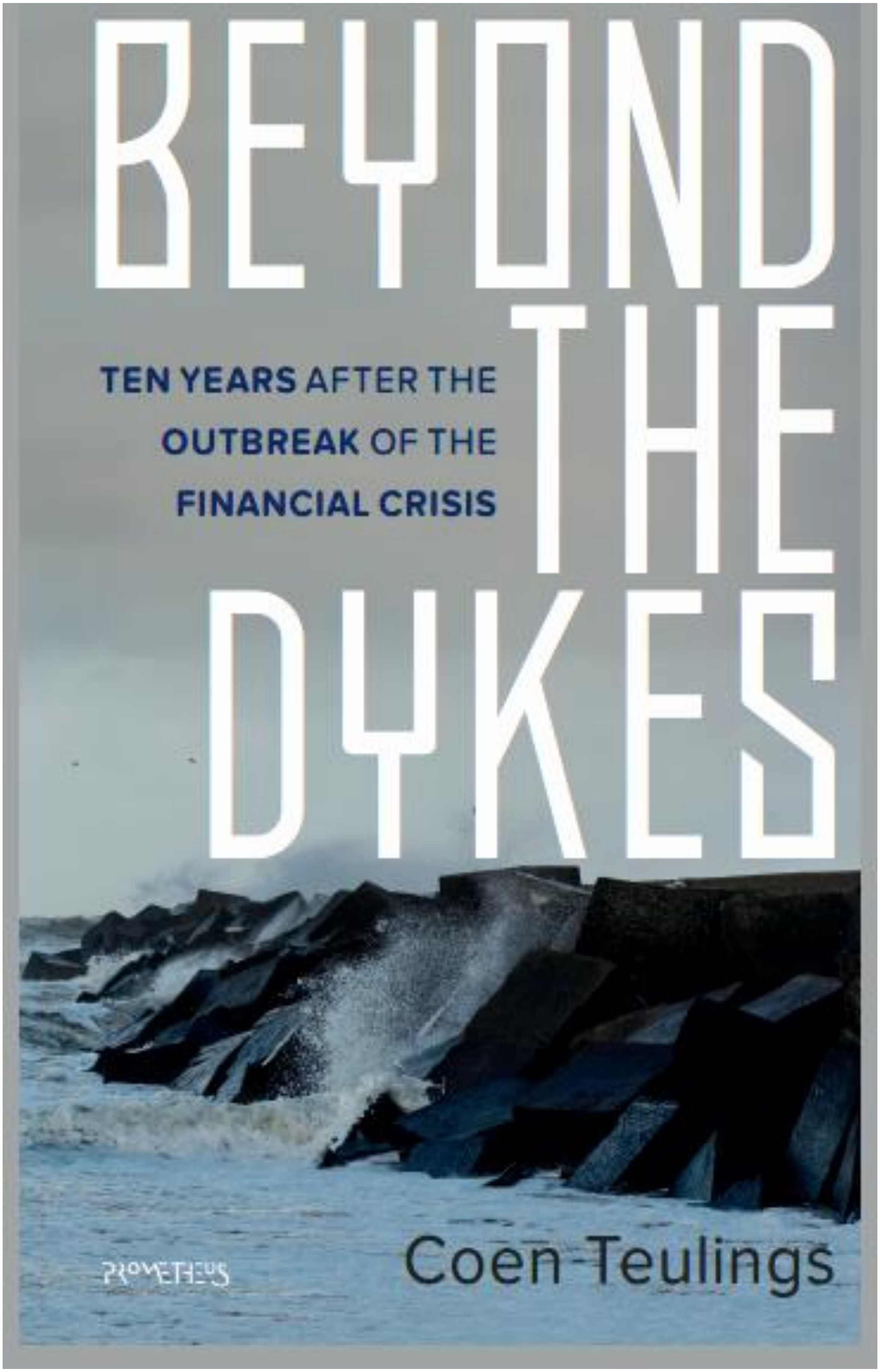

BEYOND THE DYKES
TEN YEARS AFTER THE OUTBREAK OF THE FINANCIAL CRISIS
Coen Teulings
PROMETHEUS

Dedicated to

Dolf van den Brink

And

Johan Witteveen

Cover design Suzan Beijer

Translation: Jeanne Bovenberg

Photo cover Mischa Keijser/De Beeldunie

Photo author Bob Bronshoff

www.uitgeverijprometheus.nl

ISBN.978 90 446 3812 7

Table of contents

Foreword

On September 15, 2008 the American investment bank Lehman Brothers went bankrupt. In the days that followed, chaos erupted on the financial markets as had never been seen before. It was the start of the largest financial crisis that the world had witnessed since the Great Depression of the 1930s. Within a few days the world's largest insurance agency threatened to be dragged down along with Lehman. Stock markets around the world incurred massive losses. Also the Netherlands and Belgium were hit hard. Two weeks after the demise of Lehman, the Belgian bank-insurer Fortis, which shortly before had taken over ABN-Amro, went bankrupt. The financial system was near collapse. Banks in many countries had to be rescued in the subsequent months by way of billions of state support.

The consequences were felt everywhere in society. Worldwide, the economy fell into a deep recession— not without reason called the Great Recession. The international commercial credit system was at breaking point, which led to a 30 percent drop in world trade within a few months' time. One year later, the financial crisis turned into the Euro Crisis in Europe, when Greece announced that it would not be able to meet its financial obligations. For years, the Euro Crisis has held the EU in an iron grip: countries were on the point of bankruptcy and in 2012 the currency teetered on the brink of disaster.

Just as the Great Depression of the 1930s, this financial crisis has left an indelible mark on the world. Worldwide, confidence has been deeply shaken in established political institutions. Populist political parties opposing incumbents have been on the rise, in an echo of the 1930s. Great Britain voted for Brexit, and the United States elected Trump. National agendas prevailed above international cooperation. The post-war world order that the US helped to create is now being threatened by the actions of the US President. Trump has begun a trade war— once again, in an echo of the events in the 1930s. Remarkably, it seems as if the EU is now rising from the ashes.

This book reports on ten years of financial crisis— ten years that have indelibly changed the world—and describes the Dutch diagnosis of the crisis. This diagnosis is in many respects unclear and inconsistent. The cracks that have become evident in the old world order represent an urgent call for a new look at the position of the Netherlands in the world. With this book I hope to contribute to this process.

This book is the fruit of ten years' close involvement with the events herein described. During this time I benefitted from debates and conversations with many individuals— conversations that continued until the day I turned in the final chapter of this book to the publisher. I'll take the opportunity now to list these individuals, with my thanks, in alphabetical order: Dick Benschop, Olivier Blanchard, Marieke Blom, Arnoud Boot, Charles Brendon, Willem Buiter, Giancarlo Corsetti, Jeffrey Frieden, Axel Gottfries, Wouter den Haan, Bernard ter Haar, Victor Halberstadt, Frank Heemskerk, Christian Helweg , Bas Jacobs, Gert Jan Koopmans, Jason Lu, Ramon Marimon, Ruud de Mooij, Jean Pisani Ferri, Morten Ravn, Pontus Rehndal, Lucrezia Reichlin, Rick van der Ploeg, Dani Rodrik, Frank Smets, Bas Straathof, Tom de Swaan, Rutger Teulings, Nicolas Veron and Maarten Verweij. I would also like to give my due to many others (particularly my former colleagues at CPB) who have, without their knowing it, contributed to the creation of this book.

In record-setting time, and with great tenacity, Bram van der Kroft created the necessary figures. He and Maarten de Ridder, Rem Korteweg and Marieke van Oostrom provided me with incisive comments on earlier versions of this book. That was a great help. Without diminishing their efforts in any way, I would like above all to thank my wife, Salome Bentinck— not only for her support during all the long evenings I spent working late, but especially for her many suggestions on ways to improve the book. Gradually she fell in love with the Empress of Rice Island. You should therefore not blame Empress for her moodiness she shows at the end of the book; that is entirely the author's doing.

Coen Teulings
July 18, 2018

1 Lehman bankrupt

It never occurred to us that the Americans would let Lehman fail.

- Staff member of Jean Claude Trichet, head of the European Central Bank, quoted in *The New York Times*, September 11th, 2009

On that historic night of September 15th 2008 when Lehman Brothers went bankrupt, I attended dinner with a small group to mark the retirement of a colleague professor. The former treasurer-general of the Ministry of Finance and I were exchanging views on the ups and downs of the first Lubbers Cabinet, which took office in the middle of the recession of 1982. I still have great admiration for that cabinet. It put The Netherlands back on track.

Some of the guests that evening had close ties with the financial sector. That night they were constantly watching their Blackberries. Something was going on in New York— that much was clear. The year before had seen the bankruptcies of first the English mortgage bank Northern Rock and later the American Investment bank Bear Stearns. So something had been amiss on the financial markets for some time. That night, though, the atmosphere seemed relaxed. I did not have the impression that any of those present were aware that we were on the brink of an historic event.

A few days later I attended another dinner, this time at the office of the Permanent Representation of the Netherlands to the EU in Brussels. Several Dutch guests, some from The Hague and some from Brussels, had been invited to discuss the Dutch position in Europe. The people from Brussels described how that position had changed in recent years. Initially, the Netherlands functioned as the little 'grease-man' of Europe: always given the floor directly after the large countries and routinely taking up the role of formulating the compromises. In those days, the Dutch in Brussels were also given a great deal of discretion by the government in The Hague. This gave the Netherlands authority. But a shift had occurred, and the Permanent Representation no longer held this position of trust. Conversations with the parliamentarians who visited Brussels seemed to be increasingly strained; 'ideologists' (as opposed to 'brokers of compromise') was the qualification given most often to the staff members of the Permanent Representation. But the real topic that night was not Brussels, but New York, and the shocking events which seemed to tumble over each other like so many blocks since the downfall of Lehman a few days back. Merrill Lynch had just been taken over by The Bank of America; AIG, which for decades had been the largest insurance company in the world, was bailed out by the FED with an injection of billions. What exactly was going on, nobody knew— but that the situation was becoming serious was now clear to everyone present. Even so, I doubt that any of those present realized at the time that we would still— ten years later— be talking about the events which had taken place the week before.

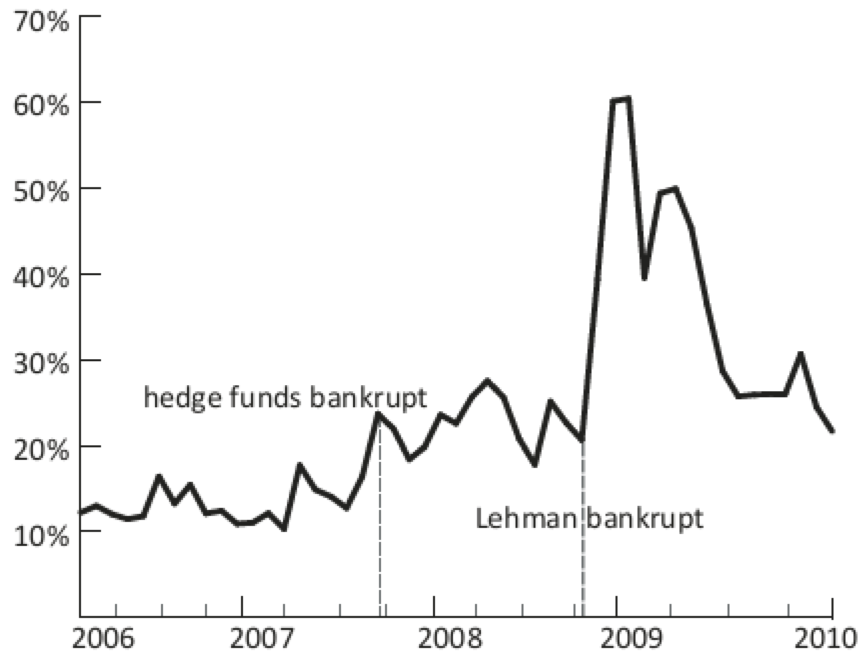


Figure 1.1 The volatility on the stock market peaks after the demise of Lehman

Note: the VIX index measures the expected volatility of the stock market in percentage points for the coming year

The stock market was in a state of chaos, which was reflected by the VIX index (measuring uncertainty on the stock market about the expected development of the Dow Jones index in the coming year). The VIX had been very low for several years prior to the summer of 2007. The wind of optimism that had been blowing over the world was disturbed in the summer of 2007 when several hedge funds that traded in real estate bonds went bankrupt. This was the first sign of impending doom. But no one could have foreseen what occurred in the weeks after the bankruptcy of Lehman. The VIX reached unprecedented high levels: no one had any idea of what the value of stocks would be in the coming year. There were days when the Dow Jones rose and fell several times during the same day— increasing by as much as 10 percent, and then decreasing as dramatically. If you happened to be a little lucky in buying and selling on such a day, you could have become very rich. Then again, you could have just as easily gone bankrupt.

'The interbank credit market has been at a stalemate for months now. In my long career as a banker, I have never experienced such a thing. I advise you to immediately sell all your stocks.' These words were spoken to me by Dolf van den Brink (member of the board of directors of ABN-Amro until 2002, who passed away in 2014) precisely a year before the bankruptcy of Lehman. We now know that he called it well. If the interbank credit market no longer functions, then banks do not dare to extend credit to each other. If bankers do not trust each other's creditworthiness, why then would outsiders (who have much less information than those bankers) still trust them? That is why, a year before the downfall of Lehman, van den Brink was one of the few people I know of who was able to predict the disaster that was going to take place in the world. Also rather remarkable is the speech made by Raghuram Rajan, who later became the governor of the Reserve bank of India, at the annual conference of central bankers in Jackson Hole in 2005. He warned that all of the financial innovation in recent years was destabilizing the world. In his analysis he mentioned many mechanisms that in the event have indeed disrupted the world economy since the fall of Lehman. Unquestionably, more people were aware of the seriousness of the situation, but they could not, or would not, tell— if only because they worked for institutions that were struggling to reduce their exposure as quickly as possible. After all, those who first see a storm approaching are just in time to take the proverbial umbrella from the umbrella stand. Anyone who waits a little too long, will find that there are no more umbrellas left. The Hollywood film *The Big Short* explains this wonderfully. The movie tells the story of a few investment bankers who understood quite early that something was wrong in the American mortgage market. And because it was their work to earn money using their knowledge, they created a new type of option that would increase in value when mortgage-backed securities decreased in value due to homeowner default. Financial markets refer to speculation on a drop in price as 'going short', which explains the title of the film. During 2006, when more and more homeowners really started defaulting on their mortgages, the price of these options should have increased. The trade in these options was limited, however, so only now and then could a price be quoted. That is why these options could not be valued on the basis of the market prices. Instead, they were valued by special agencies. These agencies, however, were not eager to value these options; 'legal complications' was the official excuse. In the film, it was suggested that those agencies first wanted to scale back the positions of their own firms before they came out with their ratings.

Having said this, there were a great many people, also among those who were familiar with the ups and downs of the financial markets, who frankly admitted afterwards that they had not foreseen this situation. This frankness appeals to me. Once again, *the Big Short* illustrates this wonderfully. In order to get their options listed, the bankers needed the permission of several institutions. One of the people who had to grant this permission looked pityingly at these bankers and wished them 'luck' with going short on the American housing market.

Finally, there were people who claimed afterwards that they had foreseen it. I presume that only a few were as outrageous as the American economist Frederic Mishkin. At some point in 2009 he was interviewed for the film *Inside Job* about the background of the credit crisis. 'In 2006 you published a paper about the financial stability of Iceland's economy?' the interviewer asked Mishkin. That was correct, indeed. 'The original title of that paper is 'Financial Stability in Iceland'. But why is this paper listed on your C.V. as 'Financial **In**stability in Iceland?'' The question was more interesting than the answer. As those Dutch people who had an account with the online savings brand Icesave will recall, the economy of Iceland proved to be anything but stable. Icesave went bankrupt in 2008.

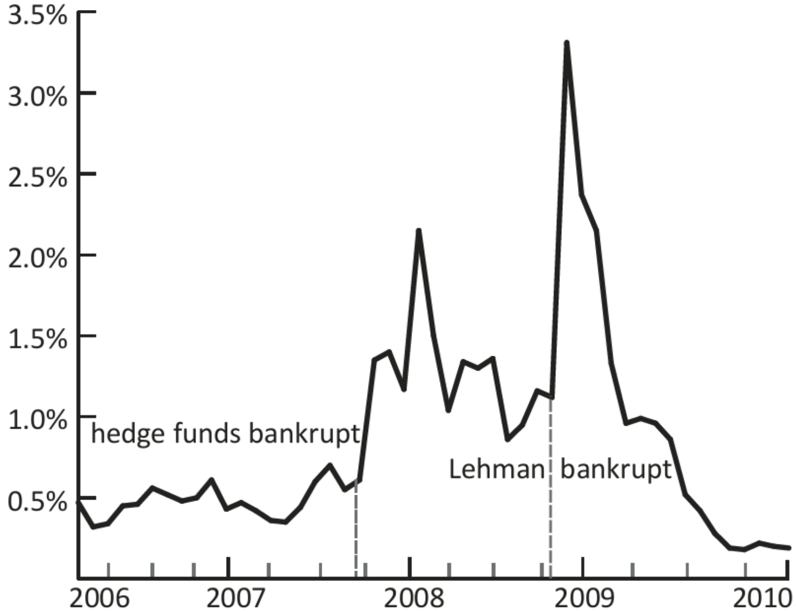


Figure 1.2 The interbank lending market shut down in September 2008, causing a sharp increase in the yield

The interest on interbank loans which van den Brink spoke about in 2007 was merely child's play in comparison to what took place in the weeks after the downfall of Lehman. There was not a single bank that trusted another: would the other party, when push came to shove, be able to meet its obligations? Any company that was unfortunate enough in October of 2008 to have to ask its bank for an extension of its short-term credit received 'no' for an answer most of the time. This led to financing difficulties for many companies.

How had it come to this? Many lectures have explored the causes of this crisis. One of the factors is undoubtedly lack of supervision, which will be discussed later in this book. But equally important were certainly the developments on worldwide markets since the Asian financial crisis of 1997-1998. Up to that time, many Asian countries financed their growth mainly with imported capital. During the Asian crisis, the movement of capital suddenly stopped. From one day to the next numerous investment projects ground to a halt— and the companies that were involved went broke. Many Asian countries had learned their lesson: from now on, they would strive to be independent of international financing. They started to build financial buffers. At the same time, the rapid growth of China led to an unprecedented need for saving. Due to rising wages, middle-aged generations saw the real value of their former savings evaporate. The amount that a Chinese farmer would have put aside for a 'rainy day' in 1990, was not even sufficient to pay a doctor's bill in 2000. This need for saving grew in importance because there were no facilities for healthcare and no public pension system. Healthcare and pensions had to be financed with private savings. In China, people saved more and, because of that, they spent much less than almost any other country in the world: less than 40 cents on every Euro earned was spent— while the number in most other countries lies between 50 to 70 cents for every Euro.

By no means could all of these savings be invested in China alone. A large sum had to be invested elsewhere. Between 2000 and 2006, the balance of payments surplus in China increased from 2 to 8 percent of GDP, while at the same time the GDP rose to an annual rate of 10 percent. Because of China being the second economy in the world, this was a large sum from an international perspective. There was actually only one country in the world that would be a safe enough place to invest such a flow of capital: the United States. The reasoning was that the reliable justice system of the US would protect sufficiently the interests of the investors. One could not be so sure of that in other countries in the world. Once this decision was made, a destination for this capital had to be found. Was there anything more obvious than housing construction? Due to this over-supply of capital, the interest was low— and for those who were looking to buy houses, the financing of mortgages was easy. This is the way that Chinese savings, through several intermediate steps, found its way to the American housing market. We know now that these investments failed to yield the expected return. Too many investors had viewed the light on the horizon as *sunrise*, while in reality it was *sundown*. In the end, the housing crisis would evaporate 6 trillion dollars' worth of property value (that is, 6000 billion: approximately ten times the Dutch annual GDP). This massive amount of wealth had been malinvested in the American housing market in the years leading up to the crisis. At the time of the demise of Lehman, the damage had already been done: the money was gone, the houses had been built. However, a second disaster loomed on the horizon: the total economic disruption resulting from the banking crisis. In the end, the damage of this would prove to be much worse.

'Coen, as director of CPB (CPB Netherlands Bureau for Economic Policy Analysis), you were wonderfully mistaken'. The comment was made by Wouter den Haan, professor in macro-economics, first at Amsterdam University and now at the London School of Economics. 'Your CPB expected the permanent loss of GDP to be between 5 and 10 percent. That was much too low; it rather turned out to be 15 percent'. He had a broad grin on his face. Den Haan and CPB had had heated discussions during the worst days of the crisis. In 2009, as a result of the financial crisis, the GDP of most countries had decreased by 4 to 5 percent. Would this loss be recovered the next years by extra growth, or would the loss be permanent? Den Haan, assuming that the loss would be temporary, advanced strong arguments to prove it. Imagine that consumers postpone their purchases temporarily, because they feel insecure due to the financial crisis or because they lack money. Demand then decreases, so less will be sold. The production capacity of firms remains, however. One would expect that after some time the market balance would recover: after all, why would entrepreneurs allow their production capacity to remain unused? Den Haan's reasoning, in 2009, was that a loss of GDP could never be permanent.

Between 1974 and 2009, about a hundred banking crises occurred. This extensive experience has shown that, despite theoretically valid arguments, the damage wrought is permanent in nature. Some countries were lucky. Sweden, for example, was hit by a banking crisis in 1990. The country grew so strongly in the period following this crisis, that it was better off ten years later than it was before the crisis. Most countries were not as lucky, however, as losses were permanent after most of the banking crises. During a banking crisis the GDP of a country drops by an average of 8 percent. And that drop will never (yet, 'never say 'never'') be restored. Some would say that 8 percent is an overestimation, because the economy in question had of course grown faster than was structurally sustainable during the period before the crisis, due to excessive supply of credit. The drop of GDP then simply represented a correction of the excessive growth which occurred before the crisis. However plausible this argument may sound, there is little empirical proof to back it up.

In 2009, it was as yet unclear whether the crisis after the downfall of Lehman would adhere to that law of 8 percent, or whether it would be one of exceptions along the lines of the Swedish banking crisis. By now, however, the extent of the damage has been revealed: this time, it was even worse than usual. The annual GDP of the United States is now 10 percent lower than it would have been without the credit crisis. In Great Britain— and surely in the Eurozone— the loss has been even worse. That explains Wouter den Haan's smile: we had both been mistaken. He had not foreseen the permanent loss; as for CPB, even CPB's gloomy estimate in 2009 of a permanent loss of between 5 and 10 percent had still proven to be optimistic. We were subsequently both able to see the humor in our former dispute on insight.

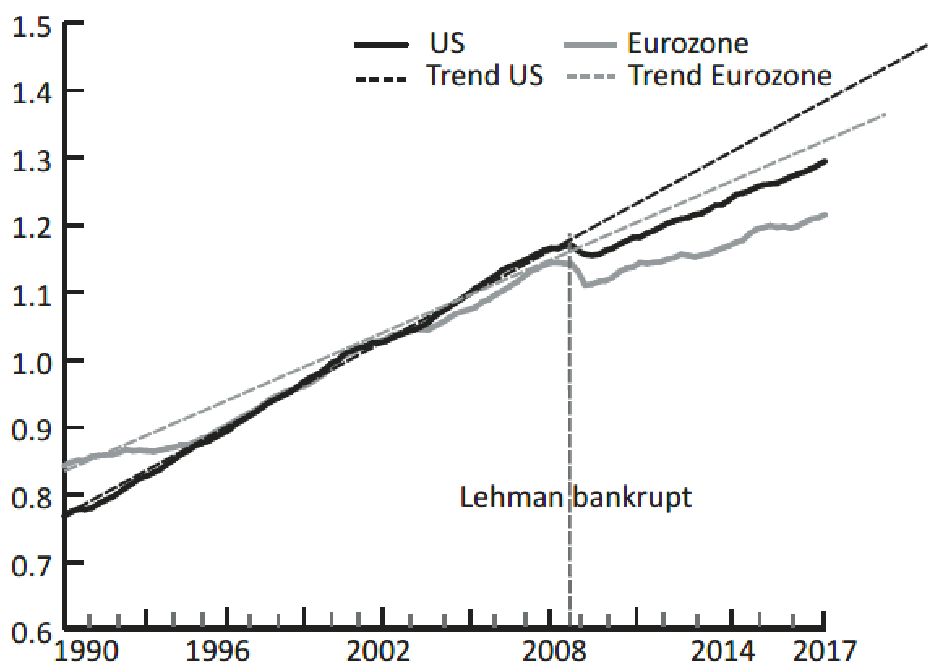


Figure 1.3 The credit crunch caused a permanent decrease of GDP in the US and an even larger decrease in the Eurozone

Note: GDP is expressed in logarithmic terms indexed at 1 in 2000

This knowledge makes it possible for us to compare the direct costs of the malinvestment on the American homebuilding market in the years prior to the credit crisis, and the loss of GDP in the years after the crisis. The malinvestment on the American housing market led to a one-time loss of 6 trillion dollars. Compare this with a semi-permanent drop of US GDP of 10 percent. In 2009, US GDP was 14 trillion dollars annually; 10 percent of this is thus 1.4 trillion dollars. In short, about five years after the crisis, the cumulative costs of the loss since the beginning– some 7 trillion dollars- were higher than the damage (6 trillion dollars) wrought by the overinvestment in the American housing market.

This lesson can be applied to almost all banking crises. In the public debate, a great deal of attention is paid to the credit portfolio losses of the banks and to the societal costs entailed by the necessity of rescuing those banks. The indirect costs of a banking crisis– the losses of GDP after the beginning of the crisis— are usually much higher. And yet, these losses do not seem to attract half as much public attention as the costs of the original malinvestment.

In the Eurozone, the scope of the malinvestment on the housing market in the years leading up to the crisis is much smaller. As a matter of fact, only in Ireland and Spain were too many houses built. Even so, the indirect effects of the loss of GDP in the Eurozone since the beginning of the crisis are twice as large as in the United States. The 'how' and 'why' will be dealt with later. Especially in Europe, the indirect effects represent a much greater part of the costs of the crisis than is represented by the direct effect.

Revisiting the arguments of Wouter den Haan, we might ask why the economy has not simply restored itself after the crisis to the previous level. In principle, the same production resources are still available. Why are these not simply put back to work in order to bring the annual GDP back once again to the level it had before the crisis? One plausible explanation is that during the crisis companies held back on Research and Development (R&D). This led to some delays in the development of their technology. Consider that a company that has not made any *replacement* investments for some time can catch up later on by making extra investments. It has all reason to do so, since, due to the scarcity of production capacity, the return on these investments is high. This makes it profitable to make these investments. In the case of technology, however, once it is built up, a backlog in the development of new technology is almost impossible to catch up. Research takes time, and even a single missed year can hardly be recovered. A company that is not able to obtain sufficient credit, due to the financial crisis, has all the more reason to postpone investments in R&D for a while. A company forced to make choices that determine whether they will survive tomorrow will be forgiven for considering choices about the day after tomorrow to be less relevant. That is why R&D pulls the short straw.

In the past few years I have discussed these matters in Cambridge with Maarten de Ridder, who is a PhD candidate there. He thought it was an interesting hypothesis— but was it also true? De Ridder came up with a method to investigate this, using the experience of the credit crisis in the United States. Every firm has its own preferred bank. Some banks suffered heavily due to the crisis: Lehman is an obvious example, but also other banks, particularly those that had invested relatively more capital in the housing market, suffered heavy losses. If a firm was unfortunate enough to have had one of the banks that suffered heavier losses as its preferred bank, then that firm would have had less access to new credit in 2009 and 2010. Subsequently, such a firm would have had to adapt its investments accordingly. Because R&D pulls the short straw, this cannot but result in less R&D. This lower R&D eventually yields a gradual loss of market share. De Ridder investigated whether this hypothesis was correct by comparing firms whose preferred bank had suffered a heavy losses due to the crisis, with competitors whose preferred bank had survived the crisis more or less intact. The hypothesis appears to be correct: firms whose preferred bank had suffered heavily due to the financial crisis invested less in R&D in 2009 and 2010, and grew less in subsequent years. De Ridder's analysis even made the pages of *The Wall Street Journal*.

If this mechanism is scaled up to macro level, it will hardly be surprising that GDP has not recovered from the crisis. The past few years, after the downfall of Lehman, R&D has suffered a great deal from the illiquidity of the financial markets. Many firms who had no access to credit had to defer their R&D out of sheer necessity. The United States lost several years of productivity gains that they have never recovered.

The credit crisis is often referred to as a debt crisis. De Ridder's assessment shows how confusing this can be. Referring to the crisis as a *debt crisis* suggests that the crisis is the result of too many debts, while in fact the problem is completely the opposite. Banks are intermediaries who mediate the transfer of capital between savers and investors. Savers want to set aside their capital for later use— for example, for their pension. Investors like to borrow this capital in order to invest it profitably, so they can pay it back later with interest. Bank credit is debt. A banking crisis disrupts bank lending. That is why the credit crisis is not a problem of too much debt. Instead, it might be said that too little debt is being made: companies obtain insufficient credit to be able to finance their socially beneficial investments in R&D. The banking system has been paralyzed by the earlier malinvestments. The solution for this malinvestment on one market is not to hold back on investments on other markets. The solution is to get bank lending up and running again as soon as possible by recapitalization of the banks.

Returning to the Netherlands: In The Hague we watched how this drama developed on the other side of the Atlantic Ocean. Lehman went bankrupt the day before Prinsjesdag (the day on which the reigning monarch of the Netherlands addresses the Dutch Senate and the House of Representatives in The Hague). In the annual budget, Minister of Finance Wouter Bos wrote with satisfaction that he expected the Dutch national debt in 2009 to be 40 percent and that the debt in 2011 would be at its lowest level since it was first registered in 1814. This text had been written a few weeks earlier, but the first two weeks after the downfall of Lehman the government remained fully confident. Obviously, the problems in the United States would impact the Netherlands. Our country, being a small open economy, is after all highly sensitive to the world economy. But the downfall of a big bank… that was something that could happen only in the United States, and was the result of too little regulation of the financial markets and too little supervision of the active financial institutions there. That could not happen over here. In the Netherlands, the dykes were sound.

2 Rescuing Banks

In future, the risks of large banks should be the responsibility of the depositors and investors, and not of the government and the taxpayers.

- Jeroen Dijsselbloem, Tweede Kamer, June 26th, 2013.

Two weeks after the downfall of Lehman, the Dutch dykes appeared not to be strong enough either to withstand this storm. The Belgian financial company Fortis was in trouble. That also impacted the Netherlands, where a large part of their activities took place. That part had even become larger recently, because Fortis— in a consortium with the British Royal Bank of Scotland (RBS), and the Spanish Banco Santander— had taken over ABN-Amro. It was a bizarre twist of fate: this takeover was rounded off, precisely a week after the downfall of Lehman, with the delisting of ABN-Amro on the stock exchange. This was a bad omen: a large takeover during turbulent times on the financial markets? This could not end well. And it didn't. In September 2008 the creditors of Fortis withdrew en masse. Without government support, a bankruptcy was inevitable. On the 2nd of October, a Dutch delegation left for Brussels to negotiate a settlement with the Belgians. The Netherlands bought back the Fortis share of ABN-Amro. A month later, the RBS would also pay the ultimate price for its takeover of ABN-Amro. The bank was close to bankruptcy and had in fact to be nationalized. Later that year in the Netherlands, government support was also given to ING, AEGON, NIBC and SNS banks. The water was streaming into the polder.

In The Hague, policymakers licked their wounds. They wondered how this could have been prevented. Might it perhaps be better if, in the future, the regulation of cross-border banks like Fortis would be organized at the European level? 'European regulation of banks? What kind of problem would be solved by that?', was the rhetorical question the Dutch Central Bank representative asked himself. It would become apparent a few years later that it was impossible to keep Europe out of this.

'What we're going to have to do if also the Dutch banks fail? We'll rescue them!' Again, these words were spoken by Dolf van den Brink, but now exactly one year later, just after the fall of Lehman. There will always be some economist or other staunchly opposing the views expressed by van den Brink; this is the type of the strict teacher, the neo-Austrian movement in economics, proclaiming that the government should never rescue banks— that such measures will only, in the long run, make matters worse. Moreover, bankers will depend on getting rescued as soon as they experience setbacks, which will lead them to take extra risks. This will cause the banking profession to become a casino in which you can never lose, because losses are covered by the taxpayers. The strict teacher cannot be other than 'right', for the government always rescues; it can never be refuted that, without the rescue, the situation would have been better. 'The government always rescues?' Well, yes, except of course for Lehman.

So the question is: Why are banks that are in trouble, nearly almost always rescued by democratically elected governments? The distinction of 'democratically elected' is crucial. It rules out the argument put forward by populists that a bank is rescued because the politicians collude with the bankers. Not one serious observer believes that Jan Peter Balkenende and Wouter Bos left for Brussels, on October 2, 2008, in order to help out their banker cronies. There must have been another reason why they felt compelled to go— following, for that matter, the example set by many other politicians before them.

To get an answer to these questions, it might be useful to imagine a simple world, which we will call 'Rice Island'. On Rice Island, only one type of crop is cultivated: rice. All the inhabitants provide for themselves through farming. But not all farmers are equal. Some would like to set aside a share of their harvest for later use. Cultivating rice is hard work. After years of heavy labour, the farmers want to be in a position to be able to retire. That is why it is wise to save some rice as a form of pension. Rice, however, has a rather nasty feature: one cannot keep it for long. Rice that is not consumed within a few months will lose its nutritive value. Farmers who want to save rice for the future cannot simply store it in their barns. Fortunately, there are also some young farmers on Rice Island who want to borrow extra rice for seed, in exchange for their promise to repay the loan with interest. And so it is that a solution emerges on the horizon to solve the storage problems of the saving farmers: these farmers will lend their saved rice to the farmers who want to use it to invest, in exchange for the promise to repay the loan with interest after one year. In this way, everyone will be satisfied.

However, once this system is put into practice, a problem arises. How can the saver be sure that the farmer who invests the rice as seed for the next crop will repay the borrowed rice with interest in the year to come? Who knows? He might default, due to crop failure, for example; or he might simply not be willing, because he wants to keep the rice, instead of paying it back to the saver. A sound system of saving and investing depends on being able to enforce repayment. This is where the bank comes in. A bank is specialized not only in investigating up front if a person will be capable of paying back the desired loan, but also in ensuring that, at the appointed time, the repayment actually occurs. A saving farmer deposits his saved rice at the bank; this can be seen as the equivalent of a savings deposit in our modern economy. The banker lends the rice to an investing farmer. If the loan is paid off the next year with interest, the banker passes along a share of this interest to the savers and takes the remaining share as a reward for his own efforts. So actually, a bank is merely an intermediary. The rice deposit made by the saving farmer at the bank is clearly not a physical heap of rice stored there; it is just an administrative claim on the production of rice for the coming year. Against this claim is the obligation of another farmer to deliver this rice the next year.

What is true for Rice Island, also applies for our modern economy with its vast array of products: a savings deposit at the bank— purely a financial transaction— gives the depositor a claim on future production. The depositor does not have to know precisely who is bound by this obligation. In fact, since the claim may be transferred at some point, someone else entirely may take it over. The only thing the depositor wants to be assured of, is that his claim on future production will indeed be honoured— for what, after all, is the value of the deposit if that claim is not met? Unfortunately, this guarantee is never foolproof. The repayment of every claim entails uncertainty—

be it a current account at ING, a commercial loan issued by AKZO, or a pension entitlement from ABP. There will always be some uncertainty about whether the claim will be honoured.

On the balance sheet opposite the sum of all claims on future production there should be an equal amount of obligations, in order to secure the delivery of that production in the future. This is the Iron Law of Double-entry Bookkeeping: because a deposit equals a claim on future rice production, there must be on the other side someone else equally obligated to deliver this rice. It is remarkable how many cases are made– also by experienced economists- that we should keep as many claims (i.e.: buffers, reserves) as possible on future production, but that no one should assume the obligation (i.e.: debt) for delivering that future production. This is like trying to square the circle.

Let's revisit Rice Island. The banking system will only be successful if the saving farmer is convinced that the bank will do a proper job. Why does the saving farmer trust his bank, while he does not trust his fellow farmer? The bank can exist only by the grace of its reputation of absolute trustworthiness— a reputation that has been built up through the years by consistently lending the rice of saving farmers to the investing farmers in a responsible way, and by subsequently paying back that rice with interest, as was agreed.

The nature on Rice Island is capricious. That is why one never knows for sure beforehand how much interest the investing farmer will be able to pay. One year, the weather is fine and the yield is plenty. The next year, the yield is much smaller. Completely safe investments do not exist. The bank on Rice Island has to contend with that uncertainty. The question is: how? One possibility is that the bank could agree with its savers that the interest it pays to them will depend on the interest it receives from its investors. But that's of no interest to the saving farmers— not so much because they are risk-averse (of course they are), but rather because they can envision the letter they will receive at some point from the bank the next year: 'We are sorry to inform you that the yield of this year is rather low. As a result of this, we are forced this year to pay you less than what you can normally expect from us. But we expect everything next year to be fine again'. The farmers had turned to the bank just so they could avoid worrying about the size of the yield from the investors. If the bank can get away with paying no interest due a bad harvest, then the farmers would still have to worry. The savers therefore expect a fixed guarantee, to prevent the possibility down the road of heated discussions with the bank about the size of the harvest. In that respect, a savings deposit can be compared with a labour contract for an employee: the wages are fixed, even when the yield of labour fluctuates daily, simply because employer and employee do not want to continuously negotiate the wages (which would keep any work from being done). A fixed salary is efficient in the same way that a deposit with fixed interest is. This explains the high demand for deposits with a fixed interest rate.

Now, an interest guarantee on a savings deposit is nice, but it does not eliminate the risk. No matter the pains taken by the banker to vouchsafe his solid reputation, there will unavoidably be a year in which a violent storm sweeps over the rice fields. Will the bankers then be able to keep their promises? And how will the savers react when their bank defaults?

The Empress of Rice Island is well known for her wisdom and compassion. Both are now put to the test. A hurricane has destroyed a large share of the harvest. The last time this occurred was some eighty years ago. The memory of that disaster is still fresh in the minds of the older generation on the Island. The bankers, who had then been unable to pay back the guaranteed deposits, lost the trust of the savers. Even in public, the bankers had been heckled by their savers. As a result, no saver trusted the bank with his surplus of rice. This led to a shortage of rice deposits, which meant that bankers lacked resources to supply new seed to the investors. A year later, the yield of rice had also been disappointing— not so much due to a hurricane, but rather because the investing farmers had no seed to sow. It had taken years for the banks to regain their trust. In the meantime, the farmers who wanted to save for their pension, had, against all odds, stored the rice in their sheds. A great deal of the stored rice had been lost that way; moreover, due to the lack of seed, the harvest of the following years was very disappointing. This illustrates how Rice Island had fewer problems from the direct damage wrought by the hurricane, than from the low yield in the years to come— all because the saving farmers no longer trusted the banks with their surplus of rice, and the investing farmers could not get any new seed. In short, the economic situation on Rice Island could be compared to the situation in the United States after the downfall of Lehman: the damage directly wrought by the malinvestment on the American housing market was smaller than the indirect damage caused by the postponed investment in R&D in the following years.

Conflicting arguments and emotions were jostling for position in the mind of the Empress. Several bankers asked for an audience that morning. They had explained that, just as eighty years ago, the present situation is so dire that they will not be able to meet the claims of their savers. They asked the Empress if she would be willing to help prevent a repetition of the disaster. The Empress felt a strong irritation welling up inside. Couldn't they have been more careful? After all, they were responsible for protecting their own reputation by paying back the rice deposits on time. This led subsequently to her becoming embroiled in a rather complex discussion about rice deposits and interest guarantees. The bankers explained in great detail how this disaster was beyond their control. These were extreme circumstances. A category-5 hurricane— what could they have done, after all, to avoid this?

Should they initially have promised less interest to their savers? 'No,' they explained, 'only the bankers themselves would have profited from that. They would then have had to pay much less interest on the rice deposits in better times, making enormous profits in those years'. Perhaps they should have been even stricter towards the less productive farmers, those who might not have been deemed able to pay back their loans in bad weather? 'Was the Empress aware of the impact this would have had on the farmers who lived in the outer provinces with less fertile land?'

'You should have spread the risks much better,' stated the Empress. 'Do not worry,' the bankers replied, 'maximum diversification of risk is in our own interest. We are doing all we can to accomplish that. But no amount of risk management could have helped us withstand this hurricane: it hit the entire Island.'

In the end, the Empress made her final argument: 'You may all easily skip a meal of rice, so that more will be left over to pay back the rice deposits to the farmers.'

'We have already done this, truly', replied a banker (this was not evident from his girth). 'One meal more or less for us as bankers will not be effective, really, in comparison to the total number of rice deposits. Now, if we as bankers had been very rich and would continuously have been feasting every day on luxury rice meals during normal times— well, then it would have made a difference if we would have now skipped one of our luxury rice meals. But we are not such rich bankers at all! Our own rice is merely a small part of the rice we lend. The greatest share of the rice we lend out comes from the farmers who want to save for their pension'.

Now the conversation had reached its climax. The bankers laid their aces on the table. 'If we, as bankers, are not able to pay our savers, the savers will not be willing to trust us with their surplus of rice in years to come. Then we will have no resources to provide seed for the investing farmers for the next harvest. Your Majesty, you recall the events of eighty years ago, don't you? The only solution we can think of, is that you impose a one-off tax that will enable us to pay off our liabilities to the saving farmers, so that they will not come to regret trusting us bankers. This is the only way to secure the rice harvest in coming years.'

The Empress felt somehow like this was a threat— and it actually was, for the bankers continued remorselessly: 'it goes without saying, Your Majesty, that the decision on how we are going to deal with this situation is yours alone. But some haste is required, for tomorrow morning at nine o'clock, the first savers will knock on our door.'

The 2018 documentary 'On Day Eight' reflects on the way Jan Peter Balkenende and Wouter Bos, together with their Belgian counterparts Yves Leterme and Didier Reynders, struggled with this dilemma on October 2, 2008. The stakes were high and the time pressure excruciating. All four wondered how they could explain to their voters that tax money was being used to rescue banks who had gone bankrupt. The Dutch preferred to tell their voters that they had made the Belgians pay the main share; the Belgians, of course, had the opposite position. And all four realized they had no choice but to come to an agreement. The impact of a broken financial system would have been much worse for the taxpayer. The tension was very high— evident even in interviews taking place after ten years.

Through the years— during evey time that trust in the banking system has been tested, when bankers could not meet their obligations— politicians have wrestled with the dilemma of whether tax money should be spent to rescue banks. Before the event, politicians are inevitably adamant in declaring something along the lines of, 'in a market economy, failing firms should be allowed to go bankrupt. Why wouldn't this apply to banks? We are not going to spend tax money on that.' Afterwards, this position proves to be untenable, and they resort to stating something like, 'the costs resulting from a loss of trust in the banks are too high'. In the end, it was preferable to make citizens pay for the banking crisis as *taxpayers* rather than as *savings depositors*. Without trust in the banks there are no savings deposits. Without savings deposits, no credit can be extended to small- and medium-sized firms. Large enterprises do not need the mediation of banks as much. They can enter the capital market on their own strength. But for small- and medium-sized firms, banks truly are indispensable.

This is the paradox of a properly functioning market economy. It works best when people can decide for themselves which share of their income they want to consume, and which share they want to save for later— be it only for tomorrow, or ten years from now. That requires that people are able to hold deposits– claims on the future production- with well-protected property rights.

Without this protection, people will not save, because they do not trust that saving in the present will result in extra rights for tomorrow. Ultimately, the protection of property rights is the responsibility of the government. When a banking crisis threatens confidence in property rights, the government must step in to protect these rights as best it can— even if this means charging the taxpayer for it. It is a paradox: the protection of private property rights ultimately requires public intervention.

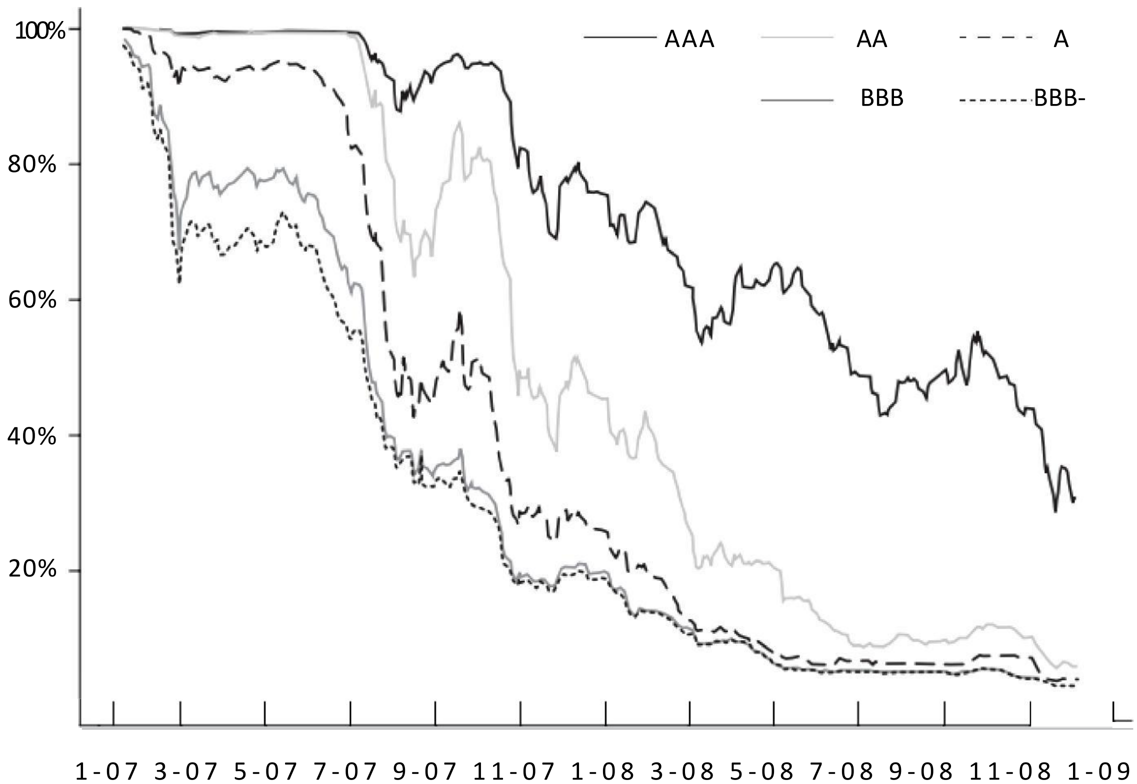
Ultimately, the experience garnered by dealing with former banking crises has led to the modern banking system, which encompasses this public protection. That system, in broad terms, looks the same all over the world. Banks offer their savers a guarantee on their deposits. Their role as intermediary requires banks to assess credit risk for their depositors. That makes sense only if the bankers subsequently do not— by one means or another— place this risk back on the depositors. To make this guarantee possible, the modern banking system includes three forms of either implicit or explicit government intervention. Firstly, the government allows the Central Bank to function as *lender of last resort*; if banks are no longer able to obtain on their own the deposits they need to finance their loans to investors, they can, given proper collateral, turn to the Central Bank. Secondly, the government acts as deposit insurer if banks are no longer able to meet the required deposit guarantee. And thirdly, the government puts in place a system to regulate the banks. This has to do with the fact that the government's deposit guarantee tempts the banks to take risks that are too high (ie. to take on too many deposits relative to their equity capital). Indeed, the government assumes responsibility for the costs if the bank can no longer meet its obligations to its depositors. This calls for regulation of the banks in order to contain the risks on their balance sheet and to guarantee that banks hold sufficient equity capital as a buffer for losses on their loan portfolios— to ensure that the taxpayer will not have to step in at the first sign of a negative shock.

Ideally, there should be solid coordination between these three functions (the *lender of last resort*, the deposit insurer, and the financial regulator). Almost nowhere in the world can this cooperation be said to be flawless. This has been an especially big problem in the Eurozone, ever since the introduction of the Euro. Jan Peter Balkenende and Wouter Bos, Yves Leterme and Didier Reynders encountered this problem on October 2, 2008, when they had to rescue Fortis, and it was obvious that the interests of the Netherlands and Belgium were in conflict with one another. Public protection of private property rights is not successful when the public authorities contradict each other. In *On Day Eight*, Wouter Bos looks back in amazement to the period directly following the demise of Lehman when, under the pressure of the worldwide financial crisis, public authorities from all over the world suddenly put their differences aside, and spoke for a time as one. This lasted for a year, no longer than that.

Revisiting the United States in the years prior to the downfall of Lehman, we recall the enormous inflow of capital from China that flooded the country in the direction of the housing market. The new houses were built and sold to Americans who often were not creditworthy. They purchased those houses in expectation of an increase of home prices, financing them with mortgages. These mortgages, in turn, had to be financed as well. Financing with guaranteed deposits is safer than financing with risk-bearing capital because the interest on deposits is low, due to the guarantees on them. This explains why the bank regulator sets limits on the risks that are allowed to be on the banks' balance sheet. This made it attractive first to bundle these new mortgages, so that individual payment risks could be diversified, and subsequently to allocate them in tranches, depending on the degree of the certainty of repayment. The highest tranche was paid first; if any money was left, the second was paid, and so on. The result of this is that the highest tranche was all but free of risk.

There arose then an entire industry that bundled and subsequently allocated mortgages into tranches with different levels of credit quality— triple-A for the safest tranche, AA for the second tranche, and triple-B for the most risky tranche. The best tranches were for pension funds and banks, which used them as investments for the guaranteed savings deposits. These tranches were almost free of risk, which meant that the risks for the banks' balance sheet remained acceptable— which reassured the regulator. This made it possible for a large share of the mortgages to be financed with guaranteed deposits, and for many houses to be built with relatively little risk-bearing capital— too many houses, as we now know, with too little risk-bearing capital. Losses on the housing market gouged massive holes in bank balance sheets, not only in America, but also elsewhere in the world.

Figure 2.1 illustrates the price development of these tranches as of January 2006. In 2006, all tranches were listed at 100 percent: no one at the time considered seriously that the mortgages would not be repaid. From January 2007, the prices of the highest-risk tranches began to decrease. At that moment, the safest tranches were still standing rock solid, at 100 percent. It was not until the summer of 2007, when the hedge funds that specialized in real estate bonds started to go bankrupt, that these tranches also began to devaluate— until finally, just about two months before the downfall of Lehman, the triple-A tranche also had a return of 50 percent of its initial value. By that time, the tranches at the bottom had become worthless: nobody expected at that time that a single penny would be paid back. This also proved true for the tranches that had seemed 'sure' of repayment; upon closer inspection, these appeared to be risky. Banks had obviously assumed much more risk on their balance sheet in buying these products than was apparent to the regulator. Who misled whom in this case? Did the sellers of these mortgage-backed securities mislead the banks? Or did the sellers and the banks collude to collectively mislead the regulator? Or, was Dolf van den Brink a lonely exception, with no one else having any idea of what exactly was going on in the American housing market? Based on the available testimonies, all three of these guesses have some grain of truth.



Even the least risky tranches of the mortgage-backed securi~es turned out to be highly risky

Note: the graph represents the price developments of mortgage-backed securities extrapolated into tranches, for which AAA is the least risky and BBB the most risky tranche

The price development of the tranches with various risk exposures also shows something remarkable. In the course of 2007, the mortgage-bond market was turbulent. But at the time when the economic system was shaking on its foundations, after the fall of Lehman, the prices of these securities seemed to be relatively calm. The problems on the American housing market, and the subsequent decrease in value of mortgage bonds during 2007, were the cause of Lehman's demise. However, the consequences of this bankruptcy for these mortgage bonds were minor. The Lehman bankruptcy shook the confidence in the banking sector, but the storm on the housing market had more or less calmed down by that time. The broken trust in the banking sector was actually the beginning of a chain-reaction that led to a halt to business lending in all kinds of other markets.

It was a blessing in disguise that, during this time, Ben Bernanke had taken up the reins as chairman of the FED (the American Federal Reserve Bank). Bernanke, economics professor at Princeton, had become famous with his research into the causes of the Great Depression in the 1930s. He therefore knew, like no one else, what the governor of a Central Bank was supposed to do in these circumstances. It was no different for him, nor for any other American policymaker in those turbulent months, than it was for the Empress of Rice Island: it was of no use at that moment to sulk and ruminate on the losses from the past, to determine just where the bankers had gone off track in those years. To the Empress of Rice Island, the most urgent question was how to secure the rice harvest for upcoming years. To Bernanke and the FED, the primary question in the fall of 2008 was how to prevent the crisis destroying the economy in 2009. Fortunately, we might say in hindsight, they were reasonably successful.

We return now to the structure of the modern banking sector with the three tasks of the government— acting as lender of last resort, insuring deposits and regulating banks. The three tasks lead to complex dilemmas: first, how much risk should banks be allowed to take on their investments, and second, what is the minimum amount of equity capital that a bank needs as a buffer for setbacks, so that only in the worst-case scenario will the taxpayer have to step in? Overly stringent requirements placed on the risk profile of the bank's investments will prevent small- and medium-sized firms being able to depend on the bank to finance their higher-risk projects. Certain companies will be refused any credit at all; others will have to find an alternative outside of the mainstream banking sector. Such alternatives are usually much more expensive. After all, savers- especially the small ones- would rather invest in guaranteed deposits, to prevent unnecessary conflicts later on about the level of return. This preference for guaranteed deposits turns this source of financing for the investors into a cheaper source than risk-bearing capital. Excessively high requirements for bank equity will limit their opportunities to finance credit with guaranteed deposits. Less demand for such deposits puts pressure on the interest the banks are prepared to pay.

On the other hand, if the regulator's requirements on the risk profile of the bank's balance sheet are not strong enough, or if the requirements on the equity that banks must maintain as a buffer for setbacks are too low, then banks may become vulnerable. Then they will be in need of rescue more often, with all of the political and economic consequences that entails. We all have witnessed the political impact of the rescue of banks after the demise of Lehman. It spoiled the social climate, caused the Dutch-Belgian relationship to enter into a phase of unpleasant competition, and drove the public's ever-lingering misgivings regarding politicians to new heights of suspicion. Populism has been booming since 2008. What about the economic impact? This too we have witnessed: Despite the development of a modern banking system, with a lender of last resort and deposit insurance, and despite the rescue of most banks— since the fall of Lehman, the economy remains severely disrupted.

It is the paradox of history that all the more so in a democratic society, where equity has been spread over broader segments of the population, and where many people depend on a (preferably guaranteed) pension, the demand for guaranteed deposits is high. Indeed, for those broader segments of the population, their capital is too small for them to be seriously engaged in questions of where to invest. This implies a much greater need for banks to generate guaranteed deposits. The more security the regulator requires from the banks, and the higher the share of equity capital the banks are required to keep for the financing of their credits, the lower will be the interest on those guarantees. From that perspective, especially in such a democratized society, the government and the regulator should not bind the banks up in a corset that is too tight. The costs of a banking crisis are enormous. But we must not ignore the costs of having to work, year in and year out, with severe limitations on credit for higher-risk projects, and with low interest on guaranteed deposits.

'In future, the risks for large banks should be the responsibility of the depositors and investors, and not of the government and the taxpayer.' Jeroen Dijsselbloem's view is closely related to the dissatisfaction that exists in the Netherlands on a large scale, related to banks and bankers. Dijsselbloem would have banks— through regulation and supervision— be tied up so tightly that the taxpayer will never have to step in again. But is this vision also good for the Netherlands? And will it be sustainable if, say in eighty years' time, a new banking crisis appears on our doorstep? Or, will the person who then is Minister of Finance act in the same way as Jan Peter Balkenende and Wouter Bos did— on October 2, 2008— and 'Rescue the banks!', as advised by Dolf van den Brink? They probably will— and indeed, they'd better.

3 The Greek tragedy

It is easiest to blame the gods.
- Euripides, 480-406 B.C.

The tension must have been palpable at the meeting of the Ministers of Finance of the Eurozone (Ecofin) in October 2009. Their Greek colleague, Giorgos Papakonstantinou, had the floor. His message: that the Greek fiscal deficit, which was already of some concern, was even larger than had first been reported to Ecofin. The implications were directly clear to all involved: without support, Greece would default. The poison chalice of the financial crisis was not yet empty— that much was obvious. While the American economy was gradually recovering, the Eurozone entered into a new phase of financial turbulence and political conflict.

Greece is one of the isolated corners of the Eurozone. At the time, the GDP of the Greek economy amounted to less than 3 percent of total Eurozone GDP. Normally, the kind of problem that was now arising could be solved rather easily. Several grumpy inspectors sent from Brussels, a new Minister of Finance, a few cuts in the budget plan, and some financial support from the other member states would have been sufficient. The Greek tragedy, however, was much more than mere drama taking place in a remote corner of Europe. Papakonstantinou's announcement was, in terms of mutual mistrust between member states, the proverbial straw that broke the camel's back.

At the time of Papakonstantinou's announcement, the Euro was ten years old. During that time, strong imbalances had gradually developed within Europe. In the period 1998-2007, labour costs per unit in the PIIGS countries (Portugal, Italy, Ireland, Greece, Spain) rose much quicker than those in, for example, Germany, the Netherlands or France. The PIIGS countries had serious deficits on their balance of payments as well. These two phenomena were closely connected. If the domestic demand of a country is high, wages will rise in order to meet this demand. Competition on the world market prevents the export industry paying those wages, however, resulting in the export sector losing labour to the domestic sector. As a result of this high domestic demand, imports increase as well. More imports and less exports lead to a fiscal deficit. This is what the PIIGS countries have in common. The source of this high domestic demand differed, however, from one country to another.

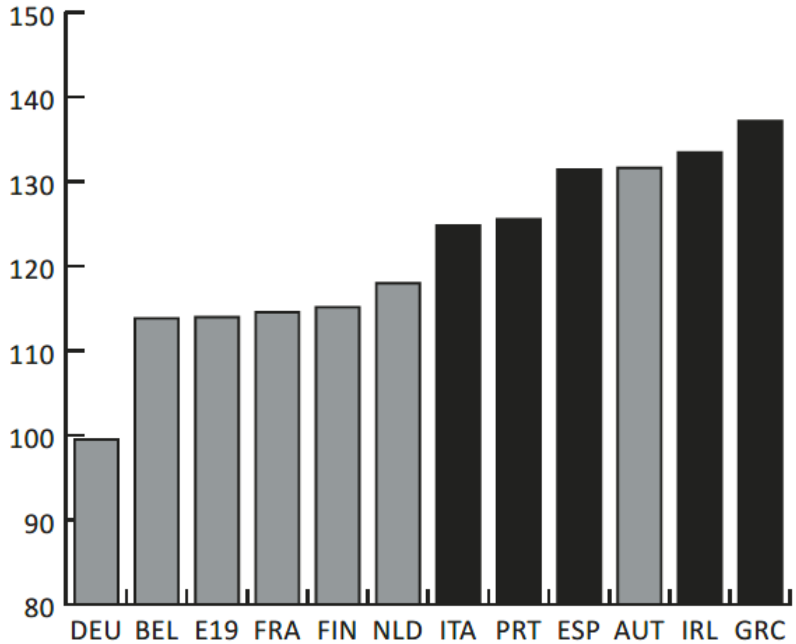


Figure 3.1 After the introduction of the euro, the labour cost per unit of output in the GIIPS countries increased much faster than elsewhere in the Eurozone

Note: labour costs are expressed as labour costs per unit of output in 2007, indexed at 1998

In Greece, Italy and Portugal, entry into the monetary union made it easier for the authorities to finance their fiscal deficits. Prior to their entry into the Eurozone, these countries could only borrow money on the capital market if they were willing to pay a high interest rate. Investors wanted to be compensated for the risk that the currency of a country might devaluate. Devaluation is a roundabout way of defaulting on a loan. The loan is indeed fully reimbursed, but the value of the currency used for this reimbursement has decreased in the meantime. In the event of an economic setback, the currency devaluates and, conform to this, the real value of public debt decreases as well. Thus the public debt of a country was coupled with its economic outlook. In this way the risk was partially accounted to the investors. Obviously, they were prepared to assume this risk only in exchange for a risk premium.

By entering the monetary union, countries lost recourse to the possibility of devaluation. The risk exposure for the investors of devaluation disappeared along with it, and the interest rate for those countries decreased substantially. This applies, of course, to those countries whose financial markets were expected to turn to devaluation during economic setbacks. In this way, the monetary union gave these countries access to cheap loans. The temptation to exploit this advantage— to borrow more than was sensible— was strong. These countries were not able to resist it. This was to be expected of Portugal and Greece, which had become democracies in 1974.

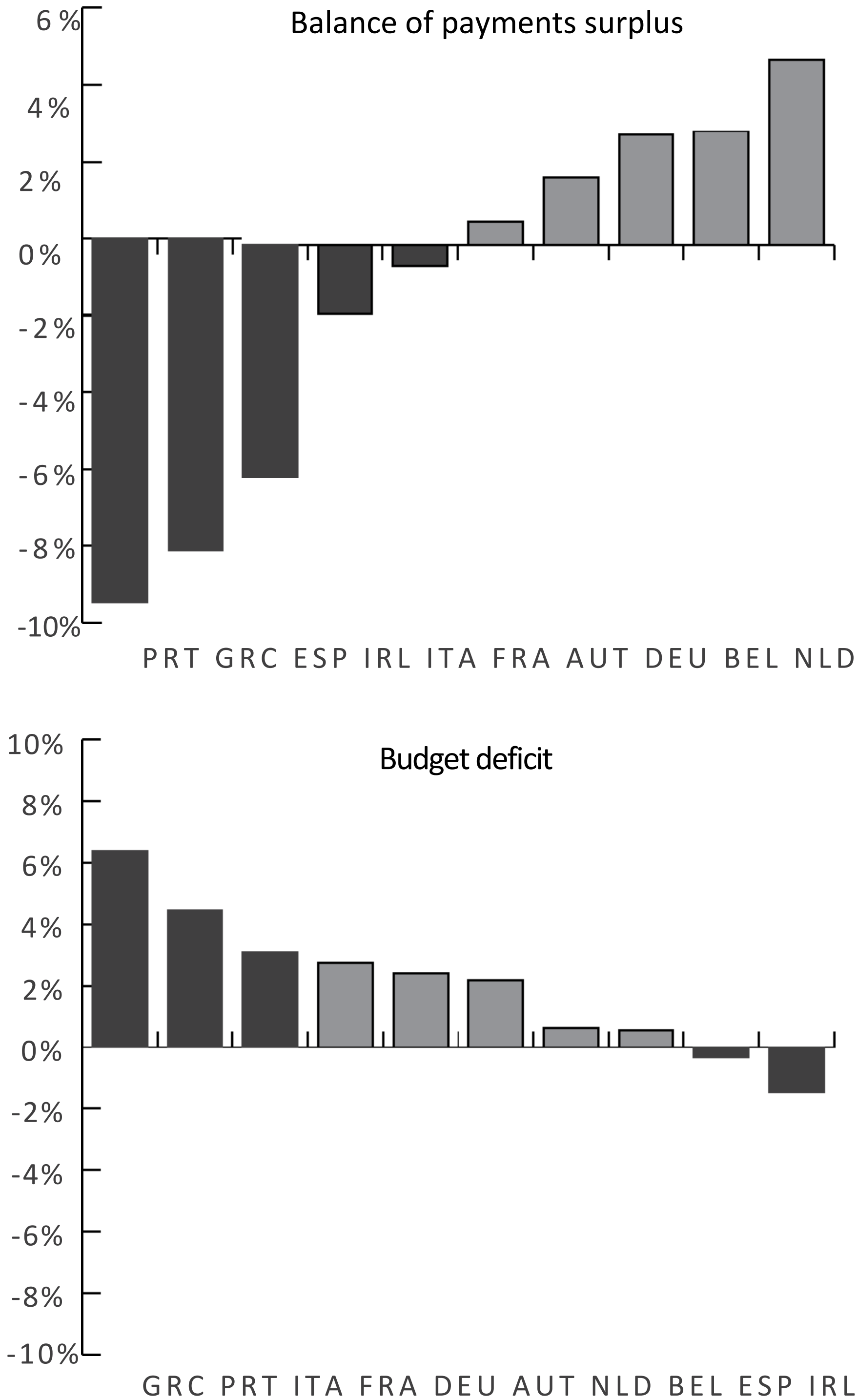


Figure 3.2 Since the introduc~on of the euro, all GIIPS countries had a current account deficit, while not all GIIPS countries had a budget deficit

Note: the average over the period 2000-2007, measured in % GDP

Whereas the colonels of Greece had to make way for a civil democracy, the colonels in Portugal seized power to depose dictator Caetano and to end the colonial wars in Angola and Mozambique. Both countries transitioned to a democratic system of government, and were granted membership in the European Union.

History shows us that voters take time to grow accustomed to democracy. Only after decades do they figure out that while politicians can promise golden mountains by way of an increase of public debt, this public debt will one day have to be repaid. This is why, after accession to the Eurozone, the deficits in both Greece and Portugal rose to a higher level. Why Italy, with a much longer tradition of democracy, could not resist the temptation of excess borrowing, is more difficult to understand. In any case, these three countries did not have their public finances in order in 2009.

In Ireland and Spain, the balance sheet deficits were rooted elsewhere. Just as had been the case in the United States in the years prior to the fall of Lehman, the liability of these countries was caused by a boom on the real estate market, resulting from a surplus inflow of capital. For many people, it was easy to find work in the construction industry. This led to a scarcity of jobs in other sectors. This caused the wages to rise, and as a result, the export industry had a hard time competing. There turned out to be no market for the newly built houses. Home prices came under pressure, with predictable outcomes for the investors who had accumulated the necessary funds for these houses. The building boom came to a screeching halt: building contractors went broke, and construction workers lost their jobs. Those days, Spain had the highest unemployment rates: 28 percent of the population.

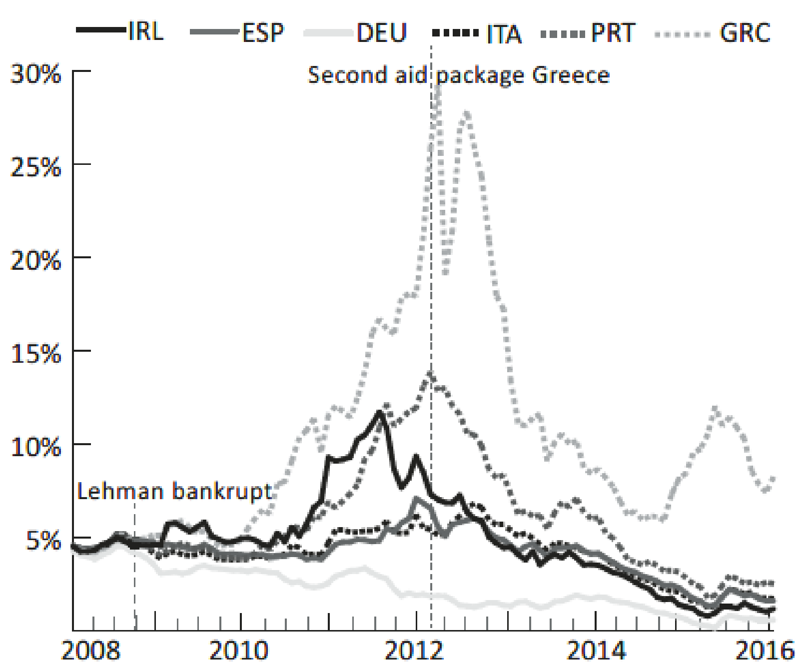


Figure 3.3 The difference in ten-year government bond yields between Germany and the GIIPS countries increased sharply, particularly for Greece

Before the fall of Lehman, the differences between the bond rates of different Eurozone countries remained minimal. Investors assumed that the European governments would meet their financial obligations. After September 15th 2008, the discrepancies between Germany (the safest investment, and thus with the lowest interest rates) and the other countries in the Eurozone became more distinct— even if for the time being this amounted only to a few basis points (a hundredths of a percent). Ireland, which in a panic reaction to the crisis had completely guaranteed all assets at the Irish banks, was the first to see its interest rates rise. After the announcement of Papakonstantinou in October 2009, the Greek interest rate also rose. As the full scope of the Greek problem unfolded— exacerbated by the clear reluctance of the other European countries to lend a helping hand— the Greek interest rate rose to an unprecedented level. In 2012, it even briefly glanced the record high of 30 percent.

'Enough is enough. If Greece calls to request a third support package, it will be for a large sum of money. I will oppose that.' Prime Minister Mark Rutte's strong assertion made at the time of the Dutch election debate in 2012 would haunt him for a long time to come. It is a powerful illustration of the split that the political representatives of non-PIIGS countries of the Eurozone fell into after Papakonstantinou's announcement. Just as the crisis resulting from the malinvestment on the American housing market had not passed unnoticed in the rest of the world, so the PIIGS countries' financial woes did not escape the notice of the other Eurozone countries either. On the contrary, these problems plunged the Eurozone into the worst crisis of its existence. It turned out that banks in other regions of Europe had invested not only in US mortgage-backed securities, but also in government securities of the PIIGS countries. With the demise of Lehman still fresh in their memory, no one was waiting for another banking crisis. At the same time, none of representatives of the non-PIIGS member states were eager to explain to their constituency that their tax money would be spent on covering the costs incurred by other countries. This was the uncomfortable situation in which Rutte found himself.

By this time, the European Central Bank (ECB) had several times expressed its financial concerns. How was it possible for banks of the non-PIIGS countries to have built up such positions in PIIGS countries, of which an objective observer should have known for a long time that the deficits would become untenable sooner or later? The deposits at the banks were secured by the deposit guarantee system, and the banks, in case the capital market would suddenly no longer issue credit, could apply for a request to the *lender of last resort.* Accompanying these two bank privileges was the condition that they were to be supervised. This supervision should have prevented the outcome that the relative certainty of the deposit guarantee system and the availability of a *lender of last resort* would entice the banks to take risks that were too high. The supervision appears to not have worked this way.

How could this have happened? To understand this, we must return to 1992, at the time of the negotiations of the Maastricht Treaty, involving the creation of the Euro.

'Should the Maastricht Treaty be saved?' The title of the article of Barry Eichengreen, written at the time when the ink on the treaty was barely dry, was a bad omen. Eichengreen is a renowned Economic Historian, specialized in financial markets. He doubted the viability of the agreements that had been written in the Maastricht Treaty. A monetary union, in the eyes of Eichengreen, required more centralization of authorities over economic policy than the treaty in fact provided. Discretion over budgetary policy and the supervision of banks remained the domain of the separate countries. The explanation for this economically illogical choice can be found in the referenda on Europe that had recently taken place in France and in Denmark. The results of the referenda had shown that the European constituency had several reservations regarding further European integration. Budgetary policy and bank supervision were in that sense sensitive issues. Voters wanted their own country to hold on to the reins of tax revenue expenditure: would the money be spent on education, healthcare, social security or infrastructure? They were not prepared to give up that control. The same thing applied to the supervision of banks. Such supervision could limit the freedom that banks had to choose their investments. The member states were not eager to relinquish this control to the ECB or to another supervisory body. They preferred deciding for themselves on the destination of their national savings, without any European interference. So the Maastricht Treaty was essentially attempting to square a circle: a Monetary Union was acceptable, but then without the required transfer of authority from a national level to European institutions.

We now know that Eichengreen was right. The government representatives who had agreed on the adoption of the Euro also knew, or could have known, what he did. Why then, did they still agree on the implementation of the Euro in 1992? To understand why, we have to go further back into the history of Europe's formation, to two years that were crucial to post-war Europe: the years 1956 and 1989.

'I want him murdered!' With this announcement, Anthony Eden, British Prime Minister in 1956, articulated British vexation over Egypt's strongman, Gamal Nasser. The British Empire was crumbling. Egypt was a crucial link in the chain of this process. The Suez Canal was the connecting line to Asia. Nasser's ambition to gain control over the canal was therefore a thorn in the side of Eden. Nasser's ambition had to be thwarted. To the French, the Suez Canal was of equal significance. Their empire was also under pressure, and the Suez Canal was of vital importance to them as well. The allies who had fought together against Germany in World War II found each other once again. Together they devised a plan: An attack from Israel, which would be planned beforehand, would be the excuse to send French and British troops to the Suez. From a military point of view, the operation was a success. From a political standpoint, however, the plan was disastrous. American President Eisenhower was not amused. He saw a window of opportunity to profile the United States as an anti-colonial force. He demanded that the English and French withdraw from the Suez. Great Britain was in dire financial straits and the United States used its power in the International Monetary Fund (IMF) to deny them financial aid. The United States got their way.

The Suez Crisis showed the world that Great Britain and France were no longer global powers. The decolonisation continued in the years that followed. Five years later, Algeria's struggle for independence would bring France to the brink of civil war. Fighting in Algeria itself had taken the lives of tens of thousands of people. The French army re-established order– by way of a curfew and barbed-wire fencing between the parts of the city- in Algiers, and refused to surrender Algeria. A pro-independence demonstration in Paris in 1961 was broken up by the police at the cost of hundreds of lives. Only De Gaulle's statesmanship prevented an even worse disaster. The army had asked him to take up the presidency. They perceived him as the strong leader who was needed to protect French territory. De Gaulle understood however, the spirit of his time, and gradually worked towards the French withdrawal from Algeria. The dismantling of the European colonial empires would drag on through 1974, when Portugal became the last country to surrender its colonies. The history of the formation of the European Union is more intertwined with the process of decolonisation than we, as Europeans, would like to think.

For the future of European cooperation it would prove of enduring importance what conclusions Great Britain and France drew from the Suez Crisis— particularly as their conclusions were diametrically opposed to one another. Great Britain concluded that the only way to still shine as a world power would be through close cooperation with the United States. The damage done to the relationship by the Suez Crisis was recovered rapidly and in concert. Their *special relationship* became proverbial. France drew an entirely different conclusion. Due to the Suez Crisis the relationship with the United States would remain strained for a long time. Although NATO Headquarters were situated in Paris, France withdrew from the military branch of the alliance in 1967. It was not until 2009 that France once again became a fully active member. Only by way of joining Germany, as leader of a united Europe, could France still have a significant role to play in the future, on the world stage. France delivered the political authority that Germany lacked as the vanquished power in World War II, and Germany delivered the economic power that France did not possess. The French-German axis was born. British membership of a united Europe interfered, to some extent, with this French ambition, which explains some of why De Gaulle opposed it for years.

Thirty-three years after the fall of Suez comes the fall of the Berlin Wall. Great Britain has by now become a member of the European Union— not in the last place because of Dutch insistence. To the Netherlands, the British seemed a natural ally in the European arena. Behind the scenes of the Bonn Summit, Gorbachev and Kohl set off together for an evening stroll along the banks of the Rhine. During this walk, Kohl realized that it was the right time for German Reunification. He didn't want to risk European cooperation, however. The support of his European allies for reunification was therefore crucial. In a short time, sixty years of European history was replayed. Which alliance would prevail: the Paris-Berlin axis of after the Suez Crisis, or the pre-WWII alliance of Great Britain and France, which had been victorious over Nazi Germany? Thatcher tried to win over Mitterrand for her plan to thwart German reunification. But France had more to gain from the European cooperation that had developed since 1956, than from a revival of the dividing lines which existed before the Second World War. Mitterrand accepted German reunification, but on one condition: a common currency, in order to bind Germany to Europe forever. Ruud Lubbers, the Prime Minister of Netherlands at the time, chose the side of Thatcher. The Netherlands preferred to ally themselves with Great Britain and the United States, instead of Germany and France. The Dutch support for Thatcher was to no avail, for Germany was indeed reunited, and the common currency was to be established. For this choice for Thatcher— and against the French-German axis— Kohl never forgave Lubbers: afterwards, Lubbers would be denied chairmanship of the European Commission.

Ten years later, in 2002, the Netherlands had to take sides once again in this historic opposition. In the aftermath of the attacks on the Twin Towers, George Bush, as President of the United States, made plans to attack Iraq. The motivation for that choice was not clear at the time, and it still isn't. France and Germany had considerable reservations, and did not support the attack. Great Britain made a different choice. Building on the consistent line they had held since the Suez Crisis, Tony Blair protected his *special relationship* with the United States. And so, the Netherlands was once again caught between two fires. Like Tony Blair, Dutch Prime Minister Jan Peter Balkenende also chose intuitively for continuity in the Dutch line: he supported Bush and Blair, thereby stepping away from the French-German axis, even though the Dutch support for the planned attack was mostly symbolic. The Netherlands did not send any troops. Like forty years ago during the Suez Crisis, this war was a military success and a political disaster. Weapons of mass destruction, the claimed *causus belli*, were not found. The bombings in Iraq, after the war's official ending, took their toll on the American and British troops. Only because of their merely symbolic support did the Netherlands escape largely unscathed. For Blair, this fiasco meant the end of his political career.

Let us return to the negotiations over the Maastricht Treaty. The Euro was thus more a political, rather than an economic project. Mitterrand and Kohl considered the Euro as an opportunity to bind both countries inseparably together within a European Union— an understandable objective in light of their strained relationship of the past 120 years. The economic feasibility became of secondary importance in relation to the political conditions. Since there was no political support for far-reaching financial-economic integration, a currency union was designed that would require the transfer of only the bare minimum of necessary authority. In this way, the budgetary policy and the supervision of banks remained the responsibility of member states. Mitterrand and Kohl gambled that the transferral of those authorities would follow at a later time, as soon as it became clear that such transferral would be necessary for the proper functioning of the currency union.

Looking back with what we know today, did Mitterrand and Kohl gamble well in 1992? Yes and no: 'Yes', because during the Euro Crisis many powers were yet transferred to the central level. But 'no', because the inadequate handling of the Euro Crisis has seriously damaged the trust in the EU and the euro, and the social costs of the Euro Crisis have been enormous. Imagine for a moment that both state leaders would get a chance to re-do the Maastricht Treaty negotiations, this time with the knowledge of the dramatic consequences of the Euro Crisis; would they have opted for a different course? No one can say.

In any case, the choice to keep the budget authority and bank supervision under the purview of the member states sowed the seeds for the Euro Crisis. Policymakers tried to limit the harm by putting conditions on countries wishing to join the currency union. One of these conditions concerned inflation. A country's inflation was not allowed to be more than 1.5 percent higher than that of the member country with the lowest inflation. The logic of this condition was simple. In principle, an economy can function well with any reasonable level of inflation. Indeed, inflation makes saving less appealing because the value of a savings account will erode, but this loss can be compensated with a higher interest rate. Against every 1 percent rise of inflation, the interest rate must be 1 percent higher, and the currency must devaluate by 1 percent per year, to create an exactly neutral result. Thus, before the Euro, France had always had a higher inflation rate and higher interest rate than Germany, without this causing any real problems. Often, low inflation is seen as a sign of economic strength, but this cannot be substantiated. The most powerful economy in the world, the United States, generally has a higher average inflation than the Eurozone.

But within a currency union different levels of inflation are problematic because these differences can no longer be compensated with a difference in interest rates or a gradual devaluation. This is the case because the interest on risk-free loans is the same in all member states of a currency union. Convergence of inflation rates was therefore a condition for a successful currency union. Likewise, limits were set on the maximum size of national debt and the annual government deficit. These requirements were intended to prevent countries developing financial problems and subsequently trying to foist the bill on fellow member states.

At the start of the euro, it was necessary to ascertain which countries met these requirements. There was some hesitation on Italy, but especially on Greece. Again, political considerations trumped the economic ones. For 150 years, the Balkan Peninsula had been a political trouble spot with major strategic significance. In the course of the nineteenth century, it became clear that the Ottoman Empire, which reached from Croatia to Yemen, and from Tunis to Iraq, was on its last legs. Russia, Great Britain and France fought, in varying coalitions, to annex parts of the Ottoman Empire. The Bosporus, the narrow corridor through Istanbul, was of major strategic importance because it provided Russia with an entrance to the Mediterranean from the Black Sea—something that Great Britain, France and later also the United States wanted to prevent from happening at any cost. The downfall of the Ottoman Empire is a play with many acts: wars with major massacres carried out by all parties involved, almost up to this day. The Netherlands were also– unwillingly- involved in the hostilities in Srebrenica, in 1995. The war between Greece and Turkey, between 1921 and 1923, led to one of the worst explosions of violence in history. Greece has strong religious ties with Russia. From that perspective, it was not appealing to leave Greece on its own: The EU might just as well then have rolled out the red carpet for the Kremlin in Athens. Most Dutch people find these kinds of considerations abstract and rather far-fetched; we would prefer to put this historical baggage out with the trash. But those with long experience in governing Europe know that Europe will always carry with it the burden of the Balkan conflicts, in the same way as the persecution of the Jews will inextricably remain part of European history. So Greece was admitted. And so, the currency union was characterized from Day One onwards by an underlying mutual distrust between member states. After Papakonstantinou's announcement on October of 2009, the lingering mistrust suddenly lay exposed on the table.

Designing a currency union thus proved to be far from a simple academic exercise in complying with straightforward theoretical criteria. The politicians who negotiated this union stood firmly with their feet in the mire of historical legacies and political compromises. As ever, these compromises would hardly have won any beauty contest. It could therefore have been predicted: in October of 2009, politicians would have to get to work again— this time not with the design of a currency union, but with the first major repairs to rectify the worst of the design flaws. It would prove to be a harrowing undertaking.

4 The country of Colijn and Calvin

Fear is like paying interest on a debt that might not be yours.
- Folk wisdom

The Great Recession and the Euro Crisis would leave their marks on the Dutch public finances. Public debt rose in 2008, in one year, from 45 to 58 percent of GDP— mainly due to the massive amount of capital that had to be loaned to recapitalize the banks. In subsequent years, debt even increased to a high, in 2013, of 75 percent. The expected historically low level of public debt that had so satisfied Wouter Bos upon presentation of the government budget, just around the time that Lehman went bankrupt, had disappeared from the face of the earth in a few years' time. For years, the Dutch had done their utmost to get their public finances in shape. Within a short time, however, the fruits of their hard labour had evaporated. Wouter Koolmees, civil servant at the Ministry of Finance and Secretary of the Fiscal Policy Advisory group at the time, made no attempt to hide his frustration.

During the course of 2009, the Ministry of Finance became convinced that something had to change. If GDP compared to its trend during the period prior to the crisis had decreased by more than 10 percent, then the household accounts of the government would sooner or later need to be adjusted accordingly. Such a reduction required an unprecedented adjustment of the fiscal budget. The first thing they discussed was the gradual increase of the eligibility age for the state pension (AOW). That measure was very controversial. The introduction of the right of pension, at 65 years of age, was of symbolic significance. It had been the first major step in the construction of the Dutch welfare state. However, the proposed increase would have all kinds of benefits: it would improve government finances in the long run and, at the same time, would not lead to a drop in expenditures. Moreover, life expectancy had increased strongly in previous decades, as had the length of time people would have to enjoy their pensions. If we were going to live longer, than we would obviously have to work for a longer period of time. But increasing the age of eligibility for AOW failed to bring enough relief.

To explore the options, some twenty commissions were charged with leaving no stone unturned in the fiscal budget. It was an operation of unprecedented scale. And although Wouter Bos, Minister of Finance at the time, worked diligently with these commissions to generate the reports of their findings, the gossipmongers in The Hague speculated that the coalition government would collapse before the reports could even be discussed. And indeed, when the time came to take decisions, the Balkenende-IV government collapsed. The coalition partners PvdA and CDA disagreed strongly on the military mission to Uzbekistan. Moving forward to new elections…

Was there some justification for the pace of the fiscal austerity programme implemented by the Balkenende-IV government in 2009? Was it the best choice? Is there some kind of economic framework we can use to give this due consideration, without becoming inveigled in political considerations? What were the concerns of the various political parties? Did the one party want to cut more deeply into the budget than another? Or did all parties more or less agree? These are pressing questions.

We did what we usually do after the collapse of a coalition government: we appointed an advisory commission, the above-mentioned Fiscal Policy Advisory Group. As director of CPB at the time, I was a member of this group. The group was charged with answering the question left untouched by the cabinet: by how many billions of euros should we cut the budget during the next period? Everyone agreed that cuts had to be made. The same could not be said regarding the scale of these cuts, however. I thought that 12 billion would be sufficient; the rest of the commission thought that 15 billion would be better.

At approximately the same time, the IMF had published its periodic country report on the Dutch economy. To make such a report, an IMF delegation visits a country, conducting interviews. The IMF was of the opinion that a cut of 15 billion would be excessive. This was to no avail, however, as the next coalition agreement (VVD, CDA and PVV) was based on a 15 billion euro cut in the budget. An additional agreement was made to cover the eventuality that growth would lag behind the CPB estimate. In that event, there had to be extra cuts to ensure that the Netherlands remained within the 3 percent EU norm. These agreements marked the beginning of the Rutte-I coalition government in 2010.

Within about a year after the start of this cabinet period, it became evident the CPB estimate made the previous year had indeed been overly optimistic. Worldwide, it seemed that the negative impact of fiscal austerity measures on GDP was more adverse during times of financial crisis than had been assumed in the macroeconomic model used for the estimates. Countries that made big cuts saw their GDP shrink by much more than they had expected. This was also the case for the Netherlands. The coalition agreement was uncompromising, however: 'Disappointing growth rates? Then extra cuts had to be made.' At the end of March, the coalition parties met to discuss this. It seemed, after weeks of discussions, that an agreement on billions of euros' worth of additional budgetary cuts was close at hand. However, one of the parties, the PVV, did not agree with the measures. This caused the collapse of the Rutte-I cabinet.

During the final week of these negotiations, I visited the IMF in Washington, DC. 'Coen, we need to talk.' The sender of this e-mail was head of the IMF delegation that was responsible for the reports on the Netherlands. A few days later, we were drinking a cup of coffee together in a café across from IMF headquarters. 'Didn't I realize that if the cabinet made such major cuts, a crisis on the housing market would almost be unavoidable?' Of course I did, that goes without saying. 'Couldn't anything be done, then, about this? Wouldn't it make more sense to make these cutbacks more gradually?' I answered honestly and to the best of my ability.

At that time, the sentiment in the Netherlands was completely different. The collapse of the coalition government was perceived to be a national crisis. It seemed as if all the corners of the political spectrum joined together to demand, 'this crisis must be addressed!' Normally, a caretaker government only deals with current affairs. But at that point, the pressure was so high that it would have been irresponsible to delay making the necessary cuts until after the elections. The famous picture of Jan Kees de Jager and Jolanda Sap, with a broad smile on their faces, symbolizes the remarkable agreement reached by the ad-hoc majority coalition— referred to in the Netherlands as the Kunduz coalition— of VVD, CDA, D66, Christenunie and Groenlinks. Naturally, the PVV, as the party responsible for the coalition's break, did not attend— but neither did the labour party, PvdA. Whereas these parties would normally have bickered for weeks over every 100 million euros, this coalition managed to reach an agreement within days on the additional austerity package of 12 billion euros. The people of the Netherlands were satisfied: if it really came down to it, political differences could be set aside for the sake of the country's interest. And Diederik Samson, as leader of the PvdA, was reproached for declining to participate in the negotiations.

A new Fiscal Policy Advisory Group was installed— characterised, once again, by differences of opinion on the scale of the cuts that had to be made. The concerns expressed by the IMF were waved aside at these meetings. After the elections, a new coalition government of VVD and PvdA was quickly established. Meanwhile, it had become apparent that, even with the additional cuts made by the 'Kunduz coalition', the Netherlands would not meet the 3 percent EU norm. New cuts were agreed upon. Where PvdA had been absent from the Kunduz negotiations, they were fully involved now, as coalition partner. Be that as it may, also this new round of cuts quickly proved to be insufficient. During these years, a total of 50 billion euros' worth of austerity measures were taken. Together, all of the major parties (with the exception of the SP and PVV) had averted the crisis. And the IMF proved to be right: the housing market collapsed. Home prices in 2012 and 2013 dropped by 15 percent. In its periodic report, the IMF would once again plead for a slower rate of austerity— as did four former leaders of the VVD, who made their plea on national television, prior to the party's convention. These attempts were duly noted in the annals of history books, but the Netherlands had set its course.

Many of us grew up with the economics textbooks written by Arnold Heertje. Those books explained the macro-economic debate as an intense difference of opinion between the 'Keynesians' and the 'Monetarists'. The latter were of the opinion that one could leave everything up to the market. Milton Friedman was their front man. Keynesians followed John Maynard Keynes' theory, which had been inspired by the experience of the Great Depression, in the 1930s, when the unemployment rate was not only in the double digits, but its first number was even a '2'. The economy had then remained in recession for a decade.

Keynes' great insight was that, in such a situation, the government had a role to play by stimulating demand. Thirty years later, Friedman showed that stimulating demand to reduce unemployment would, in certain situations, amount to no more than sticking a plaster on an untreated wound. Under the plaster, the wound would continue to fester. When unemployment benefits were too high, and the unions too powerful, then the unemployed would not have enough incentives to look for a job, and the unions would demand wages that would be excessive. That would lead to unemployment— not as a result of a scarcity of actual demand, but because the functioning of the labour market had been distorted. In that situation, the Keynesian recipe of stimulation did not work. The government could stimulate demand for ever, but there would not be even one unemployed person who was prepared to give up his unemployment benefit by going to work. Stimulation of demand would lead only to inflation, because entrepreneurs would prefer to increase their prices than to have to pay extra personnel whose wages were too high. In terms of

Rice Island: there was a demand for rice, but there were no unemployed farmers who were willing to help out with the harvest.

The clear differences between the Keynesians and the Monetarists provided for an exciting television debate in the 1970s, during the elections. Following in the footsteps of Keynes, the left-wing opposition leader maintained that the government was destroying the Dutch economy through fiscal austerity. The government should instead invest more, in healthcare and education. The right-wing candidate asserted, in line with Friedman's theory, that the unemployed did not have enough incentives to go out and find a job, and that having a job had to pay once again. The left wing could not bear Friedman, in any case, for he supported the Chilean dictator Pinochet. In those days, the choices in the world still seemed to be black-and-white. From everyone's own trench, the arguing could go on forever, without the debate getting any further. Anyone who would like to understand the economic discussion on a deeper level would do better to look at what economists have learned from Friedman. The answer will be surprising to many outsiders: Friedman's ideas have been fully integrated in today's macro-theory.

During my own study in economics, around 1982, I was continually astounded by the unexpected connections that economists made. Macro-economics was at the centre of attention in those days. The Dutch economy was in a deep recession, the worst since WWII. I once asked a professor during his lecture whether the government should stimulate expenditure during recessions. 'It depends', his answer began (a good teacher always keeps his options open), 'on whether the insurance market of labour income is complete.' As a student, I was puzzled. On a complete insurance market, you can insure anything you want. What did Keynesian effective demand have to do with the question of whether or not the insurance markets were able to insure everything? I had no idea at the time that I had just crossed paths with Milton Friedman.

In order to understand this, we must revisit Keynesian consumption theory. Keynes's insight from the 1930s was that people who had no income were not able to spend anything, either. So, according to Keynes, there was a direct relation between the amount of income of all households and the amount of their expenditures. Friedman showed that it was not that simple. When a person's income is reduced (for example, through redundancy), he will start to spend less. He will also dip into his savings. For exactly the same reason, people take precautions in economically good times. They save a part of their income for 'a rainy day'. Friedman calls this *precautionary saving.* The higher an individual's aversion to risk-taking, the more he will save for bad times. The more he has saved, the more able he will be to deal with setbacks. As a result of these precautionary savings, expenditure will fluctuate much less than income will. Friedman's ideas were extensively tested empirically and refined— and have by now been integrated and widely accepted by various economists. They have become part of the generally accepted theory of macro-economics.

Revisiting the question I posed in 1982: what does the insurance of labour income have to do with Keynesian effective demand? The average person has an aversion to taking risk. He would prefer to be insured against temporary windfalls and setbacks in his career. If such insurance policies were available for a reasonable price, most of us would buy an insurance policy (with a low-deductible) for our labour income. If everyone in the Netherlands would do this, then a recession would have no effect at all on our expenditures: everyone would be insured against the damages, and our spending would be independent of income shocks. From a macro-economic perspective, this would have a stabilising function. The common retailer would fare well with this, for demand would not depend on the business cycle.

That type of insurance, however, does not exist— and for good reason: imagine that your labour income would be fully secured; then you would have no incentive to work. Of course, you are intrinsically motivated to perform as well as you can. Still, after a while, our work ethic would decline. Employers, in any case, prefer not to be completely dependent on our intrinsic motivation. They also want to apply financial incentives. Alternatively, consider the unemployed person who is fully compensated by unemployment insurance for the loss of his labour income: will he ever again do his best to obtain work? Revisiting once again the answer my professor gave me in 1982: whether or not the government should stimulate expenditure in times of crisis depends on how complete the insurance markets are. If insurance markets were complete, then the government would have no need to stimulate expenditure. Yet, insurance markets are anything but complete.

Given the lack of a proper market for this kind of insurance, there are two alternatives. The first alternative is offered by the government, through social security, the tax system and stabilisation policy during the recession. However, the government encounters the same restriction as the market does: too much insurance undermines the incentives for people to make an effort. The second alternative is provided by individuals themselves, through precautionary saving. The individual is essentially his own insurance company. When a temporary unexpected setback occurs, he dips into his own savings. He will replenish these later, to maintain an adequate buffer for subsequent setbacks. In this way, when an individual encounters a temporary windfall or setback, he will not immediately have to adjust his expenditure radically. He chooses to smooth unexpected shocks over time— ideally, over the rest of his lifetime. This has a major effect on Keynes' theory. The direct relation between income and expenditure was broken. Windfalls and setbacks do affect expenditure, but the effects are smoothed over time.

As a result of the Financial Crisis, Dutch families encountered (in the period between 2008 and 2016) a whole series of setbacks: wages and benefits were frozen, people became unemployed, their homes devaluated, and the government increased taxes. All of these setbacks had to be dealt with, one way or another. Not all people are homeowners; some people rent a house, and not all houses were equally devaluated. We can get an idea of how Friedman's ideas about smoothing setbacks work by comparing the behaviour of homeowners with the behaviour of renters during a house price crisis. Research shows that when the price of someone's house declines by one euro, his expenditure generally decreases by five cents; thus, the decline will be caught up after twenty years. So this is the length of time over which we smooth our setbacks. This coincides rather nicely with the idea that we, ideally, should smooth windfalls and setbacks over the rest of our lifetime. Twenty years seems then to be a reasonable average.

By smoothing these windfalls and setbacks over the lifetime, the individual does himself a favour— as he is risk-averse and prefers not to have to adjust his lifestyle. But smoothing these shocks over the rest of his lifetime also benefits society as a whole. What does it mean, then, from an economic perspective, when all people, at once, are striving to recoup a major setback? Then we all spend less, and we all save more. The Iron Law of Double-entry Bookkeeping applies once again:

someone who saves has a claim on future production. Against every claim on future production is someone who takes on the obligation of providing for that production in the future. If every Dutch person wants to save for the future, there will be nobody within the borders of the country who is prepared to take on the corresponding obligation of delivering that production. The only solution to this problem is then to look abroad, to see if there is anyone who wants to assume the obligation. The Netherlands exports its production to other countries, in exchange for a claim on the production of that country. In this way, a country as a whole can save up for the future, because the other country will take on the obligation of providing for that production.

The only problem with this solution is that, for the most part, the firms that are exporting to other countries are different firms than the ones selling to domestic customers; the industrial and transport sectors have most of their customers abroad; the hospitality sector and the service sector have most of their clientele in their own country. The transformation from the domestic sector to the export sector usually does not happen on its own. Shopkeepers and pub owners will go broke, and their employees will have to turn to the unemployment office for retraining and continuing education, in order to obtain work in the export sector. That is an expensive affair, seen from both a financial perspective as well as a human perspective.

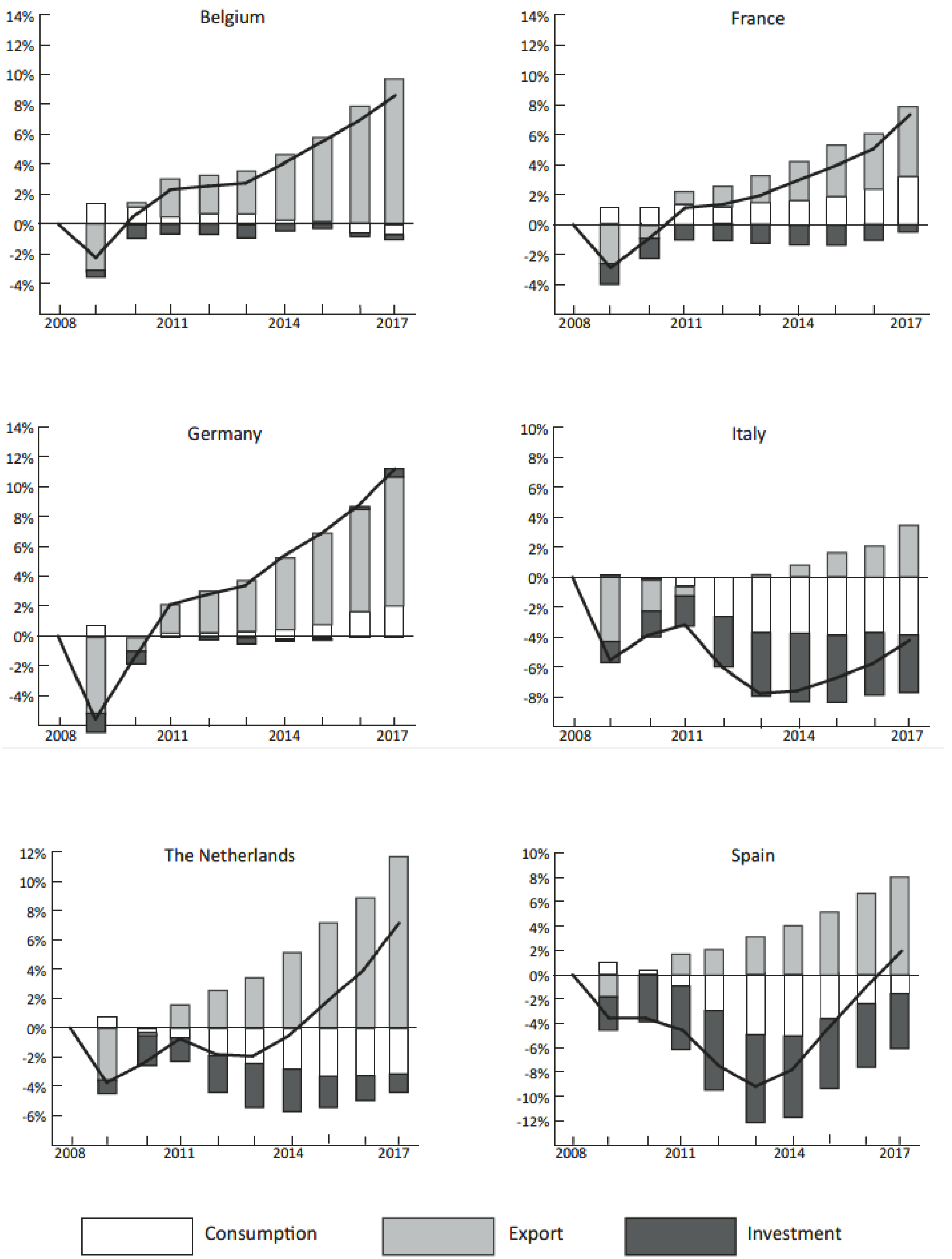


Figure 4.1 The Netherlands experienced lower GDP growth than can be observed in Germany, France and Belgium during the years of the fiscal budget cuts in 2012-2015. Moreover, the growth depended mainly on growth in exports

Note: the cumulative growth of consumption, export and investment is presented as a percentage of GDP since 2008. The line graph represents the change in GDP. Import has been proportionally divided over the aforementioned categories

Figure 4.1 illustrates the transition process of several European countries. The solid line shows how GDP developed in every country from 2008 up to 2017. The white, grey and black bars show how that growth is divided between domestic consumption, exports and investments. In 2009, just after Lehman's bankruptcy, the export industries of all countries were hit hard. In three months' time, global trade dropped by thirty percent, due to the disintegration of the international financial system. No country was exempt from its consequences. In 2010, all countries climbed out of the pit, once the fog on the financial markets had lifted somewhat. Much more interesting is the period of 2012-2015, when countries took widely different approaches as regards the speed with which they put their public finances in order.

For the moment, we can better disregard the PIIGS-countries Italy and Spain, because they were hit much harder by the crisis than were the other countries. We thus concentrate on a comparison of the Netherlands, Belgium, France and Germany. As discussed before, the Netherlands chose rapid, large-scale cutbacks— at a quicker pace than Belgium, France and Germany. This explains why the Dutch economy had to transition quickly from the domestic sector to the export sector, which led to high adjustment costs. Dutch GDP, represented by the solid line in Figure 4.1, lagged far behind GDP in the other countries during the period 2012-2015, when cutbacks were announced and the transition initiated. The composition of GDP growth is also different from that of Germany, Belgium and France. Consumption in the Netherlands rose at a much slower pace than that of the other three countries, while exports grew more quickly than elsewhere— precisely what one might expect of a country determined to quickly sort out its public finances.

Here as well, smoothing over time would have been more practical: if the recovery had been smoothed over a longer period of time, then the economy's transition from the domestic to the export sector would have occurred more slowly, and adjustment costs would have been relatively lower. Imagine, for example, that the Netherlands— instead of choosing to catch up on the setback within four years— had chosen to do so five times longer, in twenty years. In that case, only one-fifth of the amount would have had to be redeemed annually— and only one-fifth of the people would have had to be retrained for a job in the export sector. This simple way of looking at the problem illustrates how a steamroller approach to recovering deficits will lead not only to unnecessary social adjustment costs, but also to unemployment and bankruptcy in the sector and enterprises that depend on domestic demand.

The picture for the Netherlands resembles somewhat that of Spain— although the ramifications for Spain were slightly larger. Spain was also one of the PIIGS-countries that had, in the lead-up to the crisis, accumulated huge deficits. Spain had built too many houses— and the country had no other choice but to downsize its construction industry as soon as possible. This was not the case for the Netherlands. Otherwise, Spain's transition went successfully. The export sector grew rapidly, which defused concerns about its economy. For Italy, this is quite a different story. Although Italy is currently benefitting from the economic recovery flowing through Europe as a whole, Italy's GDP is still lower than it was in 2008, before the Crisis hit.

Consumers do well to smooth temporary setbacks over a longer period. Homeowners also seem to do this, after drops in the value of their houses. Setbacks are recovered, roughly, in 20 years' time. How does this work for the government, which also had to deal with a major setback?

In the period from 2007 to 2014, sovereign debt rose by more than 30 percentage points of GDP. Roughly 12 percentage points of this can be accounted to bank bailouts. The remaining 18 percentage points can mainly be attributed to tax revenues unrealised on account of the Great Recession. How should the government respond? The economic theory on this was formulated in 1979 by Robert Barro. He showed that the government must deal with setbacks in the same way as individuals do: by smoothing the setbacks over as long a period of time as possible. Ideally, an individual should smooth his setback over the rest of his lifetime. This is true also for governments. Well, then, we might ask what the life expectancy is for the government? The answer: it's a long time, much longer than for the average consumer— which means that the government should be able to smooth its setbacks over a much longer period than the average consumer does. That is also exactly Robert Barro's answer.

Figure 4.2 Sovereign debt decreased much faster after the 2008-2009 financial crisis than it did after the 1982 recession.
Note: government debt is measured in percentage points of GDP

Note: government debt measured in percentage points of GDP

Barro's theory says that structural setbacks should be caught up within a reasonable amount of time, but that incidental setbacks should be smoothed over a substantially longer period of time— several decennia, in fact. In theory, incidental setbacks do not ever have to be caught up. The actual costs of the Financial Crisis— the losses from malinvestments, particularly in the American housing market— would best be smoothed over a long period of time. Any government loan will be paid by the revenues generated by the next, in an endless rollover. Compare this to the fiscal policy of the Netherlands. Around 2020, the government debt will once again be at the level of 2007— at 45 percent of GDP. Within ten years, the Netherlands will have recovered 30 percentage points of its national debt. That is partly due to the windfall of the banks and insurance companies being able to repay a great deal of the emergency support they had received— with even a modest profit for the government. We are left, then, with the 18 percentage points lost as a result of the non-realised tax revenues. The government had therefore caught up the enormous setback within ten years after the Great Recession. Compare this with the speed with which the Dutch caught up with the rise in government debt after the 1982 recession. It was then far into the 1990s before the actual debt began to decline. This decline was then more a *result* of the economic recovery than its cause.

If Friedman had witnessed the speed of the Dutch austerity measures directly following the Recession, he would have turned over in his grave. 'Had this government never heard of the fact that temporary setbacks can best be smoothed over a longer period of time?' If you want to understand the current discussion on economic policy, you must set aside the old debates between the Keynesians and the Monetarists (known to some as left- and right-wing policy) that you were taught in school. This old framework is more of a hindrance than a help in understanding how to create sensible economic policy.

The costs of suddenly eliminating fiscal setbacks can be simply expressed in a single numerical measure: the multiplier— the famous (or, if you prefer, the notorious) Keynesian multiplier. The multiplier measures by just how many billions GDP will decline when the government cuts back another billion. Just the mention of the word 'multiplier' caused many an economist in The Hague to break out in hives. They maintained that, after a setback, belts should be worn more tightly— and preferably as quickly as possible. Even the prospect of a simple conversation on the topic of the multiplier was considered as dangerous, tantamount to an attempt at avoiding necessary but painful choices. In their opinion, sound economists could be recognized by the strength they used to tighten the belt.

The economic research on the value of the multiplier had, in the years prior to the Great Recession, stalled somewhat. It picked right back up directly after the downfall of Lehman, however, because economists could foresee a re-ignition of the debate. The evidence mounted rapidly that the multiplier could be very high in times of crisis, even much higher than one: thus, every extra billion of cutbacks leads to a decline of GDP by more than one billion. This explains how, between 2010 and 2012, the agreed-upon austerity measures proved later to be inadequate to meet the EU norm. The multiplier used in the CPB model was too low, whereby the negative effects of the cutbacks were underestimated. I recall the last time I attended the meeting of the four government ministers dealing with economic policy (the Prime minister plus the ministers of Economic Affairs, Social Affairs and Finance), in my capacity as CPB director, to elaborate on a CPB publication. The publication cited recent research done by Auerbach and Gorodnichenko that showed that the multiplier is much higher than normal during times of crisis. One of the ministers attending the meeting criticized the report saying, 'The CPB refers to Auerbach and Gorodnichenko's research, which *is supposed to claim…*' The reluctance of the minister and those present to reconsider the desirability of the chosen austerity policy could not have been better illustrated than with this disbelief. To my astonishment, I met only one minister who by the end of his term had any doubts about the wisdom of the austerity policy— Maxime Verhagen, who by then had announced his withdrawal from politics. There were also the PVV and the SP, of course, as well as the previous leadership of the VVD. Outside of the political arena, the Chairman of the National Employers Organization, Bernard Wientjes, had done his utmost to soften the pain. But all the rest kept their own counsel.

What have been the total costs of the Dutch austerity policy, benchmarked against a more moderate policy aimed at a gradual return to normal public debt levels? Making such a diagnosis, where an attempt is made to calculate all the 'pros' and 'cons', and where all the winners and losers are presented, is no easy task, and beyond my ambitions here. At present, I merely want to provide a rough indication. Let's compare the GDP of France, Germany and Belgium between 2011 and 2015, the solid black lines in figure 4.1. In the period during which the Netherlands announced its austerity measures, all three of these countries grew more than the Netherlands. Can this gap be explained by Dutch austerity policies? The high growth in Germany is in all likelihood partially the result of the 'Hartz reforms' on the German labour market, between 2004 and 2006. Through these reforms, more people were employed, GDP rose and tax revenues increased. This hampers a realistic comparison with Germany. But why would the Netherlands grow at a slower pace than France, a country that in all respects had a worse starting position than the Netherlands? Compared with France, the Netherlands missed out on a total of 7 percent of GDP between 2011 and 2015—amounting to 60 billion euros. High Dutch growth rates from the period after 2014 are often provided as proof of the success of the Dutch austerity policy. Yet, as shown in figure 4.1, the high growth after 2014 is actually a recovery of the ground that was lost between 2011 and 2015.

Figure 4.3 The number of suicides increased significantly during the period of fiscal budget cuts (2011-2015)

Note: number of suicides per 100,000 citizens

In such an analysis, it is important to look beyond the financial costs in terms of GDP; also the social costs of the sudden austerity program should be considered. There are countless possible indicators: measures of perceived happiness (nothing makes people more miserable than being unemployed), the delayed wish for parenthood of young families, or the prevalence of depression. I choose to concentrate here on the incidence of suicides, which is generally highly sensitive to the business cycle. The incidence of suicide cases rose sharply also after the recession of 1982. In practice, a bankruptcy is often a traumatic experience, with dramatic consequences, ranging from divorce to suicide. Since the Great Recession in 2009, the rate of suicide is on the rise, from 9 to 11 per hundred thousand. A portion of that figure was the inevitable result of the Great Recession in 2009, after the downfall of Lehman. The incidence of suicide continued to rise, however, after the worldwide recovery of 2010. In total, a few hundred extra suicides took place in the Netherlands between 2012 and 2015.

No matter which index is consulted— home prices, GDP or numbers of suicides— they confirm that the Great Recession led to an admittedly strong drop in GDP, but also that the Dutch economy subsequently recovered reasonably in 2010, in line with the experience elsewhere in the world. From 2011, however, the consequences of the Dutch austerity policy began to bite. These effects were often much more serious than those of the Great Recession of 2009. Much of the social-economic misery of the last decennium in the Netherlands can thus be attributed to a domestic source. But, paraphrasing Dutch politician Jesse Klaver, 'that penny doesn't seem to have dropped yet everywhere in The Hague.' We might ask what virtue the Dutch saw in this policy (despite evidence suggesting the contrary). For an answer to that question, we will have to accompany our Prime Minister Mark Rutte to Brussels. Before that happens, though, we must first take a journey to Japan.

5 Testing-ground Japan

Japan is that one country in the world where the laws of economics do not apply.
- Willem Buiter, speech in Amsterdam, 2008

Sometime during 2010 came the first whispers about the possibility of a Japanese scenario for the Eurozone. This was hardly an attractive prospect. This was not always so, of course. Around 1970, during business trips to the United States, my father regularly heard about Japan, which was at that time still very successful. Upon returning home, my father would repeat the exciting stories that had come his way, which he told with a mix of awe and wonder. 'How did the Japanese do it?' But what did this success mean for the future of Europe?

After its post-War defeat, Japan was extremely poor. From the 1960s, however, the country grew steadily by 10 percent annually. In one sector after another, new Japanese players superseded the old American champions. General Motors and Ford succumbed to Toyota and Honda. But the Japanese applied new technologies successfully in all kinds of other sectors as well. These were introduced first on the Japanese market, where Japanese firms built up a great deal of experience in a short time. With this experience they attained greater productivity, and were subsequently able to conquer the global market. In this way, the video technology of Philips succumbed to the Japanese video cassette, simply because the Japanese had been able to rapidly establish a substantial market share and Philips could no longer compete. It was a matter of time before Japan would overtake the United States— so it seemed at the time.

We know now that this didn't happen. Japan was hit severely by the oil crisis in the 1970s, but the real blow came in 1990 when the country had to contend with a banking crisis, and real estate prices collapsed. Many banks were actually bankrupt, but were kept alive by the Japanese Ministry of Finance. The true extent of the losses could thus remain hidden. But the banking sector's dependence on government financial support conflicted with the banks' role as independent appraiser of credit demand. After all, the state (and thus Japanese society as a whole) was covering any risk. Unprofitable projects were allowed to continue. Policymakers provided an expenditure stimulus to get the economy back on track. The intention had always been that it would be a temporary stimulus: for such a stimulus would, of course, lead to higher government debt. If the country would carry on providing such stimulus packages, then public debt would grow out of control. This would result in excess demand for credit on the capital market, whereby the interest rate would rise, making it too expensive for companies to invest— that was the theory. The difficulty was that every time policymakers tried to stop the stimulus (in order to get public debt under control), the economy inexorably shuddered to a halt. Due to the lack of an alternative, this stimulus would be repeated, to prevent matters from deteriorating. Despite the ever-increasing debt, however, the interest rate did not increase— in fact, quite the opposite occurred. But what was most alarming was that Japan was plagued by a persistently low rate of inflation— even, deflation: falling prices.

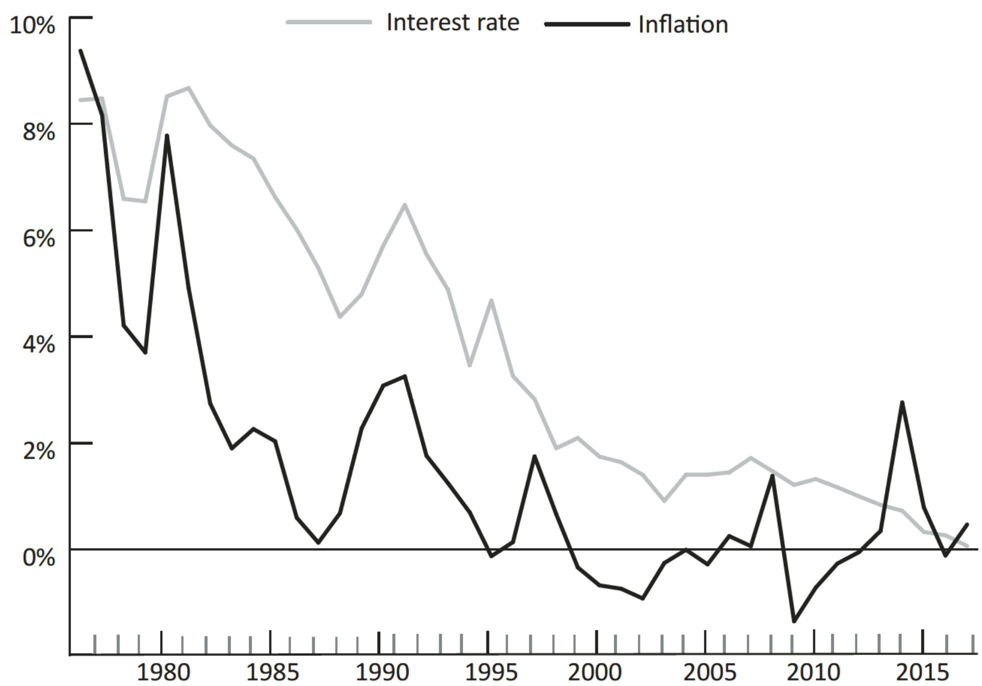


Figure 5.1 The Japanese interest rate and inflation have been very low since the 1990 banking crisis

Reading the story of Japan now, after all these years, gives one a sense of *déjà vu*. The course of events in Japan at that time strongly resembles the events that occurred in 2008 in the United States: the massive influx of Chinese savings— the savings glut— that flooded the financial market and depressed the interest rate. Investors diligently sought a destination for their financial capital, and found an ideal solution in the real estate market. Banks financed these investments until it became evident that the demand for real-estate has its limits. As a result of this, real-estate prices collapsed and the banks were left with a portfolio of high-risk loans. There was one crucial difference between Japan in 1990 and the United States in 2008: the source of savings. The savings invested in the United States came from abroad, from China; in Japan, domestic savings were the source.

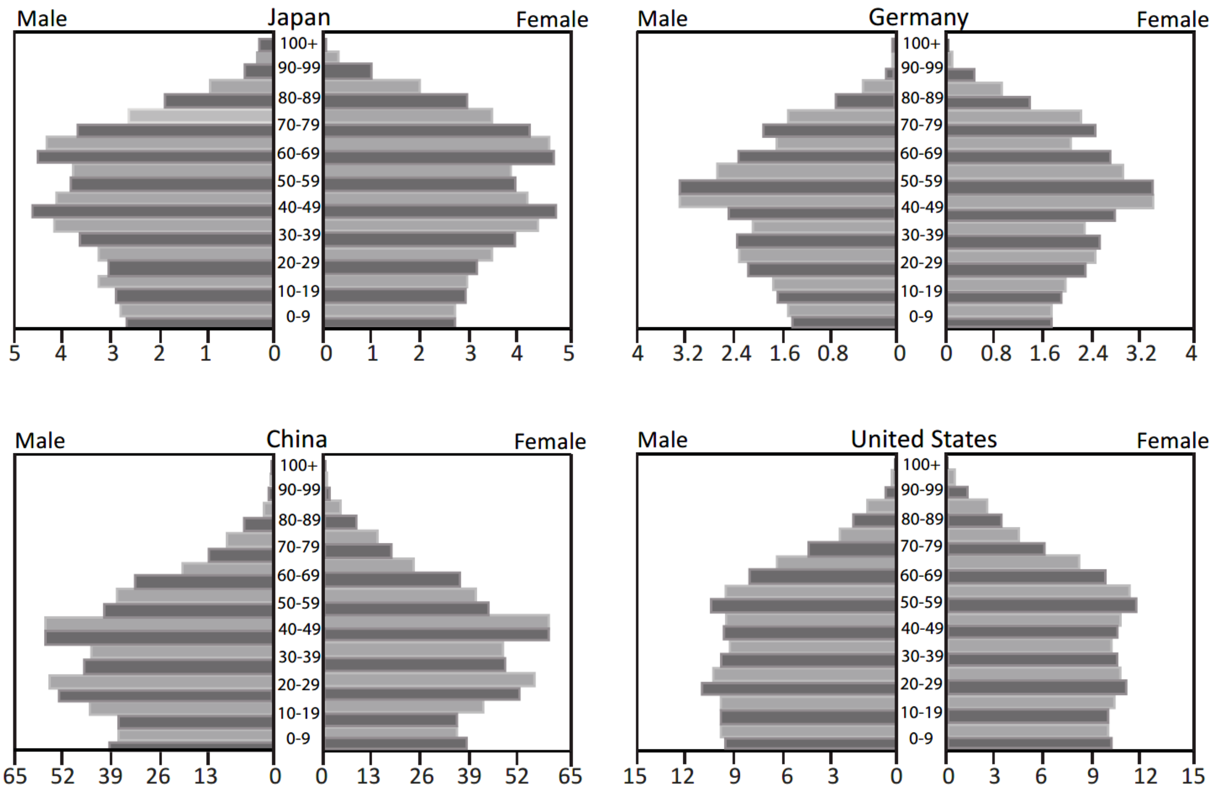


Figure 5.2 The age distribution in Germany is similar to that in Japan (the largest cohort being twice the size of the youngest cohort), except that the largest cohort is 15 years older in Japan

Note: the population structure with respect to age in 2014 measured in millions

Why did Japan save so much? Perhaps a better question: why did Japan save so much more than other wealthy countries? The answer to that question lies in the age composition of the Japanese population. The age composition of a population was formerly depicted in something called a ‘population pyramid’. A growing population meant greater numbers of younger people than older people. The higher the age, the smaller the number of people, giving figures depicting population composition the shape of a pyramid. In Africa, these figures still look the same. In the wealthy countries, however, the population is no longer growing, and may even be declining. The consequences of this are reflected best in the figure depicting the age composition of Germany’s population. Directly after 1970, when the anti-conception pill became widely available, women began to give birth to fewer children. The last group born just before the pill’s introduction (between 1960 and 1970) is now between the ages of 45 and 54. The generation directly following this one is roughly one-third smaller than its predecessor. Some twenty years later, the first generation of women born after the pill’s introduction reached childbearing age. That generation is one-third smaller than the generation before it, which means that the number of children has again decreased by one-third. Thus, on an annual basis, approximately half the number of children are born now in Germany, compared to the number born in the 1960s.

The composition of the population in China and Japan looks quite similar to that of Germany, with one difference. The decline in the number of children in China begins five years later than it does in Germany. This is the result of the introduction in 1979 of the one-child policy in China. In Japan, the decline begins 15 years *earlier* than it does in Germany. In the first ten years directly following WWII, the number of children born in Japan was very high. From 1955, however, the number decreases dramatically. Graphs depicting the age composition clearly reflect this difference in timing. But the pattern is the same: a drop in the birth-rates leads to a decrease in the size of the new generation; some 20-25 years later, this leads to a second drop, when the women from the first generation reach childbearing age. Only for the United States does the picture differ. There, the successive generations have generally been of the same size for decades— partly because the women in the United States tend to give birth to more children (compared with women in the other three countries), and partly because of continuing immigration from all parts of the world, but mainly from Mexico.

What does this picture have to do with the massive influx of savings that has flooded the Japanese capital market since 1980? In order to understand that, we have to revisit Milton Friedman and a hypothesis closely related to his theory on smoothing consumption over a lifetime: the life cycle hypothesis. This theory describes the lifecycle of an average individual. Beginning at school, this person invests in knowledge and competences that will be useful later in life, particularly if she wants to have a career. During the time of her schooling, she is supported by her parents. Later, when she goes to university, she borrows money from her parents, or from the government, thereby accumulating student debt. The moment she gets her first job and starts to earn money on her own, she begins to pay back her student debt. Once this has been paid in full, she can begin saving for her pension. Her pension account grows until she retires at the age of 65, to enjoy her well-deserved rest. Thus, her piggybank is filled to the maximum around the time of her retirement— somewhere between the ages of 55 and 70.

Young people borrow to invest in their future, whilst older people draw from their pension piggybanks. Both groups consume more than they produce. The age groups in-between are working; they save a share of their labour income— either to redeem their student debt or to save for their pension. Working people thus produce more than they consume. If all goes well, this leads to an equilibrium at which total consumption equals total production. The real interest rate must ensure that demand (consumption) and supply (production) are balanced. If, however, the birth-rate suddenly decreases, as it did in Japan around 1955, then the last generation born prior to the drop in the birth-rate will be larger than the generations before and after it. Older generations are smaller because the population was still growing then, implying that every next generation is bigger than the one before. Younger generations are smaller because the population had by then begun to decline. The age composition of the population then changes form— no longer resembling a pyramid, it looks more like an urn. The belly of the urn coincides with the age of the generation that was born just before the decline of the birth-rate. As time passes, that age group grows older, and the belly of the urn subsequently rises gradually. This rise of the urn's belly is a temporary phenomenon: sooner or later, the large generations born prior to the decline in the birth-rates pass away, and the belly of the urn disappears.

The Empress of Rice Island, sunk deep in thought, stares into the distance. She has just had a meeting with the Supreme Economic Council. Such meetings always take their toll on her. The economists had explained matters concerning the population composition of Rice Island, about the belly of the urn (which is now at a level of 60 years) and the great amount of pension savings that the people around this age possess. Because so many people of this age are alive, the capital market is now being flooded by savings. At the same time, as a result of the low birth-rates, there are but few young people who want to borrow money to finance their education. In conclusion, the council reported that more rice is currently being saved than is needed for sowing seed. The Empress had protested, 'But you always taught me that saving was the wise thing to do, that those savings can be used to invest in the crops of the future'. The deputy chairman of the Supreme Economic Council (of course, the Empress herself was the Chairman) had looked at her uneasily. After a slight hesitation, he answered that while this normally is the case, the situation was different under the current circumstances. So much had been saved that there was an excess of seed for the next season's crop. The rice that had just been harvested was in fact rotting away in the barns of the farmers. They would have liked nothing more than to sell this rice, to add to their pension savings, but there was now no market for that rice. The excess supply had caused the rice price to drop; the situation was actually a case of deflation. The excess supply had also decreased the interest rate of a rice loan: since there was an abundance of seed available, a farmer could obtain it anywhere. The deputy chairman had in a nutshell described the economic situation in Japan for the past decades: excess savings, deflation and low interest rates.

The discussion had caused the Empress to despair. 'But what do you want me to do then?' she finally asked. The deputy chairman had then advised her, as Empress of Rice Island, to issue bonds, which she would pay back in ten years' time. 'The money that you, as Empress, will make by selling these bonds will enable you to buy the excess rice. You can use this rice in whatever way you deem best for Rice Island. For example, you could give free rice to the farmers who own poor farming land.' Surprised, the Empress had thrown up her hands: 'how on earth could this solve the problem? And how was she going to meet the loan in ten years' time?' She felt as if they were making fools of her— and it irritated her further that the youngest member of the Supreme Economic Council sat sullenly and silently through the meeting. Economists never agree, she deduced. 'Well', the deputy chairman started to answer, 'in ten years' time, you can begin issuing new bonds to the next generation of farmers. The money you gain from that can be used to redeem the old bonds. The farmers who bought these bonds from you at that time will be retired by then. They will use the loan that you pay back to buy rice during their retirement.'

'If I were a farmer, I would never buy such a bond', the Empress had replied. 'I could never believe that the bond would ever be paid back.'

'I think that, if you had been a farmer, you surely would have believed it', the deputy chairman had cautiously replied. She listened with greater attention than usual. 'Wisdom comes with age', she mused. He continued, 'You know how much the people trust you as Empress. An obligation literally means 'commitment'. What will ultimately convince the people is the guarantee provided by both you and your daughter (being the heir apparent) that Rice Island will meet its commitments in the future, and that the owners of the bonds will be able to redeem the bonds.

This is particularly so because the people are well aware that you (or your heir apparent) will be able to levy a tax on the future rice harvest, should any emergency arise, in order to honour the collective debt. But that will only be necessary in an emergency situation. Normally, the next generation of farmers— who also want to save for their pension— will be eager to buy these bonds. With the gain from the sale of these bonds, you will be able to pay back the old bonds. This can continue forever.'

'Every generation is keen to lend their rice to the next, in order to save for their retirement. However, this next generation's interest in borrowing will be limited, as their study debt, compared to the pension capital of the older generation, is much smaller. What we miss is someone who is prepared to commit to honour this obligation. That is your role, Your Majesty, as the embodiment of the supreme authority on Rice Island. With your authority, you will be able to commit credibly to fulfilling that obligation. You borrow the money of the current working generation, and you use the money to redeem the bonds of the previous generation— the elderly— who are now retired. Without your intervention, the generations can never be brought together, because their life-cycles do not overlap. The fact that your dynasty outlives the generations is the very thing that enables you to bring them together. Every generation will be keen to buy a claim on the future rice crops, especially when you, as Empress, stand behind those claims. It is particularly important, Your Majesty, that you do this now— when the generation of farmers currently saving for their pension is so large. Your action will reassure them that their claim on the future rice harvest will be honoured.'

The Empress had countered that 'the next generation is so much smaller that they will never be willing to buy the amount of bonds needed in ten years' time to honour the claims of the current larger generation'. The deputy chairman had to agree that this was a problem indeed. 'The large surplus of savings is indeed a temporary phenomenon. It occurs at the moment that the generation born just before the decline in the birth-rates is retiring. In the succeeding years we will have to levy extra taxes to pay the pensions of this large generation. I feel I must warn you that if you allow the current surplus of rice to spoil by refusing to issue government bonds now, this will not only fail to solve the rice shortage problem in ten years' time; it might also make matters worse.'

The hesitance must have shown on her face, for the youngest member suddenly lost his surly look and spoke up, saying, 'there is, however, another more financially sound alternative— one that will not put a burden on future generations. We do not have to sell the entire rice crop solely on Rice Island. We could also export part of it to the mainland. This will give us a surplus on our current account. We will export a greater share to the mainland than we import from it. As a result, there will be money left over. We will receive a claim on the future production of the mainland. Our farmers will thus have a claim on this rice in ten years' time, just when they retire.'

After this interruption, the room had become quiet. Rice Island had always greatly prized its independence. The idea of allowing their pensions to depend on mainland crops would be met with great resistance from the Islanders. With some trepidation, the Empress asked, 'But how can we be sure that the mainland will truly meet its obligation to actually deliver a part of its future production to Rice Island? If they will not, then we will have essentially given away our rice.' No one ventured to reply— although the answer could clearly be read on the faces of the other members of the Supreme Council. The Council had then dispersed quietly, without having made a decision.

In dealing with their crisis, Japan actually implemented both of the solutions that were put forward by Rice Island's Supreme Economic Council. Japan, with its current account surplus, mainly chose the path of issuing more government bonds. Japan's public debt, at more than 200 percent of GDP, is the highest in the world. This debt is so high because of the retirement of the post-war babyboomers. Again, the Iron Law of Double-entry Bookkeeping prevails: against the enormous pension claims on future GDP that are held by the large generation retiring at this moment, there should be someone who commits to delivering that production. This does not necessarily have to be the government; the commitment can also come from abroad— but somebody must do it. If no one is prepared to take on this commitment, then the only way out is high public debt. This was the case for Japan: every time the government sought to reduce the public debt, the economy got mired down.

In Japan, the era of big savings surpluses is drawing to an end. Germany, which is fifteen years behind Japan, has therefore another fifteen years to go before its big savings surpluses vanish. During this period of time, the government can avoid a high level of public debt only by exporting more than it imports— that is, by running a current account surplus. Foreign countries will then essentially be committing to delivering a part of their GDP to Germany. Germany must hope that these countries will indeed pay back the obligations in due time— when after fifteen to twenty years the last post-war generation retires.

The demographic situation of Italy and Spain is similar to that of Germany. In those countries, the largest generation is also about twice the size of the most recent generation. The only difference between Italy and Germany is that the authority of the Catholic Church in Italy has delayed the decline of birth-rates by about five years. In Spain, this delay amounted to about ten years, with the transition occurring around the time of Franco's death, in 1975. The situation is different in the Netherlands, and quite a bit different in Great Britain and France. In the Netherlands, the youngest generation is only thirty percent (instead of fifty percent) smaller than the generation that was born just before the pill's introduction; in Great Britain and France, all generations are roughly of the same size, just like in the United States. The age-composition pyramid of these countries has not become urn-shaped, but is more house-shaped.

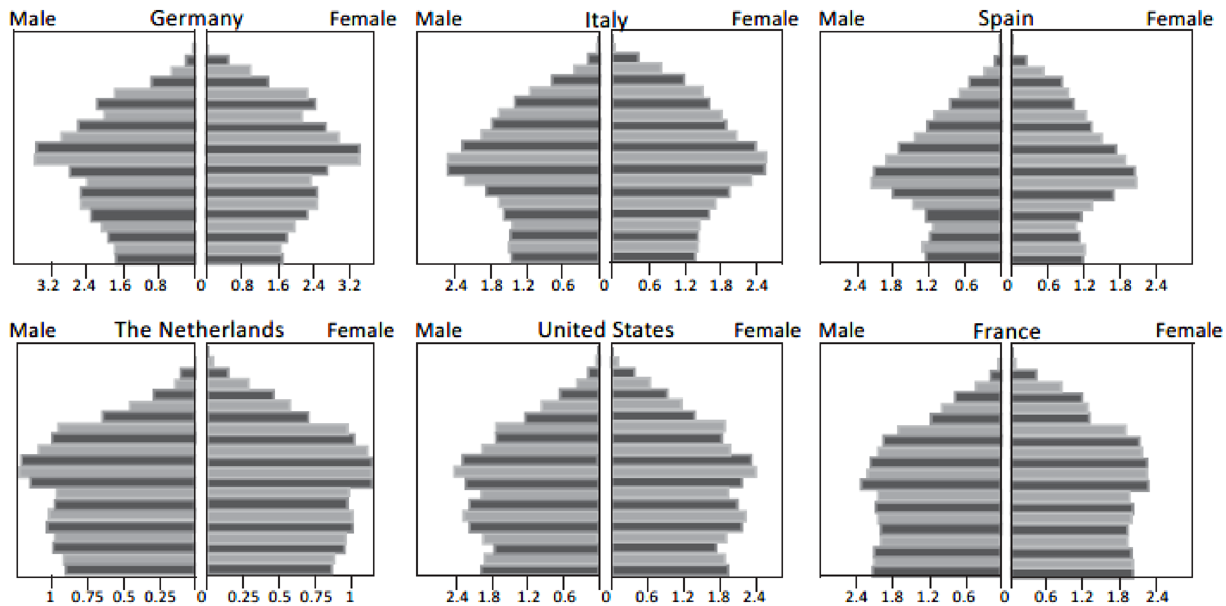


Figure 5.3 Italy, Spain and Germany have an unbalanced age distribution, while the Netherlands, the UK, and in particular France have a well-balanced age distribution

Note: population distribution with respect to age in 2014; see figure 5.2 for the age categories

Thus, Germany, China, Italy and Spain are similar to Japan in terms of their unbalanced age composition. These countries therefore face the same kinds of problems. The large generations want to set money aside in exchange for a future claim on GDP. There are not enough people within each of these countries to take on the corresponding claims. In the United States, Great Britain and France, the age composition is much more balanced. A feasible solution for financing the pensions of the large generations of the 'unbalanced' countries might be that the 'well-balanced' countries absorb the surplus capital of the saving countries— in exchange for the obligation to support (in the coming ten to twenty years) the pensions of the large generations from the 'unbalanced' countries.

In this way, the shortage of future GDP of countries with an 'unbalanced' population will be divided among the two groups of countries. The countries with a 'well-balanced' population will share the problem of those with an 'unbalanced' population. Why would 'well-balanced' countries do this? The only way to get them to agree to this is to '*make them an offer they can't resist':* the interest rate that the 'unbalanced' countries will receive on their savings accounts will be very low.

This is exactly what happened in the decade between the Asia Crisis in 1998 and the downfall of Lehman in 2008: China exported its surplus capital to the United States, which caused their interest rate to drop. The surplus capital was invested in the real estate market. The Financial Crisis in 2008 shows that this is a far-from-ideal solution. Yet, even now, the same solution is being applied once again. Japan, Italy, China, Spain and Germany (in particular), have current account surpluses. In Germany, this surplus amounts to some 8 percent of GDP. Again, the Iron Law of

Double-entry Bookkeeping prevails. If these countries want to have claims on future production, then other countries will have to assume the obligation. Against the current account surpluses of the 'unbalanced' countries, there must be current account deficits of the 'well-balanced' countries. That seems to be what we, in fact, observe. The United States, Great Britain and France, the countries with a 'well-balanced' population, have current account deficits. The only exception among the 'well-balanced' countries is the Netherlands. The age composition of the Dutch population is reasonably well-balanced, but the Netherlands nevertheless features a high current account surplus— larger even than that of Germany: 10 percent of GDP.

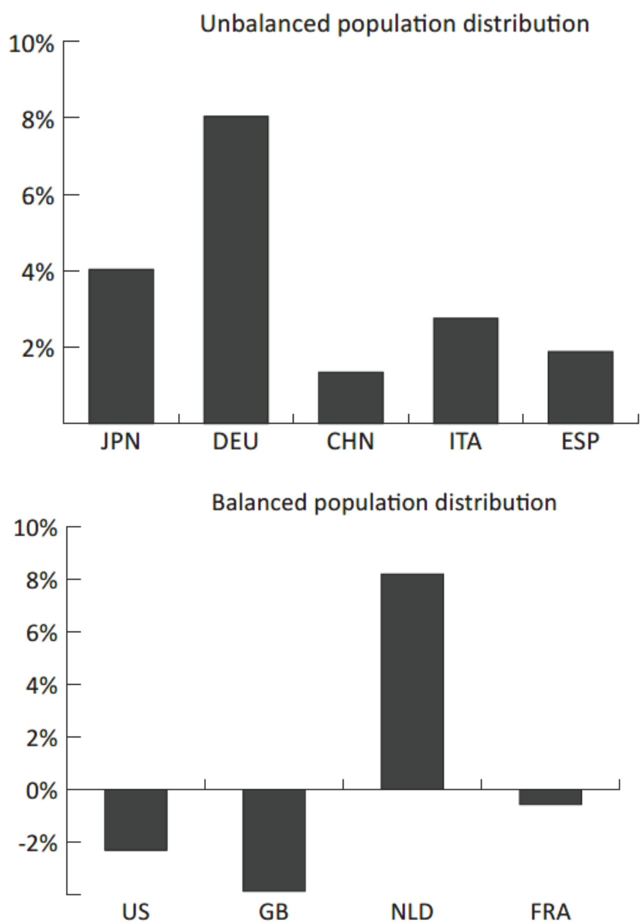


Figure 5.4 The countries with an unbalanced population distribution have a surplus on the balance of payments. As an exception, the Netherlands has both a balance of payments surplus and a well-balanced population structure

Note: balance of payments surplus is measured as a percentage of GDP in 2017

Ultimately, Japan survived the period following the 1990 Banking Crisis quite well. While it is true that GDP growth is much lower now than it was in the 1960s and 1970s, an explanation for this is not difficult to find. During those years, Japan had been catching up on growth, just like Spain did in the 1980s after Franco's death. Both countries were less prosperous than the United States and countries in the northwest of Europe. They were able to grow faster by implementing technological innovations from abroad. At a given point they had caught up, so we observe a decline in the rate of growth. Moreover, their low fertility rates led to lower growth of the labour supply, and thus, to less overall growth. Apart from that, Japan's economy is doing quite well. This was made possible only by allowing the public debt to mount. While many observers view the high public debt as a ticking time bomb— particularly because the current large post-War generation is now gradually retiring— it must be said that there were not many alternatives. One option was that Japan, just like China, but with an even greater share of its GDP, would export its surplus to foreign investors in the hope that the countries who assumed the obligation to pay back Japan in the future would actually be able to meet these obligations. The other option was that Japan would create enough claims on future GDP within its own borders. The only party who could credibly commit to the corresponding claim would be its own government. The public debt therefore rose.

All of this makes Japan a perfect testing-ground for the Eurozone. The same economic problems faced down by Japan in the past two decades— large savings surpluses, low interest rates and deflation- are going to impact the Eurozone for the next twenty years.

Will the Eurozone take to heart the hard-learned lessons of Japan's testing-ground? Will the Eurozone face up to the fact that it will have to either build up a higher current account surplus, or raise public debt? Anyone who follows the tweets of the American President and observes the build-up for a trade war can't help but ask whether the Eurozone will soon have any choice in the matter? The road to a larger surplus may soon be blocked. Then higher levels of public debt would be the only viable option. There was no time in 2012 to take into account the lessons of testing-ground Japan. The more urgent matter of the Euro Crisis had to be addressed— and the choices made would lead the Eurozone in precisely the opposite direction.

6 Emergency meeting in Brussels

What I care about are not the particular demands that Brussels makes. I care about fiscal discipline because I think it's important. It is the lesson the eighties taught us.

- Mark Rutte, in the lead-up to the Euro Summit in Brussels, March 1, 2012

Two years after the start of the Greek tragedy, a remarkable article appeared in *The Financial Times*. The article argued that it should be possible to expel a country that has repeatedly disregarded Eurozone rules from the currency union. The message itself was not remarkable. There was widespread irritation in those days about Greece. The article thus didn't draw attention so much through its content as through those who signed it. It had been written by none other than the prime minister and finance minister of a Euro member state: Mark Rutte and Jan Kees de Jager. The Maastricht Treaty does not specify a procedure for expelling nations from the currency union or for facilitating a departure by one of the member states at its own initiative. The treaty sees entry to the monetary union as an irreversible step: a country can leave the union only if it simultaneously leaves the EU. It was thus big news that the head of government of an EU member state openly advocated departing from this principle. With this, the Eurozone entered a new phase. For investors, there was suddenly a new factor to take into account: the risk that the monetary union would disintegrate.

The lack of some kind of removal procedure appears to be a serious omission. After all, the statutes of every run-of-the-mill sports club define how one can terminate one's membership and how disagreeable members can be expelled. Religions are asked to respect those who fall away from the faith. It has happened many times in history that monetary unions have disintegrated. Why did the Maastricht Treaty not define how a country can leave the currency union? This omission was not coincidental, however. A look at recent history may provide some insight.

Not many will have noticed, but in the course of 2016 Great Britain 'decided' to refrain from repaying 20 percent of its debt. Holders of British government bonds had to write off part of their claim. Imagine that Italy would decide to not pay off 20 percent of its considerable sovereign debt of 2000 billion euros. It would have led to a public outcry. But when Great Britain decided not to repay 20 percent of its public debt— a debt greater even than that of Italy— no one batted an eyelash. How did Great Britain manage to do this without being noticed? And why was Italy unable to do so?

An outcome of the Brexit referendum was that Great Britain became structurally less wealthy. This made it more difficult for the British to pay off their public debt. This problem resolved itself soundlessly, however, because the British pound depreciated by 20 percent after the referendum. Expressed in euros, the British government debt became 20 percent less valuable. This makes repayment a lot easier. The recourse of depreciation is an important difference between Great Britain, which has its own currency, and a country in the Eurozone such as France. Through a depreciation, Great Britain could essentially 'decide' to not repay part of its debt. France, as a member of the Eurozone, could not do this because it did not have its own currency. The only option would have been a depreciation of the currency of the entire Eurozone.

Great Britain has applied this solution twice in the last ten years. The first time was after the bankruptcy of Lehman, when Great Britain, with its large financial centre, was hit hard. The second time was after the Brexit referendum, when the country's economic outlook became a great deal more sombre. In 2007, just before Lehman's demise, one British Pound was worth 1.50 euros; a year after the Brexit referendum, its value had dropped to a mere 1.12 euros.

The Empress of Rice Island summoned the youngest member of the Supreme Economic Council. He had been the one, after all, who during the previous meeting had advocated that Rice Island export its excess rice to the mainland. The proceeds from the export had then been invested in government bonds of the smaller mainland states. The Empress is now worried about these states, because a large financial crisis has hit the mainland. There were rumours that some states were unable to repay their government bonds. The Empress had to find out how serious the risk was. The youngest council member had worn himself out convincing the farmers of Rice Island to export their rice to the mainland and invest there. So now it was up to him to explain what Rice Island could do about this present problem.

The young economist spoke up confidently: 'The most urgent problem is the republic of West. When its currency, the westmark, depreciates, then the government bonds of West become less valuable. The depreciation of the westmark is in fact an insidious form of non-payment of government bonds— what is known as an implicit, or 'soft' default. If financial markets lose trust in West, the exchange rate of the westmark will fall. Bond holders can, unfortunately, do nothing to prevent this.'

The Empress was dumbfounded. Based on this young man's advice, farmers had invested their pension savings in foreign bonds. And now he's spinning this tale? 'But if West can get rid of its debts so easily, by simply depreciating, why did we invest in those government bonds in the first place?'

The young economist had his answer ready: 'Well, precisely this risk of depreciation had made interest rates on West's government bonds one percent higher at the time. That is usually an attractive margin, but because of this financial crisis it is now no longer so. That is bad luck. You should realise that it is also painful for the voters in West. They also own a large part of these obligations themselves, just like our farmers. So they too have lost part of their pensions. The only ones who benefit from the depreciation are the future generations of Westerners who will pay lower taxes in the future to repay their public debt. But this is not the reason why West is depreciating the westmark. First of all, future generations can't vote, so their interests didn't play a role in the decision of the Western parliament. Moreover, the depreciation wasn't really a decision. Depreciation doesn't require a political majority— it just happens. The rate of the westmark was falling on the financial markets. Nothing could stop that.'

The Empress was surprised that the young economist was acting as if he was blameless. Because of the westmark's depreciation, the Rice Island farmers had suddenly seen part of their pensions go up in smoke. Discontent is great. Had there been no alternative for investment in Western obligations? A bit more certainty is preferable to 1 percent higher interest accompanied by the risk of being worse-off after a depreciation. That risk is much too high. 'The farmers have also invested part of their claim in the government bonds of the Eastern member states,' remarked the economist, who seemed capable of reading her mind. 'As you know, we have a monetary union with those states, because your grandfather was king there, even before universal suffrage was introduced. Because they cannot depreciate relative to Rice Island, both member states paid low interest rates on their obligations at the time. That was an almost completely safe investment. The only risk was that of a 'hard' default, when member states would simply no longer repay their debt. That is only a theoretical possibility, however, which hardly ever happens.'

The Empress felt as if there was one shock after another. The interest differences between Rice Island and the Eastern member states had increased strongly in the previous year. That must have had something to do with that risk of the 'hard' default. How could this economist claim that 'this hardly ever happens'?

'Of course,' the economist continued unperturbedly, 'the interest rates of those member states had nevertheless risen sharply in recent times. Especially the difference with Southeast is now quite high. The financial crisis has also infected the banks there. The financial markets fear that Southeast will be unable to repay its public debt. The high taxes this would require will slow the growth in Southeast, causing the taxes to rise even further, possibly placing the member state in a negative spiral.'

The Empress is unable to comprehend the situation. 'But the financial crisis has hit West much harder than it has Southeast, and yet the interest rate in Southeast has risen more sharply than in West. How is this possible?'

'As I mentioned, the republic of West has already solved its financial problems by means of the 'soft' default through depreciation. The buyers of Western bonds thus no longer run extra risk. In Southeast they still do run the risk of a 'hard' default. From the perspective of a bondholder, the risk of a 'hard' default is comparable to the threat of a bank run. All those with a deposit at a bank want to benefit as long as possible from the high interest rate that the bank pays over the deposits— but if the bank goes bankrupt, not one of the depositors will want to be the last to withdraw his money. That is exactly what happens at the time of a country's 'hard' default. The buyers of bonds want to benefit as long as they can from a high interest rate, but none of them wants to be the one to have bought the last bonds on the day before a default. The next day, his bonds will be worth much less, after all, because they will not be repaid in full. That is why the start of a financial crisis cannot be precisely predicted. If buyers of the bonds would know with certainty that the crisis starts tomorrow, they would not buy bonds today. In that case, the crisis would have begun today— but then potential buyers would have ceased to buy the bonds yesterday, and so forth. Once a crisis starts, then it's a self-fulfilling prophecy— in the same way that a bank run is: no one will buy bonds from the country anymore, so there is no money to repay existing bonds, which is a good reason not to buy those bonds in the first place. The most important prediction of economic theory is therefore that a crisis is unpredictable. For this reason, investors demand a high risk premium from states on the brink of crisis, which only strengthens the downward spiral. This is why the interest rate for Southeast increased more sharply than that in West. Under normal circumstances, membership in a currency union shrinks interest rate spreads. In extreme circumstances such as these, it works in the opposite way. Interest rate spreads within the currency union are magnified.'

The Empress is having some trouble following the young economist's reasoning. In the state of Northeast the interest rate had also risen— not as sharply as it had in Southeast, but even so. The prime minister of Northeast had assured her that the state nevertheless plans to repay all of its bonds entirely. While the Deputy Chairman of the Supreme Economic Council has always advocated against investing in foreign government bonds, he too had assured the Empress yesterday that there was no reason to doubt the prime minister's words: Northeast would repay its public debt. Why then had the interest rate on Northeast's bonds still increased? Again, the economist had an answer at the ready. 'Your Majesty, a new factor has recently begun to play a role. After your recent new year's address, rumours began to circulate that as Empress you want to put an end to the monetary union of Rice Island with the states South and Northeast. The potential buyers of government bonds take those rumours seriously. They do not judge the probability of dissolution of the union to be very high, but even so… As soon as the union dissolves, an occurrence of a 'soft' default by Northeast can be expected, because the state's new currency will depreciate. That is why the buyers demand a higher interest rate for the government bonds of Northeast than for those of Rice Island— to compensate for this risk.'

The Empress took a moment to consider what the young economist had just said. It corresponded entirely with the complaints expressed to her by the Northeast prime minister at their last meeting, concerning her New Year's address. She recalled his statement that Northeast now had to foot the bill for a 'soft' default, while that option wasn't at all available to Northeast— as long as it was a member state of the currency union. The Empress hesitated to take the young economist into her confidence, but then decided to tell him about the conversation with the prime minister. She described then the prime minister's grave remarks— particularly about her New Year's address. It seems that her speculations regarding the termination of the monetary union had encumbered Northeast with extra interest costs. One more of those rash remarks and the monetary union would dissolve on its own, because Northeast would no longer be willing to carry those costs— had been the prime minister's threat. The prime minister had pressed on to enquire whether the Empress realised who would be the main losers, in such an event. The 'soft' default by Northeast would primarily come at the cost of the farmers on Rice Island, because the price of Northeastern government bonds would come down. If the Empress did not picked her words more carefully and would not help Northeast with the financial problems that had developed on account of her recklessness, then the remote chance of the monetary union dissolving could easily become reality. Economists had always said that the union would come to a halt sooner or later without common government bonds. This was precisely what was happening now, is what the Northeastern prime minister had told the Empress. When the young economist heard this tale, however, he could hardly believe his ears: 'This is blackmail! As Empress of Rice Island, you should never agree to this. We should never support Northeast financially. Northeast must stand on its own two feet!'

In the prelude to the euro's introduction, the interest rate spreads between euro countries decreased sharply because the risk of 'soft' default through depreciation was no longer possible. But this did not happen immediately after the signing of the Maastricht Treaty in 1992. On the contrary, the ratification marked the start of a period of great monetary uncertainty. There was much hesitation on financial markets regarding the political will of the countries involved to defend fixed exchange rates. They anticipated that Margaret Thatcher wouldn't want to defend the exchange rate of the pound sterling by raising interest rates, but instead would opt for depreciation— and they were right. George Soros, by the way, made his fortune at that time by speculating against the pound. The disquiet had to be addressed before the introduction of the euro. This happened in 1995, in Madrid. From that moment on, the financial markets considered the introduction of the euro as a *fait accompli.* Once the exchange rates of the current currencies among euro countries had been set, the road of the 'soft' default was sealed off and the interest rate spreads between euro countries melted away. The interest rate of Germany, the land with the same indestructible reputation as that of Rice Island, became the measure of all things. One currency guaranteed that government bonds would from now on be completely repaid— in hard euros, it seemed at the time. The emergency exit of a 'soft' default was blocked.

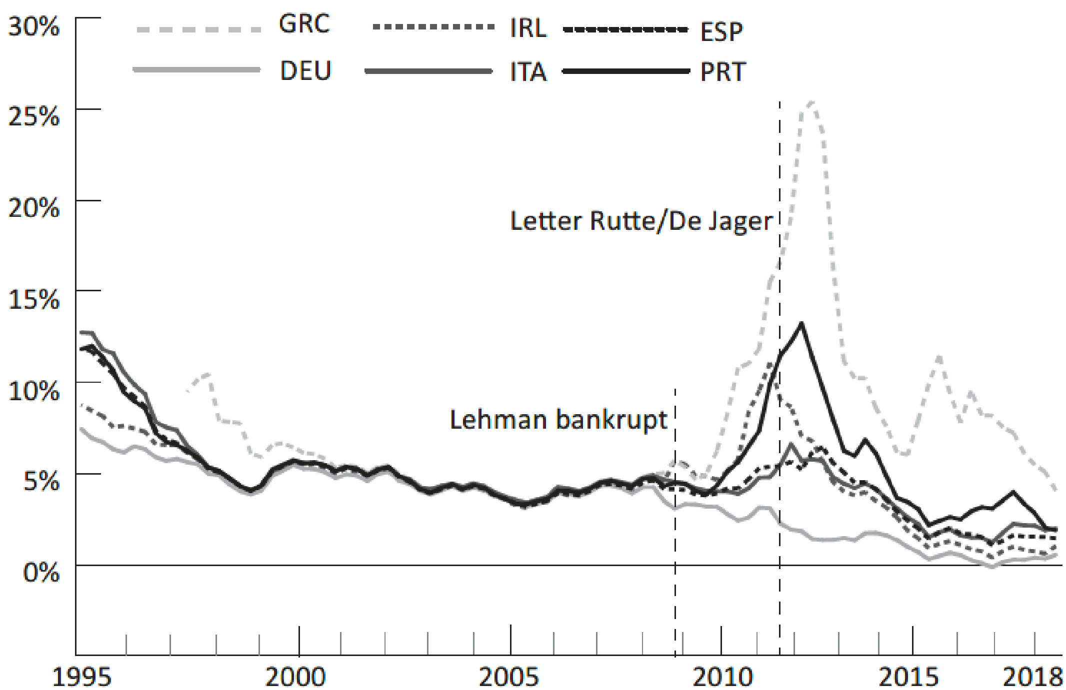


Figure 6.1 Differences in the ten-year government bond yields, which had been diminishing prior to the introduction of the euro, become amplified after the bankruptcy of Lehman

Indeed, so it appeared at the time— but that would change after the demise of Lehman, when interest rate spreads began to slowly creep up once again. At first, these differences remained limited to a few basis points (hundredths of a percent). Around the time that the article by Rutte and De Jager was published, in 2011, the differences increased particularly between France, Italy, Spain and Belgium, on the one hand, and the Netherlands and Germany, on the other. By then, the Greek interest rate was already sky-high— even reaching at one point a high of 30 percent. Ireland and Portugal, too, paid very high rates. But also the interest rates paid by Italy, Spain and even France were on the rise. Italy's financial position was like that of the state of Southeast: the financial markets feared that the country would sooner or later be incapable of repaying its public debt and would have to resort to a 'hard' default. This explains the rise in the interest rate spread. For Spain, this was less obvious. Right after Lehman's fall, when the Netherlands had to support its banks and insurance companies with billions, Spain was even considered an example of sound financial management. That image changed after the collapse of the Spanish housing market. But also after this, Spain's outlook did not look any worse, objectively speaking, than that of the United Kingdom. They only lacked the option of the 'soft' default.

But what about France's interest rate? France resembled more the state of Northeast, which even the Deputy Chairman of the Supreme Economic Council believed would honour its obligations. France was on a better financial footing than Great Britain. But the rumours of a dissolving Eurozone did their work. Wouldn't it be better if the currency of the euro was split, into a *neuro* and a *seuro*? A neuro for the strong Northern-European countries like the Netherlands and Germany, and a seuro for Southern European countries, starting in France and going further south from there. In the Netherlands, too, such theories were popular. Even today they are suggested every once in a while— sometimes even as a desirable outcome. This is remarkable, because a segmentation of the Eurozone would have the same consequences for the Netherlands as an exit from the monetary union with Northeast would have imposed on the farmers on Rice Island: a 'soft' default through depreciation of the seuro. In that case, French government bonds would have lost value from one day to the next. France, Italy and Spain paid a premium for the risk that would not be realised if the euro remained intact. Those countries paid more because of this. Interest rates of Italy, Spain, Belgium and France moved increasingly in parallel. The development of Spanish interest rates during that period was thus no longer determined by problems on the Spanish housing market, but by the common risk faced by Italy, Spain, Belgium and France: the chance that the monetary union would shatter.

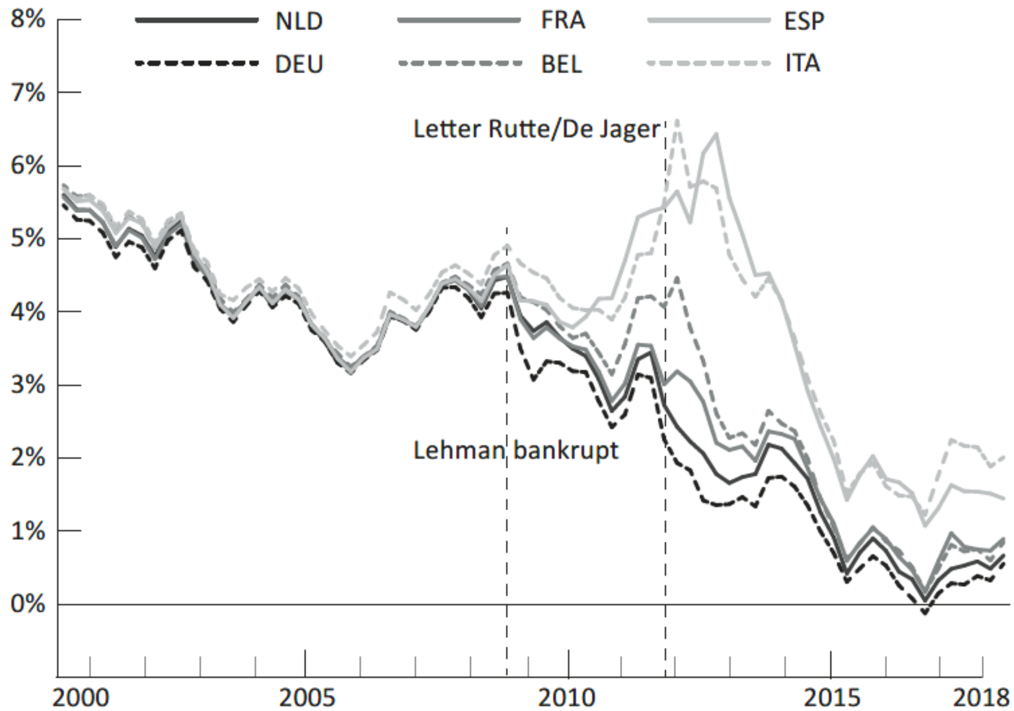


Figure 6.2 Differences in the ten-year government bond yield of member states with a small default risk increased in 2011 and 2012

In France, the frustrations mounted. The road of the 'soft' default had been purposefully sealed off through the euro's introduction. Until 2010, France had been rewarded for this by a low interest rate. But uncertainty about the future of the euro had chased off this advantage. France now had to pay a price for the risk of depreciation— while the emergency exit was blocked unless the euro would unexpectedly collapse. Rutte, by calling into question (as the political leader of a member state) the future of the monetary union, had contributed to this situation. His comments would have led to great vexation in France, just as the Northeastern prime minister had complained to the Empress of Rice Island. Either the credibility of the monetary union had to be restored, or the spiral of continually increasing interest rate spreads would ruin the monetary union.

The latter scenario— the dissolution of the currency union— was a risk that Angela Merkel as chancellor of Germany was not prepared to take. However difficult her relationship with her predecessor Helmut Kohl had been, she too shared the assessment Kohl had made at the negotiations over German unification (and after this, at the Maastricht Treaty in 1992): it was essential that Germany be bound to Europe forever. A revival of the French-German opposition that had led to three bloody wars in the last 150 years had to be prevented at all costs. This fundamental choice would prove decisive in the months that followed. You could question whether the Netherlands was sufficiently aware, during those months, of how invested Berlin was in this.

In the first half of 2012, the tensions reached a peak: France paid in excess of 1 percentage point more interest on its public debt than Germany did; Italy and Spain even paid in excess of 5 percentage points more. As director of CPB at the time, I received regular information from law firms regarding what the legal consequences would be of the euro's dissolution. It was dense reading, difficult for a layperson such as myself to understand. There were times I would simply call the sender with a request for further clarification. This clarification was simple: 'Coen, it says that everyone, except us lawyers, will be in terrible trouble if the Eurozone dissolves. We will become very rich indeed from all the legal procedures that will be filed.'

This turbulent period at the end of 2011 and the start of 2012 is a lesson for the Eurozone. A monetary union is not a product that one, as a country, can try out for a while, only to place it back on the shop shelf if it doesn't suit. A monetary union is the promise to lenders to discontinue devaluations. When that promise is credible, this offers significant benefits to a country. But as soon as distrust hits, there are really only downsides. Then, everyone must keep their promises, in order to restore trust in the union, while in the meantime the reward of a lower interest rate remains elusive. The negotiators of the Maastricht Treaty did, at the time, indeed have good reason to refrain from writing about an exit from the Eurozone. A monetary union does not allow for a noncommittal approach. Any treaty agreements regarding a possible exit would be at odds with this commitment.

The consequences of a financial crisis are never distributed evenly across member states. The country that (by chance or not) is hit more heavily than the average, bears the full brunt: it incurs high costs for the rescue of its financial sector and sees the interest rate rise on its public debt. This rule was confirmed once again for the Eurozone during this crisis. The financial markets made a clear ranking of the risk that a given country would lose access to financial markets. At the start of 2012 (by then, Greece had for some time already lost that access), the ranking was as follows: Portugal, Ireland, Italy, Spain, France, Belgium and the Netherlands— with Germany as anchor point. No country wanted to bike at the head of this particular peloton; headwinds could be strong on the financial markets. As the crisis intensified, the second position proved also to be a bad place, because of the risk that the first cyclist could no longer bear the headwinds, thereby thrusting you from second position full into the wind.

The Netherlands had a comfortable position within this ranking. It was well out of the wind. The interest rate spread with Germany was not comparable to what France, for example, had to pay. Still, I remember that at CPB we carefully monitored the interest rate spread between countries. When in 2012 Geert Wilders walked out of the government formation negotiations over the issue of budget cuts, the Dutch interest rate spread with Germany increased immediately by a few basis points. That same day I received a concerned e-mail from the highest civil servant in the Ministry of Finance: had we seen this? Yes, of course we had seen it; we had been avidly tracking developments in the interest rate for months. Looking back with hindsight, one might wonder whether we weren't overreacting somewhat. The rise in interest rates when Wilder walked out turned out to be no more than a minimal and brief wrinkle in a long downward trend. But hindsight is 20/20, as they say. At that time, all of the policymakers of euro countries kept a sharp eye on their own country's interest rate. Everyone strove to reach safe harbour as quickly as possible by decreasing his fiscal deficit. It was March 2012. The interest rate spread increased rapidly, the euro seemed to be strained to breaking point. The European Council had to find a way out, fast.

The European Council, the highest body in the European Union, is composed of the government leaders of all member states. This is where the most important decisions in Europe are taken. In his book about Europe, Luuk van Middelaar describes the genesis of the council in 1974. The idea came from French president Valéry Giscard d'Estaing. Giscard realized that a proposal to create such a formal body didn't stand a chance; it would look too much like a federation. That's why he arranged an informal get-together that looked nothing like an official meeting. Wouldn't it be useful to meet each other more often in that setting, to synchronize our watches? It would turn out to be a breakthrough in the functioning of the EU. Giving the government leaders of the member states a central role in the governance of the union fortified the cement of that union.

In 2009, the European Council took another step towards maturity. Since the start of the financial crisis, the European Council had been forced to convene with increasing frequency. To reflect the fact that the European Union is a collaboration of countries, the Council had always worked with a rotating presidency. A fixed presidency would make the union look too much like a real government. Due to the dire circumstances, however, the wisdom of this dogma was called into question. The Euro Crisis caused such a range of problems that the rotating presidency became untenable. The permanent presidency provided Europe at once with a real president; sure, this wasn't the official name of the job, but in the press he would increasingly be called thus. And so, the former prime minister of Belgium, Herman van Rompuy, had the honour of becoming the first 'president' of Europe. Van Middelaar became, as speechwriter, his right-hand man.

Under the brand new presidency of Van Rompuy, the European Council debated the approach to be taken to the Euro Crisis. The Stability and Growth Pact had established rules compelling countries to stay within certain limits of government deficit and debt. The government deficit was not allowed to exceed 3 percent and the debt had to stay below 60 percent. If sovereign debt would nevertheless exceed this limit, then the difference with the permitted maximum had to be eliminated within twenty years.

Because the problem lay squarely with financing government debt, it seemed reasonable to seek a solution in the tightening of the rules for sovereign debt and in increasing the sanctions for breaking the rules. Over the years, member states (Germany and France prominently among them) had regularly exceeded the established limits of the Stability and Growth Pact, much to the annoyance of the Dutch. At this point, The Netherlands took the lead in discussions on implementing stricter rules— this time, with Germany's support. At the same time, frustrations were mounting in Italy, Spain and France regarding the high interest rates they were forced to pay over their government debt, partly as a consequence of the rumours in circulation speculating on the euro's imminent demise. These countries therefore demanded that a common currency union be supplemented with an emergency fund that countries could call upon when they abruptly lost access to financial markets. The annoyance felt in the Netherlands and Germany regarding this proposal is similar to the anger expressed by the youngest member of Rice Island's Supreme Economic Council upon hearing the Empress's report of her conversation with the prime minister of Northeast.

It was clear that a compromise would be the only way forward. Such a solution would have to be structured along the lines of the modern banking system outlined earlier— providing, on the one hand, a *lender of last resort* (thus, an emergency fund, as imperfect substitute for common public debt), and on the other hand, prudential supervision from Brussels on the fiscal policy of euro member states (to prevent countries from taking too much risk and calling too quickly on the emergency fund). Italy, Spain and France advocated an emergency fund that was large and generous; the Netherlands and Germany advocated strict supervision.

These were difficult negotiations. At the start of March 2012, the European Council painstakingly reached agreement on the institution of an emergency fund, the European Stability Mechanism (ESM), and a sharpening of the Stability and Growth Pact, in what came to be known as the new 'European Fiscal Compact'. From that time on, a country's fiscal deficit may not exceed an average of one percent of GDP over a longer period. It was the latest of several bizarre twists of fate that in the week after Mark Rutte signed this treaty on behalf of the Netherlands, it became clear that the Netherlands itself would have considerable trouble meeting the demands of the treaty. Rutte was compelled, shortly thereafter, to negotiate with his party's coalition partners CDA and PVV regarding substantial extra budget cuts— negotiations that would lead to the fall of his cabinet.

As has been said, the negotiations in Brussels were based on the conviction that derailed public finances presented the greatest problem for the Eurozone. We might wonder, however, whether that is actually the correct starting point. Of the five great monetary blocs in the world— the Eurozone, the US, China, Japan and the UK— the Eurozone had, in 2017, by far the lowest fiscal deficit: the average deficit of the Eurozone is two percent lower than that of the runner-up on this list, the UK. While it is possible that the average level of the Eurozone member countries serves to hide the significant differences among them, this is not the case. Spain's deficit, the highest of the large countries in the Eurozone, is comparable to that of China; of the large monetary blocs, only Great Britain has a lower deficit. The television images of European Council meetings stretching far into the night, in which heads of state censure each other's fiscal policies, have considerably muddied our perception in this respect.

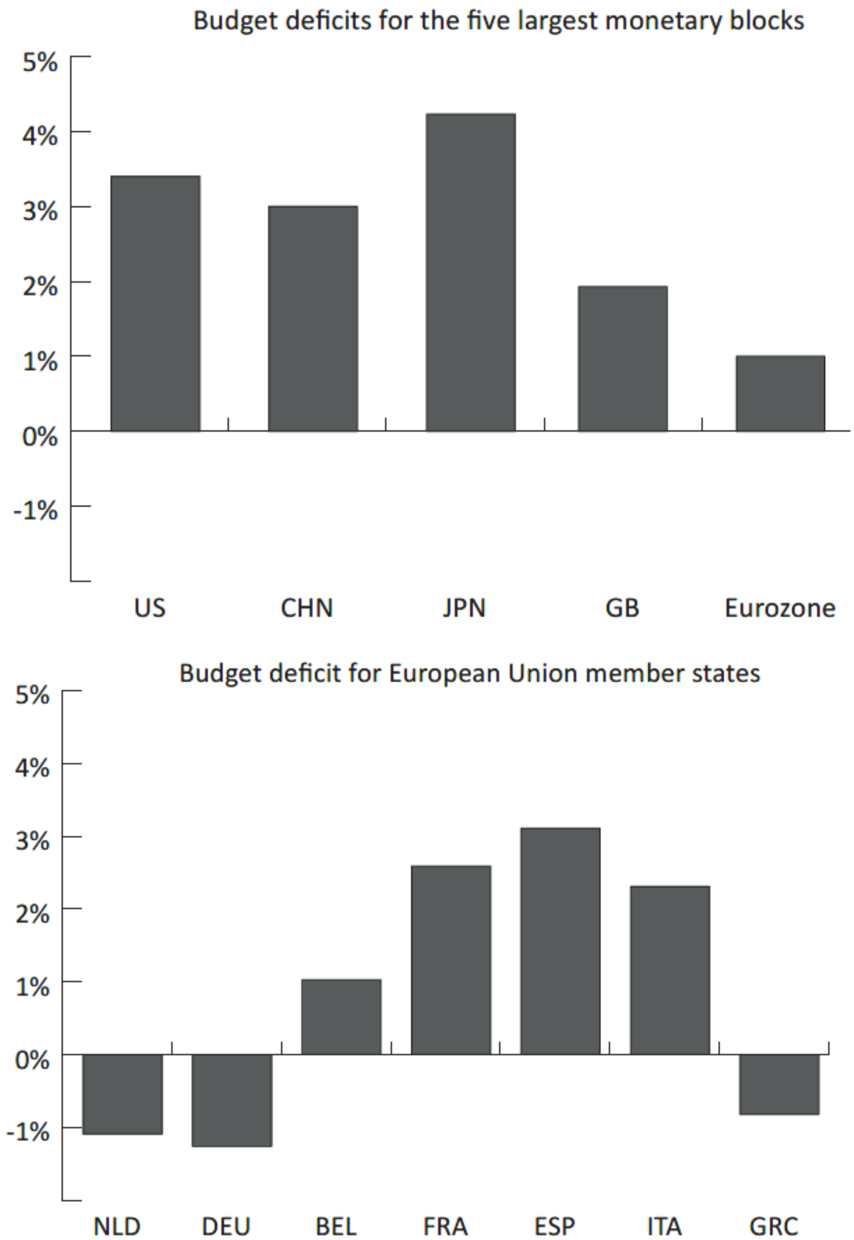


Figure 6.3 The budget deficit of the Eurozone is the smallest of the world's five largest monetary blocs. Moreover, the EU member state with the highest deficit, Spain, has a lower deficit than the US, China and Japan.

Note: the budget deficit is measured as a percentage of GDP in 2017

Upon closer scrutiny, it's a less-surprising outcome than it might at first appear that the public finances of most Euro countries were in relatively good shape. In uncertain times, interest rate spreads between the member states of a monetary union are magnified. Turbulence on the financial markets makes it desirable to avoid the pole position in the peloton. The financial markets could turn against you in an instant. The member states thus each had an interest in keeping out of the wind.

This idea was expressed well in a comment made to me by Ronald Gerritse (in those days, the highest civil servant in the Dutch Ministry of Finance), around 2012: 'Coen, I have now seen in other Euro countries what the societal consequences are of a country losing access to the financial markets. I want to avoid this at all costs.'

The sizeable budgetary cuts that appeared essential at the time to guarantee that the Netherlands kept well out of the wind have inflicted much damage on the country. This was no different in other countries, which may explain why, after the fall of Lehman, the economic recovery in the Eurozone took so long to get underway, compared to the US. All member states simultaneously sought safe harbour through a quick overhaul of public finances, without considering the effects of their actions on the Eurozone's economy as a whole. As the prime minister of Northeast had so eloquently explained to the Empress, this was the consequence of an incomplete monetary union: we share a currency but we do not share the debt.

This 'race to the bottom' on public debt is often seen as an advantage, particularly in the Netherlands: the lower the debt, the better. However, the lessons learned in the Japanese testing-ground and the Iron Law of Double-entry Bookkeeping apply also here: against every claim on future production, there needs to be someone who assumes the obligation to deliver that production. The last generations of those born before the introduction of birth control pills will be taking their pensions in the next twenty years. Those generations, with their well-filled pension piggybanks, are particularly large in Germany, Italy and Spain. In other words, these generations have large claims on future production. Someone must assume the obligation to deliver this production. The experience of the Japanese testing-ground shows us that it is nearly inevitable that the government takes at least part of the obligation upon itself, by way of government debt. The maximum of 60 percent for the sovereign debt allowed in the Stability and Growth Pact is, from this vantage point, more likely to be too tight than too generous. The notion that sovereign debt can also be too low contrasts rather sharply with Dutch convictions on the matter of debt.

Johan Witteveen had two terms as Minister of Finance on behalf of the VVD party in the 1960s and 1970s, before he became president of the IMF in 1973. In 2016, he demonstrated with a simple calculation that the new European Fiscal Compact was not only too strict but also internally inconsistent. To keep the debt-to-GDP ratio constant, that debt must grow at an equal pace with GDP. Nominal GDP (inflation plus real growth) grows by 3 to 4 percent annually, which implies that debt must grow by that percentage as well. The increase of the fiscal debt is by definition equal to the fiscal deficit. At a deficit of an average of 2 percent, the debt-to-GDP ratio will remain constant. According to the European Fiscal Compact, the structural deficit can be a maximum average of 1 percent. In the long term, this will lead to a fiscal debt ratio that is no more than 30 percent. This means that the Eurozone already had the lowest fiscal deficit of the five large monetary blocs. Nevertheless, the Eurozone plans to reduce public debt even further in the coming years. Compare that to the experience of testing-ground Japan. Japan had a great need for government bonds into which to invest its pensions. Demographically speaking, Japan is twenty years ahead of the Eurozone. What has happened there in the last twenty years awaits the Eurozone in the next twenty years. That teaches us one thing: the Eurozone is aiming for a sovereign debt level that is too low.

Witteveen had a second arrow in his sheath. The level of the fiscal deficit fluctuates with the business cycle. During upturns, the deficit-to-GDP ratio can easily be 3 percentage points below average; similarly, during downturns, this ratio can amount to 3 percentage points above average. During a strong recession, a deficit of 5 percent— much higher than the 3 percent norm in the new European Fiscal Compact— is thus quite normal. After the fall of Lehman, the US and Great Britain already had a much higher fiscal deficit. This did not lead to any significant disturbances on financial markets. Both the 1 and the 3 percent norm of the new European Fiscal Compact are overly strict.

During these negotiations, the Netherlands took a strong stance in favour of strict budgetary rules. The question is: why? I can think of four reasons. First, the Netherlands is the country of Colijn and Calvin. This means that the Dutch view debt less as a financial concept than as a mortal sin. In the 1930s, the Netherlands was the last country to abandon the gold standard. Nowhere in the world is the idea more deeply engrained that you should always have something (claims) stored away for a rainy day, and that debts (obligations) are morally reprehensible. The Iron Law of Double-entry Bookkeeping— that there must be an obligation for every claim— does not mesh with Dutch Calvinistic convictions.

Mark Rutte himself indicated the second reason for Dutch inflexibility: our experiences during the deep recession of the 1980s. At that time, the Netherlands used the revenues from its natural gas resources to establish a generous system of work disability insurance. At its peak, the system provided disability insurance to nearly a million people at a time when also almost a million people were unemployed. When natural gas revenues dropped in 1982, the Netherlands was in a financially dire position. Three Lubbers administrations toiled for ten years to get the country back on track. The comparison of the post-Lehman recession with the recession of the eighties is not appropriate, however. In the 2000s, there was no need for a large-scale reform of the social system. In 2012, there were not a million people using disability insurance, and the unions were no longer radicalized as a lingering echo of the 1968 student protests. As has happened more often before, it seems that the general was fighting the battles of the previous war.

The third reason for Dutch rigidity has to do with concerns over Southern Europe. Generous preconditions for fiscal policy would only give the southern member states license to waste money. Fiscal discipline in the Eurozone could be restored only by pushing for stricter standards and enforcing compliance. This political choice led inevitably to austerity measures. And regulations were needed so that all countries could hold each other accountable. Johan Witteveen's simple calculation shows us, however, that the current rules are too strict. Overly strict rules are counterproductive, undermining their own credibility.

Finally, the Dutch took a rigid stance because they viewed the financial markets with some trepidation. This was aptly expressed by Ronald Gerritse: even though the Netherlands was now positioned safely out of the wind, we still needed to ensure that we would never be thrust into the pole position. Although the interest rate spread between the Netherlands and Germany paled in comparison to that of Italy, Spain or even France, the turbulent episode of 2011-2012 demonstrated that this fear is not groundless. Financial markets are unpredictable in times of crisis.

Seen through the eyes of an economist, this is obvious: no one wants to be the last one to buy a country's government bond— and this is why a crisis is always unexpected. But if that is the diagnosis, then the inevitable question remains: why did the Netherlands, even while judging itself to be vulnerable, remain so stubbornly resolved to ensure that access to the *lender of last resort*, the ESM emergency fund, was as restrictive as possible? Wouldn't a more generous emergency fund have been in the Dutch interests as well, so that our country wouldn't have had to cut the budget so stringently, at such high cost to society?

In the end, the European Council reached an agreement in March of 2012 regarding budgetary rules which will in due course— as can easily be calculated—bring fiscal debt to a level that is too low. The same agreement also instituted an emergency fund for countries that had lost access to financial markets— a fund that was bound by strict rules. The upward trend in interest rate spreads among Euro countries had been brought to a standstill for the moment, and only the future would tell if the measures would suffice also in the long run. That uncertainty was resolved disconcertingly soon. In the course of July, interest rate spreads between member states shot up once again. The European Council's turn was over; a new player entered the game.

7 Whatever it takes

Within our mandate… Within our mandate, the ECB is ready to do whatever it takes to preserve the euro… And believe me, it will be enough.

- Mario Draghi, Global Investment Conference, London, July 26, 2012

What makes a good speech? Why do we still talk about the ‘I Have a Dream’ speech made in 1963 by Martin Luther King, in front of the Lincoln Memorial in Washington DC? And why does everyone remember the crucial sentence from one speech made by President John F. Kennedy in West Berlin: ‘Ich bin ein Berliner’? And why did it take just one speech by an unknown black politician from Chicago at the 2004 Democratic National Convention make him a serious candidate for the presidency: ‘There is not a Black America and a White America and Latino America and Asian America— There’s the United States of America’? What these three examples have in common are two things. First, each has that one iconic sentence. Second, all three speeches provide hope: for a future without extreme social division, for the reunification of a divided city and for the bridging of social rifts in a divided America.

Does Mario Draghi’s speech in London on July 26, 2012 belong in this list of illustrious speeches? That might seem a bridge too far— first of all, because of the audience and the topic of the speech: an assembly of investors listening to a technical discourse about the fragmentation of the Eurozone, counterparty risk for bonds from euro member states, and the ECB’s mandate. The rhetoric suitable for such a gathering is different than what is suitable for a large crowd assembled expectantly before the Lincoln Memorial. Second, not all those present understood that they were witnessing a historic event. But there was that *one sentence*: ‘The ECB is ready to do whatever it takes to preserve the euro.’ This provided solid hope: the euro will survive.

The Eurozone was in bad shape at that moment. The March 2012 agreement in Brussels had held up for only three months. The solution agreed upon by the European Council had failed to reassure financial markets. The self-reinforcing spiral of increasing interest rate spreads between euro states, and with it the growing chance that the euro would disintegrate, had begun again. With the new European Fiscal Compact, the European Council had sought the solution unduly in a further decline of fiscal deficits and with scant attention given to mutual insurance. It is worth listening to Draghi’s speech once again, with the knowledge we have today. It takes him a scant ten minutes to sketch all of the problems— and the ECB was ready to deal with them all, ‘within our mandate… whatever it takes’.

If words were ever worth their weight in gold, these were the words. The financial markets took Draghi at his word. In the months following the speech, the interest rate differences between euro countries would vanish. Even so, the policy carried out by the ECB since then has still been very controversial, particularly in the Netherlands and Germany. Scathing comments posted on the Internet include heavy disqualifications of Draghi: hypocrite, delusional, kamikaze-pilot, stealing from savings depositors. In personal conversations I have had, it is no different— even, or perhaps especially, speaking with people in the financial sector. The outrage is fairly universal in the Netherlands. What explains why Dutch people are so offended by the European Central Bank?

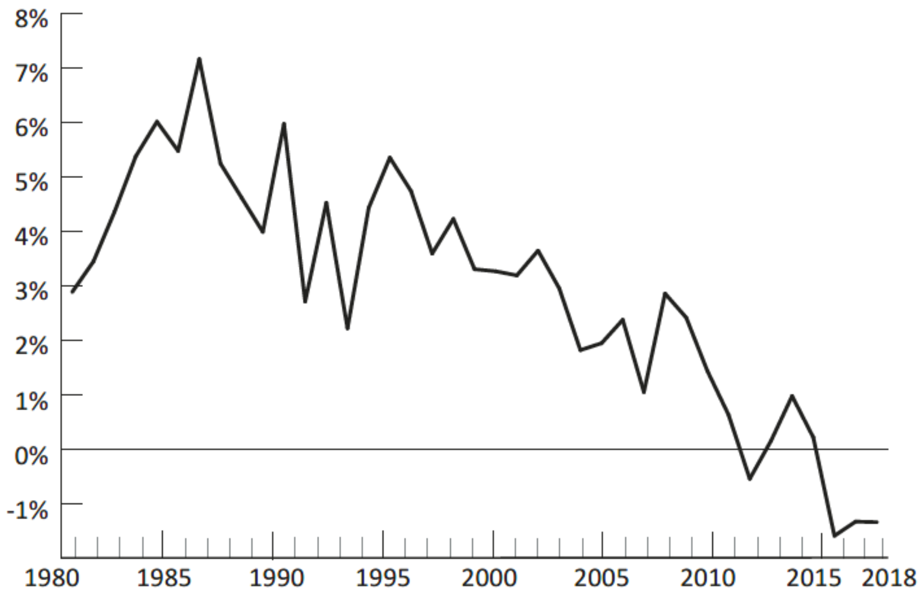


Figure 7.1 The German real interest rate has decreased steadily since 1980.

Note: the real interest rate has been computed as the ten-year German Bund rate, subtracting inflation

The key issue for understanding the ECB's policy— and that of central banks elsewhere in the world— is the downward trend worldwide of the real interest rate since 1980. An investor who receives ten percent interest on her savings while inflation is also at ten percent, make no return in real terms. If that same person receives two percent interest while inflation remains at zero, then she makes a real return of two percent, although the nominal interest rate is much lower. Of importance, from an economic perspective, is the real interest rate: the nominal interest rate minus expected inflation. And so, the big question is: why has the real interest rate decreased so sharply in the last thirty years? And what are the economic consequences?

The Empress of Rice Island called another meeting of the Supreme Economic Council. The excess supply of rice is still an issue for Rice Island. Fortunately, she had disregarded the advice to issue additional government bonds and to buy up the rice deficits with the proceeds. Instead, she had taken the advice of the Council's youngest member. A part of the rice harvest was exported to the mainland, so that farmers could set aside the proceeds of the export for their retirement. Aside from the problems caused by the financial crisis in West (which had led to a drop in the price of the foreign government bonds that the farmers had bought at the advice of the youngest council member), a new problem had arisen. During the latest meeting of the annual Summit of World Leaders, the mainland heads-of-state had complained loudly about the unfair competition they faced from the farmers of Rice Island. The leaders reproached the Empress for extending improper state support to the exporting farmers. She had been compelled to promise that she would limit the rice exports.

But this meant that Rice Island would have to deal once again with the same problem: an excess supply of rice. Farmers were now compelled to sell their rice for rock-bottom prices and bring their revenues to the bank. The bank had no idea what to do with all these deposits. There were hardly any reliable farmers to be found who still needed credit to buy rice for sowing. There was more than enough rice to sow. The only farmers who still wanted credit came from outlying areas— and it was far from certain whether they would ever be able to repay their loans. Lacking alternatives, the banks therefore brought their money to the Central Bank. The Central Bank had not only lowered interest rates to zero— it had even charged a custody fee. This had never been seen before. Farmers were furious. They felt that the bankers had made the problems worse. The custody fee amounted to theft by the Central Banker, so it was said. It was essential that the interest rate return to its 'natural' level as soon as possible. The newspapers caricatured the Central Banker as a scurrilous pirate. The Central Bank should always be a 'beacon of trust' on Rice Island— this is what the Supreme Economic Council had always told the queen. Instead, the Central Bank had now become a bone of contention. This had to be dealt with as quickly as possible.

To make matters worse, the Central Banker had shared his concerns with the Empress last week. She had to admit (to herself) that he didn't look anything like the pirate in the newspaper cartoons— perhaps a little arrogant, but one could feel the weight of his experience. He had told her that people were saving so much these days that the current rice harvest lay unused. This achieved nothing. He had wanted to increase the custody fee even further, to stimulate farmers to save less. 'You should instead abolish that hare-brained custody fee!' the Empress had responded, distraught. 'We should resume rewarding those who save!'

A protracted silence had then fallen. 'You will be speaking with the Supreme Economic Council next week?' the Central Banker had casually enquired, as he took his leave.

The Empress had taken her place across from the Supreme Council members. 'This extreme interest rate policy must stop; the interest rate must return to its natural level,' the Empress posited, to kick off the discussion.

The Deputy Chairman cautiously replied, 'I fear that it isn't the interest rates that are extreme, but the circumstances. The natural level of the real interest rate is not constant over time. That it *should be so*, is an understandable, but unfortunately incorrect, popular belief. Just like all other prices in a market economy, the real interest rate is determined by the forces of supply and demand; in the case of the interest rate, we are speaking of the forces of supply and demand on capital markets. The 'natural level' of the real interest rate is that level at which there is no rice surplus. As long as so many farmers save for their pension, there is high supply on the capital market and the interest rate will remain low. By chastising the Central Banker about the low interest rate, the bankers are only instilling false hope among farmers. As Empress, you could play a role by urging the bankers to be more reasonable. You could explain to the people that the interest rate will remain low for years to come. As long as the large generation keeps setting rice aside for its retirement, the banks will not pay interest.'

This answer momentarily stunned the Empress. The Deputy Chairman took advantage of the opportunity. 'Despite the custody fee, the banks still take an excess of deposits to the Central Bank. The Central Banker informed me that you nevertheless were of the opinion that the custody fee should be abolished as soon as possible. In all honesty, I doubt the wisdom of this. The custody fee should actually be raised even further, to reduce the excess supply of rice. This, unfortunately, is not possible, because farmers will cease to bring their money to the bank, and instead will store it in old socks. That leaves us even farther from shore. Aside from the custody fee, the nominal interest rate cannot drop beneath the bottom limit of zero: the 'Zero Lower Bound'. If there was more inflation, then that lower bound would pose no problem. The real interest rate would then be reduced by the inflation. But, due to the excess supply of rice, rice prices are falling rather than rising. I am consulting with the Central Banker about how best to solve this problem. Simply lowering the interest rate or maintaining the custody fee will not suffice. I fear that unorthodox measures are inevitable. We are giving this due consideration.'

The Empress could see that this was bad news; 'unorthodox measures' sounded troubling. The problems that the Empress is being briefed about, are precisely the problems that Japan has met with since 1990 and that reared their head in Europe from 2010 onwards: deflation rather than inflation, a near-zero nominal interest rate and the Central Bank that even had to charge a custody fee to avoid being flooded with excess deposits. What forces of supply and demand caused the real interest rate to drop so sharply since 1980? On the demand-side, technological advances led to cheaper capital goods. Because of this, investments required less capital. More important than demand is supply, however. Since 1990, the Chinese population has saved a great deal of its money— the 'savings glut' discussed earlier. We also discussed earlier the aging of the Japanese population. That same phenomenon will manifest itself in the next twenty years in Europe. That is why the real interest rate was under pressure and the nominal interest rate was approaching the Zero Lower Bound.

During my college days, the Zero Lower Bound was presented in macro-economic lectures as a historical rarity—of importance only during the Great Depression of the 1930s. It's hardly a coincidence that Paul Krugman entitled his 1998 article about Japanese deflation: *It's baaack.* The historical rarity had returned. It had started a second life in Japan. Since the demise of Lehman in 2008, it had become a global phenomenon. To be able to follow this discussion, a short lecture on macro-economics is in order.

The simplest IS-LM model that was taught years ago in secondary schools and universities included three curves: the IS- and LM curves (hence, the name of the model) and the Phillips curve. Between 1970 and 2000, in response to the criticism of Milton Friedman, heated discussions of this model took place among all manner of economists— including monetarists and Keynesians. The old model was overhauled; the new model still includes the same three relationships, but under new names. The IS curve is now the Euler equation, which describes the real interest rate at which demand and supply of capital are in equilibrium. The Phillips curve is now known as the New-Keynesian Phillips Curve using Calvo Pricing; this curve depicts production capacity: when demand is greater than production capacity, wages and prices will rise and inflation will increase. These two relations play a secondary role, however, in the discussion surrounding monetary policy. The essence of the discussion is captured by the third relation: the Taylor rule (the old LM curve), named after the American economist John Taylor, who introduced the model in 1993.

The Taylor rule describes the interest rate policy of the Central Bank. Markets work fairly well, but not setting the nominal interest rate. When demand is greater than production capacity, inflation increases, causing the real interest rate to drop (since it is equal to nominal interest minus inflation), with the consequence that saving becomes less attractive and demand increases even further. The other way around, when demand is too low, inflation drop, causing the real interest rate to rise and demand to increase even further. It is therefore the task of the Central Bank to manipulate the nominal interest rate in such a way that inflation remains as stable as possible. This is why the Central Bank sets an inflation target. When inflation is above target, the Central Bank will increase the interest rate according to the Taylor rule. This will cause saving to become more attractive, demand to fall and inflation to return to target. The opposite is also true: when inflation dips below target, the Central Bank lowers the interest rate, causing saving to become less attractive and demand to increase. This causes inflation to rise to the desired inflation target.

As the deputy chair of the Supreme Economic Council had explained to the Empress, the natural interest rate is actually the real interest rate when supply and demand on the capital market are in equilibrium. The Taylor rule provides an alternative definition of the natural interest rate— a definition that is essentially the same but is more convenient for Central Banks: the natural interest rate is the rate at which inflation is stable and on target.

The predecessor of the Taylor rule, the LM curve, was still based on the quantity theory of money: the quantity of money in circulation was directly linked to nominal demand. The Central Bank could manipulate nominal demand by increasing or decreasing the quantity of money in circulation.

When the Central Bank allowed the nominal demand to grow above production capacity, production didn't increase but prices did— causing inflation. The role of the money supply was always deeply problematic— on the one hand because the link between money supply and nominal demand was anything but stable, and on the other hand because money supply is not determined by the Central Bank, but by bank lending. Whenever a bank gives a company a loan, the money supply increases. The Central Bank does not have tight control over bank credit.

The theoretical problems with the LM curve had huge practical consequences around 1980. When Margaret Thatcher became prime minister of Great Britain in 1979, she was determined to end the wage-price spiral: unions demanded high wages that employers could afford to pay only by incorporating the costs in the prices of their products— which led to unions making even higher wage demands the following year. With the LM curve in mind, Thatcher wanted to use the money supply to limit nominal demand, to force prices to remain stable and not rise. The idea was that the Bank of England would raise interest rates to adjust the money supply. While the latter turned out to be a failure (in other words, the money supply was not tightly linked with nominal demand), the underlying purpose of lower inflation was reached: the rise in interest rates led to unemployment, causing unions to moderate their wage demands, which in turn caused inflation to return to a manageable level. The high inflation of the 1970s was swiftly a thing of the past— if only because unions realised that the Bank of England would respond to high wage demands with strong increases of the interest rate, which would incur job losses among union members. John Taylor provided a theoretical underpinning for this experiential knowledge in 1993. The money supply was left out of the model. Instead, the model described a direct relationship between the Central Bank's official interest rate and nominal demand. Later, after 2000, Michael Woodford developed a monetary theory in which money supply no longer plays a role. Many modern macro models no longer feature money supply— often out of practical considerations: it isn't relevant for the outcome of the analysis. Not all analysts have internalized this development fully, as we will see.

One question remains to be answered: what is the appropriate inflation target in the Taylor rule of the Central Bank? The answer to this question is surprising: it actually doesn't matter. An economy can function adequately with pretty much any inflation target— provided the Central Bank is clear about what that target is. After all, if wages, prices and the nominal interest rate all rise by the same rate of inflation, there is no change in real wages or prices, or the real interest rate. The ECB has opted for an inflation target of 2 percent, or just under. It could just as well have been 4 percent.

Does the ECB's inflation target truly matter so little for the economy? To be fair, there are two obvious preconditions: the inflation target can be neither too high nor too low. What is the danger of too high a target? The economist Robert Barro has researched this extensively. Consider the hyperinflation in Zimbabwe under Robert Mugabe. Too high inflation undermines the credibility that the Central Bank will keep inflation stable in the years to come: when inflation is at 20 percent this year, why wouldn't it be at 30 percent next year? In such a case, uncertainty about future inflation wreaks great economic damage. Barro's research shows, however, that this problem becomes pertinent when inflation rises above 10 percent. The Eurozone is far from that boundary— and will remain there because the ECB will apply the Taylor rule: in the event that inflation rises above 2 percent, the ECB will raise the interest rate, so that inflation drops again.

The danger of an inflation target that is too low has been more important to the Eurozone of late. This is the problem that the Empress discussed with the Deputy Chairman of the Supreme Economic Council: the risk that the ECB would run up against the 'Zero Lower Bound': the nominal interest rate has dropped to zero while the inflation is still below the inflation target. According to the Taylor rule, the Central Bank should decrease the interest rate to stimulate inflation, but the Zero Lower Bound presents an insurmountable hurdle. The real interest rate will get stuck at a level that is too high. There is too much saving and too little demand, putting the inflation under increased pressure and exacerbating the problem.

This is the problem that the Supreme Economic Council tried to explain to the Empress. Since the Great Recession of 2009, central bankers from all over the world, just like the Central Banker of Rice Island, have attempted to find a solution to this problem: Ben Bernanke and later Janet Yellen of the American FED, Shinzo Abe as prime minister of Japan (the Abenomics man), Mark Carney of the Bank of England and finally, Mario Draghi as president of the ECB. The reduction of the nominal interest rate to zero that was implemented by the ECB under the leadership of Mario Draghi is nothing other than an application of macro-economic orthodoxy as articulated in the Taylor rule. The experiences of testing-ground Japan, a country with demographic circumstances similar to those awaiting the Eurozone in the next twenty years, suggest that the nominal interest rate will remain close to zero for years to come. As soon as the Central Bank reaches the lower bound of zero, the Taylor rule will no longer work, simply because the Central Bank can no longer reduce the interest rate. This is the moment when central bankers need to start thinking about unorthodox measures, such as having the Central Bank buy up government bonds.

While macro-economists the world over were deeply worried about the risk of deflation, the Netherlands was in a state of denial. In the spring of 2011, The Dutch Central Bank (DNB) wrote in its annual report for 2010: 'In any case, it would seem that the spectre of deflation has made way for the danger of rising inflation.' In reality, the ECB would have to mobilize everything in the coming years to prevent deflation. A year later, members of the Fiscal Policy Advisory Group would discuss the scope and scale of the budget cuts that needed to be implemented in the next cabinet period. The DNB advocated for higher budget cuts because the interest rate would be rising and the interest expenses of the government would only increase. In reality, we have only seen declines in the interest rate since 2012. To assist in the government formation negotiations, CPB estimated in 2016 that the ten-year interest rate would increase by 1.5 percent points by 2021; 2021 is still far away, so a lot can happen, but the ten-year interest rate has hardly risen since 2016. Nonetheless, Dutch newspapers regularly feature articles about the expected rise in the interest rate.

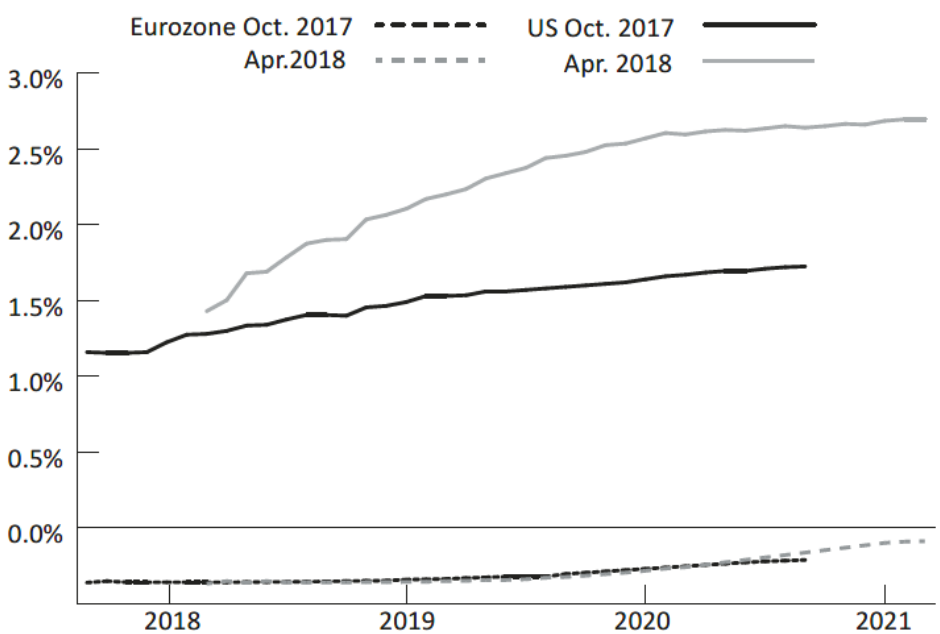


Figure 7.2 The market expected the policy rate to be much lower for the Eurozone than for the US, and to remain much lower for the years to come. While these expectations did not change between October 2017 and April 2018 for the Eurozone, they were revised upward for the US, in the same period.

Is this really going to happen? Figure 7.2 depicts the market expectations of the official interest rate for the coming years, as of October 2017 and April 2018. Market expectations can be deduced very precisely from the prices of the options contracts used by market players to insure themselves against unexpected shocks in the official rate. For the United States, the market did indeed expect a rise in the interest rate. In addition, the market expectation between October 2017 and April 2018 was adjusted sharply upwards. For the US, the era of low interest rates does indeed appear to have passed. For the Eurozone, the markets expected that the interest rate would remain essentially stable, at just under zero. For the past half year, the expectations of the market have proved to be completely correct: the April 2018 expectation was exactly equal to the expectations voiced half a year ago. So, what then is driving Dutch opinions on this matter?

After the Deputy Chair's confession regarding the unorthodox methods that the Central Banker had discussed with him, the Empress took a moment to formulate her response. She could not let the meeting end without knowing more about the 'unorthodox methods' that the Deputy Chair and the Central Banker had discussed with each other.

'All right, you are aware that the Central Bank can only control the interest rate for deposits, because it has the tools to alter these daily,' the Deputy Chairman explained. 'In the case of government bonds, the interest rate is fixed for a longer period of time. That gives you certainty regarding the future interest rate that you will have to pay over the government bonds. For this you pay an insurance premium of sorts: the interest rate on government bonds is higher than that on deposits. The rate on deposits cannot be lowered any further because of the Zero Lower Bound, but the rate on government bonds still has some room to decline. This is what the Central Banker wants to do: he wants to buy up government bonds, in order to lower the interest rate on these bonds.'

The Empress regarded the Deputy Chairman with a look of surprise. 'But we are talking about billions of euros here. How can the Central Banker afford this?'

The Deputy Chairman has his answer at the ready. 'By creating new deposits. This is something the Central Bank can always do.'

This was incredible. Was the Deputy Chair really suggesting that they turn on the printing press? Such a course of action would lead to hyperinflation, is what she had always been told. How could he think of something so extraordinary? Warily, the Deputy Chair tried to reassure her. 'In doing this, the Central Banker will not be 'turning on the printing press'. That would be the case if he had followed the proposal of the economist Willem Buiter, which the newspapers had been writing about so much: helicopter money. Buiter had proposed giving every citizen 1000 euros, for free. The Central Banker's proposal is structured differently. Farmers want to save for their pensions. As you know, these are claims to future rice production. At present, the farmers own government bonds. The Central Bank will buy those claims in exchange for a different type of claim: deposits with a short maturity. In other words, the Central Bank doesn't give farmers the extra money for free. The Central Bank merely exchanges one claim for another. This costs the Bank nothing. The only thing that the Central Bank achieves through this is a decrease in the interest rate— and this is of the most urgent importance.'

The Empress was not convinced. 'How will the Central Bank ever get rid of these government bonds? They will hang over our heads like a sword. And all those deposits will also remain in circulation, just floating around.'

The Deputy Chair began to feel slightly impatient. He knew from experience, however, that only a well-considered reply would help. 'The Central Bank will await the moment that you repay the government bonds. This you will do with the deposits. The deposits and the bonds will then simply cancel each other out. Eventually, the deposits will disappear again. Buying up government bonds is merely a way for the Central Bank to lower the interest rate just a little bit more. It won't cost a penny. And you benefit: you will have to pay less interest on your bonds.'

The Deputy Chair's words fall wide of their mark. Rather than reassuring the Empress, they do the opposite. A great many people had warned her recently about the outlandish plans of the Central Banker. Those warnings could not all be nonsense. To keep the conversation going, however, she parries, 'I don't quite follow you. You keep saying that the interest rate needs to decrease because there is too little inflation. What do you mean, too little inflation? The prices of rice fields are rising beyond all measure, entirely as a consequence of the low interest rate that has made credit so cheap. The young farmers are protesting loudly over this. They cannot afford to start their own farms because of the high price of rice fields. They see their elders living in luxury from the sales of their rice fields, while they themselves have to persevere in harvesting rice they cannot get rid of. If one takes into account the price of the rice fields when calculating the inflation, there is no inflation problem at all.'

The Deputy Chairman again responded with the utmost circumspection. 'Cause and effect are exactly reversed in my mind. Rice Island still has an excessive supply of rice. Working farmers want to save for their retirement. They have to place their savings somewhere. The banks don't want any more deposits because the Central Bank is charging a custody fee. So the farmers invest all their money in the purchase of rice fields. The ample availability of savings keeps the interest rate down and yet drives up the prices of rice fields. This does indeed serve the interests of the retired farmers. When they retire they sell their rice fields. The high prices enable them to live luxuriously. But there is little alternative. Someone has to demand that excess supply of rice.'

The Empress cannot believe her ears: the solution to the excess of rice is a free-for-all for the pensioners? She has never heard of such a thing. The Deputy Chairman, however, continues unperturbedly. 'The Central Banker's interest rate policy isn't made to control the prices of the rice fields but to ensure that there is no excess supply of rice wasting away somewhere. This is why the Central Banker is forced to look only at rice prices and not at the prices the fields are fetching.'

The Empress allowed a moment of silence. The Deputy Chair sensed that now was the time to press on. 'Your Majesty, you believe that it is unjust if the rice surplus only benefits rich retirees, and not working farmers? If you will permit me, I would like, in this vein, to return to the idea of issuing additional government bonds. I know that on earlier occasions you have strongly resisted this policy. I understand your objections, but this is the only way to increase the interest rate, curb the prices of rice fields and allow more people to benefit from the rice surplus than the rich retirees alone. The pension savings need to be invested somewhere. Government bonds are very well-suited to this, because you as Empress guarantee their repayment. The sale of government bonds yields a lot of revenues for you, so that you can buy up the rice surplus and use it to support the working farmers. If you choose not to issue government bonds, then they won't be available for farmers to buy. Then the farmers will continue to invest their money in rice fields, since this is their only alternative. The prices of the fields will remain high. Those who benefit, then, will not be the workers, but the retirees. The choice is yours.'

The Empress regarded the Deputy Chairman with a troubled look. During their last meeting she had told him clearly what she thought of this idea. She hadn't expected him to dare to mention it again. 'I have already made it clear that I do not want this, and I do not want you to keep coming back to it. You are only using this proposal to avoid discussing the Central Banker's policy.' As she said this, she saw the Deputy Chairman's face tighten. This startled her, as she had never before seen such a reaction.

The Deputy Chairman then threw caution to the wind and gave her a penetrating look. 'Majesty, you are the highest authority, but you cannot change reality to suit your wishes. The excess saving must be invested somewhere. At the most recent World Leaders Summit you had to promise that we would export less rice to the mainland. This leaves two options. Either you issue additional government bonds, so farmers have something to invest their pension savings in, or you choose not to. In that case, the farmers won't be able to buy government bonds and they will have to find another destination for their savings. Then there will be more supply than demand on the capital market, causing the natural interest rate, which balances supply and demand, to remain low. The Central Bank will therefore be forced to keep the interest rate compensation it pays to banks low, in order to discourage them from parking their deposits at the Central Bank. This will be only partially successful, and so farmers will invest their savings in the purchase of rice fields. Rice field prices will then increase even further. These, Your Majesty, are the only two flavors on offer. If you do not issue additional government bonds, the interest rate will remain low. By resisting this measure, you are demanding the impossible and thereby undermining trust in the Central Banker. In your position, that would be irresponsible.

When in 2015 and 2016 the ECB lowered the interest rate to nil percent and commenced buying up government bonds (also known as 'Quantitative Easing'), it was late to the game. The FED had been doing this since the end of 2008, immediately after the Lehman bankruptcy. As was discussed earlier, the United States has been much more successful in combatting the consequences of the financial crisis than the Eurozone has been. Even so, the FED's policy had been controversial from the beginning, also in the United States. At the end of 2010, several economists, among them Harvard historian Niall Ferguson, wrote the following in an open letter to Ben Bernanke in *The Wall Street Journal*: "We believe the Federal Reserve's large-scale asset purchase plan (so-called "quantitative easing") should be reconsidered and discontinued." Those who signed the letter were concerned that the policy would lead to hyperinflation, leaving no way out of the asset purchase plan once inflation increased. It is one of the paradoxes of history that John Taylor was among the signatories— for his own Taylor rule suggests a simple policy response of increasing the interest rate when expected inflation is on the rise. This can be done simply by selling a part of the purchased bonds again. Like the Empress of Rice Island, Niall Ferguson had argued elsewhere that the FED should have taken account of price rises in assets such as stocks and houses, when it calculated the inflation figures. To read Ferguson's critique, one gets the impression that he lacks a clear understanding of the differences between the Central Bank buying up government bonds and the 'helicopter money', as proposed by Willem Buiter. In the same vein, many Dutch newspapers often refer to the ECB's policy as 'turning on the printing press'. As the Deputy Chair of the Supreme Economic Council had earlier explained to the empress, this is an incorrect assessment. It would be correct only if the ECB proceeded to hand out helicopter money.

In light of the Zero Lower Bound, had there been an alternative to the policy of lowering the interest rate to zero and buying up government bonds? Figure 7.2 shows that there indeed had been an alternative— albeit one that might not have been attractive in the eyes of many. In April 2018, the expectation for the Eurozone was that the official interest rate would remain essentially stable for the next three years. More importantly, despite the commotion about the termination of the buy-back policy, market expectations have not changed in the past year. The controversy apparently doesn't interest the financial markets. The ECB seems to be a paragon of predictability. For the United States, the picture is different. Between October 2017 and April 2018, the market expectation for the official interest rate in 2020 was adjusted upwards by a full percentage point. Why has this happened? The answer bears the name of Donald Trump: his policy is increasing US government debt by hundreds of billions of dollars, thereby increasing the demand for capital and driving the natural interest rate inexorably upwards. A year ago, the markets wanted to first see it before they could believe it. Now that they have indeed seen that it really can happen, the financial markets expect that the interest rate will increase further. This is what complicates matters for Klaas Knot as president of DNB, and the Netherlands, more generally, because they are advocating simultaneously a lower level of government debt and an increase in the interest rate. The Deputy Chairman of the Supreme Economic Council would have given him a *penetrating look*.

The ECB's late response to the financial crisis and to the threat of deflation, compared with the other Central Banks, had everything to do with the complicated structure of the Eurozone. The mandate of the ECB had been limited in the Maastricht Treaty, due to the advocacy of the Netherlands and Germany, in order to prevent individual member states from financing their government debt via the ECB. The Maastricht Treaty therefore forbade the ECB to buy up government bonds of member states directly. Moreover, the ECB had an unequivocal inflation target at or slightly under 2 percent. This target had functioned adequately in normal circumstances and the ECB had built up a good reputation that it could meet this target. The ECB had thus proven itself a reliable Central Bank. Only the increases in the interest rate at the start of 2011, under the chairmanship of Trichet, proved later to be misguided: the Eurozone economy was in a recession and there were no indications that inflation would pick up. On the contrary, in fact, there was widespread fear of a Japanese scenario with deflation. When the nominal interest rate was heading towards zero, however, the ECB ran up against the Zero Lower Bound and the mandate became a straightjacket.

It wasn't just the Zero Lower Bound, however, that gave the ECB cause for concern. As was discussed earlier, in the first half of 2012 the interest rate differences between the euro countries were mounting. This was partly caused by political uncertainty about the durability of the Eurozone. The financial markets feared the occurrence of 'soft defaults' after the disintegration of the euro into different national currencies. Draghi made reference to this in his famous 'whatever it takes' speech, when he spoke of the denomination risk of the member state government bonds: the fear that they would be repaid in another currency than the hard euro. This uncertainty worked as a self-enforcing spiral: higher interest rate differences made continuing with the euro more and more difficult for affected nations, thus increasing the chance of the monetary union's disintegration. The decision taken by the European Council in March 2012 had put too much trust in sharpening the norms for fiscal deficits and government debt, and left too little space for *the lender of last resort*. As Draghi had said in his speech, the ECB was determined to do something about this: 'Within our mandate, the ECB is ready to do whatever it takes…" The buying up of government bonds, as the FED had done, was almost guaranteed to deal with this. But was it 'within our mandate'? By purchasing the bonds not directly from member states at the moment of their issue, but on the capital market— second-hand, if you will— the purchasing plan was in any case not at odds with the *letter* of the Maastricht Treaty. But was it also consistent with the *spirit* of Maastricht? This matter promised to provide material for endless legal disputes and heated political arguments— and in that it succeeded.

Despite the strong vocal opposition of German Bundesbank president Jens Weidmann to the EU's bond-buying plan, the programme commenced in 2015. It is almost certain that Chancellor Angela Merkel had given her direct or indirect support for this. Without her support, Draghi's famous 'Whatever it takes' speech would have been undone by a more famous speech by Merkel, which might have sounded something like,*'Deutschland wird niemals akzeptieren, dass seine Souveränität durch Finanzabenteurer gefährdet wird…'* Because, in the end, the politicians— and not the Central Bankers— are the ones pulling the strings.

A good democracy, however, is characterised by countless checks and balances— and these were in ample supply in Germany, in the wake of the harrowing period of 1933-1945. A number of German professors argued that the ECB had stepped beyond its mandate with its buy-up policy. They had asked the German constitutional court, the *Bundesverfassungsgericht,* to make a ruling on this. Over two years after the start of the buy-up policy, the court reached a verdict. The ruling was a miracle of diplomacy. The court voiced its doubts as to whether the programme was within the mandate, and then passed the matter along to the European Court of Justice in Luxemburg, while retaining the right to return to the matter at a later stage. The boundaries had clearly been sketched, but the court judged the euro's preservation to be so important that they deemed 'a shot across the bow' to suffice. Sighs of relief were heard in two places in Germany that day: in Frankfurt and in Berlin.

Looking back now, ten years later, we can say this about the euro: shortly after its introduction, the euro was confronted with the gravest financial crisis since the Great Depression of the 1930s. Given these extreme circumstances, would political support for the euro project in the most important member states remain firm? In other words, would the member states prove willing to accede those powers to Brussels and Frankfurt that were minimally necessary to keep the monetary union intact? The response to this question that was given at the March 2012 meeting of the European Council had been wavering and insufficient. Later, in the autumn, Mario Draghi (and Angela Merkel) put forward an answer that was both firm and satisfactory. Without this response, we wouldn't have had an economic recovery in the Eurozone— nor would the Eurozone, in all likelihood, still exist.

This conclusion raises some pressing questions. What has been the effect of Dutch opposition to this policy? What has the open opposition of the Dutch and German central banks (DNB and the Bundesbank, respectively) meant for trust in the ECB? In the periodical *Foreign Policy,* economist Simon Tilford answers this question: the greatest danger for the Eurozone's future would be the succession of Mario Draghi by Jens Weidmann. Perhaps the Netherlands should take heed.

8 In splendid isolation

Brits don't quit.

- David Cameron, 10 Downing Street, London, June 21, 2016

History doesn't always move forward.

- Matt O'Brien, *The Washington Post,* June 27, 2016

Brexit means Brexit.

- Theresa May, CNBC, June 30, 2016

'I envision Great Britain eventually leaving the EU.' These words were spoken to me by Rick van der Ploeg. Unfortunately, I do not remember the exact date of our conversation, but it has to have been at least fifteen years ago. Economists are generally not very good at making predictions; this is an exception that proves the rule. The departure of Great Britain from the EU is no coincidence, the effect of an error in judgment by David Cameron; the movement heading toward a Brexit has a long history. *The Daily Mail,* the biggest newspaper of England, has waged a campaign against the EU for many years. Everything that went wrong in Great Britain was the fault of Brussels. Everything that went well would have gone better if Brussels hadn't gotten involved. How is it that this aversion to the EU runs so much deeper in Great Britain than in other member states? And how is it that the popular resistance to EU membership succeeded with the Brexit referendum— against the pollsters' expectations— in persuading a majority of voters?

Many people see an analogy between Brexit and the populist movements in numerous other countries: Geert Wilders' PVV in the Netherlands, Filip Dewinter's *Vlaams Belang* in Belgium, *Alternative für Deutschland* in Germany, Marine Le Pen's *Front National* in France or the Five Star Movement in Italy. But the comparison is problematic in several respects. Nowhere does the anti-EU campaign have such a long history as in Great Britain. Nowhere has a prominent newspaper supported that campaign so persistently and thoroughly. Although after the Brexit referendum voices had been raised elsewhere to organise exit-referenda, support for such initiatives has remained small. In other countries populist parties often briefly touted an anti-EU position. For the most part, though, it proved to be an unpopular topic among voters. Voters are conservative, and they feared the consequences for their jobs and standard of living in the event that the EU would disintegrate. Geert Wilders never elevated this issue to his central campaign theme. Marine Le Pen changed course halfway through her 2017 presidential campaign in France. And in 2018, Italian president Sergio Mattarella successfully blocked the appointment of a euro opponent as minister of financial affairs: the Lega Nord and the Five Star Movement withdrew the nomination. Concern among voters for immigration played a big role in the popularity of all these parties. But only in the case of Nigel Farage's UK Independence Party (UKIP) did this fear translate into an anti-EU position— also because in Great Britain the aversion was targeted at immigrants from other EU countries. The principle of free movement of persons in the EU made it very difficult to get away with this. Elsewhere in the EU, the debate centred on immigrants from outside the EU: in particular, the stream of immigrants traveling across the Mediterranean Sea to Italy and Greece. Those countries might have found mutual support in their common interest in sound border protection.

Ultimately, Brexit was the result of an alliance of an old elite (who strongly opposed EU membership) with certain broad layers of the population (who feared immigration). Why have these topics become so tightly linked in this way in Britain, but only to a limited extent elsewhere in Europe? For the answer to this question we need to delve into British history.

On the eve of World War I, Great Britain was at the height of its power. Although the country had by then been surpassed in terms of industrial output by Germany, it was still an important political power. In the British Empire, the sun never set. Global political disputes were settled at meetings in Europe's capitals: Vienna, Berlin, Moscow and Paris— but above all, London. A royal marriage in Europe could have far-reaching consequences for the balance of power on the other side of the globe. A greater contrast can hardly be imagined between the erstwhile military expertise in Europe and the current state of defence in Europe. In those days, Europe would have easily won a war waged against the rest of the world. Europe was then armed to the teeth; now it is disarmed to the bone. There arose gradually a new star in the heavens, which the European heads of state began to have to take into account: the American president in Washington.

Great Britain is usually seen as the victor from both world wars. Historians Peter Frankopan and Niall Ferguson defend an entirely different interpretation. From a British perspective, both wars were about preserving the Empire. Fifty years and two world wars later, the empire was gone. Great Britain was left impoverished. Germany had been defeated twice, but the goal of both wars had not been reached. On the contrary.

The life of Winston Churchill symbolises this history. His life's purpose was the British Empire. As war correspondent, he had reported on the battles for the Empire in Asia, Africa and America. At the start of World War I, as minister of the Navy, he was responsible for the backbone of British naval power: the navy. The British maritime strategy aimed at the British fleet being stronger than the navies of the two runner ups combined. The Ottoman Empire, which fought alongside Germany, was on its last legs. Great Britain, France and Russia were poised to divide the spoils. To achieve this, Great Britain deployed soldiers from other parts of the empire, calling especially on Australians and Indians. Churchill was a strong advocate for an Allied invasion at Gallipoli, near Constantinople (present-day Istanbul). The invasion turned into a fiasco and Churchill had to resign. At the end of the war, Turkey was divided among the victors (Russia didn't participate at the time, due to its revolutionary troubles). The planned allocation was never implemented, however, because of Turkish resistance to foreign occupation. After Russia had earlier (in 1905) been soundly beaten by an Asian country, Japan, European domination of the world had by now definitely reached its zenith.

World War I left Great Britain deeply in debt. The Empire went from being a trophy to a burden. Great Britain was no longer financially capable of defending the Empire militarily. At the start of World War II, Churchill became prime minister of Great Britain. After France's defeat against

Germany, Great Britain had its back against the wall, but decided to fight on. Churchill's perspective on the Empire became evident when, in the autumn of 1941, it became clear that Japan was poised to start a war. Churchill wanted to send two battleships to defend Singapore from Japanese invasion. The Admiralty did not support this plan. Japan had fifteen such ships; how would Japan be deterred by two British vessels? Churchill persisted; the ships arrived in Singapore three days before the Japanese attack. A week later, they were on the bottom of the ocean. The British role in Singapore had been played out.

After World War II, colonialism was on its last legs. None of the European colonial powers (besides Great Britain, also the Netherlands, France, Belgium and Portugal) had an easy time parting with overseas territories. But none viewed their empire as so fundamental to their identity as Great Britain did. After an interruption of six years in which Labour was at the helm, Churchill became prime minister once more in 1951. Although India, the pearl of the British Empire, had been given up by that time, Churchill threw his energies into preserving what was left of the empire. The television series *The Crown* portrays this beautifully. Earlier in this book was some mention of the Suez Crisis (by that time, Churchill was no longer prime minister), where Great Britain had tried to decide the course of things, together with France. The United States condemned that intervention, causing Great Britain and France to retreat. The role of world leader had definitively passed from Great Britain to the United States. Even so, Great Britain has been involved intensively with conflicts around the world— for example, in Iran, Iraq, Indonesia, Yemen, Cyprus and Libya. The idea of being the centre of an empire has remained alive, even after Churchill and the Suez Crisis. Membership in a European Union with Brussels— and not London— as capital city, was antithetical to this notion.

Given the role that Winston Churchill played in British history, it was a logical choice for Boris Johnson to write a biography about him in 2014. Politicians quite often write books with political objectives. Boris Johnson's choice of subject, given the ever-sharpening discussion surrounding EU membership, can be easily understood. Like no other, Churchill was a symbol not only of Great Britain's illustrious history but also of the ability of the country to stand strong against all of Europe on its own— as it had done in May 1940 after the Fall of France. After publication of the book on Churchill, and once the date was fixed for the referendum, no one could really be surprised upon hearing Johnson's announcement that he would campaign in favour of Brexit, and thus against Cameron.

But there are also other indications of the role the idea of the Empire had played in Great Britain during the Brexit discussion. The reasoning was that outside of the EU, Great Britain would once more be able to truly conduct free trade, unbound by Brussels' rules. Then trade with the old parts of the empire could be resumed, like the trade in sheep meat from New Zealand. As a Cambridge professor I would hear this argument regularly from well-informed people in the sciences or business. As will become clear, the flow of trade between two countries is inversely proportional to the distance between them. Starting from Great Britain, one cannot be farther from home than in New Zealand. Whatever the historical relationship between the two countries may be, the distance between them will grant bilateral trade no more than symbolic significance. This, however, was not important for the discussion. New Zealand had once been part of the Empire. That was what mattered. Or, as one taxi driver told me when I asked him, a week before the referendum, what he would vote: 'Of course: *leave*. We are taking back control!' This was followed by a tirade against politicians from London.

In the first five years after World War II, when Labour was in power, strategically important industries such as railways, gas, electricity, coal and steel were nationalised. The economic recovery was slow in gaining momentum, however. Many goods continued to be rationed much longer compared with elsewhere in Europe. Despite all of the rhetoric about free trade, British industry was being protected from foreign competition by increasingly steep trade barriers. Great Britain was proud of its A-brands such as Rolls Royce, Trident, British Steel and Austin— but abroad, these were being sold at increasingly lower levels. While the Netherlands decided to close its coal mines in 1965, the mines remained open in Great Britain— despite mounting losses. Labour relations were strained. Successive strikes by miners paralysed the country with increasing frequency, causing regular disruptions of the electricity supply. Numerous cabinets— of both Labour and Conservative persuasion— were unsuccessful in managing the situation. Illustrative of the extent to which Great Britain had come to an impasse was the British application for IMF financial support in 1976. This was the finale of a long downward trend that had begun in 1914. Two things changed, however, that would help the country recover: in 1973 it became a member of the European Economic Community; and in 1979 Margaret Thatcher became the new prime minister.

The unique history of Great Britain provides a setting within which to analyse the possible consequences of Brexit for the British economy. Economists have for a long time now been intrigued by the relationship between competition and innovation. Does competition stimulate or hinder innovation? Theoretically there are two possible lines of reasoning, leading to opposite conclusions. On the one hand, competition is good for innovation because it forces companies to innovate. A company that fails to innovate is surpassed by its competitors and must close up shop. This vision can be traced back to Adam Smith and later Michael Porter. On the other hand, competition is bad for innovation. When profit margins are too low, innovation does not pay off. Then it is more attractive for a company to exploit existing technology for as long as possible. Investments in new technology cannot be recouped, anyway. When competitors have the same low profit margin, they will make the same calculation— and not a single company will invest in new technology. In that case, everything remains the same and no one has to worry about the threat of innovation by competitors. From this perspective, monopoly gains are good for innovation. It will hardly surprise anyone that Bill Gates was a supporter of this vision. The high profit margins of 'his' Microsoft made it attractive for the company to invest in the ongoing development of Windows— and witness how the world has changed through those innovations. Who can still recall having to fiddle with those old IBM typewriters?

The theory therefore suggests that there may be such a thing as an 'optimal' level of competition. Too little competition inhibits innovation; but beyond a certain tipping point, competition increases at the cost of innovative capacity. This explains why innovations adopted by companies need to be protected with licenses and patents. They give a company the monopoly for a time on the use of its own innovation, rendering innovation profitable. The question is, which force dominates in practice: is there too much or actually too little competition? This question can only be answered with empirical research.

The unique history of Great Britain offered two economists, Philippe Aghion and Rachel Griffith, the ideal circumstances to settle this empirical discussion. A great deal of research in the social sciences is plagued by an often unsolvable question of causality: two factors correlate in the data, but what is the cause and what is the effect? In this case: does competition lead to innovation, or alternatively, does innovation lead to competition? This question can only be answered when you can be sure that the increase of competition is caused by something else and that innovation changes as a consequence. In that case, the change in innovation must be the result of the increased competition. In Great Britain, this was the case in the 1980s and 1990s. Entrance to the EU and the arrival of Thatcher as prime minister gave competition a strong boost. Aghion and Griffith showed how this increased competition served to advance innovation in Great Britain considerably. In twenty years' time, Great Britain had caught up its post-WWII lag with countries like Germany and the Netherlands. So, it can be said that entering the EU certainly helped restore Great Britain's position.

Trade flows offer another way to consider the effects of membership to the EU. Jan Tinbergen was one of the first to show that the flow of trade between two countries obeys Newton's Law of Gravitation: the greater the weight of both countries, the greater the flow of trade; the greater the distance between countries, the smaller the flow of trade. When you correct for these factors, the residue remaining is the result of more random factors: do countries literally speak the same language? Do they have similar judicial systems? Are there historical colonial ties? Is there a navigable river or maritime route (transport across water being cheaper than over land) between both countries? What are the effects of trade barriers between countries? And finally: what are the effects of removing all trade barriers, as has occurred within the EU? Such analyses demonstrate that EU membership increases trade with other member states by several dozen percent. To be a member of the Eurozone makes hardly any difference, by the way. Some countries— Norway, Switzerland and Iceland— can profit from the European Free Trade Area through their membership in the 'European Free Trade Association' (EFTA). The EFTA is small, however (in 2017, it included Iceland, Liechtenstein, Norway and Switzerland), so the effects of EFTA membership are more difficult to determine reliably. The best estimate suggests, however, that EFTA membership puts a country somewhere between full membership of the EU and no membership at all. In the case of a 'soft' Brexit, Great Britain could possibly obtain EFTA status. This would therefore present a partial solution to the Brexit problem.

Proponents of Brexit claim that a departure from the EU will actually benefit free trade because it frees Great Britain from the limiting rules of Brussels. A free trade area also has its rules, however. Many national rules aim at protecting local monopolies from foreign competition. A free trade area can only exist by the grace of a multilateral rule that forbids national regulations that are protectionist in nature. Whoever sets up the multilateral rules must also have the institutions to enforce these rules. This is provided by the World Trade Organization (WTO): a court that settles disputes over the interpretation of rules and that punishes violations of the rules. The verdicts of multilateral courts are only partially enforceable. The verdicts of the European Court of Justice (ECJ) are met with greater compliance than are those made by the WTO's court, which means that the authority of the ECJ greatly exceeds that of the WTO. This explains why membership in the EU stimulates trade between countries so powerfully: the ECJ has many more options to block national rules made from protectionist motives. 'Taking back control', being able to set your own national rules, therefore does not serve the cause of free trade. It is often a license for protectionism.

Trade between countries is obviously no end in itself. Trade is only an aid to improve and promote the prosperity and wellbeing of inhabitants. Although GDP is for many reasons an imperfect indicator of economic prosperity and social wellbeing, it is, for many countries, the best measure we have. For a meaningful comparison between countries, a researcher is therefore often obliged to fall back on GDP data. A greater openness to global trade leads to higher GDP growth, providing businesses access to a greater market for their products and giving consumers the possibility to buy foreign products if domestic supply does not satisfy. Greater openness to trade leads, moreover, to the mechanism described by Aghion and Griffith: the threat of foreign competition forces the domestic monopolist to innovate.

However meticulous the statistical analysis may be, anecdotal evidence often has more persuasive power. Post-war history offers a rich array of notable anecdotes. During the past century, we have seen a deepening divide between developing countries and wealthy countries, most of which are members of the Organisation of Economic Co-operation and Development (OECD). Having said that, we have also seen several countries that have successfully transitioned from the first to the second group: South Korea, Taiwan, Hong Kong (not a part of China at the time) and Singapore. Other countries are in the process of taking that step, among them the two countries with the largest population, China and India. For all of these countries, participation in global trade has been the key to their success. In the case of China, it is known how Deng Xiaoping paved the way in 1979 for an economy that was increasingly oriented towards the global market. This was at the foundations of China's phenomenal growth. It is perhaps less well known that India made a similar about-face in 1991. Until that time, competition in the Indian market had been intentionally limited. This policy was abandoned in the 1990s, with great success.

There are a few examples of countries that have moved in the opposite direction, effectively isolating their economies from the global market. North and South Korea come to mind as one example. The countries were separated in 1950. North Korea endeavoured to become self-sufficient. Similarly, the split of Cyprus into Greek and Turkish regions in 1974 provides another stark example. Forty years later, the Greek part of the island is much more prosperous than the Turkish part.

Given the above discussion of trade and prosperity, we might say that the Brexit referendum places Great Britain at some risk. Earlier in its history, the country proved in need of the EU for its modernisation. Although we might see that history is replete with certain laws, it never repeats itself in the exact same way. We thus might venture to say that the British path out of the EU will look different from its path into it. Shortly after the referendum, British consumers received a hefty injection of self-confidence, which reinforced their sense of 'taking back control.' British retail trade undoubtedly benefitted from it, as well. The financial markets, in light of the twenty percent fall of the pound sterling, immediately began to look to the long term. In the long term, a short upturn of consumer trust is not relevant, but technological innovation is. The latter dominates eventually—simply because if the growth of technology does not keep up, the difference in production levels grows as the years go by.

'May I ask you, will it really be that bad?' The tone of the conversation with the taxi driver taking me to Cambridge has changed, one year after the Brexit referendum. These days, I don't hear any more about 'Taking back control'. I had quickly learned through experience that it was better not to initiate conversations about Brexit. But when the driver found out that I teach economics at Cambridge, he asked me the question, and so it went. The disillusionment in the country is great, and the chaos evident in the government seems beyond comprehension. Nevertheless, Brexit seems to be virtually inescapable. This can be attributed to processes at work both in London and in Brussels. By far the most important reason is the psychology of the British voter. I have spoken to many *remain*-voters who are of the opinion that, now that the vote has been cast, arguments must cease, and everyone must get to work to make Brexit a success. Even for this group, obstruction is seen as almost treasonous. There is a second problem: what politician would choose to face the voter with the message that the voter has made a mistake and must reconsider his choice? That would be a very unattractive message. And finally, there are the internal dynamics within Labour and the Conservatives. Both parties are internally divided when it comes to Brexit. This was visible at the most recent parliamentary elections: in the mind of the voter, Brexit is undoubtedly an important theme, but its role in the election campaign was only marginal. It was unattractive for both parties to accord any prominence to the theme. Conservative parliamentarians would rather not bring down their own government. A large part of the Labour constituency voted in favor of Brexit.

Things are no different in Brussels. Chairman of the European Commission Jean-Claude Juncker allegedly worded it clearly: 'It will be a terrible divorce, but it wasn't a happy marriage in the first place' Brussels had tried to prevent Brexit, if only because it formed a threat to the unity of the remaining countries. But now that the die has been cast, people no longer hesitate to point out that the British were often contrary and always claimed an exceptional position. How would Brussels respond if Great Britain now sent a letter to 'annul' the divorce? 'Of course, you were always such a cooperative member state, with such a positive contribution?' Most likely the response would sooner be: 'All right, but you'd better behave from now on'. This response, while understandable, makes any return for Great Britain even less attractive.

The most that Great Britain and other member states could hope for after the Brexit referendum is a solution analogous to the EFTA. As discussed earlier, the effectiveness of such a solution is uncertain; the most probable estimate suggests that with it, Great Britain and the EU can realise approximately half of the advantages of a full EU membership. There is a strong lobby in Great Britain, however, that is pushing for a 'hard' Brexit. The way to still achieve a soft Brexit runs through Ulster. A hard border between Ireland and Ulster appeals to no one because the economies of both countries have by now become extensively integrated. Moreover, everyone shudders on remembering the civil war between Catholics and Protestants. If Great Britain is not part of the European Economic Area, then a soft border between Ireland and Ulster will automatically lead to a hard border between Ulster and England. But Ulster is part of the United Kingdom. The Democratic Unionist Party (DUP) in Northern Ireland is determined to keep it that way, as are many Conservative and Labour politicians, by the way. Theresa May depends on the support of DUP for a majority in the House of Commons. The DUP will never agree to an outcome in which Ulster is no longer a full member of the United Kingdom. In this way, a soft border in Ireland might lead to a soft border between Ireland and Great Britain. A customs union and membership in the EFTA might therefore simply be the only way out.

The real surprise of the Brexit process is actually that it has led to so little strife between other EU member states. They have closed the ranks, effectively thwarting British attempts to sow discord among countries. In retrospect, this has not really been that surprising. First of all, no one wants an exit to be easy, because this could put ideas into the heads of certain pressure groups in other countries. But there is a much more fundamental reason. The EU in its current form is a hard-won compromise worked out between countries. Continuous negotiation establishes solutions whereby every possible solution benefits at least two member states without inconveniencing another state. Therefore, every change will entail both winners and losers. Without a doubt, support can be found in many countries for limiting the free movement of labour within the EU: fewer Polish workers in Dutch construction, for example, so that Dutch construction workers have a better competitive position. Limiting Polish migration to Great Britain was also a strong wish of many British voters, but at the same time it was unacceptable for member state Poland. It was quickly evident that it was all but impossible for Great Britain to sow discord among countries, since every member state realized that however easy it may be to make bilaterally attractive concessions to the Brits, it is impossible to reach agreement with the remaining member states because they have other interests.

This helps us understand why David Cameron's strategy for winning the referendum was so difficult. Cameron had promised the British voters that he would negotiate with Brussels for a 'better deal', which he would then submit to the voters at the referendum. The notion of a better deal stemmed from the idea that Brussels had taken matters upon itself that were much better managed by member states themselves. If member states would collectively stand against Brussels, then all member states would be better off. It was an electorally attractive message— Brussels as enemy of the people— but it proved to be a mirage. Concessions could not come from Brussels in favour of one or more member states. Concessions could only come from one member state to another, as a favour to, or at the cost of another. The others, as one might imagine, were not eager for this— least of all if they were expected to extend this favour to a country that had persistently asked for a 'special deal' in the past. Cameron therefore had to return to voters empty-handed. *The Daily Mail* was more than ready to explain this to the electorate. Cameron started the Brexit campaign trailing 1-0. He was not able to recover the difference.

In the meantime, the Netherlands has been licking its wounds. Great Britain had always been considered as the steady ally in the EU. The British Euro-skepticism had made the Netherlands feel safe from the threat of being crushed under the French-German axis and had kept the EU at a safe distance. The Netherlands had also been flirting with the same idea as Cameron's— namely, that something could be retrieved from Brussels that actually belonged to the member states. From that side came several voices urging for more concessions from Brussels to Great Britain; the fact that concessions could only be given by one member state to another did not fit into that world view. The Netherlands therefore supported Cameron on many points in his endeavor for a 'better deal'. But also for the Netherlands there were limits to what it found to be permissible. Every time the British asked for some concession, the Netherlands would be concerned that it might disrupt the level playing field of fair competition.

After the results of the Brexit referendum were published there were occasional calls in the Netherlands for the resignation of Juncker; he had, after all, 'failed' (in the eyes of those convinced that the member states should be able to get something back from Brussels) to make enough concessions to keep the Brits on board. The problem was not Juncker, however, but the worldview that insisted on power being taken back from Brussels. The Brexit negotiations have revealed that the EU is a compromise between member states, whereby changes are often concessions from one country to benefit another. The Dutch would soon need to revise their view of the EU, however, because history had another trick up its sleeve.

9 America First

One by one, the factories shuttered and left our shores, with not even a thought about the millions upon millions of American workers left behind. [… From now on,] we will follow two simple rules: Buy American and hire American.

- Donald Trump, inaugural address, Washington D.C., January 20, 2017

On Wednesday November 9, 2016, I got up early to write my column about the outcome of the United States elections for the next day's newspaper. As an exception, the submission deadline had been stretched, to allow us to verify whether the outcome was according to expectations. While I unsuspectingly consulted my iPad, it dawned on me that the expectations would be contradicted. At first it was still unbelievably close— but then suddenly no longer. As I ate my breakfast, Pennsylvania turned red. The die was cast: Donald Trump would be the new President of the United States. I threw my energies into my column.

Why did Trump win the election? Interestingly enough, that question had been answered even before the outcome was known: *it's the economy, stupid!* The election result was the consequence of economic trends— more precisely, of trends relating to China. A detailed statistical analysis of the American Congressional election results since the start of this century shows that precisely those districts where many jobs were lost because of increased Chinese competition have started voting in more extreme ways. In the United States there has been a longer trend towards a widening polarisation between Democrats and Republicans. In the past, the wings of both parties overlapped: the most conservative Democrat was considerably more conservative than the most progressive Republican. This overlap has vanished. The job-threat posed by China has become a catalyst. When a district under threat of job losses contained predominantly white voters who had a history of voting Republican, then the preference of the electorate shifted towards conservative Republican candidates. In the event the district contained mostly migrants, then the preference shifted towards a more progressive Democrat. Economic threat has manifested itself in more extreme voting behaviour. The statistical analysis shows that this shift is astonishingly large.

This shift had a sizeable influence on the results of the presidential election. During the primaries, the extreme candidates of both parties (Democrats as well as Republicans) did much better than had been expected beforehand. On the side of the Democrats, it took the greatest of effort for moderate candidate Hillary Clinton to shake off the more progressive Bernie Sanders. Sanders' success can be compared to that of Jeremy Corbin in Britain. On the Republican side, Trump won the Republican nomination against all expectations. With this, the Republicans were in a much better position than the Democrats to mobilize their voter base to actually cast their vote in the elections. The higher turnout of the Republican electorate was decisive. The 'angry white men' in 'rust-belt states' like Pennsylvania— where in the preceding years countless jobs had been lost due to competition from China— voted overwhelmingly for Trump. The migrants who had shown up in large numbers to elect Obama at the two previous elections did not feel similarly called to show up at the voting booth for a moderate candidate such as Hillary Clinton.

An economic crisis makes a deep impact in the lives of people. Some indeed lose their job. A much larger group fears to do so. Justly or unjustly, voters blame this situation on incumbent politicians, who had somehow been unable to avert the calamity. And so, the voter will try something else. The way Trump profiled himself politically is not a response to heightened calls to reinforce the American identity. Rather, it is the reverse: reinforcing the American identity is the political answer to increased economic uncertainty. Many of Trump's policy priorities seem to be aimed at removing uncertainty among the voters— for example, by starting a trade war with China.

The phenomenon that voters turn from established politics during times of crisis has occurred before in history. Hitler's election in Germany in 1933 is an example. Because the ramifications of the electoral victory of Hitler's National Socialist German Workers' Party (NSDAP) were so extreme, there is some resistance to comparing current election results with those of Germany around 1930. The tragic consequences do not, however, provide a good reason to brush this historical experience further aside. On the contrary, we can trace Hitler's election back to the economic crisis of the 1930s. Hitler's initial following arose from the chaos resulting from German hyperinflation in 1923. Once the worst effects of this crisis had receded somewhat, his following quickly crumbled as well. But then Germany was hit hard again in 1929 by the stock market crash. This offered Hitler a new opportunity. Again, a detailed analysis of the election results from 1930 shows that Hitler was particularly able to enlarge his following in those federal states where unemployment had increased most sharply. By 1932 the economy had recovered from the worst blow and the NSDAP's following decreased again as well.

Trump's slogan 'America First' contains a reference to the period of around 1940. Charles Lindbergh, the first man to fly solo across the Atlantic Ocean in 1927, was campaigning in the 1940s against the United States' participation in World War II. Lindbergh was spokesman for an anti-war group called 'America First.' His campaign was not devoid of antisemitism. Lindbergh had visited Berlin before the war, where he had been received by the Nazi top brass and was presented with a medal. His last planned speech, scheduled to be held in Boston in December 1941, was cancelled due to the entrance of the US into the war. A few days before the planned speech, the Japanese had attacked Pearl Harbor; Japan, followed a few days later by Germany, had declared war on the United States. The America First movement was then dissolved. Notwithstanding these associations, Trump chose the same motto for his presidential campaign.

The strong correlation between the support for Trump and competition from China suggests that the ongoing process of globalisation has undermined the political support it once had. Dani Rodrik's 1997 book, *Has globalization gone too far?,* therefore represents an admirable achievement. In those days, the advantages to globalisation were still undisputed among economists. International trade undoubtedly led to losers in the short term, but the benefits to the winners outweighed the costs to the losers. In theory, the winners could offer the losers compensation for this loss and still improve their welfare. By posing the question of whether globalisation hadn't gone too far, Rodrik was, in 1997, an economist who was far ahead of his time— before widespread discontent broke out about globalisation. His book appeared around the time of the Asia Crisis, during which countries such as Thailand and Indonesia lost access to capital markets from one day to the next, causing them to plunge into a deep economic crisis. The Asia Crisis was one of the first blows to the trust in the universal advantages of globalisation. Rodrik's book therefore appeared at exactly the right time.

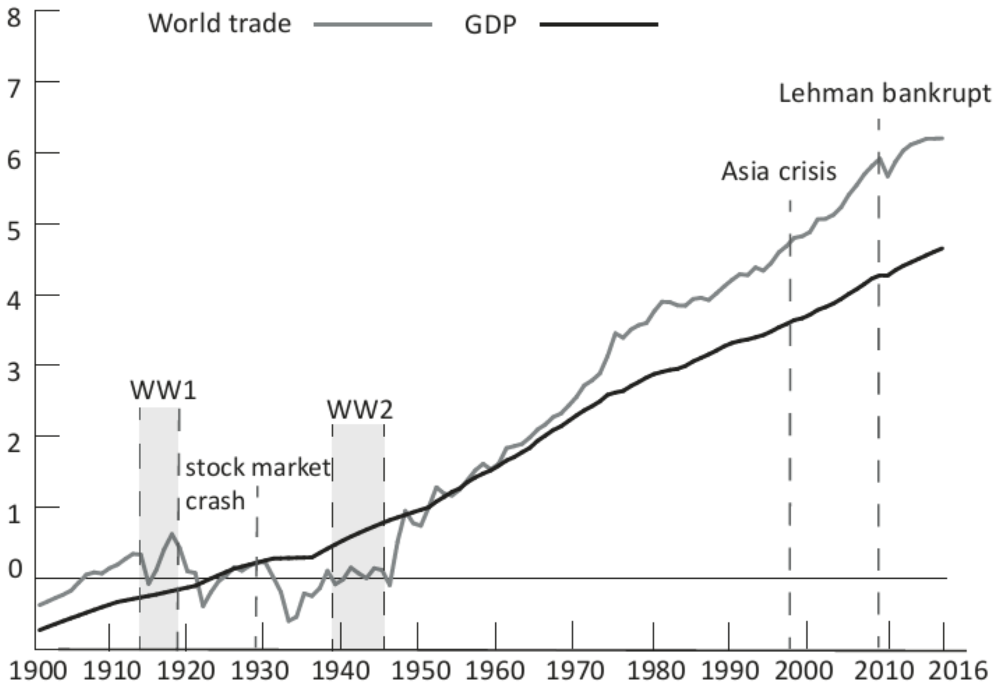


Figure 9.1 World trade has grown significantly faster than world GDP since the second world war, although the trade growth rates abated during crises

Note: a one-unit increase on the vertical axis represents a 100% increase in either world trade or GDP

Global trade has grown since 1900, but since 1950 it has grown at an especially high rate, higher still than that of world GDP. The expansion of global trade is an excellent predictor of the world's prosperity. When things are going well economically, global trade flourishes. Global trade decreases, often more sharply than GDP, in times of crisis: during both world wars, during the Great Depression of the 1930s and during the Great Recession after the bankruptcy of Lehman. The growth of global trade is apparently the key to the growth of GDP. This applies not only to the world as a whole, but also for individual countries (the success of South Korea, Taiwan, Hong Kong and Singapore were mentioned earlier). Without exception, countries that grew rapidly achieved their high growth by increasing their share in global trade. Not a single country that has tried to grow solely on its own strength has succeeded in doing so.

No one, certainly not Dani Rodrik, questions these associations. Unrestricted free trade is undoubtedly the best means for the prosperity of the world as a whole. The relevant question is whether these advantages are distributed in such a way as to benefit everyone— or whether some countries, or some groups within a country, face the downside of free trade. This could explain the often vehement opposition from some groups against free trade.

The simplest economic theory on this subject is the famous Stolper-Samuelson theorem. In its most streamlined form, this theorem considers two countries— for our purposes, we'll call them, here, Labouristan and Capitalistan. In both countries there are labourers and capitalists, but the ratios in which these are present differ. In Labouristan there are relatively many workers and relatively few capitalists. In Capitalistan it is the exact opposite. In both countries the capitalists are richer than the workers, but in Labouristan this difference is larger, because there are so few capitalists and so many workers, that the wages are extra low and the return on capital is extra high.

Imagine that both countries had, until now, never traded with each other. What would happen if, starting today, the border between these countries would be opened? The production in both countries would increase because labour and capital are deployed more efficiently. Not everyone benefits, however. This is because trade between both countries leads to wage-equalization across Labouristan and Capitalistan. Workers in Labouristan improve their lot, because the wages there before the introduction of free trade were quite low, as a consequence of the large supply of labour. Workers in Capitalistan see a worsening of their position, however, because wages before the introduction of free trade were higher there. Regarding the return on capital, the reverse is true: it increases in Capitalistan and decreases in Labouristan. On balance, the gains from free trade are positive. According to the Stolper-Samuelson theorem they are also positive for each of the countries individually. Within each country there are conflicts of interests, however: the capitalists benefit in Capitalistan, and the workers benefit in Labouristan. The rise in the returns on capital in Capitalistan is enough to compensate for the wage drop for the workers. If this happens, everyone benefits. Nevertheless, workers in Capitalistan tend to turn against free trade in such cases, most often because they do not believe that the capitalists will keep their word after free trade is implemented to fork over a reasonable compensation. This is why they prefer to keep things the way they are.

This mechanism could account for the populist revolt that brought Trump to power. Trade with China, where labour is abundantly available, leads (according to the Stolper-Samuelson theorem) to lower wages and higher returns to capital in the United States. According to the same mechanism, trade with China increases the wage difference between workers with a low- and high education level. The US has a relatively well-educated labour force. That is why the highly educated benefit from trade with China, while those with less education encounter its downsides. In this way, trade with China leads to greater income inequality in the United States.

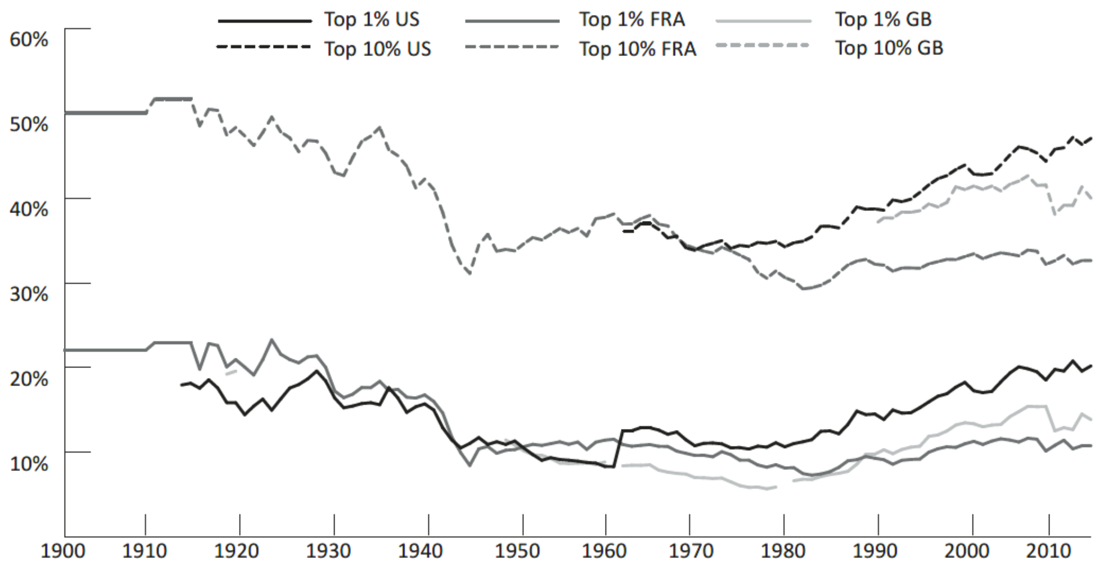


Figure 9.2 In the United States, the relative share of the top 1% and 10% earners, as a percentage of total income, has increased significantly since 1980. Similar shifts in total income can be found in Great Britain as well as France, but to a lesser extent

Income inequality in the US has indeed risen sharply. The share of the top-1-percent in the total income has doubled from 8 to 16 percent, while the share of the top-10-percent has risen from 28 to 42 percent. This trend has been underway since 1980— long before the rise of Trump. Because the top-10-percent of the income distribution was able to lay claim to a growing portion of total income, there was little left over for the middle class in that period. Indeed, middle-class wages have not grown in the United States since 1980. Inequality has grown in Great Britain as well— but less strongly than in the United States. In France, the rise has been even more moderate. By way of comparison, in the Netherlands the share of the top-1-percent in that period remained about constant: 6 percent of total income.

The fact that income inequalities have risen sharply in the United States is undisputable. But is this increase the result of globalisation— more specifically, the result of trade with China? In 1996, a year before the publication of Rodrik's book, Paul Krugman claimed that China's contribution could not be large— for the simple reason that although the Chinese economy had grown robustly since Deng Xiaoping's turnaround in 1979, it was still too small to exert much influence on income distribution in the United States.

Krugman proposed an alternative explanation: the nature of technological innovation, which caused the demand for higher-skilled workers to increase, while demand for lower-skilled workers decreased. Other economists have pointed to the wave of labour market deregulation that was implemented during Ronald Reagan's presidency between 1981 and 1989: the unions lost ground and in that period the minimum wage dropped by one-fourth. In that same period, Margaret Thatcher in Great Britain implemented a similar policy.

Trade with China may indeed have been too meagre in 1996 to exert much influence on the income distribution in the United States. China's share in the global economy was doubling every ten years, however. Ten years later, Krugman thus had to acknowledge that China's share had grown so sharply in the meantime that this influence was no longer negligible— and that the same could be said about the share of a number of other emerging countries, such as Brazil and Mexico.

Dani Rodrik had sensed accurately from which direction the wind would start blowing, in the same way that Donald Trump understood what would be on the voters' minds. A successful campaign for the presidency would have to address those issues. And, as is so often true in election campaigns, the answer does not necessarily have to be effective; it is sufficient if the voter *believes it* to be effective. Trump's promise to the voter had two parts. First, he would not be swayed by old conventions and thoughts, by existing rules and agreements. These were merely the playthings of the elites, who used them to further their own importance while caring nothing about the average American. If American interests demanded it, Trump would pound his fist on the table, recalling the motto of his campaign: 'America First'. Second, he would be ruthless with America's trade partners— especially when those partners sold more of their wares to the United States than they allowed to be sold of American companies in their country. Trump summarised this succinctly in his inauguration speech: 'From now on, we will follow two simple rules: Buy American and hire American.'

Trump's response to voter concerns clearly convinced his voters. But will his response serve to convince reality as well? Will the lost manufacturing jobs return to the rust-belt states? Why did Trump opt for a trade war rather than using the tax system to redistribute the gains of those with higher education and capital owners towards the lower educated? According to the Stolper-Samuelson theorem, such a system is superior. It is applied on a large scale in Europe. In that case, Trump's policy would then not have been called 'America First', but 'American Workers First'. In reality, Trump has done the reverse, with his tax breaks for the highest incomes. The Stolper-Samuelson theorem thus helps us to understand the anger of many Americans, but offers only limited footing for understanding Donald Trump's political programme.

There is a problem not only with the political implications of the Stolper-Samuelson theorem, but also with its economic implications. The logic of the theorem namely has a remarkable implication. If in Capitalistan the capitalists profit from free trade through the growth of capital returns, then workers benefit in Labouristan through a wage increase. In Capitalistan, free trade therefore leads to more inequality, but in Labouristan the reverse is the case: free trade leads to more equality there. Translated to the world in 2000, globalisation should have increased the income differences in the United States, but in China they should have decreased. But that's not what has been observed. Since Deng opened up the country forty years ago, the standard of living of Chinese workers has indeed risen considerably, but the standard of living of the Chinese elite has done so to a much larger extent. This has caused income inequality to grow sharply in China. This anomaly applies as well to American trade with Latin America, where income differences have also increased. After the opening up of India in 1990, income differences have grown there. How is it that free trade seems to bolster inequality not only in the United States but also in China, contrary to the predictions of the Stolper-Samuelson theorem?

Paul Krugman, and Adam Smith before him, provide an explanation: specialisation. Krugman won the Nobel Prize for this. Specialisation increases productivity because people can concentrate their knowledge, skills and resources on one specific task. However, specialisation demands mutual trade. The one will produce a car chassis, the other software. As producers, they must trade amongst themselves to assemble a final product from separate components produced around the world. As consumers, they must trade to be able to obtain all of the products they need. Specialisation also explains why the largest part of global trade does not take place between Labouristan (historically, China and India; more recently, Vietnam, Indonesia, Malaysia, Thailand, the Philippines) and Capitalistan (The US and the EU), as one would expect (based on the Stolper-Samuelson theorem), but within the United States and between countries of the EU.

Specialisation leads to concentration of similar activities not only between countries but also within countries between (urban) regions: the former *light city* Eindhoven, harbour Rotterdam, *food-valley* Wageningen, New York as financial centre, Seattle as the home base of Boeing and Silicon Valley for information technology. By performing their work in proximity to one another in a shared location, specialists profit maximally from one another's knowledge. And activities for which no specialised knowledge is required are spread more or less randomly across remaining regions. Because the specialist is the only one who knows a given technique, she has monopoly power. Regions would therefore like to be the domicile of highly specialised knowledge; this leads to monopoly power and thus greater prosperity and welfare for the region. In this lies the danger of free trade for a country: all specialist knowledge in one country is worn down through competition with superior specialists from the other country, so that only non-specialised and therefore poorly paid activities remain. This process has taken place these past decades in many places— again, both within countries as well as between them.

Consider the Netherlands. Several cities, such as Amsterdam, Eindhoven, Utrecht, Delft and Wageningen, function as a magnet for knowledge-intensive specialist activities. Other parts of the country, such as East-Groningen, the Achterhoek, South-Limburg and Zeeuws-Vlaanderen, are gradually depopulating. Young people move away, the population shrinks and greys. Within the EU the same thing is happening in countries like Bulgaria and Romania; highly-educated young people leave for other EU countries where their specialist knowledge will be put to better use. Those who remain have to make their own way, often supported by money that is earned elsewhere by the departed youth and sent back to their families. In the United States this fate has overcome the rust-belt states like Pennsylvania.

Growth spurts in countries such as South Korea, Taiwan, Hong Kong and Singapore can be attributed to successful specialisation in a small number of industries. Because the population in the first phase of such a specialisation wave is still relatively unskilled, these countries all started to specialise in relatively knowledge-extensive activities. This is where the Stolper-Samuelson theorem and specialisation help each other out: specialisation pays off, but a country must specialise in those activities where its odds for success are highest. An unskilled labour population demands specialisation in knowledge-extensive activities. The government has supported such activities at the start of a growth spurt in many cases in those countries, so that the industry has had some time to build up the necessary specialised knowledge. This was called ‘strategic trade policy’. This explains why these countries have frequently been accused of unfair competition. On balance, the entire world has benefited because productivity has increased globally.

Just as for the Stolper-Samuelson theorem, specialisation entails that there be winners and losers, but that in the grand scheme of things total welfare increases: the benefits to the winners are greater than the costs to the losers. The winners could compensate the losers, so that everyone benefits. There is an important difference, however, between the consequences of specialisation and the Stolper-Samuelson theorem. In the case of the Stolper-Samuelson theorem, every country progresses individually and only within countries are there groups whose position deteriorates due to free trade. However, in the process of specialisation a country as a whole may lose ground if specialist knowledge concentrates in other countries. In Europe, countries such as the Netherlands, Germany and Poland profit from this trend towards regional specialisation, but Bulgaria and Romania do not, because they do not have their own specialisation— and the most specialised and therefore lucrative activity moves elsewhere.

This analysis of specialisation helps us understand the development of the division of labour in the world. Can it also be used to explain why Trump has started a trade war with China? In this case, the reader is left empty-handed. The United States has profited greatly from free trade by specialising successfully in the IT sector. Of the seven largest IT companies in the world, Alphabet (parent company of Google), Alibaba, Amazon, Apple, Facebook, Microsoft and Tencent, five are American and two are Chinese; none of them comes from Europe. In terms of stock market value, these are also the largest companies in the world. China has exercised a ‘strategic trade policy’ by limiting the access of the American big-five to the Chinese market, in order to build its own two IT giants. The American big-five now account for 20 percent of the total stock market capitalisation in the United States. In 2000, this figure was only 3 percent and the contribution came nearly solely from Microsoft. The market capitalisation of the other four was still negligible; Facebook did not even exist yet. From 1960 to 2000, ExxonMobil had always belonged in the top-five of the largest companies in the world. With the IT revolution, they have fallen to the tenth place since 2000, with a market capitalisation that is not even half of the average of the big-five in information technology. Never before has the world witnessed such a revolutionary shift in the economic balance of power in such a short time. This shift has predominantly benefited American companies. As a consequence of globalisation they were able to roll out their formula for success across the entire world. Why, then, would the United States want to start a trade war? They only stand to lose, it would seem.

Still, Krugman’s specialisation theory of international trade helps us to understand Trump’s strategy. ‘If it doesn’t help, it won’t hurt’in any case, not for the United States. The US is large enough to realise a sufficient level of specialisation internally. The big-five IT companies are obviously glad to roll out their business models, but the American domestic market is large enough to allow them to recoup their investments. Trump can therefore afford to serve his constituency with promises of high import tariffs to protect employment in industries that stand to suffer from Chinese competition— even though not one job will come back and even though his own support base will foot a large part of the bill, since companies will pass costs along by raising prices for their customers. In this way Trump can show voters that America comes first to *him*, without placing even the slightest hurdle in the way of his wealthy support base. One might even say that only the big-five are left grumbling, because a trade war isn't in their interests— but they weren't Trump's best friends, anyway.

Whereas the American domestic market is sufficiently large, the British domestic market is not. Nowhere was this more evident than in the arduous recovery of Great Britain after the end of World War II, when the country was not yet a member of the EU and thus not yet in a position to profit from the European free trade area. That piece of historical evidence does not bode well for what awaits Great Britain when Brexit is soon a fact. America First will have fewer consequences for the welfare of the United States than Brexit will have for that of Great Britain.

A third explanation for Trump's attitude, apart from the Stolper-Samuelson theorem and specialisation theory, can be found in monopolisation. By specialising, countries function on the world market as if they are companies. They offer for sale products requiring knowledge that is available only within their country and buy products in which other countries are specialised. By imposing tariffs on certain products, countries try to skim off the profit margins of the other countries. This strategy can be compared to a monopolist who puts a profit margin on his price. A trade war can therefore be compared with the prisoners' dilemma. Collectively, all countries are better-off if only limited import tariffs, or none at all, are imposed. But every country faces individual benefits from imposing import tariffs on other countries. A trade war can be prevented only when everyone keeps import tariffs low at the same time— and this takes cooperation and coordination among countries. Cooperation is possible only when all countries realise that if they try to gain an edge today by raising their import tariffs, they will be punished tomorrow because other countries, in their turn, will impose an import tariff on them. Fear of tomorrow's tariff war suppresses the temptation for tariff increases today.

In the case of such complex prisoner's dilemmas with multiple countries, many outcomes are possible. If every country expects that all other countries will levy tariffs, then a country will be wise to do the same. This results in every country's expectations being met, and so none of the countries has a reason to adjust its expectations. The result of this pessimistic expectation is a trade war. In the reverse case, if every country expects that all other countries will not impose import tariffs today *and,* moreover, that these countries will respond in outrage if one country tries to profit by imposing a tariff, *and* that they will act in unison to punish the transgressor by applying heavy tariffs on precisely that country, then not a single country will have an interest in increasing its import tariffs today. As we will see, a crucial factor in preventing a trade war is the willingness to cooperate in enforcing punishment. Again, all expectations will be met, but now the world suddenly looks a great deal better.

Expectations and norms about how countries ought to behave in the multilateral movement of goods, are thus an important condition to make unencumbered global trade possible. The 1930s have shown that expectations and norms about desirable behaviour in the multilateral movement of goods can change sharply in short periods of time. At that time this led to a dramatic setback in world trade.

Multilateral institutions such as the World Trade Organization (WTO) and the European Union help countries prevent a trade war. The old conventions and thoughts so disparaged by Trump perform an important function in those organisations. Norms and expectations regarding everyone's behaviour are aligned in this way. These organisations function best when they preside over an institution endowed with the power to make rulings in the event that member states differ in their interpretation of the rules. For the WTO this is the Dispute Settlement Board and for the EU it is the European Court of Justice. In the event of a dispute, these institutions take binding decisions, and in the case of violation of the rules they determine the sanctions. The latter is perhaps the most considerable problem. In contrast to a sovereign nation, the WTO has no police corps that can turn out to arrest those who break the law. If a member state tries to profit by breaking the law, then the WTO is completely dependent on the willingness of other member states to punish the transgressor with sanctions. And without punishment, the trespass of the rules becomes the rule and not the exception. The willingness to cooperate towards sanctions is not self-evident, because for the countries that must apply the sanction this is often a costly matter. It is usually more attractive to simply continue trade with the trespasser, especially when the country is not itself the victim of the trespass. Sanctions against a country violating the rules are only effective when all other countries cooperate towards it. Once again, it proves true that the temptation of a country to circumvent the sanction against a transgressor today, is restrained only by the knowledge that the country will otherwise itself be subject to other countries' sanctions tomorrow.

Multilateral institutions therefore always limit the degree of cooperation expected from members. When the individual interests of a country are too great, then its fear of a possible punishment by other countries will be insufficient to resist violating the agreements. Then it will be better to have been clear about what the treaty entails in advance in the agreement, so that deviant behaviour is not seen as a trespass but as *exception that proves the rule*. For that same reason there is also a limit to the appeal that can be made on member states to cooperate in the punishment of another member state. When the costs of applying the punishment are too high, the temptation becomes too large to attempt to get out from under it.

The EU has managed to reach an astoundingly high level of cooperation between countries— much higher than that of the WTO. For example, the WTO deals only with trade in goods and not in services, because it is much more difficult to make binding agreements about services. That this has succeeded within the EU is a formidable achievement— and hence the admiration elsewhere in the world for what has been achieved in Brussels in the past decades. These days, Europeans find such cooperation so natural that they might take this success for granted.

In a recent conversation with Dani Rodrik, I laid out two interpretations of his book *Has globalization gone too far?* I wanted to know what he meant by 'too far'? The first interpretation is simply that, past a given point, globalisation has negative consequences for total welfare; does 'too far' then mean that the world has passed that point? The second interpretation of 'too far' would have more globalisation still leading to greater welfare, but in that case the benefits have become so small that it is increasingly difficult to compensate the losers adequately— and that those benefits for WTO member states are more frequently too small to resist the temptation to disobey the rules and cease cooperation in the punishment of other member states who are found to be trespassing.

The person who rejects the first interpretation and thinks that globalisation still brings with it benefits, can hardly avoid the second interpretation of 'too far': the benefits have by now become so small that is increasingly difficult to retain the political support within and between member states for more globalisation. The election of Donald Trump as President of the United States is living proof of this. He is engaged in obstructing the working of the WTO's Dispute Settlement Board by blocking the appointment of new board members. He says openly that he will disregard rules and agreements when his 'America First' demands it. The soft approach of mutual consultation has made way for a fist pounded on the table.

The rest of the world is gradually starting to realise that the congratulations Trump extended to Great Britain on the outcome of the Brexit referendum were utterly meaningless. The populist rhetoric of the Brexiteers and Trump may sound the same, but Trump's America First conflicts with the 'Britain First' of Nigel Farage's dreams. As President of the United States, Trump knows that his country is so powerful that protectionism may lead to a smaller pie for the entire world, but that a greater portion of a smaller pie will still be to his advantage. For the rest of the world, this is a different matter.

The financial crisis that erupted after the demise of Lehman in September 2008, and the Great Recession that followed on its heels, have not known their equal since the Great Depression of the 1930s. During the first years of the crisis the world seemed to have learned from the way the crisis played out eighty years before. Olivier Blanchard, then chief economist of the IMF, had called and sent e-mails around the globe in the autumn of 2008 to prevent governments slamming on the brakes by cutting their budgets too much. Countries did not resort *en masse* to protectionist measures to shield their own industry from a sharp drop in global trade. The system of multilateral consultation remained standing; under the pressure of the crisis it was even astoundingly decisive. And ultimately, the world was spared the political turbulence that Germany had known in the day.

Now that the crisis is a bit farther behind us and it appears that its consequences are coming into sharper view, there is less reason for such optimism. The problems of the 1930s appear to have manifested themselves in a different shape: budget policy that is too restrictive, protectionism and (on the political front) the rise of populism. Since 2012, the Euro Crisis has led EU member states to make excessive spending cuts. Populism has become more popular. Remarkably enough, it remained largely manageable within the Euro zone, but proved unmanageable in Great Britain and the United States. Brexit and the election of Trump have changed the world. The Netherlands' most faithful allies have suddenly become not quite so faithful anymore. The president of one of those allies is using his monopoly powers at this moment to prevent the functioning of multilateral organisations, apparently in the conviction that the monopoly power of the United States is so large that he can procure a 'better deal' for his country by pounding his fist on the table. Is the future of the Netherlands under threat? Or are there new opportunities ahead?

10 Beautiful Netherlands, beautiful Europe?

Moping on the side-lines, sitting on the reserve bench or standing off-sides, none of these will help. Then, the French and the Germans will simply go their own way.

- Frans Timmermans, interview with the NOS, June 12, 2017

'The Netherlands is beautiful,' Dutch singer Brigit Kaandorp sings. 'In the autumn, when I see waves breaking upon the dykes, I think: The Netherlands is beautiful.' The topics of this book are much more prosaic than the sweeping views that Kaandorp sings about. Nevertheless, her conclusion stands: the Netherlands is beautiful. Together with Denmark and Ireland, the Netherlands is among the richest countries of the EU (leaving aside Luxembourg, as it is a home base for investment institutions). Moreover, we don't seem to have to work very hard for it. In terms of GDP per hour worked, the Netherlands occupies the pole position within the EU, together with Belgium. We live long and in good health, and there is a large measure of mutual trust. The Dutch collective provisions, such as education, healthcare and social security, are in good shape. Moreover, income in the Netherlands is distributed fairly evenly (setting aside the matter of whether the Dutch wealth distribution is more skewed than elsewhere). What is more remarkable is that despite the 'new' political disagreement there is in fact hardly any difference of opinion between political parties regarding these points. All parties agree that income differences should not become too large, that CEOs shouldn't earn too much and that lowest income earners must be supported. All parties are proud of Dutch healthcare. A foreign visitor traveling by train or highway in the Netherlands will be amazed at the quality and state of upkeep of the infrastructure. Despite all of the criticism of political affairs, the confidence in the government is nowhere as high as in the Netherlands. Because of all these factors, the Netherlands, together with the Scandinavian countries and Switzerland, belongs among the happiest countries of the world.

On this ranking of happiest countries, the wealthy countries float to the top. Happiness is measure quite simple by asking people to rank their happiness on scale from on to ten. Apparently there is a core of truth in the well-known saying: 'Whoever claimed that money can't buy happiness simply does not know where to go shopping.' When in this ranking of GDP per inhabitant we omit the oil-producing countries, the city-states Singapore and Hong Kong, and Luxembourg, then six of the nine happiest and the nine wealthiest countries overlap. 'Not to know where to go shopping' seems to be the problem of the United States. If we leave out the oil-producing countries and the other countries mentioned above, then the US is the wealthiest country in the world after Ireland and Switzerland. On the happiness ranking, however, the country ranks only eighteenth. In the past decade, it has dropped by more than ten places in the ranking, as a consequence of decreasing social support and increased corruption (not in Figure 10.1). The mutual social protection and the limited corruption are precisely the factors that place Scandinavia so high on the happiness ranking.

Country	Happiness	GDP per capita	Income inequality	Mutual social support	Healthy life expectancy
Finland	1	14	5	3	26
Norway	2	-	8	7	28
Denmark	3	7	6	4	27
Iceland	4	8	1	1	8
Switzerland	5	2	17	10	7
The Netherlands	6	5	11	31	23
Canada	7	12	20	14	14
New Zealand	8	19	29	2	24
Sweden	9	6	10	25	9
Australia	10	10	24	8	10
United States	18	3	32	38	33
Great Britain	19	15	30	9	21

Figure 10.1 Together with Scandinavia and Switzerland, the Netherlands is among the happiest countries in the world.
Note: the ranking of 156 countries for diverse indicators; ranking of GDP per inhabitant excluding oil countries, city-states and Luxembourg; income inequality is represented by the Gini-coefficient; mutual social support is represented by the number of people answering in the affirmative to the question of whether you can trust family and friends when you have a problem.

How does it come about that the Netherlands and Scandinavia score so high on this international ranking? Various explanations are in circulation. Some say it has to do with the Dutch struggle against the sea, which has required intense cooperation over the centuries. Social psychologist Geert Hofstede classifies countries according to their cultures. The Netherlands and Scandinavia are distinguished in his analysis as individualistic, non-masculine cultures. Whatever is behind its success, the Netherlands has achieved much. But a country that has achieved much, also has a great deal to lose. The changes that have been set in motion by the financial crisis demand reflection. How can the Netherlands hold on to its gains?

With the brisk sea wind on her face, the Empress mulls over what the Deputy Chairman of the Supreme Economic Council has just said to her. After the most recent unpleasant meeting of the Supreme Economic Council, where they had discussed the unorthodox policies of the Central Bank, their relationship had deteriorated. The Deputy Chairman had written her a long letter in which he had expounded in detail on the Central Banker's concerns. He had once again insisted on her unconditional support, urging her strongly to take a more active role instead of standing back and watching while bankers targeted the Central Banker. In the meantime, the prime minister of the state of Northeast had paid another visit. He had revisited the topic of their earlier discussion regarding confidence in the currency union between Rice Island and the mainland states. The currency union, too, demanded the Empress' unconditional support, in both word and deed: the financial markets would only be convinced of her sincerity if common government bonds were issued. She had been hearing this for years by this time; she had the feeling that it could still wait a while.

But the most important reason for the prime minister's visit was not the currency union, but the recent Summit of World Leaders. This had ended in chaos. It seemed clear that the republic of West was now, after the financial crisis, gearing up for a trade war. That would be a disaster— not only for Rice Island but also for the mainland states. Rice Island had exported its large rice surpluses of recent years to West. The new president there now wanted to put an end to that. 'This is exactly why we need the currency union now more than ever before,' the prime minister had said. 'As individual countries we are too small to withstand the president and West, but if we act jointly in trade policy, then he cannot get around us. This will only be credible, however, if you fully support the monetary union.'

While the Empress listened silently to the prime minister, she recalled all at once her conversation with the youngest member of the Supreme Council, in which he had lost his temper when she had told him about the idea of the common government bonds. Would the prime minster guess the pressure she was facing? The Empress and the prime minister had parted without making any further agreements. She had felt uneasy afterwards. While she could not simply set aside the prime minister's comments, his self-interest in this matter was blatantly obvious. She could hardly discern a solution.

Soon afterwards, the Deputy Chair had invited the Empress for a walk along the top of the sea wall. The empress loved the view from there. They could not allow their difference of opinion to continue, this much she knew— and so, she had accepted the invitation. Now they were walking there. The view was indeed breath-taking: in the distance you could see the mainland. There were lengthy silences during the conversation, but this was actually quite comfortable. It provided time for reflection. 'I know your opinions about the Central Banker and about the prime minister of Northeast. But if you were in my shoes, what would you do under the current circumstances?'

Once again there was a silence. The Deputy Chair had no difficulty in placing himself in the Empress' unenviable shoes. 'Your Majesty, we both know that the currency union will stand. This was true already, and made even more inevitable after the election of the new president in West. No one, including yourself, will want to put any further strain on the cooperation with the mainland states. We must therefore remain on good terms with them. You cannot get around what the prime minister of Northeast has said. First, however, you must gain support here on Rice Island from the bankers and farmers. You must speak with them, find out what they hope to achieve and establish what they can realistically expect from the mainland states. You may believe that they cannot be reasoned with, but this is not true. Many of them know quite well that the Central Bank has no alternative. They understand that we cannot continue without the support of the mainland states. You must convince them to enter into a dialogue with you.'

There was another silence, while they both stood there on the dyke, peering over the sea towards the mainland. The thoughts of the Empress wandered momentarily from the advice that the Vice Chairman had just given her. She said, 'I love this about our Rice Island… the view from the dykes.'

The demise of Lehman was the beginning of the gravest financial crisis the world has known since the Great Depression. Indeed, although the world has learned from the mistakes that were made eighty years ago, the mechanisms that disrupted the world economy then (for more than a decade) are nevertheless cropping up again: economic growth has fallen back, populism has won ground, and we stand on the eve of a trade war of which we cannot foresee the outcome.

In particular, the presidency of Donald Trump has altered the world dramatically. Multilateral organizations such as the WTO and NATO are under pressure. Trump's course is set for a trade war between the United States and China. The security guarantees given to Japan and South Korea have lost their credibility through Trump's meeting with Kim Jong-un. We shall have to wait and see how things fare with the security guarantee given to Europe.

It is difficult to discern Trump's vision on the basis of his tweets and statements, which are too frequently at odds for that purpose. Based on his deeds, however, his vision appears to be based on two seemingly contradictory principles. With regard to international trade, Trump appears to think that the United States is so big and powerful that his country is better-off without multilateral rules, and that he can impose his will on everyone by means of bilateral agreements. In military matters, his bellicose rhetoric appears to be a smokescreen behind which we find a weakening of the American security guarantees. Whether this is a deliberate strategy or the unintended consequence of a chaotic series of events is difficult to judge. But the outcome is nevertheless not devoid of logic. In the longer term the United States will in any case not be able to maintain its current military supremacy and with it the security guarantees it has made. The smokescreen masks a premature retreat. Although Trump's re-election is unknown, his genie will not go back into the bottle easily, not even if he fails to be re-elected.

The problems of multilateral organisations were discussed earlier. Despite those difficulties, the WTO has achieved a great deal. The EU, however, has accomplished even more. The EU has become a free trade zone without internal borders— a significant accomplishment that has benefited wealth and welfare in Europe. Now that the WTO may become a victim of its own success— *Has globalization gone too far?*— bilateral negotiations between countries and blocs of countries will become even more important. For a single country, it is no tempting prospect to stand alone against American might. The EU will thus play a large role in the future of *Beautiful Netherlands*. The Netherlands must therefore give careful thought to its position within Europe.

This position has changed drastically now that the Netherlands has lost an important ally with the Brexit. Great Britain supported the Netherlands in moderating the ambitions of the EU. The Dutch agenda for Europe is symbolised by the resistance posed 25 years ago by Ruud Lubbers together with Margaret Thatcher against the coalition of Helmut Kohl and François Mitterrand and against German unification. When the French-German axis starts moving, the Netherlands feels uneasy. The Netherlands was of the opinion that powers should come back from Brussels to The Hague. During the Euro Crisis the reverse has happened. No Dutch prime minister has spent so much time in meetings in Brussels as has Mark Rutte. The Netherlands opposed the banking union. It did materialise, although it remains incomplete without a common deposit guarantee system. The Netherlands opposed interference by the Euro parliament in the appointment of the new chair of the European Commission. The heads of government of Sweden, Germany, Great Britain and the

Netherlands spoke up jointly against it. Frans Timmermans, who was then the Dutch minister of Foreign Affairs, stated on Dutch television that he rejected the European Parliament playing a role in the appointment. Shortly after, the preferred candidate of the European Parliament, Jean-Claude Juncker, became the president of the commission— with the support of Germany, by the way. Frans Timmermans became the first vice president. The Netherlands opposed Draghi's policy for years. Still, the policy was carried out. The Netherlands opposed a European Minister of Finance, while in the person of Jeroen Dijsselbloem it supplied the first 'quasi-official' minister. Mark Rutte was of the opinion that the Dutch contribution to the EU should in any case grow no further. Shortly after this, he informed the Dutch parliament that a rise may yet be inevitable. The Netherlands used to be an influential member that often drafted the final proposal of compromise. This gave the Netherlands authority. During the last ten years the Dutch agenda has seemed to be chiefly composed of matters that the Netherlands is opposing and that end up happening anyway. Is there a better way?

A promising way to envision a more positive Dutch agenda for the EU is the group picture of the G7 summit in Canada in 2018. Nine people appear on this photograph, seven men and two women. Three are from outside of Europe, the government leaders of the United States, Canada and Japan. The remaining six represent the EU: the government leaders of Germany, France, Italy and Great Britain, supplemented by the president of Europe, Donald Tusk, and the president of the European Commission, Jean-Claude Juncker. The Netherlands is thus represented by six 'voices' on this stage. But if the Netherlands doesn't want to be pushed off to the side along with all the other small EU member states, then the Netherlands has an interest in ensuring that at such fora the voice of either Donald Tusk and/or Jean-Claude Juncker is amplified as much as possible. Otherwise, Frans Timmermans will be right and France and Germany will simply go their own way.

An important condition for a successful agenda is having the right allies. After its choice for Brexit, Great Britain will see to its problems alone. They may succeed— *who knows?* It is evident in any case that the Netherlands must set its own course. In Europe everything revolves around the French-German axis. The Dutch relationship with Germany is excellent. The relationship with the French is dreadful. 'France is a hopeless country, ruled from the streets.' It is as if the Dutch governing elite has embraced this mantra, so frequently have I heard Dutch government officials utter this sentence. On what do we base this aversion towards France and at the same time our love for Great Britain? France has higher unemployment, Great Britain has greater income inequality and opted for Brexit, but otherwise both countries resemble each other a great deal. They are equally prosperous, equally happy, have a comparable government debt and their governments maintain a comparable budget deficit. Whence this Dutch aversion towards France? An alliance with the Scandinavian and Baltic states is no substitute for good ties with France. Something similar goes for Spain.

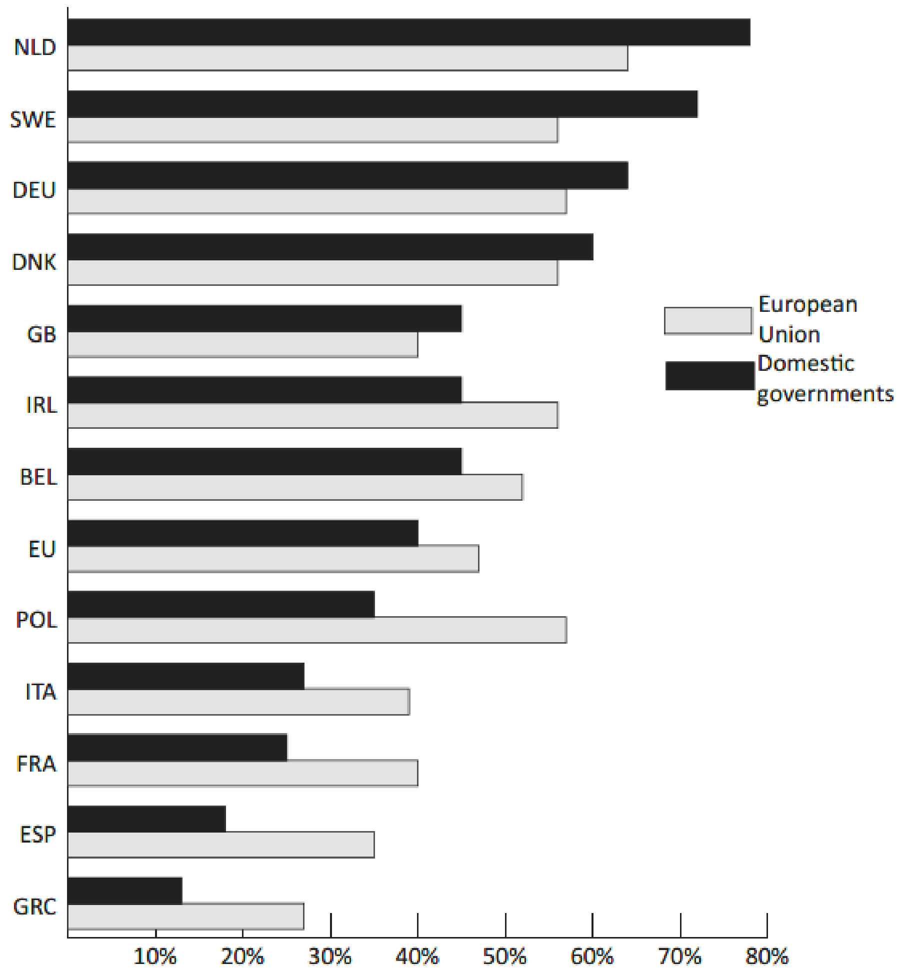


Figure 10.2 Most member states show higher levels of trust in the European Union than in their domestic governments. Moreover, this effect increases with lower levels of trust in domestic governments

A second condition for a successful Dutch agenda is some smidgeon of a sense of the way most European citizens regard the EU. Confidence in the EU is considerable, even though it is often thought and said that it has diminished. After the demise of Lehman and during the Euro crisis this was certainly true. In that same period, however, confidence in national parliaments and national governments was on the retreat. On average, across all EU countries, people's confidence in the EU is greater than the confidence they have in their own national government. Confidence in the national government is mainly low in the southern member states; in Greece, a mere 13 percent of people have confidence in their own government, while over a quarter trusts the EU. In the Netherlands, the reverse is the case. Dutch people trust their own government more than they do the EU. This large difference in confidence can be seen more as the consequence of the high confidence people have in the Dutch government than as an indication of their lack of confidence in the EU. Indeed, Angela Merkel was for a long time the most popular politician in the Netherlands— more popular than Mark Rutte. Lower confidence in national government generally goes together with lower confidence in the EU— but in those lower-confidence cases, people always prefer the EU to their own government. When comparing confidence in one's own government and confidence in the EU, Poland's position is interesting. Polish voters have elected a government that opposes the EU and has had fierce clashes with the European Commission regarding the organisation of the rule of law. However, the Polish citizen has more confidence in the EU than in the national government; in no other member state is the preference for the EU above the national government as large as it is in Poland. Whereas the world anxiously wondered for some time whether the EU would be crushed under the pressure of populism, the populist rhetoric has been given firm footing only in Great Britain and the United States. A successful agenda for the EU therefore does not focus on what is going wrong, but identifies and celebrates what has been achieved.

Regarding confidence in the euro, things are no different. Now that the Euro Crisis lies behind us, two-thirds of the Eurozone population have confidence in the euro. Just as in the rest of Northwest Europe, in the Netherlands this number is even 80 percent. Only in several EU countries that are not a part of the Eurozone is confidence in the euro less than one-third: in Sweden, Denmark and, obviously, Great Britain. The Euro Crisis, besides being a trauma, is now also a shared political history. Member states have together had to find a way out of these problems. They have called each other all manner of names, but in the end they made a way. Under the highest pressure, the will to persevere with the union proved stronger than any malice among countries. Undoubtedly the last word about the Italian government debt has not been spoken. But when this discussion pops up, the history will no longer be a burden, but an asset. A currency union that has endured under high pressure will be less quickly called into question. The euro's success is therefore the cornerstone of a robust agenda.

If the Netherlands can embrace these conditions, then this will create a space for a positive agenda. But what could such an agenda look like? Should the Netherlands insist on structural reforms in other countries— a subject that has been on the agenda repeatedly during the Euro Crisis? Is it easier or more difficult for a member state to make reforms when it is being hounded by other member states? Is this interference justified by the interests of other member states in the success of the reform in question? The answer to both questions is, at best, a doubtful yes. Consider three successful, but also painful, social reform programmes from the last fifty years: the mine closures in Great Britain from 1984 onwards, the reforms of the occupational disability insurance in the Netherlands around 1990 (the famous speech of Lubbers: 'The Netherlands is ill') and the German Hartz reforms of the labour market in the years 2004-2006 that were implemented by Gerhard Schröder. In every one of these three cases it was clear to everyone that a reform was inevitable. Regarding the mine closures in Great Britain, for example, The Netherlands had already shut down its coal mine twenty years earlier. The large number of people with a disability benefit in the Netherlands was known internationally as 'The Dutch Disease'. Germany and France were spoken about in Brussels in 2000 as 'the two sick old men of Europe'. Both countries had an unemployment level of 10 percent at the time. The Hartz reforms led to unemployment dropping to 5 percent in Germany. The EU did not play any part in the British and Dutch reforms. Only the German matter was discussed repeatedly in Brussels, but without any form of sanction; it is doubtful whether pressure from other member states had any effect. In each of the three cases it was a combination of internal economic necessity, voter discontent and possibly shame about a country's own weakness which made the reforms possible.

Does one country benefit from the reforms of another? Has the Netherlands benefited from the German Hartz reforms, because the German economy grew more rapidly, giving the Netherlands a larger market in Germany? This is undoubtedly true, but these benefits are marginal compared to the fruits Germany itself has reaped. In all three reforms, the country in question had a much faster growth rate in the subsequent years than the EU average. This limits the legitimation of the meddling of member states in the reforms of other states. Macron has placed similar reforms on the agenda in France as Schröder implemented in Germany between 2004 and 2006. The discontent in France about high unemployment is huge; the French national pride is legendary. Pressure exerted by other member states has at most only fanned that pride. In Italy, too, the frustrations about persistent economic stagnation are sky-high. The country has implemented far-reaching reforms in recent years, among others in its pension system. The great frustration of Italy is that these have really not helped. Reform in Italy will probably mean a change in culture. This will be a long road ahead. Forcing structural reforms in other member states therefore has no place in a positive Dutch agenda for the EU. It only sours the relationship with other member states without increasing the chances of success.

What should the Dutch agenda be for the currency union and the fiscal rules? The recent crisis has shown that the Eurozone economy would function more smoothly with more mutual insurance of macro-economic risks between member states. Besides attempting to absorb macroeconomic shocks through mutual insurance, countries can also absorb these themselves by smoothing them over time and using their own government debt as a buffer. The torturous path of the Dutch economy between 2012 and 2015 has shown that smoothing setbacks has great added value. The Netherlands did not do this at the time, because it staunchly— not to mention almost uniquely— followed the rules. It paid a high price for that commitment to the rules. So, something is wrong with the rules. This is all the more jarring because it is probable that the trade war will put an end to the large trade surplus that Europe currently enjoys. Testing-ground Japan shows that a high government debt might just be the only way out.

Increased mutual insurance among member states carries with it the risk that the currency union ends up being a transfer union, in which a permanent flow of money is set in motion from North to South— stated simply, for the sake of concreteness: from the Netherlands to Greece. Of course, this is not the desirable outcome. In fact, this is so obvious that the arguments for this position need not even be elaborated. It might perhaps be even better to avoid discussing those arguments, however, because they aren't really that convincing. The United States of America have formed a currency union for more than two centuries. Like the euro, the dollar has a history along the lines of 'three steps forward and two steps back'. The United States even fought a civil war over their differences. Within the United States there are large regional income differences. The living conditions along the Mexican border cannot be compared to those in the average suburb of an American city. On an annual basis, a broad stream of tax money flows from rich states to poor ones. This system provides long-term support to states where jobs are disappearing and the youth are moving away. The system provides short-term support for those states experiencing temporary economic headwinds. You might call this a transfer union. But if this is viable in the United States, then why can't it be so in the EU?

This issue can also be viewed from a narrower, Dutch perspective. Within the Netherlands, too, large-scale transfers take place between cities. Amsterdam and Eindhoven grow and thrive, while Heerlen has been struggling since the closing of the mines in the 1970s. In the United States the public administration of a city must support itself through local taxation. If a city is unable to raise an adequate amount of tax money, then the population will move away and the city will go under. Transfers between cities are impossible there. In the Netherlands, municipalities are financed by national tax revenue. Because of the economic malaise, inhabitants of Heerlen pay few taxes. On balance, the city has for decades been on the receiving end of a transfer from the rest of the country. No one complains about this. Such a transfer isn't always semi-permanent, however, as in the case of Heerlen. Often it disappears over time, when a city recovers from a crisis. In the 1970s Amsterdam was practically bankrupt; Eindhoven struggled in 1997 after the Phillips headquarters had packed up and left. Both cities were able to survive these difficult times because they were financed from national tax revenues. Today they are amply contributing to a well-filled treasury. What applies to Dutch municipalities applies equally to EU member states. Ireland was one of the five GIIPS countries balancing on the edge of bankruptcy during the Euro Crisis. By now it is one of the three wealthiest countries in the world in terms of GDP per capita, holding a position above that of the United States, if we exclude the oil-producing countries, the city-states and Luxembourg. Something similar could also befall the Netherlands. In such an event the Netherlands has an interest in a certain measure of mutual risk-sharing, just as Dutch municipalities share the financial risks of municipalities amongst each other.

The rise and fall of states and cities is the natural consequence of the process of specialisation described by Paul Krugman. A successfully specialised city functions as a magnet for fresh talent. The Netherlands is so beautiful perhaps in part because cities are partially insured against this type of regional bad and good luck. The World Bank has demonstrated that nowhere in the world is there so much income between citizens redistributed as in Europe. Why would this be possible within countries, but be unthinkable between them?

The idea of a transfer union goes against the grain in the Netherlands. That shouldn't surprise us. In all of Europe people greatly value the concept of 'solidarity'. In all member states more than two-thirds of the population attaches a positive meaning to the word. In Sweden, this number is highest, where almost everyone does. It surprised me that the Netherlands scores lowest of all member states on this item. Does this account for the Dutch resistance? And yet support for solidarity in the Netherlands is broad. In 1944, in the middle of World War II, English economist William Beveridge published his famous book, 'Full Employment in a Free Society'. The book laid the foundation for the post-war expansion of National Insurance and the creation of the National Health Service. Beveridge realised that the pre-war problems of political polarisation towards extreme left and extreme right could only be solved by providing citizens with more social security. Equally, the social problems of the Great Depression could only be remedied by better social insurance. The lack of adequate unemployment insurance destabilises the economy during a recession. When people become unemployed, they have less money to spend, which causes the economy to sink even further into a recession. But this is not the most important effect, because eventually only a small part of the working population loses his or her job during a recession. Much more important is that all the other people start to fear that they will meet with the same fate, causing them to save more out of precaution, thereby intensifying the recession. Has globalisation gone too far, or is it social protection that doesn't reach far enough to protect the weak against the effects of globalisation?

Whether more transfers will take place between countries— and if so, how many more— only the future will tell. Will those transfers be financed by euro bonds? We will have to wait and see. Given the Dutch stance in the recent past, it is unlikely that the Netherlands will take the lead in this discussion. A touch of open-mindedness in assessing the events that took place between 2012 and 2015 would be helpful, though, just in case this discussion flares up again during a subsequent crisis. Until that time, member states that advocate the introduction of euro bonds will have to do the convincing. The Netherlands will then have something to offer in exchange for something else during the negotiations. In that case the longstanding Dutch resistance to risk-sharing will eventually get its pay-off.

On the topic of the euro there is another point for the Dutch agenda. Not only in the case of budgetary risk-sharing between euro countries, but also regarding membership is the currency union incomplete: not all EU countries are members. In 2017, Juncker advocated resurrecting the old obligation that all EU countries except Denmark introduce the euro. At the time, The Netherlands had responded lukewarmly. This is remarkable because a general membership of all EU countries would facilitate the functioning of the EU. Certainly, the entry of Sweden, Denmark and Poland would strengthen the euro. Although Denmark is formally not obligated to it, it would be relatively easy for the country because the Danish crown is actually pegged to the euro. For Sweden it will take something more. Although it will be no simple matter politically to convince both countries to enter the currency union, it would certainly be in the interests of the Netherlands.

The core of a positive Dutch agenda for the EU can be summarized in relatively simple terms. The Netherlands has an interest in an active and well-functioning EU that guards borders, maintains an open internal market, procures good trade deals with other countries, represents Dutch interests adequately in multilateral organisations such as the United Nations and the WTO, protects the territorial security of the EU (on land as well as on the internet), presides over a smooth energy transition and provides an open climate for research.

I call the agenda a Dutch agenda because in discussions about new European rules and initiatives it identifies particularly Dutch interests. However, the agenda looks very different from the mantra that the Netherlands has spread in Brussels these past years. Powers will not move from Brussels back to The Hague. The reverse is more likely: Brussels should get to work for the Netherlands.

For further reading and further viewing

Suggestions have been grouped per chapter

1 Lehman bankrupt

For further reading

Ben Bernanke, The global saving glut and the US current account deficit, March 10, 2015, speech in Richmond, Virginia.
https://www.bis.org/review/r050318d.pdf

Speech by the chairman of the FED about the consequences of the savings glut

Nicholas Bloom, The impact of uncertainty shocks, 2009, *Econometrica*, 623-685.

The effects of a rise in the volatility index VIX on investments. (technical)

Ricardo Caballero, Emmanuel Farhi and Pierre-Olivier Gourinchas, An equilibrium model of 'global imbalances' and low interest rates, 2008, *American Economic Review,* 358-93.

The role of the Chinese savings surplus in the origins of the credit crisis. (technical)

Valerie Cerra and Sweta Saxena, Growth dynamics: the myth of economic recovery, 2008, *American Economic Review*, 439-57.

The effects of a banking crisis on the GDP of later years. (technical)

Barry Eichengreen, *The Hall of Mirrors. The great depression, the great recession, and the uses — and misuses — of history*, 2015, Oxford University Press, Oxford.

A comparative analysis of the Great Depression in the 1930s and the Great Recession after the demise of Lehman.

Carmen Reinhart and Kenneth Rogoff, *This time is different. Eight centuries of financial folly,* 2009, Princeton University Press, Princeton.

A history of eight centuries of financial crises.

Amir Sufi and Atif Mian, Why the housing bubble tanked the economy and the tech bubble didn't, May 12, 2014.
https://fivethirtyeight.com/features/why-the-housing-bubble-tanked-the-economy-and-the-tech-bubble-didnt/

Why did the bursting of the American housing bubble hit the economy hard, while that same phenomenon in high tech companies around 2000 passed nearly unnoticed?

Raghuram Rajan, *Has financial development made the world riskier?* 2005, The Greenspan Era: Lesson for the future, symposium of the Kansas FED, Jackson Hole.
https://www.kansascityfed.org/publicat/sympos/2005/PDF/Rajan2005.pdf

A warning for the dangers of financial innovations for the world economy three years prior to the bankruptcy of Lehman.

Maarten de Ridder, Investment in productivity and the long-run effect of financial crisis on output, 2016.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2906232

The effect of the financial (in)stability of the house bank of a firm on its later productivity growth. (technical)

Maarten de Ridder and Coen Teulings, Endogenous growth and lack of recovery from the Global Crisis, 13 July 2017, *VoxEU*.
https://voxeu.org/article/endogenous-growth-and-lack-recovery-global-crisis

Can foregone investments in R&D explain the permanent drop in GDP after the Great Recession?

Coen Teulings and Nikolay Zubanov, Is economic recovery a myth? Robust estimation of impulse responses, 2014, *Journal of Applied Econometrics*, 497-514.

Is the effect of banking crises on GDP lasting or temporary? (technical)

For further viewing

Jeffrey Chandor, *Margin Call*, 2011, film.

An investment bank sells in one day its huge portfolio of underwater mortgage-backed securities

Charles Ferguson, *Inside job*, 2010, documentary.

Interviews with bankers, economists and others who were involved in the start of the financial crisis.

Adam McKay, *The Big Short*, 2015, film based on the book of the same name by Michael Lewis.

The film shows how a number of investment bankers understand at an earlier stage that something is wrong in the American housing market and plan to base their investment strategy on this knowledge.

2 Rescuing banks

For further reading

Ben Bernanke, Implications of the financial crisis for economics, 2010, speech at the Bendheim Center for Finance, Princeton.
https://www.bis.org/review/r100929a.pdf

A reflection by the president of the FED at the time on the role of economic science during the credit crisis.

Markus Brunnermeier, Deciphering the liquidity and credit crunch 2007-2008, 2009, *Journal of Economic Perspectives*, 77-100.

About the role of mortgage tranches in the development of the credit crisis.

Ricardo Caballero and Emmanuel Farhi, The safety trap, 2017, *Review of Economic Studies*, 223-274.

The distortionary effect of an excessive demand for security.

Gillian Tett, *Fool's Gold*, 2009, Free Press, New York.

The origins of the financial crisis described by a journalist of the Financial Times.

Emmanuel Fahri and Jean Tirole, Shadow banking and the four pillars of traditional financial intermediation, 2017, NBER working paper 23930.
https://scholar.harvard.edu/files/farhi/files/shadow_banking_100617.pdf

The interplay between lender of last resort, the deposit guarantee system and bank supervision and the shadow banking sector.

For further viewing

Yan Ting Yuen and Robert Kosters, *De achtste dag*, 2018, documentary

Interview with those directly involved in the negotiations between the Netherlands and Belgium regarding the bankruptcy of Fortis.

3 The Greek Tragedy

<u>For further reading</u>

Adi Brender and Allan Drazen, Political budget cycles in new versus established democracies, 2005, *Journal of Monetary Economics*, 1271-1295.

Do governments spend more right before elections to appease voters? Answer: only in young, not in old, democracies.

Adi Brender and Allan Drazen, How do budget deficits and economic growth affect reelection prospects? Evidence from a large panel of countries, 2008, *American Economic Review*, 2203-2220.

Do higher expenditures right before elections increase the chances for re-election of the sitting government? Answer: only in young, not in old, democracies.

Barry Eichengreen, Should the Maastricht Treaty be saved? 1992, *Princeton Studies in International Finance*, no. 74.
https://www.princeton.edu/~ies/IES_Studies/S74.pdf

An article written during the negotiations about the Maastricht Treaty. Many of Eichengreen's objections from 1992 proved justified during the 2010-2012 crisis.

Robert Gerwarth, *De verslagenen. Waarom de Eerste Wereldoorlog nooit is opgehouden,* 1917-1923, 2016, Uitgeverij Balans.

The armed conflicts after the First World War, among others between Greece, Turkey, Great Britain and France.

Eugene Rogan, *The fall of the Ottomans; The great war in the Middle East, 1914-1920*, 2015, Allen Lane.

The demise of the Ottoman Empire.

André Szász, *The road to European Monetary Union 1999*, St. Martin's Press, New York.

A marvellous analysis by the former chairman of De Nederlandsche Bank about the over the creation of the EMU.

<u>For further viewing</u>

Fred Zinneman, *The day of the Jackal*, 1973, film based on a book by Frederick Forsyth.

Film about one of the many attempted assassinations on De Gaulle at the beginning of the 1960s, when France is balancing on the edge of a civil war about the independence of Algeria.

4 The Country of Colijn and Calvin

For further reading

Alan Auerbach and Yuriy Gorodnichenko, Measuring the output responses to fiscal policy, 2012, *American Economic Journal: Economic Policy*, 1-27.

Alan Auerbach and Yuriy Gorodnichenko, *Fiscal multipliers in recession and expansion,* 2012, *Fiscal Policy after the Financial crisis*, University of Chicago Press, 63-98.

Both studies show that the multiplier is much higher during recessions than during peaks in the business cycle. (technical)

Robert Barro, On the determination of the public debt, 1979, *Journal of Political Economy*, 940-971.

The first description of the smoothing principle for the servicing of government debt. (technical)

Robert Barro, The Ricardian approach to budget deficits, 1989, *Journal of Economic Perspectives*, 37-54.

A version in which the smoothing principle is explained in a non-technical way. According to the Ricardian approach, the level of government debt is essentially irrelevant.

Olivier Blanchard and Daniel Leigh, Growth forecast errors and fiscal multipliers, 2013, *American Economic Review*, 117-120.

Much-debated study by the IMF. Predictors overestimate the GDP in countries that make large budget cuts directly after the Great Recession because they calculated using a multiplier that was too low.

Karl Case, John Quigley and Robert Shiller, *Wealth effects revisited: 1975—2012*, 2013, NBER working paper 18667.

The changes in the expenditures of families after their house decreases in value.

Gabriel Chodorow-Reich, Geographic cross-sectional fiscal multipliers: what have we learned? 2017, NBER working paper 23577.
https://scholar.harvard.edu/files/chodorow-reich/files/cross_sectional_multipliers.pdf

Overview of research on the value of the multiplier; studies calculate a high value.

Stepanie Lo and Kenneth Rogoff, Secular stagnation, debt overhang and other rationales for sluggish growth, six years on, 2015.
https://www.bis.org/publ/work482.htm

Overview of alternative explanations for the slow grown after the Great Recession, in particular regarding the importance of high private debt.

Atif Mian, Kamalesh Rao and Amir Sufi, Household balance sheets, consumption, and the economic slump, 2013, *Quarterly Journal of Economics*, 1687-1726.

Families respond more strongly to setbacks than to windfalls in the development of the value of their home.

Wouter den Haan, Pontus Rendahl and Markus Riegler, Unemployment (fears) and deflationary spirals, 2015, Journal of the European Economic Association.
https://academic.oup.com/jeea/advance-article/doi/10.1093/jeea/jvx040/4653491

The relationship between precautionary savings and expenditures. (technical)

Coen Teulings, Unemployment and house price crises: lessons for fiscal policy from the Dutch recession, 2014, IZA *Journal of European Labor Studies*.
https://link.springer.com/article/10.1186/2193-9012-3-20

The Dutch budget policy during the period 2008-2014 and its economic consequences.

For further viewing

PIIE Institute, *Rethinking macroeconomic policy*, October 12, 2017, report with film material of the conference, Washington.
https://piie.com/events/rethinking-macroeconomic-policy

Discussion about the core issues of the macro debate between prominent macro-economists.

5 Testing-ground Japan

For further reading

Paul Krugman. It's baaack: Japan's slump and the return of the liquidity trap. *Brookings Papers on Economic Activity* 1998, 137-205.

The first analysis of the consequences of the savings surplus, deflation, and low interest rate.

Jason Lu and Coen Teulings, Secular stagnation, bubbles, fiscal policy, and the introduction of the contraceptive pill. *VoxEu*, October 21, 2016. https://voxeu.org/article/secular-stagnation-bubbles-fiscal-policy-and-introduction-contraceptive-pill

The interplay between population growth, the savings surplus, the government debt and housing bubbles.

6 Crisis Talks in Brussels

For further reading

Alan Auerbach, Fiscal policy, October 12, 2017, paper for the conference Rethinking macroeconomic policy, PIIE institute Washington. https://piie.com/system/files/documents/auerbach20171012paper.pdf

An evaluation of the role of fiscal policy after the Great Recession.

Fernando Broner, Alberto Martin and Jaume Ventura, Sovereign risk and secondary markets, 2010, *American Economic Review*, 1523-1555.

Because there is a secondary market for government bonds, during a financial crisis government bonds are mainly in the hands of [ingezetenen]. (technical)

Harold Cole and Tim Kehoe, Self-fulfilling debt crises, 2000, *Review of Economic Studies*, 91-116.

The unpredictability of financial crises. (technical)

Emmanuel Farhi and Jean Tirole, Deadly embrace: sovereign and financial balance sheets doom loops, 2016, NBER Working paper 21843.
http://scholar.harvard.edu/files/farhi/files/doom_loops_102516.pdf

An analysis of the interplay between government debt and the balance sheets of banks. (technical)

Paul de Grauwe, Managing a fragile Eurozone, 2011, CESifo.
https://www.cesifo-group.de/DocDL/forum2-11-focus7.pdf

A comparison of Spain, that couldn't depreciate because it was a euro member state, and the United Kingdom, which could.

Luuk van Middelaar, *De passage naar Europa. Geschiedenis van een begin*, 2009, Historische Uitgeverij.

A history of the origins of the European Union, including the start of the European Council.

Mark Rutte and Jan Kees de Jager, Expulsion from the Eurozone has to be the final penalty, September 7, 2011, *Financial Times.*
https://www.ft.com/content/5284d4a4-d93a-11e0-884e-00144feabdc0

The controversial article about the possibility to expel a Eurozone member country.

7 Whatever it takes

For further reading

Robert Barro, Inflation and economic growth, 1995, NBER working paper 5326.
http://www.nber.org/papers/w5326

What is the effect of inflation on growth?

Ben Bernanke and Mark Gertler, Should central banks respond to movements in asset prices? 2001, *American Economic Review*, 253-257.

An analysis of the question whether central banks should also consider increases in housing prices and stock prices in their interest rate decision.

Gauti Eggertsson and Paul Krugman. Debt, deleveraging, and the liquidity trap: A Fisher-Minsky-Koo approach, 2012, *Quarterly Journal of Economics*, 1469-1513.

An analysis of the counterintuitive consequences of the Zero Lower Bound.

Niall Ferguson and others, Open letter to Ben Bernanke, November 5, *The Wall Street Journal*,
https://blogs.wsj.com/economics/2010/11/15/open-letter-to-ben-bernanke/

An open letter by, among others, Niall Ferguson to former FED-chairman Ben Bernanke urging him to put a stop to the Quantitative Easing policy.

Paul Krugman. It's baaack: Japan's slump and the return of the liquidity trap, 1998, *Brookings Papers on Economic Activity*, 137-205.

Early analysis of the role of deflation and the Zero Lower Bound in Japan.

Coen Teulings, Are bubbles bad? Is a higher debt target for the Eurozone desirable? May 14, 2016, *CESifo Economic Studies*, https://academic.oup.com/cesifo/article/62/2/197/1744996

Is a higher debt target necessary for the stability of financial markets in the Eurozone?

Coen Teulings and Richard Baldwin (eds.), *Secular stagnation: facts, causes and cures,* August 15, 2014, Ebook VoxEU,
https://voxeu.org/content/secular-stagnation-facts-causes-and-cures

Overview with contributions from many prominent macro-economists to the debate about the decrease in interest rates. Olivier Blanchard et al. provide an overview of the causes of the decrease of the real interest rate; Paul Krugman gives an overview of the consequences for policy.

Simon Tilford, The most dangerous man in Europe is Jens Weidmann, March 8, 2018, *Foreign Policy.*
http://foreignpolicy.com/2018/03/08/the-most-dangerous-man-in-europe-is-jens-weidmann/

Is Jens Weidmann a risk to the future of the Eurozone?

Michael Woodford, *Interest and prices: Foundations of a theory of monetary policy,* 2011, Princeton University Press.

The first full version of a monetary theory without a role for the money supply.

For further viewing

Mario Draghi, Speech global investment conference, July 26, 2012, London.
https://www.youtube.com/watch?v=hMBI50FXDps
The 'Whatever it takes' speech.

8 In splendid isolation

For further reading

Philippe Aghion and Rachel Griffith, *Competition and growth. Reconciling theory and evidence*, 2005, MIT Press.

Analysis of the relationship between market competition and innovation.

Centre for European Reform, The economic consequences of leaving the EU, June 9, 2014, CER publications, London.
https://www.cer.eu/publications/archive/report/2014/economic-consequences-leaving-eu

Analysis of the consequences of a British exit from the EU.

Niall Ferguson, *Empire; how Britain made the modern world*, 2003, Penguin Books.

Historical analysis of the growth and demise of the British World Empire.

Peter Frankopan, *The silk roads. A new history of the world,* 2015, Bloomsbury.

A description of the world history from the perspective of the Middle East.

Boris Johnson, *The Churchill factor. How one man made history*, 2014, Hodder & Stoughton.

Biography of Churchill written by one of the leaders behind the Brexit campaign.

Tim Oliver (ed.), Europe's Brexit. EU perspectives on Britain's vote to leave, 2018,
https://agendapub.com/index.php/books/political-economy?view=title&id=54

How do the other EU member states view the Brexit?

Bas Straathof, Gert Jan Linders, Arjan Lejour and Jan Mohlman, The internal market and the Dutch economy: implications for trade and economic growth, 2008, Document 168, CPB.

Analysis of the effect of EU membership on the trade flows between countries.

For further viewing

Phyllida Lloyd, *The Iron Lady*, 2011, film

A film in which Margaret Thatcher, who by now is suffering from dementia, looks back on her life.

Peter Morgan, *The crown*, 2016, Television series

Portrait of an era at the start of the reign of Queen Elizabeth directly after the Second World War and the difficult acceptance of the demise of the British Empire.

Peter Weir, *Gallipoli*, 1981, film

Film about three Australian brothers who fight for Great Britain during the First World War for the division of the disintegrating Ottoman Empire.

9 America First

For further reading

David Autor, David Dorn, Gordon Hanson and Kavej Majlesi, Importing political polarization? The electoral consequences of rising trade exposure, 2016, NBER working paper 22637.
http://bfi.uchicago.edu/sites/default/files/research/ADHM-Trade-Polarization.pdf

Empirical analysis of the effect of Chinese imports on voting behaviour in the United States.

Avinash Dixit, *The making of economic policy. A transaction-cost politics perspective,* 1998, MIT Press.

Analysis of multilateral organisations on the basis of the theory of transaction costs.

Nicole Fortin and Thomas Lemieux, Institutional changes and rising wage inequality: is there a linkage? 1997, *Journal of Economic Perspectives*, 75-96.

The role of the minimum wage and the decreasing degree of organisation of unions on the increase in wage inequality in the United States.

Bas Jacobs and Floris Zoutman, Meer over de top, 2013, CPB achtergronddocument.
https://www.cpb.nl/sites/default/files/publicaties/download/cpb-achtergronddocument-meer-over-de-top.pdf

Comparative figures regarding the development of the highest incomes in several countries.

Paul Krugman, Increasing returns, monopolistic competition, and international trade, 1979, *Journal of International Economics*, 469-479.
http://www.sciencedirect.com/science/article/pii/0022199679900175

Can a country stand to lose from free trade because the activities that generate a lot of monopoly power are established in other countries? (technical)

Paul Krugman, *Pop internationalism*, 1996, MIT Press.

Not globalisation but technological progress causes the increased inequality in the United States.

Paul Krugman, Trade and inequality, revisited, June 15, 2007, *VoxEU.*

Krugman revises his position: trade with China has considerable effects on inequality in the United States.

Nolan McCarty, Howard Rosenthal and Keith Poole, 2009, Does gerrymandering cause polarization? *American Journal of Political Science*, 666-680.

Empirical analysis of the increased polarisation between Democratic and Republican members of Congress.

Thomas Piketty, *Capital in the 21st century*, 2014, Harvard University Press.

Classic about the global growth of income inequality.

Dani Rodrik, *Has globalization gone too far?* 1997, Institute for International Economics.

Philip Roth, *The plot against America*, 2004, Houghton Mifflin.

Novel based on the fictional situation that not Franklin Roosevelt but Charles Lindbergh won the United States presidential election in 1940.

Arthur van Riel and Arthur Schram, Weimar economic decline. Nazi economic recovery, and the stabilization of political dictatorship, 1993, *Journal of Economic History,* 71-105.

Empirical study showing that German federal states with a high unemployment voted in larger numbers for Hitler.

Coen Teulings, *Why does in equality grow? Can we do something about it?,* June 15, 2014, *VoxEU.*
https://voxeu.org/article/why-does-inequality-grow

What are the causes of the rising income differences in OECD countries, and what can be done about it?

James Vance, *Hillbilly elegy. A memoir of a family culture in crisis,* 2016, Harper.

A family history set in a rust-belt state.

Mark Weiner, *Trumpism and the Philisophy of World Order*, July 23, 2018, Project Syndicate.
https://www.project-syndicate.org/commentary/trumpism-is-carl-schmitt-in-action-by-mark-s--weiner-2018-07

An analysis of Trump's vision on the role of the nation and multilateral organisations.

For further viewing

Martin McDonagh, *Three billboards outside Ebbing, Missouri*, 1917, film.

A single mother in a rust-belt state whose daughter has been murdered, rents three billboards to force the police to investigate the murder.

10 Beautiful Netherlands, Beautiful Europe?

For further reading

European Commission, Designing Europe's future. Trust in institution, globalisation, support for the euro, opinions about free trade and solidarity, 2017, *Special Eurobarometer 461.* http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/ResultDoc/download/DocumentKy/78720

Confidence of the citizens of EU member states in national and European institutions

Indermit Gill and Martin Raiser, *Golden growth. Restoring the lustre of the European Economic model,* 2012, World Bank
http://www.worldbank.org/en/region/eca/publication/golden-growth

John Helliwell, Richard Layard and Jeffrey Sachs, *World happiness report 2017,* 2018, United Nations Sustainable Development Solutions Network. http://worldhappiness.report/ed/2018/

Report about the measurement of happiness and the correlation with other factors in several countries.

Geert Hofstede, *Culture's consequences: comparing values, behaviors, institutions and organizations across nations*, 2003, Sage publications.

Famous study of the cultural differences between countries' norms of interaction, behaviour and institutions.

Coen Teulings, Fiscal consolidation and reforms: substitutes, not complements, September 13, 2012, *VoxEU.* https://voxeu.org/article/fiscal-consolidation-and-reforms-substitutes-not-complements

Market distortions generally lead to income transfers from future generations to current generations and are thereby a substitute for public debt.

Sources figures

1. Lehman bankrupt

Figure 1.1: The volatility on the stock market peaks after the demise of Lehman
http://www.cboe.com/products/vix-index-volatility/vix-options-and-futures/vix-index/vix-historical-data
https://finance.yahoo.com/quote/%5EVIX/history?period1=1136070000&period2=1262300400&interval=1wk&filter=history&frequency=1wk

Figure 1.2: The interbank lending market shut down in September 2008
https://fred.stlouisfed.org/series/TEDRATE

Figure 1.3: The credit crunch caused a permanent decrease of GDP in the US and an even larger decrease in the Eurozone
https://fred.stlouisfed.org/series/GDP
https://fred.stlouisfed.org/series/CPMNACSCAB1GQEU28
https://data.oecd.org/gdp/quarterly-gdp.htm#indicator-chart

2. Rescuing banks

Figure 2.1: Even the least risky tranches of the mortgage-backed securities turned out to be highly risky
Brunnermeier, M. (2009). Deciphering the Liquidity and Credit Crunch 2007-08. *Journal of Economic Perspectives*, 23(1), 77-100. Doi: 10.3368/w14612

3. The Greek tragedy

Figure 3.1: After the introduction of the euro, the labour cost per unit of output in the GIIPS countries increased much faster than elsewhere in the Eurozone
https://data.oecd.org/lprdty/unit-labour-costs.htm

Figure 3.2: Since the introduction of the euro, all GIIPS countries had a current account deficit, while not all GIIPS countries had a budget deficit
https://data.worldbank.org/indicator/BN.CAB.XOKA.GD.ZS?end=2016&start=2016&view=bar
https://fred.stlouisfed.org/series/BPBLTT01IEA188S
https://data.oecd.org/gga/general-government-deficit.htm

Figure 3.3: The difference in ten-year government bond yields between Germany and the GIIPS countries increased sharply, particularly for Greece https://data.oecd.org/interest/long-term-interest-rates.htm

4. The Country of Colijn and Calvin

Figure 4.1: The Netherlands experienced lower GDP growth than is observed in Germany, France and Belgium during the years of the fiscal budget cuts, 2012-2015.
http://www.oecd.org/eco/outlook/economic-outlook/

Figure 4.2: Sovereign debt decreased much faster after the 2008-2009 financial crisis than it did after the 1982 recession. https://cormol.wordpress.com/2017/10/02/bruto-binnenlands-product-bbp-1814-heden/
http://www.destaatsschuldmeter.nl/
https://www.cpb.nl/sites/default/files/omnidownload/CPB-Kerngegevenstabel-raming-Juni-2018.pdf

Figure 4.3: Incidence of suicides as a percentage of the population since 1975
https://www.cbs.nl/nl-nl/nieuws/2017/26/1-894-zelfdodingen-in-2016

5. Testing-ground Japan

Figure 5.1: Japanese interest rate and inflation since 1970
https://fred.stlouisfed.org/series/CPALTT01JPA657N
https://www.mof.go.jp/english/jgbs/reference/interest_rate/index.htm

Figure 5.2: The age distribution in Germany is similar to that in Japan, except that the largest cohort is 15 years older in Japan
https://www.indexmundi.com/united_states/age_structure.html
https://www.indexmundi.com/china/age_structure.html
https://www.indexmundi.com/germany/age_structure.html
https://www.indexmundi.com/japan/age_structure.html

Figure 5.3: Italy, Spain and Germany have an 'unbalanced' age distribution, while the Netherlands, the UK, and in particular France have a 'well-balanced' age distribution
https://www.indexmundi.com/germany/age_structure.html

https://www.indexmundi.com/italy/age_structure.html
https://www.indexmundi.com/spain/age_structure.html
https://www.indexmundi.com/netherlands/age_structure.html
https://www.indexmundi.com/united_kingdom/age_structure.html
https://www.indexmundi.com/france/age_structure.html

Figure 5.4: The countries with an 'unbalanced' population distribution have a surplus on the balance of payments. As an exception, the Netherlands has both a balance of payments surplus and a well-balanced population structure
https://www.cpb.nl/sites/default/files/omnidownload/Centraal_Economisch_Plan_2017.pdf
http://data.imf.org/regular.aspx?key=61468207
https://data.oecd.org/trade/current-account-balance.htm

6. Crisis talks in Brussels

Figure 6.1: Differences in the ten-year government bond yields, which had been diminishing prior to the introduction of the euro, become amplified after the bankruptcy of Lehman
https://data.oecd.org/interest/long-term-interest-rates.htm

Figure 6.2: Differences in the ten-year government bond yield of member states with a small default risk increased in 2011 and 2012 https://data.oecd.org/interest/long-term-interest-rates.htm

Figure 6.3: Fiscal deficits in 2017
https://data.oecd.org/gga/general-government-deficit.htm
https://www.usgovernmentdebt.us/federal_deficit_percent_gdp
https://www.reuters.com/article/us-china-parliament-budget/china-cuts-budget-deficit-ratio-for-first-time-since-2012-idUSKBN1GH0F2
https://www.statista.com/statistics/270118/budget-balance-in-japan-in-relation-to-gross-domestic-product-gdp/
http://ec.europa.eu/eurostat/documents/2995521/8824490/2-23042018-AP-EN.pdf/6e5b346e-e302-4132-920a-854b00ac196d

7. Whatever it takes

Figure 7.1: Real interest rate Germany
http://www.inflation.eu/inflation-rates/germany/historic-inflation/cpi-inflation-germany.aspx

https://fred.stlouisfed.org/series/IRLTLT01DEA156N
https://www.statista.com/statistics/275698/capital-market-interest-rate-in-germany/
https://www.bloomberg.com/quote/GDBR10:IND

Figure 7.2: Expected Official interest rate
https://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018#Chapter%201

9. America first

Figure 9.1: World Trade since 1900
www.ggdc.net/maddison/historical_statistics/horizontal-file_03-2009.xls
https://ourworldindata.org/international-trade
http://themasites.pbl.nl/tridion/en/themasites/hyde/basicdrivingfactors/gdp/index-2.html
http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD
https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS?end=2017&start=2007

Figure 9.2: Income inequality in the US, compared with UK and France
https://wid.world/data/

10. Beautiful Netherlands, beautiful Europe?

Figure 10.1: Happiest countries in the world
https://en.wikipedia.org/wiki/World_Happiness_Report#2018_World_Happiness_Report
https://data.oecd.org/inequality/income-inequality.htm

Figure 10.2: Confidence in the EU and in the national government
http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/SPECIAL/surveyKy/2173