

## Has the financial crisis spurred demand for stronger state regulation?

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### Abstract

This paper analyses whether the financial crisis has affected citizens' confidence in the free market economy and whether it has triggered citizens' demand for a free market economy with stronger state regulations. Using panel data, the paper confirms that citizens' confidence levels in the free market economy have decreased in most of the largest economies and demand for a free market economy with stronger state regulation has increased on both sides of the Atlantic. After analysing the determinants for citizens' confidence in the free market economy and demand for a free market economy with stronger state regulation before and after the financial crisis, the author concludes that citizens' net confidence loss in the free market economy seems to have been driven by rising unemployment rates, and citizens' demand for stronger state regulation seems to have been driven by the real economic downturn in GDP growth.

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# HAS THE FINANCIAL CRISIS SPURRED DEMAND FOR STRONGER STATE REGULATION?

*CEPS WORKING DOCUMENT No. 336/SEPTEMBER 2010*

FELIX ROTH\*

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## Introduction

Research has shown that a *certain* level of trust in and approval of the market economy is an important ingredient in ensuring the smooth running of the economic, political and social system. A key question is thus to what extent has the financial crisis undermined trust in both markets and institutions, and with what consequences? The purpose of the following paper is to address these crucial issues with respect to the large economies in Europe, across the Atlantic and Japan. Based on panel data from the GlobeScan survey, which covers the time frame from before to after the financial crisis in the large European economies, the US, Canada and Japan, this analysis addresses the question of whether the financial crisis has negatively affected citizens' approval for the market economy. Furthermore, it investigates whether the financial crisis has increased citizens' demand for a free market economy with stronger state regulation. The damage inflicted by declining rates of approval of the free market economy might represent one of the most costly consequences of the crisis.

## 1. Prior Theoretical Reflections

### *The financial crisis and its impact on the real economy*

Although economic crises are somehow 'naturally' inherent to capitalist systems, as can be inferred from historical case studies reaching as far back as the 'tulip mania' in the 17<sup>th</sup> century (see Kindleberger & Aliber 2005), the financial crisis at the end of the first decade of the 21<sup>st</sup> century has to be considered especially grave owing to the new dimension of global connectedness of world economies. Evidence shows that industrial output has fallen more sharply in some OECD economies, particularly France, Italy and Sweden, after the most recent financial crisis than it did during the Great Depression (Eichengreen & O'Rourke 2009). But when did the current financial crisis begin? Most observers agree that early signs could be detected in 2007, but the character of the crisis changed completely on 15 September 2008 with the bankruptcy of Lehman Brothers.<sup>1</sup> Since October 2008, national governments have spent

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<sup>1</sup> Like other financial institutions, Lehmann Brothers needed more credit to back up its business, but due to the ongoing trust crisis, the financial markets simply stopped lending money and Lehmann was not able to acquire sufficient credit. However, unlike before, in the case of Lehmann Brothers the Federal Reserve Bank ceased to act as the lender of last resort, presumably to prevent future moral hazards, and did not continue its strategy of backing up financial industry institutions as it had done in the cases of Fannie Mae and Freddie Mac and other investment banks. With the lender of last resort gone, the panic spread from US stock markets to others around the world, resulting in a major crash of global stock markets, with clear impact on public confidence in the economy and trust in business. As soon as the

approximately €2.9 trillion (European Commission 2009) in guarantees in order to restore citizens' confidence in the financial markets and in the safety of their own savings. Moreover, EU governments have spent €200 billion (European Commission 2008) on stimulus packages to prevent the further deterioration of their economies and world economic activity in general. Nevertheless, all these measures did not prevent the severest economic crisis since the 1930s. The first estimates of the damage of the financial crisis to the real economy were published in 2009. For example, a study by the Commerzbank (Zeitpunkt 2009) estimates that worldwide losses amounted to €7.3 trillion, which equals three-quarters of the yearly GDP of the US and three times the GDP of Germany.<sup>2</sup> In the aftermath of the financial crisis GDP has declined by 5.2% on average in the G7 countries from the first quarter of 2008 to the second quarter of 2009 and the unemployment rate has increased by 1.67 percentage points on average over the G7 countries.

### ***How did the financial crisis affect citizens' systemic trust?***

The fact that financial markets could come so close to collapse has given citizens a glimpse of the fragility of modern finance. They have witnessed the near collapse of the financial industry (and consequently the real economy), which could only be rescued by the immense efforts of states, as described above. More precisely, citizens have been confronted with the fragility of their economic systems and their strong dependence on mutual trust. If the production system enjoys *sufficient* trust, the production process works smoothly, but if this trust is undermined, it can have dramatic consequences for the production process. Thus one might conclude that in free market economies, trust is an essential input in the production process. Without a sufficient level of trust, free market economies cannot function, at least not efficiently. Trust here functions as a kind of 'grease', facilitating production and minimising transaction costs (see Hardin 1982, North 1990, Ostrom 1990 and Fukuyama 1996). From a firm's perspective, if the employer can trust his employees *sufficiently*, contracts do not need to cover all contingencies. Furthermore, if management trusts its employees, it can spend less resources on monitoring their performance and more on research and development that enhance innovation.<sup>3</sup> The chain of events triggered by the collapse of Lehman Brothers has shattered citizens' confidence in the long run, resulting in lower levels of systemic trust.

### ***Systemic trust***

According to a number of social scientists (Putnam 2000, Levi 1998, Newton 2001 and Luhmann 2000), the concept of trust should be split into three forms: i) thick trust, ii) interpersonal trust and iii) systemic or institutional trust. This paper is concerned with the third form of trust: citizens' confidence in their institutions, particularly with citizens' confidence in the overall mode of production. Although the concept of systemic trust has been studied widely by sociologists (Luhmann 2000) and political scientists (Zucker 1986, Newton 1997 and Putnam 2000), economists have only recently begun to explore the concept in their research (Guiso et al. 2004; Guiso 2010; Knell & Stix 2009; Sapienza & Zingales 2009 and Roth 2009).

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Federal Reserve and the US Department of Commerce became aware of the disastrous consequences of the bankruptcy of Lehmann Brothers on investors' trust around the globe, they bailed out the American International Group (AIG) insurance company on 16 September in order to prevent a global breakdown of financial markets and hence also of the real economy. By that time, however, the trust crisis had spread around the world.

<sup>2</sup> However, the study warns that the results should be handled with caution. Estimated losses include, for instance, insolvencies of banks and value losses in the US housing market.

<sup>3</sup> Nevertheless, the importance of the fear factor in worker-manager relations should also not be underestimated (Roth 2010).

Whereas Luhmann differentiates three forms of systemic trust: i) trust in the parliament (trust in legitimate power), ii) trust in money<sup>4</sup> and iii) trust in informative authority, most political scientists focus solely on confidence in the government (Mishler & Rose 2001, Blind 2006 and Chanley et al. 2000). Although this paper agrees that institutional trust is a crucial component of systemic trust, it focuses on the more economic dimension of ‘confidence in the mode of production’ in its definition. The importance of confidence in free market economies and state institutions has also been stressed extensively by policy-makers throughout the financial crisis (see Tonkiss 2009).

### ***What is the potential impact of low systemic trust? Will it lead to more public interventionism?***

According to the literature on systemic trust, there are three broad sets of consequences associated with increases or decreases in levels of systemic trust. First, accepting the positive empirical results on the relationship between interpersonal trust and economic growth (Knack & Keefer 1997, Zak & Knack 2001, Whiteley 2000, Beugelsdijk et al. 2004 and Akcomak & Ter Weel 2009), one can assume that systemic trust has a positive effect on economic growth. However, as most recent empirical results on the macro- and micro-level demonstrate a curvilinear relationship between interpersonal trust and economic growth (Roth 2009, Bidault & Castello 2009 and Butler et al. 2009), one can conclude that systemic trust is more likely curvilinear related to economic growth. Second, systemic trust should be considered crucial to the stability of democracy. Various empirical studies have shown that interpersonal trust is positively related to democracy (Paxton 1999, 2002 and Gabriel et al. 2002). Trust in the government is a basic prerequisite for the legitimacy of those who have been entrusted with political power by their citizens (Levi 1998). Levi (1998) claims that citizens are more likely to comply with norms if they perceive that: i) the government is trustworthy and ii) other citizens are cooperative as well. In particular, Scholz (1998) finds evidence that political as well as social trust increases tax law compliance. Blind (2006) asserts instead that the relationship between trust and governance should be considered as circular: confidence towards institutions enhances efficiency in governance, which in turn fosters political trust. A third consequence found in the literature on systemic trust, especially trust of the production regime of free market economies, is its effect on citizens’ demand for redistributive policies (Alesina & La Ferrara 2005 and Aghion et al. 2009). Should citizens not consider the production system as fair and just they will start to pressure their national governments for redistributive policy measures and more state intervention. In this instance, Alesina & Angeletos (2005) argue that the belief in the fair operations of the economic system is associated with a lower incidence of citizens demanding redistributive measures. Alesina et al. (2001) stresses this kind of argument when assuming that if citizens should feel strongly dissatisfied with the market economy, they may respond by pressuring governments to move towards more communitarian/socialist modes of production.

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<sup>4</sup> The importance of the relationship between money and trust cannot be elaborated upon in this paper, as it would give rise to another extensive discussion. That money and trust are identical has been stressed by economic sociologists such as Perelmann (1998), who stresses that credit is trust and that a crisis of trust would evidently lead to a credit crisis within the financial system. Similarly, Helmut Schieber (2000) points out that money should be considered as trust. In an interview with Western media, Chinese Premier Wen Jiabo told the Financial Times that “confidence is the most important thing, more important than gold or currency” (Merk 2009). Former US Labor Secretary Robert Reich argues that “the fundamental problem isn’t a lack of capital. It’s a lack of trust and without trust, Wall Street might as well fold up its financial tents” (in Tonkiss 2009: 196).

The following empirical analysis intends to shed some light on this third consequence, examining in particular whether the financial crisis has eroded citizens' confidence in the free market economy and whether citizens' demand for more state regulation has grown.

## 2. Previous Empirical Results

To the author's knowledge, no international comparative empirical research has been conducted on the determinants of citizens' confidence in free market economies and of citizen's demand for a free market economy with stronger state regulation.<sup>5</sup> In particular, no empirical study has attempted to evaluate the consequences of the financial crisis on citizens' net confidence in the free market economy. This is simply because publicly available and internationally comparable surveys such as the World Value Survey (WVS), European Value Survey (EVS), International Social Survey Programme (ISSP) and Eurobarometer (EB) have not included items concerning citizens' confidence in the free market economy, nor questioned whether citizens support a free market economy with stronger state regulation. The only empirical study of the determinants of confidence in the free market economy known to the author is a case study for Germany (Engel 2009). Engel analyses a time trend with ten observations and concludes that the level of unemployment explains 80% of the variance of the German time trend. His analysis is based on data from the Allensbach Institute for Public Opinion Research. Of deeper concern is the notion of social market economy, which is based deeply in German and Austrian economic thinking.<sup>6</sup> Furthermore, a report on the approval of the market economy conducted by the advisory board of the German Ministry for Economics and Science and Technology identifies unemployment as one of the main drivers for citizen approval of the German market economy (Bundesministerium 2010: 7-8). Although there exists no specific empirical literature on the determinants of citizens' confidence in the free market economy, a field of empirical analyses has been formed in economics under the heading of popularity functions. Its literature is vast and the first thorough overview is Paldam & Nannestad 1994. This paper does not go into detail concerning popularity functions, but the basic idea in the literature is to link public opinion data on government support to macro-economic determinants<sup>7</sup> and identify the causal relationships. These macro-economic variables are most often GDP growth per capita, inflation and unemployment (see Paldam & Nannestad 1994: 218). Furthermore, there is one empirical study by Shiller et al. (1991), who analyse the popularity of markets among US and Soviet Union citizens in 1990.

## 3. Data and Measurement

### *Data*

Finding time trend data on confidence levels in free market economies proved difficult. However, the time trend data from the GlobeScan survey<sup>8</sup> conducted in 2002-07 (thus before

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<sup>5</sup> The author is unaware of any relevant empirical studies concerning the determinants of net confidence in the free market using an international country sample but would be happy to receive such empirical analyses for incorporation in his research.

<sup>6</sup> Famously, the notion of social market economy was coined by the German Bundeskanzler Ludwig Erhard after the Second World War. See also the article by Goldschmidt (2004).

<sup>7</sup> One has to denote that political variables are most often also included in the matching with popularity indicators. This paper, however, is focusing solely on macro-economic variables as it tries to explain primarily the consequences of the financial crisis on citizens' net confidence in the free market economy and citizens' increasing demand for more state intervention.

<sup>8</sup> The GlobeScan's GIM/GSR/CSR tracking data from 2002 to 2009 was purchased from GlobeScan Incorporated of Toronto. GlobeScan surveys used are "The Global Issues Monitor (GIM) 2002", "The

the financial crisis) was matched with a data set constructed after the crisis in October-November 2008 and June-July 2009. This allows the evaluation of the actual impact of the financial crisis on citizens' net confidence and gives some very interesting insights into the dynamics of the crisis. Macro-economic variables were taken from the OECD quarterly national accounts and were matched with the GlobeScan data. The observations on net confidence were surveyed by GlobeScan in the fourth quarter (October to December) of 2001, 2002, 2008 and the period June-July, respectively, of 2005, 2007 and 2009.<sup>9</sup> To tackle endogeneity problems, the explanatory variables were adjusted to this data pattern by taking the average of the two quarters prior to each of the available net confidence observations. We therefore use the second and third quarters of 2001, 2002 and 2008 and the fourth quarters of 2004, 2006 and 2008 combined with the first quarters of 2005, 2007 and 2009 for the explanatory variables.

- Confidence in the free market economy is measured by respondents' answers to the statement: "The free enterprise system and free market economy is the best system on which to base the future of the world." Possible answers are "strongly agree", "somewhat agree", "somewhat disagree" and "strongly disagree". A net confidence measure is constructed by subtracting the percentage of answers "somewhat disagree" and "strongly disagree" from the percentage of answers "strongly agree" and "somewhat agree". Those people who answered "neither agree nor disagree" or those who did not give an answer were not considered.
- Confidence in the free market economy with strong government regulation is measured by respondents' answers to the statement: "The free enterprise system and free market economy work best in society's interests when accompanied by strong government regulations." Net confidence is constructed in the same way as above.
- Data on GDP growth is taken from the OECD data set "Monthly Economic Indicators". This data set contains quarterly data on GDP in constant price.
- Data on the unemployment rate is taken from the OECD data set "Labour Force Statistics". It measures the harmonised unemployment rate as a percentage of the labour force.
- As a measure of inflation we use the Consumer Price Index (CPI), which is taken from the OECD data set "Price Indices". This variable measures the average change in the prices of consumer goods and services bought by households with respect to 2005 prices.
- The data for private consumption expenditure are taken from the OECD data set "Monthly Economic Indicators". These variables measure all expenditures made on domestically produced goods and services. Private consumption expenditure includes all expenditures made by the private sector to purchase goods and services. Our variables are measured in constant prices.

### ***Model specification***

The model specification is held very parsimonious, as the number of observations is small overall; in particular, it focuses on the time frame before and after the financial crisis, and incorporates into the base model the two relevant macro-economic variables identified with the

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Global Issues Monitor (GIM) 2003", "The GlobeScan Report on Issues and Reputation (GSR) 2005", "The GlobeScan Report on Issues and Reputation (GSR) 2007", "The Corporate Social Responsibility Monitor (CSR), 2009", "The GlobeScan Report on Issues and Reputation (GSR) 2009" (GlobeScan 2002, 2003, 2005, 2007, 2009a, 2009b).

<sup>9</sup> Japan's values for the 2005 and 2007 quarters are missing for both confidence variables. Furthermore, the 2009 values of confidence in the free market economy with state regulation are missing for all cases.

real economic downturn in the aftermath of the financial crisis: unemployment and GDP growth. Furthermore, the variables of consumer price index and private consumption (see Gros 2009) will be used as control variables to allow a first sensitivity check of the estimated model. The baseline fixed effects model for net confidence in the free market economy and net confidence for the free market economy with stronger government regulation is modelled as follows:

$$NCFME/(SGR)_{i,t} = \alpha_i + \beta Unemployment_{i,t-1} + \mu Growth_{i,t-1} + \psi Z_{i,t-1} + w_{i,t}$$

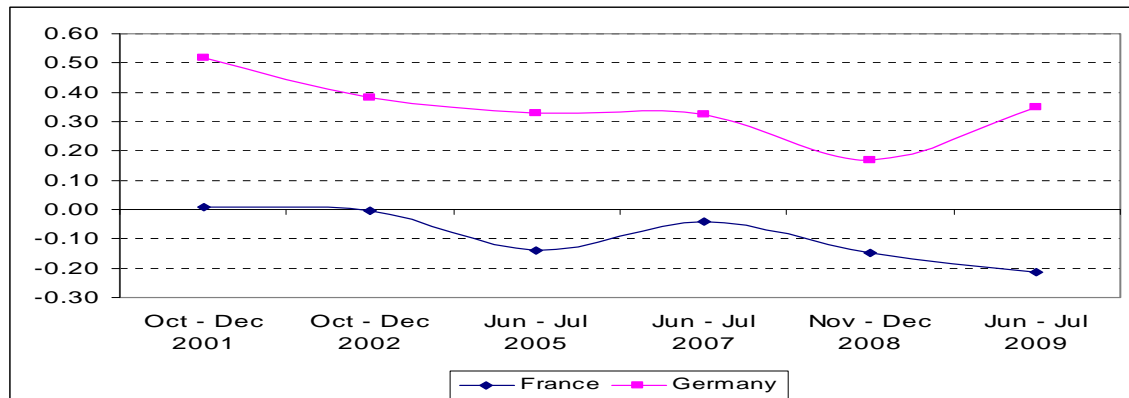
where  $i$  represents each country and  $t$  represents each time period;  $NCFME/(SGR)_{i,t}$  is citizens net confidence in the free market economy / net confidence in the free market economy with stronger government regulation for country  $i$  during period  $t$ ;  $Unemployment_{i,t-1}$ ,  $Growth_{i,t-1}$ , and  $Z_{i,t-1}$  are, respectively, unemployment, GDP growth and important macro-economic control variables such as private consumption and the consumer price index for country  $i$  during period  $t-1$ ;  $\alpha_i$  represents a group-specific constant term and  $w_{i,t}$  is the error term.

#### 4. Descriptive Results

##### **Confidence in the free market economy**

Figure 5.1 shows the time trend for two countries, Germany and France.<sup>10</sup> In both countries, the financial crisis had a significant impact on citizens' net confidence towards free market economies. Net confidence levels dropped from 32% to 17% in Germany and from -4% to -15% in France. However, unlike in France, where the net confidence levels deteriorated further in June-July 2009, in Germany a significant recovery of citizens' confidence in the free market economy can be detected. This recovery to a net confidence level of 0.35% is higher than before the financial crisis (the net confidence level amounted to around 0.32% in 2007).<sup>11</sup>

Figure 1. Trends of net confidence in free market economies in Germany and France, 2001-09



Source: GlobeScan data: GIM 2002, GIM 2003, GSR 2005, GSR 2007, CSR 2009, GSR 2009.

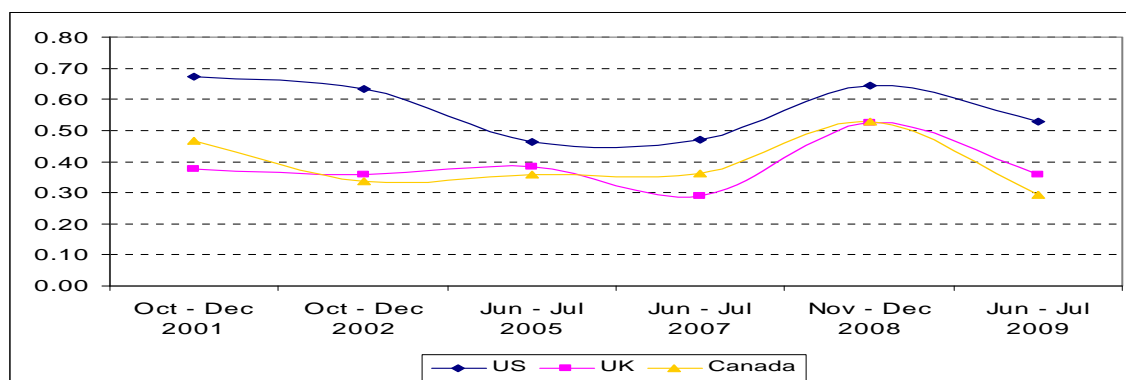
<sup>10</sup> In France, in 2001 and 2003, the interview method chosen was face to face. For all other waves, the interviews were conducted over telephone, hence via CATI (Computer Assisted Telephone Interview). The data from France from the wave in 2002 were consulted in February 2003.

<sup>11</sup> For Germany the same trend can be observed when analysing German data on citizens' confidence in the social market economy, which highlight a systematic decrease in confidence in the social market economy among German citizens up until November-December 2008 and an increase in January 2010 (Bertelsmann 2010).



The German policy responses in the aftermath of the financial crisis seem to have helped restore citizens' confidence. In particular, preventing an increase in unemployment might have secured the German government an increase in its citizens' net confidence (see Gros 2009). In France, the net level of -15% deteriorated further to -21%. However, one should also denote the stark difference between Germany and France. Whereas Germany's confidence levels have recovered to a net level of over 30%, France's net confidence level has reached a historical low in 2009. The actual difference between Germany and France is thus more than 50% of net confidence. Interestingly, as depicted in Figure 5.2, the three Anglo-Saxon countries behave in a completely opposite manner. In all three countries, the financial crisis actually reinforced citizens' support for the free market economy. In November-December 2008, net confidence increased from 47% to 65% in the US, from 29% to 52% in the UK, and from 36% to 53% in Canada.<sup>12</sup> However, unlike in France and Germany, where confidence dropped immediately after 15 September, in these three liberal countries a clear drop in confidence is visible nine months later, in June-July 2009.

Figure 2. Trends of net confidence in free market economies in the US, the UK and Canada, 2001-09

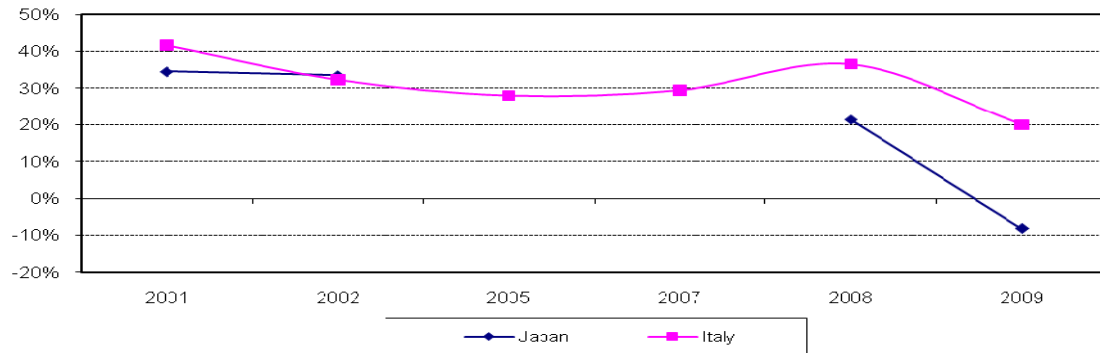


Source: GlobeScan data: GIM 2002, GIM 2003, GSR 2005, GSR 2007, CSR 2009, GSR 2009.

Although the levels in the US and the UK are still higher than those of 2007, the conclusion should be drawn that, although there has been an increase in the short run, the long-run effect of the financial crisis on citizens' confidence in the free market economy might have been significantly affected in these liberal countries. Whereas the UK and Canada have already reached levels equal to and below those of Germany, the US still manages to maintain a net confidence level of over 50%. The question remains whether the decrease from November-December 2008 to June-July 2009 is going to continue in the future, implying that Germany would reach a higher net confidence level than the US. A similar argument has been stressed by Alesina (2009), who raises the question of whether Americans will turn into "*inequality-intolerant Europeans*" and therefore hints at the long-term consequences of the financial crisis. Figure 3 highlights the actual trends of Italy and Japan. Whereas in Italy a similar trend as in the liberal countries can be detected with a first increase in citizens' net confidence in the free market economy and a decline from late October 2008 to mid-July 2009, in Japan there has been a massive decline in citizens' net confidence, from over 21% to -8%. Unfortunately, as there has been no data for Japan between 2002 and 2008, so one is not capable of identifying how the trend evolved from 2007 to October-November 2008, in the direct aftermath of the financial crisis.

<sup>12</sup> The same pattern can be observed in the case of Italy.

Figure 3. Trends of net confidence in free market economies in Japan and Italy, 2001-09

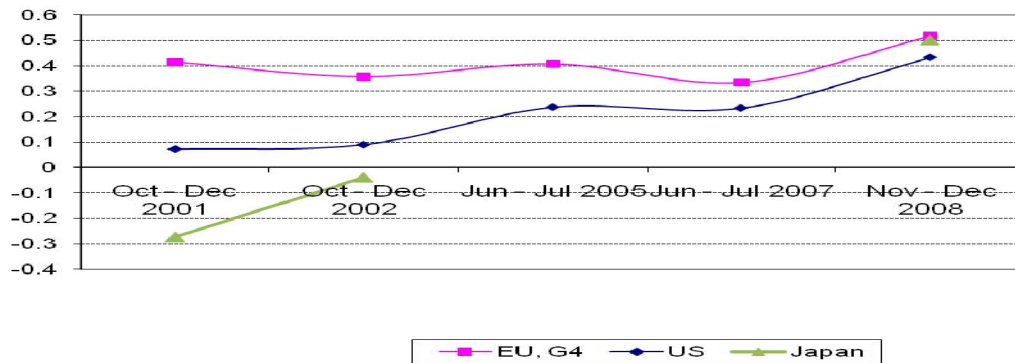


Source: GlobeScan data: GIM 2002, GIM 2003, GSR 2005, GSR 2007, CSR 2009, GSR 2009.

**Will the crisis result in citizens' demand for stronger state regulation?**

Figure 4 highlights the significant increase in citizens' demand for stronger regulation. In the US the increase in net confidence is 20% (from 23% in 2007 before the crisis to 43% in November-December 2008 after the crisis), and from 2001 to 2008, the US experienced a staggering increase of 36% (from 7% to 43%). In Europe the net increase is 18% (from 33% to 51%) but only 10% from 2001 to 2009 (from 41% to 51%). Thus the real comparative advantage of the US of 34% was diminished to 8% in 2009. However, even more astonishingly, in Japan there has been a net increase of 54% from October-December 2002 to November-December 2008. Thus, in contrast to the opposing results of citizens' net confidence in the free market economy, the trend in the support for a stronger regulated market economy is equally distributed on both sides of the Atlantic and Japan.

Figure 4. EU, G4, US and Japan: free market economy works best with strong regulation



Note: Data on this item are not yet available for June-July 2009 (GSR 2009).

Source: GlobeScan data: GIM 2002, GIM 2003, GSR 2005, GSR 2007, CSR 2009.

**Which incidences caused by the financial crisis have affected citizens' net confidence?**

Figure 5 shows a partial regression plot between unemployment when controlling for GDP growth and country specific effects (Regression 4 in Table 1). The figure clarifies that the decrease of citizens' net confidence in the free market economy in the US, the UK, Canada, Italy, and France and the increase in Germany from October-December 2008 to mid-July 2009 can be explained by the variation of the increase in unemployment over this time period.

Figure 5. Partial regression plot between unemployment and citizens' net confidence in the free market economy in the aftermath of the financial crisis from Oct-Dec 2008 to mid-July 2009

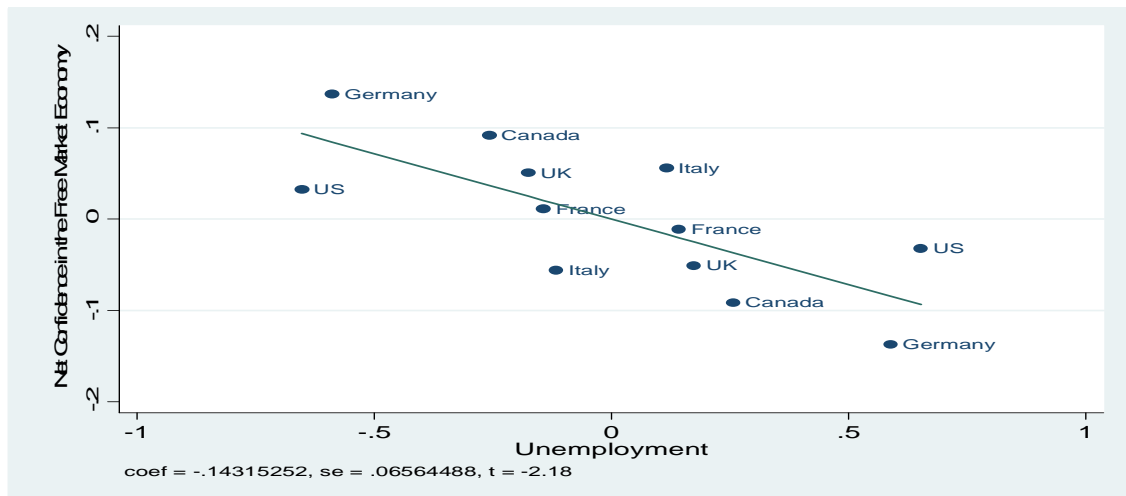
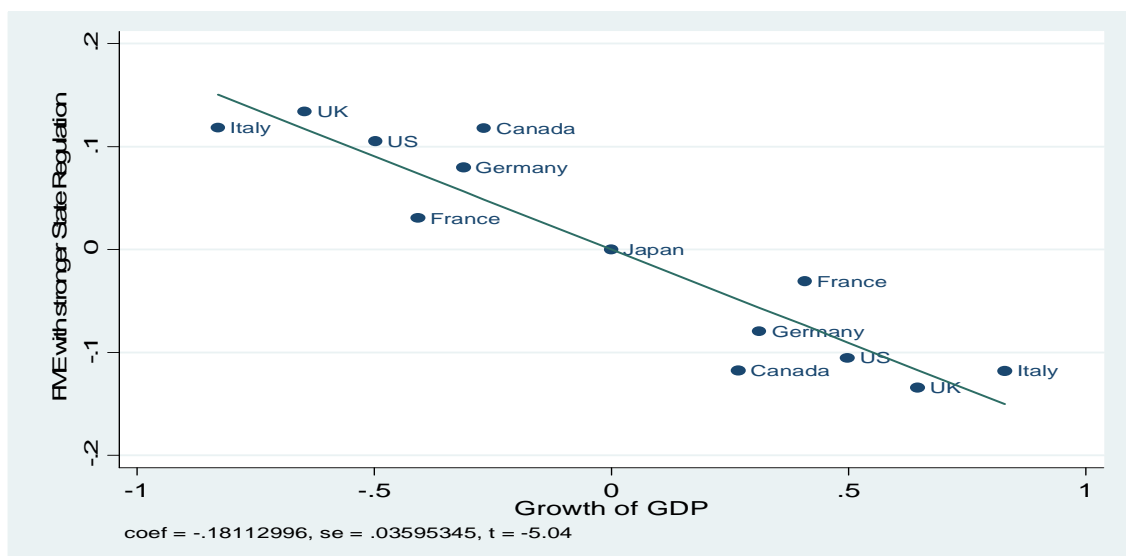


Figure 6 shows a partial regression plot between GDP growth when controlling for unemployment and country specific effects (Regression 3 in Table 2) for the time period October-December 2007 to October-December 2008. Figure 6 clarifies that the increase in citizens' demand for a free market economy with stronger government regulation can be explained by the decrease of GDP growth from October-December 2007 to October-December 2008.

Figure 6. Partial regression plot between GDP growth and citizens' net confidence in the free market economy with stronger government regulation in the direct aftermath of the financial crisis from Oct-Dec 2007 to Oct-Dec 2008



## 5. Econometric Results

To analyse the determinants of net confidence in the free market economy, regression 1 in Table 1 uses a fixed-effects model<sup>13</sup> incorporating all available observations. When analysing the sample over the entire observation period (2001-2009), comprising 40 observations from G7 countries, GDP growth per capita is significantly associated with citizens' net confidence in the free market economy. However, the positive association between GDP growth and citizens' net confidence in the free market economy seems to be driven solely by the four observations of Japan, given that when Japan is excluded,<sup>14</sup> in regression 2, the relationship loses significance. Regression 3 analyses the three time periods from October-December 2007 to mid-July 2009. Both macro-economic variables of GDP growth and unemployment are not able to explain the changes in citizens' net confidence during two periods in the aftermath of the financial crisis. However, as the real economic downturn with increasing unemployment rates happened in the first quarter of 2009, one might like to focus solely on the two periods from October-December 2008 to mid-July 2009. Thus regression 4 includes solely the two time periods. In the aftermath of the financial crisis unemployment is significantly (90%) associated with citizens' net confidence in the free market economy, even with the inclusion of Japan.<sup>15</sup> As seen in Figure 5, when excluding Japan in regression 5, an increase in the unemployment rate is strongly associated with a decrease of citizens' net confidence. Even when adding the control variables of private consumption and inflation in regression 6, unemployment remains significant, at the 90% level. However, the inclusion of private consumption also has an effect on the relationship between GDP growth and citizens' net confidence in the free market economy. When controlling for private consumption GDP growth is strongly associated with net confidence.

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<sup>13</sup> A Prais-Winston corrected standard errors methodology for panel models including country dummies was chosen. This is equivalent to a fixed-effects estimator with standard errors corrected for heteroscedasticity (and autocorrelation). We test for autocorrelation (Drukker 2003) and within-group heteroscedasticity (Greene 2000: 598). We cannot reject the null hypothesis of no autocorrelation but reject the null hypothesis of no heteroscedasticity. Thus we specify the error structure with within-group heteroscedasticity. When facing heteroscedasticity a Prais-Winston corrected standard errors estimator which controls for heteroscedasticity achieves more efficient estimates than a simple OLS regressor without changing the point estimates of the coefficients.

<sup>14</sup> Excluding Japan renders the data set balanced. That the case of Japan clearly distorts the regressions results is also due to data missing for 2005 and 2007.

<sup>15</sup> Japan has to be considered as an outlier, as in the aftermath of the financial crisis its unemployment rate remains quite stable, although citizens' net confidence drops sharply.

*Table 1. Determinants of Citizens' Net Confidence for Free Market Economy (NCFME) – Fixed Effects Estimation*

	(1) NCFME	(2) NCFME	(3) NCFME	(4) NCFME	(5) NCFME	(6) NCFME
<i>Unemployment</i>	0.00800 (0.0176)	0.000743 (0.0171)	0.0043 (0.0289)	-0.101* (0.0534)	-0.143*** (0.0419)	-0.142* (0.0794)
<i>Growth</i>	0.0335** (0.0152)	0.0136 (0.0149)	0.0232 (0.0189)	0.0223 (0.0410)	-0.0253 (0.0261)	0.125*** (0.0467)
With control variables	no	no	no	no	no	yes
Countries included	all	Japan excluded	all	all	Japan excluded	Japan excluded
Observations	40	36	20	14	12	12
R-squared	0.830	0.859	0.857	0.930	0.960	0.970
Time Period	2001-2009	2001-2009	2007-2009	2008-2009	2008-2009	2008-2009
Number of countries	7	6	7	7	6	6

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

To analyse the determinants of citizens' net demand for stronger government regulation within the free market economy, regression 1 in Table 1 uses a fixed-effects model<sup>16</sup> using all available observations. When analysing the sample over the entire observation period (2001-2008) with 33 observations from G7 countries, an increase in unemployment and GDP growth is negatively associated with citizens' increasing demand for more government regulation. As this result is especially counterintuitive for the negative factor of increased unemployment, regression 2 excludes the case of Japan.<sup>17</sup> Unemployment loses its significance, whereas GDP growth is strongly negatively related to an increase in citizens' demand for more government regulation. As the paper is particularly interested in the effects of the incidences taking place during the financial crisis, regression 3 analyses solely the model under consideration for the two time periods: before (October-December 2007) and after the financial crisis (October-December 2008). The association between GDP growth and citizens' net demand for a free market economy with stronger government regulation becomes stronger and remains highly significant (significance at the 99% level). Unemployment has its expected sign and is significant at the 95% level. As can be inferred from Figure 6, excluding Japan in regression 4 does not alter the results. Controlling for additional variables such as inflation and private consumption in regression 5 does not alter the results for the association between GDP growth and citizens' increasing demand for a free market economy with more state regulations.

<sup>16</sup> A Prais-Winston corrected standard errors methodology for panel models including country dummies was chosen. This is equivalent to a fixed-effects estimator with standard errors corrected for heteroscedasticity (and autocorrelation). We test for autocorrelation (Drukker 2003) and within-group heteroscedasticity (Greene 2000: 598). We cannot reject the null hypothesis of no autocorrelation but reject the null hypothesis of no heteroscedasticity. Thus we specify the error structure with within-group heteroscedasticity. When facing heteroscedasticity a Prais-Winston corrected standard errors estimator which controls for heteroscedasticity achieves more efficient estimates than a simple OLS regressor without changing the point estimates of the coefficients.

<sup>17</sup> Excluding the case of Japan renders the data set balanced. Similarly to the analysis of the determinants of citizens' net confidence the data gap in the case of Japan in 2005 and 2007 distorts the results within the regression.

*Table 2. Determinants of Citizens' Net Demand for Free Market Economy with Stronger Government Regulation (NCFME/SGR) – Fixed Effects Estimation*

	(1)	(2)	(3)	(4)	(5)
	NCFME/SGR	NCFME/SGR	NCFME/SGR	NCFME/SGR	NCFME/SGR
<i>Unemployment</i>	-0.0366** (0.0178)	-0.0174 (0.0135)	0.0406** (0.0160)	0.0406** (0.0160)	-.0000482 (0.0214)
<i>Growth</i>	-0.123* (0.0642)	-0.138*** (0.0319)	-0.181*** (0.0167)	-0.181*** (0.0167)	-0.0932*** (0.00921)
with control variables	no	no	no	no	yes
Countries included	all	Japan excluded	all	Japan excluded	Japan excluded
Observations	33	30	13	12	12
R-squared	0.682	0.784	0.952	0.951	0.974
Time Period	2001-2008	2001-2008	2007-2008	2007-2008	2007-2008
Number of countries	7	6	7	6	6

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 6. Conclusion

The paper has analysed whether the financial crisis has affected citizens' confidence in the free market economy and triggered citizens' demand for stronger state regulations. Three main conclusions can be drawn.

First, using panel data the paper confirms that citizens' confidence levels in the free market economy have decreased in most of the G7 economies in the aftermath of the financial crisis and demand for stronger state regulation has increased on both sides of the Atlantic.

Second, the increase or decrease in citizens' net confidence in the aftermath of the financial crisis seems to be strongly associated with the increasing unemployment rates during the economic downturn triggered by the financial crisis.

Third, citizens' increasing net demand for a free market economy in the direct aftermath of the financial crisis seems to be strongly driven by the decrease in GDP growth triggered by the financial crisis.

Overall, the results of the analysis confirm that government policies that were designed to prevent a sharp increase in unemployment after the real economic downturn helped to stabilize citizens' net confidence in the free market economy. As a certain level of citizens' confidence in the free market economy has to be regarded as a prerequisite for a smooth production process within the capitalistic production systems of the G7 countries, those policies have acquired a twofold purpose: besides safeguarding worker skills, they also sustained citizens' systemic trust and overall societal cohesion. Germany's successful "Kurzarbeit" policy scheme seems to have contributed to its being the only country in the G7 that succeeded to increase its citizens' net confidence in the aftermath of the financial crisis. However, the increase in citizens' demand for a free market economy with stronger government regulation in all G7 countries, which was triggered by the decline in GDP growth, suggests that in the upcoming years citizens' will most likely reinforce the pressure on the G7 governments for more government regulation. This will most likely include citizens' stronger demand for redistribution and might also include a constant call for more regulation in a financial industry that has nearly caused the Western capitalistic production system – installed in its current form some 200 years ago – to collapse. However, an increasing demand for more redistribution and thus a call for the extension of

welfare state mechanisms contrast sharply with the austerity measures implemented in most G7 countries to reduce government debt that has increased significantly due to government stimuli (including short time work schemes) in the aftermath of the financial crisis and the significant decline in GDP. How this contradiction will be resolved and whether it will influence societal cohesion remains to be seen.

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