

The Great Recession vs. the Great Depression: Stylized Facts on Siblings That Were Given Different Foster Parents

Karl Aiginger

*Austrian Institute of Economic Research (WIFO) and
Vienna University of Economics and Business*

Abstract This paper compares the depth of the recent crisis and the Great Depression. We use a new data set to compare the drop in activity in the industrialized countries for seven activity indicators. This is done under the assumption that the recent crisis leveled off in mid-2009 for production and will do so for unemployment in 2010. Our data indicate that the recent crisis indeed had the potential to be another Great Depression, as shown by the speed and simultaneity of the decline in the first nine months. However, if we assume that a large second dip can be avoided, the drop in all indicators will have been smaller than during the Great Depression. This holds true specifically for GDP, employment and prices, and least for manufacturing output. The difference in the depth in the crises concurs with differences in policy reaction. This time monetary policy and fiscal policy were applied courageously, speedily and partly internationally coordinated. During the Great Depression for several years fiscal policy tried to stabilize budgets instead of aggregate demand, and either monetary policy was not applied or was rather ineffective insofar as deflation turned lower nominal interest rates into higher real rates. Only future research will be able to prove the exact impact of economic policy, but the current tentative conclusion is that economic policy prevented the recent crisis from developing into a second Great Depression. This is also a partial vindication for economists. The majority of them might not have been able to predict the crisis, but the science did learn its lesson from the Great Depression and was able to give decent policy advice to at least limit the depth of the recent crisis.

Published as [Policy Paper](#)

JEL E20, E30, E32, E44, E60, G18, G28

Keywords Financial crisis; Business cycle; Stabilisation policy; Resilience

Correspondence Karl Aiginger, Austrian Institute of Economic Research (WIFO) and Vienna University of Economics and Business, Arsenal, Object 20, A-1030 Vienna, Austria; e-mail: Karl.Aiginger@wifo.ac.at

1 Introduction

The aim of this paper is to investigate whether the drop in economic activity in the recent crisis¹ has been as large as in the Great Depression of the nineteen thirties. To do this we make use of a new set of data on activity indicators and on policy variables for ten industrialized countries. To make the task tractable we assume that the crisis leveled off in mid 2009 as far as production (GDP) is concerned. This assumption indeed represents the consensus of forecasters and international institutions at present, which forecast growth of world GDP at rates about 3% for 2010 and 2011. The consensus of the forecasters also maintains that unemployment will continue to increase in 2010 and therefore we include predicted unemployment for 2010 when we compare employment effects between the Great Depression and the recent crisis.

The data show that the drop in activity has definitely been smaller in the recent crisis. The crisis had however the potential to become as severe as the Great Depression. This supposition finds its roots in the very speed and simultaneity with which manufacturing and exports declined between the summer 2008 and spring 2009. In the recent crisis economic policy reacted expeditiously, prudently, and to a surprising extent coordinated at an international level. It is true that there were structural features which served to mitigate the depth of the recent crisis such as the lower share of manufacturing and the higher share of services and the public sector in comparison with the Great Depression. However, the increasing globalization of production, trade and financial markets today could actually have led to a cumulative downward spiral difficult to stop through national policies. What data show is that the decline of trade occurred quick and rather simultaneous across countries, but soon GDP dynamics started to diverge significantly between Asian countries and the United States or Europe.

This paper presents empirical data and stylized facts. It builds on the large and increasing literature on the causes of the recent crisis, and on the similarities and differences between the roots of the two crises.² We intentionally do not survey

¹ The recent crisis has been labeled as “Great Recession” by Krugman (2009b), Taylor (2009). Almunia et al. (2009) call it “Great Credit Crisis”, Aiginger (2009a) “Current Crisis”, Romer (2009) “Current Recession”.

² See Aiginger (2009a), Barrell and Stankov (2008), Bordo (2008), Cooper (2008), Gros and Alcidi (2009), Helbling (2009), Kindleberger (1986), Krugman (2009a, b, c), Taylor (2009).

the literature on the roots of the two crises, nor do we present an own analysis on the causes of the crisis. We very shortly summarize our own understanding of the three broad roots of the recent crisis and refer to Aiginger (2009a) for more. We include however data for the build-up period of the two crises in order to further the empirical based understanding about causes of the crises. Activity indicators which are used to measure the depth of the crises are made available for the build-up periods too.

The paper is structured as follows: Section 2 elaborates on the research question and its limits. It reports early assessments as to the depth of the crisis, to demonstrate how different the expectations and the interpretation about the depth as compared to the Great Depression were in the early stage of the recent crisis. Then we describe the data used in this paper and which indicators and countries we focus on. Section 3 provides the main evidence, namely the relative drop in economic activity in the two crises. Section 4 describes the speed and synchronization of the downturn at their start. Section 5 analyzes the differences in economic policy reaction, focusing on fiscal and monetary policy. This helps to increase knowledge on the measures taken, final conclusions about their impact will only be known later and by thorough econometrics. Section 6 reports indicators on trade openness and changing structural characteristics between the start of the Great Depression and the recent crisis and lists some caveats about the findings. Section 7 concludes.

2 Research Agenda, Data, Claims

The main research question of this paper is to compare the severity of the two crises; more specifically how much did the main economic activity variables drop (their relative change) compared with their pre-crisis maximum? The subsidiary question is how economic policy worked; more specifically we present indicators on monetary and fiscal policy, which show which measures were taken. Data for both questions are made as much comparable as possible, for the two crises as well as for the countries investigated.

The pre-crisis peak in the Great Depression, for most indicators and most countries, was 1929. This time it was 2008.³ In both cases economic strains and disequilibria were lingering around after a period of rapid growth and in both cases the peak year was a year where many problems were quite evident with hindsight. These problems, however, became dramatically visible in a specific month or quarter. In 1929 this month was October (with the famous Black Thursday or Friday) and in 2008 it was September (with the demise of Lehman Brothers).

The expectations about the depth of the recent crisis were very different, not only at the start of the crisis, but even after several months of its evolution. To demonstrate this diversity, we single out three leading US economists which should have had rather similar access to data, were educated at leading US universities and known for policy orientation.

- Barry Eichengreen (together with Kevin O'Rourke) wrote: "To summarize: The world is currently undergoing an economic shock every bit as big as the Great Depression shock of 1929–30".⁴ 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 views within a week, the article was sent to me every week by at least one friend, who shared this view. The basis for the claim was data on industrial production, world trade and stock market prices.
- Paul Krugman early took the position that the current crisis might be only "half a Great Depression" and therefore called it Great Recession. He provided data showing that fall in US manufacturing had been milder from its late 2007 peak as compared to that from the mid 1929 peak.⁵ Eichengreen and O'Rourke contradict this evidence, criticizing it by saying that "looking at the US leads one to overlook how alarming the current situation is even in comparison with 1929–30."

³ In a few countries 2007 had been the peak for annual data (absolute values) with a small decline in 2008.

⁴ Eichengreen and O'Rourke (2009; April 6, 2009).

⁵ Krugman (2009c; March 20, 2009).

- Christine Romer (2009: 1) may mark the other end of the assessment, when she wrote in early March 2009 that the “current recession ... pales in comparison with what our parents and grandparents experienced in the 1930s.”

All three citations were made within three weeks in the quarter in which the decline of GDP reached its climax in most industrialized countries. The data provided will show which of these statements about the relation between the depth of the Great Depression versus the current crisis looks to be more consistent with the data one year after they were made.

In general there are surprisingly few studies comparing the depth of the two crises up to now. We have cited already Eichengreen and O’Rourke. The great advantage of their approach is the use of monthly data, and the quick updating of these. The main shortcoming of Eichengreen and O’Rourke’s analysis is that they do not report data on GDP, unemployment and employment.⁶ Romer (2009) concentrates on policy issues, drawing six lessons from the comparison. Furthermore there exist a series of papers calculating the average length and depth of a larger number of crises in different countries on GDP, the stock market, unemployment etc. (e.g., Reinhart and Rogoff 2009) or analyze how the length and depth of the crises depend on certain structural characteristics, inter alia whether there had been a housing or financial crisis at the start.

One of the reasons why there are few studies comparing the depth of the two crises up to now is the lack of data, at least the lack of data which is easily accessible for research purposes. Historical data are available but they lack a quarterly dimension or are only available for every fifth year. Data on exports and industrial production was available during the thirties but has not been preserved in most international data bases. Surprisingly, none of the large organizations which provide excellent international data today (OECD, EU, IMF) have a consistent database covering the recent crisis and the Great Depression and offering it to the research community. The WIFO research team therefore had to collect the data from various sources⁷ and invested much time and effort to make

⁶ A difference to this paper is the choice of the starting month namely June 1929 for the Great Depression and April 2008 for the recent crisis. Their choices are based on NBER data for business cycles for the USA.

⁷ The main sources for historical data are Mitchell (1993, 2003), Maddison (1995, 2003), Groningen <http://www.ggdcc.net/maddison/>, WIFO *Monthly Bulletin* 1927–1934.

pre and post WWII data comparable. Sometimes it had to fill gaps using sensible interpolations. Finally, data on GDP, manufacturing, exports, stock markets, employment and unemployment are available on an annual basis. For stock markets and industrial output indicators are additionally available on a quarterly basis.⁸ For the evaluation of the policy reaction we use fiscal balances, the debt-GDP ratio, money supply (M1), discount rates, interest rates, inflation (CPI), an openness indicator and tariff receipts relative to GDP.

We analyze the activity and policy reactions in large industrialized countries, namely the United States, Japan, the United Kingdom, France, Germany, and Spain, and add small countries like Austria (where the Great Depression was specifically large), Sweden and Finland (where the effects were particularly small) and Belgium. For all indicators we construct an unweighted “World”: this is the unweighted average over the ten industrialized countries. This proves to be the best indicator as to the depth of the crises in industrialized countries.⁹ In those cases in which reported data for all countries are available we use the term World without quote signs. The ten countries included made up for 52% of world GDP in 1929 (and 38% today).

Another understandable reason for the lack of quantitative comparisons on the relative depth of the two crises might be that it could be considered premature to give a final assessment if we do not know for sure that the recent crisis is over. We cannot be certain that the recovery will not be W-shaped with a second steep decline in 2011 or later. A small second dip (or a “growth recession”) would, however, not change our results, only a large one (see also “Caveat 1” in Section 6).

3 The Main Stylized Facts about the Depth of the Crises

According to all indicators the recent crisis is comparatively smaller. We define the depth of the crisis as the relative drop between the peak year and the year with

⁸ Stock markets data is available on a daily basis (and even higher frequencies). End of the period data (for a quarter or a month) are used. We also obtained access to the monthly data on exports and manufacturing used in Eichengreen and O’Rourke (2009).

⁹ We calculate also a GDP-weighted average over the ten countries and call it “GDP-weighted World” but do not publish these data in the tables.

the lowest activity. For the recent crisis we repeat the calculation on a quarterly basis (column 3 in Table 1). This biases the comparison towards enlarging the recent crisis relative to the Great Depression because annual data hides many fluctuations visible in quarterly data.

3.1 Large Differences in GDP, Inflation, and Employment

The difference between the Great Depression and the recent crisis is specifically large for GDP and price dynamics (deflation). The difference is still very pronounced for employment and unemployment data and for exports, less so for stock market prices and the least pronounced for manufacturing output.

GDP dropped by 10% in the Great Depression, but only by 4% in the recent crisis according to annual data, and by 5% if we use quarterly data. The decrease in annual GDP was larger in eight of the ten countries in Table 2, in the United States, Germany, and France more than four times as large. Using quarterly data instead of annual data for the recent crisis does not change the picture much. In Finland the recent crisis seems marginally deeper than the Great Depression, in Japan total GDP had not fallen between 1929 and 1932.

These data refer to the ten industrialized countries using an unweighted average. Weighing the countries by GDP would specifically increase the impact of the development in the United States: the drop in the Great Depression would increase to 15.8%, that in the current crisis would be slightly smaller (−3.2%; annual data). An estimate of World GDP is directly available for the Great Depression by Maddison (1995): GDP dropped according to this estimate by 9.8% between 1932 and 1929 approximately equal to the unweighted average of the ten industrialized countries. This time World GDP decreased by only 1.3% in 2009 (this is less than the unweighted average of the ten industrialized countries as well as the weighted average).

Summarizing all three calculations give the same results, namely that the recent crisis was definitely smaller for GDP. We prefer the unweighted average

Table 1: Stylized Facts: Activity Indicators

	Great Depression		Recent Crisis	
	1932/1929		2009/ peak 2007/2008	Trough 2009/ peak 2007/2008
	Annual data		Quarterly data	
	Percentage change			
GDP, real ¹⁾	-10.0	-4.4	-5.4	
Manufacturing	-23.2	-20.2	-23.0	
Exports	-58.5	-16.8	-25.7	
Stock market ²⁾	-53.3	-44.9	-53.6	
Employment	-17.3	-2.5	-1.6	
Unemployment rate 1932 and 2010	19.6	9.2		
Unemployment rate: change ³⁾	13.2	3.1	2.0	
Inflation (CPI)	-12.8	1.0	-0.1	

Unweighted average over ten industrialized countries. – ¹⁾ At PPP. – ²⁾ Unweighted average over the United States, Germany, France, United Kingdom. – ³⁾ Absolute difference 1929 to 1932 vs. 2008 to 2010. Ten industrialized countries: Austria, Germany, Belgium, Spain, France, Finland, Sweden, the United Kingdom, the United States, Japan.

Source: GDP: WIFO database, Groningen, BEA. IMF: <http://www.imf.org/external/ns/cs.aspx?id=28>, <http://www.ggdc.net/databases/hna.htm>, <http://www.bea.gov/>, - Manufacturing: WIFO calculations using Mitchell (1993, 2003), IFS, ST.AT.: <http://www.imfstatistics.org/IMF/logon.aspx>, <http://www.statistik.at/> - Exports: WIFO calculations using Mitchell (1993, 2003), IFS, WTO.: <http://www.imfstatistics.org/IMF/logon.aspx>, <http://www.wto.org/> - Stock markets: WIFO calculations for the United States using <http://www.econ.yale.edu/~shiller/data.htm> and <http://stooq.de/q/d/?s=nikkei&c=0&i=m> for Japan; NBER Macrohistory Database; <http://finance.yahoo.com/q/hp?s=^CDAXX>, Gregor Gielen (1960–1979) for Germany; NBER Macrohistory Database; <http://stooq.de/q/d/?s=cac40>, IMF for France; ; <http://stooq.de/q/d/?s=ftse250&c=0&i=m> , IMF for the United Kingdom; Monatsberichte des Österreichischen Instituts für Konjunkturforschung; <http://stooq.de/q/d/?s=atx&c=0&i=m>, IMF for Austria. – Employment: WIFO calculations using *The Economist*; Economic Statistics 1900–1983, 1985 and OECD; Eurostat. – Unemployment: WIFO calculations using *The Economist*; Economic Statistics 1900–1983, 1985 and OECD; Eurostat. – Inflation: WIFO calculations using Mitchell, Eurostat.

*Table 2: Comparison of Two Crises: Decline of Real GDP**)*

	Great Depression			Recent Crisis			Trough 2009/ peak 2008
	1929/1921	1929/1912	1932/1929	2008/2000	2008/1990	forecast/ peak 2008	
	Annual data			Annual data		Quarterly data	
	Percentage change						
Austria	43.0	4.6	-19.8	17.3	50.9	-3.4	-4.5 ¹⁾
Germany	38.4	15.5	-15.8	9.8	35.2	-5.0	-6.7 ²⁾
Belgium	33.4	27.2	-7.1	15.7	43.1	-2.9	-4.2 ¹⁾
Spain	34.2	58.8	-3.8	27.4	67.9	-3.6	-4.2 ³⁾
France	61.0	33.6	-14.7	13.6	38.2	-2.2	-3.5 ²⁾
Finland	55.7	53.4	-4.0	26.4	53.6	-7.8	-6.5 ²⁾
Sweden	49.2	38.3	-4.3	20.9	47.5	-5.1 ¹⁾	-6.3 ³⁾
United Kingdom	28.5	16.2	-5.1	18.7	52.3	-5.0	-5.6 ³⁾
USA	45.4	69.4	-27.0	18.4	63.8	-2.4	-3.8 ¹⁾
Japan	22.0	81.7	1.3	10.2	24.8	-6.2 ¹⁾	-8.4 ³⁾
World	44.7	38.8	-9.8	39.5	88.7	-1.1	-4.6 ⁴⁾
Unweighted average over countries	41.1	39.9	-10.0	17.8	47.7	-4.4	-5.4
Standard deviation	12.2	25.3	8.9	6.0	13.0	1.8	1.6
Coefficient of variation	0.297	0.635	-0.886	0.334	0.273	-0.407	-0.294

** At PPP; forecast real data. -* 2007. - ¹⁾ 2Q2009/2Q2008. - ²⁾ 1Q2009/1Q2008. - ³⁾ 2Q2009/1Q2008. - ⁴⁾ Weighted by GDP. Ten industrialized countries: Austria, Germany, Belgium, Spain, France, Finland, Sweden, the United Kingdom, the United States, Japan.

Source: WIFO calculations using Maddison (1995, 2003), IMF, Groningen, BEA, Butschek (1997).: <http://www.imfstatistics.org/IMF/logon.aspx> , <http://www.ggd.net/databases/hna.htm> , <http://bea.org>

over ten industrialized countries because it does not give exceptionally large weight to one country. Using each of the other concepts would furthermore enlarge the differences between the two crises: using weighted average because the drop in the Great Depression would increase, using reported World Output Data, since it would reduce the drop in the recent crises due to the development in China.

If the forecasts of the IMF prove correct, the loss in world GDP in 2009 will be more than compensated by the growth expected for world GDP in 2010. This would mean the drop was small and was recovered within two years as far as

world output is concerned. Recovering the output loss took six years during the Great Depression.¹⁰

In the Great Depression, prices declined by 13% (between 1929 and 1932). In the recent crisis inflation—as measured by consumer price indices—was rather high in 2008, and prices increased on top of the high price level by 1% in 2009. No deflation occurred this time for any of the ten countries for the whole of 2009, with the exception of Japan¹¹, and no deflation is forecast for industrialized countries in 2010. Inflation is measured by consumer price indices, but the statement holds also for core inflation. Prices for many traded goods declined in the recent crisis (see export figures in Table 1).

Employment decreased by 17% between 1929 and 1932, but only by 2.5% in 2009 (and forecasts are flat for 2010). Unemployment increased by 13 percentage points during the Great Depression and the unemployment rate reached 20% in 1932. This time it increased by three percentage points if we include the further rise predicted for 2010 (to an unemployment rate of 9% in the unweighted average of the ten countries).

3.2 Smaller Differences for Exports, Manufacturing, Stock Markets

World exports (in nominal terms) declined by 58% between 1929 and 1932. In the recent crisis they dropped by 17%¹². Manufacturing output dropped by 23%, versus 20% in the recent crisis (for annual data). The decline of exports is much larger since exports are measured in nominal terms, while manufacturing output is measured in real terms.¹³

¹⁰ The data for world GDP come from Maddison (1995), since world GDP is published only for some years the missing years were interpolated by WIFO with the development in nine countries for which annual figures are available.

¹¹ Quarterly data show slightly declining prices for the majority of countries at least in one quarter of 2009.

¹² These data are calculated at the annual basis; the drop was 25% on a quarterly basis.

¹³ For weighted data the difference in the drop of output for manufacturing is larger between the crises. As for manufacturing output is concerned it is a major shortcoming that China is not included in the main set of ten countries.

Stock market prices dropped by 53% between 1929 and 1932, by 45% in the recent crisis.¹⁴ In the Great Depression there was no lasting recovery until 1939, in comparison with just 18 months between the pre-crisis peak and the trough in the recent crisis. The recovery between March 2009 and March 2010 was 53%, a recovery which may not be sustainable at this speed. There never was such a large and sustained interim recovery in the Great Depression (the maximum interim recovery between 11M/1929 and 4M/1930 was 13%).

In summary the cumulative drop in activity in the Great Depression was much larger for GDP, prices and employment. The fall in exports and stock market prices between peak and trough was larger during the Great Depression too; the difference is larger specifically for quarterly data. Nearest comes the decline in manufacturing output (if measured in real terms). Analyses which concentrate on exports, manufacturing and stock market indicators but do not make use of GDP, prices and employment data underestimate the difference between the two crises.

4 Time Pattern, Speed, and Synchronization

In both crises in the build-up phase there was high growth, namely about 41% between 1921 and 1929 and 48% if we include the nineties in the build-up period of the recent crisis.¹⁵ GDP growth in the build-up period of the Great Depression was more volatile and different across countries (see Table 2 and Figure 1). In comparison the build-up was much smoother from 1990 up to the start of the recent crisis (with the dot.com crisis causing only a small dip in GDP).¹⁶

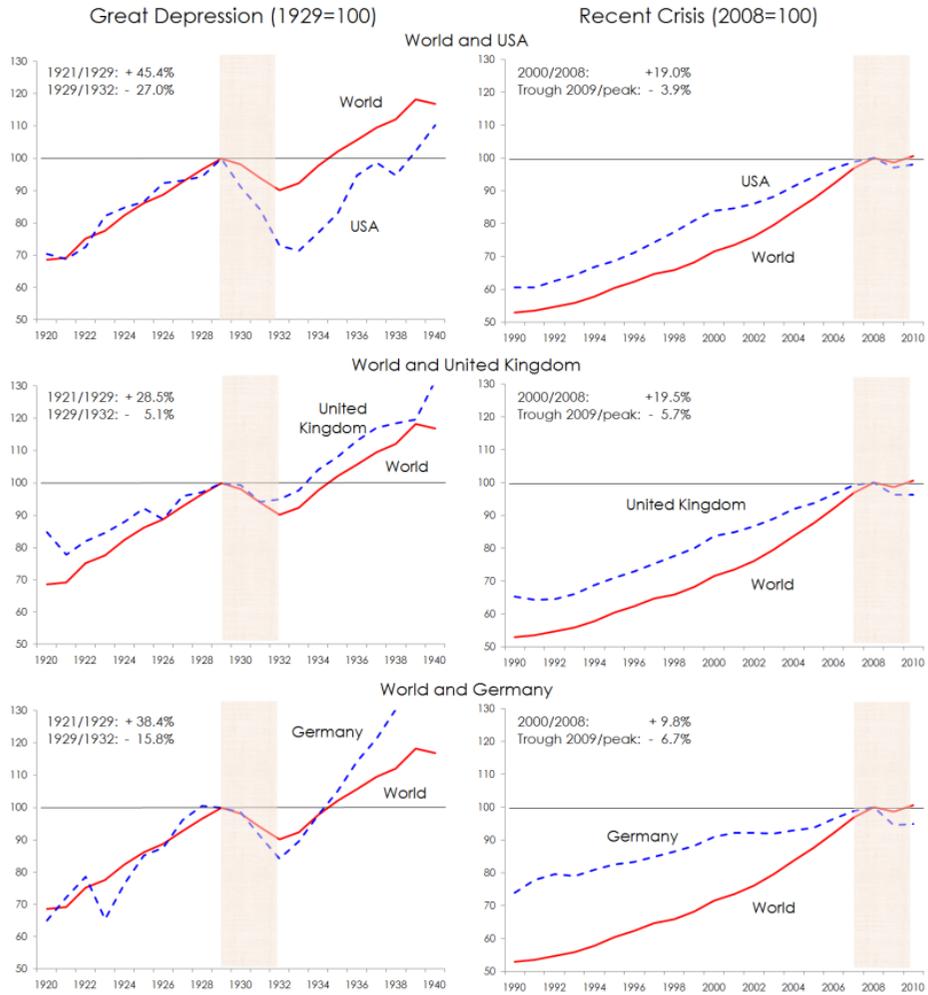
The synchronization is stronger during the recent crisis. During the Great Depression the drop in GDP was concentrated mainly in four countries, namely the United States (-27%), Germany (-16%), Austria (-20%) and France (-15%).

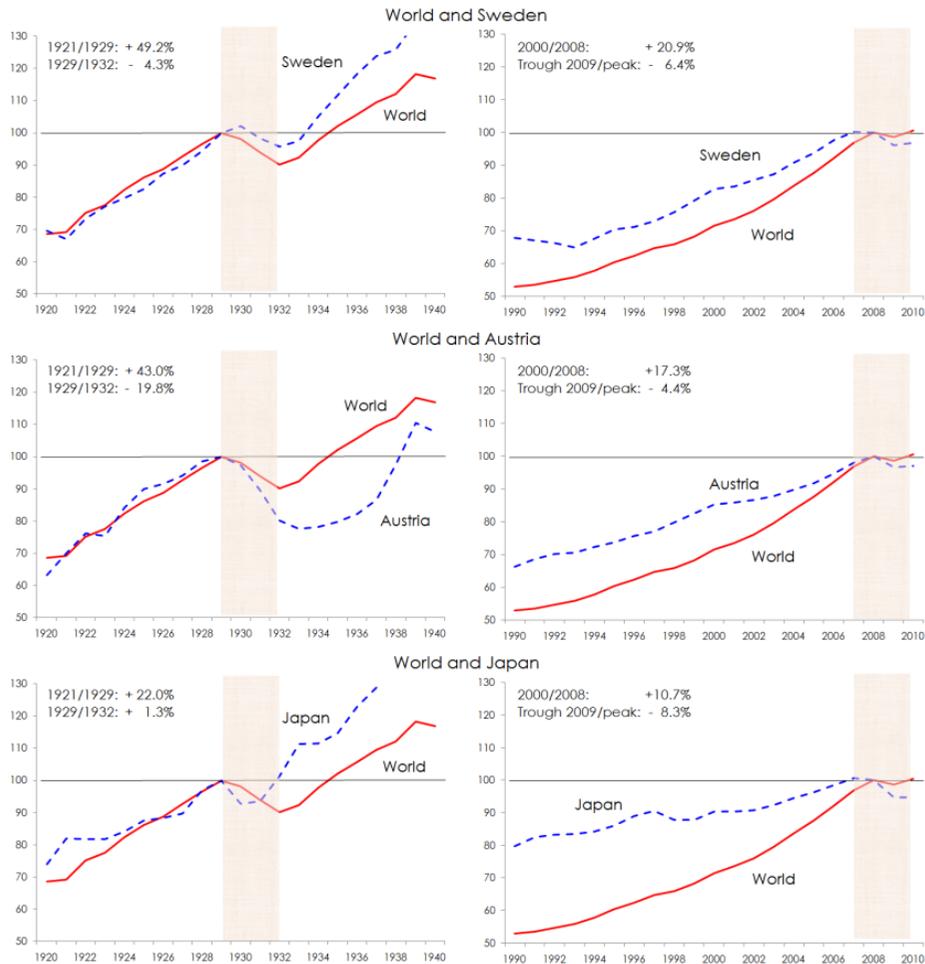
¹⁴ On the quarterly base stock market prices declined by 69% (between 3Q1929 and 2Q1932) in the Great Depression and by 54% (between 2Q2007 and 1Q2009) in the recent crisis (unweighted average over four countries: the United States, Germany, France, the United Kingdom; see Table 1).

¹⁵ If we use the shorter build-up period 2000/2008 the growth had been 18%.

¹⁶ Standard deviation of growth rates across countries was 25.3 in the build-up period of the Great Depression and 13.1 this time.

Figure 1: Macroeconomic growth (GDP, real): boom and decline (See Section 4)





1) At PPP.

Source: See Table 1.

Real GDP decreased by 5% or less in the United Kingdom, Spain, Japan, Finland and Sweden. In the recent crisis GDP declined in all ten countries reported, with declines between 3% and 5½% according to annual data and 3½% and 8½% according to quarterly data. Cross country differences were much smaller in the recent crisis as shown specifically by the lower standard deviation of the rate of

declines of GDP (0.9 vs. 8.9).¹⁷ The greater level of synchronization in the recent crisis is shown for all indicators by a large margin (see Table 3). Relatively the least difference is shown for exports, whose drop was to a greater extent already synchronized in the Great Depression.

The speed of the breakdown of activity at the start of the recent crisis is highlighted if we analyze quarterly or monthly data on manufacturing and exports. Industrial production declined by 19% between 3Q2008 and 1Q2009, and then leveled off. During the Great Depression it declined by 12% in the first three quarters and did not recover before 1932. Only one half of the total decline therefore happened in the first three quarters in the Great Depression. This time manufacturing output resumed growth after three quarters. The standard deviation of the decline in the first three quarters (across countries) is again much smaller in the recent crisis.

Table 3: Synchronization

	Great Depression				Recent Crisis			
	1921/1929		1929/1932		1990/2008		2008/2009	
	Standard deviation	Coefficient of variation						
GDP, real ¹⁾	12.2	0.297	8.9	-0.886	13.1	0.325	1.0	-0.262
Manufacturing	34.3	0.420	16.3	-0.703	34.4	0.750	5.9	-0.290
Exports	53.0	0.901	8.4	-0.143	53.9	0.367	6.2	-0.298
Stock market	255.2	1.217	15.4	-0.279	69.4	1.982	7.5	-0.141
Employment	17.2	1.688	9.0	-0.519	7.2	0.200	0.7	-0.267
Unemployment rate 1929 and 2008	4.8	0.747	10.1	0.517	1.2	0.200	1.9	0.207
Unemployment rate; change ²⁾	7.9	7.429	7.4	0.564	2.2	2.447	1.2	0.370
Inflation (CPI)	67.6	-2.633	7.2	-0.565	12.6	0.241	0.4	0.362
Average over indicators	51.8	1.154	10.2	-0.314	22.2	0.759	2.8	-0.062

¹⁾ At PPP. – ²⁾ Absolute difference 1929–1921 vs. 2008–2000. Ten industrialized countries: Austria, Germany, Belgium, Spain, France, Finland, Sweden, the United Kingdom, the United States, Japan.

Source: See Table 2.

¹⁷ The coefficient of variation for the reported countries was 0.8 vs. 0.3 (negative signs in the coefficient of variation should be ignored). The largest decreases in countries not reported in Table 2 occurred in the Baltic States, Slovakia, and Iceland this time; during the Great Depression the largest decreases were in Canada, Czechoslovakia, Hungary, Poland, and Latin America.

Using monthly data on world manufacturing output (by Eichengreen and O'Rourke), the decline in manufacturing output in the recent crisis occurred between 4M2008 and 2M2009. The decline for the first nine months amounted to 17% (see Table 4 and Table 5). For the same length of time in the Great Depression the decline was 16%. This time the production started to recover after three quarters, during the Great Depression it dropped further to an overall decline of 38%. Again the variation across countries was much less in the recent crisis, a fact that holds true from the very first month of decline and also for the ten months together (during which output declined).

World trade declined in the recent crisis from 4M2008 to 1M2009, on average this amounted to 20% amongst the countries analyzed¹⁸. For the same time span the decline was -17% in the Great Depression; again this was only half of the

Table 4: Speed of Downturn in the First Three Quarters

	Great Depression			Recent Crisis	
	Overall drop 1929/1932	1930/1929	First three quarters	Overall drop 2009/2008	First three quarters
	Percentage change				
GDP, real ¹⁾	-10.0	-7.0		-4.0	-3.6
Manufacturing: quarterly data	-23.2	-6.2	-11.9	-20.2	-19.4
Manufacturing: monthly data			-16.0		-17.3
Exports: quarterly data	-58.5	-17.3	-13.4 ²⁾	-20.9	-25.1
Exports: monthly data			-16.9 ²⁾		-27.2
Stock market	-55.4	-27.1	-19.7	-53.4	-19.4
Employment	-17.3	-4.8		-2.5	-1.1
Unemployment rate 1932, 1930 and 2010	19.6	10.2		9.2	
Unemployment rate, change	13.2	2.6		3.1	0.5
Inflation	-12.8	-2.2		1.0	-0.1

¹⁾ At PPP. – ²⁾ Eichengreen and O'Rourke (trade). Ten industrialized countries: Austria, Germany, Belgium, Spain, France, Finland, Sweden, the United Kingdom, the United States, Japan.

Source: See Table 2.

¹⁸ Data made available by Eichengreen and O'Rourke (2009).

Table 5: Comparison of Two Crises: Industrial Production

	Great Depression		Recent Crisis				
	1929/1921	1932/1929	Peak/2000	Peak/1990	2009 forecast ¹⁾	2Q2009/ peak 2008 Quarterly data	Monthly data
	Annual data						
	Percentage change						
Austria	52,1 ²⁾	-39,0	33,0 ¹⁾	77,2	-15,3	-20,5	-20,5
Germany	51,8	-41,2	21,2 ¹⁾	33,5	-21,8	-24,3	-24,3
Belgium	113,0	-36,5	12,3 ²⁾	29,8	-19,0	-16,9 ³⁾	-16,9
Spain	48,1	-6,4	8,5 ²⁾	23,8	-22,7	-22,8 ³⁾	-22,8
France	127,8	-26,0	2,4 ²⁾	13,4	-18,2	-24,6	-24,6
Finland	134,6	-13,1	25,4 ²⁾	108,6	-24,3	-28,2 ³⁾	-28,2
Sweden	94,1	-10,6	19,1 ²⁾	73,9	-22,3	-26,9 ³⁾	-26,9
United Kingdom	57,3	-10,8	0,9 ²⁾	7,1	-12,9	-18,4	-18,4
USA	87,9	-46,0	7,3 ²⁾	56,6	-13,0	-15,7	-15,7
Japan	50,0	-2,6	8,9 ²⁾	4,7	-32,2	-32,1 ³⁾	-32,1
"World"	72,2	-29,5	8,0	33,3	-16,5	-18,9	-18,9
Unweighted average over countries	81,7	-23,2	13,9	42,9	-20,2	-23,0	-23,0
Standard deviation	34,3	16,3	10,4	34,8	5,9	5,2	5,2
Coefficient of variation	0,420	-0,703	0,750	0,811	-0,290	-0,227	-0,227

* 01 - 05/2009 compared to 01 - 05/2008. - ** 1929/1923. - ¹⁾ Peak/2008. - ²⁾ Peak/2007. - ³⁾ 1Q2009/peak. - ⁴⁾ Weighted by GDP. --"World": Countries in table weighted by GDP.

Source: WIFO calculations using Mitchell (1993, 2003), IFS, ST.AT: <http://www.imfstatistics.org/IMF/logon.aspx>, <http://www.statistik.at/>

overall decline (-36%; which stopped in 8M1932). Standard deviation of the decline of exports across the countries was 6.2 in the recent crisis, and 8.4 in the Great Depression.

We draw the tentative conclusion from the steep and fast decline of manufacturing and exports in the first three quarters that the recent crisis did indeed have some potential to develop into a crisis as big as the Great Depression. The level of synchronization in the drops in manufacturing and exports, probably due to globalization, added to that potential. In the next chapter we investigate how economic policy reacted differently this time and thus prevented the crisis unfolding more dramatically.

5 Policy Reaction

It is not easy to compare economic policy in periods as distant as the Great Depression and the recent crisis. Institutions are very different as are strategies of countries and the coordination between them. The gold standard restricted monetary policy in most countries during the Great Depression. The central banks were less coordinated, had different objectives and policy instruments and some countries still had obligations and/or debts from World War I. All countries had separate currencies, and lenders of last resort did not exist to the extent they do today. Automatic stabilizers for fiscal budgets were much smaller. Import duties made up an important share of government receipts. Regional integration areas like EU and NAFTA did not exist. No international competition authority could prevent blunt forms of protectionism or subsidies and no World Trade Organization could monitor openness by reference to trade agreements.

Nevertheless, we will try to describe the differences for monetary policy, using indicators on money supply and interest rates (see Table 6). As regards fiscal policy we will use indicators on public deficits and debt.

5.1 Monetary Policy

Monetary policy was restrictive in the Great Depression, at least in the first years (see Figure 2). This had partly purposefully been the case (e.g. the increase in the discount rates in 1929), and partly been the consequence of the gold standard or the necessity to prevent capital outflows. Discount rates were then lowered somewhat, but not towards zero as in the recent crisis. Furthermore, high deflation turned low nominal interest rates into very high real rates. Money supply decreased up to 1933, with countries abandoning the gold standard earlier having more room for maneuver and thus a quicker recovery (see Eichengreen and O'Rourke 2009; Bernanke 2004). In the recent crisis discount rates were promptly slashed towards zero and there was a coordinated approach between the United States, the EU, and the United Kingdom. Money supply was expanded, governments guarantees were given for savings and loans etc. Innovative forms of extending money supply and providing credits were applied.

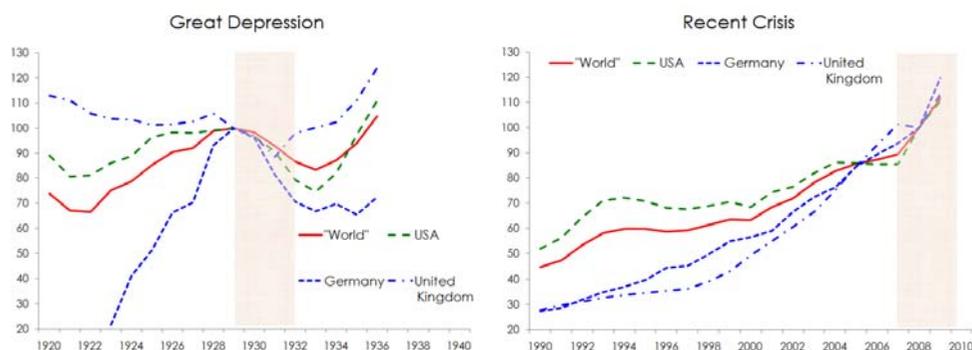
Table 6: Policy Indicators

	Great Depression	Recent Crisis	
	1929/1932	2008/2009	
Money supply	-7.6	12.1	
Discount rate; level start	5.6	4.0	
Discount rate; 1 year after start	4.0	0.6	1)
Discount rate; 2 years after start	4.5		
Discount rate nominal; absolute change	-1.4	-3.2	2)
Discount rate real; absolute change	5.4	-0.7	2)
Fiscal balance in % of GDP; level start	0.7	-1.7	
Fiscal balance in % of GDP; 1 year after start	-0.5	-6.4	
Fiscal balance in % of GDP; 2 years after start	-0.8	-7.8	
Debt/GDP; level start	57.3	68.6	
Debt/GDP; 1 year after start	58.9	78.6	
Debt/GDP; 2 years after start	65.6	86.3	
Customs/GDP; level start	1.8	0.1	
Customs/GDP; 1 year after start	1.8		
Customs/GDP; 2 years after start	2.1		

¹⁾ 1Q2009 -3Q2009. – ²⁾ 1Q2009-3Q2009/1Q2008-3Q2008. Ten industrialized countries: Austria, Germany, Belgium, Spain, France, Finland, Sweden, the United Kingdom, the United States, Japan.

Sources: Money supply: WIFO calculations using IFS, Bank of England, Sveriges Riksbank: <http://www.bankofengland.co.uk/statistics/index.htm>, <http://www.riksbank.com/> <http://www.imf.org/external/ns/cs.aspx?id=28>, Interest rates: WIFO calculations using Mitchell, IFS. Fiscal balances: WIFO calculations using Mitchell (2003), IFS (1980), Bundesrechnungsabschluss: <http://www.rechnungshof.gv.at/berichte/bundesrechnungsabschluss.html>, Debt: WIFO-calculations using Mitchell (1999), Bundesrechnungsabschluss. Customs: Hahn and Magerl (2006).

Figure 2: Money Supply; Great Depression vs. Recent Crisis



Source: WIFO calculations using IFS, Bank of England, Sveriges Riksbank.

5.1.1 Great Depression

In the United States the Fed increased the discount rate from 3.8% in 1927 to 5.3% in 1929 in order to curb stock market speculation. In the following two years it was reduced in two steps to 2.5% in 1931. The United Kingdom, Sweden and Austria (and to a minor degree Germany) followed a similar pattern of increasing discount rates at the start of the Great Depression, followed by a later decrease; Austria and Germany had to maintain a very high nominal discount rate of 7% up to 1931 to restrict capital outflow inter alia after bank failures.

Money supply¹⁹ decreased by 21% in the United States and 29% in Germany between 1929 and 1932.²⁰ Indicators show that bank runs had reduced the velocity of money (Aiginger 2009; Bernanke 2004), so that reduced money supply was not the direct result of a restrictive monetary policy of the central banks only. Money

¹⁹ Money supply is defined as M1; i.e. currency plus sight deposits. Broader concepts on money supply will probably show a steeper decrease in nominal figures during the Great Depression which imply also a (stronger) decline in real money supply.

²⁰ There is surprisingly little discussion about the money supply in real terms. Since prices were falling by cumulatively 13% the decrease in nominal money of only 8% would imply an increasing real money supply for the average of the ten industrialized countries. For the United States nominal money supply decreased by 21% between 1929 and 1932, deflation amounted to 20% (Germany -29% vs. -22%). In these two countries real money supply decreased too but by a (very) low margin. I owe this perspective to a critique by Gunther Tichy.

supply started to grow as late as 1933/34, the fourth and fifth year respectively of the Great Depression.

The only exception with respect to the restrictive use of monetary policy was France. It lowered its discount rate to 3.5% in 1929 to 2.1% in 1931. Money supply increased by 20% from 1929 to 1932.

Deflation amounted to 13% (cumulatively) for the average of the countries from 1929 to 1932, with the highest price cuts in the United States and Germany. A main difference between the Great Depression and the recent crisis is that deflationary pressure had been lingering around before 1929, specifically in the United Kingdom and the United States. By contrast 2008 was a year with rising prices worldwide as the consequence of strong growth and buoyant demand for raw materials, oil and food. Deflation led to two digit real interest rates in Germany, Austria, the United Kingdom and the United States at least for a few years during the Great Depression.

5.1.2 Recent Crisis

By contrast, monetary policy in the recent crisis slashed discount rates to less than 1% in the EU, in the United Kingdom and in the United States soon after the breaking down of the credit markets (after the demise of Lehman Brothers). Central banks flooded the markets by boosting the money supply by open market purchases and less conventional measures of “quantitative easing”. This included buying commercial papers and changing the rules for collaterals. The extent of the measures taken by monetary authorities is not something that can be clearly seen from money supply indicators themselves (such as M1), but rather from the increase in the assets in the balance sheets of the central banks (see Table 11 in Aiginger (2009c)). However, money supply increased by 17% between 3Q2008 and 3Q2009 in the United States and by 8% in the EU (see Table 7).

Table 7: Comparison of Two Crises: Discount Rates and Money Supply (M1)

	Great Depression				Recent Crisis		Great Depression	Recent Crisis
	1928	1929	1930	1931	2008	3Q2009	1932/1929	3Q2009/3Q2008
	Nominal discount rates						Money supply	
Austria	6.3	7.4	5.7	7.2	3.9	1.0	-16.5	7.8
Germany	7.0	7.1	4.9	6.9	3.9	1.0	-29.4	7.8
Belgium								
Spain								
France	3.5	3.5	2.7	2.1	5.4	1.0	20.2	7.8
Finland								
Sweden	4.0	4.7	3.7	4.1	4.0	0.3	2.9	-6.5
United Kingdom	4.5	5.5	3.4	4.0	4.7	0.5	-2.1	-8.5
USA	4.3	5.3	3.3	2.5	1.9	0.3	-20.8	16.8
Japan						0.1		16.2
"World"							-11.0	8.7
Unweighted average over countries	4.9	5.6	4.0	4.5	4.0	0.6	-7.6	4.2
Standard deviation	1.4	1.5	1.1	2.2	1.2	0.4	18.1	9.7
Coefficient of variation	0.281	0.263	0.286	0.483	0.294	0.641	-2.381	2.321

"World": Weighted by GDP

Source for interest rates: WIFO calculations using Mitchell (1993, 2003), IFS. *Source* for money supply: WIFO calculations using IFS, Bank of England, Sveriges Riksbank: <http://www.imf.org/external/ns/cs.aspx?id=28>, <http://www.bankofengland.co.uk/statistics/index.htm>, <http://www.riksbank.com/>

Monetary policy was coordinated between the main regions. Monetary and fiscal policy crossed where governments offered guarantees for deposits and loans and banks were recapitalized. Where necessary, governments took a stake (temporary ownership) in banks and sometimes even manufacturing firms and supported “bad” banks or ring fenced toxic assets.

Thus monetary policy could be applied in a very determined and offensive way in the recent crisis. Firstly, it was not limited by the gold standard and many countries did not need to defend a national currency. Secondly, the remit of monetary policy was interpreted flexibly and broadly. Thirdly, there were no haunting memories of hyperinflation since globalization and European integration had led to decades of low inflation. Most European countries were sheltered from devaluation by membership in the euro area. Some countries which were not

members of the EMU had to devalue.²¹ They had less room to lower interest rates. They were, however, supported by the IMF and the EU.

5.2 Fiscal Policy

5.2.1 Great Depression

Fiscal policy was not used during the Great Depression to counter the declining economic activity, at least not in the first three years. On the contrary governments tried to counteract the automatic stabilization effect of a reduced tax inflow.²² This time, at least in the United States and France, the increasing deficit was not counteracted by tax increases. In the following years the average deficit amounted to 2.3% (average 1933 to 1936).

Six countries had a budget surplus in 1928 (see Table 8), four a deficit, neither was large (maybe with the exception of the surplus of Japan). In 1929 the budget position moved in four countries towards “more restrictive”, in six countries into mild expansion.²³ All changes were minor, so that the small surplus of 0.7% of GDP remained constant. In 1931—the third year of the crisis—the position switched into a deficit, which then increased slowly to 2.8% in 1936.²⁴

Thus budgetary policy tried at the start of the Great Depression to prevent deficits at first but with little success.²⁵ From 1932 on it started to some extent to support economic activity. This holds specifically true for the United States and

²¹ For example Hungary and the Ukraine.

²² Ideally, any thorough evaluation of fiscal policy would need “full employment budget data” to show the extent and length of the restrictive impact of purposive fiscal policy in the Great Depression. Such data are available as to our knowledge only for the United States (Brown 1956).

²³ More restrictive means that a surplus increased or a deficit was reduced. Expansionary implies that a deficit increased or a surplus was reduced.

²⁴ This is the average over all countries with deficits of 7% in the United States and France.

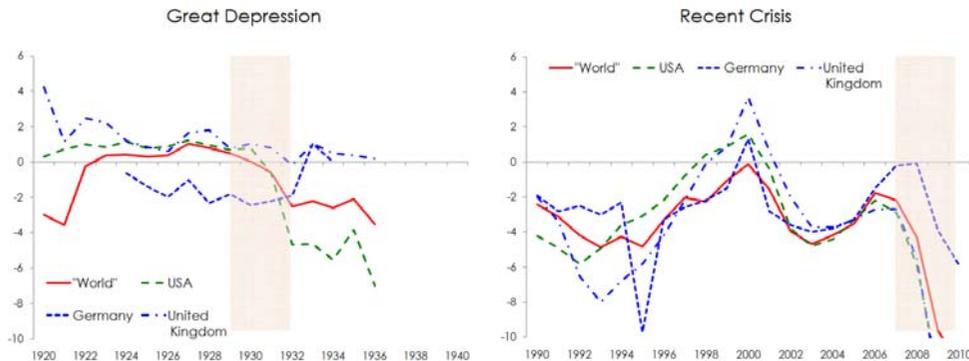
²⁵ The conclusion of Brown (1956: 22) reads “fiscal policy has been an unsuccessful recovery device in the thirties ... not because it did not work, but because it was not tried”. Hansen’s reads (1939:50) “despite a fairly good showing made in the recovery of 1937, the fact that neither before nor since has the administration pursued a real positive expansionist program ... federal government engaged in salvaging program and not a program of positive expansion”.

Table 8: Comparison of Two Crises: Budget Deficit/Surplus in Percent of GDP

	Great Depression													Current Crisis				
	1920 to 1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1931-1929	1931-1936	1932-1929	2007	Forecast			2010-2006
	Average	Annual data										Absolute change			Annual data			Absolute change
Austria	-0.1	-0.7	0.2	-2.3	-3.1	-0.2	-2.7	-2.5	-1.7	-0.4	-3.3	2.7	-0.4	-0.7	-0.5	-4.3	-6.1	-5.6
Germany	-8.6	-2.3	-1.8	-2.4	-2.2	-1.9	1.0				-0.4	2.2	-0.1	-0.2	-0.1	-3.9	-5.9	-5.8
Belgium	-10.3	2.3	1.7	-1.9	-1.6	-3.9	-1.2	-3.2	-5.4	-4.6	-3.4	-2.9	-5.7	-0.3	-1.2	-4.6	-6.1	-4.9
Spain	-1.6	1.5	1.1	0.8	-0.3	-0.8	-1.3	-1.8	-0.9		-1.5	0.3	-1.9	2.2	-3.8	-7.8	-8.7	-4.9
France	-5.5	1.2	1.4	-1.5	-1.8	-1.7	-4.6	-3.8	-5.1	-6.9	-3.3	-5.1	-3.2	-2.7	-3.4	-6.6	-7.0	-3.4
Finland	-1.6	-2.1	-0.8	-1.9	-2.3	-2.6	-1.6	-2.8	-3.8	-3.7	-1.5	-1.4	-1.8	5.2	4.1	-1.5	-2.8	-6.9
Sweden	-1.7	-0.4	-0.4	-0.3	-0.4	-1.9	-4.0	-2.1	-3.5	-2.2	0.2	-1.8	-1.3	3.8	2.5	-3.3	-4.5	-7.0
United Kingdom	1.8	1.8	0.8	1.0	0.8	-0.2	1.0	0.5	0.4	0.2	-0.0	-0.6	-0.9	-2.7	-5.5	-12.8	-14.0	-8.5
USA	0.9	1.0	0.7	0.8	-0.6	-4.7	-4.6	-5.5	-3.8	-7.0	-1.2	-6.4	-5.4	-2.9	-5.9	-12.1	-14.2	-5.3
Japan	8.0	4.5	3.9	2.4	3.1	0.1	-0.5	0.7	1.1	2.4	-0.8	-0.7	-3.6	-2.5	-2.7	-6.7	-8.7	-6.0
"World"	-0.5	0.8	0.4	0.1	-0.5	-2.5	-2.3	-2.7	-2.2	-3.5	-1.1	-3.0	-3.1	-1.9	-3.8	-8.7	-10.3	-6.5
Unweighted average over countries	-1.9	0.7	0.7	-0.5	-0.8	-1.8	-1.8	-2.2	-2.4	-2.8	-1.5	-1.9	-2.5	-0.1	-1.7	-6.4	-7.8	-6.2
Standard deviation	4.2	1.7	1.2	1.4	1.2	1.6	2.2	1.7	2.0	2.9	1.4	3.1	2.0	2.9	3.4	3.9	4.0	1.4
Coefficient of variation	-2.272	2.479	1.746	-2.744	-1.482	-0.875	-1.173	-0.797	-0.844	-1.039	-0.934	-1.579	-0.835	-36.872	-2.085	-0.416	-0.509	-0.264

Source: WIFO-calculations using Mitchell (1993, 2003), Bordo (2008), IFS (1998), OECD, Eurostat, Bundesrechnungsabschluss: <http://sourceoecd.org/>, <http://ec.europa.eu>, <http://www.rechnungshof.gov.at/berichte/bundesrechnungsabschluss.html>.

Figure 3: Budget Surplus/Deficit; Great Depression vs. Recent Crisis



Source: WIFO calculations using Mitchell (1999; Central Government), OECD (General Government, net lending), IFS Yearbook.

France. Country studies and qualitative historic evidence support this view (see Figure 3).

The United States had small surpluses all over the twenties, with no cyclical pattern. This tendency continued 1929. Government expenditure increased in 1930

and remained stable in 1931. Tax revenues first fell slightly then massively in 1932. The decline was counteracted by massive tax increases across the board, but specifically in lower and medium income groups. An earned tax credit was slashed, corporate income tax was increased slightly, a gift tax was provided, and a new list of excise taxes was levied. On the local level general sale taxes and excise taxation were raised.²⁶ Starting from 1932 the deficit jumped to 4.7% and then increased to 5.5% in 1934 and 7.0% in 1936. Some of the increases in expenditure had a semi intentional component, namely the introduction of large bonuses for veterans by congress in 1931 (and 1936). In the mid thirties the New Deal components were added.²⁷

The United Kingdom continued to have budget surpluses over the whole period between 1929 and 1936 (with a tiny exception in 1932). Stabilizing budgets, not the economy seems to have been the priority. If the Great Depression was milder in the United Kingdom, this had definitely not been the consequence of an expansionary fiscal policy. The same is true for Japan.

Austria and Germany had deficits already in 1930 and 1931, probably due to the stronger GDP drop, but tried to reduce them through discretionary policy measures. France had the most expansionary policy, at least from 1933 onwards. Sweden and Finland allowed their deficits to continue although these were not very considerable.

²⁶ Full employment budgets were heavily contractionary—especially from 1933 to 1939 (Brown 1956: 868). For a contrary view see Smithies (1946: 16): "Fiscal policy did prove an effective and indeed the only effective means of recovery". This remark refers however to the period from 1938 onwards (and contrasts fiscal policy with government control on wages and prices). In April 1939 President Roosevelt sent a document to Congress "Recommendations designed to stimulate further recovery", "that was the first outright recommendation, ... designed to achieve recovery through fiscal policy" (Smithies 1946: 16). "All the fiscal measures before had been trial and error, increasing some taxes, financing public work programs, then curbing expenditures to balance the budget, then enacting emergency budgets etc. ... The first phases of the New Deal continued Hoover's policy of cheap money, home and farm relief programs, national industry recovery act, Labor Relations Act ...". For a recent evaluation of the potential of policy measures see Almunia (2009).

²⁷ The US budget was expansionary in 1936 due to a bill providing large veteran bonuses on the initiative of Congress. It was disliked but not vetoed by the President. The budget in 1937 was then specifically restrictive, due to the end of the bonuses and the start of social security contributions. This contractionary effect is described by Romer (2009) as the premature elimination of public support for the economy, which led to another recession (which ended as the budget became expansionary again).

For the average of the ten countries, government debt rose slowly, from 57% of GDP 1929 to 59% in 1930 and 66% in 1931. Its level was extremely different. In France and the United Kingdom it was actually higher than GDP due to debt from World War I; in the United States, Germany and Austria it amounted only to 20% (partly by renegotiating war debt). Debt ratios then increased at a somewhat faster rate in the thirties.

5.2.2 Recent Crisis: Automatic Stabilizers plus Stimulus Packages

Fiscal policy was intensively used in the recent crisis to mitigate the downturn (i) by allowing automatic stabilizers to work, (ii) recapitalizing banks and providing guarantees for banks and firms, and in addition (iii) by providing stimulus packages. The extent to which the downturn was curbed as a result of specific stimulus packages is not easy to assess.²⁸ But the consensus is that they amounted to at least one percentage of GDP, both in 2009 and 2010, with higher stimulus levels in the United States and China, somewhat lower levels in the EU.²⁹ The automatic stabilizers did the largest part of the job although it was very important that these were supported and not thwarted by discretionary restrictive measures.

The overall budget deficit which had been 1.7%³⁰ in 2008 jumped up to 6.4% in 2009 and is predicted to increase up to 7.8% in 2010. The weighted figures are even higher since the United States and the United Kingdom have double-digit deficits in 2010. The dramatic and decisive use of fiscal policy happened in the first and second year of the crisis. If we define the start of the recent crisis as

²⁸ Different calculations do exist by OECD (2009a), EU Commission (2009a), and Saha and Weizsäcker (2009). The OECD estimates that the cumulative effect of the automatic stabilizers over 2009 and 2010 made up for half of the “deterioration of fiscal balances” (OECD 2009a: 56). The remaining half is made up of “structural measures” which can be further subdivided into discretionary measures in response to the financial crisis (making up one fifth); and a larger part from the loss of exceptional revenues related to the asset price boom and the buoyant growth in construction and financial services. Total stimulus for OECD countries makes up 3.4% in the years 2008 to 2010 together (2% is the unweighted average). For other calculations of the impact of fiscal stimulus see Breuss et al. (2009); for economic policy in general see Buiters (2008), Butschek (1978), Mooslechner (2008), Romer (1991), Schubert (2008), Schulmeister (2009) and Steindl (2007).

²⁹ Ireland, Hungary and Iceland could not afford an expansionary policy due to budget or currency problems.

³⁰ Unweighted average over the ten countries.

September 2008 the packages were introduced within the first six months. The turnaround in the budgetary positions³¹ within one year was a striking difference to the late use of fiscal policy during the Great Depression. Even the New Deal or preparations for war after five or more years of depression in the thirties did not produce equivalent changes in the budgetary positions (see Table 8).

The debt to GDP ratio jumped from 69% in 2008 to 79% in 2009 and is predicted to reach 86% in 2010. This level is higher than the maximum in the Great Depression and the increase in percentage points over two years is the same as that over six years during the Great Depression.³²

5.2.3 Multipliers Are Different

Indicators show that fiscal policy was very different in the Great Depression and today. During the Great Depression governments tried to mitigate or compensate the automatic stabilizers, this time they amplified them by stimulus packages. As to the impact of the fiscal stimuli in the first stage sound econometrics is needed, and the final evaluation must also include the effects of fiscal policy in the exit phase.

Automatic stabilizers will be much higher today, due to higher share of tax rates (including social contributions) and higher transfers for unemployed. And they will be higher in Europe than in the United States, which is consistent with the policy response of higher stimulus packages in the United States. As far as multipliers over time are concerned there is some evidence that they decrease e.g. due to higher trade openness. There are also differences across econometric

³¹ In most countries it was a strong increase of the existing deficit. Very few countries had surpluses in their total fiscal balances at the start of the crisis. Japan and specifically the USA started with high deficits (2.5% and 2.9%, respectively). The euro area had a small deficit as compared to previous years (2007: 0.7%, but deficits were high in the United Kingdom and France). Even more stabilization would have been possible if all countries had entered this crisis with budget surpluses.

³¹ For other countries see Eichengreen and Hatton (1988).

³² Debt ratios are surprisingly less reliable than balances for this period. This is partly due to debts from the war period, which were defaulted or renegotiated, partly on an international scale, partly by bilateral agreements (for an overview see Eichengreen, 1992).

models, e.g. traditional Keynesian models lead to a multiplier of 1.5, while New Keynesian DSGE models start with multipliers of 1, then decreasing to 0.4.³³

Even if final policy conclusions are not the goal of this paper there are tentative implications relevant already for the near future (2011, 2012). We in general documented that economic policy was constituent for the relative mildness of the recent crisis. This must however lead to the symmetric conclusion, that it will be important for the exit phase to redraw stimulus not too hard and too quick. This is specifically the case if recovery is weak, as it currently looks in Europe. Literature show that budget consolidations may not decrease economic growth automatically but it offers conditions under which this is more likely and these conditions should be considered earnestly (see Aiginger et al. 2010; Alesina 1988; Alesina and Ardagna 2009).

6 Protectionism, Structural Differences and Caveats

6.1 Protectionism and Coordination

It is well known that the Great Depression was aggravated and became more severe because all countries tried to protect their own economy from the negative impacts of the world depression. The average tariff rate rose by 12.7% during the Great Depression.³⁴ A specific form of protectionism, cited over and over in the literature, was the *Smoot–Hawley Tariff Act*, in which US-tariffs on imports were raised in 1930. In parallel, tariffs and duties were also increased in many other countries.

It is difficult to find general indicators for protectionism. Our data set includes as only indicator available for both crises and each country the customs inflow as a

³³ Cogan et al. (2009). For a recent attempt to analyze the impact of monetary and fiscal policy during the two crises see Almunia et al. (2009: 25). They conclude that “fiscal policy made little difference during the 1930s because it was not deployed on the requisite scale”. They suggest a positive impact of government expenditures on GDP during the interior period, with substantial fiscal multipliers. The study also provides some evidence that monetary policy was effective but with less robust results. Results are tentatively positive also for the recent crisis for both fiscal and monetary policy.

³⁴ Average over fourteen countries.

percentage of GDP. It indicates that not only tariffs but also import duties were important at the time of the Great Depression; they constituted a major source of revenue for government. Increasing the duties had additionally the welcomed effect to protect domestic producers.

Customs receipt in relation to GDP amounted to 0.6% for the United States between 1925 and 1928 and was flat. It changed little during the first years of the crisis, and if anything it decreased in the following years. Since trade dropped considerably this implies higher customs duties per unit of trade. There was no specific pattern in the following years, but then a steep increase in 1936.

In European countries the level of custom inflows relative to GDP was three times as higher from the start.³⁵ The receipts strongly increased already in the build-up period.³⁶ This was the case specifically in France, Germany and Austria. They were flat in the United Kingdom and decreased a little bit in Sweden. From 1929 to 1935 customs inflow exploded in the United Kingdom (from 0.8% of GDP to 4.7%) and France (from 1.4% to 3.0%). The increase was not so pronounced in Germany and tariffs relative to GDP decreased in Austria starting in 1931.

Thus protectionism, if measured correctly by customs receipts relative to GDP, did not start the Great Depression (at least in the United States), but played a role in prolonging and deepening it. It seems to have been applied more in Europe than in the United States, where the *Smoot–Hawley Tariff Act* is so prominently discussed.

Another indicator which could contain indirect information on protectionism is the openness indicator (see Table 9). It combines information on export and import shares in GDP.³⁷ It dropped from 34% to 20% between 1929 and 1932.³⁸ Again the fall was less for the United States, namely “only” more than a third while it dropped by nearly one half for Germany, France and the United Kingdom³⁹. The

³⁵ 1.75% for 1925–1928 (unweighted average over European countries).

³⁶ The increasing importance of customs in the pre-crisis period of the Great Depression in Europe is a major difference to the recent crisis, which was preceded by a phase of trade liberalization.

³⁷ Nominal exports plus nominal imports divided by nominal GDP.

³⁸ Unweighted average for Austria, Germany, France, Sweden, United Kingdom, the United States.

³⁹ Unweighted average.

Table 9: Comparison of Two Crises: Openness and Change during the Crises

	Great Depression			Recent Crisis		
	1929	1932	1932-1929	2008	2009	2009-2008
			Absolute change			Absolute change
Austria	45.1	22.5	-22.6	84.0	66.4	-17.6
Germany	33.8	20.5	-13.3	72.5	57.8	-14.7
Belgium						0.0
Spain						0.0
France	31.3	18.6	-12.7	45.6	35.9	-9.7
Finland						0.0
Sweden	37.3	26.2	-11.0	71.6	52.9	-18.7
United Kingdom	48.5	29.5	-18.9	40.7	33.9	-6.7
USA	9.4	5.1	-4.3	24.3	18.4	-5.9
"World"	23.2	14.7	-8.5	35.2	27.4	-7.8
Unweighted average over countries	34.2	20.4	-13.8	56.5	44.2	-12.2
Standard deviation	13.8	8.5	6.4	23.0	17.8	7.5
Coefficient of variation	0.404	0.416	-0.460	0.408	0.404	-0.615

Share of exports plus imports to GDP. – "World": Weighted by GDP. –¹⁾ 1Q2009/2Q2008. –²⁾ 1Q2009/3Q2008. –³⁾ 2Q2009/1Q2008. –⁴⁾ 2Q2009/3q2007. –⁵⁾ – 1Q2009/1Q2008. –⁶⁾ 2Q2009/4Q2006. –⁷⁾ 2Q2009/1Q2008

Source: WIFO calculations using Mitchell (1993, 2003), IFS (1998), WTO.

US “openness” decreased in the recent crisis less than in the Great Depression even in absolute changes and much less for relative changes.

Neither receipts from import duties (relative to GDP) nor openness indicators are perfect indicators of protectionism in severe crises. Receipts may decrease if the duties successfully reduce imports; trade openness indicators may reflect export and import elasticity relative to GDP more than policy measures. However numerous analyses inter alia by international organizations stress that up to now protectionist measures had been limited in the recent crisis (OECD 2010; Francois and Stöllinger 2009).

This time international coordination meetings (G20, EU Commission, IMF, and OECD) discussed and monitored the danger of protectionism (apart from the WTO). “Buy National Clauses” were clandestinely or openly put into many

stimulus programs. However, this usually met with international protest. They were consequently softened, albeit not totally abandoned. New export duties came into existence even before the crisis (to limit the outflow of resources or food in the period of scarcity before the crisis started), but these have, up to now, been limited. Tensions could however rise if the crisis continues and large imbalances between countries begin to occur (see the conflict about tires between the United States and China in September 2009 and the Chinese threats of retaliation).

6.2 Structural Differences

Some changes in the structural characteristics of the world economy have helped to limit the recent crisis, some have increased the probability that a crisis would spread quickly, in a cumulative and accelerating spiral.

One factor mitigating the impact of the crisis will have been the lower share of manufacturing in industrialized countries. It amounted to 25% or more in 1929, but now lies below 20% in most industrialized countries and at 12% in the United States.⁴⁰ The service sector is less globalized and less cyclical (no inventories, no bulk investment as in manufacturing). The larger public sector also has a considerable stabilizing effect. It now amounts to more than 40% of GDP in most industrialized countries. Public goods are less exposed to economic cycles, and neither exported nor imported at a large scale. Furthermore, specific features of public revenue and expenditure contribute to the stabilization: higher marginal taxes and high replacement ratios for the unemployed increase the so called “automatic stabilization” effects of fiscal budget (for more factors defining the resilience of an economy see Aiginger (2009b)).

On the other hand openness and globalization have increased. As already mentioned openness measured by the sum of the export and import ratio had been 34% in 1929 and reached 56% in 2008.⁴¹

⁴⁰ It is however much higher if we include China and the share of manufacturing does not fall for real data to the same extent as for nominal data (Aiginger and Sieber 2006) and not for industrial latecomers (see Almunia et al. 2009).

⁴¹ For the United States the figures are 9% versus 24%. For Germany and France the openness increased rather dramatically, namely from a little above 30% at the start of the Great Depression to 73% and 46% in 2008. This reflects the impact of European Integration. The United Kingdom is the only exception insofar as openness has actually decreased according to this measure. Indicators on

The size of financial sector is today much larger. Data available for industrialized countries show that it doubled in the United States between 1970 and 2007 (from 4.1% to 7.9%), and increased its share in GDP by one quarter in the big EU countries (from 4.3% to 5.4%).

6.3 Caveats

We have to stress the limited scope of this paper and to add at least three caveats. We intentionally wanted primarily to present stylized facts. Since the facts we should chose to investigate, the period we analyzed and the policy indicators we reported all depended on the causes of the crisis, (and ideally also the long-run consequences), the paper is written with background knowledge (and sometimes personal interpretation) of the consensus of economists on the recent crisis. This background is partly reported in the paper and partly has to be evidenced by looking at the references.

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, this was incorporated in the calculations), since budget deficits are high, and since several causes of the crisis (disequilibria in the United States/China, regulatory problems in the financial sector, over liquidity concurring with a credit squeeze) are themselves not over. Sooner or later there could be echo effects or even a second crisis. However it will not be comparable to the second or third stage of the Great Depression. Then the crisis affected sector to sector with small interim periods of hope: first came the breakdown of the stock market, then that of trade and then banking failures. This time round all these three stages happened within the first

foreign direct investment and financial flows indicate increased globalization. Goods are traded today for longer distances and the horizon for direct investment has become worldwide

three quarters of the first year of the crisis. Furthermore, GDP, industrial production and the stock market are increasing in 2010 on a scale they never did in the periods of interim optimism during the Great Depression. Therefore, it is a good time to make an assessment as to the depth of the crisis, even if the unsolved problems and the financial burdens taken on to combat the crisis may in themselves finally contribute to another crisis—and even if the recent crisis will lead to lower growth and higher unemployment levels for several years (and lost output may never be recovered)

Caveat 2: The effects of policy interventions cannot be judged adequately today. Our indicators show that policy behaved different this time round and data suggests that this had a positive effect. Currently it looks like a striking success for Keynesian anti cyclical policy. We are however not even near to be able to make a final judgment. A full evaluation needs first of all sound econometrics; even this evidence will depend on models used. And it needs to know what echo shocks may arrive (e.g., debt crisis in Greece) and how they will be handled. A final evaluation is possible only if we know how we will exit the crisis and how these exit strategies will influence economic activity. Many structural problems were not tackled in the build up phase, were then sidelined in the crisis, and will probably not be addressed in the exit phase due to a shortage of money or to economic policy paying little heed to these issues.

Caveat 3: the analysis focuses on industrialized countries and is limited to indicators which are available for many countries. In fact the crisis as well as the policy reactions and problems in the aftermath of the crisis were very different between China, the United States and Europe.

7 Summary

The goal of this paper has been to provide stylized facts about the differences in the depth of the recent crisis and the Great Depression. This is important in view of the fact that some economists have claimed for several quarters after its start in mid 2008 that the recent crisis was as severe as the Great Depression (Eichengreen and O'Rourke 2009), while others have claimed that it “pales in comparison” with the Great Depression (Romer 2009). The facts are presented in view of the

consensus that the recent crisis leveled off in mid-2009 for production but continues for unemployment in 2010.

Stylized Fact 1: 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. There are especially large differences for real growth, employment and unemployment. 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 the fact whether we use weighted or unweighted indices (since the decline of stock market prices was considerable less in the recent crisis for the United States but not for other countries). There had been severe deflation in the thirties, this time round there were a few but very short episodes where the overall price level declined. Taking GDP as overall measure for the depth of the recent crisis the drop in activity for industrialized countries was about half as strong as compared to the Great Depression vindicating Krugman's position of "half a Great Depression". If we extend the analysis to all countries, world GDP declined by 1% only in 2009 (using annual figures), in this perspective the recent crisis "pales in comparison" to the Great Depression supporting Romer's assessment.

Stylized Fact 2: Economic activity has been more synchronized across countries in the build-up period to the recent crisis, and also for the first stage of the crisis itself. The Great Depression had two epicenters (Germany/Austria and the United States). This time round almost all industrialized countries had rather parallel declines in economic activity in the first three quarters of the crisis. The measures of dispersion across countries for all activity indicators are lower in this period. It is still an open question whether this will be the case for the exit phase too, since growth rates are very different across regions in 2010.

Stylized Fact 3: The decline in the first nine months was stronger in the recent crisis for manufacturing and trade, supporting the view that this crisis had the potential to develop into a 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 of the stock market, of world trade, and finally the bank failures happened in different waves over years rather than simultaneously.

Stylized Fact 4: Economic policy, specifically monetary policy and fiscal policy, re-acted quite differently in each crisis. 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. There was more consensus among economists and more international coordination due to the G7, G20, the IMF, and the World Bank. The stylized facts are compatible with the conclusions that (i) the recent crisis had the potential to develop into a much larger crisis and that (ii) fiscal and monetary policy prevented the recent crisis from developing into a crisis of the magnitude of that of the Great Depression. The final proof of the impact of economic policy needs empirical work with sophisticated models and methods and more knowledge about the further economic development. The stylized facts presented concentrate primarily on ten industrialized countries, even if, wherever possible, data on world output, trade, stock markets etc. are added.

This time there were institutional factors which mitigated the danger of a larger crisis, such as the lower share of manufacturing and the higher share of services and the public sector (including transfers). However, there were also factors increasing the danger of cumulative downward spirals, namely the higher degree of openness, larger shares of international investment and finance and a larger financial sector in general. International cooperation hindered blunt forms of protectionism. Newly industrializing countries, specifically in Asia, used accumulated surpluses for stimulating their own economy and they had gained

enough weight (due to recent growth) to contribute to the stabilization of the world economy.

Our overall assessment is that the recent crisis (the Great Recession) and the Great Depression can be seen as siblings; those were born under different circumstances and were given different foster parents (insofar as economic policy reacted differently). Let's watch how the luckier sibling (the younger one) matures.

Acknowledgement This paper was discussed at conferences and workshops at OECD, Forum of Macroeconomic Policy (FMM), WIFO and Mendel University (Brno). The author wishes to thank Gerhard Allgäuer, Fritz Breuss, Felix Butschek, Burghard Feuerstein, Franz Hahn, Jürgen Janger, Helmut Kramer, Karl Pichelmann, Hans Pitlik, Sonja Schneeweiss, Margit Schratzenstaller, Helene Schuberth, Stephan Schulmeister, Hans Seidel, Egon Smeral, Hannes Statmann, Peter Szopo, Gunther Tichy, Thomas Url and Ewald Walterskirchen for their valuable critique. However, any opinions expressed in the article remain the sole responsibility of the author and do not always reflect the opinions of the critics. I am grateful to Dagmar Guttmann for her research assistance and the WIFO team of research assistances under the lead of Christa Magerl for providing data in the WIFO Long-term Database (Silvia Haas, Sandra Schneeweiß, Eva Sokoll, Andrea Sutrich and Roswitha Übl). We are grateful furthermore for the critique of A.W. Mullineux, Thomas Mayer and two anonymous referees.

Annex

Employment policy

International literature focuses on labor market policy in the Great Depression in the United States (For other countries see Eichengreen and Hatton (1988)). The United States tried to mitigate unemployment early through intensive work relief programs (in which the government employed people at low wages). Starting in 1930, 0.6% of unemployment and then in 1935 a maximum of 5.9% was “parked”

in relief programs: the unemployment rate including relief program workers was 20.1% in 1935, and 14.2% without them (Margo 1993: 42).

A different important feature of labor market policy was that firms did not cut wages. Indeed real wages were increasing sharply during the recession e.g. by 20% between 1929 and 1931. This was followed by a phase where wages went up and down, but there was a general trend of 30% higher real wages in 1939 as compared to 1929 (Margo 1993; Bernanke 2004; etc). The macroeconomists of the time blamed the length of the recession for this trend of rising real wages. There had, however, also been a lot of variation in working times, which mitigated costs for firms and which may have encompassed an element of lowering wages not reflected in the statistics. There are several explanations as to why real wages increased despite the slump. The first one is the stickiness of nominal wages which, due to falling prices, increased in real terms. Other authors cite an echo effect from the recession in 1921, in which wages had been cut and the crisis worsened. Furthermore, reference is given to a social norm, that firms should not decrease wages in a recession. Finally, the concept of efficiency wages could be used. Firms did not like to cut wages since this lowers motivation and productivity.

A macroeconomic policy, in the Keynesian form was not applied and there would not have been an appropriate channel at that time. Roosevelt's New Deal Legislation, the National Industry Recovery Act of 1933, established guidelines that raised nominal wages and prices and encouraged higher levels of employment through reducing the working week. Part of the legislation was declared unconstitutional in May 1935. Weinstein (1980) investigated the effect of this legislation and it was criticized by Temin (1976) for making unemployment even more persistent.

In the recent crisis, in many countries, labor market policies have been used to dampen the effects of declining economic activity on employment. Programs have been started to support shorter working times specifically in firms that have been hard-hit ("Kurzarbeitsprogramme"). This is likely to be the reason why e.g. in Germany and Austria the increase in unemployment and the decline in employment as compared with the decline in GDP is actually less than in the United States. A less pronounced decline in employment in turn stabilizes GDP via consumption. The impact of the crisis is also reduced if the mismatch between the supply and demand of qualifications is minimized and if regional and job

mobility is increased. For the exit phase the dampening of the employment effect of the crisis could imply a slower response of the labor market specifically in Germany vs. the United States.

A general shortening of work time has not been considered (the same holds for large early retirement programs), specifically since in most industrialized European countries the population of working age is predicted to shrink in the next years due to an ageing population.

References

- Aiginger, K. (2009a). [The Current Economic Crisis: Causes, Cures and Consequences](#), WIFO Working Paper No 341/2009.
- Aiginger, K. (2009b). [Strengthening the Resilience of an Economy, Enlarging the Menu of Stabilization Policy as to Prevent another Crisis](#). *Intereconomics*, 44 (5), 309–316.
- Aiginger, K., Böheim, M., Budimir, K., Gruber, N., Pitlik, H., Schratzenstaller, M., Walterskirchen, E. (2010). [Optionen zur Konsolidierung der öffentlichen Haushalte in Österreich](#), WIFO.
- Aiginger, K., Sieber, S. (2006). [The Matrix Approach to Industrial Policy](#). *International Review of Applied Economics*, 20 (5), 573–601.
- Alesina, A. (1988). [The End of Large Public Debts](#). In Giavazzi, F., Spaventa, L., (Eds.), *High Public Debt: the Italian Experience*. Cambridge: Cambridge University Press.
- Alesina, A., Ardagna, S.(2009). [Large Changes in Fiscal Policy: Taxes versus Spending](#). NBER Working Paper 15438.
- Almunia, M., Bénétrix, A.S., Eichengreen, B., O'Rourke, K.H., Rua, G.(2009). [From Great Depression to Great Credit Crisis: Similarities, Differences and Lessons](#). NBER Working Paper No. 15524.
- Barrell, R., Stankov, G. (2008). [The Great Crash of 2008: Special Issue of NIER Explores Evolution of the Current Financial Crisis](#). National Institute of Economic and Social Research, 206.
- Bernanke, B. S. (2004). [Essays on the Great Depression](#). Princeton: Princeton University Press.
- Bordo, M. D. (2008). [An Historical Perspective on the Crisis of 2007–2008](#). NBER Working Papers No 14569.
- Breuss, F., Kaniovski, S., Schratzenstaller, M. (2009). [Macro-economic Effects of the Fiscal Stimulus Measures in Austria](#). *Austrian Economic Quarterly*, 14 (4), 205–216.
- Brown, E. C. (1956), [Fiscal Policy in the Thirties: A Reappraisal](#). *American Economic Review*, 46, 857–879.

- Buiter, W. H. (2008). [Lessons from the Global Credit Crisis for Social Democrats](#): Background paper for the Dr. J.M. Den Uyzelling 2008, given on December 15, 2008, in the Rode Hoed, Amsterdam.
- Butschek, F. (1997). *Statistische Reihen zur österreichischen Wirtschaftsgeschichte. [Die österreichische Wirtschaft seit der Industriellen Revolution](#)*, Monographien, 7/1997.
- Butschek, F. (1985). *[Die österreichische Wirtschaft im 20. Jahrhundert](#)*. Stuttgart: Fischer.
- Butschek, F. (1978). *[Die österreichische Wirtschaft 1938–1945](#)*. Stuttgart: Fischer.
- Cogan, J.F., Cwik, T., Taylor, J.B., Wieland, V. (2009). [New Keynesian versus Old Keynesian Government Spending Multipliers](#). Use a Mirror. NBER Working Paper No. 14782.
- Cooper, G. (2008). *[The Origin of Financial Crises](#)*. Hampshire: Harrian House.
- Eichengreen, B. (1992). *[Golden Fetters: The Gold Standard and the Great Depression 1919–1939](#)*. Oxford: Oxford University Press.
- Eichengreen, B., Hatton, T. J. (1988). *[Interwar Unemployment in International Perspective](#)*. Dordrecht: Kluwer Academic Publishers.
- Eichengreen, B., O'Rourke, K. (2009). [A Tale of Two Depressions](#). Available at <http://www.voxeu.org/index.php?q=node/3421>.
- European Commission (2009a). [Public Finances in EMU 2009](#). Brussels.
- European Commission (2009b). [Fifth report on potentially trade restrictive measures in the context of the global economic crisis for the 133 Committee](#). Brussels.
- Francois, J., Stöllinger, R. (2009). [New Shades of Protectionism and the Role of Multinationals](#). FIW Policy Brief 2.
- Gros, D., Alcidi, C. (2009). [What Lessons from the 1930s?](#) CEPS Working Document, 312.
- Hahn, F. R., Magerl, Ch. (2006). [Vermögen in Österreich](#). *WIFO-Monatsberichte*, 1, 53–67.
- Hansen, A.H. (1939). *Full Recovery or Stagnation?* New York: W.W. Norton & Fairchild.

- Helbling, T. (2009). [How Similar Is the Current Crisis to the Great Depression?](#) [International Financial Statistics Yearbook \(1998\)](#). International Monetary Fund, Vol. 46, 1998.
- International Financial Statistics Yearbook (1980). International Monetary Fund, Vol. 28, 1980.
- IMF (2009). [Financial Stability Report](#). Washington, April 2009.
- IMF (2009). [World Economic Outlook, Crisis and Recovery](#). Washington, April 2009.
- Kindleberger, C. B. (1986.). [The World in Depression 1929–1939](#). Berkeley: University of California Press.
- Krugman, P. (2009a). [The Return of Depression Economics and the Crisis of 2008](#). New York: Norton.
- Krugman, P. (2009b), [The Great Recession vs. the Great Depression](#). New York Times.
- Krugman, P. (2009c). [The Great Recession versus the Great Depression](#). The Conscience of a Liberal. *New York Times*, Tuesday, May 25, 2010.
- Margo, R. A. (1993). [Employment and Unemployment in the 1930s](#). *Economic Perspectives*, 7 (2), 41–59.
- Mooslechner, P. (2008). [Finanzkrise, Quo Vadis?](#) Contures 4.
- OECD (2010). [Economic Policy Reforms—Going for Growth 2010](#). Paris.
- OECD (2009a). [Fiscal Packages Across OECD Countries: Overview and Country Details](#). Paris.
- OECD (2009b). [Policy Responses to the Economic Crisis: Investing in Innovation for Long-term Growth](#), Paris.
- Reinhart, C. M., Rogoff, K. S. (2009). [The Aftermath of Financial Crises](#). NBER Working Paper No. 14656.
- Romer, Ch. D. (2009). [Lessons from the Great Depression for Economic Recovery in 2009](#). Council of Economic Advisers, presented at the Brookings Institution, Washington, D.C.

- Romer, Ch. D. (1991). [What ended the Great Depression](#). NBER Working Paper No 3829.
- Saha, D., Weizäcker, J. (2009). [Estimating the Size of European Stimulus Packages for 2009: An Update](#). Bruegel.
- Schubert, H. (2008). [Paradigmenwechsel in der Beurteilung von Finanzmärkten](#). *WISO* 4/2008, 15–27.
- Schulmeister, St. (2009). [Die neue Weltwirtschaftskrise—Ursachen, Folgen, Gegenstrategien](#). Arbeiterkammer, Wien, Materialien zu Wirtschaft und Gesellschaft No 106, Wien.
- Smithies, A. (1946), [The American Economy in the Thirties](#). *American Economic Review, Papers and Proceedings*, 36 (2):11–27.
- Steindl, F. G. (2007). [What Ended the Great Depression? It Was Not World War II](#). *The Independent Review*, 12,(2):. 179–197.
- Taylor, J. B. (2009). [The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong](#). NBER Working Paper No. 14631.
- Temin, P. (1976). [Did Monetary Forces Cause the Great Depression?](#) New York: W.W. Norton.
- Weinstein, M. (1980). [Recovery and Redistribution under the NIRA](#). Amsterdam: North-Holland.

Sources for Historical Data

- Mitchell, B. R. (1993). [International Historical Statistics: The Americas, 1750–1988](#). London: Macmillan.
- Mitchell, B. R. (2003). [International Historical Statistics Europe 1750–2000](#). Basingstoke: Macmillan.
- Maddison, A. (1995). [Monitoring the World Economy 1820–1992](#). Paris: OECD.
- Maddison, A. (2003). [The World Economy: Historical Statistics](#). Paris: OECD.
- Groningen Growth and Development Centre, Historical National Accounts: <http://www.ggdc.net/databases/hna.htm>, <http://www.ggdc.net/maddison/>.

WIFO, Monthly Bulletin, Annual Volumes 1927–1934: *Monatsberichte des österreichischen Institutes für Konjunkturforschung*. Selbstverlag des österreichischen Institutes für Konjunkturforschung, Vol. 1–8, 1927 to 1934.

Please note:

You are most sincerely encouraged to participate in the open assessment of this article. You can do so by either recommending the article or by posting your comments.

Please go to:

www.economics-ejournal.org/economics/journalarticles/2010-18

The Editor