optimism are a characteristic of financial markets. On the one hand the philosophy of regulation had changed. Despite past experience markets were assessed as rational and self correcting. More specifically professional investors were considered to be able to assess risks. Mathematical risk models were intended to make these assessments more and more precise. Regulation was very much segmented into separate markets in the US. Regulation focused on the national perspective and on cross section risks in "normal times" rather than on systemic risks in all countries and was more or less nonexistent in some emerging economies.

[1] Subprime credits are estimated to amount to 1% of US GDP and to about 3% of total US debt (see Agarwal – Ho, 2007).

iii. *Transmission to the real economy*

The rest of the story is already well known. After the subprime market burst, several banks (lenders, insurances) failed and were rescued between mid 2007 and mid 2008. But uncertainty lingered around for nearly one year (with little impact on real growth or more precise hidden impact due to high inflation). In September 2008 Lehman Brothers fell into turmoil and was not rescued. Within a few days the credit market broke down, everybody started fire sales, trying to rescue their own firm thereby merely aggravating the problem for other firms. Orders were cancelled, stocks depleted and production fell. The worst crisis since the Great Depression of the nineteen thirties had started, and spread with surprising speed and synchronization across the world. For several months the speed in the fall of world trade, industrial production and stock markets was similar to that in the Great Depression (see Eichengreen – O'Rourke, 2009; Aiginger, 2010). The crisis spread across the world at break neck speed.

1.3 Comparing the Depth of the Two Crises for Industrialized Countries

There are many statements and assessments available comparing the Recent Crisis and the Great Depression, but there are surprisingly few studies which do this with reference to hard facts, especially over a broad range of indicators. Eichengreen and O'Rourke (2009) presented the first hard data which provided quarterly and even monthly data on industrial production, world trade and stock prices. They concluded in March 2009 that "The world is currently undergoing an economic shock every bit as big as the Great Depression shock of 1929–30". This statement became very important since it was extremely well documented by empirical facts. The Vox column in which it was presented shattered all previous

records, with 100,000 hits within a week, the article was sent to me every week by at least one friend, who shared this view. A historian who had turned policy advisor, Christine Romer, now economic advisor to Barack Obama, may be cited as someone who made the opposite assessment at approximately the same time. She wrote in early March 2009 that the current recession "... pales in comparison with what our parents and grandparents experienced in the 1930s" (Romer, 2009, p. 1). None of the big organizations (OECD, IMF, European Commission) forecasting and analyzing economic growth worldwide had a data set available covering both periods. Data exist at different universities and research institutions, but mostly either only covering a few indicators or a few countries. Other data sets concentrate on benchmark years and did not extend to more recent years. Finally WIFO provided a consistent "Long-term data set" covering seven macroeconomic and ten policy indicators, covering both crises. It focuses on ten industrialized countries and reports or calculates data for the world economy. The data makes use of GDP estimates by Maddison, Mitchell, Groningen for the Great Depression, and Oxford Economic Forecasting and IMF data for the Recent Crisis. The data set is used in Aiginger (2010) to provide four stylized facts; the facts are presented based on the consensus amongst economists that the Recent Crisis leveled off in mid 2009 for production but will continue for unemployment well into 2010. This is currently the consensus view, see for example the IMF forecast for growth of the world economy for 2010 of 3% to 4%. A decline in growth rates in late 2010 or 2011 would not change the main results.

iv. *Stylized Fact 1: less deep*

Transmission to the real economy There is clear cut evidence, that the Recent Crisis did not reach the dimensions of the Great Depression. This holds true for all seven activity indicators presented in Table 1[2]. There are especially large differences for real growth, employment and unemployment. The GDP of industrialized countries dropped by 10% during the Great Depression (1929–1932), this time by 4.4% for annual data and 5.4% for quarterly data. Employment decreased by 13% and this time by 3.5%. Unemployment increased by 13 percentage points (up to 20%) in the Great Depression and by 3 percentage points (up

[2] Table 1 refers to un-weighted averages across countries. Using weighted data would accentuate the difference between the two crises, since the largest economy the US had the largest drop in GDP in the Great Depression (resulting in a drop of weighted GDP of 17% in the Great Depression vs. 3.4% in the Recent Crisis). This time the loss in output was less in the US than in most other industrialized countries.

	Great Depression	Recent Crisis	
	1932/1929	2009/ peak 2007/2008	Trough 2009/ peak 2007/2008
	Annual data		Quarterly data
	Percentage change		
GDP real1)	-10.0	-4.0	-5.4
Manufacturing	-23.2	-20.2	-23.0
Exports	-58.5	-20.9	-25.7
Stock market²)	-53.3	-44.9	-53.6
Employment	-17.3	-2.5	-1.6
Unemployment rate 1932 and 2010	19.6	9.2	
Unemployment rate; change³)	13.2	3.1	2.0
Inflation (CPI)	-12.8	1.0	-0.1

Table 1 The depth of the two crises: Ten industrialized countries

1) At PPP.
2) Unweighted average over US, FR, DE, UK.
3) Absolute difference 1929 to 1932 vs 2008 to 2010. Ten industrialized countries: Austria, Germany, Belgium, Spain, France, Finland, Sweden, United Kingdom, USA, Japan

Source: WIFO Long-term Database (see Aiginger, 2010)

to 9%) in the Recent Crisis. Considerable differences for exports and prices can also be shown. The smallest difference was for manufacturing output in real terms. The difference as to stock market indices to some extent depends on whether we use weighted or un-weighted indices (since the decline of stock market prices was considerably less in the Recent Crisis for the US but not for other countries). There had been severe deflation in the nineteen thirties. This time round there were a few but very short episodes where the overall price level declined. Taking GDP as an overall measure for the depth of the Recent Crisis the drop in activity for industrialized countries was about half as strong as during the Great Depression. If we extend the analysis to all countries, world GDP declined by only 1% in 2009 (using annual figures). Viewed from this perspective the Recent Crisis "pales in comparison" to the Great Depression, supporting Romer's assessment.

v. *Stylized Fact 2: more synchronized at the start*

Economic activity was more synchronized across countries in the build-up period to the Recent Crisis, and also during the first stage of the crisis itself. The Great Depression had two epicenters (Germany/Austria and the USA). This time the crisis had its origin in the US, but almost all

industrialized countries experienced somewhat parallel declines in economic activity during the first three quarters of the crisis (Aiginger, 2010) The measures of dispersion across countries for all activity indicators are lower in this period than during the starting phase of the Great Depression This is unlikely to be the case for the exit phase, since growth rates are very different across regions in 2010.

vi. Stylized fact 3: for three quarters as fast as the Great Depression (for some indicators)

The decline in the first nine months was stronger in the Recent Crisis for manufacturing and trade than during the Great Depression, going some way to supporting the view that this crisis had the potential to follow in the footsteps of the Great Depression. This was never the case for GDP, employment and unemployment The share of the decline in the first year, relative to the overall decline for the prolonged crisis, was small in the Great Depression. By contrast this time, most, if not all, of the decline happened in the first nine months. The larger overall drop in activity in the Great Depression was the result of its length. The downturn in the stock market, in world trade, and finally the bank failures in the Great Depression came in different waves spread over several years rather than simultaneously

vii. Stylized Fact 4: economists had learned their lesson

Economic policy, specifically monetary policy and fiscal policy reacted quite differently in each crisis (Aiginger, 2010) This was partly due to lessons learned from the Great Depression itself. During the Great Depression fiscal policy was restrictive, at least during the first three years. It tried to keep budgets balanced and counteracted the automatic stabilizers by increasing tariffs and taxes and by reducing expenditure. In the Recent Crisis automatic stabilizers were a priori larger. Their effect was amplified by stimulus programs. Bank failures and the breakdown of the credit market were combated through the use of guarantees, recapitalization or nationalization. Furthermore, all these measures were implemented expeditiously and sometimes with coordination at an international level The same difference in activity holds true for monetary policy. In 1929 interest rates were first increased, and then cautiously reduced. High deflation turned the lower nominal rates into high real rates Money supply declined over several years for many countries (at least in nominal terms). This time monetary policy slashed interest rates towards zero and engaged in traditional and innovative increases

in money supply. Some institutional factors helped There was no gold standard to limit money supply and fewer national currencies to defend due to European monetary integration. The share of services in GDP and that of the government section is larger today in industrialized countries. There was more agreement among economists and more international coordination due to the G7, G20, the IMF, and the World Bank.

1.4 The Spread of the Recent Crisis to Non-Industrialed Countries

Aiginger (2010) concentrated on the industrialized countries. This section tries to analyze the impact of the crisis originating in the US to other regions. We specifically present the GDP development for the US and South America, then for Central and Eastern Europe and finally for Asian countries. If we only analyzed the Recent Crisis, we could draw on many indicators (see Table 4 to Table 6 or *Gligorov et al.*, 2010). However, if we want to compare the Recent Crisis to the Great Depression we have to concentrate primarily on GDP data (see Table 2 and Table 3). World output decreased by only 1% this time (using an annual basis) and some recent calculations indicate it could even be less. In the Great Depression which in most countries lasted three years or more, world output dropped by 10%. At that time the US/Canada and Germany/Austria were the epicenters, with declines of 27% in the US and 16% in Germany The crisis lasted so long since the drop in stock markets, trade and bank failures occurred in stages and economic policy did not mitigate but actually aggravated the crisis.

1.4.1 US and South America

Though the Recent Crisis clearly had its origin in the US, the output loss in the US was, at the end of the day, smaller than that in the euro area, in Japan, and in the ten New Member Countries (EU-10). This holds true for the drop in GDP from its pre-crisis maximum (for annual and quarterly data) and for the recovery phase[3]. The easiest comparison can be made using annual data: 2009 is the only year with a decrease in world economic output: the decrease of GDP was 2.4% for the US, 5.2% for Japan, 4.1% for EU-15 and 3.8% for EU-10[4]. As far as the growth

[3] According to current predictions, i.e. April 2010.
[4] Weighted data for EU-15 and EU-10

forecast for 2010 concerned, predicted growth for the US is larger than the loss in 2009 (2.8% vs. 2.4% respectively).[5] The South American Countries were surprisingly stable in the Recent Crisis. GDP growth did decline by only 0.5% in 2009. Growth is predicted to be 3.6% in 2010. This is a main difference to the Great Depression. Between 1929 and 1932 GDP declined by 15%, much more than the drop in world output or in Europe.

	Great Depression					Recent Crisis			
	1929	1930	1931	1932	1932/1929	2008	2009	2010	2010/2007
	Percentage change								
USA	6.1	-8.9	-7.7	-13.2	-27.0	0.4	-2.4	2.8	0.7
EU-15	3.0	-1.8	-4.9	-2.7	-9.1	0.4	-4.1	0.8	-3.0
EU-10¹)	1.1	-1.9	-3.4	-5.1	-10.1	4.1	-3.8	1.2	1.3
Russia	2.8	5.8	1.9	-1.1	6.7	7.3	-8.9	4.3	2.0
China		1.3	1.0	3.2	5.6	9.6	8.7	9.5	30.5
India	4.2	0.7	-0.7	1.1	1.2	7.1	6.7	7.3	22.6
East Asian Countries²)		-0.6	-0.4	2.9	1.8	6.2	4.9	7.3	19.5
Latin America³)	2.7	-5.1	-6.2	-4.3	-14.7	4.7	-0.5	3.9	8.2
World	3.7	-1.9	-4.2	-4.0	-9.8	3.0	-0.9	3.6	5.7

Table 2 GDP development in main regions

¹) GD: Czechoslovakia, Hungary, Poland, Bulgaria, Romania. CC: Czech Republic, Slovak Republic, Slovenia, Hungary, Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania.

²) GD: China, India, Indonesia, Japan, Philippines, South Korea, Taiwan, Malaysia. CC: China, Hong Kong, India, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand.

³) GD: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, Venezuela. CC: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Panama, Paraguay, Peru, Uruguay.

Source: WIFO Long-term Database (see Aiginger, 2010)

1.4.2 Western Europe

GDP declined by 4.1% in EU-15 in 2009. This decline was larger than that for the US where the crisis had originated, and it followed very slow growth in the previous year. Predictions are different for 2010, but all forecasts for EU-15 are lower than those for the US and much lower than the forecast for world output. Medium-term growth is forecast

[5] This holds also for Latin America. For other regions EU-15, EU-10, Russia the recovery is much weaker than the drop in 2009. Canada pretty much mirrors the development in the US in both crises with a drop in GDP of 24% between 1929 and 1932 and 2.5% in 2009

to be well below previous pre-crisis trends. The crisis specifically hit peripheral countries which either already had high twin deficits (trade and public deficits) or a construction bubble (Spain, Portugal, Greece, Ireland). GDP decline was also strong in Finland, which had surpluses in its public budgets and current accounts. Within the EU-15 the periphery performed worse than the core countries if we combine GDP drop plus budget deficits and unemployment when assessing the impact of the crisis.

1.4.3 Central and Eastern Europe

Let us turn to Central and Eastern Europe.[6] The overall decline in this country group was approximately similar to that of Western Europe or slightly less severe in the Recent Crisis. This came as a surprise, since many analysts had feared that the countries would head towards a crash reminiscent of the East Asian crisis in the late 1990s (*World Bank*, 2010; *Gabritsch*, 2009). Current figures for 2009, which may still be revised a little bit show a decline of 3.8% in GDP for the New Member Countries, as compared to 4.1% for EU-15[7]. Growth had been much higher in the year before the crisis. Growth forecasts for 2010 are slightly lower than for EU-15, but in the most recent IMF forecast even this changed and the IMF predicts growth in Central and Eastern Europe of a few tenths of a percentage points higher than for Western Europe. During the Great Depression the decline in the new member states was also parallel to the decline in the ten industrialized countries, GDP dropped by 10% between 1929 and 1932

The economic performance during the Recent Crisis was rather different across countries. Poland was the only country in Europe in which GDP did not decline even in 2009, and growth is expected in this country to accelerate towards 3% in 2010[8]. Then follows a group of countries in

[6] It matters whether we take an un-weighted average over the countries to assess performance or a weighted one, since the largest economy, Poland, had an exceptional development

[7] This result holds true for GDP weighted data and is dominated by the great performance of its largest economy (Poland). Taking un-weighted data gives a stronger decline for EU-10 countries, this time influenced by the large drop in GDP of the three (relatively small) Baltic countries.

[8] The reasons for the good performance of Poland have yet to be analyzed. Current suggestions for it are (1) the strong devaluation of the currency between mid 2008 and March 2009, (2) the lower export shares and a strong private consumption (fuelled by wage increases and a tax cut which had been made just before the crisis started),

which GDP declined in parallel to Western Europe, namely the Czech Republic (−4.3%), Slovakia (−4.7%) and Bulgaria (−4.7%), and a second group (Hungary −6.4%, Romania −7.1% and Slovenia −7.8%) which were hit a little bit harder.

A real backlash occurred in the Baltic countries where GDP dropped between 14% and 18% in 2009, decline had started in Estonia and Latvia in 2008, and forecasts are negative or flat for 2010. These countries had experienced the strongest growth of all New Member Countires since the mid nineties, with growth rates of about 6% p.a. (1994–2008). By any historical standards real and financial convergence, institutional improvements and fast integration with advanced economies occurred over a very short space of time. The currencies were firmly pegged to the Euro. However, rapid growth had led to high inflation, wages were rising faster than productivity, and a housing bubble was created (and ignored by economic policy). Foreign capital was invested more in the financial sector and services and tilted away from tradable goods thus creating large current account deficits. Fiscal deficits increased, it became difficult to borrow more money and Latvia had to get help from the IMF

The positive experience was that the integration of the Baltic countries (and of EU-10 countries in general) had become so tight that foreign investors did not flee, when financial turbulence hit the region. Nordic-based banks, heavily exposed to the "hard landing" of the Baltic States, remained committed to their subsidiaries in Estonia, Latvia and Lithuania (*World Bank*, 2010), as did the Austrian banks in the other EU-10 countries

Predictions for 2011 are very uncertain, for this region more than for the EU-15, since a phase of rapid convergence stopped very abruptly. For 2011 most forecasters expect a GDP growth for the region, but opinions as to the extent of this growth differ widely (from a range of between 1% and 3% for the region). For some countries negative growth is still predicted (e.g. Baltic countries, Hungary, Bulgaria). It is possible that the recovery comes slightly later in Central and Eastern European Countries, since foreign direct investment will not increase soon and overcapacities e.g. in the building sector will first have to be reduced. For the medium-term the prospects are good for a resumption of the convergence process. However, due to increasing risk premiums and attempts to deleverage in

and (3) limits to speculations of banks and credits in foreign currency by a prudent financial regulatory authority

the financial sector as well as in the real economy convergence may occur at a slower speed, meaning that the difference in growth rates between EU-15 and EU-10 may become smaller. The growth model of EU-10 countries may change in the direction of a higher emphasis on upgrading in national capabilities vs. importing technologies (see *Glogorov et al.*, 2010).

Russia and even more so the Ukraine had a deep recession with drops in GDP of 9% and 15% respectively, the decline of oil prices and the political turmoil in the Black Sea Region as well as domestic problems have aggravated the problems coming from the repercussions of the financial crisis. For 2010 growth is predicted to resume.

The diversity between the Central and Eastern European countries also happened in the Great Depression. On average the GDP declined by 10% between 1929 and 1932 in parallel to the drop in Europe and world GDP. The decline had been strongest in Poland and followed the average for Czechoslovakia and Hungary. Russia had a very small drop in one year (1932) and enjoyed 7% growth between 1929 and 1932. In general it looks as if the level of synchronization was lower. While the first drop in Germany occurred in 1929, Hungary, Czechoslovakia and Poland grew between 1.1% and 3.3% in this year. Bulgaria was the exception during the Great Depression enjoying a remarkable growth of cumulatively 27% between 1929 and 1932.

1.4.4 Asia

The specific role of the Asian countries in the Recent Crisis is shown if we look at China where GDP increased by 9% in 2009 and forecasters expect it to increase by another 10% in 2010. India's growth is not far below this at somewhat less than 7% in 2009 and slightly accelerating in 2010. Indonesia's growth was 4.5%, with the forecast for 2010 at 5.6%. The Asian countries played an important role in limiting the crisis worldwide. Specifically China used a (small) part of its past surpluses for stimulus programs. The dynamic of Asia helped to limit the drop in world trade to 13% in 2009, and boosts world trade by 10% in 2010.

During most of the time between 1929 and 1932 China and India experienced positive growth, albeit at very low rates. The cumulative growth over the three years had been 5.6% and 1.2%.[9] Both countries at that

[9] The annual rates are 1.8% vs. 0.4%.

time were not fast growing economies, and had much less weight in world trade. In South Korea and Indonesia GDP declined by 2.8% and 7.9% respectively. But there is no general pattern to show that the periphery (these countries at that time were periphery) did actually, in general, receive the worst part of the Depression.

Future research will have to explain the impact of the Recent Crisis on different regions and countries if more data become available and if we know more about the exit phase or about echo effects. However, what the data do tend to show is that in neither crisis was there a clear core/periphery pattern. If we define as the core the industrialized countries Western Europe and North America the Great Depression was deepest in the core countries. This was mainly due to the influence and large weight of the US and German economies. GDP in industrialized countries, measured by weighted GDP, dropped by 15%.[10] In non-industrialized countries weighted GDP did not decline substantially. There was a tiny decrease in 1931, but GDP increased in 1930 and 1932. This was due to the impact of China and India which proved rather immune during the Great Depression. The majority of the non-industrialized countries had decreases stronger than that of the World average specifically the South-American countries. But the decreases were on average less than in the US and in Germany.

Thus China and India also successfully defied being dragged into the crisis in the thirties. Both countries were agrarian economies, less dynamic, less integrated in world trade and therefore also less important for other developing countries at that time. The drop in GDP of Eastern and Central European countries was in line with the average of the ten industrialized countries during the Great Depression.

1.5 Core vs. Periphery and Caveats

This time the drop in GDP was definitely less in non-industrialized countries (periphery countries) than in industrialized countries (defined as core countries). In our sample and using un-weighted averages it amounted to 1% in the non-industrialized countries and 4% in the industrialized countries. Using GDP-weighted data reduces the drop in industrialized countries a little bit (due to the smaller drop in the US), but it turns the results for non-industrialized countries into the positive range:

[10] Unweighted 7%, ten industrialized countries in WIFO data set 10%.

	Great Depression						Recent Crisis				
	1929	1930	1931	1932	1932/1929	2008	2009	2010	2010/2007	1929	2008
	Percentage change									Weight	
World	3.7	-1.9	-4.2	-4.0	-9.8	3.0	-0.9	3.6	5.7	100.0	100.0
Unweighted average											
Ten industrialized countries[1]	3.3	-2.7	-4.4	-3.4	-10.0	0.5	-4.2	1.2	-2.5		
Industrialized countries (larger set)[2]	3.4	-2.3	-3.8	-1.6	-7.3	0.4	-3.8	1.0	-2.4		
EU-10[3]	0.6	-0.7	-3.3	-5.0	-8.6	2.5	-8.4	0.0	-5.1		
Non-industrialized countries[4]	3.3	-2.0	-5.9	-2.8	-9.9	5.5	-0.8	4.6	9.6		
Weighted average											
Ten industrialized countries[1]	4.3	-5.3	-6.1	-7.0	-17.4	0.2	-3.4	2.0	-1.2	55.7	41.9
Industrialized countries (larger set)[2]	4.1	-4.9	-5.8	-5.3	-15.2	0.2	-3.4	1.8	-1.4	65.0	49.9
EU-10[5]	1.1	-1.9	-3.4	-5.1	-10.1	4.1	-3.8	1.2	1.3	4.4	2.2
Non-industrialized countries[4]	2.3	1.2	-0.7	0.3	0.7	6.5	2.6	6.6	16.5	30.6	47.8

Table 3 Comparison of the two crises: industrialized vs. non industrialized countries; Growth of real GDP

[1]) Austria, Germany, Belgium, Spain, France, Finland, Sweden, United Kingdom, USA, Japan.

[2]) Austria, Germany, Belgium, Spain, France, Finland, Sweden, United Kingdom, USA, Japan, Australia, Canada, Denmark, Italy, Netherlands, Ireland, Greece, Portugal.

[3]) GD: Czechoslovakia, Hungary, Poland, Romania. CC: Czech Republic, Slovak Republic, Slovenia, Hungary, Poland, Romania, Estonia, Latvia, Lithuania.

[4]) GD: USSR, China, India, Indonesia, South Korea, Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, Venezuela. CC: Russian Federation, Ukraine, China, India, Indonesia, South Korea, Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, Venezuela.

[5]) GD: Czechoslovakia, Hungary, Poland, Bulgaria, Romania. CC: Czech Republic, Slovak Republic, Slovenia, Hungary, Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania.

Source: WIFO Long-term Database (see Aiginger, 2010)

GDP increased in 2009 despite of the crisis by $2^1/2$% (after and before a 6% growth in 2008 and 2010). During the Great Depression the results are less clear cut: on average the decline in industrialized countries was approximately level (un-weighted data), namely −10% in the sample of ten industrialized countries as well as in the non-industrialized countries (see Table 3, 1929/1932). For weighted data the drop in industrialized countries is higher than for unweighted data, for non-industrialized countries there is a small decline of 0.7% in one year (1931), but no decline for the whole period (1929/1932). That means there is no core vs. periphery pattern on this general level, and no such general pattern existed in the Great Depression. During the Great Depression the drop in GDP was less in Eastern and Central European countries than in what we call today EU-15 (if today's EU-10 had been the periphery to Germany or

Austria at that time this again speaks against a core-periphery pattern). The drop was least in Russia (as in the non-industrialized economies in general). On the other hand the drop in GDP in South America (which may be considered as the periphery to North America) was rather steep, specifically if compared to the decline in World GDP. However, the GDP loss in the US and in Canada was deeper during the Great Depression than in Latin America. This also counters a core/periphery notion. Summing up this time round the crisis in industrialized coun-

	Great Depression						Recent Crisis		
	1929	1930	1931	1932	1932/1929	2008	2009	2010	2010/2007
	Percentage change								
Czech Republic	2.8	-3.3	-3.4	-4.0	-10.3	3.2	-4.3	0.7	-0.5
Hungary	3.3	-2 2	-4.8	-2 7	-9.4	0.6	-6.4	-0.3	-6 1
Poland	1 1	-4.6	-7 2	-7.8	-18.4	4.8	1.5	2.6	9 1
Slovakia	2.8	-3.3	-3.4	-4.0	-10.3	6 4	-4 7	2 9	4.3
Slovenia						3 5	-7.8	1 3	3 3
Bulgaria	-1 9	10.2	14 7	0.6	27 2	6.0	-4.7	-0.6	0 4
Romania	-4.6	7.2	2.3	-5.6	3.6	9 2	-7 1	0.9	2 4
Estonia						-3.6	-14 1	-0.1	-17.2
Latvia						-4.6	-18.0	-4.0	-24 9
Lithuania						2.8	-15.0	-3 9	-16.0
EU-10: unweighted average[1])	0.6	-0.7	-3.3	-5.0	-8.6	2.5	-8.4	0.0	-5.1
EU-10: weighted average[2])	1 1	-1 9	-3.4	-5 1	-10 1	4.1	-3.8	1.2	1.3
Russia	2.8	5.8	1 9	-1 1	6.7	7 3	-8.9	4.3	2.0
Ukraine						2 1	-14.7	4.5	-9.0
Turkey	15.9	4.5	6.0	-6.0	4 1	3.8	-8.6	4.7	-0.7
World	3.7	-1 9	-4 2	-4.0	-9.8	3.0	-0.9	3.6	5.7

Table 4 Comparison of the two crises: New Member Countries and Neighbors; Growth of real GDP

[1]) GD: Czechoslovakia, Hungary, Poland, Romania. CC: Czech Republic, Slovak Republic, Slovenia, Hungary, Poland, Romania, Estonia, Latvia, Lithuania.

[2]) GD: Czechoslovakia, Hungary, Poland, Bulgaria, Romania. CC: Czech Republic, Slovakia, Slovenia, Hungary, Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania

Source: WIFO Long-term Database (see Aiginger, 2010)

tries (core) is definitely deeper than in South America and Asia, which had become "actors" and not "followers". Central and Eastern European countries (periphery) on average did show admirable resistance to the crisis, specifically given the bleak forecasts if foreign direct investment and finance were suddenly to stop. Of course the trend of the past years could not be sustained so that the difference between the dynamics in the crisis and the growth trend before the recent crisis is larger (and larger than for EU-15 and the US) Recovery may also come a little bit

late since there are large overcapacities and investment will require a higher risk premium. Furthermore, differences across countries are large as far as growth predictions, fiscal balances and current accounts are concerned.

There are many caveats to be mentioned with regards to the above findings.

Caveat 1: The crisis is not over. The calculations depend on the assumption that there will be no general, large second dip in the activity indicators, after the indicators on trade, manufacturing output, GDP, stock market prices leveled off in 2009 and then started to grow. The consensus among forecasting institutions is a growth in world GDP of about 3% in 2010 and 2011. A small dip, lower growth rates in 2011 as compared to 2010 or even a growth recession would not change the results. The same holds true for country crises which can be ring fenced and do not spread into larger regional crises. The crisis is definitely not over insofar as unemployment remains high (or is even on the rise in 2010). The prediction for 2010 was incorporated in the calculations,

	GDP		GDP per capita at PPP		Unemployment rate		Inflation
	2008/1994	2010/2007	2008	2008/1994	1995–2008	2010-2007	2008/1994
	Change p.a		EU-27=100	Change	Average	Absolute change	Change p.a
Czech Republic	3.4	-0.5	81.0	90.5	6.6	2.6	4.7
Hungary	3 4	-2 1	62.7	103.1	7.4	3 9	10 6
Poland	4.8	2.7	56.1	127 9	14.4	0.3	7.8
Slovakia	5.2	0 7	70 7	155.4	14 9	1.7	6.6
Slovenia	4.3	-1.0	91 2	108.1	6.4	3.4	6.7
Bulgaria	3 2	-0.4	39.3	107 6	13.0	1 1	38.4
Romania	3.5	-0.6	44 9	154.8	6.6	2.3	31 1
Estonia	6.2	-6.0	66 7	222 1	9.2	10.5	8 2
Latvia	6.0	-9 1	55 2	188.1	12.3	13.9	7 9
Lithuania	6.0	-6.8	61.5	192 7	10.2	13.3	7.0
EU 27	2 4	-0.9	100.0	67.4	8.4	3 2	3.6
EU 10[1]) (unweighted average)		-2.5	65.6	149 2	9.8	5.8	10.0
EU 10[2]) (weighted average)	4.4	0.0	61.8	110.8	10.5	2.5	11.8

Table 5 Macroeconomic performance of the EU-10

[1]) GD: Czechoslovakia, Hungary, Poland, Romania. CC: Czech Republic, Slovakia, Slovenia, Hungary, Poland, Romania, Estonia, Latvia, Lithuania.

[2]) GD: Czechoslovakia, Hungary, Poland, Bulgaria, Romania. CC: Czech Republic, Slovakia, Slovenia, Hungary, Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania.

Source: Eurostat (AMECO)

therefore. Budget deficits are high and public debts have to be reduced. Several causes of the crisis (disequilibria in the US/China, regulatory problems in the financial sector, over-liquidity concurring with a credit squeeze) have not to be resolved either. Regulatory change has yet to be implemented

	Current account/GDP		Budget balance/GDP		Debt/ GDP ratio	
	1995–2008	2010–2007	1995–2008	2010–2007	1996–2008	2010–2007
	Average	Absolute change	Average	Absolute change	Average	Absolute change
Czech Republic	-4 2	1 2	-4.6	-4.8	23.7	11.7
Hungary	-7.4	4 9	-6.2	0.7	61.8	13.9
Poland	-3.0	2 3	-4 2	-5.6	43.2	12.0
Slovakia	-6 2	-0 2	-5.4	-4 2	38.1	9.9
Slovenia	-1 9	4.3	-2.6	-7.0	24.9	19.5
Bulgaria	-7.6	12 7	0.7	-1 2	52 3	-2.0
Romania	-6 9	8 1	-3.0	-4 2	18.9	14.8
Estonia	-10.0	19 3	0.4	-5.8	5.3	7.1
Latvia	-10.0	27 9	-1.4	-11 9	12 9	39.6
Lithuania	-8 9	15 4	-2.8	-8 1	19.0	23.8
EU 27	0.0	-0.1	-2 2	-6 7	62.6	20.6
EU 10[1]) (unweighted average)	-6.5	9 3	-3.3	-5.7	27 5	16 9
EU 10[2]) (weighted average)	-5.0	4.8	-4.0	-4.6	37 5	12.8

Table 6 External and fiscal balances in the EU-10

[1]) Czech Republic, Slovakia, Slovenia, Hungary, Poland, Romania, Estonia, Latvia, Lithuania.

[2]) GD: Czechoslovakia, Hungary, Poland, Bulgaria, Romania. CC: Czech Republic, Slovakia, Slovenia, Hungary, Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania

Source: Eurostat (AMECO)

Caveat 2: The analysis focuses on a limited number of countries and some very broad categorizations (e.g. industrialized countries vs. non-industrialized countries). For many tentative conclusions the results are different depending whether we use un-weighted or weighted averages to measure economic dynamics. Some regions would definitely need more attention if we want to make any conclusions about the transmission of the crisis across world economies e.g. Central Asia or Africa. A limited number of indicators have been used; the main results focus on GDP only.[11] Employment, unemployment and poverty may be more important indicators for developing countries. Disequilibria in external balances, public deficits, and debts for are important for all countries, as well as living standards and life expectancy.

[11] See Tables 5 and 6 for more activity indicators for the EU-10 countries

Caveat 3: This is a descriptive study making use of data and assessments at a time when the crisis is not actually over, data are scarce, and the exit strategies are unknown. Testing hypothesis with hard data and empirical evidence will have to follow.

1.6 Conclusions

(1) The Economic Downturn following the Financial Crisis proved to be much smaller and shorter than the Great Depression of the nineteen thirties, given that it ended with the recovery of output in mid to late 2009 (in most countries). The GDP in ten industrialized countries for which activity and policy indictors are presented in Aiginger (2010) decreased by 4.4% for annual data, and 5.4% for quarterly figures. The drop was 10% in the Great Depression for these ten industrialized countries (un-weighted average; if data are GDP-weighted the difference between the Great Depression and the Recent Crisis increases). Unemployment increased by 3.1% (to 9%) in the Recent Crisis while it had increased by 13.2 percentage points (to 20%) in the Great Depression. If we take data for total World GDP the loss had been only 1% this time round (against 10% between 1929 and 1932). Thus the Recent Crisis was "half a Great Depression" for the industrialized countries and "... pales in comparison with what our parents and grandparents experienced in the 1930s" for the world economy.

(2) The Recent Crisis had its origin in the housing market and the financial sector in the US. The problems in these markets started to come to the surface in 2007. The problems then lingered for a whole year (with governments intervening differently and implementing rescue measures), partly covered by strong inflation and a shortage of oil and raw materials. The crisis entered a dramatic new phase after the breakdown of Lehman Brothers in September 2008. In the following months manufacturing output, world trade and stock markets declined with a speed similar to the starting phase of the Great Depression. But in the nineteen thirties the crisis unfolded from sector to sector over time (first the stock markets, then trade and finally banking failures). This time everything happened at once. This time around governments in industrialized countries tried to mitigate the

downturn by implementing monetary and fiscal policies, which were surprisingly coordinated, and by using guarantees and support programs for weaker regions. China had accumulated and made use of past surpluses to combat the downward trend. Even if not all fiscal stimulus programs were implemented fully, even if not all tax cuts worked immediately and even if not all programs were structurally and strategically ideal, the discretionary fiscal programs plus the automatic stabilizers managed to cushion the downturn. Production in many areas bottomed out and then started to increase in mid or late 2009. Since not all problems which led to the crisis are solved (disequilibria, speculation, regulatory failures), and new problems may arise from the increased debt burden of governments there is no certainty that the crisis is over. Echo effects are likely and the exit phase will not be easy. However, we know that at least for the start of the crisis economists learned their lesson from the Great Depression and economic policy followed the advice of the science. Economists and governments had drawn the correct conclusions from the policy inactivity or pro-cyclicity in the Great Depression.

(3) The Recent Crisis started in the US. Nevertheless the US managed to limit the loss in GDP to 2.4% (or 3.8% on a quarterly basis). This was smaller than in Western Europe where it was 4.1% (on an annual base). During the Great Depression the loss in GDP was 27% between 1929 and 1932 in the US, with some interim growth and a final drop in 1937 when the stimulus was withdrawn too early. In the countries now constituting EU-15 the drop in GDP was 9% with the highest drops in Germany and Austria, however, this drop was still smaller than in the US.

(4) The East-Asian Countries were also more or less stable in the Great Depression, with a very small loss in 1930 and 1931, but an overall growth of 2% in the period between 1929–1932. China never had a decline in GDP, India only a small one in 1931. Other East-Asian countries had drops in GDP at that time (Indonesia). This time round East-Asian countries' economic growth declined from 6% to 5% (and is expected to be 7.3% in 2010). China's lowest growth rate was 9% in 2009, India's 7%. The weight of the Asian economies has increased since the thirties, so that their larger balancing effect was amplified by their greater importance.

(5) A striking difference between the two crises is the remarkable stability of Latin (South) America in the Recent Crisis. In these countries output declined by 15% in the Great Depression. This time there was a tiny dent in the growth process in 2009 (−0.5%), and growth has resumed in 2010 at 4%. For the three years from 2008 to 2010 together the region's GDP increases cumulatively by 8% (with double digit three years growth in Peru, Uruguay, Argentina, Brazil). In Mexico GDP decreased faster than in the US.

One of the reasons for the better performance of South America may have been that specific crises had already occurred in several countries. Another reason may be that economic policy found a good compromise between the opening up of the economies and domestic development. A third reason may be the sustained demand for food and mineral resources due to higher growth in Asia.

(6) Central and Eastern European countries experience a differentiated performance. Total GDP of EU-10 dropped a trifle less than the EU-15 countries, due to the excellent performance of Poland (which was the only EU-27 country with positive growth in 2009). An unweighted average of the EU-10 countries performed less than the unweighted average of the EU-15, mainly due to the double-digit GDP losses in the three Baltic countries. These countries, however, had been the countries with the highest growth since 1995. The Baltic countries lost the gains of three years of catching up in one year, and forecasts for 2010 are still negative. What follows is a middle group of performers which can be grouped into the Czech Republic, Slovakia, and Bulgaria which had losses between 4.3% and 4.7% and another group containing Romania, Hungary and Slovenia with a somewhat higher loss. The average decline of 3.8% had been much less than feared in early 2009, maybe due to the help of international organizations or reserves built in the exceptional growth period beforehand. Public deficits are above EU-27 average in 2009 only in Lithuania, Latvia and Romania and debt is larger than 50% of GDP only in Hungary and Poland. Current account deficits had been larger than 10% in the pre-crisis period in Bulgaria, Romania, Latvia and Lithuania. The unemployment rate is higher than 10% in the three Baltic countries, Hungary and Slovakia. Thus in general the crisis aggravated existing problems, and interrupted a fast convergence process, but with the exception of the Baltic countries did give rise to completely new problems. However, a discussion was started as to whether the "growth model" of the EU-10 would change towards more domestic oriented policies, making use of endogenous forces, qualifications and institutions. But no complete policy change seems to be necessary or

warranted and European integration and enlargement will continue. During the Great Depression the loss in GDP in today's EU-10 countries was also approximately the same as in Western Europe. That time the exception was Bulgaria, which enjoyed a substantial growth during 1929/1932

(7) In neither crisis there is a core-periphery pattern in the sense that the periphery suffered more than the core. The Asian countries were relatively stable even in the 1930s, specifically India and China. If anything should indicate a larger impact in the periphery it could be the decline in South America which had been relatively large. This time round China and India helped to turn the recession into a recovery, South America proved very stable and performance in the EU-10 was rather differentiated. Baltic countries and some neighbors of the EU-27 (e g. Ukraine) suffered stronger losses than the industrialized countries, as did Mexico, which can be interpreted as periphery in respect to the US.

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