LiMa Benchmark

A performance analysis of
EU member states in the light of the Lisbon and Maastricht goal systems

BertelsmannStiftung

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1. Introduction

The goals which largely define the EU's current fields of action and development, in the sphere of economic policy at least, can to all intents and purposes be subsumed under the headings "Lisbon" and "Maastricht". While "Lisbon" has been synonymous since 2005 with the objectives of growth and employment in particular, "Maastricht" represents the monetary and fiscal policies defined in the Maastricht Treaty and related agreements – particularly the Stability and Growth Pact (SGP) – which apply in the eurozone. The latter group of states have submitted to more or less binding budgetary rules.

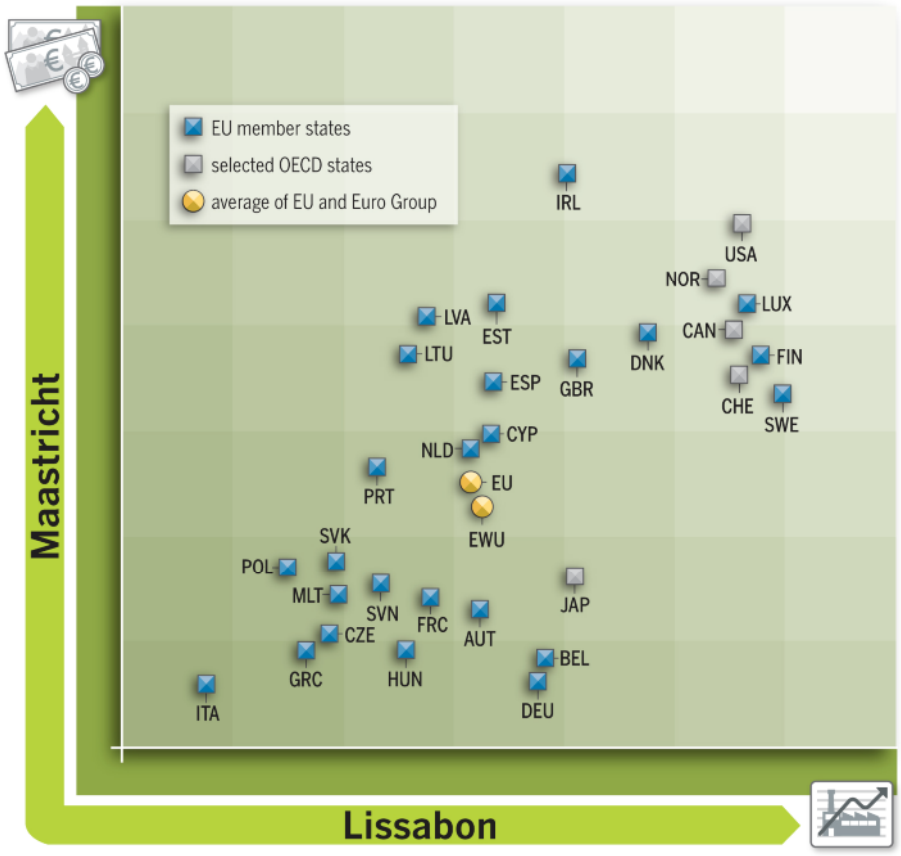
Evaluations of EU member countries' performance along the Lisbon and Maastricht dimensions have so far run aground on the diffuse character of the evaluation systems used. Official EU monitoring of progress implementing the Lisbon strategy, for example, is assessed according to "EU structural indicators". However, this list includes over one hundred separate structural indicators which fail to provide succinct and meaningful information or any clear evaluations of the performance of individual member states. No satisfactory relevant indicators or forecast systems have so far been established to monitor compliance with the Maastricht criteria of sustainable fiscal policies, either. The future budget deficit trends described in the official convergence and stability programme, for example, merely reflect political declarations of intent which rarely tally with real developments.

This is the point of departure for this joint analysis by the (German) Bertelsmann Stiftung, the Center for Applied Policy Research (CAP) and the Centre for European Economic Research (ZEW) which, in the framework of a benchmark study, examines the extent to which EU member states and other selected industrialised countries are meeting the dual goals of Lisbon and Maastricht. The focus of this study is on the growth dimension of the Lisbon strategy and a sustainable fiscal policy. Based on knowledge of the determinants of potential growth and on sustainable fiscal policy, quantitative indicators have been developed for the growth and sustainability goals which reflect the progress made by specific countries towards achieving the defined goals.

The study examines the EU member states as well as Japan, Canada, Norway, Switzerland and the USA. Owing to a lack of available data, it is not yet possible to include the EU economies of Romania and Bulgaria in the study.

2. The LiMa Benchmark – Key results

The LiMa benchmark brings the two goal systems together in a two-dimensional indicator which presents current progress along the Lisbon and Maastricht pillars in a single go. The Lisbon pillar encompasses subindicators for "human capital and innovation", "state and institutions", "openness and capital formation", "financial market trends" and "population structure". The Maastricht dimension includes indicators for "status quo", "spending structure", "tax and levy system" as well as "age-related spending". The Lisbon and Maastricht indicator is the product of a balanced average of each subindex. The method used to generate these results is explained in more detail in the section "Design of the LiMa indicator".



In Figure 1 the vertical axis evaluates the Maastricht dimension in terms of each country's fiscal sustainability. The horizontal axis shows growth potential and reflects the Lisbon goals.

The positive correlation between countries' relative performance in relation to both sets of goals suggests that structural reforms and sustainable fiscal policies are compatible elements of European policy. Conflicts between these two goals, where they arise at all, are clearly short-term in nature as the LiMa Index has a consistently long-term focus. This means that Europe is pursuing a basically coherent long-term economic strategy.

Another key outcome is that Europe as a whole is still a long way from its objective of becoming "the most competitive and the most dynamic knowledge-based economy in the world" and one which also maintains fiscal discipline. The demonstrable achievements of countries such as the USA, Canada or Switzerland have only been matched by a handful of EU states to date. EU and EMU averages are way behind reference countries such as the USA.

Two clearly defined clusters initially emerge from the overall picture of economic performance along both dimensions.

The countries in the "northern cluster" (the north eastern section of the graph) have made excellent progress towards achieving the goals defined in both dimensions and their performance matches that of the most successful OECD economies. Interestingly, the non-EU Europeans such as Switzerland and Norway are also in close vicinity to this leading group. In the OECD comparison, the "northern cluster" has a number of similarities with North America. This suggests that two quite different models of society and approaches to social policy can be equally successful: the northern, welfare state oriented model and the Anglo-Saxon model with its emphasis on individual responsibility and relatively lower government spending. The continental European model, on the other hand, has yet to prove its effectiveness.

The next grouping is the "continental cluster" (in the southern and south western part of the graph) which includes the major continental European economies of Germany, France and Italy, as well as a number of new member states. This cluster characteristically has deficits in terms of the Maastricht criteria. The economies of this group, in contrast, are highly diverse in terms of growth promoting structures. The growth opportunities of Germany, Austria and Belgium are significantly better than potential in Italy, Greece or Poland.

Finally, a "middle cluster" can be distinguished (in the middle of the graph) which primarily differs from the continental cluster in terms of its much higher level of fiscal sustainability and less so in terms of an improved Lisbon position. This middle cluster includes a very broad range of different types of economies, such as those of the Baltic states, the United Kingdom and Spain.

A striking feature is the high degree of heterogeneity inside the EU, within the eurozone and in the new EU states.

The EU members are positioned right across the entire field and do not form a tight cluster of their own. This applies to small and large EU states alike. The big four – Germany, France, Italy and the United Kingdom – differ starkly. The United Kingdom and Italy, for example, are worlds apart along both goal dimensions.

The eurozone includes top performers such as Finland, Luxembourg and Ireland, as well as bottom of class Italy. Clearly neither the euro adoption procedure (convergence criteria) nor the mechanisms applying in the euro-

zone – single monetary policy and the Stability and Growth Pact – are enough to bring about rapid convergence. In other words, the restrictions imposed by a single monetary policy under the strictures of the Stability and Growth Pact are clearly not as tight as they are often thought to be. However, these findings might also be thought to suggest that the costs and benefits of the eurozone are very unevenly spread (Ireland as the winner, Italy as the loser?).

It is striking that the new EU states differ very markedly and, overall, turn up in two of the three clusters. The Baltic states and Cyprus, with their good to excellent Maastricht positioning (and average Lisbon position), make up part of the middle cluster, while the other new member states have fallen significantly behind. The latter all belong to the continental cluster and all have substantial deficits in terms of fiscal sustainability and a below-average Lisbon position.

The discrepancies in progress towards the Lisbon and Maastricht goals in some countries are also interesting sources of information. While Ireland is top of the league all the way along the fiscal sustainability dimension, its performance is much more mediocre in terms of the Lisbon objectives. The three Baltic states also come out well in terms of fiscal sustainability while failing to join the group of Lisbon strategy frontrunners. In a central European context, Belgium and Germany are doing relatively well as far as their long-term growth potential is concerned and can easily bear comparison with economies such as the United Kingdom in this respect. However, both these countries fall way behind in terms of fiscal sustainability.

This, then, is the key message for Germany: while it is satisfying to see that the preconditions for greater long-term growth have been met, there is no reason to believe that the economic upturn which has improved the country's budgetary position means that Germany has now achieved fiscal sustainability. On the contrary, the LiMa findings underline Germany's need to continue making major efforts to catch up with other OECD and EU countries.

Design of the LiMa Index

The basic idea of the LiMa Indicator is to pack a complex array of data into a two-dimensional indicator. Both the Lisbon and Maastricht dimensions are composed of subindicators for each thematic field which are themselves made up of a number of lower level indicators. The specific indicators used in each case are detailed in the separate theme-based sections in the following summary.

When putting the underlying variables together to make up a subindicator it is important to bear in mind that much smaller differences of scale can result in substantial distortions and can severely impair the reliability of the indicator. In order to avoid this, the original variables were all standardised to a value range of [0; 100] prior to calculating the subindicators. The problem of the varying existence or non-existence of natural upper and lower limits for the variable calculation is met by assigning the value 100 to the best performing country over all the years and 0 to the poorest performing country. The evaluations of the remaining economies are then transformed linearly to the intermediate value area. Account must also be taken of the fact that as far as specific variables for each thematic field are concerned, a country's positive development is expressed in some cases by variables with higher values and in others by variables with lower values. The variables were therefore initially rescaled for each original variable to ensure that the highest value represented the best evaluation and the lowest variable value the worst evaluation in each case.

The four subindicators for the thematic fields relating to the Maastricht pillar are all included with equal weighting in the overall indicator. The weighting for the Lisbon pillar was based on the outcomes of the econometric analysis. The BACE method (Bayesian Averaging of Classical Estimates) – a state-of-the-art-model for identifying the empirical determinants of economic growth – was used to pinpoint the factors exercising a particularly strong impact on growth. These factors were then taken into account accordingly in calculating the Lisbon Index to produce the following thematic weighting: Human capital and innovation (32%), state and institutions (30%), openness and capital formation (13%), financial market trends (17%), population structure (8%).

The design is such that either of the LiMa Indicator pillars may assume theoretical values of between 0 and 100. In order to actually reach these extreme values, a country must record the best or worst performance in all the underlying variables – an extreme scenario which does not apply to any of the economies considered in this example.

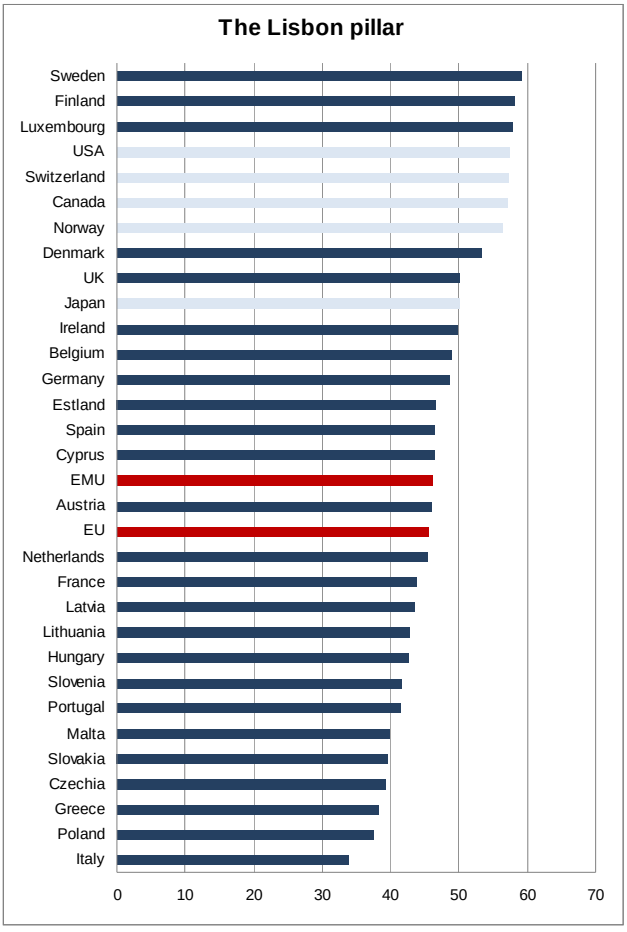
The latest available values are used to calculate the current benchmark index. Depending on the indicator these are the annual figures for 2004 or 2005.

3. The Lisbon pillar

3.1. Basic concept and key results

The definition of growth applied in the framework of the Lisbon objectives is geared to an unequivocally long-term concept and the evaluation of the Lisbon pillar is for this reason primarily approached in terms of potential growth. The choice of thematic fields and their associated quantifiable factors are based on the insights provided by recent theoretical and empirical work on growth which locates an economy's long-term growth in economic decisions which may, for example, affect investments, training and continuing professional development, innovations and the efficient organisation of the value adding process. Specifically, the factors for the Lisbon pillar are assigned to the thematic fields "human capital and innovation", "state and institutions", "openness and capital formation", "financial market trends" and "population structure".

Figure 1: The Lisbon pillar



Most progress towards achieving the Lisbon objectives has been made by the two Scandinavian economies of Sweden and Finland, both of which are excellently positioned in the significant thematic fields of "human capital and innovation" and "state and institutions". The field is led by the USA, Switzerland, Canada and Norway, four non-EU countries included in the LiMa Benchmark for comparative purposes. The USA's good performance, in particular, is due to its firmly entrenched positioning in each of the five thematic fields. The results for Switzerland are mainly the result of financial market developments, a highly qualified working population and the outstandingly good evaluation given to the country's state institutions. Results in the field of "trade and openness", on the other hand, are less impressive. Italy, Poland and Greece bring up the rear of the Lisbon pillar. Italy and Greece are badly positioned along all the dimensions of the Lisbon evaluation, while Poland can at least be regarded as a more attractive destination for investments.

A comparison of the chronology of the Lisbon evaluation is useful as it allows tendencies to be identified for the content of future goals. The annual flow of results for the Lisbon pillar traces a steep upwards curve for the Baltic states of Latvia and Lithuania from the starting values first recorded in 1999. Although the results for both countries currently place them in the lower third of the country comparison, they will both be able to achieve very good positioning if they manage to sustain their current level of dynamism. The Czech Republic and Slovakia, as well as Belgium and Denmark – two countries which are both performing very well along the Lisbon dimension at present – stand out thanks to their continuous upwards development. This contrasts with economies whose performance has either stagnated over time or which even appear to be slowly falling behind. Stagnation is discernible, above all, in Switzerland, the USA, the Netherlands, France and Hungary. However, only Greece shows signs of slowly sliding backwards.

3.2. Human capital and innovation

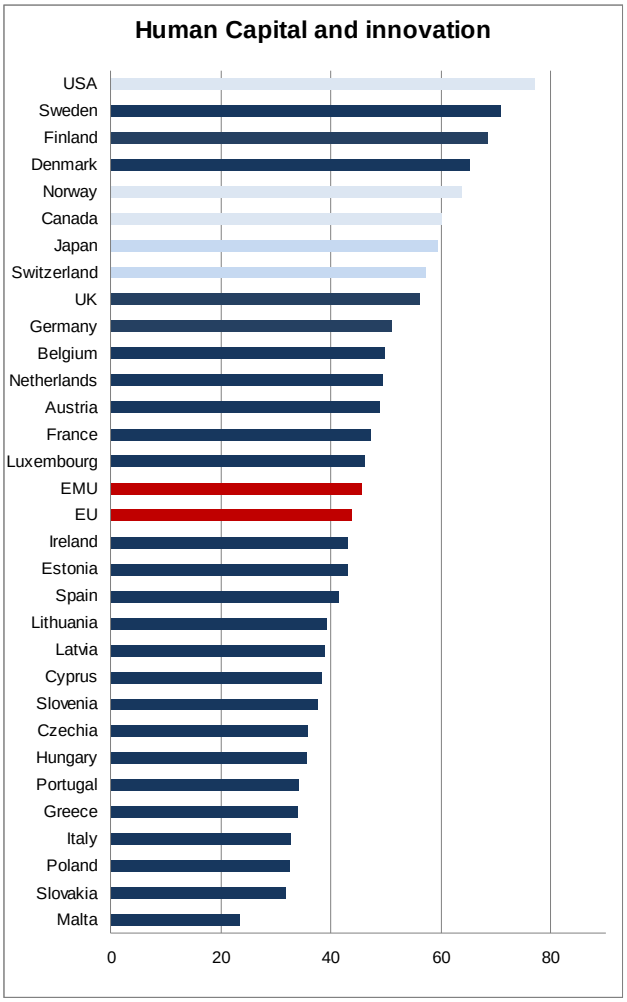
Boosting overall economic growth and raising levels of employment demands both innovation and structural change. These goals can only be achieved, however, by forming human capital and making investments in research and development. In this context, the creation of new products (product innovation) and the generation of new production processes (process innovation) stimulate the economy from both the supply and demand sides. The level of qualification in the population will also increase the cross-sector mobility of the factor labour and facilitate structural change within a country. Boosting overall economic productivity in this framework is the result of investment in training and continuing professional development as well as in research and development which appears to stimulate the growth process.

The subindicator "innovation and human capital" encompasses twelve variables. The average number of years of schooling of the working population and the percentage of the workforce with a university degree are used as measures of the average level of qualification of a country's working population. The gross enrolment rate of the future labour force is also taken into account as an indicator for the level of training.

Indicators of structural change in a country are the number of people gainfully employed in the agricultural sector relative to the total workforce, the proportion of employees working in the service sector and the number of people working in the research and development field. All current public and private spending on research and development and public education expenditure are also captured. The reference variable for estimating the success of a country's research and development activities is the number of patent registrations and the number of articles appearing in journals publishing in the field of natural science and engineering science research. The inclusion of the national labour force participation rate and the share of the jobless figures accounted for by the long-term unemployed are designed to indicate the inclusion of the population and the utilisation of human capital in overall economic production and development processes.

The results provided by the subindicators initially show that there are substantial differences between each of the countries. The USA, for example, leads the way with around 72 points. In fact, the USA scores above average results in almost all categories. Compared with other countries, the USA is way ahead in terms of scientific publications and the number of registered patents. The USA also comes comparatively high up the league tables in terms of the share of its workforce employed in the service and research sectors.

Figure 2: Human capital and innovation



Malta brings up the rear with a mere 23 points. Poland – second to bottom – has 33 points. The Polish research sector generates very few patent registrations, or publications in the engineering or natural science fields. A low proportion of employees in the service and research fields rounds off the picture in a country which produces comparatively few innovations.

Germany comes near the top in this category and stands out with above-average variable values in almost every field. However, Germany is below average in terms of public spending on education and its gross enrolment rate. This is confirmed by comparison with average EMU and EU figures. The European Monetary Union and the European Union come somewhere in the middle in this respect.

3.3. State and institutions

The regulations governing an economic region stimulate innovation activities as well as the accumulation of real and human capital and thus contribute significantly to long-term growth. Ensuring political stability and citizens' trust in the national judicial system also play a vital role, as this facilitates the implementation of political reforms and allows more reliable economic planning security for the players.

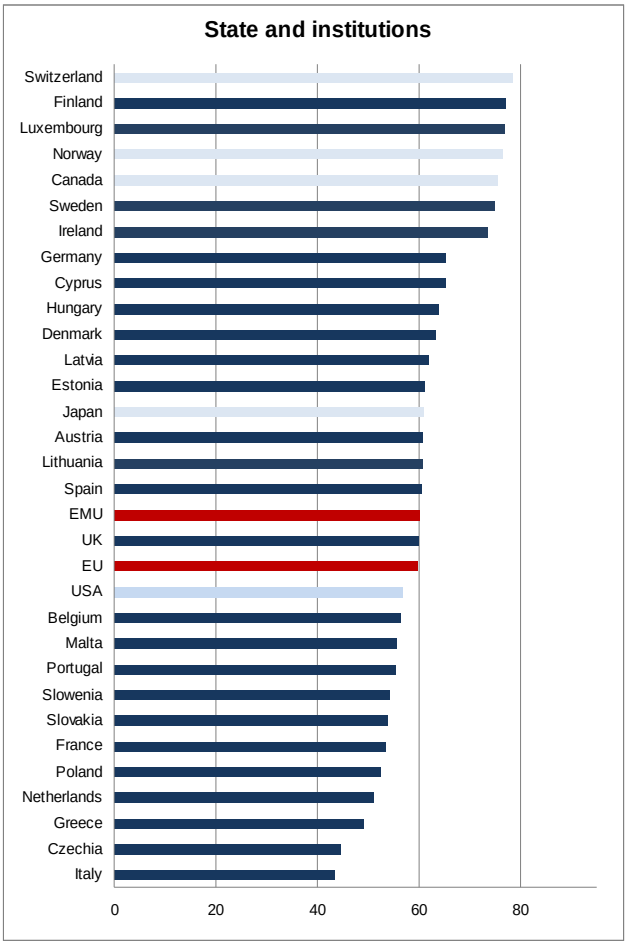
The country-specific design of the tax system impacts income distribution. Here, social consensus can exert a positive influence on the productivity development of a given economy. And, as a general rule tax conditions have an

effect both on the labour supply of private households and corporate commitment. Extensive government activities may run the risk of creating excess bureaucracy in the medium and long-term. Frequently the provision of government goods and an abundance of regulations are not beneficial for the welfare system as the private sector can provide such goods more efficiently in many cases and the impact on the competitive situation impairs macroeconomic resource allocation.

Different indices are used to identify political stability and the quality of public administrative services in order to operationalize the public institutional framework. The indicators also measure the quality of political goals that have been set and the implementation of political programmes as well as the credibility of government promises. Public consumption in relation to GDP is used as a metric in the study to measure the extent of both government goods on offer and national bureaucratic structures.

We compared the country-specific tax burdens on the basis of the highest marginal tax rates to identify any incentive impacts that tax law might generate. The average time required to prepare and pay taxes was measured in addition to the tax burden in order to illustrate the transaction efficiency of the tax and levy system. Indicators for citizen’s trust in the country’s legal stability are also considered. The indicators are also complemented by an assessment of the potential effects of personal income distribution on macroeconomic growth potential via the Gini-coefficient.

Figure 3: State and institutions



Within the “state and institutions” field the Swiss economy ranges first with 79 points and is far ahead of most of the other states with regard to political stability and the public sector’s administrative efficiency. However, Swiss public consumption accounts for a comparatively high share of gross domestic product. Italy comes in last with 44 points. In the fields of political stability, administrative efficiency and citizen’s trust in their legal system it is far below the average situation.

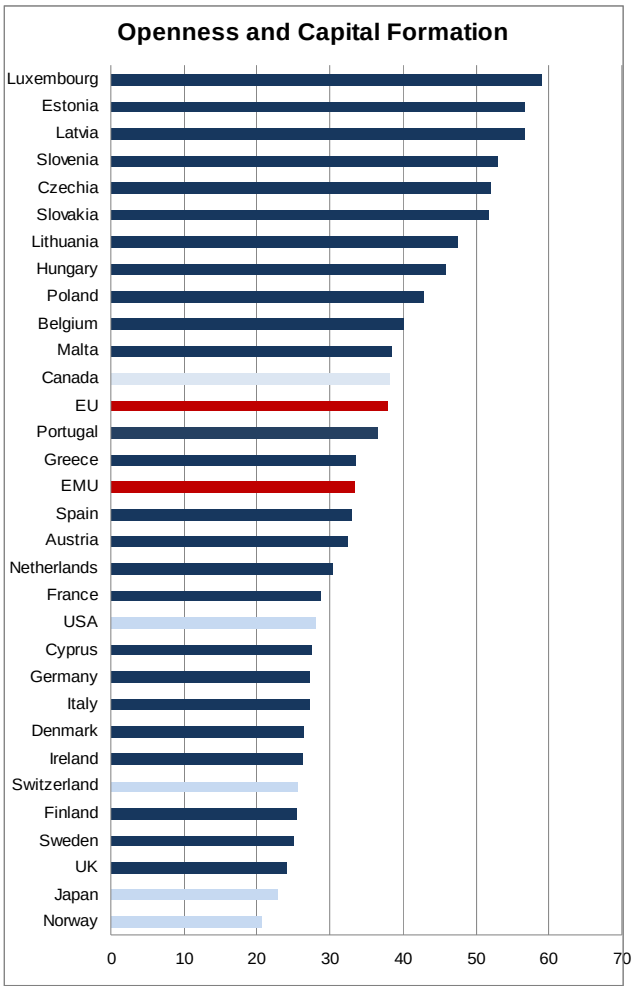
Germany is Number 8 with 65 points and boasts above average reliable economic planning and political stability as well as a relatively high degree of distributive justice with regard to the income of private households. Here the eurozone and the EU average also fall somewhere in the middle, as expected.

3.4. Openness and capital formation

This field comprises some vital points portraying a country’s success and appeal as a trade and investment location and which are thus essential prerequisites for sustainable growth in a globalized world. The degree of openness and an economy’s international cross investments are an important indicator of global integration and elementary preconditions for the take-up, exchange and transfer of technology and know-how. Increasing real capital seems to efficiently boost growth in the long-term, as this boost is created by favourable, external effects, such as learning effects. This promotes the application of new technologies requiring tied-up capital which, in turn, increases productivity.

This sub-indicator comprises the following variables: Gross fixed capital formation in relation to GDP as the most comprehensive indicator for real capital formation in a given economy. Account is also taken of net inflows of foreign direct investments. The price level of investments expressed in purchasing power parities is also included in computations to show the price of capital investment in an international comparison. A country’s openness towards trade is measured via the sum of exports and imports of goods and services in relation to the gross domestic product.

Figure 4: Openness and capital formation



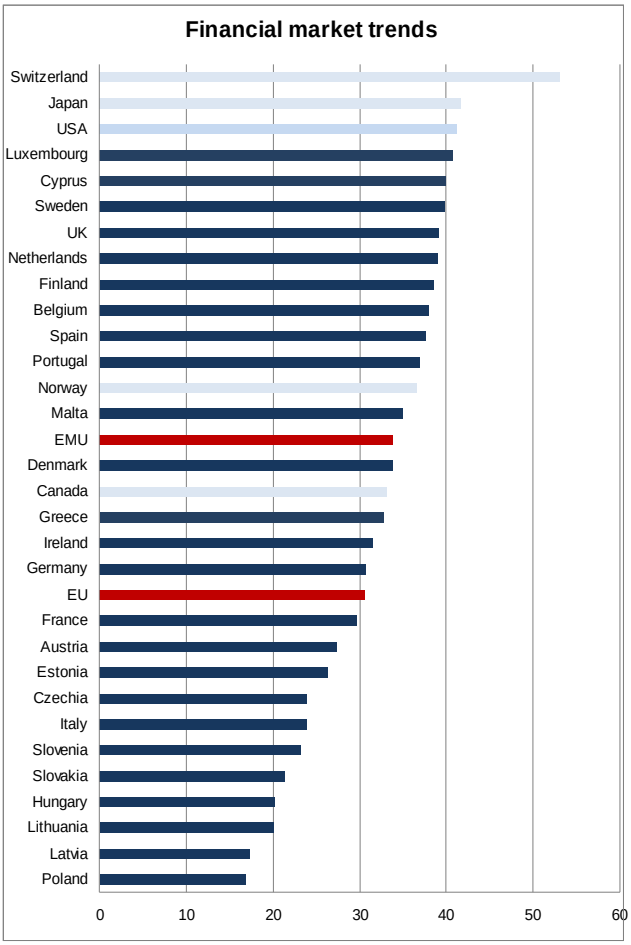
Luxembourg fares best in the latest comparison of results. However, this overall result is almost entirely due to the high point values in the sub-categories “foreign direct investment” and “openness towards trade” which exemplifies Luxembourg’s prominent role as a major international financial and trade centre. In particular the Central and Eastern European countries dominate this field – with the Baltic economies Estonia and Latvia in the lead. Attractive local conditions favour the inflow of foreign direct investment and, together with high marginal yields, ensure dynamic capital formation in these two countries. These results are also the outcome of these countries' strong outward-looking attitudes and, in this respect, only the Netherlands and Ireland have similarly robust metrics. Europe’s well-established economies, such as the United

Kingdom and Germany, but also the top performers of the entire benchmark, namely Sweden, Finland and Switzerland, are to be found only in the bottom half of the comparison.

3.5. Financial market trends

While traditional theories of growth reduce economic development processes to exogenous technological progress and consequently do not assign any importance to financial markets, new growth theories regard financial markets as catalysts for development which is driven by private sector innovation and factor accumulation. Highly developed financial markets represent efficient means of collecting and distributing capital and of spreading risks by diversifying investments, providing information and reducing frictions which hamper development. The growth inducing impact of a highly-developed banking sector and of liquid and sophisticated stock markets has been demonstrated by several empirical studies.

Figure 5: Financial market trends



The thematic field of "financial market trends" for the Lisbon pillar draws on indicators of the size and efficiency of the banking sector and stock markets. An important indicator of the size and liquidity of the banking sector is the relationship of central bank assets to gross domestic product. The scale of commercial banks' lending to the private sector is captured by the indicator "private loans made by deposit-taking banks and other financial service providers in relation to gross domestic product". Another comprehensive indicator for the size of the banking sector is the ratio of total deposits in the financial system to gross domestic product.

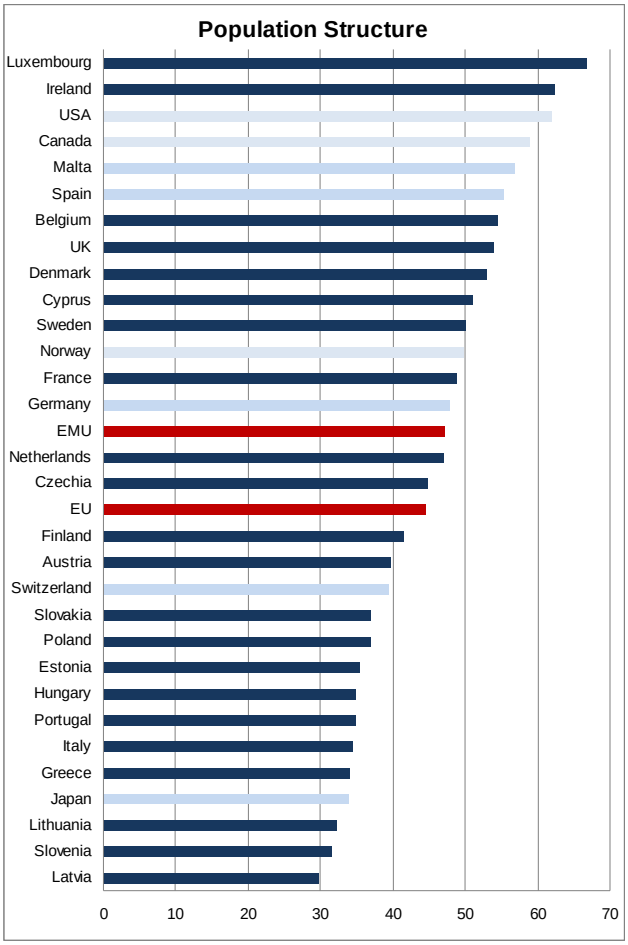
In addition to these key metrics for the size of the financial system, efficiency measures in particular play a very important role. These include the overhead costs of banks as a share of their total assets and the concentration of the banking sector, defined as the relation between the assets of the three biggest banks and the assets of the banking sector as a whole, which is also included in the overall dimension of this thematic field. The last two indicators reflect the importance of stock market development. The size of the share market is given by the stock market capitalisation of all

listed companies in relation to gross domestic product. On the other hand, stock market turnover, calculated as the ratio of stock market transactions to stock market capitalisation, is a classic measure of efficiency.

Based on the makeup of this subindicator, the highest scores in the thematic field "financial market trends" are recorded for Switzerland, Japan and the USA. Switzerland comes out particularly well in all the thematic fields despite scoring lower on the efficiency indicator for banks' relative overheads. The results for Japan and the USA are based on a similar set of individual factors. The efficiency indicators considered for these countries also turn out comparatively weak while, at the same time, the size and liquidity indicators for the financial system are very good. The fact that EMU countries are substantially ahead in terms of financial market trends compared with the rest of the EU is demonstrated by the results of the corresponding average values. In general, countries which have only recently joined the EU tend to perform less well than the established EU countries. Exceptions in this context are Malta and Cypress, both of which are well positioned compared to other countries.

3.6. Population structure

Figure 6: Population structure



Two trends relating to demographic change are currently apparent in a number of industrialised countries: falling rates of fertility and greater longevity. These changes have a particular impact on systems of social security and in many cases impose enormous fiscal burdens which will have an effect on the standards of living of future generations.

The population structure has a direct impact on the growth of an economy via the labour market. This means that a change in the labour supply will almost certainly be accompanied by shifts in the overall structure of demand for goods in an economy. The shift in consumption and savings behaviour will generate processes of change which will be felt in financial markets. Changing demand structures will require an extended range of services which will differ substantially from country to country.

The data used to calculate the demographic index is drawn from four demographic metrics. A country's rate of population growth covers changes right across the resident population, regardless of individuals' legal status or citizenship. Demographic urbanisation represents the share of the population living in towns and cities. From a growth theory perspective, towns and cities are the focal sites of economic activity and the drivers of growth in the economy. The fertility rate and dependency ratio are also taken into account. The latter expresses the ratio of the economically inactive population (age groups 0-14 and over 65) to the number of persons of working age.

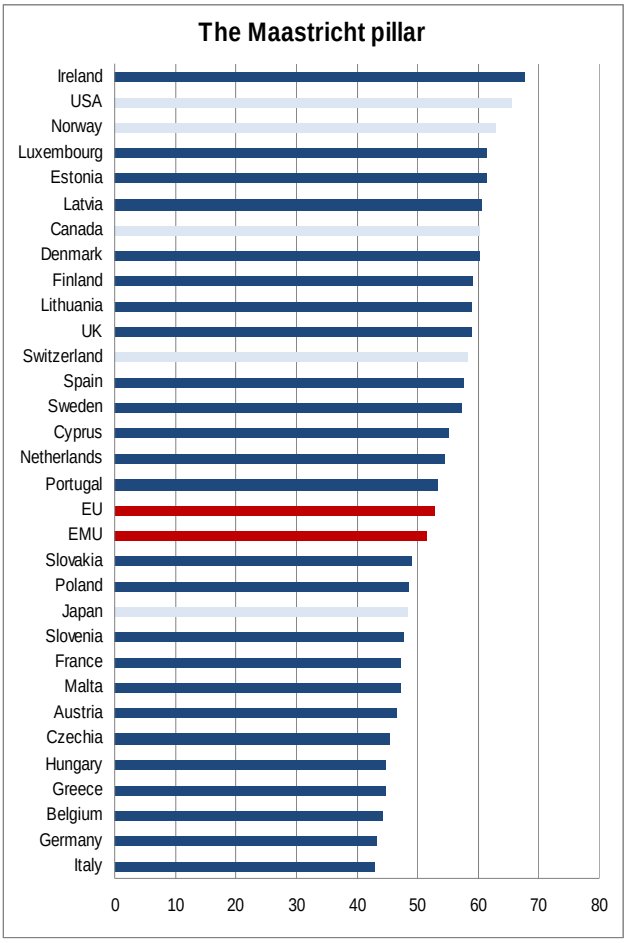
The two countries with the best demographic trends are Luxembourg and Ireland, both of which enjoy strong population growth and high birth rates. The mid field is occupied by countries such as the Czech Republic, the Netherlands and Germany. However, Germany stands out owing to its comparatively high level of urbanisation and low population growth and birth rates. Latvia, Slovenia and Lithuania trail further behind with dwindling populations and weak birth rates. The EMU and EU averages fall somewhere in the middle, although the eurozone countries are performing better.

4. The Maastricht pillar

4.1. Basic concept and key results

The Maastricht pillar of the LiMa Benchmark is designed to measure performance in the area of fiscal sustainability. The Maastricht pillar, like the Lisbon pillar, is geared to a distinctly long-term concept. The key concern of the analytic method used in this case is to go beyond the current snapshots of deficits and debts which are typical of the EU's present fiscal monitoring. In addition, greater weight is attached to aspects of the fiscal situation which provide information about the anticipated long-term net financial impact on national budgets. It is for this reason that other thematic fields are included in addition to "status quo" themes which are shaped mainly by current metrics such as deficit and debt ratios. As a result, information about the themes of "spending structure" and "taxes and levies" is evaluated in terms of the extent to which each country can demonstrate a viable long-term spending mix or whether there is scope at all for consolidation measures on both sides of the budget equation. The thematic field of "age-related spending" investigates the fiscal burdens which demographic trends will predictably generate.

Figure 7: The Maastricht pillar



The thematic fields and their makeup are described in greater detail in the following sections. This is preceded, however, by a look at the overall country rankings in the Maastricht pillar as illustrated in Figure 8.

The clear "winner" in this pillar is Ireland, which ranks among the top third of countries in all the thematic fields. Emphasis must be given to the consistently positive values in the "tax and spending systems" field. Italy and Germany are positioned at the other end of the scale. In the case of Italy, this is mainly due to comparatively poor indicator values in the "spending structure" and "age-related spending" fields. Germany's position is largely a result of its performance in the fields of "tax and spending systems" and "spending structure".

Discernible clusters have also formed in the upper and lower thirds of the ranking table. Ireland, the UK and the Baltic states again lead the way among

the EU countries, while the big "continental European" countries of Italy, Germany and France are all positioned at the bottom end of the scale. It is also interesting to see that the Scandinavian countries – and Norway in particular – all rank higher than the EU average. On the other hand, the eastern European countries - with the exception of the Baltic states – are positioned as a group entity in the bottom half of the ranking scale. Whether this cluster will continue to form a consistent block over the course of time remains to be seen. A comparison of the current country benchmark with the positions for the year 1999 underlines how dynamic the rankings are and shows the considerable shifts which have taken place in the positions of the analysed countries relative to each other since the end of the 1990s. The Baltic states in particular have developed very positively. What is more, Slovakia and Hungary – bottom of the league in 1999 – have also picked themselves up and made progress. Slovakia in particular has done well and managed to find a place among the middle ranking countries. These positive developments are negatively mirrored by the performance of Italy and Germany, both of which are now bottom of class.

In terms of fiscal sustainability, the selected OECD states perform well in comparison with the EU and the EMU average. The USA and Norway come in at positions 2 and 3, behind Ireland. Canada and Switzerland are also found in the top half of the rankings. Only Japan ranks below the EU/EMU average.

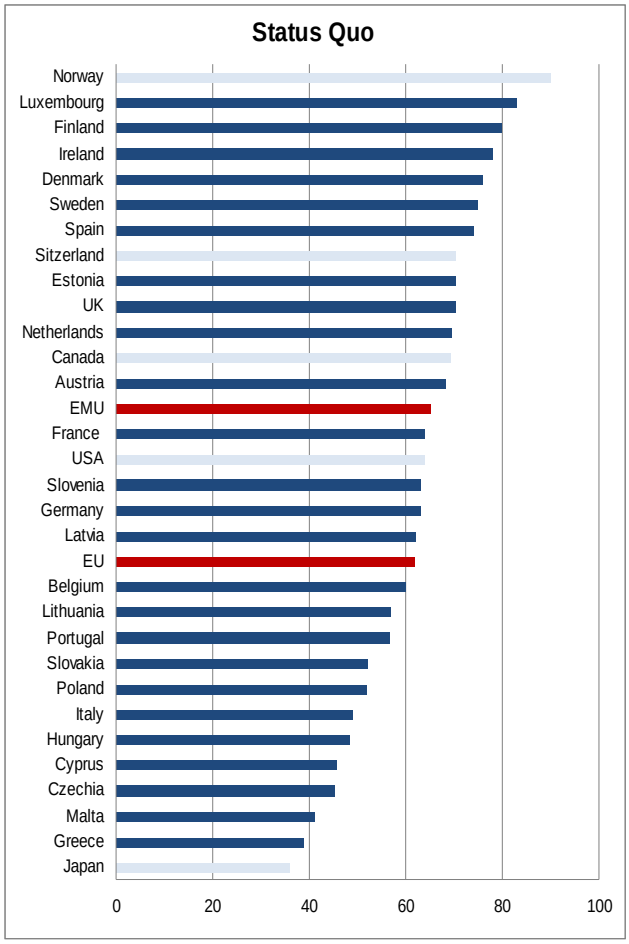
The following sections look in more detail at how the results from each thematic field are fed into the ranking scheme for the Maastricht pillar.

4.2. Status Quo

The thematic field "status quo" is made up of three subindicators: national public debt ratios (debt as a ratio of GDP), a moving average of deficit ratios (over the last five years in each case) and a country rating produced by the Moody’s rating agency. All three subindicators represent important determinants for assessing a country's fiscal stability. The public debt ratio and the (moving average) of deficit ratios are used to map a country's current public finance situation. The ratings are used to determine each country's credit rating. In this way the three subindicators assess the current financial situation and the current financial standing of national budgets ("status quo"), but do not provide any information about the future development and thus long term sustainability of public accounts in each of the countries.

The three subindicators – public debt ratio, deficit ratio and creditworthiness rating - referred to above make up one third each of the input for the "status quo" thematic field which in turn makes up one quarter of the value of the calculations for the Maastricht pillar. Figure 9 shows the country comparison for the thematic field "status quo". As described, the index can taken on values between 0 and 100; higher index values represent a better fiscal situation in the initial year ("status quo").

Figure 8: Status quo



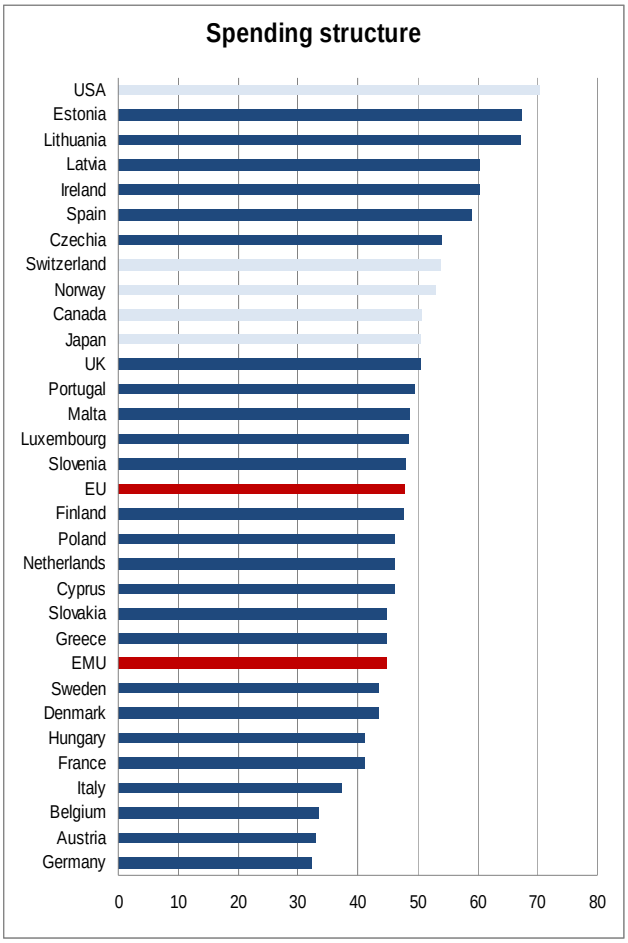
Germany comes in at position 18 in the country comparison, placing it firmly in mid field - slightly above the EU average, but below the EMU average. In contrast, the northern countries Norway, Finland, Denmark and Sweden, as well as Luxembourg and Ireland, ride high at the top of the rankings. In international terms, these countries are frontrunners for all three subindicators. Germany's public debt ratio and deficit ratio, in contrast, position the country in the bottom third. These leading countries are balanced at the bottom end of the country comparison by Japan, Greece, Malta, the Czech Republic and Cypress. Apart from the Czech Republic and Japan, the figures for all three subindicators put these countries in the lower third of the rankings. The Czech Republic, in contrast, has performed particularly well as far as its public debt ratio is concerned, and Japan has a very good credit rating.

Finally, two middle-placed country groups can be identified. The upper mid field is occupied by a group of countries which includes Switzerland, Estonia, the United Kingdom, the Netherlands, Canada and Austria. The performance of these countries differs substantially according to which of the three subindicators are considered. The public debt ratio and deficit ratio of Estonia, for example, places the country firmly near the top. The country comes much further down in terms of its credit rating, however. In contrast, Canada's public debt ratio relegates the country to the lower end of the league despite its excellent performance on other subindicators. The lower mid field, which includes Germany, France, the USA, Slovenia and Latvia, has similar characteristics.

4.3. Spending structure

The "spending structure" field enables the "quality of public finances" to be included in the analysis. As well as the absolute level of public spending in relation to gross domestic product, this approach also enables the share of the budget taken by various spending categories to be included in the assessment of progress towards achieving the Maastricht goals.

Figure 9: Spending structure



The method adopted here draws on a very broad base of empirical literature on the success potential of different consolidation strategies. Two robust findings can be derived from this literature. First: In most cases successful consolidation comes from the spending side of public budgets. Second: Successful consolidation phases are frequently associated with a qualitative improvement in the structure of spending, i.e. a reduction in the share of budgets taken up by "consumption" oriented expenditures and a stronger shift towards "productive" expenditure categories. Based on these insights, the "spending structure" theme takes both the absolute spending ratio and the share of interest, transfer and subsidy payments on board as negative factors in the evaluation. Positively evaluated, on the other hand, are the high share of budgets spent on education, research and development as well as public investments.

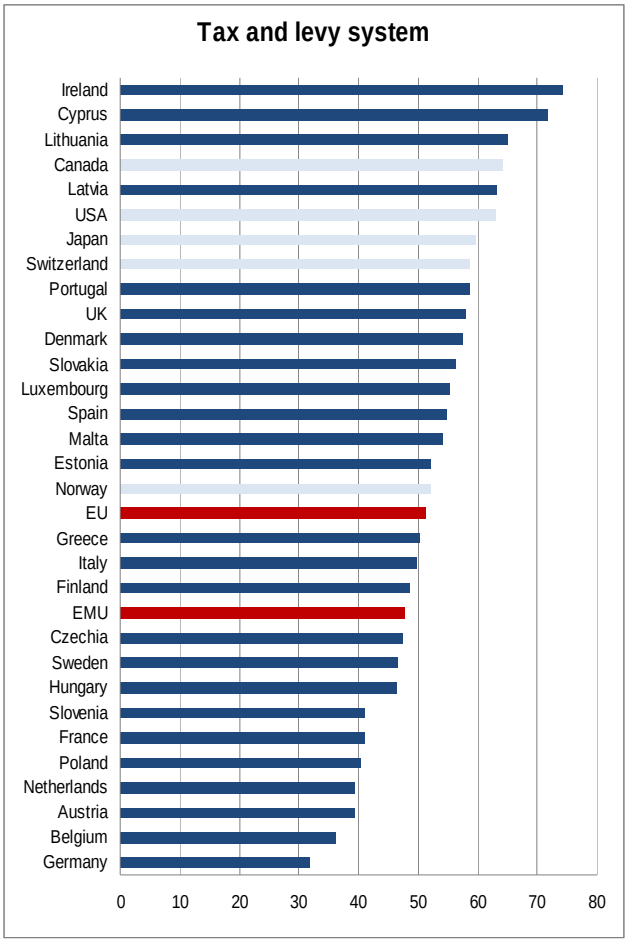
Figure 10 shows the country ranking in the thematic field "spending structure". The EU country group is led by the Baltic states Estonia and Lithuania. These countries are primarily characterised by low levels of public spending and interest rates as well as comparatively high levels of spending on education. At the other end of the scale are Germany and Austria whose poor position is, in particular, the result of the low share of public spending which flows into public investment and the high level of state transfers and subsidies.

A comparison of the rankings of the EU country group with those for the eurozone countries shows that the latter perform less well in the thematic field "spending structure". This is mainly due to the comparatively poor position of the major continental European countries Germany, Italy and France. The Baltic states and those countries – Ireland in particular – which pursue a more Anglo-Saxon model, in contrast, are at the top of the ranking league. This country group ranks well ahead of most of the OECD comparision countries and is "beaten" only by the USA which leads the way in the "spending structure" category in terms of its lower spending ratio, lower share of state transfers and subsidies and higher shares of public spending dedicated to education, research and development.

4.4. Tax and levy system

Taxes and levies play an important role in assessing the viability of a country's fiscal policy. The question therefore arises as to whether it is possible to respond to potential consolidation requirements by taking action on the receipts side of the public finance equation. This applies equally to government spending and social security systems.

Figure 10: Tax and levy system



In the framework of the "tax and levy" field, two types of indicator are evaluated. On the one hand, indicators geared to the level and structure of receipts. These include tax receipts and social security contributions as a share of gross domestic product, whereby high ratios will tend to suggest that there is little available scope for consolidation on the receipts side. Greater emphasis on indirect taxes is also regarded more positively bearing in mind the objective of ensuring constant and reliable sources of public finance and the fact that progressive global economic integration is making it increasingly difficult to tax mobile factors of production. Alongside the level and structure of taxation, account is also taken of the incentive impact of each national system of raising taxes and fiscal charges. In this respect the assumption is made that a high burden of taxes on companies and households will erode the tax base and should therefore be negatively evaluated. A high incidence of taxes on the factor labour will also impair the creation of jobs which generate mandatory contributions to social security systems and will, as a result, damage the financial basis of social insurance systems.

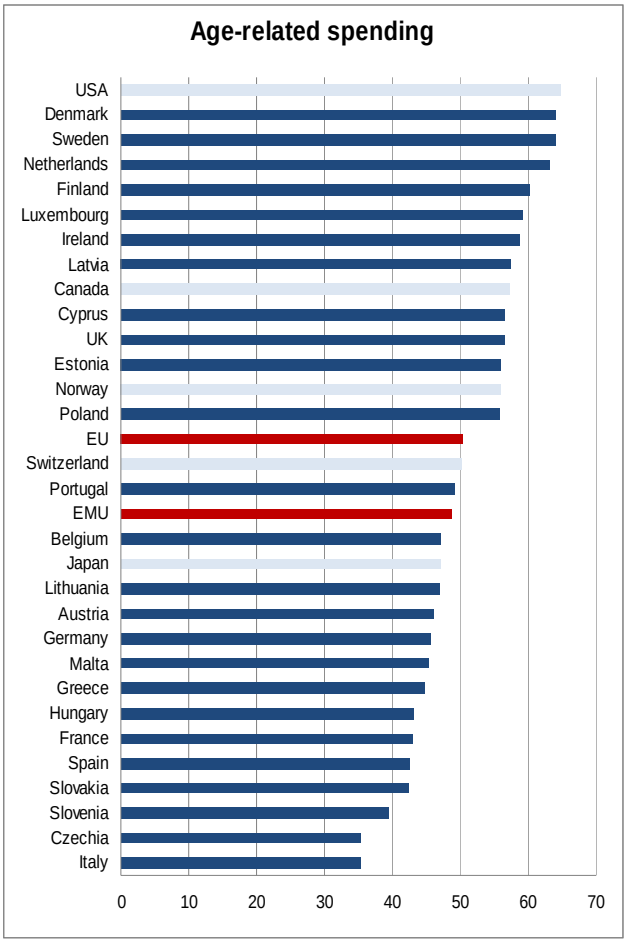
Figure 11 provides an overivew of country rankings in the thematic field of "tax and levy system". In this context Ireland's low social contribution ratio and relatively low taxes on companies and households has propelled the country to the top of this league. Germany, on the other hand, burdened by a comparatively high level of taxes and fiscal charges, as well as a high ratio of social contributions, comes in last.

The EMU country group's performance in the "tax and levy system" field is below the EU average. A number of continental European eurozone countries are again keeping Germany company down in the lower reaches of the scale. These countries include Belgium, Austria and France. A discernible leading group cluster does not appear to have formed. It is, however, interesting to note that all those countries which are following an Anglo-Saxon model, and the Baltic states, are positioned in the upper half of the rankings. The same applies, with the exception of Norway, to the OECD comparison countries. Another interesting observation is that the eastern European states Poland, Czech Republic and Slovenia are all below the EU average with regard to their tax and levy systems. Only Slovakia manages to position itself in the upper third of the benchmark thanks to its relatively low tax ratio and low incidence of taxes and charges.

4.5. Age-related spending

The thematic field "age-related spending" is made up of a total of 17 subindicators. These encompass not only the old-age ratio, i.e. the number of over 65-year-olds in relation to people of working age (between the ages of 15 and 64), but also information about future population trends and the development of pension systems (spending, form of financing, statutory age of retirement, actual age of retirement) and spending in the health system. Bearing in mind demographic changes, this thematic field provides a good indicator for future public spending requirements and consequently reflects the sustainability of pension, health and family polices in each country.

Figure 11: Age-related spending



All 17 subindicators have equal weight in the "age-related spending" field. As is the case with the other thematic fields, 25% of age-related spending is taken into account when calculating the Maastricht pillar. The results for the "age-related spending" field are shown in Figure 11. This index, too, can assume values of between 0 and 100 with values rising as a country's policies become increasingly sustainable.

Clear country groups can be identified in the evaluation. The United States, Denmark, Sweden and the Netherlands all dominate in this country comparison with indicator values which differ only marginly from each other. This is due, in particular, to the positive demographic trends projected for

these countries over the next few years.

Cyprus, the United Kingdom, Estonia, Norway and Poland, on the other hand, form a country cluser in the upper mid field in contrast to Hungary, France, Spain and Slovakia which are positioned at the lower end of scale. Bottom of the class are Italy and the Czech Republic, both of which report comparatively low values in almost all subindicator areas. The only sphere in which Italy is able to enter the upper rankings is with regard to its statutory pension age for men. The only light in the case of the Czech Republic is to be sited in its old-age ratio.

Germany is positioned in the low mid field, below both the EU and EMU averages. This is where the consequences of Germany's negative demographic development, which will be felt particularly harshly in the next 10 to 20 years, really become apparent. Germany comes in somewhere near the bottom with Italy and Japan in terms of of its old-age ratio. This reflects the huge spending which is destined to be absorbed by the pension and health systems and which will impose a major burden on government budgets in the future. In fact, Germany only performs comparatively well in terms of its retirement age.