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The Great Recession and the Need for Structural Reform

- Have structural problems gained importance as determinants of consumer confidence since the financial crisis?

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Abstract: This thesis acknowledges and explores consumer sentiment and behaviour beyond the traditional dogma of rational agents. The hypothesis is that European consumers have become increasingly worried and/or affected by structural problems since the Financial Crisis, leading to a "wait-and-see" situation that prolongs the economic downturn. The structural problems include high government debt levels, government budget deficits and on a root-cause level: low competitiveness. Our results indicate that low competitiveness and government budget deficits have put a strain on consumer sentiment and consumption growth in many European economies since the financial crisis. Competitiveness levels below the median of the European OECD economies indicates lost consumption growth per capita of 0.5% per year for the GIPS-countries on average. The negative effect of highlighted structural problems is not captured by changes in disposable income, suggesting that it is primarily psychological. Consumer sentiment levels' strong reflection of structural problems suggests that politicians and central bankers might have underestimated the intelligence of the consumer. In contrast to traditional theories, consumers seem to not only care about how much money they have in their pockets at the end of the month, but also about what they conceive as unsustainable economic conditions.

Keywords: Consumer Confidence, Competitiveness, Doing Business Score, Structural Reform

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"When you've lost confidence, when households have no trust, when businesses have no trust, when savers have no trust, then the best way to find growth and jobs is to recreate confidence"

- Jean-Claude Trichet, president of ECB 2003 – 2011

1. Section I - Introduction

1.1 Introduction

The prolonged global recession following the financial crisis of 2008 has been the worst since WWII (IMF Research Department, 2009). Its longevity and severity have caused dramatic declines in economic growth, and despite aggressive monetary policy GDP is still growing below potential in most major economies. One factor many researchers claim is especially alarming in this crisis is the remarkable collapse of Consumer Confidence. For example, Christina Romer (2009) argues that without Consumer Confidence, reactions to economic policy could be unpredictable and undesirable. Consumers enter a "wait-and-see"-situation that zero interest rate policies or stimulus packages cannot solve (Romer, 2009, Dees & Brinca, 2011). Restoring consumer sentiment is thus at the core of crisis recovery.

The hypothesis of this thesis is that European consumers, since the onset of the crisis, have been increasingly worried and/or directly affected by structural problems facing many economies. These problems include high government debt, government budget deficits and, on a fundamental level, low competitiveness. These problems affect consumers both directly, through high unemployment or low wage growth, but also psychologically through daily media reports on the severity of the situation. Our choice of focus stems from the belief that the psychological effects on private consumption, and the consumers' comprehension of current structural deficits of the economy, have been underestimated during the post-crisis period.

The hypothesis is tested through regressing the OECD index Consumer Confidence on an aggregate variable representing the foremost traditional driver of consumer confidence; disposable income, and on a set of variables that reflect what we consider to be structural problems. We focus our research on the European OECD countries. By dividing the data into a pre-crisis data set (2004-2007) and a post-crisis data set (2010-2013) it is possible to explore if and how the drivers of Consumer Confidence have changed since the crisis. If confidence can be considered necessary for recovering from an economic crisis, determining what drives confidence is vital for appropriate crisis management and economic policies.

The question this thesis seeks to address is thus: Have structural problems gained importance as determinants of consumer sentiment since the financial crisis?

We find that there are interesting changes in the determinants of Consumer Confidence between the two periods. Most importantly, the variable chosen to reflect competitiveness - the Doing Business score - has a strong and statistically significant explanatory power after the crisis, and no relationship with Consumer Confidence pre-crisis. Our interpretation of this is that the crisis revealed an innate structural problem of Europe - differences in competitiveness. Qualitative empirical evidence for our hypothesis is found in a study of the Baltic States and their response to the financial crisis.

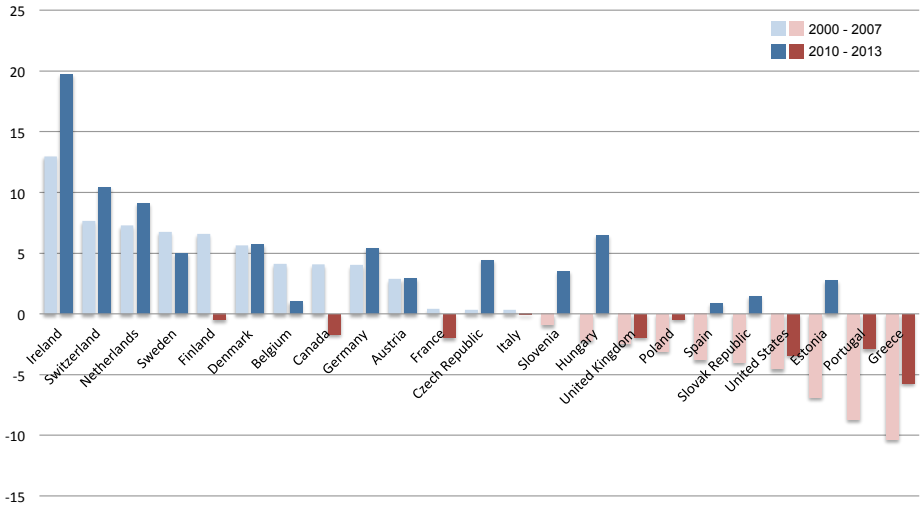
The thesis is organized as follows: the first section is an introduction and background to the hypothesis and research question, the second section sets up the model, the third section tests the model and the fourth section presents qualitative empirical data and an analysis of results.

1.2 Background to Hypothesis

Research by Reinhart & Rogoff (2014) covering 100 systematic financial crises 1790-2013 show that on average, it takes about eight years to reach the pre-crisis level of income. The median is about six and a half years. When the Reinhart & Rogoff study was conducted, January 2014, ten out of twelve countries experiencing a systemic crisis with a starting-point in 2007-2008 had not yet reached pre-crisis levels of income and the researchers concluded that the recovery was going too slow. Some economists argue that the severity of the crisis can be explained by the fact that the fundamental causes and prolongers of the crisis have not been properly addressed in some of the crisis-ridden economies (Weidmann, 2015). According to Weidmann, among other economists (see for example Sinn 2012), the most crucial structural problems or signs of structural problems are current account deficits, government debt levels and on a root-cause level: lack of competitiveness.

The consistent trade and current account deficits in most of the primary crisis countries of Europe support Weidmann's concern (see Figure 1). The current account consists primarily of a country's trade balance, and the trade balance is ultimately a measurement of a country's global competitiveness or the overconsumption of its citizens. That several countries were still running major trade balance deficits during 2010-2013 supports the statement that there are structural problems in crisis-ridden economies that has not been properly addressed.

Figure 1: Average trade balance in % of GDP 2000-2007 & 2010-2013



Source: OECD (2000-2007 & 2010-2013).

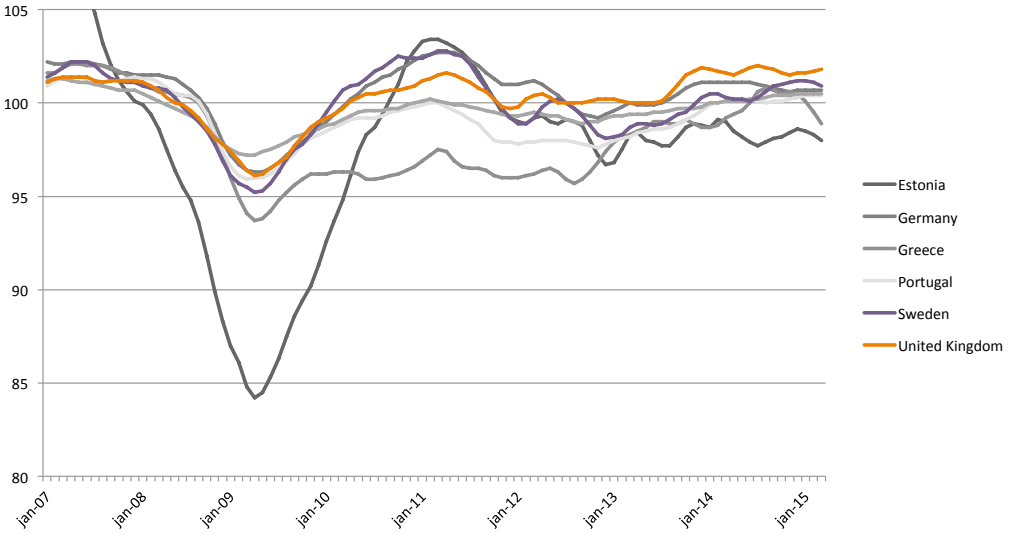
Despite signs of structural problems, the recession is formally over. However, survey-results show that consumers are not convinced that better times wait. A Fox News poll in January 2015 showed that 64 % of US citizens believe they are still in a recession (Blanton, 2015). A similar poll is lacking for Europe, but it is not unreasonable to assume that the ratio would be even higher there. These results raise the question: can a recession really be over without the support of the consumers?

As private consumption normally stands for a substantial share of a nation's GDP, consumers form a very important and powerful group in the economy. They are therefore fundamental in determining business cycles. Research by Petev & Pistaferri (2012) shows that there have been interesting characteristics in consumer behaviour during the Great Recession that have not been expressed in the five prior recessions. For example consumption has been low for an unusually long time and the Consumer Sentiment Index was

persistently low for especially the bottom income quartile long after the formal end of the recession. These characteristics can, according to Petev and Pistaferri, partly explain the severity and longevity of the Great Recession. This would raise the importance of acknowledging the crucial role consumers play in the economy. Their conclusions are similar to those of Romer (2009) and Dees & Brinca (2011), where the aforementioned "wait-and-see"-situation of consumers is highlighted as an alarming feature that could be hard to remedy.

With a recession that is formally over but with consumers that still consider themselves in the middle of it, more research into the area of consumer sentiment is warranted. Two front figures for this branch of economic research are the economists George Akerlof and Robert Shiller. Their book Animal Spirits (2009) challenges the more traditional dogma of treating consumers as entirely rational agents that respond theoretically correct to changes in income, and highlights the importance of acknowledging the powerful and partly irrational behaviour and sentiment of consumers. A good way to do this, according to Akerlof & Shiller (among others), is to investigate sentiment-indices, such as Consumer Confidence.

Figure 2: Consumer Confidence for a selection of European OECD-countries 2007-2015



Source: OECD (2015).

What determines Consumer Confidence? Research shows that historically, Consumer Confidence can be largely explained by changes in disposable income, and thereby through underlying changes in fundamental economic variables such as employment, house prices and wage growth (ECB 2013, Throop 1992, Da Boef & Kellstedt 2004, Neisingh & Stokman 2013). This reasoning is close to the Permanent Income Hypothesis: consumers adjust their behaviour according to available information about current and future income (Friedman, 1957). The gravity of the current economic downturn has however made us form the hypothesis that traditional determinants of Consumer Confidence should be complemented with variables representing factors specific to the crisis. That is, we hypothesise a shift in what drives consumer sentiment in Europe during the recent crisis and its aftermath. Our view is also that the traditional drivers of consumer sentiment should be evaluated with regard to the presence of structural problems. Their presence could make the nature of the crisis inherently different to a purely cyclical crisis, consequently demanding a different and more extensive response.

Based on the nature of the crisis, we believe that consumers today are more than usually worried about high government debt levels and deficits. More specifically, we believe factors that are related to the crisis gain importance. In addition to this we believe that low competitiveness in certain countries is finally taking its toll on their economies, and thereby affecting Consumer Confidence both psychologically and fundamentally (elaborated below). Low competitiveness, debt levels and budget deficits are problems, or signs of underlying problems, that many OECD-countries have had for a long time. They ultimately contributed to the crisis and, we hypothesise, became determinants of Consumer Confidence. If there indeed is a statistically and economically significant increase in the explanatory power of these factors between pre- and post-crisis period it could have important implications for the future recovery outlook – especially since many countries have continued high deficit-levels and low competitiveness.

How these structural problems have affected Consumer Confidence has in our opinion taken two routes:

Fundamental economic relationship: A lack of competitiveness is among other things a lack of business activity and innovation, which in turn leads to fewer start-ups and e.g. lower employment.[1] The employment level is a major determinant of Consumer Confidence as it is closely linked with changes in disposable income. We do however suspect that the structural problems we have highlighted could affect Consumer Confidence on a fundamental level other than through disposable income. We have no theory on the nature of this relationship, but want to be open towards its existence.

Psychological link: Today, government debts, budget deficits and the need for structural reform have become subject to public scrutiny. We are continuously exposed to media reports on the severity of the debt crisis and the high government deficits. Perhaps Nobel laureate Robert Lucas' theory of rational expectations (1972) could gain importance in an environment where government spending becomes subject to intense debate. The theory stipulates that consumers will compensate for government deficits through personal saving, thereby neutralizing deficit spending's effect on economic activity. Even though many consumers are not directly economically affected by for example the government debt-level, it is plausible that citizens are concerned about the future consequences of the situation.

Important to note is that the index Consumer Confidence is inherently psychological, but the breakdown of factors simplifies the interpretation and analysis. The two routes will not be distinguished from one another in terms of quantitative importance. The method of our study will result in a focus on the psychological aspect since disposable income will be controlled for. However, low competitiveness could probably, through e.g. current account deficits, create "fundamental" economic imbalances that are not controlled for through changes in disposable income. Due to difficulty of isolating specific mechanisms we will confine to answering if competitiveness has put a strain on economic growth through Consumer Confidence rather than through which routes this has occurred. Since disposable income is controlled for, any potential effect that our structural variables has on the former will not be captured in their coefficients. The described effect could potentially be large, indicating that estimated coefficients of our structural variables would not represent the total effect those structural variables have on consumer sentiment.

[1] Research by OECD shows that young firms (5 years old or less) have generated nearly half of all new jobs in the past

1.3 Previous Research

1.3.1 Consumer Confidence and the Real Economy

The explanatory power of Consumer Confidence consists of two parts. The first one, the conventional approach (sometimes called the information view), argues that higher confidence is a result of higher disposable income, which in turn leads to higher consumption. This approach suggests that the Consumer Confidence-index is only an aggregate of fundamental economic variables explaining households' current and future disposable income and thus contains little excess information when controlling for fundamental economic variables. The correlation between Consumer Confidence and Real Consumption has been investigated by for example Dees & Brinca (2011). They determined the correlation to be 0.25 in the US and 0.42 in the Euro-area when the sentiment-index was lagged one period and the dataset covered monthly observations 1985-2009.[2]

The second, "Animal Spirits"-approach initially introduced by John Maynard Keynes, acknowledges the irrationality and psychology of human minds, stating that Consumer Confidence indeed contains information about future consumption and growth beyond fundamental economic variables explaining disposable income. This information has its roots in instincts and emotions, which makes the logic hard to grasp theoretically. As Fuster, Laibson & Mendel (2010) put it: "*If a sample of macroeconomists were forced to write down a formal model of animal spirits, most wouldn't know where to start and the rest would produce models that had little in common.*" Although it is hard to model the role of animal spirits in the economy, researchers have studied the impact of consumer sentiment on the economy after controlling for fundamental economic variables: Ludvigsson (2004), Carroll, Fuhrer and Wilcox (1994), Matsusaka and Sbordone, (1995) and Acemoglu and Scott (1994) all conclude that consumer sentiment indices contain information that is not already captured in standard macroeconomic variables, but to somewhat different extents and natures. Interestingly, research shows that Consumer Confidence can especially contribute in explaining consumption after controlling for fundamental variables during times of high economic fluctuations, such as a financial crisis (Dees & Brinca 2011, Throop 1992, Carroll et al. 1994, Neisingh & Stokman 2013, Garner 1991, ECB 2013).

With or without Animal Spirits, Consumer Confidence is one of the best tools for explaining the economic situation through the perspective of consumers.

1.3.2 Drivers of Consumer Confidence

Previous research suggests that during normal times, Consumer Confidence has a stable relationship with a few economic variables related to disposable income (Throop, 1992). These are unemployment-rate, growth of real disposable income, stock exchange index, housing price index, inflation and interest rates (Throop 1992, De Boef & Kellstedt 2004, Neisingh & Stokman 2013, ECB 2013). Among these, unemployment has been the strongest co-mover, at least in the Euro-area where the correlation was 0.84 contemporaneously and 0.88 with a three-month lead for the confidence indicator 1985-2010 (ECB 2013).

1.3.3 Research on Drivers of Consumer Confidence During the Financial Crisis

The research with highest similarities to our study is the article "What drives Consumer Confidence in times of financial crisis? Evidence from the Netherlands" by Neisingh & Stokman (2013). They find that persistent low levels of Consumer Confidence among Dutch consumers can be partly explained by low levels of trust in politicians and the financial system. The relationship between Trust-variables and Consumer Confidence had

[2] In our dataset we find a correlation of 0,75 between the average yearly level of Consumer Confidence and private consumption growth per capita during the same year. Please see section 1.4.

not been seen in the thirty years before the financial crisis, leading them to the conclusion that "*after the outbreak of the financial crisis new influences may have been activated that we have not seen or noticed before and that have undermined consumer confidence in a structural way*". This article is used as inspiration for the methodology of our thesis.

1.3.4 Previous Research Conclusions

The conclusions from previous research for this thesis are thus 1) There is a clear connection between Consumer Confidence and Real Consumption (see section 1.4 as well). 2) Consumer Confidence has normally a stable relationship with a few economic variables that roughly explain household disposable income, but in times of crises, this relationship can be weakened and other factors gain importance.

1.4 Consumer Confidence's Connection to the Real Economy in Our Sample

As no previous research has investigated the relationship between Consumer Confidence and the real economy for our exact time period and sample of countries, we conduct our own simple analysis. We need this in order to conclude with certainty that there is indeed an important correlation between confidence levels and the real economy - which is necessary for the relevance of this thesis.

A correlation-test for our sample, the European OECD-countries 2004-2013, between yearly average Private Consumption Growth and Consumer Confidence indicate a correlation of 0.75. When running a simple regression of Real Consumption Growth on Consumer Confidence for the years 2004-2014 we obtain a statistically significant coefficient of 1.456 (see Regression output 1). This suggests that a one-point increase in the OECD Consumer Confidence Index on average corresponds to a 1.456 percentage point higher yearly growth in private consumption per capita during 2004 - 2013. That is: during the period studied there has been a tight connection between a country's Consumer Confidence level and its private consumption growth.

Regression output 1 – Real Consumption Growth and Consumer Confidence

Variables	Consumption Growth per Capita 2004-2013
Consumer Confidence	1.456***
	(0.105)
Constant	-144.4***
	(10.56)
Observations	220
R-squared	0.558

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The coefficient for Consumer Confidence on Consumption Growth per Capita is 1.456 and statistically significant on the 1%-level, indicating that a one-point increase in Consumer Confidence on average corresponds to a 1.456 percentage point increase in Consumption Growth per capita.

1.5 Research Question

As per the above background and introduction, the research question this thesis seeks to address is:

Have structural problems gained importance as determinants of consumer sentiment since the financial crisis?

1.6 Clarifications

The Great Recession is used broadly in this thesis and refers to both the US recession officially lasting from December 2007 to June 2009, as well as the global recession that started in 2009 and still can be considered present (May 2015). Included in this is of course the European Debt Crisis. Please note that different economists and institutions use this term somewhat differently, but generally it refers to the global economic and financial imbalances in the late 2000s.

The European OECD-countries/our sample refers to the European OECD-countries used in this thesis, namely Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and United Kingdom. Please note that European OECD-countries Norway and Iceland are omitted due to lack of data on Consumer Confidence.

Drivers/determinants of Consumer Confidence - we use the term drivers or determinants but the proper word might be co-drivers. As there is a lack of clarity regarding feedback mechanisms between sentiment levels and the real economy within this field of research, we cannot take absolute stand in causality.

Structural Problems is used to describe problems that make a crisis inherently different from an entirely cyclical crisis. A crisis with structural causes will require structural reform to a larger extent than a cyclical crisis.

2. Section II – Setting up the Model

2.1 Methodology

2.1.1 Overall Approach

To answer our research question we regress the OECD index Consumer Confidence on two sets of variables, one containing only an aggregate variable for changes in disposable income produced by OECD (from now on called Disposable Income) and one containing the former as well as a set of Structural Determinants. The model where only Disposable Income is included is the Base Model, and when the Structural Determinants are added we obtain the Extended Model. Our sample includes European OECD-countries. Since we are comparing different countries there will be differences within the dataset with respect to economic structures, e.g. the level of house or stock ownership. To increase comparability we use Disposable Income rather than the underlying determinants of changes in disposable income such as employment, wage growth and stock market development. The coefficient for total changes in disposable income is more likely to be the same across countries than the coefficients for all underlying drivers of disposable income separately. Regressing Disposable Income on the underlying traditional determinants of Consumer Confidence (as indicated by previous research) indicates that the aggregate variable is indeed a good proxy.[3] Furthermore, a regression

[3] Please see Robustness Tests in 3.2

where the traditional underlying drivers of Consumer Confidence replace Disposable Income is included in our robustness test section.

Using Disposable Income also isolates the psychological effect of government budget deficits since it includes changes in government transfers and social security programs. This hopefully means that potential negative effects arising from government deficits indicated by our regressions are based on keeping transfers and social security programs constant (ceteris paribus). This could prove useful in a situation where budget deficit cuts are weighed against maintaining government transfer programs.

The data is divided into a pre-crisis data set (2004-2007) and a post-crisis data set (2010-2013) in order to explore how the drivers, or co-drivers, have changed since the crisis. The OECD Consumer Confidence Index is comparable across countries and over time.[4] Since the index reflects deviations from a country-specific long-term average, differences in competitiveness between countries should not explain differences in Consumer Confidence between the countries (similar to how a structural difference such as the level of forest land should not affect differences in Consumer Confidence between countries, unless the level of forest land is related to a global crisis/boom or the level of forest land is changing). Only structural developments in relation to a country's own long-term mean should affect Consumer Confidence. In other words, the long-term Consumer Confidence average of Greece and Sweden will always be 100 (indexed, see explanation of variables) despite Sweden having a higher competitiveness ranking (or more forestland).

The worst crisis-years, 2008 and 2009, are omitted from our research as the crisis hit the countries in our sample at different points in time during these years. Since we are evaluating variables based on a pre- and post-crisis structure we need a clear break between the two periods. With the crisis hitting the countries in the data set at different points in time, an effective way to achieve this is to exclude the years where the categorization into pre- and post-crisis is ambiguous. Further on, the level of Consumer Confidence during 2008 and 2009 probably plunged in large part due to a general state of chaos rather than because of variations in variables included in the models of this thesis. This reduces the relevance of studying these years.

The basic econometric setup is inspired by work by Neisingh & Stokman (2013). However, please note that our dataset covers a much shorter time span. This is because one of the variables of interest for this thesis, the Doing Business score, is only available from 2004.

2.1.2 Variables

Consumer Confidence
The index of Consumer Confidence (CCI) used in this thesis is from OECD. The CCI is a harmonised confidence indicator comparable across countries. The definition from OECD is as follows:

'The Consumer Confidence Index (CCI) is based on households' plans for major purchases and their economic situation, both currently and their expectations for the immediate future. Opinions compared to a 'normal' state are collected and the difference between positive and negative answers provides a qualitative index on economic conditions."

[4] Please see www.oecd.org/std/leading-indicators/45430429.pdf for details.

The survey is based on four questions covering expected change over next 12 months in 1) financial situation of household, 2) general economic situation, 3) unemployment and 4) savings of household. Each question has five possible answers (a lot better, a little better, the same, a little worse, a lot worse). The index is qualitative as the respondents are asked to answer based on their own opinions rather than for example the exact planned change in spending, which is exactly what we are interested in for the purpose of this thesis.

The mean of the OECD Consumer Confidence Index is fixed to 100, therefore 100 represents the long term average, or normal situation. Comparability is achieved by selection of national indicators, and by smoothing, centring, and amplitude adjusting the series. The series are normalised by subtracting their mean and then dividing the difference by their standard deviation. After normalisation, the index is amplitude-adjusted to the de-trended index of GDP, used as proxy measures of the business cycle, and finally centred on 100.

Traditional driver of Consumer Confidence – Disposable Income

The traditional drivers of Consumer Confidence are as suggested by previous research underlying determinants of disposable income: unemployment-rate, growth of real disposable income, stock exchange index, housing price index, inflation and interest rates. To represent the traditional determinants we use an aggregate variable of disposable income produced by Eurostat. The variable covers percentage changes in real household disposable income, defined as balance of primary income and redistribution of income in cash. This includes social contributions paid, social benefits received, current taxes on income and wealth paid as well as other transfers.

Potential drivers of Consumer Confidence – "Structural Determinants"

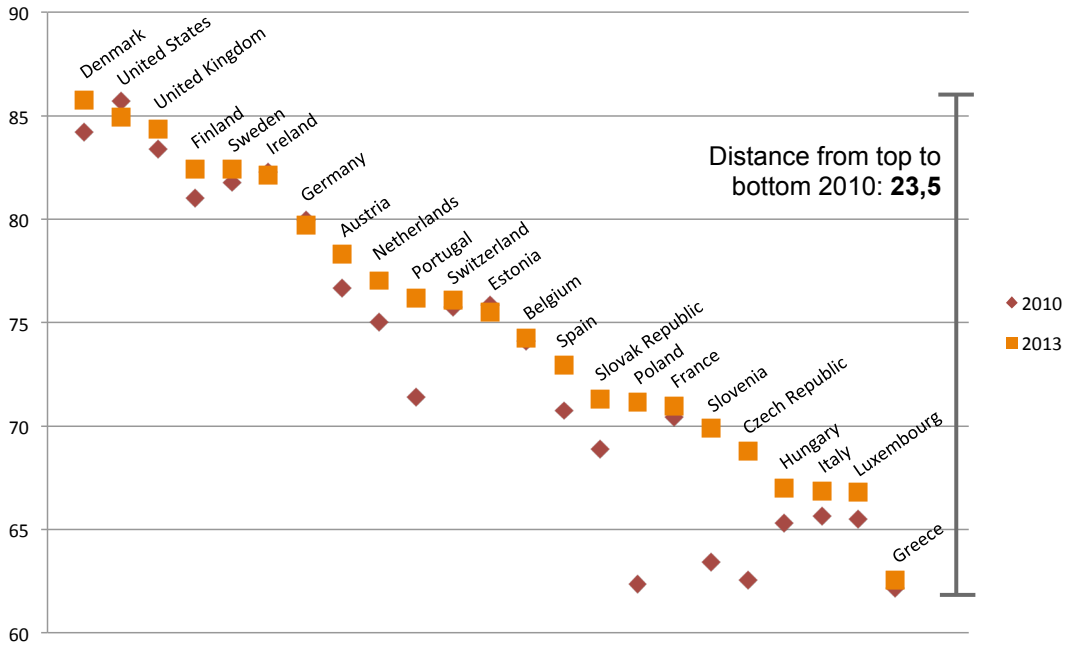
To test our hypothesis, variables representing competitiveness, government debt and government budget balance will be used. That is, variables many economists believe are representing the most crucial issues of the crisis as discussed above.

To represent competitiveness we use The Doing Business score: an index that measures the ease of doing business in a country. The annually published Doing Business report measures regulations that enhance or constrain business activity, and thereby affect the competitiveness of a country. It is thus not a measure of competitiveness per se, but a measurement of the conditions for competitiveness. It describes relevant policies rather than stating the current situation, which makes it more relevant compared to other competitiveness indices in a discussion regarding structural reforms. The index is based on 10 sub-categories, namely: starting a business, getting credit, dealing with construction permits, protecting minority investors, getting electricity, paying taxes, registering property, trading across borders, enforcing contracts and resolving insolvency.

There is a high correlation (0,83) between the Doing Business score and the similar Global Competitiveness Index published by the World Economic Forum (Doing Business, 2013). In contrast to the Doing Business score, the Global Competitiveness Index includes weights for e.g. macroeconomic environment, infrastructure, labour market efficiency and corruption. The high correlation between the indices reduces the need for a discussion regarding what index is the most relevant as a measure of competitiveness for the current study. It also supports the view that results supporting a high importance of the Doing Business score should be interpreted as support for broader competitiveness reforms rather than reforms specific to the Doing Business score. To further legitimise this view we will replace the Doing Business score with the Global Competitiveness Index in our robustness test later in this thesis.

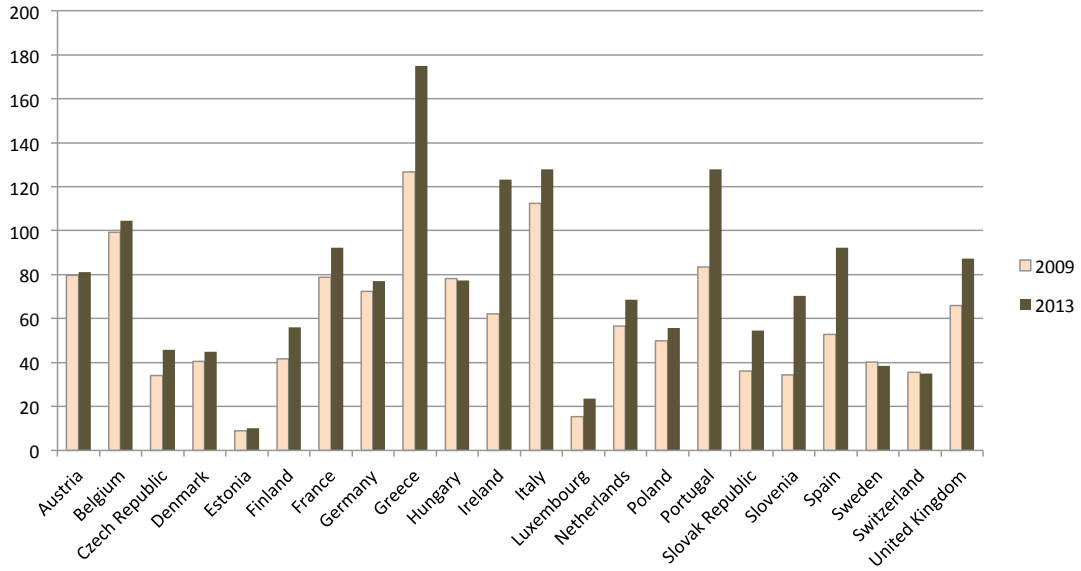
As can be seen in Figure 3, some countries took major steps toward increasing their competitiveness (with regard to the Doing Business score) during the initial years of the crisis, while others have remained at the 2010-level.

Figure 3: change in Doing Business Score 2010-2013



Source: The World Bank Group (2010-2013).

Figure 4: change in government debt as % of GDP 2009-2013

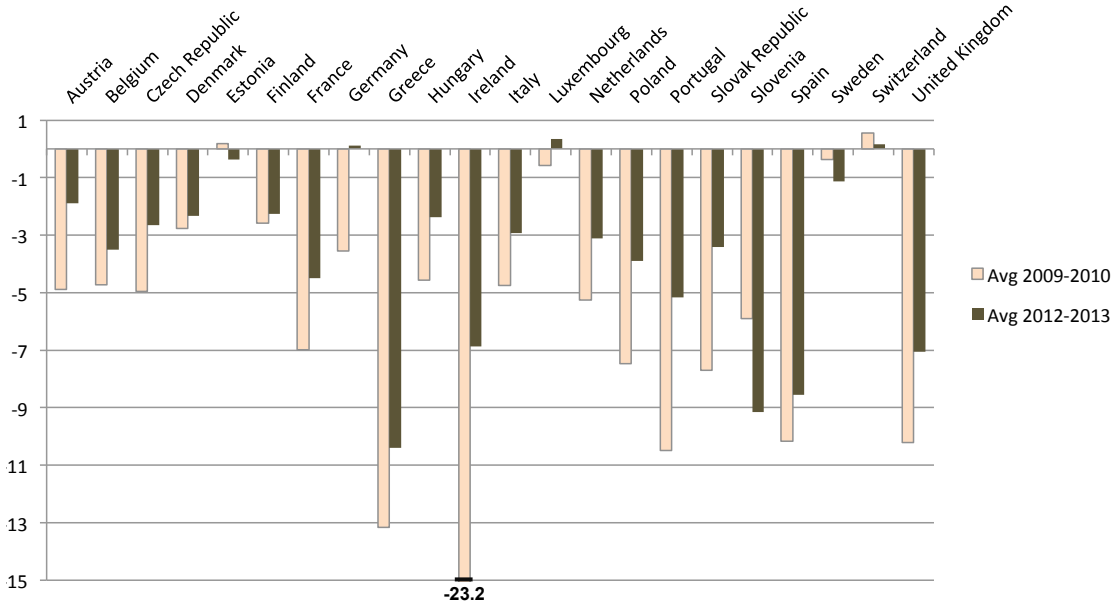


Source: OECD (2009-2013).

A majority of the European OECD-countries have increased their public debt levels in relation to GDP since 2009 (Figure 4) - a combined effect of budget deficits and weak economic growth. As Figure 5 shows,

government budget balances have in general improved during recent years, but during 2012-2013 many nations did still not comply with the rules of the Maastricht Treaty that limit budget deficits to 3% of GDP (EU Maastricht Treaty, 1992).

Figure 5: change in government budget balance as % of GDP 2009-2013



Source: OECD (2009-2013).

All data for independent and dependent variables are publicly available. For the sources and dates for downloads of data used in this thesis, please see appendix I.

2.1.3 Choice of Econometric Method

As there is a fair amount of previous research proving the relationship between drivers of disposable income and Consumer Confidence, we make the assumption that the variable Disposable Income is sufficient to control for in order to minimise the issue of omitted variable bias in line with work by Neisingh & Stokman (2013).

One focus of our research covers the effect that differences in competitiveness between countries could have on Consumer Confidence. That is, we need to explore the effect of differences between countries, and not only within, which makes the fixed effect-method inappropriate. Based on this, we pool the sample and use OLS while allowing the coefficients to vary pre- and post-crisis by using interaction-terms. This approach includes the assumption that the effect and changes in effects are the same in all European OECD countries. This may not be entirely accurate, but is partly mitigated through the usage of an aggregate variable representing change in disposable income rather than specific underlying factors, such as employment. The underlying factors could be of varying importance to different nationalities, but the importance of total changes in disposable income should be more similar. European OECD countries are naturally somewhat different with regard to potential growth in disposable income, suggesting that an assumption of homogeneity regarding the importance of changes in disposable income could create bias. Therefore we include a regression where changes in disposable income is replaced by a variable representing disposable income growth in relation to an historical average in our robustness test segment. Despite differences between countries, interpreting results for the European area as an aggregate should be feasible.

The method used does not recognise the panel-structure of the data, but in addition to what is mentioned above, it allows us to study changes over time for the entire area, which is the ultimate goal. To control for change over time that is not captured in our two sets of variables, we include binary variables for each year. We do not control for country-specific effects since this would capture differences in competitiveness. This should have a limited bias effect with regard to other variables since the Consumer Confidence Index is measured as deviation from a long-term average. As a consequence there should not be variation in Consumer Confidence that is due to permanent country-specific factors directly. Country-specific factors could however affect how easily countries recover from a crisis. Since we control for disposable income, an important part of crisis recovery, the potential presence of such factors should be partly controlled for.

2.2 Model Specification

The base model:

$$\text{consumerconfidence}_{it} = \beta_0 + \beta_1 \text{disposableincome}_{it} + \delta_1 Y_t + u_{it}$$

The base model represents the drivers of Consumer Confidence suggested by previous research and should for the purpose of this essay be considered as a base-line reference model to compare and contrast the extended model with. It can be interpreted as a basic and simplified version of a consumer's wealth function at a snapshot, without future expectations and probabilities. It is thus closely connected with the Conventional Approach to the power of Consumer Confidence as discussed in Section I. A regression when the variable Disposable Income is disaggregated to wage growth, employment, stock prices and house-prices is presented in section 3.4.

The extended model:

$$\begin{aligned}\text{consumerconfidence}_{it} &= \beta_0 + \beta_1 \text{disposableincome}_{it} + \beta_2 \text{doingbusiness}_{it} + \beta_3 \text{govbudgetbalance}_{it} + \beta_4 \text{govdebt}_{it} \\ &+ \delta_1 Y_t + u_{it}\end{aligned}$$

In the extended model, the Structural Determinants are added. The ceteris paribus effect of these factors on Consumer Confidence is reasonably mostly psychological, as the personal wealth effect of these factors is captured in Disposable Income.

The two models above will be tested for the two time periods separately. In order to obtain a p-value for, and thus test, the difference in explanatory value between the two periods, we pool the two time periods and run a regression with the variables in its original format as well as the variables interacted with a binary variable that equals 1 if the observation is a post-crisis observation.

Change over time in the extended model:

$$\begin{aligned}\text{consumerconfidence}_{it} &= \beta_0 + \beta_1 \text{disposableincome}_{it} + \beta_2 \text{govdebt}_{it} + \beta_3 \text{govbudgetbalance}_{it} + \beta_4 \text{doingbusiness}_{it} \\ &+ \alpha_1 i * \text{disposableincome}_{it} + \alpha_2 i * \text{doingbusiness}_{it} + \alpha_3 i * \text{govbudgetbalance}_{it} \\ &+ \alpha_4 i * \text{govdebt}_{it} + \delta_1 Y_t + u_{it}\end{aligned}$$

$\text{consumerconfidence}_{it}$: Levels of Consumer Confidence compared to a normal long-term average of 100 (OECD, 2015).

$disposableincome_{it}$: Annual growth rate in Real household net disposable income (Eurostat, 2004-2013).

$doingbusiness_{it}$: The Doing Business score of ease of doing business. (World Bank, 2004 - 2013).

$govbudgetbalance_{it}$: General government balance as % of GDP (Eurostat & OECD.stats, 2004 - 2013).

$govdebt_{it}$: General government gross debt as % of GDP (Eurostat, 2004 - 2013).

i: Binary variable equal to one for post-crisis observations.

Y_t: A vector for binary year-variables.

See Appendix I for details on data.

2.3 Descriptive Statistics

Pooled periods	N	mean	sd	min	max
Consumer Confidence	176	100.2	1.675	95.67	109.5
govdebt	176	60.10	33.51	4.762	174.9
govbudgetbalance	170	-2.942	4.227	-32.42	5.129
doingbusiness	173	71.67	8.188	54.59	85.79
disposableincome	164	3.106	3.317	-7.212	14.88

Pre-crisis	N	mean	sd	min	max
Consumer Confidence	88	100.9	1.524	96.62	109.5
govdebt	88	49.51	26.54	4.762	110.6
govbudgetbalance	82	-1.326	3.099	-9.371	5.129
doingbusiness	85	69.60	8.879	54.59	83.58
disposableincome	81	4.697	2.764	-0.318	14.88

Post-Crisis	N	mean	sd	min	max
Consumer Confidence	88	99.39	1.454	95.67	102.9
govdebt	88	70.69	36.44	6.564	174.9
govbudgetbalance	88	-4.448	4.583	-32.42	1.045
doingbusiness	88	73.67	6.942	60.13	85.79
disposableincome	83	1.554	3.079	-7.212	8.528

2.4 Expected Results

If we obtain statistical significance and plausible signs for one or several of the coefficients of the interacted structural variables, we will interpret it as support for our hypothesis. The signs that support our hypothesis are:

- For Doing Business score, α_2: positive, as a higher score implies better policies for increased competitiveness, and hence a higher Consumer Confidence post-crisis according to our hypothesis.

- For Government Budget Balance, α_3: positive, as a positive Government Balance implies less structural problems, and hence a higher Consumer Confidence post-crisis according to our hypothesis

- For Government Debt, α_4: negative, as a higher debt implies more structural problems, and hence lower Consumer Confidence post-crisis according to our hypothesis.

3. Section III - Results & Robustness-tests

3.1 Results[5]

Regression output 2 – Base Model

Variables	Consumer Confidence Base Model Pre-Crisis	Consumer Confidence Base Model Post-Crisis
disposableincome	0.276***	0.251***
	(0.0990)	(0.0463)
Constant	99.97***	99.61***
	(0.587)	(0.300)
Observations	81	83
R-squared	0.371	0.455

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The Base Model suggests that a one-percentage point increase in disposable income on average corresponds to an increase of 0.276 points in Consumer Confidence pre-crisis. The same effect for the post-crisis period is 0.251. The results are significant at the 1 % level.

[5] Please see appendix II for full regression outputs, including all control-variables.

Regression output 3 – Extended Model

Variables	Consumer Confidence Extended Model Pre-Crisis	Consumer Confidence Extended Model Post-Crisis
disposableincome	0.175***	0.132***
	(0.0500)	(0.0399)
doingbusiness	-0.00937	0.0863***
	(0.0125)	(0.0127)
govbudgetbalance	0.0977**	0.0943***
	(0.0409)	(0.0317)
govdebt	-0.0123**	-0.00539
	(0.00491)	(0.00401)
Constant	101.7***	94.59***
	(1.063)	(1.097)
Observations	77	83
R-squared	0.554	0.761

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Results indicate that disposable income decreases its importance as driver of Consumer Confidence between the two time periods. Doing Business on the other hand increases its explanatory power to a strong and statistically significant relationship post-crisis. Budget Balance is a determinant both before and after the crisis. Lastly, a relationship between government debt and Consumer Confidence is found pre-crisis, but not post-crisis.

Regression output 4 - changes over time in the Extended Model

Variables	Consumer Confidence Changes over time in the extended model
disposableincome	0.175***
	(0.0499)
idisposableincome	-0.0433
	(0.0639)
doingbusiness	-0.00937
	(0.0125)
idoingbusiness	0.0957***
	(0.0179)
govbudgetbalance	0.0977**
	(0.0408)
igovbudgetbalance	-0.00334
	(0.0517)
govdebt	-0.0123**
	(0.00490)
igovdebt	0.00692
	(0.00634)
Constant	101.2***
	(1.022)
Observations	160
R-squared	0.767

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The increased importance of the Doing Business Score indicated in regression output 3 achieves statistical importance between the two periods on the 1% level. No other changes in coefficients obtain statistical significance.

3.2 Interpretation of Results

The regression-results above show that there has been one important and interesting change in the determinants of Consumer Confidence since the crisis. The variable representing competitiveness, or more precisely: the variable representing policies for increased competitiveness, gains statistically and economically in significance during the post-crisis-period. In contrast to our hypothesis both government debt and budget balance proved equally or more important during the pre-crisis period. This is probably a natural effect of the defined pre-crisis period directly preceding the actual crisis. Regardless of when public finances became important as a determinant of Consumer Confidence our results imply that reducing government deficits could be an important tool for strengthening consumer sentiment.

The indicated importance of Disposable Income decreases between the two periods. The change in importance is however not statistically significant on any conventional confidence levels.

The increased explanatory power of the Doing Business Score supports the hypothesis that European consumers have become increasingly worried and/or affected by structural problems such as low competitiveness since the financial crisis. Of course, we cannot say that the entire effect is through the psychological link and not through the fundamental link, but it should be kept in mind that disposable income is controlled for.[6] We interpret this as the Financial Crisis revealing an innate structural problem of Europe - differences in competitiveness, and a growing awareness of this among European consumers.

Figure 6: Illustrations for interpretation of results from Regression output 3 (I)

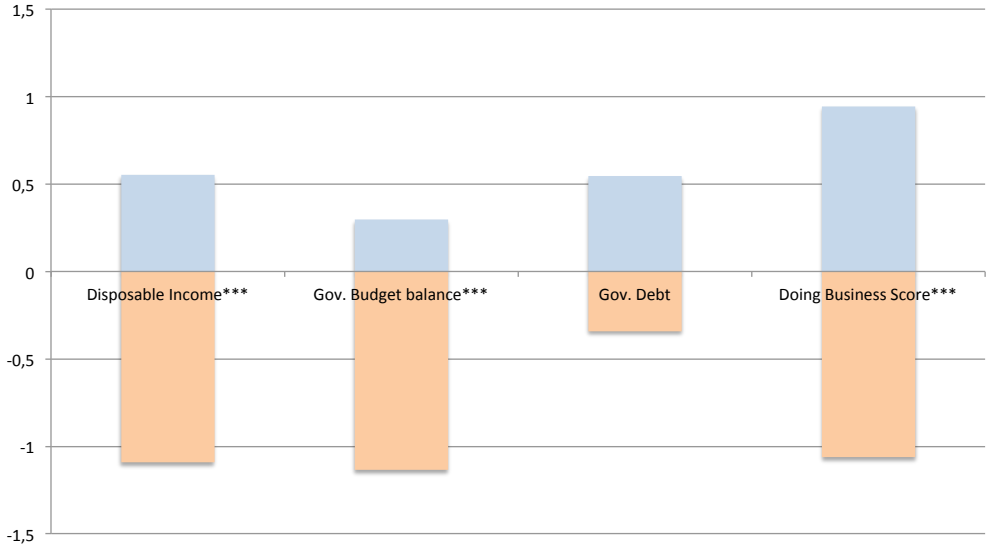
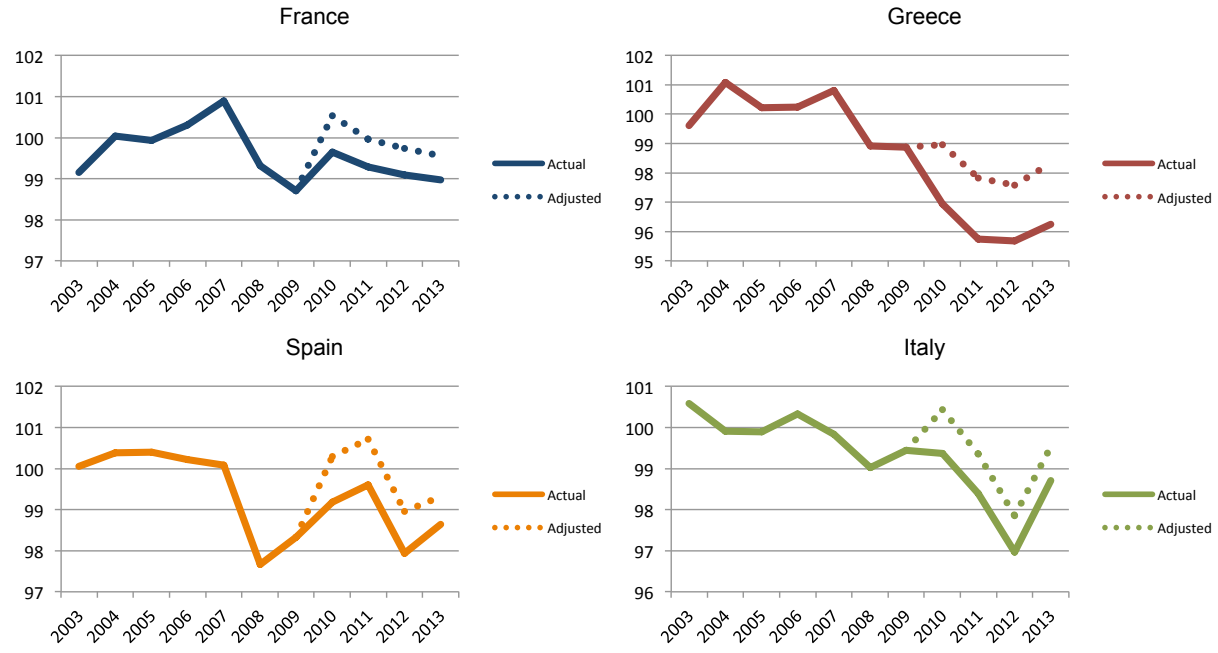


Figure 6 shows the indicated effect on Consumer Confidence of evaluated variables based on 2013 input values. The value 0 represents the median for the countries included in the regression. The top of the bar located above 0 represents the indicated increase in Consumer Confidence for the top performing country within that category in relation to the median. The bottom of the bar located below 0 represents the indicated decrease in Consumer Confidence for the worst performing country within that category in relation to the median. The total length of the bar therefore represents the studied countries' variation in Consumer Confidence resulting from differences in a specific category.

[6] Please note again that the idea is not that consumers are directly worried about a low score of the Doing Business Index - but that a low score indicates a low global competitiveness and a policy-environment not supporting business innovation and growth. These are, according to our hypothesis, indeed factors consumers are increasingly worried about and/or affected by.

Figure 7: Illustrations for interpretation of results from Regression output 3 (II)



Adjusted Consumer Confidence assumes an average Doing Business score equal to sample median value 2013 (75.5) and a budget deficit equal to -2% during entire period 2010 – 2013.

3.3 Connecting Our Results to the Real Economy

In section 1.4 we performed a correlation test between yearly average Consumer Confidence and yearly private consumption growth for our sample (2004 - 2013), and obtained a correlation of 0.75. A simple regression of Real Consumption Growth per capita on Consumer Confidence for the years 2004-2014 gave a statistically significant coefficient of 1.456. This suggested that a one point increase in the Consumer Confidence Index corresponded to a 1.456 percentage point higher yearly growth in private consumption per capita during 2004 - 2013. This implies a tight connection between Consumer Confidence level and consumption growth per capita during the period studied. However, the net effect that our structural problems have on consumption growth is more correctly estimated through the direct regression specified below.

Model specification:

$$\text{conumptiongrowthpercapita}_{it} = \beta_0 + \beta_1 \text{disposableincome}_{it} + \beta_2 \text{doingbusiness}_{it} + \beta_3 \text{govbudgetbalance}_{it} + \beta_4 \text{govdebt}_{it} + u_{it}$$

$\text{conumptiongrowthpercapita}_{it}$; annual growth of real household final consumption expenditure in % (Eurostat, 2015).

Regression output 5 – connection between Structural Variables and Consumption Growth

Variables	Consumption Growth per Capita Pre-Crisis	Consumption Growth per Capita Post-Crisis
disposableincome	0.265***	0.385***
	(0.0697)	(0.0740)
doingbusiness	-0.0447**	0.0757***
	(0.0177)	(0.0249)
govbudgetbalance	0.0149	0.0386
	(0.0489)	(0.0400)
govdebt	-0.0307***	-0.0163**
	(0.00644)	(0.00738)
Constant	6.057***	-4.855**
	(1.534)	(1.904)
Observations	77	83
R-squared	0.492	0.611

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Differences in competitiveness have a statistically significant effect on the real economy post-crisis, with an indicated coefficient of 0.0757. This suggests that a one-point increase in the Doing Business score on average increases yearly consumption growth per capita by about 0,08%. The indicated effect of disposable income increases its effect post-crisis, maintaining statistical significance for its coefficient on the 1%-level. The coefficient for government debt is statistically significant both pre- and post-crisis (5%-level post-crisis), but the indicated importance is higher pre-crisis. The indicated effects of government budget deficits on consumption growth per capita are not significant on any conventional confidence levels either pre- or post-crisis.

Figure 8: Illustration for interpretation of results from Regression output 5

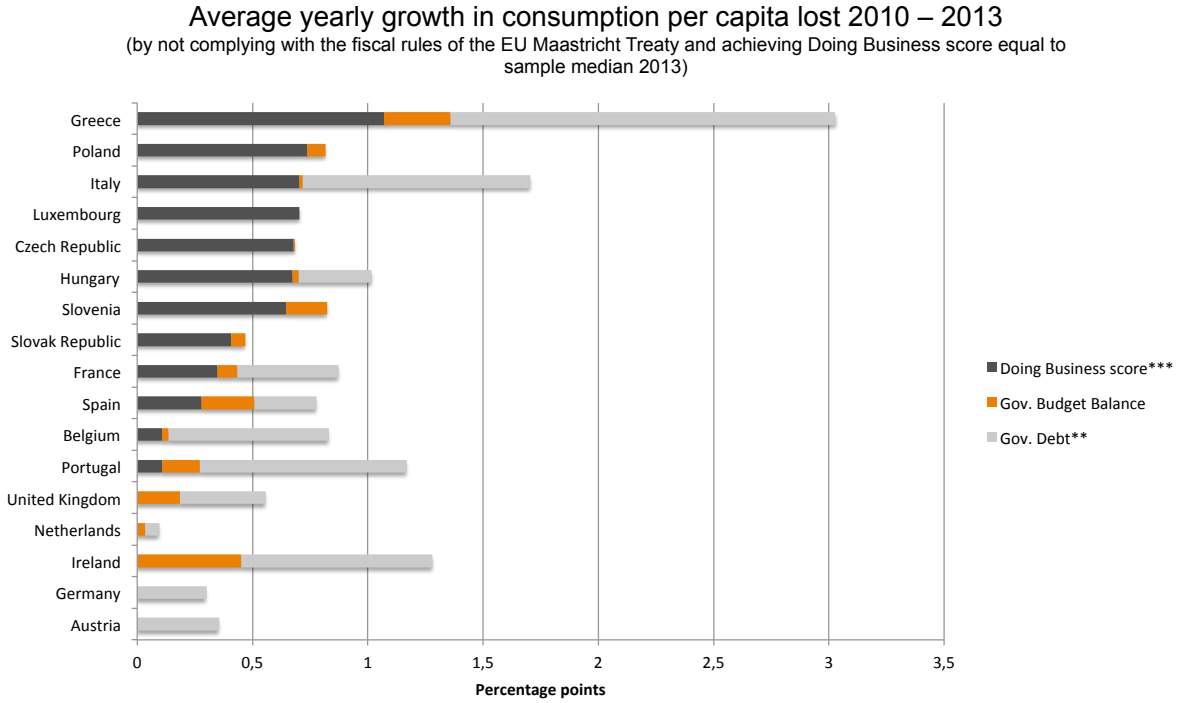


Figure 8 illustrates the indicated average yearly consumption growth per capita lost due to not achieving a selection of benchmarks, with the indicated effects of our three structural variables separated. The benchmarks for debt and deficit levels are based on the guidance of the Maastricht Treaty, which limits public debt to 60% of GDP and budget deficits to 3% of GDP (EU Maastricht Treaty, 1992). The benchmark for the Doing Business score is 75.5, equal to our sample median 2013. If a country meets or exceeds the benchmark in any category then that category is excluded for the country in question. Countries not included in Figure 8 meet or exceed all benchmarks during the period. Indicated effects are based on Regression output 5, meaning that disposable income is controlled for. This suggests that the illustrated effect should express the psychological effect of our structural variables, or fundamental effects not captured by disposable income.

3.4 Testing the Robustness of Our Model

3.4.1 The Doing Business Score as a Measure of Competitiveness

As a measure for competitiveness, we use The Doing Business Score Index instead of for example the Global Competitiveness Index because 1) the availability of data for years before 2006 and 2) the Doing Business Score is more narrowly focused on policy. That is: more narrowly focused on parts of the economy that can be changed and improved relatively quickly compared to for example "degree of higher education" and other pillars that are included in the Global Competitiveness Index. However, as we interpret the index as a measure of competitiveness, we test the validity of doing so by exchanging the Doing Business Score with the Global Competitiveness Index for the post-crisis period (when the index is available). We adjust the Global Competitiveness Index to not include weightings for macroeconomic factors since those are reflected in our other structural variables.

Model Specification:

$$\begin{aligned}\text{consumerconfidence}_{it} &= \beta_0 + \beta_1 \text{disposableincome}_{it} + \beta_2 \text{globalcompetitivenessindex}_{it} + \beta_3 \text{govbudgetbalance}_{it} \\ &+ \beta_4 \text{govdebt}_{it} + \delta_1 Y_t + u_{it}\end{aligned}$$

$globalcompetitivenessindex_{it}$: a distance-to-frontier-index based on 12 pillars measuring competitiveness. Scores vary between 2.8 and 5.7 (World Economic Forum, 2015).

Regression output 6 – robustness check of the Doing Business Score

Variables	Consumer Confidence Post-Crisis
disposableincome	0.144***
	(0.0355)
globalcompetitivenessindex	1.044***
	(0.167)
govbudgetbalance	0.0583*
	(0.0329)
govdebt	-0.00684*
	(0.00365)
Constant	95.64***
	(0.964)
Observations	83
R-squared	0.743

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

We obtain the same degree of significance for the coefficients of the Global Competitiveness Index and the Doing Business Score. All signs remain the same as in the standard regressions, but government budget balance loses some statistical significance and government debt increases in significance. The Global Competitiveness Index is much broader than the Doing Business Score, making it reasonable that the ceteris paribus effect of the other variables will change. However, the reason for testing the model was to evaluate the validity of using the Doing Business Score as a measure of competitiveness, which results in Regression output 6 supports.

3.4.2 Disaggregating Disposable Income

We furthermore test the validity of using an aggregated variable for disposable income. First, we investigate how good a proxy Disposable Income is for employment, wage growth, stock price development and house price-development. We further test the "changes in the Extended Model over time"-model with these variables on a disaggregated level. When thinking about household disposable income, it could be argued that inflation and interest-rates should be included as well. However, including them could lead to bias or confused estimates in our study. During times of crisis, central bank interest rates will be lowered and inflation will fall. Simultaneously, Consumer Confidence will be falling. This will result in correlation, which potentially could be mistaken for causality. During the post-crisis period central bank interest rates have

furthermore been set close to zero for many European economies. This will lead to a lack of variation, both in repo rates and short-term market rates. On another point, available interest rates in large part became a representation of national indebtedness during the post-crisis period. Interest rates could therefore capture effect originating from government debt levels, lowering the indicated effect of one of our structural variables. Inflation and interest rates are hence omitted.

Since our data includes several countries we do not use nominal values of variables with low comparability such as employment, but instead the change in that underlying variable. Many variables and their possible effect on Consumer Confidence can however be considered relatively comparable across the countries included in our study, notably government budget balance, government debt, wage growth and stock market development.

The Model Specifications for these robustness-tests are:

$$\text{Disposable Income}_{it} = \beta_0 + \beta_1 \text{employment}_{it} + \beta_2 \text{wagegrowth}_{it} + \beta_3 \text{spgrowth}_{it} + \beta_4 \text{realhousegrowth}_{it} + \delta_1 Y_t + u_{it}$$

$$\text{consumerconfidence}_{it} = \beta_0 + \beta_1 \text{employment}_{it} + \beta_2 \text{wagegrowth}_{it} + \beta_3 \text{spgrowth}_{it} + \beta_4 \text{realhousegrowth}_{it} + \beta_5 \text{doingbusiness}_{it} + \beta_6 \text{govbudgetbalance}_{it} + \beta_7 \text{govdebt}_{it} + \alpha_0 \text{iemployment}_{it} + \alpha_1 \text{iwagegrowth}_{it} + \alpha_2 \text{ispgrowth}_{it} + \alpha_3 \text{irealhousegrowth}_{it} + \alpha_4 \text{idoingbusiness}_{it} + \alpha_5 \text{igovbudgetbalance}_{it} + \alpha_6 \text{igovdebt}_{it} + \delta_1 Y_t + u_{it}$$

employment_{it}: Change in employment to population ratio (15 - 64 years) between the current year and the average of the past 10 years (OECD.stats, 2004-2013).

wagegrowth_{it}: Growth in average annual wages in national currency unit, 2013 constant prices (OECD.stats, 2004-2013).

spgrowth_{it}: Growth in stock market price index (Eurostat, 2004-2013).

$realhousegrowth_{it}$: Growth in real house market price index (Eurostat, 2004-2013).

Regression output 7 – reliability of Disposable Income as an aggregate variable

Variables	Disposable Income 2004-2013
employment	0.196***
	(0.0417)
growthinannualwages	0.572***
	(0.0801)
realhousegrowth	0.106***
	(0.0236)
spgrowth	0.00453
	(0.00782)
Constant	0.0887
	(0.144)
Observations	165
R-squared	0.703

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

These results indicate that Disposable Income is a good proxy for the fundamental economic variables suggested as main drivers of Consumer Confidence in previous research. We do not obtain statistical significance for stock price growth. This could be a result of European consumers not owning stock portfolios to the same extent as American consumers (ECB Monthly Bulletin January 2013). The stock market has been suggested as significant in previous research, but a large part of Consumer Confidence research is based on U.S. data.

Regression output 8 – the extended model with disaggregated disposable income[7]

Variables	Consumer Confidence Extended Model Pre-Crisis	Consumer Confidence Extended Model Post-Crisis
employment	0.0181	0.0523*
	(0.0415)	(0.0307)
spgrowth	-0.00615	0.0136*
	(0.0108)	(0.00805)
realhousegrowth	0.0457*	-0.00518
	(0.0246)	(0.0236)
wagegrowth	0.140	0.0808
	(0.0854)	(0.0544)
doingbusiness	0.0296	0.0901***
	(0.0243)	(0.0147)
govbudgetbalance	0.0151	0.0748*
	(0.0597)	(0.0399)
govdebt	-0.00524	-0.00463
	(0.00627)	(0.00346)
Constant	98.17***	94.25***
	(1.940)	(1.129)
Observations	56	84
R-squared	0.522	0.754

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

A majority of coefficients for the traditional underlying determinants of Consumer Confidence fail to achieve statistical significance both pre- and post-crisis, suggesting that the model with an aggregated variable for changes in disposable income is a better fit (could also suggest insufficient amount of observations). The coefficient for the Doing Business score achieves statistical significance on the 1%-level with an indicated coefficient similar to in the main regression. The coefficient for budget balance achieves weak statistical significance, while the effect of government debt is unclear.

[7] See appendix II for full results.

Regression output 9 – Changes over time in the extended model with disaggregated disposable income

Variables	Consumer Confidence Extended Model - Changes over time with disaggregated disposable income Pre- and Post-Crisis
iemployment	0.0342
	(0.0511)
ispgrowth	0.0198
	(0.0133)
irealhousegrowth	-0.0509
	(0.0339)
iwagegrowth	-0.0591
	(0.1000)
idoingbusiness	0.0605**
	(0.0281)
igovbudgetbalance	0.0597
	(0.0710)
igovdebt	0.000617
	(0.00706)
Constant	98.17***
	(1.894)
Observations	140
R-squared	0.771

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

We note that we still obtain statistical significance and the same sign for the increase in explanatory power of the Doing Business score as in the main regressions.

3.4.3 Changing Disposable Income to Changes Compared to a Long-term Average

Changes in disposable income could affect Consumer Confidence differently across countries due to country-specific factors. In the regression below we replace the standard "Disposable Income" by a variable representing changes in disposable income relative to a long-term average. Due to lack of data, the robustness test was only possible for the post-crisis period. The model-specification for this regression is thus:

$$\text{consumerconfidencex}_{it} = \beta_0 + \beta_1 \text{changeindisposableincome}_{it} + \beta_2 \text{doingbusiness}_{it} + \beta_3 \text{govbudgetbalance}_{it} + \beta_4 \text{govdebt}_{it} + \delta_1 Y_t + u_{it}$$

$\text{changeindisposableincome}_{it}$: current growth in disposable income relative to historical growth levels of disposable income (2003 – 2008, limited by lack of data)

Regression output 10 – Changes in disposable income relative to historical development

Variables	Consumer Confidence Post-crisis
changeindisposableincome	0.299***
	(0.112)
doingbusiness	0.0828***
	(0.0135)
govbudgetbalance	0.0958***
	(0.0336)
govdebt	-0.00834**
	(0.00353)
Constant	95.19***
	(1.117)
Observations	84
R-squared	0.747

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The Doing Business score achieves statistical significance on the 1%-level and a coefficient similar to before despite the change of variable representing disposable income. Coefficients for both government budget balance and government debt achieve strong statistical significance. Indicated coefficients are similar in our original regression, strengthening the results. The coefficient for the alternate variable of disposable income is statistically significant on the 1%-level, with an indicated coefficient of 0.299. This suggests that increasing disposable income by a country's average historical growth rate in disposable income (in percentage points) increases Consumer Confidence by 0.299 points.

3.4.4 Heteroskedasticity

Breusch-Pagan tests show that heteroskedasticity is not a problem for any of the models for the post-crisis-period, implying that the inference for the post-crisis period is reliable. There is however evidence of heteroskedasticity for the pre-crisis-period. For the purpose of having reliable test-results for the analysis and discussion, it is most important that the post-crisis data set do not suffer from heteroskedasticity. Even so, robust standard errors are used for all regressions to minimise the issue of heteroskedasticity. See appendix II for test statistics.

4. Section IV – Discussion

4.1 Connection Between Competitiveness and Trade Balance

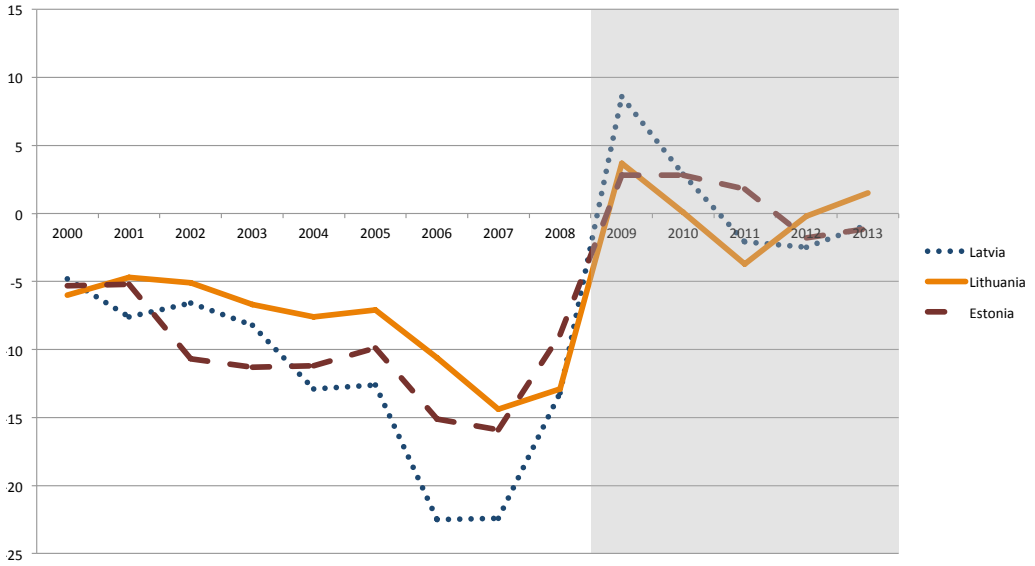
Our results primarily support competitiveness reforms. A correlation of our sample suggests that this in turn supports reforms that aid in balancing trade, and thereby the current account. We find a correlation of 0.78 between the Doing Business score of the continental European OECD countries 2006 (excluding Great Britain) and their average trade balance in relation to GDP 2000 - 2007. Exchanging the Doing Business score with the Global Competitiveness Index for the same period renders a correlation of 0.8 (same result for current account balance). What this tells us is that current account/trade balance deficits are a good measure of low competitiveness over time. Through the connection we have established between competitiveness and Consumer Confidence, we can conclude that long periods of negative trade balances or current account deficits will have a negative effect on Consumer Confidence. A contemporary case on the Baltic States adds validity to this conclusion.

4.2 Qualitative Empirical Evidence: The Case of the Baltics

A contemporary case supporting rapid competitiveness reforms and adjustment of the current account balance can be found in the economic development of the Baltic States (Estonia, Latvia, Lithuania) during the post-crisis period. At the wake of the financial crisis the Baltic States chose a different approach compared to many of the economies of southern Europe. Similar to the GIPS-countries, the Baltic States had been running large current account deficits prior to the crisis. By comparison, Greece had a current account deficit equal to 14% of GDP during 2007. The same year Estonia, Lithuania and Latvia ran current account deficits equal to 15.9%, 14.4% and 22.4% of GDP respectively (and trade balances of -8.9%, -13.3% and -20% respectively) (World Bank, 2015).

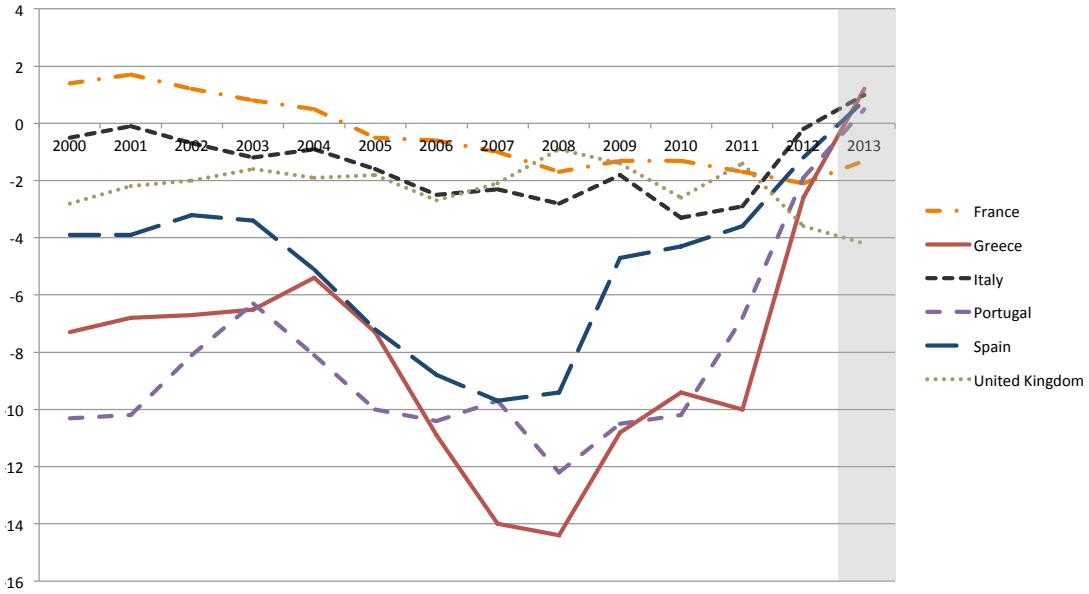
Many economists considered it necessary for the Baltic States to devalue their currencies when the crisis hit, notably Nobel laureate Paul Krugman, but firmly set on joining the Eurozone the countries chose to maintain their pegs to the euro (Åslund & Dombrovskis 2011, p. 55). Instead the Baltic States pursued "internal devaluations", cutting public expenditures, wages and other costs. Together with substantial competitiveness reforms the three countries turned large current account deficits in 2007 into surpluses in 2009 (Åslund & Dombrovskis 2011, p. 107). Current account deficits have since then trended around zero, visualised in Figure 9. The GIPS-countries, on the other hand, did not achieve current account surpluses until 2013. France and Great Britain have even shown growing or relatively constant current account deficits since the crisis (see Figure 10).

Figure 9: Current Account balance as % of GDP for the Baltic States 2000-2013



Source: World Bank Group (2000-2013).

Figure 10: Current account balance as % of GDP for the GIPS-countries, France and UK 2000-2013

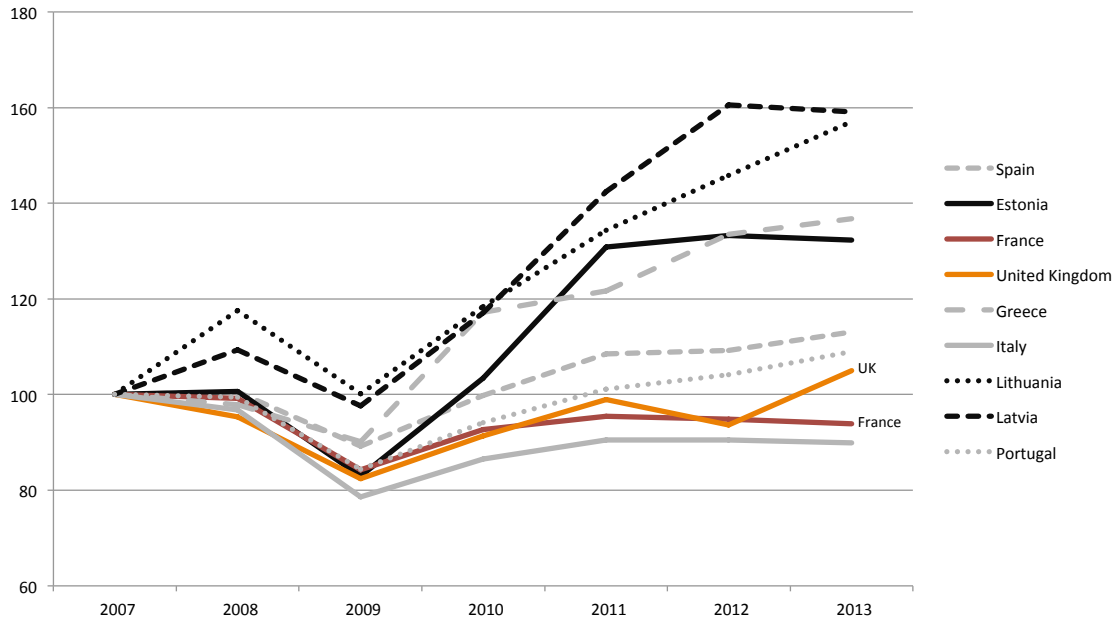


Source: World Bank (2000-2013).

An important question is however; did the GIPS-countries turn current account balances positive by strengthening the competitiveness of their export sector and thereby increasing exports? If current account balances were balanced through reducing imports the negative effects on Consumer Confidence associated with the previous deficits will probably remain to a large extent. Simply put, lowering imports represents lowering living standards while increasing exports represents protecting current standards through competitiveness reform. Figure 11 & 12 clearly show how the Baltic States have increased their export volumes substantially since 2007 (avg. CAGR of 6.9% 2007 - 2013), allowing import volumes to match or surpass 2007 levels.

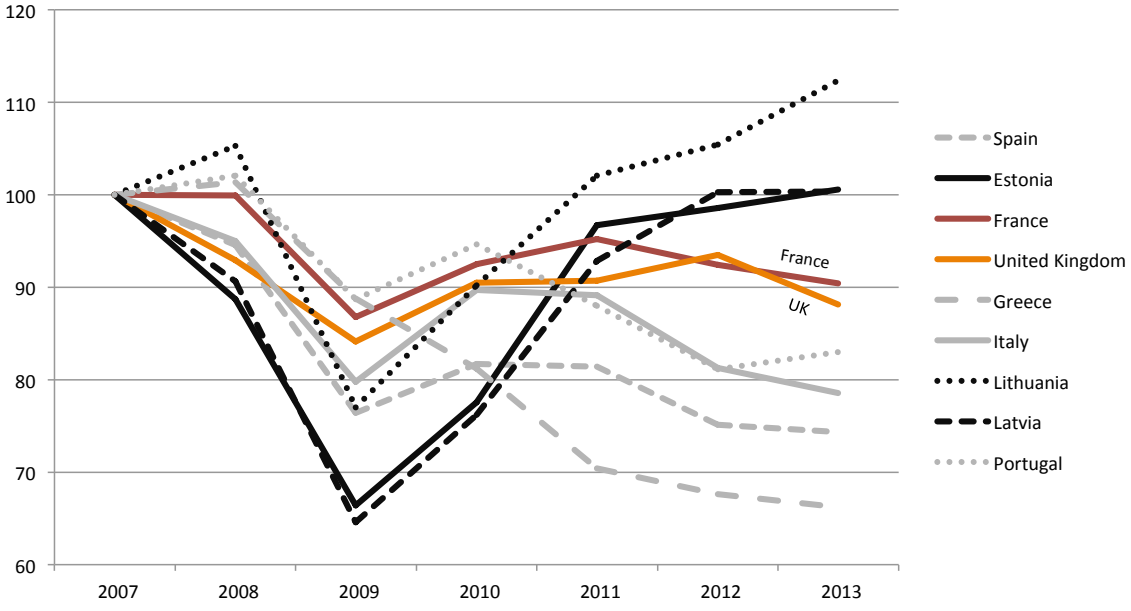
In the GIPS-countries, export volumes increased by an average CAGR of 1.8% 2007 -2013. The development is however extremely varying within the GIPS-countries, with Greece increasing export volume by 35.7% and Italy decreasing volume by 10.1% (CAGR of 0.6% excluding Greece). Despite this, it is evident that the GIPS-countries reduced current account deficits primarily through lower import volumes. Import volumes decreased by 24.5% on average in the GIPS-countries 2007 - 2013, while increasing by on average 4.4% in the Baltic States (2006 - 2013 figures are -20.8% and +14.3% respectively) (World Bank, 2015).

Figure 11: Export Volume Index (2007=100) for the Baltic States, GIPS, France and UK 2007-2013



Source: World Bank Group (2007-2013).

Figure 12: Import Volume Index (2007=100) for the Baltic States, GIPS, France and UK 2007-2013



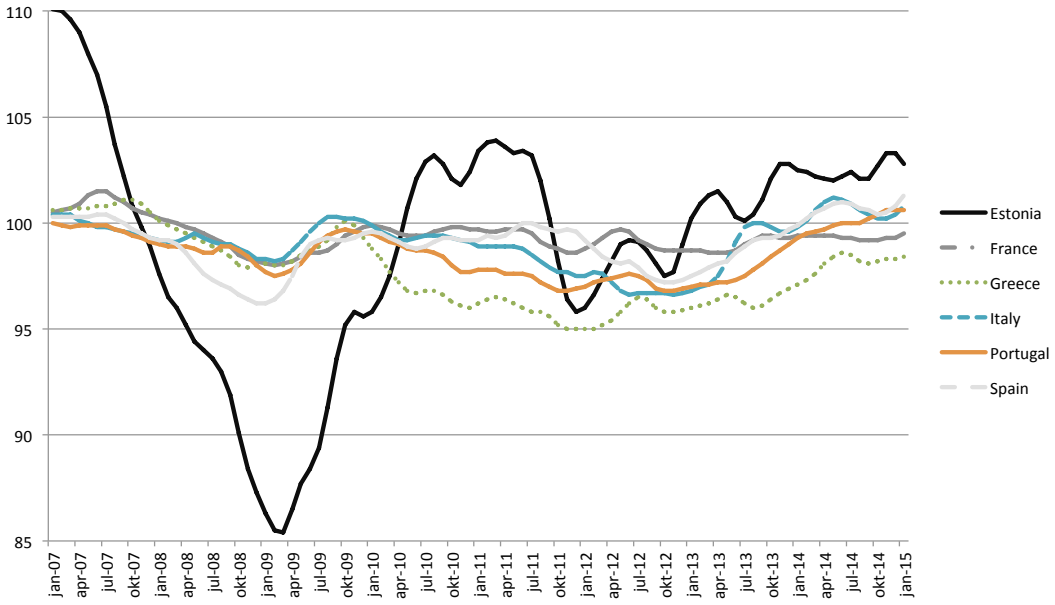
Source: World Bank Group (2007-2013).

"You never want a serious crisis to go to waste… It's an opportunity to do things you could not do before"
- Emanuel, S. Rahm 2010. White House Chief 2009-2010.

The actions of the Baltic States might as well be based on these words. During 2009, the prime minister of Latvia cut his own salary by 20%. Between 2008 and 2010, 23 000, or 29%, of the civil servants were dismissed. The average public salary fell 26% between November 2008 and November 2009. Private salaries fell by 10% during the same time period. The total fiscal adjustment during 2009 was 9.5% of GDP in Latvia. The fiscal adjustment was made primarily through budget cuts, and to a very low extent through tax increases. The problems as well as the response were fairly similar across all Baltic States. The rapid undertaking of internal devaluation was based on the recognition of overheating Baltic economies during the period 2000 – 2007. The economies had been growing above potential much due to a credit expansion in combination with running large current account deficits (Åslund & Dombrovskis 2011, p. 109).

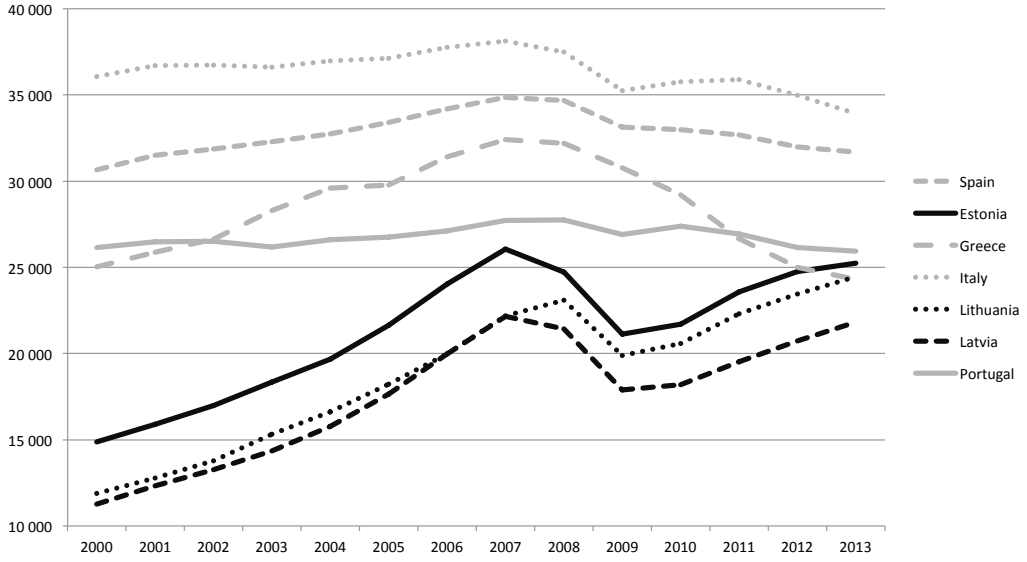
The policies carried out by the Baltic States first led to collapsing Consumer Confidence, a GDP in free fall and high unemployment, but economic sentiment soon recovered (see Figure 13-15). Judging by the growth rates achieved after the reforms, "ripping the Band-Aid off quickly" seems to have been a successful policy for the Baltic States. In 2013/2014 GDP per capita levels in constant USD (and PPP adjusted) for the Baltic States had surpassed or matched levels achieved in 2007 (Figure 14). The GDP per capita in the GIPS-countries excluding Greece had on the other hand declined by an average of 9% during the same period. Even though employment has not fully recovered in the Baltic States the situation is substantially better than in the GIPS-countries, portrayed in Figure 15 (World Bank Database, 2015).

Figure 13: Consumer Confidence for Estonia, the GIPS and France 2007-2015



Source: OECD (2015).

Figure 14: GDP per capita for the Baltic States and the GIPS-countries 2000-2013



Source: OECD (2000-2013).

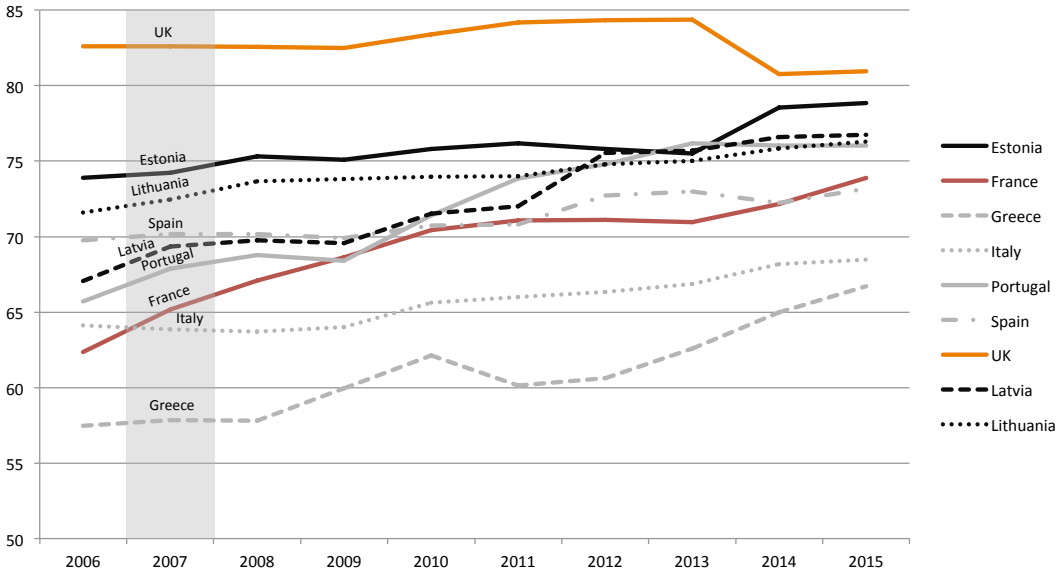
Figure 15: Employment-to-population for the Baltic States and the GIPS-countries 2000-2013



Source: OECD (2000-2013).

One explanation to why the Baltic States made it through the financial crisis better than the GIPS-countries could be that they lack an important structural problem of southern Europe - low competitiveness. In Figure 16 the development of the Doing Business score for the Baltic States, GIPS-countries, UK and France is shown. Since the method for measuring the score has changed several times to much focus should not be placed on the nominal development, but rather on the relative development. As obvious from Figure 16, the Baltic States (at least Estonia and Lithuania) had a relatively large advantage compared to many of the GIPS-countries when the crisis hit in 2007-2008. The Baltic States have furthermore continuously increased their scores during the period, and in 2015 Estonia was almost at par Great Britain. However, the relative advantage of Great Britain during 2007 tells us that competitiveness was not everything - much of the Baltic states' rapid turnaround in all likelihood stemmed from the strong resolve towards reform.

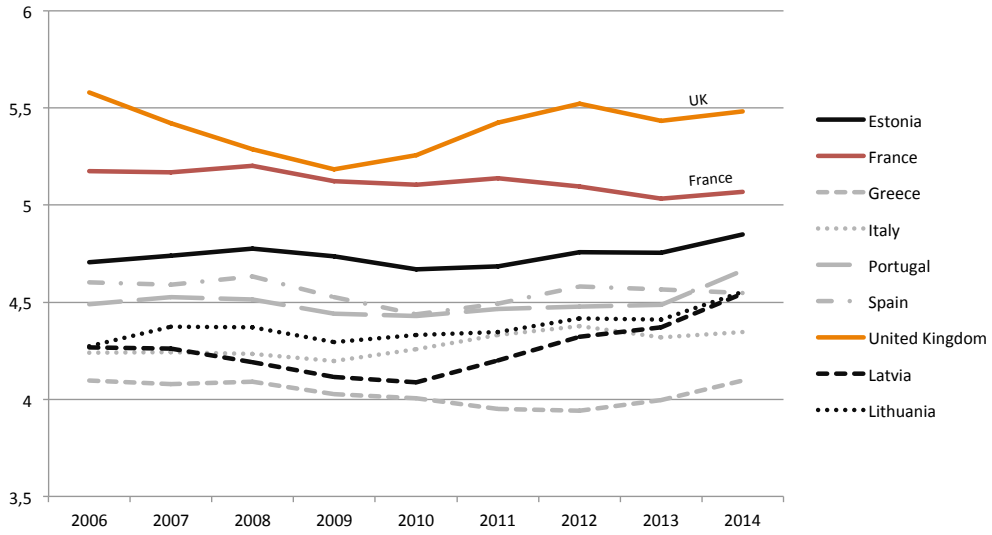
Figure 16: the Doing Business Score for the Baltic States, GIPS, France and UK 2006-2015



Source: The World Bank Group (2006-2015).

Furthermore, looking at the broader Global Competitiveness Index paints another picture. In this index the Baltic States were ranked about the same as the GIPS-countries during 2007 - 2008. Since the Doing Business score to a larger extent measures the presence of policies that increase competitiveness (and policies that can be changed quickly), rather than the current situation, maybe the Baltic States' relative strength in this score represented their will to change? The GIPS-countries low relative Doing Business score during 2007 - 2008 would then represent their unwillingness towards (or underestimation of the need for) structural competitiveness reform. Their rapid improvements post 2009 suggest that the financial crisis became a crude awakening. Based on the consistent gap between the GIPS and e.g. the Baltic states, the reforms do however seem insufficient.

Figure 17: Global Competitiveness Index for the Baltic States, GIPS, France and UK 2006-2014



Source: World Bank Group (2006-2014).

There are of course some inherent differences to the environment of the Baltic States and the GIPS-countries. The Baltic States had quite low levels of government debt to GDP ratios at the wake of the crisis, but instead a relatively high private indebtedness (World Bank, 2015). The neighbouring nations of the Baltics states are furthermore more high-performing economies, such as the Nordics. This results in a more stable export market compared to for example Portugal which neighbours the equally economically suffering Spain.

Despite these differences we consider the events in the Baltic States as strong evidence of the benefits of correctly and quickly addressing competitiveness problems. For the Latvian parliament, a fiscal adjustment corresponding to 11% of GDP in 2009 was much easier to push through parliament than an adjustment corresponding to 0.4% of GDP in December 2010 (Åslund & Dombrovskis 2011 p. 101 & 108). This is in accordance with the words of Rahm Emanuel, clearly portraying the benefits that arise from implementing reforms rapidly in connection to a crisis. The increasing resistance towards painful reform in connection to a crisis creates concern regarding the gradual internal devaluations and fiscal adjustments of the GIPS-countries.

4.3 Competitiveness Reforms

According to our findings, the nations of Europe should take steps to increase their competitiveness and reduce government deficits in order to strengthen Consumer Confidence-levels and increase consumption growth. Some would argue that the countries of Europe should try to kick-start their economies through increasing government spending, but our results indicate that the negative psychological effect on Consumer Confidence and consumption growth arising from deficits is larger than e.g. the positive effect on disposable income or employment deficit-funded government programs might have. Deficit spending also affects Consumer Confidence and consumption growth negatively through increasing debt levels. William White, chairman of the Economic and Development Review Committee (EDRC) at the OECD in Paris, raised this concern in a paper from 2012: *"..the policy responses to the crisis to date, both macroeconomic and structural, will not succeed in restoring sustainable growth. Monetary and fiscal stimulus might raise aggregate demand in the short run, but they contribute to higher debt levels which are already working increasingly in the opposite direction".*

The government debt as a share of GDP can be reduced either through running budget surpluses or growing the national economy. Competitiveness reforms could aid in both, but primarily the latter. Several of the countries at the heart of the crisis have taken large steps towards higher competitiveness, notably Portugal. However, the reforms in many of the crisis countries seem insufficient. According to our results reforms are needed within the areas included in the Doing Business Score published by the World bank - property registration, ease of starting and closing a business, minority investor protection, employing workers, construction permits, tax levels and ease of paying taxes, trading across borders, contract enforcement and infrastructure. We do realise that the Doing Business Score is not a perfect measurement of the conditions for competitiveness, although probably one of the best representations. The former means that policy makers should not place too high significance on the specific measures that form the index. Instead, the Doing Business score should be viewed in a broader context, and primarily as support for competitiveness reforms within a spectrum of areas, such as corruption, labour market regulation and business environment.

OECD has highlighted several reforms that could aid in "growing out of" high debt to GDP ratios. According to Bouis & Duval (2011), labour market reforms in the areas of unemployment benefit systems, activation policies, labour taxes and pension systems could raise employment rates by several percentage points in a number of OECD countries over a 10-year horizon. Large continental European countries would reap the largest benefits of the reforms. Overall the potential GDP per capita gain for the average OECD

country from undertaking the full range of reforms considered in the report approaches 4,5% and 10% at a 5- and 10-year horizon respectively. The effect is even higher for the average EU country.

4.4 Implications for Future Recovery Outlook & Ideas for Future Research

4.4.1 Our Results in the Context of Europe's Current Political Situation

Many financial crises have structural causes, but central bankers and politicians have a tendency to treat all crises as cyclical. Politicians often attain higher voter support by ignoring structural problems and handling crises through state financed stimulus programs or populist proposals. Evidence of this is the recent victory for the Syriza party in Greece as well as the growth of the Podemos party and Front National in Spain and France respectively. Instead of continuing on Greece's promised austerity path the Syriza party advocates higher minimum wages, nationalization of companies and more government spending. This ignores and potentially aggravates the structural problems of Greece - low competitiveness and too high government spending. The policies proposed by the Podemos party in Spain raise similar concerns.

The core of the French party Front National is its EU- and immigration criticism, but the party also advocates lowering the pension age to 60, higher minimum salaries, higher pensions and import restrictions. Import restrictions could naturally lower France's trade deficit, but only through masking the underlying problems. For a country with a government debt to GDP ratio close to 100% lowering the retirement age to 60 and increasing pensions seems counterproductive, and can rightly be interpreted as populist.

4.4.2 A Monetary Union With Internal Imbalances

Many economists have questioned the common currency, the euro, since its very introduction. Can you share the same currency in a union with vastly different competitiveness levels? Our results indicate that it will be difficult in the long run. Even though our regressions include all European OECD-countries, one can suspect that much of the indicated importance competitiveness levels stems from differences within the Eurozone. The pain of implementing the competitiveness reforms needed to get the Eurozone on a sustainable path could lead to cracks within the union. The increasing risk of Greece leaving the Eurozone is evidence of this. An important question for the future is therefore: will politicians be willing to risk short-term public support in order to put the monetary union on a more sustainable path?

4.4.3 Is a Loose Monetary Policy Postponing Structural Reform?

A not to farfetched concern is that low rates and quantitative easing might partly compensate for the downward pressure arising from structural problems through example given rising asset prices. Between October 2014, when the rumours about ECB:s quantitative easing first began to flourish, and the end of March 2015 the Eurozone stock index EURO STOXX 50 rose by almost 30%. This coincides with the recent recovery in Consumer Confidence. A discussion about causality would of course quickly turn into a discussion about hen and egg, but the lack of structural reform in an environment of quickly rising asset prices does warrant concern in our opinion.

Jens Weidmann, president of the Deutsche Bundesbank, has raised concern towards the high belief in the effectiveness of current monetary policy:

"...for quite some time now, the Eurosystem's monetary policy has been pretty much at the centre of public attention amid the search for a solution to the euro area's debt and unemployment crisis. However, nobody should be under any illusions that the Eurosystem can solve the severe structural difficulties the euro area is facing. Structural problems require a response in the form of structural measures."
- Weidmann, J. President of the Deutsche Bundesbank, February 2015

"More than just favourable refinancing conditions will be needed to stimulate credit growth…. It is far more important to improve the longer-term revenue prospects of non-financial corporations. And it is important to improve sustainably job perspectives. Both can only be achieved through structural reforms which bolster competitiveness and boost economies' growth potential."
- Weidmann, J. President of the Deutsche Bundesbank, November 2014

4.4.4 Implications of the Strong Psychological Effect of Structural Factors

It is interesting to combine our results to those of Neisingh & Stokman (2013). They conclude that variables representing trust in politicians and the financial system have appeared as determinants of Consumer Confidence since the financial crisis. We can draw similar conclusions: new determinants of Consumer Confidence have been activated since the outbreak of the financial crisis, and these determinants are not reflected in household disposable income. This indicates that consumers are highly aware of increased risks in the economic system. They are not only affected by how much money they have in their pocket at the end of the month – represented by disposable income – but also by what they conceive as troublesome developments. Thus, believing that confidence can be restored through lower interest rates and/or fiscal stimulus is probably to underestimate the intelligence of the consumer.

The strong psychological aspect of Consumer Confidence raises some suspicion regarding the potential effectiveness of quantitative easing and unconventionally low interest rates. When this thesis is written central banks in Switzerland, Denmark and Sweden have all lowered interest rates below zero, and ECB:s QE has pushed rates on German and French government bonds into negative territory. Both negative interest rates and QE are terms that consumers have never been acquainted with before. We can most likely assume that despite consumers not understanding the mechanisms of these policies, the sheer terminology and unfamiliarity fills them with some level of uncertainty. A discussion about the possible negative psychological effects of QE and negative/zero interest rates is beyond the reach of our thesis, but it could certainly be an interesting basis for future research.

4.5 Conclusions

The aim of this thesis was to explore if and how structural problems of Europe's crisis-ridden economies have increased their role as determinants of Consumer Confidence since the financial crisis. The hypothesis was, simply put, that consumers of Europe have become increasingly affected and/or worried by structural problems such as high government debt and deficit-levels, and on a root-cause level: low competitiveness. Using data covering the European OECD-countries 2004-2013, we performed pooled OLS-regressions to test the differences in explanatory power of 1) the traditional determinant disposable income, and 2) structural determinants reflecting our hypothesis, on Consumer Confidence pre- and post-crisis. We find, in line with work by Neisingh & Stokman (2013), that since the financial crisis new determinants of Consumer Confidence have appeared. These new determinants are not reflecting disposable income, but rather psychological effects of a severe and insecure economic and political situation. It is also possible that the new determinants could have fundamental economic effects other than a weak development for disposable income.

On a more detailed level, the coefficient of the structural variable representing competitiveness, the Doing Business-score, increased from a non-statistically significant size of -0.0094 to a statistically significant on the 1 %-level size of 0.086. The increase of 0.096 is statistically significant on the 1 %-level. Moreover, there is an interesting finding regarding the explanatory power of government budget balances: Consumer Confidence-levels have been lower for countries with higher government deficits both before and after the crisis (statistically significant on 1%-level post-crisis and 5%-level pre-crisis).

Important to note is that we have controlled for household disposable income, so there is a ceteris paribus effect of Government Deficits and Competitiveness on Consumer Confidence after controlling for disposable income, for the post-crisis period 2010-2013. This means that the total effect (including the fundamental route through disposable income) of government deficits and low competitiveness could be even higher than what is indicated in our results. The coefficients obtained for our structural variables can be considered to primarily capture the psychological effect those variables have on Consumer Confidence (and on consumption growth through Consumer Confidence). Compared to the fundamental route, including e.g. employment, the psychological route should be more easily swayed. Changing public worry about budget deficits is likely a much easier affair than returning to historical employment levels. This means that the benefits arising from increasing competitiveness and lowering budget deficits indicated by our results could appear rather quickly.

The long-term effects from reforms are probably larger since government debt and competitiveness probably played a large part in falling employment and wage growth (which are controlled for). It is of course impossible to separate the psychological effect from the fundamental effect entirely. The only consequence of this is that it will be hard to specify the time until benefits arising from reform appear. The long-term benefits will be the same. The concern is furthermore less motivated in the case of government budget deficits. Since changes in government transfers and social security programs are controlled for (through disposable income), the coefficient obtained for government budget balance will in large part represent the psychological effect. This facilitates a trade-off analysis between cutting government budget deficits and maintaining government transfer programs.

Qualitative support for our findings is found in a case where the Baltic States' response to the financial crisis is compared to that of the GIPS-countries. In contrast to the GIPS-countries the Baltic States implemented rapid and painful reforms for increased competitiveness in the early stages of the crisis. This caused dramatic declines in both Consumer Confidence and GDP, but today the Baltic States have almost recovered to pre-crisis levels of employment and GDP per capita.

Our conclusions rely on the assumption that our structural factors will retain their importance with regard to Consumer Confidence. This is implied by the categorization of them as structural problems (by us and many notable economists mentioned in this thesis), but is in the end difficult to prove. Intuitively the negative effect of low competitiveness and government budget deficits will reappear in lack of fundamental reform. Consumer Confidence has recovered somewhat during 2014 and the beginning of 2015 but there could still be major dangers ahead. Our OECD data indicates continuous global cycles in Consumer Confidence, and during the post-crisis period studied Consumer Confidence has recovered temporarily two times. Despite this, our regressions indicate a constant effect of our structural variables. Structural problems need structural changes, and judging by the lack of reform Consumer Confidence might as well decline during the coming years.

It is impossible to know if these structural factors will persist as determinants of Consumer Confidence in the future, but we believe that there are interesting implications of these findings. Most importantly: consumers have adjusted their sentiment levels for other factors than the amount of money in their pockets. Since we also find a significant relationship between our structural variables and real consumption growth, we can conclude that these factors not only matter for people's sentiment, but for the real economy as well. Have central bankers and politicians underestimated consumers' intelligence when heavily relying on easy monetary policy as crisis response, pushing necessary and perhaps increasingly painful reforms on the future?

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Appendix I – Details on Data

Variable	Source	Comments/adjustments	Download date
General Government Gross Debt as % of GDP	Eurostat	Estonia 2004-2012: World bank. Greece 2003-2005: OECD. Switzerland 2004-2013: Swiss Governments Financial Statements All four sources use the same method, namely in line with definition in the Maastricht Treaty.	02-03-15
Consumer Confidence	OECD iLibrary	Index originally measured on a monthly basis. We use yearly averages.	17-02-15
Real House Prices	OECD Housing Prices database.	Index based in 2010. We use yearly changes in this index.	02-03-15
Wage Growth	OECD iLibrary	Average annual wages in Local National Currency. 2013 Constant Prices. We use yearly changes in this index.	05-03-15
Employment	OECD iLibrary	Employment-to-population-ratio (15-64 years) between year of observation and the average of the past 10 years.	06-03-15
Share Price Index	Eurostat	Index with base year 2010 (=100). Originally measured on a monthly basis. We use changes in yearly averages.	05-03-15
Doing Business	World Bank Group	We use their distance to frontier-index. Each country obtain a value depending on distance from best-practice*.	05-03-15
General Government Budget Balance as % of GDP	OECD iLibrary	For Poland 2004-2013: WorldBank.	05-03-15
Household Disposable Income**	Eurostat	Annual growth rate in % of household disposable income. PPP.	20-04-15
Real Private Consumption Growth	World Bank Group	Annual growth in % of household final consumption expenditure. Based on constant local currency.	10-05-15
Global Competitiveness Index	World Economic Forum	A distance-to-frontier index, where Switzerland has the highest value of 5.7 and Guinea lowest of 2.8.	10-04-15

*The Doing Business score was determined according to the same standard between 2006 and 2013 (1 new sub-category added 2010). Many of the sub-categories have however been measured since 2004, which allows us to use the Doing Business score for what we have defined as the pre-crisis test period (2004-2007). To achieve comparability we have used the same values achieved in 2006 for 2004-2005 in cases of missing values (4 out of 9 sub-categories). This will cause some bias, but since most values are fairly stable over time the effect will be limited.

Appendix II – Full Test Results

Full Results from Part 3.1

Variables	Consumer Confidence Base Model Pre-Crisis	Consumer Confidence Base Model Post-Crisis
d11		-0.516
		(0.343)
d12		-1.514***
		(0.340)
d13		-0.403
		(0.417)
disposableincome	0.276***	0.251***
	(0.0990)	(0.0463)
d04	-0.973**	
	(0.446)	
d05	-0.495	
	(0.356)	
d06	0.158	
	(0.456)	
Constant	99.97***	99.61***
	(0.587)	(0.300)
Observations	81	83
R-squared	0.371	0.455

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Variables	Consumer Confidence Extended Model Pre-Crisis	Consumer Confidence Extended Model Post-Crisis
d11		-0.852***
		(0.220)
d12		-1.938***
		(0.255)
d13		-0.997***
		(0.275)
disposableincome	0.175***	0.132***
	(0.0500)	(0.0399)
doingbusiness	-0.00937	0.0863***
	(0.0125)	(0.0127)
govbudgetbalance	0.0977**	0.0943***
	(0.0409)	(0.0317)
govdebt	-0.0123**	-0.00539
	(0.00491)	(0.00401)
d04	-0.592**	
	(0.285)	
d05	-0.412	
	(0.284)	
d06	-0.0814	
	(0.243)	
Constant	101.7***	94.59***
	(1.063)	(1.097)
Observations	77	83
R-squared	0.554	0.761

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Variables	Consumer Confidence Changes over time in extended model
d05	0.180
	(0.243)
d06	0.510**
	(0.222)
d07	0.592**
	(0.284)
d10	-6.565***
	(1.501)
d11	-7.417***
	(1.508)
d12	-8.504***
	(1.556)
d13	-7.562***
	(1.521)
disposableincome	0.175***
	(0.0499)
idisposableincome	-0.0433
	(0.0639)
doingbusiness	-0.00937
	(0.0125)
idoingbusiness	0.0957***
	(0.0179)
govbudgetbalance	0.0977**
	(0.0408)
igovbudgetbalance	-0.00334
	(0.0517)
govdebt	-0.0123**
	(0.00490)
igovdebt	0.00692
	(0.00634)
Constant	101.2***
	(1.022)
Observations	160
R-squared	0.767

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Full Results from Part 3.3

Variables	Consumption Growth per Capita Pre-Crisis	Consumption Growth per Capita Post-Crisis
d05	-0.132	
	(0.357)	
d06	-0.442	
	(0.410)	
d07	-0.102	
	(0.351)	
disposableincome	0.265***	0.385***
	(0.0697)	(0.0740)
doingbusiness	-0.0447**	0.0757***
	(0.0177)	(0.0249)
govbudgetbalance	0.0149	0.0386
	(0.0489)	(0.0400)
govdebt	-0.0307***	-0.0163**
	(0.00644)	(0.00738)
d11		-0.511
		(0.481)
d12		-0.913*
		(0.516)
d13		0.00154
		(0.586)
Constant	6.057***	-4.855**
	(1.534)	(1.904)
Observations	77	83
R-squared	0.492	0.611

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Full Results from Part 3.4

Variables	Consumer Confidence Exchanged measure for competitiveness Post-Crisis
d11	-0.721***
	(0.222)
d12	-1.779***
	(0.249)
d13	-0.657**
	(0.277)
disposableincome	0.144***
	(0.0355)
globalcompetitivenessindex	1.044***
	(0.167)
govbudgetbalance	0.0583*
	(0.0329)
govdebt	-0.00684*
	(0.00365)
Constant	95.64***
	(0.964)
Observations	83
R-squared	0.743

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Variables	Consumer Confidence Extended Model - Changes over time Pre- and Post-Crisis
d05	0.0592
	(0.257)
d06	0.589**
	(0.238)
d07	0.892***
	(0.314)
d10	-3.919*
	(2.214)
d11	-4.416*
	(2.251)
d12	-5.616**
	(2.283)
d13	-5.155**
	(2.254)
employment	0.0181
	(0.0405)
iemployment	0.0342
	(0.0511)
spgrowth	-0.00615
	(0.0105)
ispgrowth	0.0198
	(0.0133)
realhousegrowth	0.0457*
	(0.0240)
irealhousegrowth	-0.0509
	(0.0339)
wagegrowth	0.140*
	(0.0834)
iwagegrowth	-0.0591
	(0.1000)
doingbusiness	0.0296
	(0.0238)
idoingbusiness	0.0605**
	(0.0281)
govbudgetbalance	0.0151
	(0.0583)
igovbudgetbalance	0.0597
	(0.0710)
govdebt	-0.00524
	(0.00612)
igovdebt	0.000617
	(0.00706)
Constant	98.17***
	(1.894)
Observations	140
R-squared	0.771

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Variables	Consumer Confidence Post-crisis
d11	-0.916***
	(0.222)
d12	-2.005***
	(0.271)
d13	-1.028***
	(0.278)
changeindisposableincome	0.299***
	(0.112)
doingbusiness	0.0828***
	(0.0135)
govbudgetbalance	0.0958***
	(0.0336)
govdebt	-0.00834**
	(0.00353)
Constant	95.19***
	(1.117)
Observations	84
R-squared	0.747

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1b

Breusch-Pagan-tests:

Chi2 (p-value)	Pre-Crisis	Post-Crisis
Base Model	37.28 (0.0000)	0.58 (0.4474)
Extendend Model	0.19 (0.6660)	0.00 (0.9516)