An application of the adapted Fink Country Scoring Model on Portugal, Italy, Greece and Spain – country risk of the weaker Euro zone members and implications[*]

Peter Haiss
Vienna University of Economics and Business
Department of Global Business and Trade
Augasse 2-6
A-1090 Vienna
Austria
peter.haiss@wu-wien.ac.at

Bernd Schicklgruber
Vienna University of Economics and Business
Department of Global Business and Trade
Augasse 2-6
A-1090 Vienna
Austria
bernd.schicklgruber@aon.at

Abstract

Rising public deficits and debt levels, uneven growth and productivity and growing mistrust in official data in the Southern periphery of the Euro zone (Portugal, Italy, Greece, Spain) put downward pressure on the euro and confront policy makers with ambitious challenges. We examine the present situation in detail and apply the adapted Fink Country Scoring Model (Fink, 1995; Paripovic, 2009) to assess and project the country risk of these economies. Based on this purely economic model, we provide a less subjective, alternative view to country ratings by rating agencies. We find that the PIGS envisage pronounced increases in their country risk through 2015, particularly Greece.. On a country-by-country basis, we derive economic policy implications and suggest restructuring with regard to budgetary consolidation, debt reduction, stimulation of competitiveness and enhanced transparency.

Keywords: *Country risk; scoring model; rating; Southern Europe; debt burden*
JEL Classification: *F4*

[*] The opinions expressed are the authors' personal views and not necessarily those of the institutions the authors are affiliated with.

1. Introduction

The excessive accumulation of sovereign debt in individual member states bears a major threat for the stability of the entire EMU and therefore imposes severe challenges on European policy makers. Years of profligate fiscal policy have pushed Greece on the edge of bankruptcy. The latter has been fended off by bailout measures from the side of the EU, but the fiscal woes are far from over yet, since Portugal, Spain and Italy show comparable deficiencies. A collapse of one of the two latter economies would clearly go beyond the scope of the EU's rescue capacities.

Given this setting, the need for reliable country risk analyses of EU members becomes evident. According to Taffler and Abassi (1984) 'Country risk analysis (…) seeks to identify in advance those countries which will be unable to meet their commitments on external debt.' In this paper, we are solely dealing with sovereigns, which bear a higher degree of risk due to the lack of legal enforceability of debt repayment. Eaton, et al. (1986) find that the threat of sanctions and the threat of losing their reputation as reliable creditor mainly induce sovereigns to meet their obligations. Within the EU however, the latter seems to be the more effective incentive, as the EU mostly did not succeed in sanctioning members' violations.

Motivated by these considerations, the paper aims to assess the true degree of risk involved with the PIGS[1]. Hence, we use a scoring model to:

1. Assess the economic risk of Greece, Italy, Portugal and Spain separately and identify the factors where the risk is stemming from.
2. Derive policy implications and countermeasures aimed at putting the PIGS back on a sustainable trajectory.

Methodologically we apply the Fink Country Scoring Model (1981, 1993, 1995), which is based on key ratios derived from macroeconomic indicators. Earlier papers of Taffler and Abassi (1984), Feder and Uy (1985) and Vij (2005) have already investigated determining variables of country risk in greater detail. The assessment covers first, the period from 2000 to 2010 to analyze how factors of risk have developed throughout the past decade and second, provides an outlook for 2011 to 2015, assuming unchanged policies.

We find that all four countries will face increasing risk in the near-term and particularly identify Greece and Portugal as hotspots. Even though certain parallels are evident, we furthermore find that the designation of a common crisis is imprecise and focus on the country-specific deficiencies.

The paper proceeds as follows. A description of the operating principles of the model as well of the applied data and its origin is conducted in chapter 2. Chapter 3-6 focus on the empirical results of the risk assessment. Chapter 7 contains a systematic comparison. Chapter 8 gives economic policy implications and Chapter 9 finally, is intended to summarize the main findings and provides a conclusion to answer the prompted research issues.

2. Methodology

As opposed to rating agencies country risk models, which introduce a certain dose of subjectivity by including, among others, political factors, we provide an alternative view by just relying on objective, economic indicators. The Fink Country Scoring Model (1981, 1993, 1995) is aimed at assessing the economic risk according to a selection of key ratios, which are derived from macroeconomic factors (see Table 1). The latter are grouped into five subcategories (i.e. economic power, economic stability, debt burden, transfer quota, capital flows) to facilitate the interpretation, as this aggregation allows the calculation of sub-ratings. As regards the processed ratios, the model has been subject to modifications repeatedly. For previous applications see for example Fink et al. (2007), Fink et al. (2008), Fink et al. (2009) and Paripovic (2009). We use a version adapted for capital flows and services as in Paripovic (2009) to take country-specific characteristics into account. In order to conduct reliable comparisons, the ratios are transformed to a common rating scale by individual

[1] The term PIGS refers to the Southern European members of the Euro zone (i.e. Greece, Italy, Portugal and Spain).

assessment functions. The latter assign scores from zero to 100 to each ratio. A score of 100 points indicates the lowest possible country risk and vice versa. Borrowing from Fuchs (2008) and Paripovic (2009), one 100-point threshold and *two* zero-point thresholds were implemented for the assessment of the inflation rate and the capital flow ratios by applying two functions. The scrutinized time frame contains on the one hand a retrospective analysis for the period between 2000 and 2010 to illustrate how the ratios have developed over time and on the other hand we employ projection to provide an outlook for 2011 to 2015, assuming unchanged policies. More specifically, the model is not intended to conduct forecasts or predictions, but to give signals. Therefore, in the original version the last observed rates of change are extrapolated into the future to demonstrate the sustainability of the current path of development. However, given the exceptional circumstances of 2010, we use an average of the last five observed growth rates for the projections of real change in GDP, change in population, change in exports of goods and services, change in imports of goods and services and change in FDI liabilities, portfolio investment (PI) liabilities and credit to GDP in this paper to smooth the misleading effects. The projected current account deficit is derived from the projected exports and imports and the projected gross debt is adjusted for the projected current account deficit (Fink et al., 2007). Moreover, the projections for the effected debt service are based on the following assumptions. First, an average maturity of eight years was assumed and second, 8% of the projected current account balances were taken for the calculation of interest payments.
Most indicators were taken from the Eurostat database (Eurostat, 2011). For data on external debt, the Joint External Debt Hub of BIS, IMF, OECD and World Bank was used (BIS, IMF, OECD,The World Bank, 2011), whereas figures on foreign exchange reserves, FDI liabilities, PI liabilities and domestic credit to the private sector originate from the IFS database of the IMF (IMF, 2011).

3. Country risk of Greece

The country that witnessed the most pronounced surge in country risk is Greece, whose score deteriorated by 45 points from 2000 to 2010. Projections indicate further increasing risk, resulting in an alarmingly low score of 11 points in 2015 (see Figure 1). This concerning performance can mainly be attributed to the vast deterioration of debt burden and the constantly weakening export power.

3.1 Economic power

Major slumps in GDP growth and decreasing export/import ratios from an already low level were opposed to favorable GDP per capita values. The latter is the only ratio that had a persistently positive impact on the economic power, exhibiting an upward trend from 2000 (EUR 12,649.72) to 2006 (EUR 18,984.70) that resulted in constant 100-point scores as of 2007. Projections show diminishing figures for GDP per capita through 2015, which will however be sufficient to account for maximum scores. In contrast to the aforementioned ratio, real GDP growth showed a volatile performance. After peaking at 6.39% in 2000 and 6.44% in 2003, a major slowdown took it to a negative rate of -2.13% in 2009 and furthermore to -6.46% in 2010, while projections map a renewed acceleration to 0.17%. The export/import ratio fluctuated as well and will face a gradual decline to 70.83% in 2015 due to imports growing faster than exports (see Table 2, Figure 2). If this development persists, large current account deficits will arise as a consequence.

3.2 Economic stability

The assessment of Greece’s economic stability was mainly fuelled by moderate inflation, which partly compensated deteriorating budget and current account balances. Inflation mostly remained below 4% and was finally slashed to 1.35% in 2009 before it peaked at 4.70% in 2010, which also represents the projected rate for 2011 to 2015. The budget deficit on the other hand mostly exceeded the -5% of GDP threshold and even peaked at -15.45% in 2009. Expenditure cuts in 2010 lowered it to -10.51% in 2010. Also, the current account balance was assigned zero points as of 2006 and will furthermore put increasing pressure on external debt, as projections signal a widening gap resulting in a deficit of -18.57% in 2015 (see Table 2, Figure 3).

3.3 Debt burden

The category of debt burden, which is being assigned a high weight of 41%, is mainly responsible for the rapidly slumping Greek rating. Weak export performance coupled with fast growing external debt and rudimentary foreign exchange reserves to imports ratios as of 2004 have triggered a massive decline from 75 points in 2000 to zero points in 2009. The projections depict continuously deteriorating ratios amounting to 155.73% (external debt to GDP), 692.99% (external debt to exports), 134.85% (debt service ratio) and 0.08% (foreign exchange reserves to imports) in 2015 (see Table 2, Figure 4).

3.4 Transfer quota

Among the assessed countries, Greece is the only one that registered scores significantly above zero in single years. As of 2011 however, low export momentum will be opposed to considerable interest rates and therefore the interest rate/growth rate of exports ratio will not account for positive scores through 2015 (see Figure 5).

3.5 Capital flows

Comparably high scores could be mapped for the capital flow ratios. The scores for FDI liabilities to GDP rose constantly until a preliminary peak of 80 points in 2007. After 2010 however, the ratio is projected to decline gradually to 50 points in 2015. Credit to GDP showed a positive development only at the beginning of the examined period, climbing to 60.32% (99 points) in 2002. As of this point however, ever rising ratios have put the assessment on a downward trajectory, resulting in a score of 9 points in 2010. According to the projections, this development will persist and the ratio will surpass the upper threshold for a positive assessment of 120% in 2011. The PI liabilities to GDP ratio already accounted for excessive figures as of 2003 (see Table 2, Figure 6).

4. Country risk of Italy

With a decline of 13 points from 2000 to 2010, Italy was the country that showed the least steep drop during the ex-post period. In 2000, Italy took the second-last place with only Portugal being assigned less points, but its scores deteriorated slower than those of Greece and Portugal (see Figure 7).

4.1 Economic power

Italy clearly outperformed the other three countries in terms of GDP per capita and exports/imports. The former already amounted to EUR 20,925.11 in 2000 and was hence being assigned a maximum score of 100 points from then on. Likewise, the export/import ratio exhibited robust figures of above 100% in the first years. Declining scores however, became visible as of 2006, which is also projected to persist and therefore will take the ratio down to 87.27% and a score of 45 points in 2015. Furthermore, Italy's anemic real growth rates have put a damper on the country's performance and even turned negative in 2008 (see Table 3, Figure 8).

4.2 Economic stability

The deterioration of Italy's economic stability can mainly be traced back to the increasing budget deficit, as inflation and current account balance accounted for more solid scores. Apart from temporary improvements, the budget deficit – which can still be considered as moderate compared to those of Italy's Southern European peers – rose from -0.78% in 2000 to -4.60% in 2010. Inflation mostly hovered around 2%, which is somewhat comparable to the EU-average, before it fell to 0.74% in 2009 and rose again to 1.65% in 2010. As regards the current account, deficits remained moderate throughout the entire ex-post period, but are expected to slip gradually to -6.65% of GDP in 2015 (see Table 3, Figure 9).

4.3 Debt burden

Since Italy's public debt is mainly held domestically, its external indebtedness is not excessive, as the following ratios show: External debt in relation to GDP mounted to 50.69% (49 points) in 2010. External debt to exports amounted to 152.07% in 2008, but was then severely affected by exports declining by 19.64% in 2009, which lowered the rating to a score of 19 points. Decreasing debt stocks and accelerating export performance took it to 30 points in 2010. Rising debt service ratios furthermore indicate that increasing portions of export income have to be used for interest payments and maturity distribution. Finally, foreign exchange reserves to imports merely had a positive impact on the assessment of Italy's debt burden. Apart from the first four years, only in 2009 and 2010 and consequently in the first year of the projection period, positive scores are visible due to the major slump in imports in 2009 (see Figure 10).

4.4 Transfer quota

Except for 2006 and 2010, interest rates exceeded export growth and therefore zero points were assigned almost throughout the entire ex-post period. Also, projections do not indicate an adverse outlook (see Figure 11).

4.5 Capital flows

For the ratio relating FDI liabilities to GDP, a positive impact on the overall rating could be mapped, apart from the first three years where a decline from 55 to 48 points was visible. Increasing ratios then accounted for rising scores until 2009. According to the projections this trend will persist, but in 2011 the 100-point border will be surpassed and therefore scores will decline from then on. PI liabilities and credit to GDP have been rallying as well with the former being assigned zero points continuously already as of 2000, whereas the latter exceeded the threshold for a positive assessment in 2010 (see Figure 12).

5. Country risk of Portugal

Despite temporary improvements, Portugal's rating is on a distinct downward trajectory declining from 54 points in 2000 to 31 points in 2010. Projections are even less positive fuelled by rapidly deteriorating debt burden and anemic scores for economic stability and capital flows. Consequently, Portugal will be assigned a low score of 22 points in 2015 (see Figure 13).

5.1 Economic power

In terms of economic power, Portugal exhibited an alarming performance with its score dropping from 70 points in 2000 to 57 points in 2010. Based on the projected figures however, a renewed increase can be expected, resulting in a score of 61 points in 2015. GDP per capita has been lower than in the other assessed countries throughout the entire ex-post period. By 2010, it had risen to EUR 16,233.16 receiving a score of 96 points, which is projected to remain constant through 2015. Similar to Italy, real growth illustrated a concerning performance and even turned negative in 2008 and 2009. The export/import gap on the other hand, narrowed and this development is projected to persist through 2015 (see Table 4, Figure 14).

5.2 Economic stability

Portugal's economic stability was rated comparably low because of budgetary and current account imbalances. The former was coined by fluctuating figures. A first rally towards -5.92% of GDP in 2005 was ended by consolidation measures, but in 2009 the budget deficit rebounded to -10.11%. The latter has been severely exacerbated by fast growing imports and income account deficits, which also puts pressure on the country's external indebtedness. Inflation has had a positive impact on the overall rating, since it was mostly kept below 3% as of 2003. In the course of the recent financial turmoil however, deflation was recorded with a rate of -0.90% in 2009 (see Table 4, Figure 15).

5.3 Debt burden

The assessment of Portugal's debt burden was characterized by a tremendous fall by 50 points between 2000 and 2010 as a result of severe slumps in all determining ratios. Projection shows unfavorable figures as well, since continuous deteriorations will result in the assignment of marginal seven points in 2015. External debt in relation to GDP and exports rose to 54.99% (44 points) and 174.27% (38 points) respectively in 2010 and projections imply further increases to 112.51% (zero points) and 280.77% (zero points). The debt service ratio has been facing steady increases as well, but will remain below the upper threshold for a positive assessment through 2015. The last ratio, relating foreign exchange reserves to imports, was only rated positively from 2000 to 2004. As of this point however, the ratio plummeted to even below 1% as of 2007 followed by a renewed increase to 1.81% in 2010. Projections signal deteriorating ratios again because the stock of foreign exchange is assumed to remain constant, whereas imports will continue to rise by annual rates of somewhat 4% (see Table 4, Figure 16).

5.4 Transfer quota

Interest rates exceed export growth rates by far throughout the entire ex-post and projection period and therefore the ratio is repeatedly being assigned zero points (see Figure 17).

5.5 Capital flows

Portugal's capital flows mostly developed negatively. Rising FDI liabilities accounted for decreasing scores as of 2000. However, the latter started off at a high score of 91 points in 2000 declining to 65 points in 2010 and projections illustrate a score of 41 in 2015. PI liabilities and credit to GDP on the other hand, have shown more concerning developments. Both ratios significantly worsened over the examined period and amounted to 114.70% and 190.75% in 2010 respectively and will further incriminate Portugal's rating according to the projections (see Table 4, Figure 18).

6. Country risk of Spain

Spain's initially positive country risk appraisal mostly displayed higher scores than the other assessed countries throughout the entire ex-post period. As of 2008 however, when the Spanish economy was severely hit by the global downturn, a slight downward trend will be faced through 2015 (see Figure 19).

6.1 Economic power

Spain's economic power was most positively influenced by high GDP per capita figures, which exceeded the threshold of EUR 20,000 as of 2005. As opposed to this, the remarkable real growth rates came to a sudden halt after the real estate bubble bursted in 2008 and turned into a major factor of risk with negative rates of -2.91% and -1.19% being recorded in 2009 and 2010. Even though projections illustrate an acceleration to 0.75%, this still represents a sobering figure compared to pre-crisis growth rates. The export/import ratio amounted to more than 90% in the first four years, before a gradual reduction took it down to 80.77% in 2007. The rebound in 2009 was recorded because imports plunged even more than exports. Through 2015 the ratio will further improve to 101.75% (see Table 5, Figure 20).

6.2 Economic stability

From 2000 to 2007 economic stability was being assigned 55 points on average, before the score plunged to 23 points in 2008. The ratio that initially had the most positive impact on economic stability was the one relating budget balance to GDP. Gradual improvements as of the beginning of the last decade resulted even in considerable surpluses in 2006 and 2007. This favorable development was however followed by exploding deficits, which soared to
-4.15% in 2008, -11.13% in 2009 and -9.24% in 2010. The current account balance to GDP ratio was not rated high, but remained within limited margins mostly. Projections imply a slight decrease from -3.84% in 2010 to -2.78% in 2015. Finally, inflation rates fluctuating between 3% and 4% were recorded up to 2009, when deflation of -0.24% was mapped (see Table 5, Figure 21).

6.3 Debt burden

Even though Spain experienced an increase of its debt burden, the overall risk stemming from this category can be defined as considerably less alarming than those of Greece and Portugal. External debt in relation to GDP and to exports experienced moderate increases to 26.37% and 98.50% in 2010. Also, the debt service ratio rose to 33.24%, which cannot be defined as worrying yet (see Table 5). Only the plummeting foreign exchange reserves have put significant downward pressure on Spain's rating, since the foreign exchange reserves/imports ratio was rated with zero points continuously as of 2004 (see Figure 22). Projections however are not positive as well, since further deteriorating ratios are expected to take the overall score down to 47 points in 2015.

6.4 Transfer quota

Only in 2000, the high export growth rate of 19.88% exceeded the interest rate and therefore a score of 46 points was assigned. Throughout the following years however, Spain did not succeed in covering its interest expenses by a sufficient degree of growth in exports (see Figure 23).

6.5 Capital flows

Spain's capital flows show a negative development as of the beginning of the assessed period. Constantly rising FDI liabilities to GDP ratios triggered decreasing scores from 92 in 2000 to 71 in 2010. The other two ratios of this category were on a steady rise as well and were consequently rated with zero points as of 2004. According to the projections, all three ratios will continue to increase. Consequently, the score for FDI liabilities to GDP will decline to 60 points and the other ratios will not be able to achieve ratings above zero. The probably most concerning development showed the credit to GDP ratio that amounted to 211.20% in 2010 and is projected to skyrocket to 307.94% in 2015 (see Table 5, Figure 24).

7. Comparison

Prior to the comparison of the results, it has to be noted that the comparably weak performances of EU-15 members might be unexpected, despite present economic woes. This can simply be explained by the high weight of 41% that the model assigns to the category of debt burden. A comparable tendency could already be monitored in Fink et al. (2007) for the assessment of the entire Euro zone. For a visualization of the final ratings see Figure 25.

7.1 Economic power

The economic power of all four countries is – like most ratios – on a downward trajectory (see Figure 26a). Nevertheless, scores have mostly been considerably higher than for the other categories. Italy exhibited the highest scores, slightly better than Spain, mainly triggered by steady maximum scores for GDP per capita and export/import ratios of mostly above 100%. As opposed to this, Spain's imports continuously exceeded exports, but outstanding real growth rates were recorded up to 2007. Projections however indicate higher scores for Spain due to Italy's negative real growth. After a score of 70 points was assigned to Greece in 2000, a very steep drop took it down to 42 points in 2010, which is even lower than Portugal's assessment that started off at the same level. According to the projections Greece's score is expected to slip slightly, whereas Portugal's assessment will increase as a result of rising export/import ratios.

7.2 Economic stability

Portugal's economic stability shows a concerning development, which can mainly be attributed to budgetary and current account imbalances. The same factors of risk could be identified for Greece. As a result of the projected inflation rate of 1.39% however, Portugal faces a more positive outlook in terms of economic stability than the Hellenic Republic, whereas Italy and Spain again outperform the aforementioned countries. Italy exhibited a gradual deterioration of budget and current account balance, whereas the inflation rate mostly accounted for solid scores. Spain's economic stability is determined by comparable developments. It is remarkable to observe that the considerable budget surplus in 2007 turned into a large-scale deficit of -11.16% of GDP within solely two years On the other hand, the current account balance shows a positive development since 2008, which is also projected to persist through 2015(see Figure 26b).

7.3 Debt burden

The debt burden of all four countries exhibited pronounced deteriorations (see Figure 26c). Projections do not draw an adverse picture either, and identify especially Greece, but also Portugal as hotspots that are facing imminent danger of default, assuming unchanged policies. Greece accumulated a high amount of external debt, rising from 57.05 billion euro in 2000 to 187.32 billion euro in 2010 and according to the projections, external debt might even amount to 361.58 billion euro in 2015. Foreign exchange reserves to imports slumped as well and consequently all determining ratios accounted for zero points in 2009, which not going to change significantly through 2015. Portugal's debt burden worsened slower and therefore still scored 32 points in 2010. Projections however indicate further rising external debt coupled with slow growth of GDP and exports and consequently the rating might approach Greece with a score of only seven points in 2015. Also, for Italy a decline in the assessment of all determining ratios resulted in a score falling from 62 points in 2000 to 39 points in 2010, which might further decrease to 20 points in 2015. The only country, whose debt burden accounted for more sound assessments, is Spain, mainly because external debt increased comparably modestly to 290.20 billion euro in 2010. Nevertheless, slight deteriorations of the debt service ratio and continuous zero-point assessments of the foreign exchange reserves to imports ratio as of 2004 have triggered a decline as well.

7.4 Transfer quota

In our analysis transfer quota are solely determined by the interest rate/growth rate of exports ratio. Greece's development is highly volatile. Due to high export growth rates in single years of the assessment, the maximum score was assigned in 2000 and 2004, whereas from 2001 to 2003, in 2006 and 2009, interest rates were not covered by a sufficient degree of export growth. Portugal scored zero points throughout the entire observed period, Italy scored above zero in 2006 and 2010 and Spain only achieved positive scores in one single year. According to the projections, the external debt burden of all four countries might not be sustainable because low export growth will be opposed to higher interest rates (see Figure 26d).

7.5 Capital flows

Overall, a downward development could be mapped for all four countries (see Figure 26e). Projections show a particularly negative outlook for Portugal and Spain, whose scores will decline to 14 points and 20 points in 2015 respectively. By comparing the individual capital flow ratios, it becomes visible that FDI liabilities to GDP is the only one that has accounted for high scores throughout the entire observed period. PI liabilities have risen rapidly to excessive levels and consequently put a damper on the overall assessment. Credit to GDP has had a comparable impact in Portugal and Spain and is expected to soar to 258.11% and 307.94% in 2015 respectively. As opposed to this, in Italy and first and foremost in Greece, credit to GDP accounted for higher scores throughout the ex-post period, although projections indicate unsustainable increases as well.

7.6 Discussion

A crucial point for the explanation of the dropping ratings are the persistent inflation differentials within the EMU member states. The application of the Fink Country Scoring Model (1981, 1993, 1995) results in mostly sound scores for the inflation rates of all four countries. It however, does not take into account the impact of differentials. Especially Greece and Spain, but also Portugal have mostly exhibited rates above EU-average, which however are not excessive per se. It can be argued that high inflation is coupled with high growth rates, since low real interest rates result in low borrowing costs and favorable real investment conditions. Nevertheless, in the long-term, the effect of real appreciation triggered by the cumulative effect of persistent inflation rates prevails and manifests in higher prices and wages and therefore decreasing competitiveness in relation to low-inflation countries (ECB, 2003).

8. Policy implications

8.1 Greece

Greece's strength lies in comparably sound scores for economic power and capital flows. The latter however, are opposed to weak economic stability and dramatically deteriorating debt burden. Countermeasures should be targeted at curbing the skyrocketing budget deficits and external debt burden to avoid imminent default. First and foremost the bloated public sector must be the starting point of profound reforms to reduce public expenditure. Additional income sources might be tapped by increasing tax rates and slashing widespread tax evasion. Expenditure cuts should however be prioritized because they are first more effective in the correction of fiscal imbalances, second more credible and third more likely to boost growth (UniCredit Research, 2010). A further concerning development, which also added to the vast accumulation of external debt, is the steady widening of the current account balance. The projected surge to -18.57% of GDP in 2015 signals the immediate need of boosting exports and reduce the dependence on imports. Primarily the performance of the goods account that accounted for considerable deficits continuously must be upgraded by measures stimulating competitiveness. Sustainable FDI might act as a driver. However, forthcoming austerity measures are likely to make Greece a less attractive investment environment.

8.2 Italy

Even though most indicators exhibited a comparably favorable performance (or rather a less steep decline), Italian policy makers face challenges as well. The budget deficit of --4.60% in 2010 is already close to the upper threshold of the Fink Country Scoring Model (1981, 1993, 1995), but less efforts will be needed for a reversal than in Greece, Portugal and Spain. Moreover, external indebtedness is low because a large part of public debt is held domestically. This represents an Italian particularity and simultaneously a strength. Nevertheless, it should be noted that the country's fiscal position depicts a deterioration, which is projected to persist, assuming unchanged policies. Therefore, policy makers would be advised to implement consolidation measures already now to avoid excessive developments as in Greece. First and foremost however, the main problem of the Italian economy is its anemic growth. Projections indicate negative real growth through 2015, but the slow growth performance did not arise only most recently as in Greece and Spain. Stimulating growth by slashing regulatory rigidities and pursuing the liberalization of retail trade and services would therefore be strongly suggested.

8.3 Portugal

Portugal envisages a concerning outlook due to several factors. Considerable current account deficits should be countered by boosting productivity and reconsidering specialization patterns, also to release pressure on the external debt burden. Regulatory reforms and investment in research and development and human capital could act as a further stimulator to enhance competitiveness (IMF, 2010). Initially rated very high at the beginning of the observed period, external debt increased rapidly ever since. Moreover, the worrying slump of the budget deficit in 2009 gives a clear signal to implement austerity measures to fend off a rally towards default. In addition, a closer look should be taken at the maturity composition of external debt, since the ratio relating short-term external liabilities to total external liabilities rose to 17%, indicating a potential liquidity crisis in the near-term. Attention must furthermore be drawn on the steady increase of PI liabilities and credit to GDP. Policy makers might tackle these developments by implementing restrictions on speculative short-term flows and domestic lending.

8.4 Spain

Spain primarily envisages structural problems after the country has been hit particularly rough by the economic woes in 2008 and 2009. Outstanding pre-crisis growth rates were mainly built on the ballooning real estate sector, whose meltdown now imposes severe challenges on Spain. Policy makers must therefore promote growth of alternative sectors to foster exports and avoid further deterioration of the current account balance. The accumulation of external debt remained within tolerable margins so far, although projections indicate rising ratios relating external debt to GDP and to exports. The budget balance however, which exploded from considerable surpluses in 2006 and 2007 to a deficit of -11.13% in 2009, represents an urgent call for expenditure cuts to avoid a collapse as in Greece. Moreover, given its large size, a struggling Spanish economy would result in unpredictable consequences for the entire Euro zone. As in case of Portugal, the large portion of short-term external debt, which has surpassed 15%, should be observed cautiously. Most imminently however, measures targeted at curbing PI liabilities and domestic credit need to be implemented. Especially the latter has been fuelled by a large volume of credit for the housing sector by the saving banks (cajas) and is projected to rally towards 307.94% in 2015. To avoid a further increase of risk, stemming from a bulk of non-performing loans, lending must be limited and enhanced supervision of rapidly expanding banks is indispensable (Tamirisa and Igan, 2008).

9. Summary

The rationale for this paper was to assess the economic risk of Greece, Italy, Portugal and Spain. We employed the Fink Country Scoring Model (1981, 1993, 1995), adapted for capital flows and services as in Paripovic (2009) and find that all four countries have exhibited pronounced increases in their country risk throughout the past decade and will experience further declining scores, assuming unchanged policies. Despite mostly deteriorating ratios, the scrutinized countries can be subdivided into two groups. First, Greece and Portugal, who require immediate countermeasures to fend off default and second, Italy and Spain, who are still situated on slightly more solid ground.

Greece's development throughout the observed period was coined by a massive increase of its external debt burden, which has been partly fuelled by continuous current account deficits. A lack of fiscal transparency has furthermore paved the way for the skyrocketing budget deficit, which peaked at -15.45% of GDP in 2009. Low economic stability was opposed to more favorable developments of the country's capital flows. Projections indicate further rising debt burden and weak economic stability. Countermeasures should therefore comprise credible fiscal adjustment without harming the country's business environment, enhanced transparency and the promotion of goods exports to release pressure on the external indebtedness originating from the feeble current account.

Italy's economic risk exhibited a less steep decline from an ex-post point of view. Economic power was rated comparably high, whereas other ratios already showed signs of deterioration. Economic stability dropped to 42 points most recently mainly due to the increasing budget deficit. The latter however raises distinctly less concern compared to the other three countries. Also, Italy's debt burden increased and most of all real GDP growth performed particularly weak. According to the projections, external indebtedness might become an issue of concern, rising capital flows are on an unsustainable trajectory and growth will continue to be low. The latter might be tackled by boosting product competitiveness and pursuing regulatory reforms. Moreover, Italian policy makers need to monitor the future development of external indebtedness to avoid a collapse as in the Hellenic Republic.

Portugal's rating dropped from 54 points in 2000 to 31 points in 2010, since most indicators showed pronounced deteriorations. Especially the originally sound debt burden increased rapidly throughout the observed period. Struggling real GDP growth as well as budgetary and current account imbalances have put a further damper on the country's performance. Projections imply a further worsening debt burden and low scores for economic stability and capital flows. Policy makers would therefore primarily be advised to undertake measures stimulating competitiveness. Moreover, fiscal consolidation and stalling excessive PI liabilities and credit to GDP must be prioritized.

Spain's rating declined from 65 points in 2000 to 44 points in 2010. Nevertheless, its scores mostly exceeded those of its Southern European peers. Economic power was rated rather high and was only hampered most recently due to negative real growth rates. Simultaneously, economic stability was slashed in 2008 and 2009 as a result of budgetary and current account imbalances. It is therefore clearly visible that the country has been hit particularly harshly by the global downturn. Capital flows have been rated low as well. As opposed to this however, external indebtedness, which represents a major factor of risk for the other assessed countries, can still be defined as sound. Projections imply only a slightly further worsening rating, mainly triggered by the increasing debt burden, the excessive budget deficit and the concerning development of capital flows. For the current account however, a recovery can be expected for the next five years. Countermeasures must primarily focus on restructuring measures to find alternative sectors (other than the real estate sector) to accelerate economic growth as well as on expenditure cuts to contain the budget deficit. Moreover, domestic lending needs to be curbed to avoid a large volume of bad loans.

Apart from the aforementioned factors of risk, the rating of all four countries is exacerbated by high interest rate/growth rate of exports ratios, indicating that external indebtedness is not sustainable in the long-term, and by high levels of PI liabilities. For Greece, Portugal and Spain persistent above EU-average inflation rates can partly be held responsible for the slipping competitiveness. We finally find that the denomination of a common Mediterranean crisis is inadequate, given the evident disparities.

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Appendix A - Tables

Table 1: Key ratios, weights and assessment ranges

Key ratio	Weight μ	0-point border	100-point border
Economic power			
GDP per capita	0.04	< 0	> € 20,000
Real change in GDP	0.05	< -2%	> 6%
Exports to imports	0.10	< 60%	> 120%
Economic stability			
Inflation rate	0.05	> -2% but <= 0%	
		> 0% but <= 15%	
Budget balance to GDP	0.06	< -5%	> 1%
Current account balance to GDP	0.05	< -10%	> 5%
Debt burden			
External debt to GDP	0.05	> 90%	< 10%
External debt to exports	0.10	> 250%	< 50%
Debt service ratio	0.20	> 90%	< 10%
FX reserves to imports	0.06	< 5%	> 25%
Transfer quota			
Interest rate to growth rate of exports	0.08	> 1	< 0.5
Capital flows			
FDI liabilities to GDP	0.04	> 0% but <= 20%	
		> 20% but <= 100%	
PI liabilities to GDP	0.06	> 0% but <= 5%	
		> 5% but <= 60%	
Credit to GDP	0.06	>0% but <= 60%	
		> 60% but <= 120%	

Table 2: Key ratios – Greece

GREECE

	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Economic power																	
GDP per capita	Mill EUR	12649,72	13395,39	14278,36	15661,32	16781,30	17582,92	18984,70	20328,93	21134,44	20871,83	20351,29	20302,25	20253,33	20204,52	20155,84	20107,27
Real change in GDP	%	6,39	2,41	2,93	6,44	4,29	1,61	4,98	4,34	0,10	-2,13	-6,46	0,17	0,17	0,17	0,17	0,17
Export to import of goods / services	%	70,86	72,02	72,41	74,37	79,76	77,99	69,25	66,21	66,71	70,03	75,25	74,32	73,41	72,53	71,67	70,83
Economic stability																	
Inflation rate	%	2,90	3,66	3,91	3,44	3,03	3,49	3,31	2,99	4,23	1,35	4,70	4,70	4,70	4,70	4,70	4,70
Budget balance to GDP	%	-3,69	-4,47	-4,77	-5,65	-7,52	-5,17	-5,73	-6,40	-9,76	-15,45	-10,51	-10,51	-10,51	-10,51	-10,51	-10,51
Current account balance to GDP	%	-10,30	-10,18	-9,00	-8,82	-7,77	-8,98	-12,78	-15,02	-15,83	-11,53	-10,51	-11,85	-13,31	-14,91	-16,66	-18,57
Debt burden																	
External debt to GDP	%	31,14	51,31	53,17	56,54	67,01	74,41	73,05	77,84	80,99	93,36	81,35	93,06	106,21	120,94	137,39	155,73
External debt to export of goods / services	%	133,81	226,28	264,33	300,00	315,07	346,81	346,08	362,20	355,98	518,70	410,62	458,28	510,17	566,46	627,34	692,99
Debt service ratio	%	34,67	42,67	47,66	58,96	57,81	64,94	67,29	73,33	73,31	93,90	79,54	88,85	99,00	110,03	121,96	134,85
FX reserves to imports	%	28,59	10,82	15,41	6,05	0,96	0,42	0,41	0,40	0,12	0,19	0,11	0,10	0,10	0,09	0,09	0,08
Transfer quota																	
Interest rate to growth rate of exports	%	0,20	8,93	-0,66	1,09	0,29	0,90	1,04	0,71	0,74	-0,28	1,16	2,82	2,80	2,77	2,74	2,72
Capital flows																	
FDI liabilities to GDP	%	9,72	10,80	9,47	10,31	11,29	12,70	14,84	15,92	11,56	12,43	10,91	10,74	10,57	10,40	10,23	10,07
PI liabilities to GDP	%	44,64	48,68	51,99	61,47	74,68	87,94	91,99	104,12	88,21	101,51	69,40	67,45	65,55	63,71	61,92	60,18
Credit to GDP	%	46,33	56,77	60,32	64,05	70,01	78,72	84,02	92,15	95,73	92,53	114,35	123,61	133,63	144,46	156,17	168,83

Source of raw data: BIS, IMF, OECD, World Bank (2011), Eurostat (2011), IMF (2011)

Table 3: Key ratios – Italy

ITALY

	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Economic power																	
GDP per capita	Mill EUR	20925,11	21921,49	22727,25	23296,47	24037,49	24452,26	25283,02	26148,78	26295,90	25307,28	25668,15	25407,80	25150,09	24895,00	24642,49	24392,54
Real change in GDP	%	3,05	2,41	1,06	0,30	1,97	0,47	1,67	2,00	-2,08	-3,78	0,26	-0,39	-0,39	-0,39	-0,39	-0,39
Export to import of goods / services	%	103,73	105,43	103,44	102,35	102,93	100,00	97,28	99,14	97,57	97,57	93,77	92,43	91,10	89,80	88,53	87,27
Economic stability																	
Inflation rate	%	2,55	2,37	2,65	2,79	2,19	2,25	2,20	2,05	3,55	0,74	1,65	1,65	1,65	1,65	1,65	1,65
Budget balance to GDP	%	-0,78	-3,05	-2,94	-3,51	-3,52	-4,33	-3,36	-1,52	-2,72	-5,38	-4,60	-4,60	-4,60	-4,60	-4,60	-4,60
Current account balance to GDP	%	-0,13	0,46	-0,34	-0,77	-0,34	-0,95	-1,69	-1,52	-1,94	-1,25	-2,28	-2,95	-3,71	-4,58	-5,55	-6,65
Debt burden																	
External debt to GDP	%	29,50	37,95	38,72	39,42	38,00	42,76	43,14	40,40	43,56	50,45	50,69	53,84	57,76	62,56	68,36	75,27
External debt to export of goods / services	%	109,06	140,21	151,45	160,98	150,44	164,61	155,74	139,61	152,07	212,44	190,28	195,52	202,93	212,61	224,69	239,30
Debt service ratio	%	30,22	32,79	36,37	38,53	35,30	37,45	37,06	36,32	38,95	43,96	37,81	38,62	39,83	41,48	43,58	46,16
FX reserves to imports	%	6,59	6,32	6,15	5,42	4,42	4,59	3,75	3,47	4,61	5,47	5,31	5,08	4,86	4,64	4,42	4,21
Transfer quota																	
Interest rate to growth rate of exports	%	1,07	2,35	-10,58	-6,17	1,61	1,49	0,94	1,44	7,82	-0,44	0,67	2,93	2,88	2,83	2,79	2,75
Capital flows																	
FDI liabilities to GDP	%	10,93	10,31	9,63	10,73	11,64	13,29	15,07	16,03	15,58	18,00	22,07	24,50	27,20	30,19	33,52	37,21
PI liabilities to GDP	%	68,76	63,43	60,66	64,44	67,87	77,58	84,74	81,51	74,66	84,47	101,46	107,60	114,11	121,02	128,34	136,11
Credit to GDP	%	75,30	77,41	79,58	83,18	84,72	88,95	94,46	100,63	105,00	110,63	122,41	130,50	139,14	148,34	158,15	168,62

Source of raw data: BIS, IMF, OECD, World Bank (2011), Eurostat (2011), IMF (2011)

Table 4: Key ratios – Portugal

PORTUGAL	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Economic power																	
GDP per capita	Mill EUR	12451,71	13073,79	13566,52	13738,22	14214,64	14599,09	15163,06	15973,51	16194,27	15859,53	16233,16	16304,45	16376,05	16447,97	16520,21	16592,76
Real change in GDP	%	8,19	1,15	0,77	-1,17	1,51	1,14	1,18	3,14	-1,05	-1,08	1,05	0,65	0,65	0,65	0,65	0,65
Export to import of goods / services	%	72,27	73,70	77,71	80,40	77,50	75,04	79,15	81,50	77,69	80,37	82,95	84,70	86,51	88,36	90,27	92,24
Economic stability																	
Inflation rate	%	2,80	4,41	3,68	3,25	2,51	2,12	3,04	2,43	2,65	-0,90	1,39	1,39	1,39	1,39	1,39	1,39
Budget balance to GDP	%	-2,89	-4,27	-2,90	-3,02	-3,38	-5,92	-4,05	-3,15	-3,54	-10,11	-9,14	-9,14	-9,14	-9,14	-9,14	-9,14
Current account balance to GDP	%	-13,23	-13,12	-10,35	-8,46	-10,35	-11,90	-12,23	-11,58	-14,01	-12,16	-11,12	-11,46	-11,77	-12,05	-12,28	-12,46
Debt burden																	
External debt to GDP	%	18,34	23,81	24,20	28,74	32,59	38,08	45,13	45,73	50,91	58,20	54,99	66,09	77,44	88,99	100,69	112,51
External debt to export of goods / services	%	62,96	83,16	86,07	102,25	113,59	135,20	143,23	139,50	153,34	203,15	174,27	199,80	223,24	244,56	263,74	280,77
Debt service ratio	%	31,27	39,38	34,31	33,47	35,13	40,85	49,88	50,36	51,77	56,37	52,08	55,86	59,31	62,42	65,17	67,57
FX reserves to imports	%	15,55	16,81	17,19	7,14	5,26	3,89	1,72	0,81	0,78	0,73	1,81	1,73	1,66	1,59	1,52	1,46
Transfer quota																	
Interest rate to growth rate of exports	%	1,48	4,06	-85,20	5,39	2,72	5,72	1,12	2,28	9,72	-0,92	1,37	3,53	3,21	2,96	2,76	2,60
Capital flows																	
FDI liabilities to GDP	%	27,11	30,47	30,37	33,54	33,04	34,93	41,91	46,26	41,77	47,23	47,77	51,10	54,66	58,48	62,56	66,92
PI liabilities to GDP	%	47,07	54,55	60,09	68,79	75,40	87,86	92,05	98,22	104,75	128,30	114,70	121,58	128,87	136,60	144,80	153,49
Credit to GDP	%	126,41	133,57	136,15	135,64	136,22	141,10	152,35	162,40	173,60	186,63	190,75	202,64	215,28	228,70	242,96	258,11

Source of raw data: BIS, IMF, OECD, World Bank (2011), Eurostat (2011), IMF (2011)

Table 5: Key ratios – Spain

SPAIN	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Economic power																	
GDP per capita	Mill EUR	15736,90	16815,17	17802,88	18793,30	19859,32	21115,06	22492,78	23690,96	24031,01	22996,16	23104,83	22970,64	22837,24	22704,61	22572,75	22441,66
Real change in GDP	%	5,01	5,04	3,41	4,14	4,24	4,52	4,58	4,07	-0,81	-2,91	-1,19	0,75	0,75	0,75	0,75	0,75
Export to import of goods / services	%	90,54	92,54	93,45	92,57	87,29	83,46	81,03	80,77	83,00	93,75	93,71	95,28	96,87	98,47	100,10	101,75
Economic stability																	
Inflation rate	%	3,49	2,82	3,60	3,10	3,06	3,38	3,56	2,85	4,13	-0,24	2,04	2,04	2,04	2,04	2,04	2,04
Budget balance to GDP	%	-0,98	-0,64	-0,45	-0,21	-0,34	0,96	2,02	1,90	-4,15	-11,13	-9,24	-9,24	-9,24	-9,24	-9,24	-9,24
Current account balance to GDP	%	-4,22	-4,14	-3,59	-3,44	-5,22	-6,99	-8,31	-9,31	-8,72	-4,42	-3,84	-3,71	-3,54	-3,33	-3,08	-2,78
Debt burden																	
External debt to GDP	%	24,02	26,32	22,22	20,56	23,13	22,68	21,12	18,08	20,72	27,55	26,37	29,89	33,20	36,29	39,10	41,60
External debt to export of goods / services	%	82,87	92,58	81,72	78,33	89,07	88,01	79,79	66,61	77,64	115,16	98,50	107,63	115,31	121,53	126,27	129,53
Debt service ratio	%	27,70	31,64	29,67	27,14	29,42	32,18	36,36	39,17	39,91	41,04	33,24	34,36	35,25	35,89	36,29	36,44
FX reserves to imports	%	13,80	12,96	12,57	5,41	2,66	2,21	1,96	1,66	1,89	2,61	2,72	2,63	2,55	2,48	2,40	2,34
Transfer quota																	
Interest rate to growth rate of exports	%	0,77	2,63	7,99	5,07	2,78	2,77	2,00	3,84	-260,48	-1,66	2,01	5,13	4,80	4,53	4,33	4,17
Capital flows																	
FDI liabilities to GDP	%	26,66	29,55	33,62	34,35	35,57	35,87	35,60	37,78	38,89	41,82	43,28	44,95	46,69	48,49	50,37	52,32
PI liabilities to GDP	%	49,29	48,93	49,71	53,91	66,88	80,15	98,00	103,17	88,04	101,33	90,20	93,26	96,43	99,71	103,10	106,60
Credit to GDP	%	97,72	101,14	105,72	113,19	124,89	145,73	167,20	187,75	202,69	210,56	211,20	227,74	245,58	264,82	285,57	307,94

Source of raw data: BIS, IMF, OECD, World Bank (2011), Eurostat (2011), IMF (2011)

Appendix B - Figures

Figure 1: Overall risk assessment, Greece, 2000 - 2015

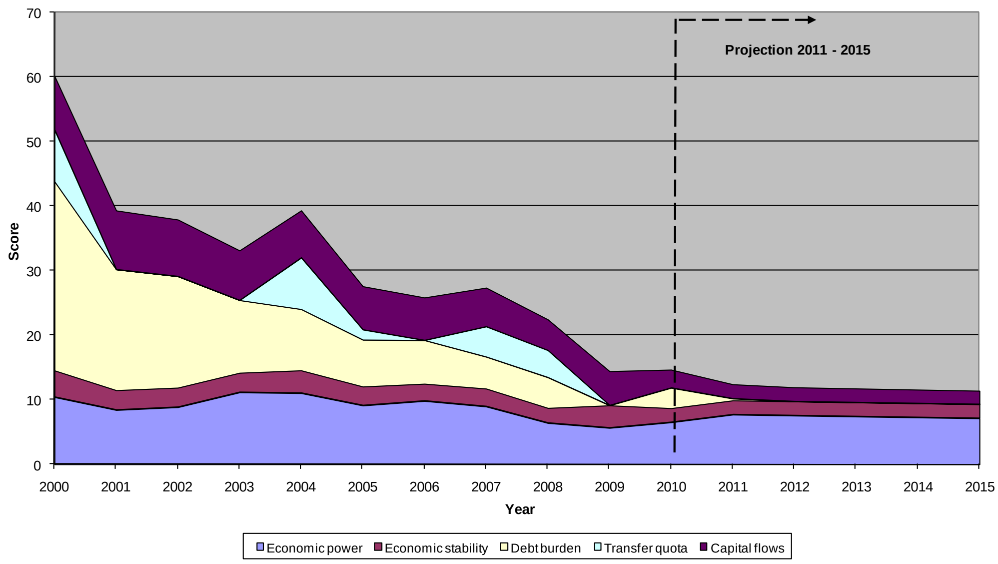


Figure 2: Economic power, Greece, 2000 - 2015

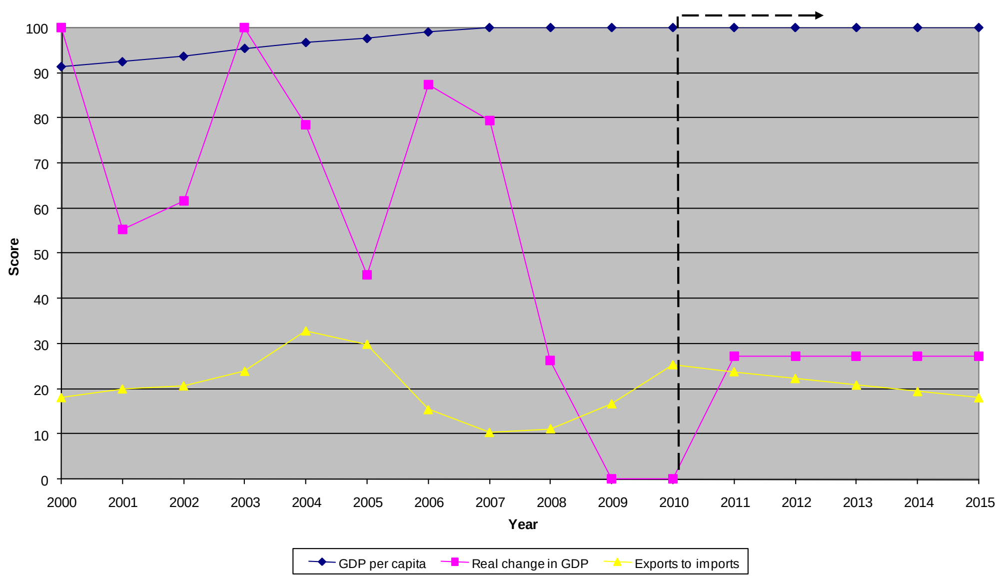


Figure 3: Economic stability, Greece, 2000 - 2015

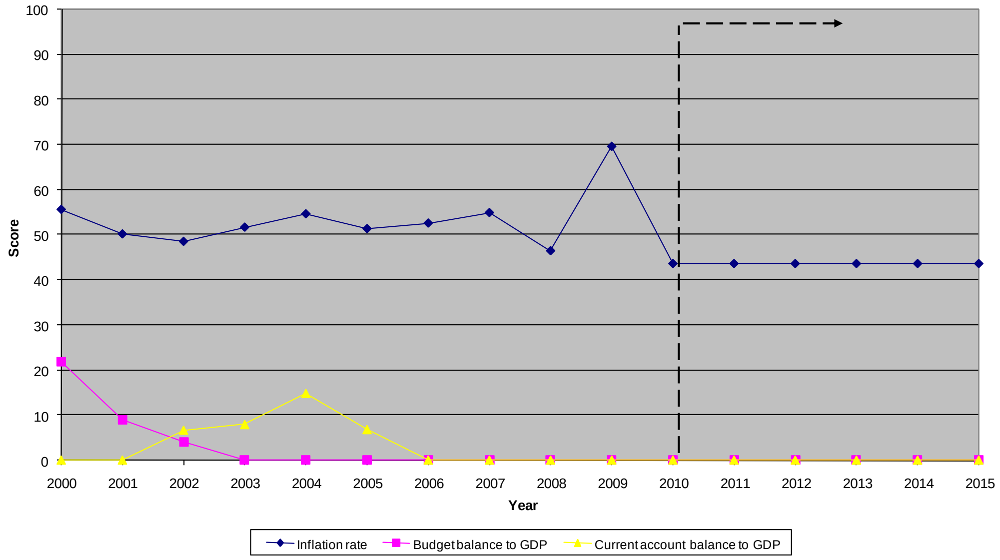


Figure 4: Debt burden, Greece, 2000 - 2015

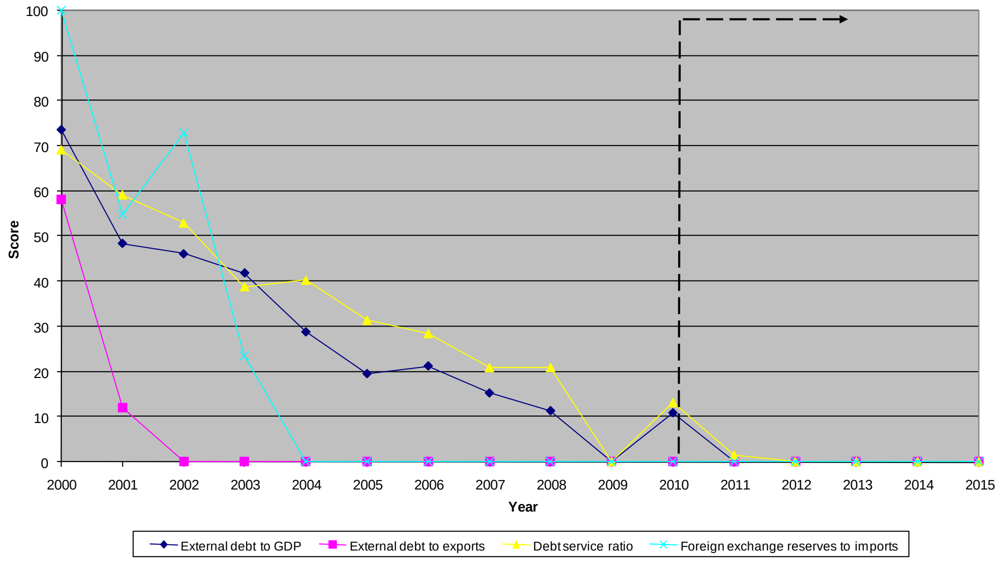


Figure 5: Transfer quota, Greece, 2000 - 2015

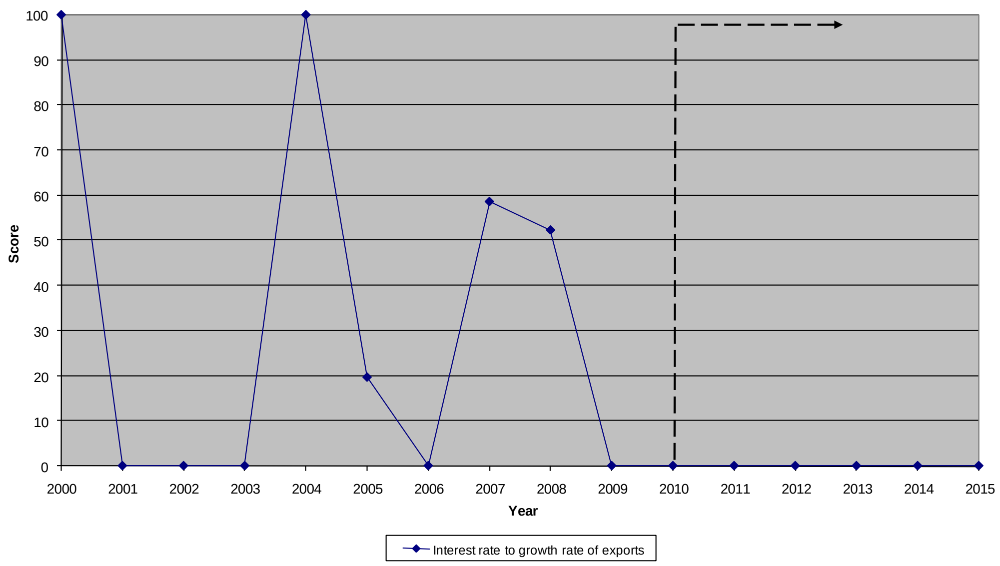


Figure 6: Capital flows, Greece, 2000 - 2015

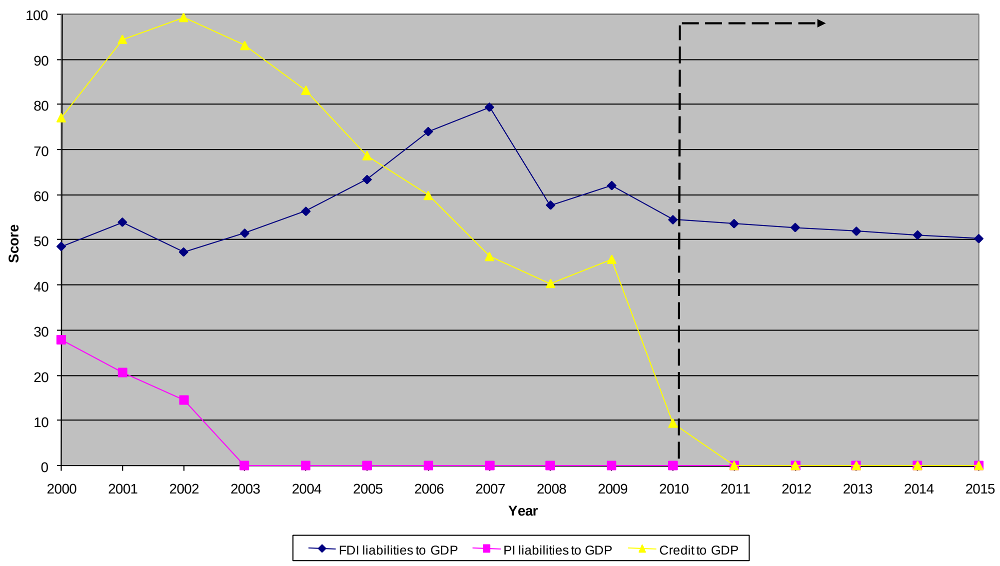


Figure 7: Overall risk assessment, Italy, 2000 - 2015

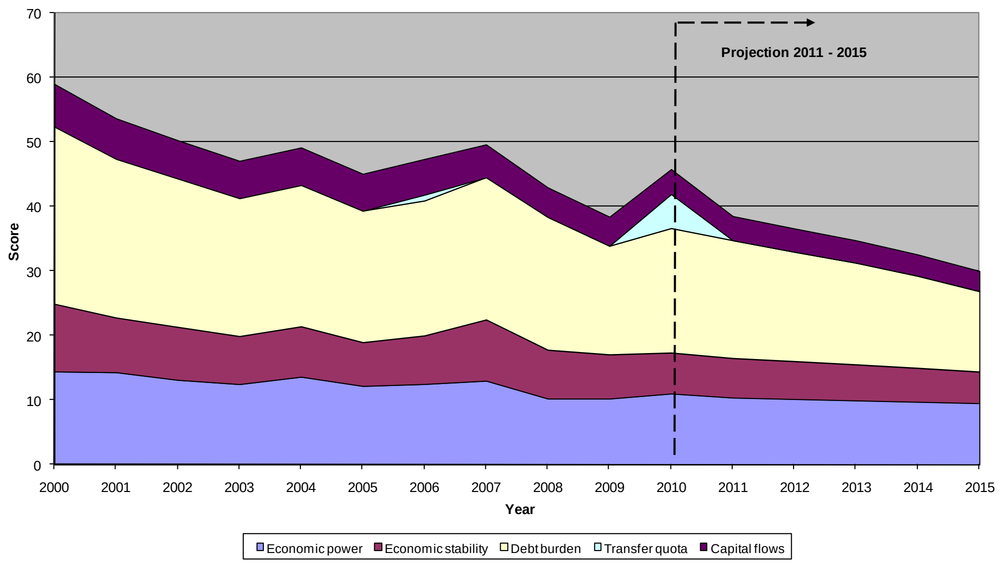


Figure 8: Economic power, Italy, 2000 - 2015

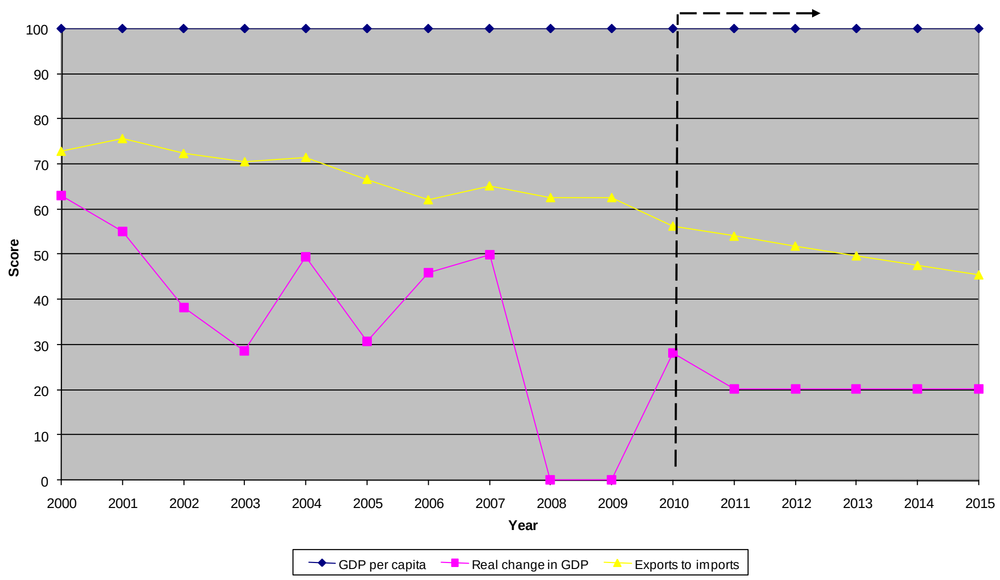


Figure 9: Economic stability, Italy, 2000 - 2015

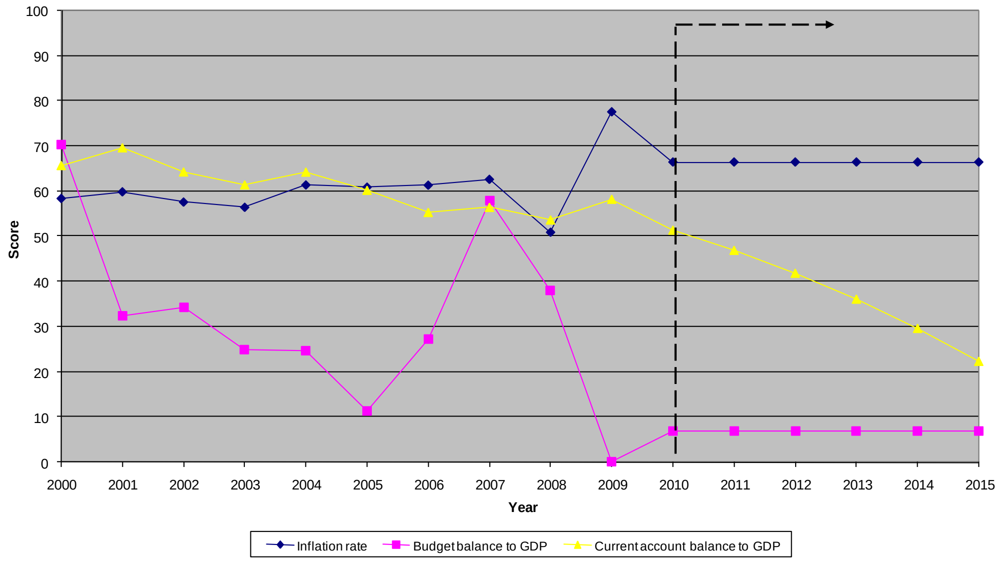


Figure 10: Debt burden, Italy, 2000 - 2015

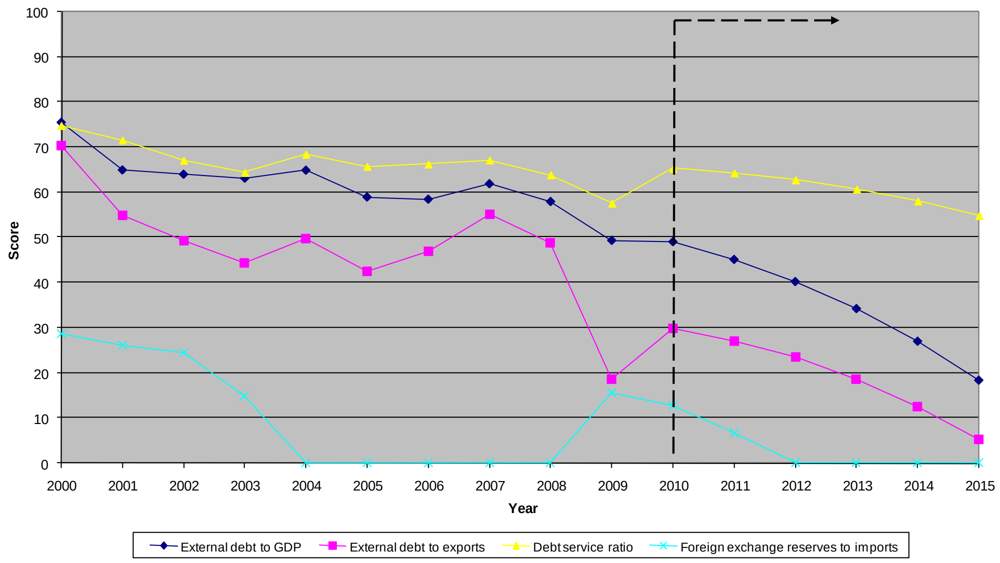


Figure 11: Transfer quota, Italy, 2000 - 2015

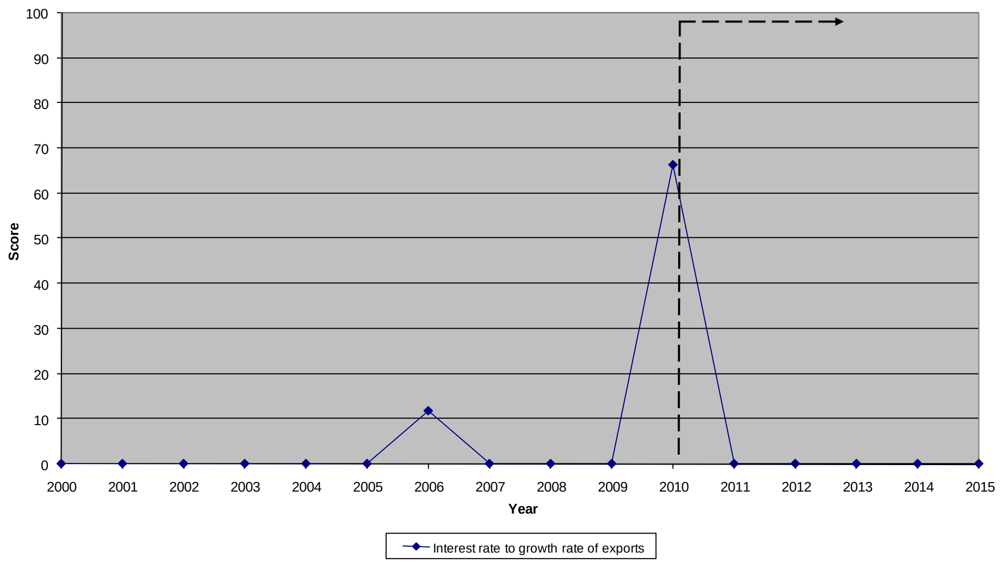


Figure 12: Capital flows, Italy, 2000 - 2015

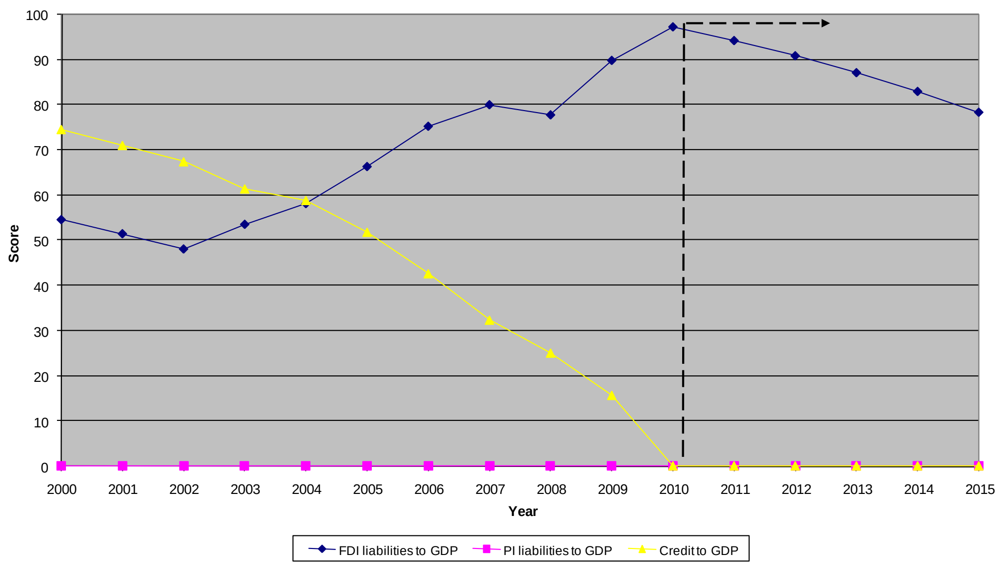


Figure 13: Overall risk assessment, Portugal, 2000 - 2015

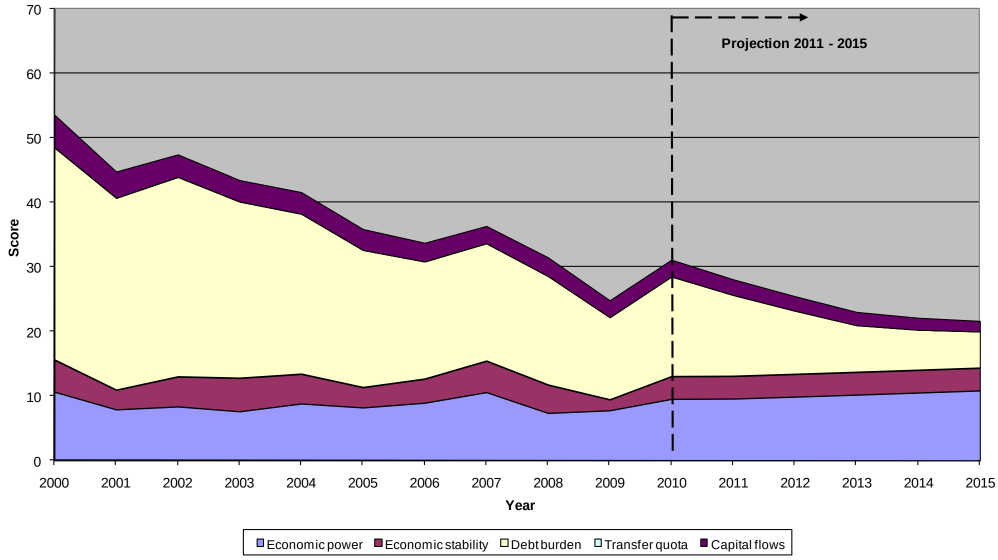


Figure 14: Economic power, Portugal, 2000 - 2015

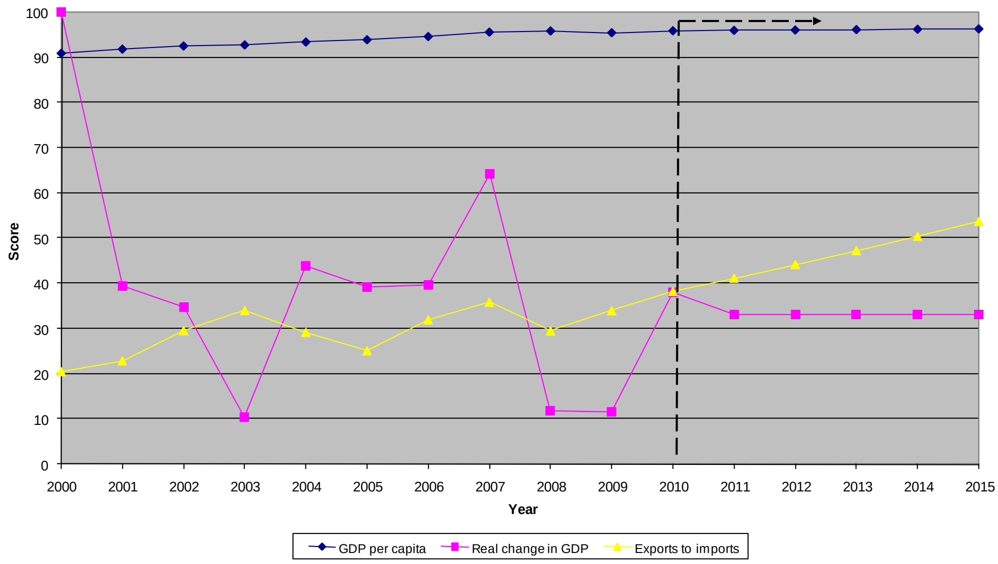


Figure 15: Economic stability, Portugal, 2000 - 2015

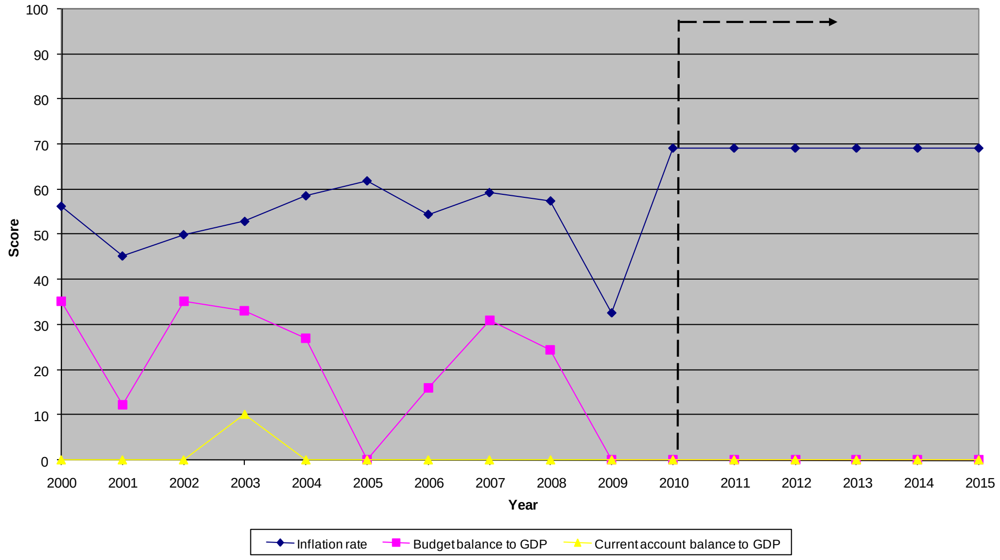


Figure 16: Debt burden, Portugal, 2000 - 2015

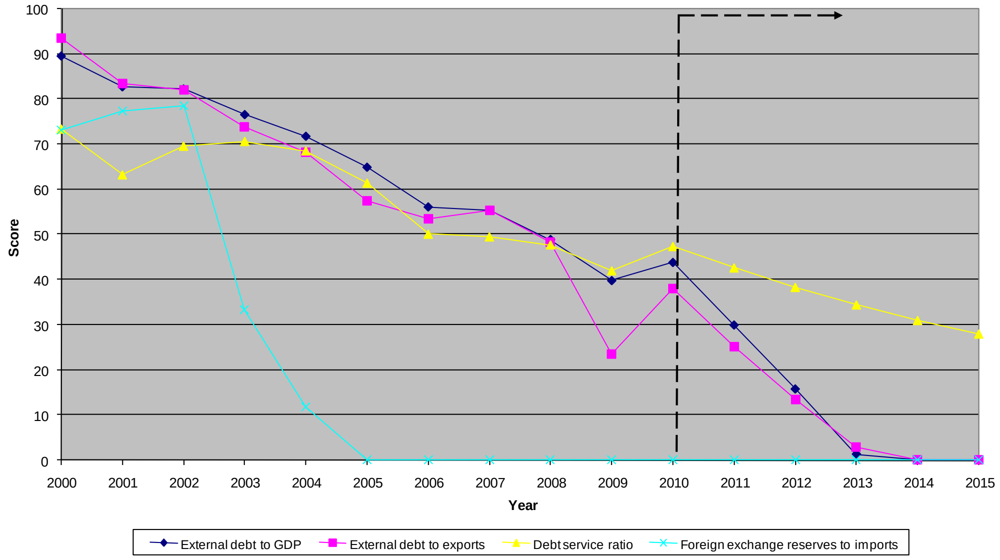


Figure 17: Transfer quota, Portugal, 2000 - 2015

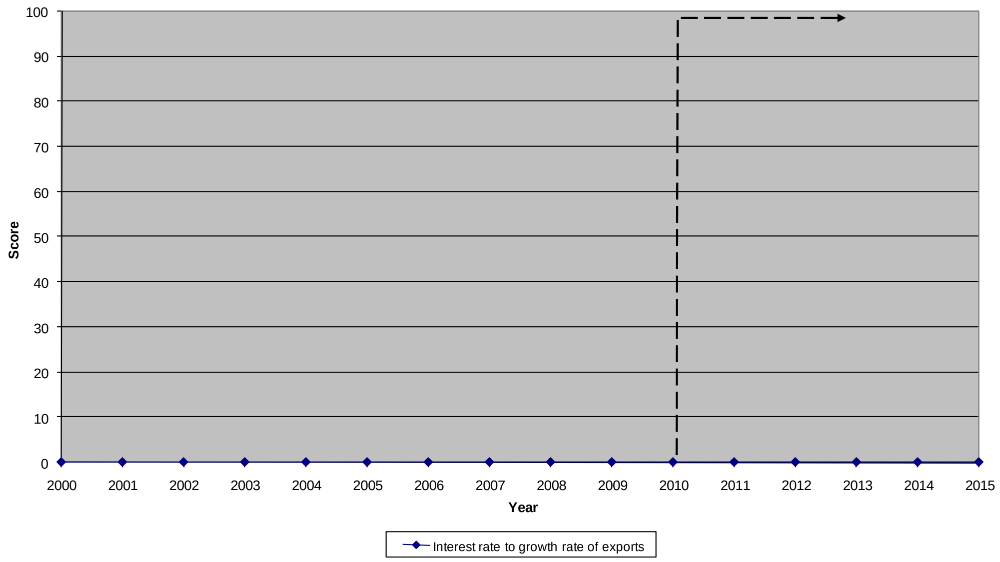


Figure 18: Capital flows, Portugal, 2000 - 2015

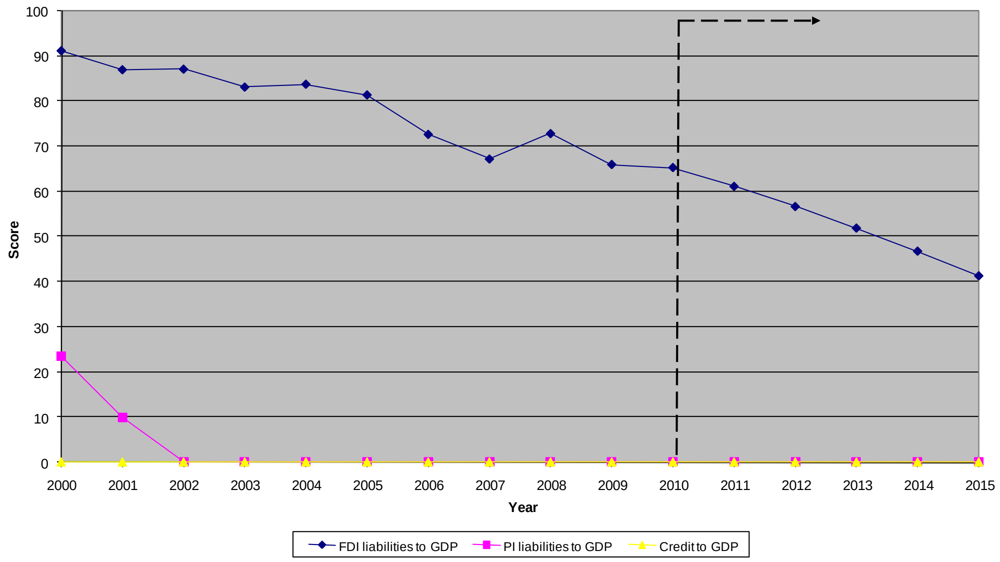


Figure 19: Overall risk assessment, Spain, 2000 - 2015

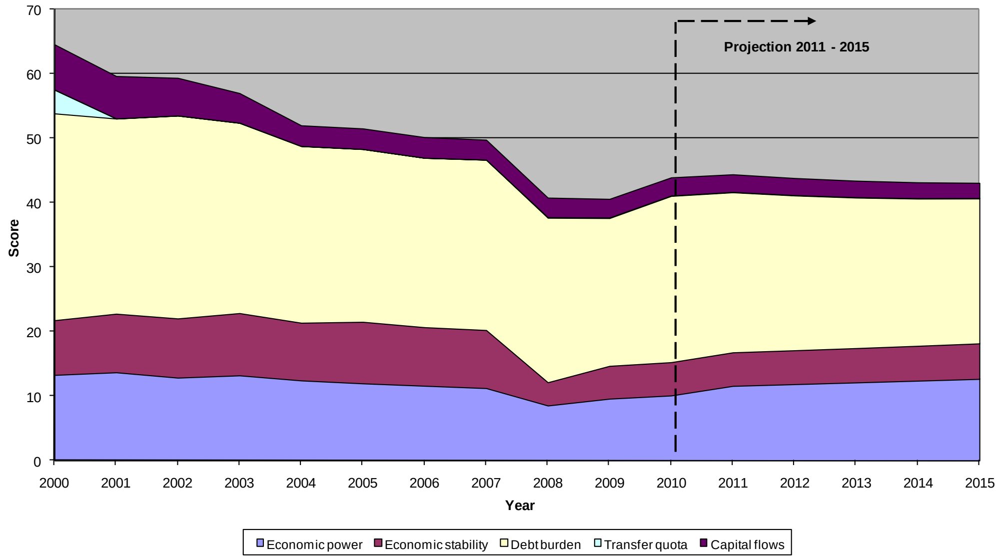


Figure 20: Economic power, Spain, 2000 - 2015

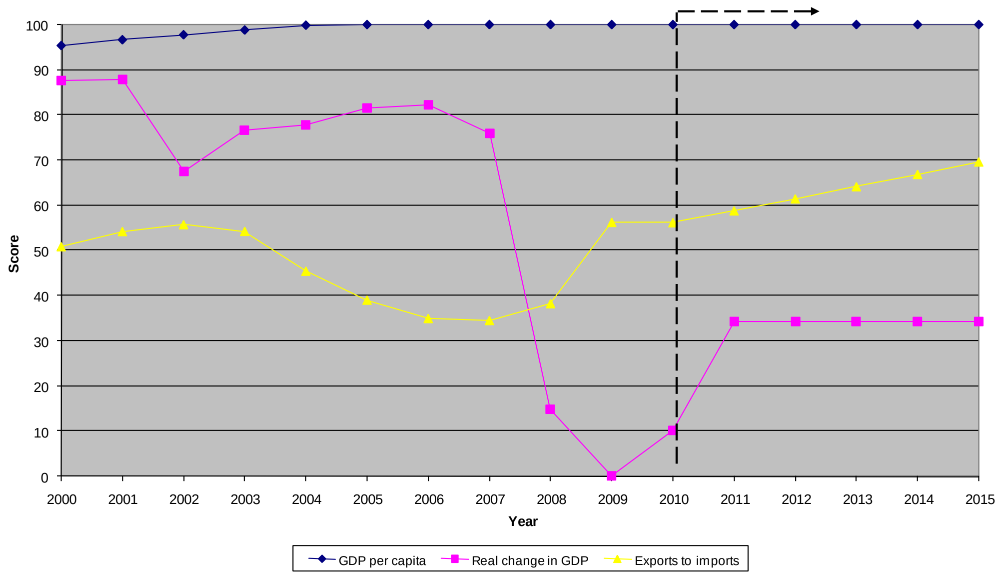


Figure 21: Economic stability, Spain, 2000 - 2015

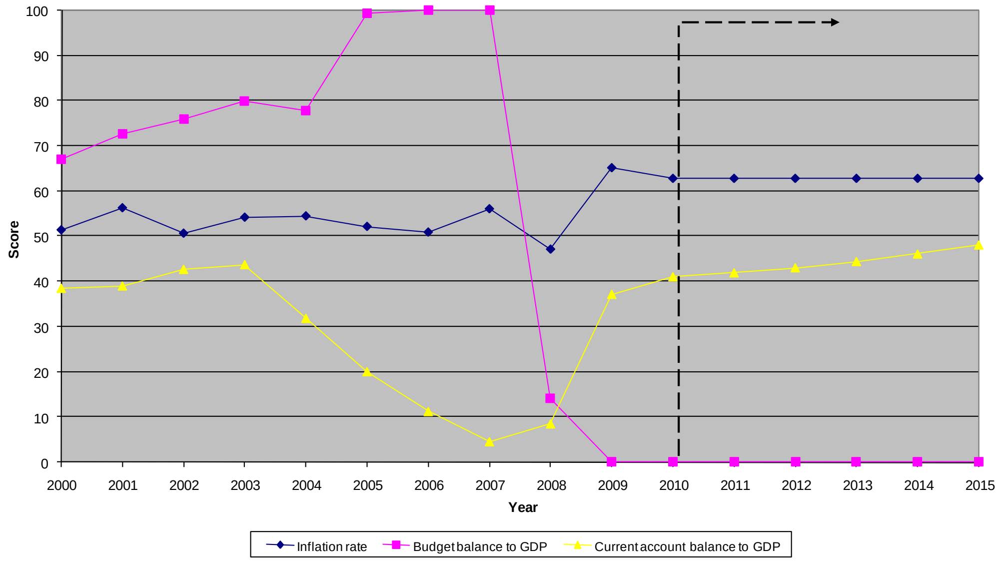


Figure 22: Debt burden, Spain, 2000 - 2015

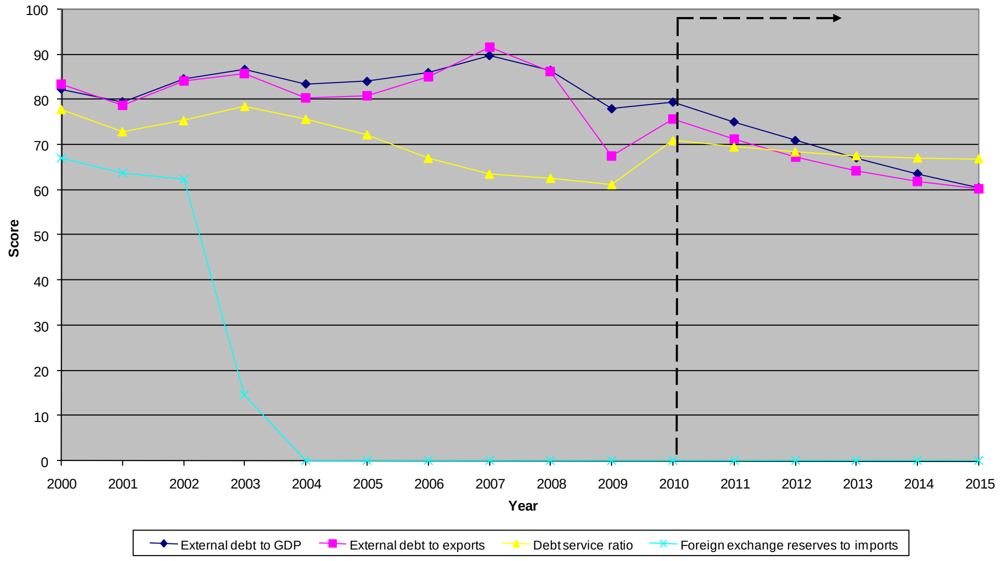


Figure 23: Transfer quota, Spain, 2000 - 2015

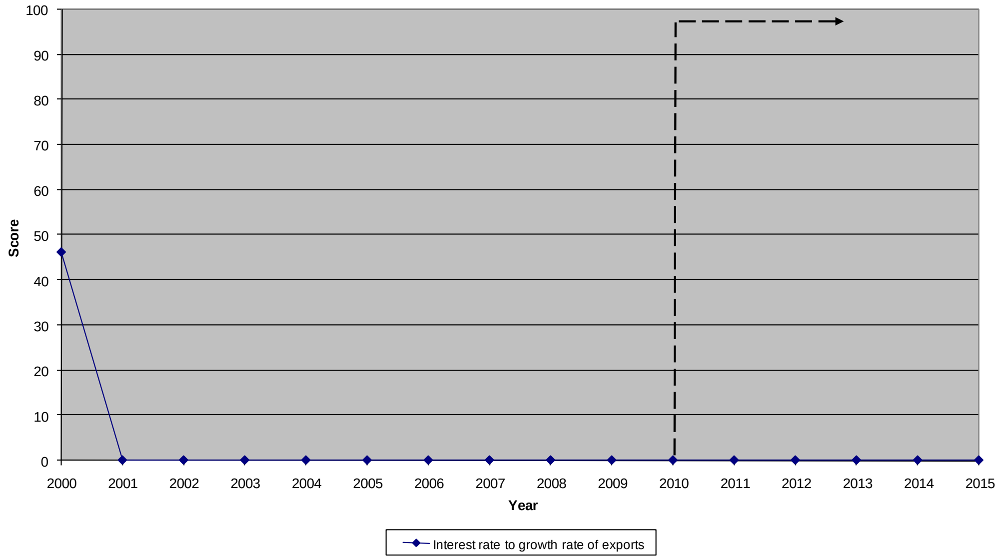


Figure 24: Capital flows, Spain, 2000 - 2015

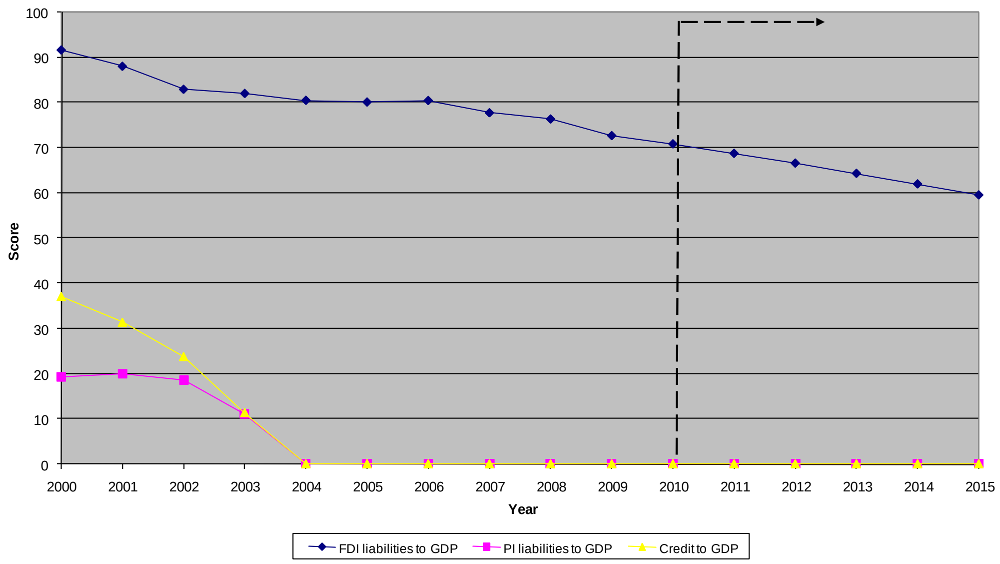


Figure 25: Final ratings

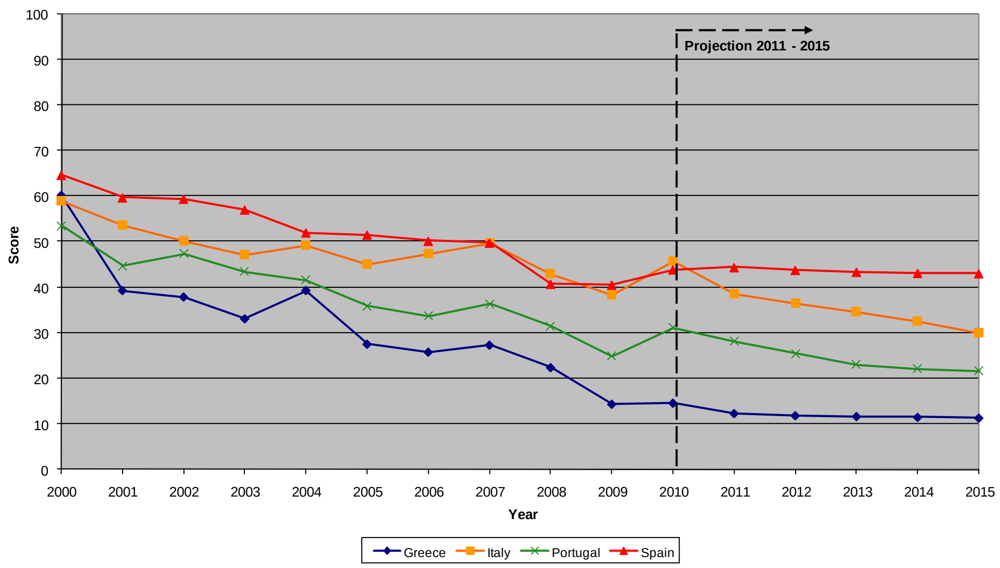
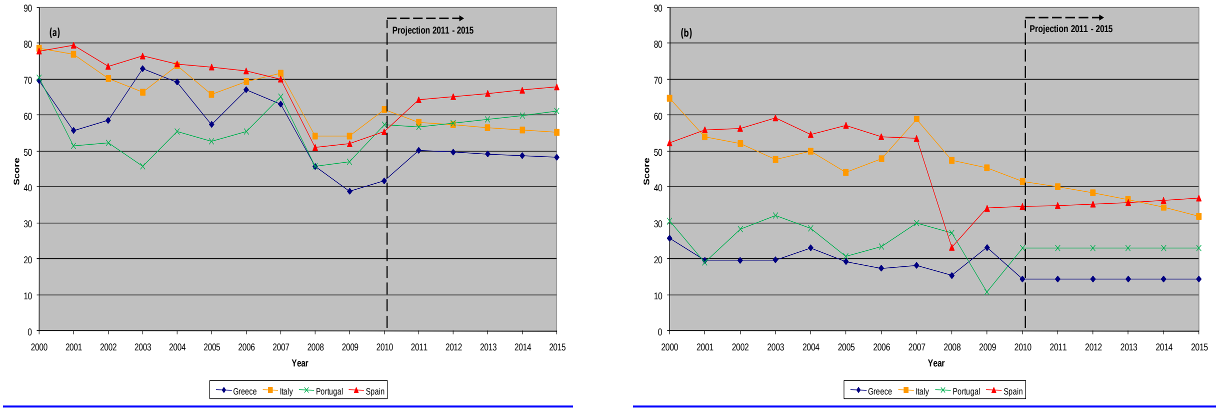
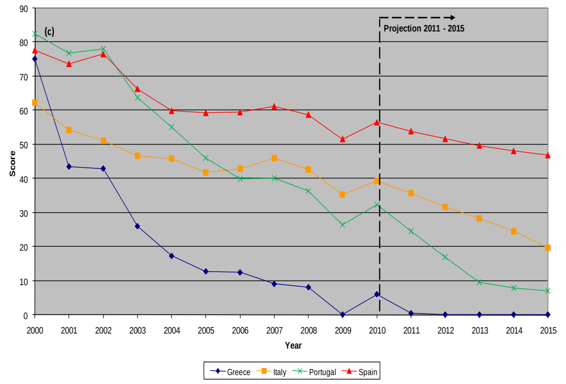
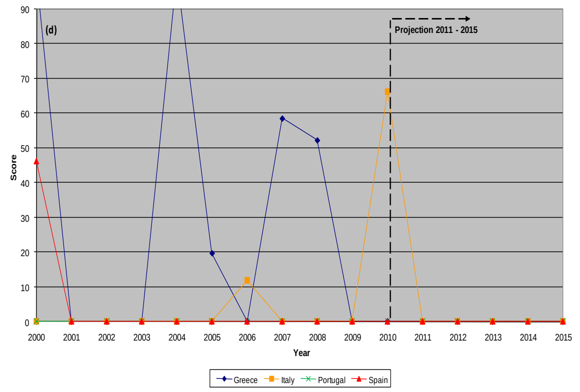
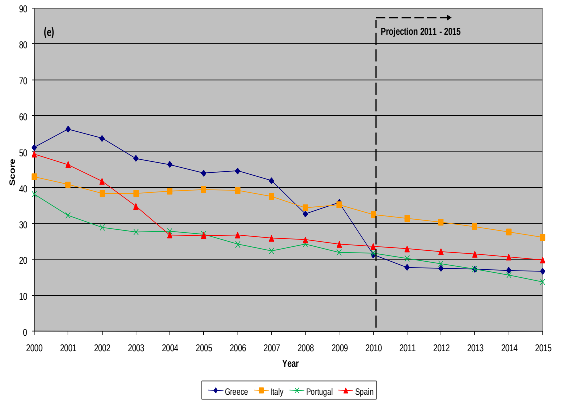


Figure 26: Comparison of (a) economic power, (b) economic stability, (c) debt burden, (d) transfer quota, (e) capital flows




(c)
Projection 2011 - 2015
Score
Year
Greece
Italy
Portugal
Spain


(d)
Projection 2011 - 2015
Score
Year
Greece
Italy
Portugal
Spain


(e)
Projection 2011 - 2015
Score
Year
Greece
Italy
Portugal
Spain