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NORWAY: SELECTED ISSUES PAPER

INTERNATIONAL MONETARY FUND

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NORWAY

SELECTED ISSUES PAPER

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NORWAY

SELECTED ISSUES

July 28, 2014

Approved By
European Department

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POTENTIAL OUTPUT AND IMMIGRATION IN NORWAY[1]

Norway has experienced a sharp increase in immigration inflows since mid-2000. This chapter examines migration patterns in Norway and their implications for estimates of potential output. The data show that immigration inflows into Norway vary across source countries. Immigration patterns in Norway contain both cyclical and structural elements, but the latter seems dominant at least for now. Empirical results also suggest that immigration plays some role in determining potential output, but its impact is quite small, consistent with the view that the recent immigration patterns are structural.

A. Introduction

1. Potential output is widely used in macroeconomic policy making. Despite their importance, estimates of potential output are subject to significant uncertainty because it is not observable ex ante or ex post. Standard approaches use some type of smoothing, either directly smoothing output (e.g. HP filter) or by smoothing inputs (e.g. production function approach). Others take more of a structural approach using additional information such as inflation and unemployment.

2. Various idiosyncratic factors complicate generating reliable estimates of potential output. In the case of Norway, challenges arise from its unique economic structure. As a major oil and natural gas exporter, the Norwegian economy is greatly influenced by commodity price movements. The mainland economy has become more dependent on the offshore activity through increased demand for inputs and services from the mainland economy. High oil prices thus stimulate both the offshore sector and the mainland economy. Moreover, attracted by high wages in Norway, inward labor mobility has increased since the mid-2000s. Labor supply in Norway may therefore depend on economic cycles, and simply applying smoothing to data could bias the degree of overheating if these cycles are not appropriately accounted for.

3. The nature of changes in labor supply would affect estimated potential output. If one believes the increase in labor supply in recent years is cyclical, then simply smoothing the series could overestimate potential output, as the additional labor supply will boost growth but common filters will treat this increase in output as a permanent increase in the potential output. In this case, common filters will underestimate output gap in upturns and overestimate output gap in downturns.

4. This study examines immigration patterns in Norway and estimates potential output using various methodologies. In particular, it applies a new methodology proposed by Borio and others (2013) to estimate potential output by drawing on information about immigration and oil

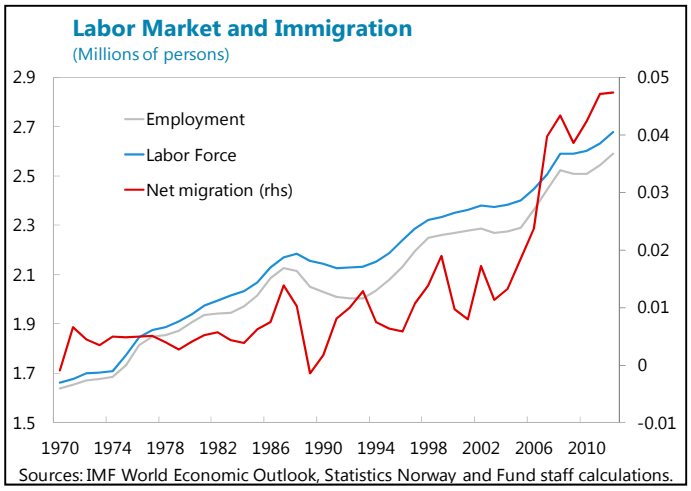
[1] Prepared by Thomas Dowling and Kazuko Shirono (both EUR).

price movements. The next section provides an overview of the recent trend in immigration in Norway. Section C discusses various estimates of potential output using standard approaches. Section D will estimate "immigration neutral" potential output. Section E concludes.

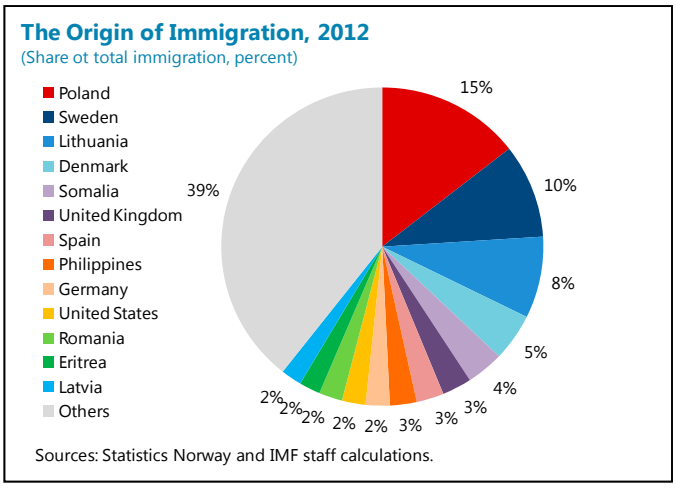
B. Immigration and Economic Cycles

Immigration patterns

5. Norway has seen a surge in immigration in recent years. Recent growth in immigration deviates substantially from its historical trend. During the 1990s, roughly thirty thousand immigrants arrived in Norway annually, and this number more than doubled by 2010-2012. Immigration has been also contributing to the growth in labor force in Norway. Net migration was roughly 1 percent of total labor force during 1990-2012, and this ratio has been rising in recent years.

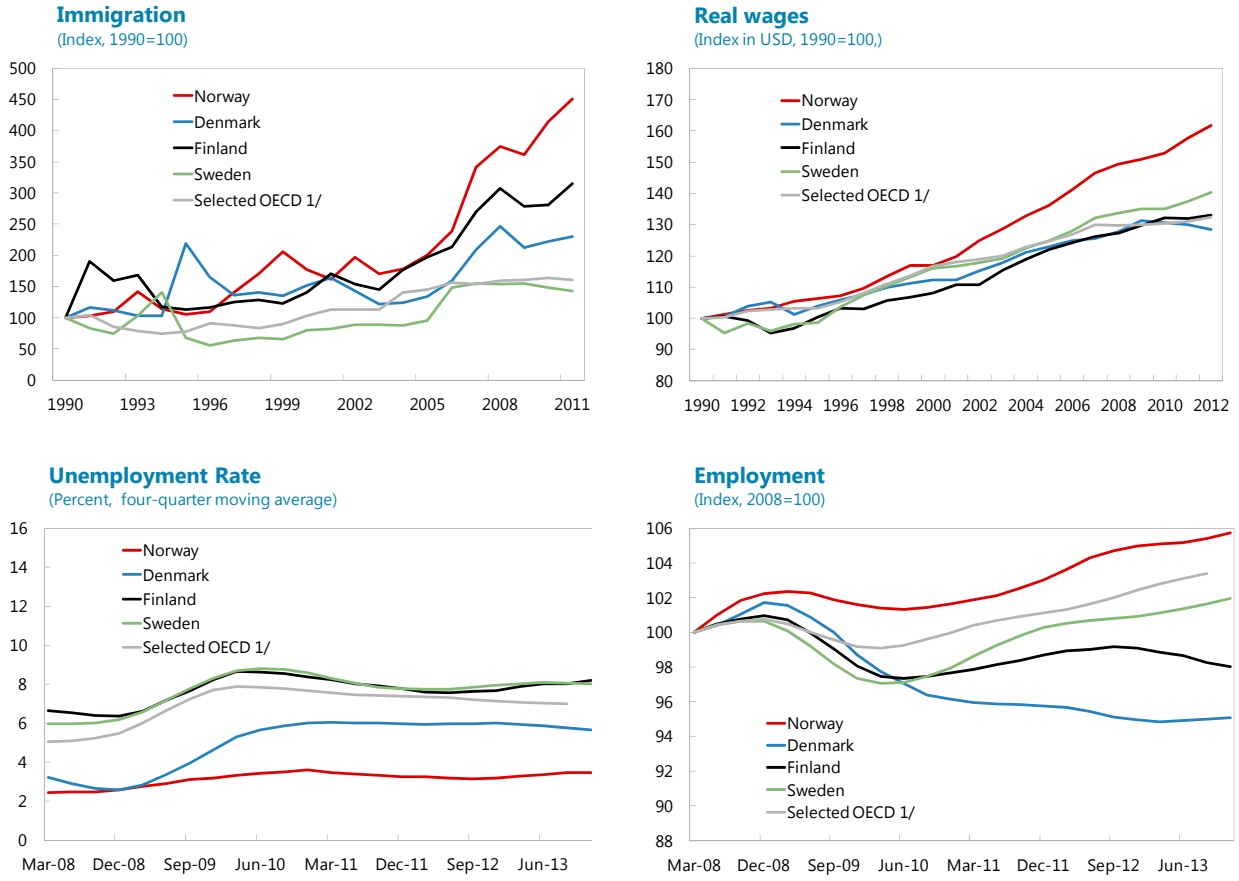


6. This surge in immigration stands out even compared with experiences of other OECD countries. Other Nordic countries experienced acceleration of immigration inflows since mid to late 2000s, but Norway saw the most significant increase among these comparators (Figure 1).



7. The largest share of immigrants is from Poland, accounting for 15 percent of the total in 2012. Immigration from Poland and Lithuania started to grow rapidly since 2004 when they joined the European Union (EU). This in part accounts for a rapid increase in immigration in mid 2000s, but inflows of immigrants from other countries also increased substantially during this time period. Other source countries include neighboring countries such as Sweden and Denmark.

Figure 1. Labor Market Indicators: Cross-Country Comparison



Sources: Haver Analytics and IMF staff calculations.
1/ Selected OECD countries are Australia, Canada, US, and UK.

8. Net migration patterns vary across source countries in part because of different emigration patterns (Figure 2). Net migration from Sweden seems be explained mostly by economic cycles in Norway and Sweden. On the other hand, net migration from Poland and Lithuania is dominated more by inward movement into Norway. For these countries, movements of immigrants are more one-way than two-way flows. Lastly, immigratns are employed in a wide range of industries in Norway.

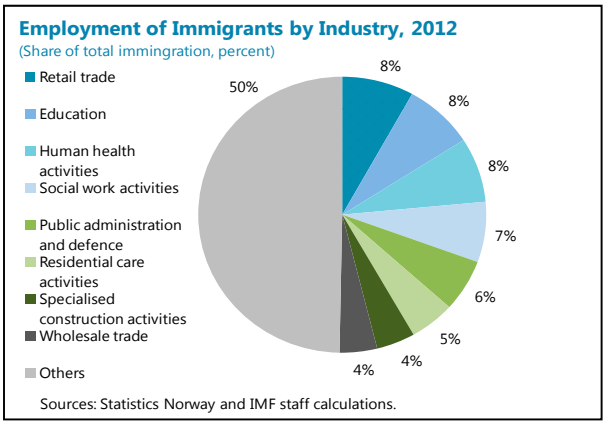
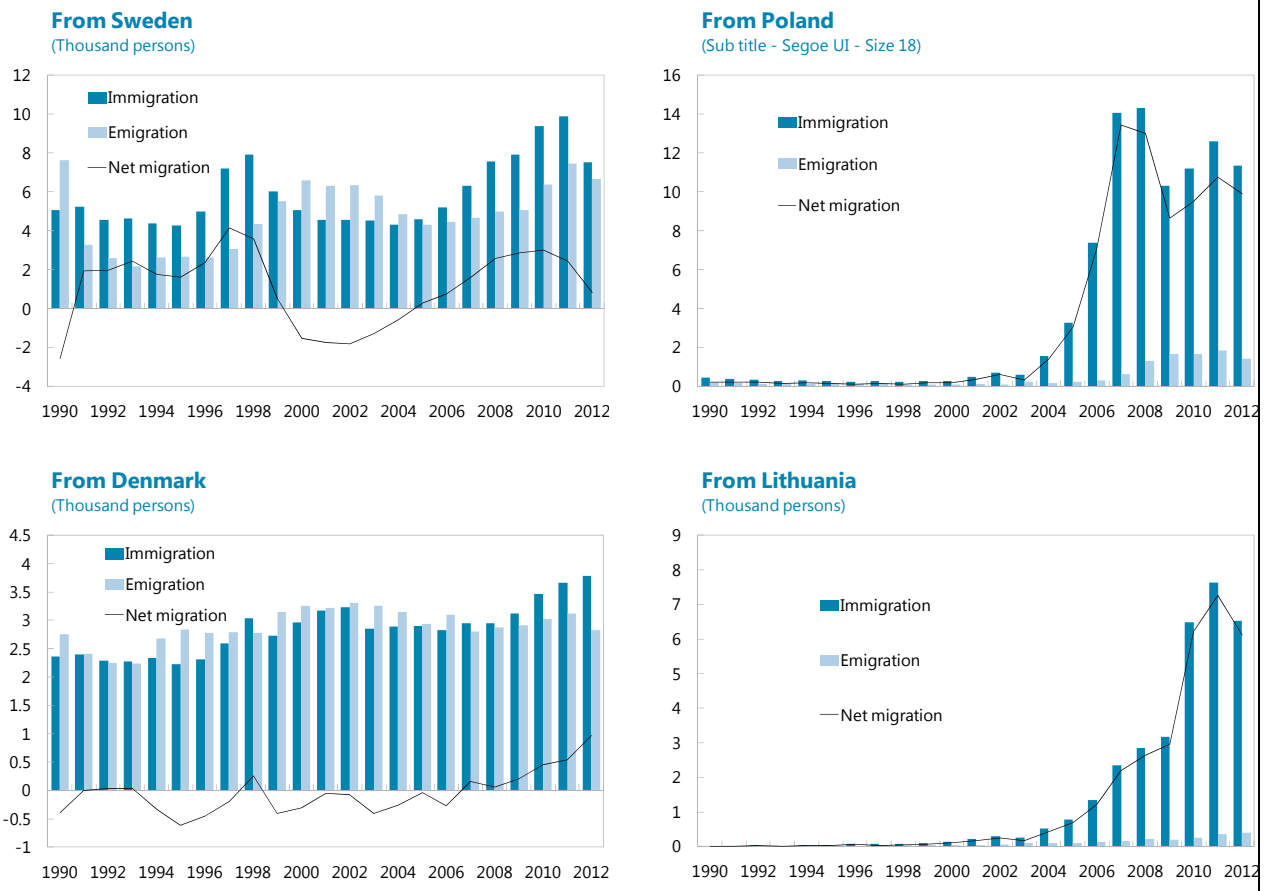


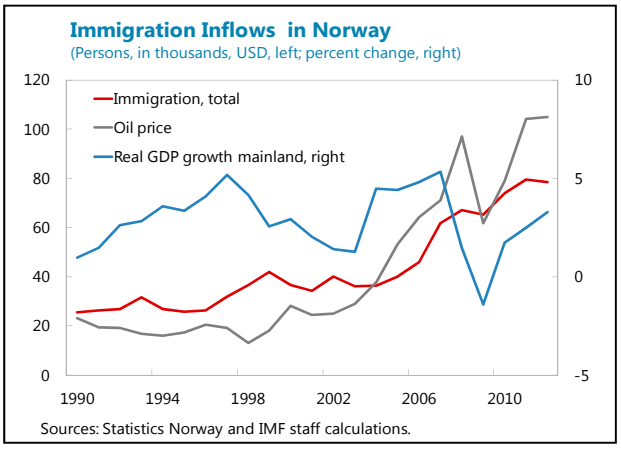
Figure 2. Net Migration to Norway from Selected Countries



Sources: Statistics Norway and IMF staff calculations.

Factors affecting immigration

9. Overall, the oil price hike seems to be behind the surge in immigration in recent years. Oil prices have been rising since early 2000s, and it continued to increase with a brief interruption during the global financial crisis. During 2000-2013, oil prices grew by more than 10 percent annually. The timing of acceleration in oil price growth corresponds to the surge in



immigration into Norway.[2] The mainland economy also grew at a robust rate during this time period, growing at 4.8 percent on average during 2004-2007. At the same time, legal changes also played a role, as the EU enlargement took place in 2004, allowing new EU members to move freely across EU/EEA countries.

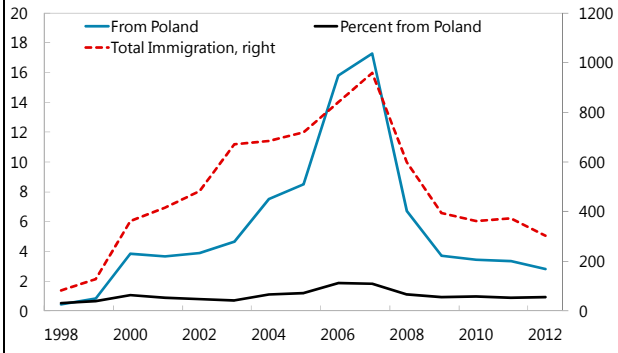
10. Labor market conditions have been persistently favorable in Norway compared with its peers (Figure 1). Real wages grew at a faster pace than comparator countries, and continued to grow even after the global financial crisis. Unemployment rates have been low while employment was least affected by the global financial crisis. These favorable labor market conditions seem to have worked as a strong pull factor for immigration.

11. There are multiple factors as well as uncertainties that need to be taken into account on the role of immigration in potential output. For example, the recent surge in immigration is correlated with oil price movements, but it could be too soon to tell whether this trend will end when oil prices drop because immigration from countries like Poland and Lithuania may have both cyclical and structural components. Experiences from other countries also suggest that how immigrants would respond to a large economic downturn could differ across countries (Box 1). The rest of the paper will estimate potential output with various methodologies and discuss the results in light of these observations.

Box 1. Experience of Immigration Patterns from Spain and United Kingdom

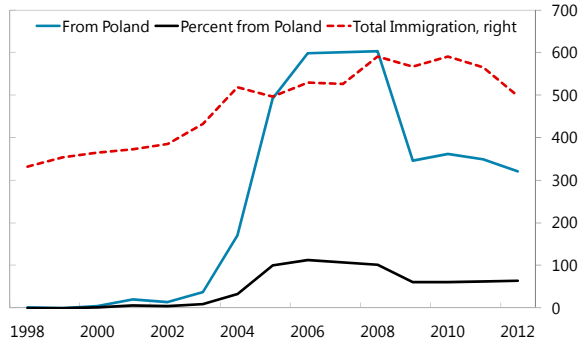
Spain and the United Kingdom have both experienced a sharp increase in immigration inflows from Poland in the mid-2000s. Subsequently, both countries saw economic downturn to different degrees due to the global financial crisis. The immigration pattern proved to be quite different in the two countries as the immigration inflows returned to pre-crisis levels in Spain after the housing bust while in the U.K., the immigration remained relatively high even after the global financial crisis.

Spain: Immigration from Poland
(Thousands/Percent, left; Thousands, right)



Sources: Eurostat and Fund staff calculatons.

U.K.: Immigration from Poland
(Thousands/Percent, left; Thousands, right)



Sources: Eurostat and Fund staff calculations.

[2] The correlation between net migration and oil prices during 1990-2012 was about 0.9.

C. Estimating Potential Output Using Standard Approaches

12. Output gap estimates vary across different institutions.[3] The table below reports mainland output gap estimates from Norges Bank, Statistics Norway, OECD, and the Fund staff as reflected in the World Economic Outlook.[4] These estimates suggest output gaps ranging from -1.0 to -0.3 percent of potential output in 2014. A comparison of these estimates reveals the uncertainty associated with the underlying estimates. This section will estimate potential output for the mainland economy using various standard approaches and discuss the implications of these estimates.

Mainland GDP Output Gap Estimates
(Percent of potential output)

	2012	2013	2014	2015
Norges Bank 1/	0.3	0.0	-0.6	-0.7
OECD	-0.4	-0.9	-0.8	-0.4
Statistics Norway 1/	-0.3	-0.5	-1.0	-0.9
Fund staff	0.2	-0.1	-0.3	-0.3

Sources: Norges Bank Monetary Policy Report 1/14, OECD, Statistics Norway, World Economic Outlook April 2014.
1/ Average of quarterly estimates.

13. Two standard methods are used to estimate potential output: A simple HP filter and a production function approach are employed on annual data. For the univariate HP filter, the smoothing parameter is chosen to cover ranges suggested in the literature. For the production function approach, an HP filter was used to obtain smoothed time series of inputs: (i) employment, computed as the total hours worked in the mainland economy; (ii) mainland capital stock; and (iii) total factor productivity, with factor intensity calibrated to the Norwegian economy.

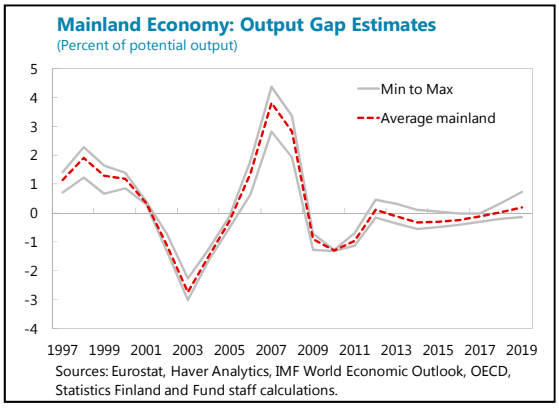
14. Estimates point to a negative output gap for the mainland economy in 2014. These results suggest that the output of the mainland economy has been close to potential for the past

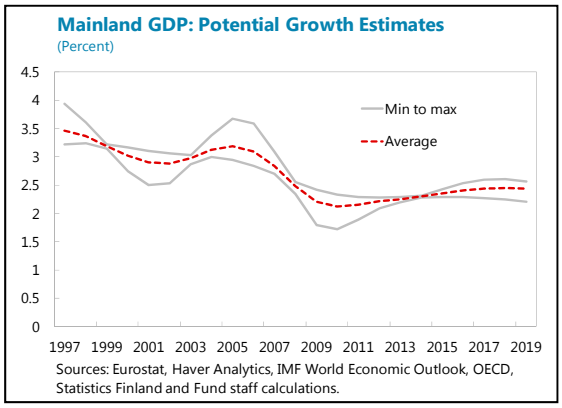
[3] Potential GDP of the mainland economy is more relevant for policy considerations in Norway. Monetary policy is assessed based on mainland economic activity, among other factors, and Norway's fiscal impulse is measured in terms of a change in non-oil deficit as a share of potential mainland GDP. Thus this paper focuses on potential output of the mainland economy.

[4] The OECD's estimates are based on a production function approach (Girono and others, 1995). Norges Bank's output gap assessment entails trend calculations of the mainland GDP, adjusted for various key factors including unemployment, capacity utilization and labor force participation. See Sturød and Hagelund (2012) for more detailed discussions on these factors.

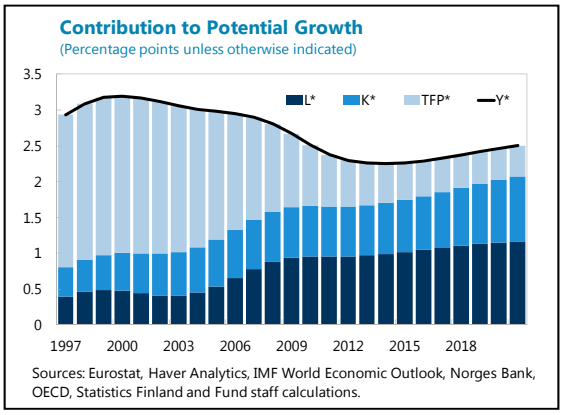
few years. The average estimate suggests that output gap was turned slightly negative in 2013 and it is estimated at -0.32 percent in 2014. The output gap in the mainland economy is projected to begin to narrow in 2015.

15. Potential growth of the mainland economy is estimated to be lower than the pre-crisis level. Estimated potential growth was robust in mid-2000 before the crisis reflecting the strong real output growth of the mainland economy during 2004-2007 with average growth at 4.8 percent. The estimate suggests that potential growth of the mainland GDP is about 2.3 percent in 2014.





16. The production function approach suggests an increasing role of labor in accounting for potential output growth in recent years. A large part of potential growth came from TFP growth in late 1990s to early 2000s, but the contribution from TFP has been declining while that from labor started to rise in mid 2000s. This timing coincides with the timing of a surge in immigration.



17. These output gap estimates implicitly assume that employment growth in recent years is structural rather than cyclical. Section B has shown, however, that part of the immigration into Norway could be cyclical. The next section will use a different approach to examine whether the cyclical component of immigration would matter empirically for output gap estimation.

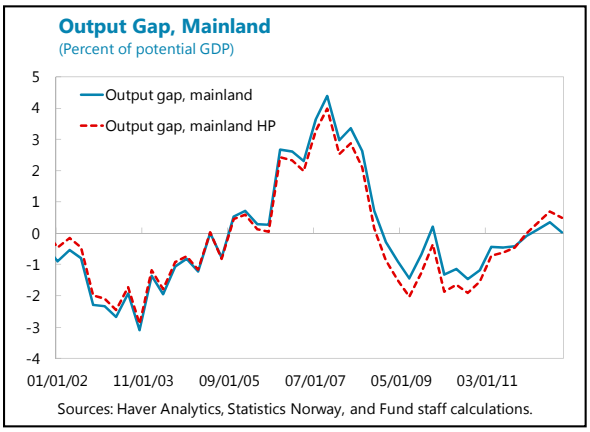
D. "Immigration Neutral" Potential Output

18. This section will discuss the methodology proposed by Borio and others (2013) and apply the method to obtain "immigration neutral" potential output for Norway. Their methodology is motivated by the observation that inflation may not necessarily be the right indicator that signals overheating of an economy. As the euro area crisis has shown, much of the pre-crisis growth in the booming euro area economies was driven by finance, real estate, and construction with inflation showing no obvious sign of overheating. These activities declined

substantially after the crisis. In light of this, Borio and others (2013) propose a statistical method to draw on information on other variables that are likely to capture financial cycles, such as real credit growth, property price growth, and real interest rate, to estimate "finance neutral" potential output. This section will extend their methodology by including immigration inflows and oil prices to estimate potential output for Norway.

19. The state space model was applied to quarterly mainland GDP to produce potential output estimates which are directly comparable with the HP filter (Box 2). The state space model is an augmented version of Borio et al (2013), which allows for directly estimating unobserved variables such as potential output.

20. The results indicate that immigration plays a small but statistically significant role in the estimation of potential output for Norway. Consistent with our prior, the HP filter underestimates the output gap in upturns and overestimate downturns, at least in the recent time period. But the effect is relatively small. As an alternative specification, oil prices were also employed as an explanatory variable. If significant, it would suggest that the potential estimates with immigration were still picking up some of the cyclicality from th4e exogenous oil prices, given the high correlation between the oil price and immigration. However, oil prices were not found to be a significant predictor of potential output.



E. Conclusion

21. Immigration patterns in Norway contain both cyclical and structural elements. Immigration from Sweden and Denmark (to lesser extent) seem cyclical in nature, following either strong growth in Norway, an uptick in oil prices, or a downturn in source countries' local economic conditions. On the other hand, immigration inflows from countries like Poland and Lithuania appear to be more structural at least for now, likely driven by relative expected income differentials. One caveat is that the nature of immigration could turn out to be cyclical if the economy experiences a sharp downturn as seen in other countries.

22. The "immigration neutral" results suggest that immigration plays some role in the determination of potential output. Simple trend calculations would understate the actual degree of overheating given that some of the immigration is cyclical. However, the impact seems relatively small given that a larger share of immigration appears to be more structural than cyclical in recent years.

Box 2. Technical Details of Immigration Neutral Estimation

The model. The state space model, an augmented version of Borio et al (2013), expands the HP Filter by adding additional covariates that help identify the transitory part of GDP, albeit without structural constraints. Reducing the state space model, the estimating equation is as follows:

$$y_t - y_t^* = \rho(y_{t-1} - y_{t-1}^*) + x_t\beta + \varepsilon_t^0, \varepsilon_t^0 \widetilde{iid} \text{ white noise } \sigma_0 \qquad (1)$$

where y is real GDP, $y^*$is potential output, and x is a vector of observables which contains information on transitory variables. Built on the HP filter in a state-space framework — a standard method to estimate unobserved variables — this equation includes an autoregressive output gap term and additional transitory variables (without the transitory variables, the equation reduces to the HP filter). The advantage of this approach is that estimates from the HP filter can be used as a baseline benchmark for comparison. To produce comparable results with the HP filter, the signal-to-noise ratios for equation (1) and the HP filter are equated so that the frequency cutoff, namely the length of the cycles, matches. This is achieved by imposing a restriction on the variance such that:

$$\frac{\sigma_1^2}{\sigma_0^2} = \lambda_{HP} = \lambda_{SS} = \frac{\sigma_{SS}^2}{\sigma_0^2} \qquad (2)$$

$$\text{such that } \frac{var(y_t - y_{(HP,t)}^*)}{var(\Delta^2 y_{(HP,t)}^*)} = \frac{var(y_t - y_{(SS,t)}^*)}{var(\Delta^2 y_{(SS,t)}^*)} \qquad (3)$$

Estimation. While Borio et al (2013) employ a Bayesian approach, this paper uses maximum likelihood estimation (MLE) to estimate the model on quarterly data (Mrkaic, 2014). ρ and β are estimated in a two-step procedure. First, the autoregressive parameter ρ is estimated by running an AR(1) regression on the output gap obtained from the simple HP filter. Then ρ is substituted into (1) and estimated using MLE. All time series are demeaned to reduce pro-cyclicality and differenced to account for unit roots. Specifically, the measurement equation becomes:

$$y_t - y_t^* = \beta(y_{t-1} - y_{t-1}^*) + \gamma_1 \Delta immigration_t + \varepsilon_{4,t} \qquad (4)$$

where $y - y^*$ refers to the output gap, $immigration$ is immigration inflows, and ε is a disturbance term.

To satisfy equation (2), the HP filter estimate is calculated using lambda=1600 (Maravell and del Rio, 2001; Ravn and Uhlig, 2002) and the signal to noise ratio is computed. Then the model is adjusted by calibrating a restriction on the variance to produce the same signal to noise ratio as the HP filter to ensure full comparability.

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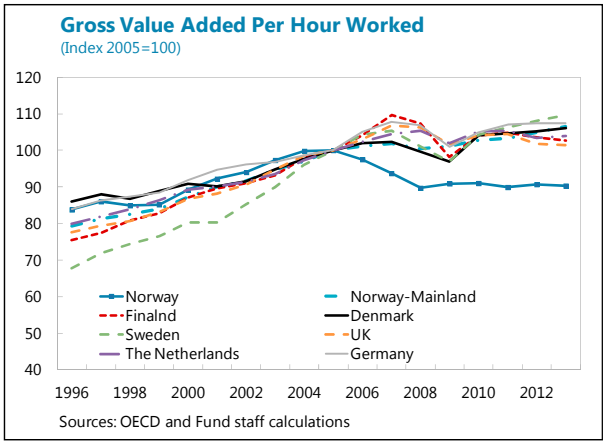
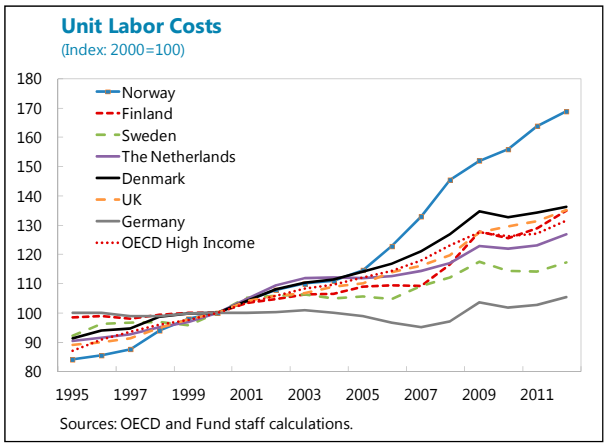
PRODUCTIVITY GROWTH IN NORWAY[1]

Norway is a high-capacity economy which has performed well in the past and has been affected only mildly by the global financial crisis. However, productivity has slowed down, which coupled with high wage growth, has eroded competitiveness. The government established a Productivity Commission to propose solutions to this challenge. This paper suggests some areas for inquiry as well as ideas for developing a strategy and policy recommendations to improve competitiveness and growth in productivity.

A. Introduction

1. Labor productivity growth in Norway has slowed in the last decade. This trend is evident whether labor productivity is measured as value added per employee or per hour worked. Productivity in mainland Norway is moving roughly with peers. However, international comparisons using the total economy (i.e., including oil and gas) show a more unfavorable trend.





2. Low productivity and high wage growth have eroded competitiveness. Non-oil sector export shares have fallen due to both strong growth of unit labor costs (ULC) because of high wage growth and a decline in labor productivity. Wage costs have risen steadily and well above those in peer economies. This has led to low profitability in industries that are exposed to foreign trade and where productivity has not kept pace.

[1] Prepared by Borislava Mircheva (EUR).

3. The government has established the Norwegian Productivity Commission in order to address these challenges and suggest reforms. The task of the Productivity Commission is to provide advice to the government on how to strengthen productivity growth. Specifically, the Productivity Commission is tasked to: (i) survey and analyze the weaker productivity growth since 2005; (ii) raise concrete proposals to strengthen productivity and growth in the Norwegian economy; (iii) present proposals on a current basis; (iv) undertake public benefit based analysis; and (v) draw on the latest international work. The work of the Productivity Commission will consist of two stages, where an introductory report will be presented in early 2015 and a main report a year later.

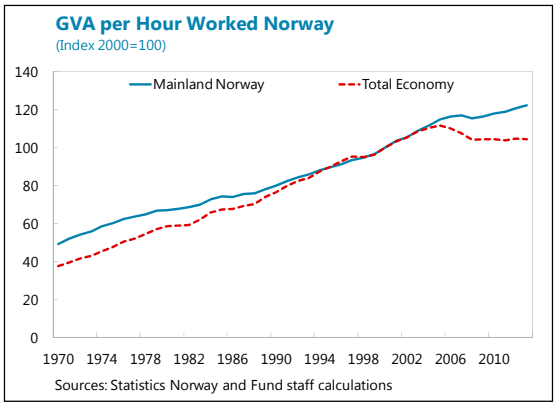
4. This chapter examines Norway's productivity growth and competitiveness challenge. The next section examines the evidence of productivity, discussing the differences in measurement as well as trends for the Norwegian economy. Section C looks at productivity from a different angle by a specific grouping of industries. Section D presents some policy measures which could help boost productivity. The chapter concludes with section F.

B. Measuring Productivity in Norway

5. Productivity is defined as a ratio between a volume measure of output and a volume measure of input. Productivity can be defined relative to a single output such as labor, for example. It can also be defined relative to multiple outputs such as labor and capital. However, it has to be considered that the volume of inputs and outputs are measured imperfectly. In addition, productivity measurement uncertainty varies across sectors. It is easier to measure with standardized goods than with services. For this reason, value added is commonly used and is obtained by deflating gross output and intermediate consumption individually.

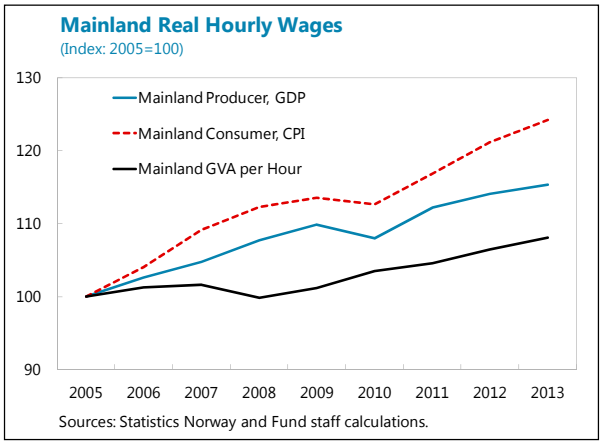
- Labor productivity can be measured as output per worker or as output per hour worked. Even though the number of hours worked is more difficult to measure, it may be more appropriate for Norway because the number of hours worked per worker has changed over time and varies over the business cycle.

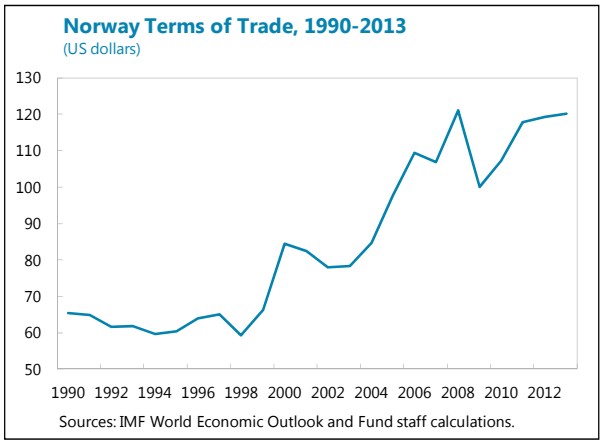
- Total factor productivity (TFP) is an estimate of the increase in an output which cannot be attributed to an increase in labor and capital. TFP cannot be observed and is calculated by deducting the contribution of labor, capital and other inputs from output growth.



6. While productivity growth in Norway has slowed, earnings have outpaced productivity, particularly wages deflated by the CPI. Real producer wages have more or less followed the path of productivity in mainland Norway but real consumer wages have outpaced this trend. In other words, the purchasing power of employees has improved without being followed by real producer wages. This is due to the positive terms of trade

developments which Norway has enjoyed since 2000 becasue prices of export goods increased more than prices of import goods following the oil price increase.





C. Productivity Growth from Another Angle

7. The differences between the mainland and offshore economies complicate the assessment of productivity. [2] The oil and gas sector accounts for about 25 percent of 2012 GDP, but it employs very few people at salaries that are about twice those in the rest of the economy. Also, annual data on productivity aren't that meaningful in the oil and gas sector because the timing of inputs and their related outputs are often separated by many years. Any meaningful analysis of productivity in Norway must therefore separate the offshore (oil and gas plus shipping and fisheries) and mainland (everything else) economies.

8. The oil and gas sector's demand for mainland goods and services has a large and complicated set of effects on the mainland economy as well as its productivity and wages. The authorities have designed fiscal institutions to insulate the mainland economy and the budget from the oil and gas revenue through the fiscal rule and the sovereign wealth fund. This insulation has been mostly effective. However, the mainland economy has been strongly affected in recent years by demand for goods and services from the oil sector. Consequently, this has boosted mainland demand, increased wages, and created differential trends on wages shares and ULCs within the mainland economy between tradable and non-tradable sectors, and within the tradable sector.

9. The oil and gas sector has been providing a positive productivity and demand impulse to the mainland economy through technology transfer. Bjornland and Thorsrud (2013) conclude that the booming oil sector has had large and positive productivity spillovers on the

[2] The "offshore" economy in Norwegian official data is dominated by oil and gas production, but it also includes the shipping industry and fishing (but not fish farming). Offshore data are often used as a proxy for the oil and gas sector and the term "offshore" is sometimes used as shorthand for the oil and gas sector.

mainland economy. Oil and gas sector demand has boosted investment, value added, employment and wages in most tradable and non-tradable sectors of mainland Norway. The sectors which have benefited the most are construction, business services, and real estate. The study further finds that windfall gains from oil revenue stimulate the economy as well, particularly if the increase in the oil price is driven by global demand. At the same time, oil price increase due to supply disruptions stimulates technology-intensive sectors as well as public spending but has small spillovers to the rest of the economy.

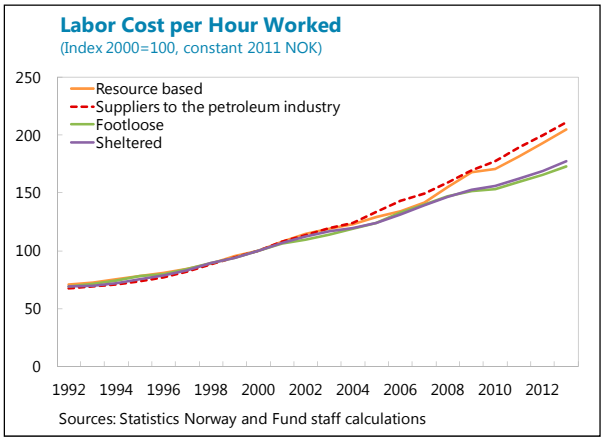
10. The demand from the oil and gas sectors has also had negative effects on parts of the mainland economy through labor demand and wage pressures. Wages were bid up across the economy to keep pace with the oil and gas sector, reinforced by Norway's strong tradition of broadly similar wage settlements across the economy. This added cost pressures to the non-oil-and-gas sectors leading to lower profitability and slower growth or increased exit from those industries. The productivity and competitiveness challenges posed by the role of the oil and gas sector can best be seen by separating industries into exposed and sheltered (i.e., tradable and non-tradable) and further subdividing the exposed industries into: (i) resource-based industries; (ii) suppliers to the oil and gas sector; and (iii) footloose industries that are not closely tied to the Norwegian economy (Table 1).[3]

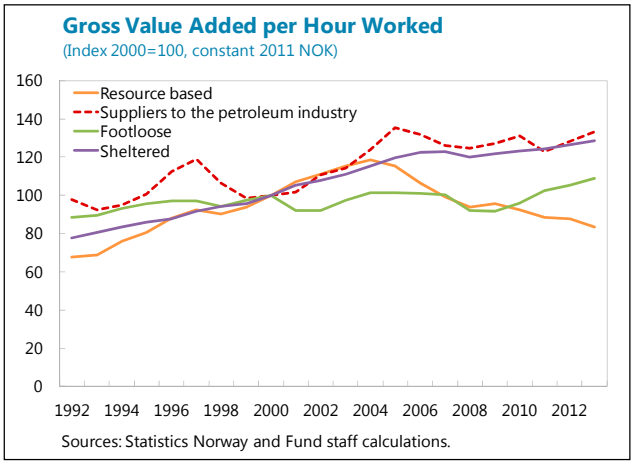
Table 1. Resource-Based, Footloose, and Oil and Gas Supply Industries

• **Resource-based industries** a. Petroleum extraction* b. Fishing* c. Forestry d. Fish farming e. Mining and quarrying f. Food products, beverages and tobacco g. Manufacture of wood and wood products, except furniture h. Manufacture of paper and paper products i. Basic metals	• Suppliers to the petroleum industries: a. Service activities incidental to oil and gas b. Repair and installation of machinery and equipment c. Building of ships, oil platforms and modules d. Transport via pipelines* • Footloose: a. Ocean transport* b. Refined petroleum, chemical and pharmaceutical products c. Machinery and other equipment d. Textiles, wearing apparel, leather e. Rubber, plastic and mineral products f. Furniture and other manufacturing
Source: Statistics Norway, * indicates offshore industries	

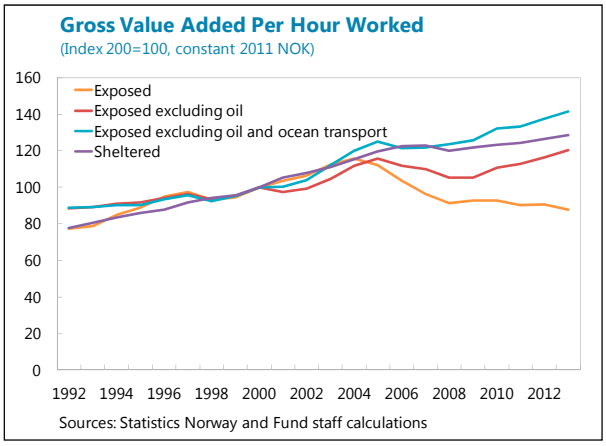
[3] Eika et al. (2013), Statistics Norway report 58/2013

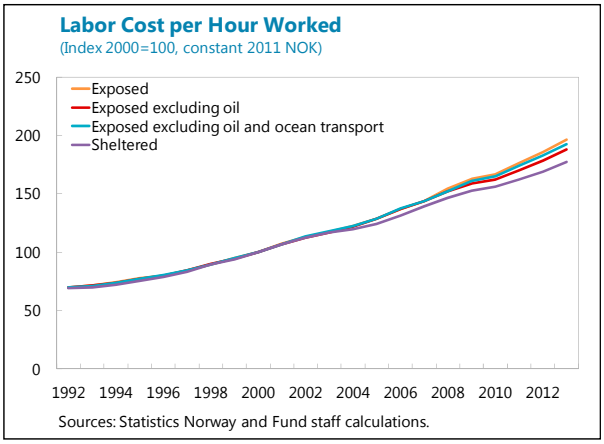
11. Labor productivity and wages have increased most for the suppliers of the petroleum industries. Until the early 2000s, labor costs for all industries moved mostly in tandem. However, from 2000 to 2013, labor costs of suppliers to the petroleum industries increased 55 percent more than those of the sheltered industries. As these industries are quite profitable, they can absorb the rising labor costs.

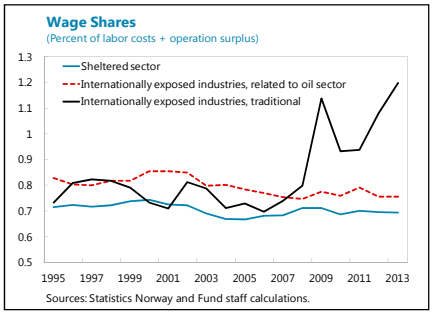




12. When the oil and gas sector is excluded, the exposed mainland industries exhibit the strongest productivity growth. Specifically, labor productivity of the non-oil tradable sectors has consistently outpaced the oil and gas related tradable sector, to be followed by the non-tradable sector (sheltered industries). Considering that labor costs for all industries have mostly kept pace with the leading oil and gas sector, increasing productivity in the mainland exposed sectors is a necessary response to cost pressures and small profit margins.







13. The mainland exposed industries have had the highest productivity growth but also a steep increase in ULCs and declining profitability. As profit margins are squeezed, some firms and industries that cannot maintain productivity growth in line with wages are forced to exit. Conversely, the oil-related exposed industries have wage shares trending downward as these industries are quite profitable and they have been able to absorb the rising wage costs.

D. The Road to Increasing Productivity and Competitiveness

14. Competitiveness and business environment indicators provide some suggestions for increasing productivity back to its historical growth levels. The Norwegian economy has a very favorable business environment but further improvements could be made. The World Bank Doing Business Indicator (DBI) ranks Norway 9th out of 189 economies in 2014 and the Global Competitiveness Index (GCI) ranks the country 11th in terms of overall competitiveness. Furthermore, the Innovation Scoreboard published by the European Commission considers Norway a moderate innovator with its performance coming close to that of the innovation followers due to its strong performance in open, excellent and attractive research systems.[4] However, Norway receives significantly lower grades in areas that would seem to matter most for supporting innovation and entrepreneurship. In particular, DBI ranks it only 53rd and 73rd on starting a business and getting credit, respectively.

15. Improvements in the education system could also help increase productivity. The dropout rate at the upper secondary level is high even though secondary school students' PISA scores are around average.[5]. Incentives for students to undertake tertiary education in terms of the earning premium and better employment prospects are low compared to other countries. Also, only about 1 percent of employees in Norway aged 25-35 have a degree in Science, Technology, Engineering and Mathematics (STEM) fields and such graduates have about average starting salaries in contrast to other industries in Norway. This may indicate a mismatch between the demand for skills and their supply that undermines innovation and productivity. Incentivizing both universities and students to match fields of study that match the labor demand could help address this.

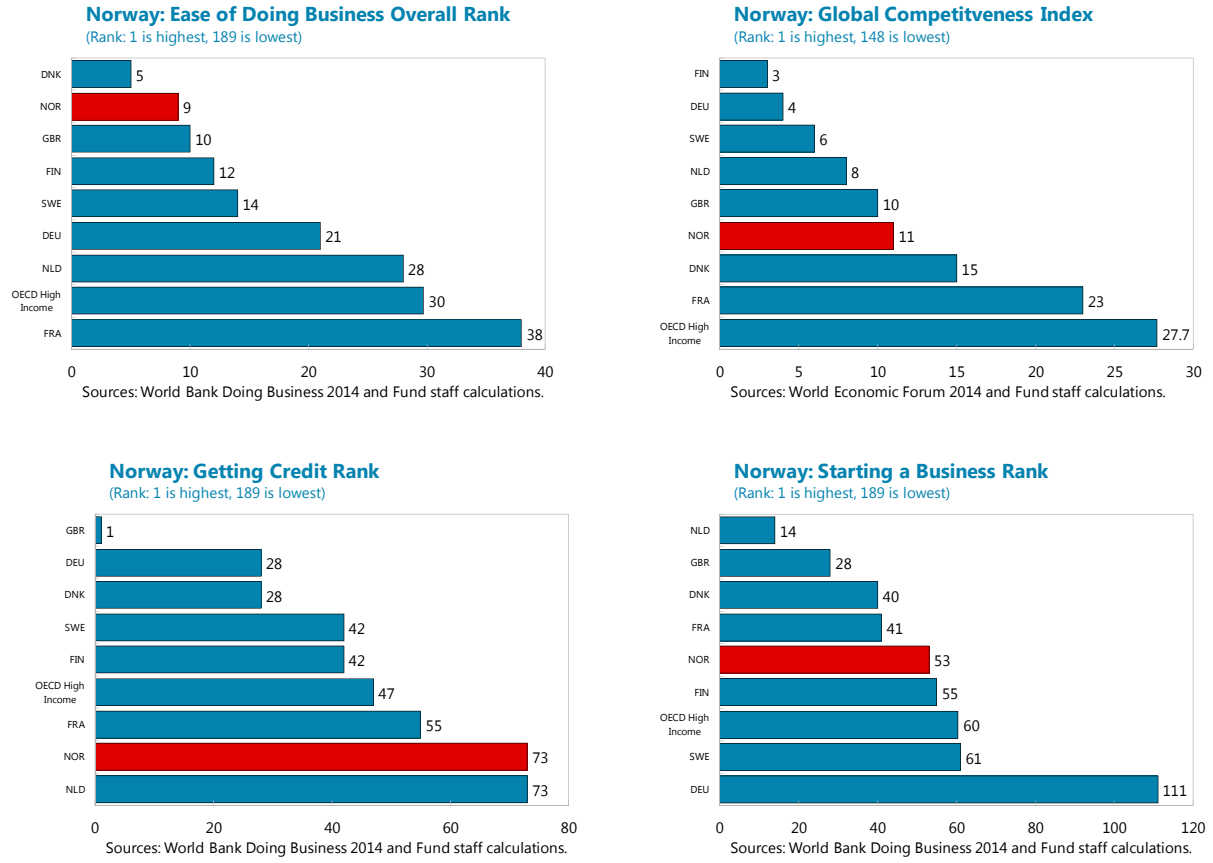
16. Some characteristics of the labor market may be imposing a barrier to productivity growth. The Work Environment Act stipulates that normal daily working time must not exceed nine hours over 24 hours and the weekly working time must not exceed 40 hours during seven days.

[4] Based on the following categories of Norway Innovation Union Scorecard: (i) Non-EU doctorate students, (ii) Scientific publications amount top 10 percent most cited, and (iii) International scientific co-publications

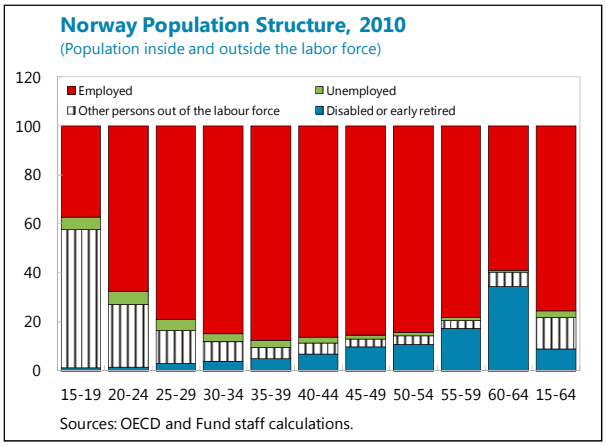
[5] OECD PISA 2012

Additional flexibility in the working times and scheduling would allow employers to adjust to fluctuating demand.

Figure 1. Competitiveness Indicators



17. Norway has a relatively large number of people taking early retirement through disability which constrains labor supply. The sickness leave and disability pension system provides incentives to people to leave the labor force early to a greater extent than in many other advanced economies. Reforming the sickness leave and disability pension systems to provide greater labor supply flexibility could increase output although not labor productivity growth.

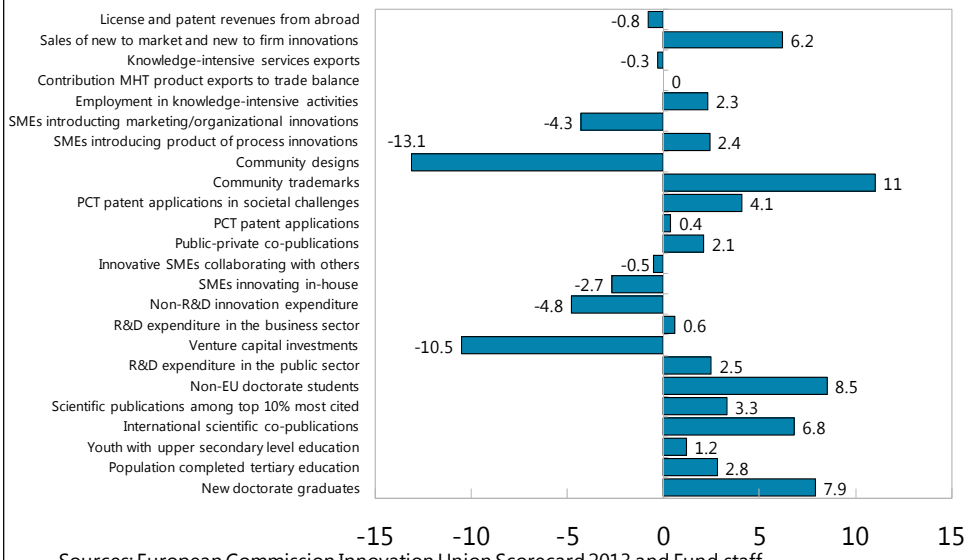


18. The choice of public investment projects does not always reflect the authorities' own social and economic cost-benefit analysis. Many public investment projects have social and economic benefits that are below their costs, particularly in transportation, which is an obstacle to

productivity growth. Welde et al (2013) find that high Norwegian construction costs make road projects in Sweden more profitable. Furthermore, the economic viability of projects in Norway does not seem to have an impact on the selection of projects included in the national transport plan. Of the projects reviewed in the study, only about a third of those in Norway were considered profitable. Therefore, it would be beneficial if projects are prioritized according to the net present value.

19. Agricultural policy is constraining productivity. OECD Producer Support Estimates (PSE) place support to farmers in Norway at 60 percent of gross farmer receipt over the period 2010-2012. This support is three times higher than the OECD and EU averages which are at 19 percent of gross farmer receipts 2012. As a result, Norway's extremely high trade restrictions and subsidies are diverting private and public resources away from more productive sectors and raising the cost of living, particularly for lower-income groups.

Norway Innovation Union Scorecard, 2013
(Annual average growth)



Sources: European Commission Innovation Union Scorecard 2013 and Fund staff calculations.

E. Conclusion

20. The Norwegian economy can take some steps to boost its productivity growth and competitiveness. Scope for action exists along a number of dimensions. One avenue for Norway to achieve higher productivity growth and improve competitiveness is by improving the business environment. Human capital development and the education system can play a central role in boosting productivity growth. Furthermore, removing rigidities in the labor market, implementing cost-benefit analysis for selection of infrastructure projects, and updating agricultural policy could provide the right environment for raising productivity growth and improving competitiveness.

Box 1. Productivity Commissions

Australia leads the way with its productivity commission established in 1998. The Australia Productivity Commission (APC) is the government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed simply, is to help the government make better policies in the long term interest of the Australian community. The APC focuses on ways to achieve a more productive economy as this is the key to higher living standards. As an advisory body, its influence depends on the power of its arguments and the efficacy of its public processes.

The APC has four main output streams: (i) public inquiries and research studies requested by the government, (ii) performance monitoring and benchmarking and other services to government bodies, (iii) competitive neutrality complaints, and (iv) supporting research and annual reporting on productivity, industry assistance and regulation. As the APC is an advisory body, it does not administer government programs. Its contribution is centered on its independent advice and its core function is to conduct public inquiries on key policy or regulatory issues bearing on Australia's economic performance and community wellbeing. The APC also undertakes a variety of research at the request of government and to support its annual reporting, performance monitoring and other responsibilities.

The New Zealand productivity commission is tailored after the APC and began functioning in April 2011 as an independent entity. The principal purpose of the Commission is to provide advice to the Government on improving productivity in a way that is directed to supporting the overall well-being of New Zealanders, having regard to a wide range of communities of interest and population groups in New Zealand society. In order to fulfill this purpose the commission does three main things: (i) undertake in-depth inquiries on topics referred to them by the Government (our core business); (ii) carry out productivity-related research that assists improvement in productivity over time, and (iii) promote understanding of productivity issues. There is no simple formula to improve productivity. Based on the experience of the New Zealand productivity commission, there are a few general practicalities for improving productivity: (i) respect for the law and property rights, (ii) effective governance arrangements, and (iii) an attractive business environment, including a high-quality low cost regulatory environment.

A large number of other factors identified by the New Zealand productivity commission also matter, such as:

- the degree of openness and competition in markets, which is important to incentivize innovation, improve allocation of resources and achieve more dynamic performance;
- investment and other strategic choices made by organizations (e.g. using new and smarter technology), which depend on the quality of governance and management;
- the attitude and effort of employees toward ongoing training, finding business improvements and helping implement beneficial change;
- the quality of education and the attitude of students toward the value of learning;
- the quality of government decisions (at all levels), in setting policy and shaping regulatory environments, and deciding where public money is spent; and
- the aspirations of individuals and families.

In late 2012, the government of Denmark also established a productivity commission. As the Danish government called for the establishment of a productivity commission with independent experts and

Box 1. Productivity Commissions (concluded)

specialist to analyze the productivity trends in Denmark and propose specific policies which will enhance productivity in the economy. According to its terms of reference the commission is responsible for:

- Identify the reasons for the relatively weak productivity growth since the mid-1990s in Denmark. The commission shall benefit from existing knowledge and supplement with new analyses.
- Identify the main drivers and barriers for productivity growth, including firms' use of knowledge and education, as well as the allocation of these resources in the economy.
- Clarify the link between business productivity, costs and competitiveness.
- Make concrete recommendations to strengthen productivity in the private sector, including in the manufacturing, construction and service sectors.
- Provide new knowledge about productivity in the public sector and make specific recommendations on how to strengthen it, including the municipalities, regions and the state. The aim is that resources will be used more effectively in the public sector e.g. through modernization, digitalization and better organization.
- Assess the impact of the above recommendations and incorporate relevant international experience

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STATE OWNERSHIP OF ENTERPRISES AND PRIVATIZATION ISSUES[1]

Norway's direct state ownership is high relative to other OECD countries, but most enterprises operate on commercial basis. Large corporations with state ownership are subject to market discipline though having to sell in competitive markets and address private shareholder concerns, as most are only partly publicly owned with the remaining shares listed on the stock exchange. However, there is some scope for more privatization or market discipline in some sectors. Also, some special issues may arise with state ownership in the banking and energy sectors.

A. Introduction

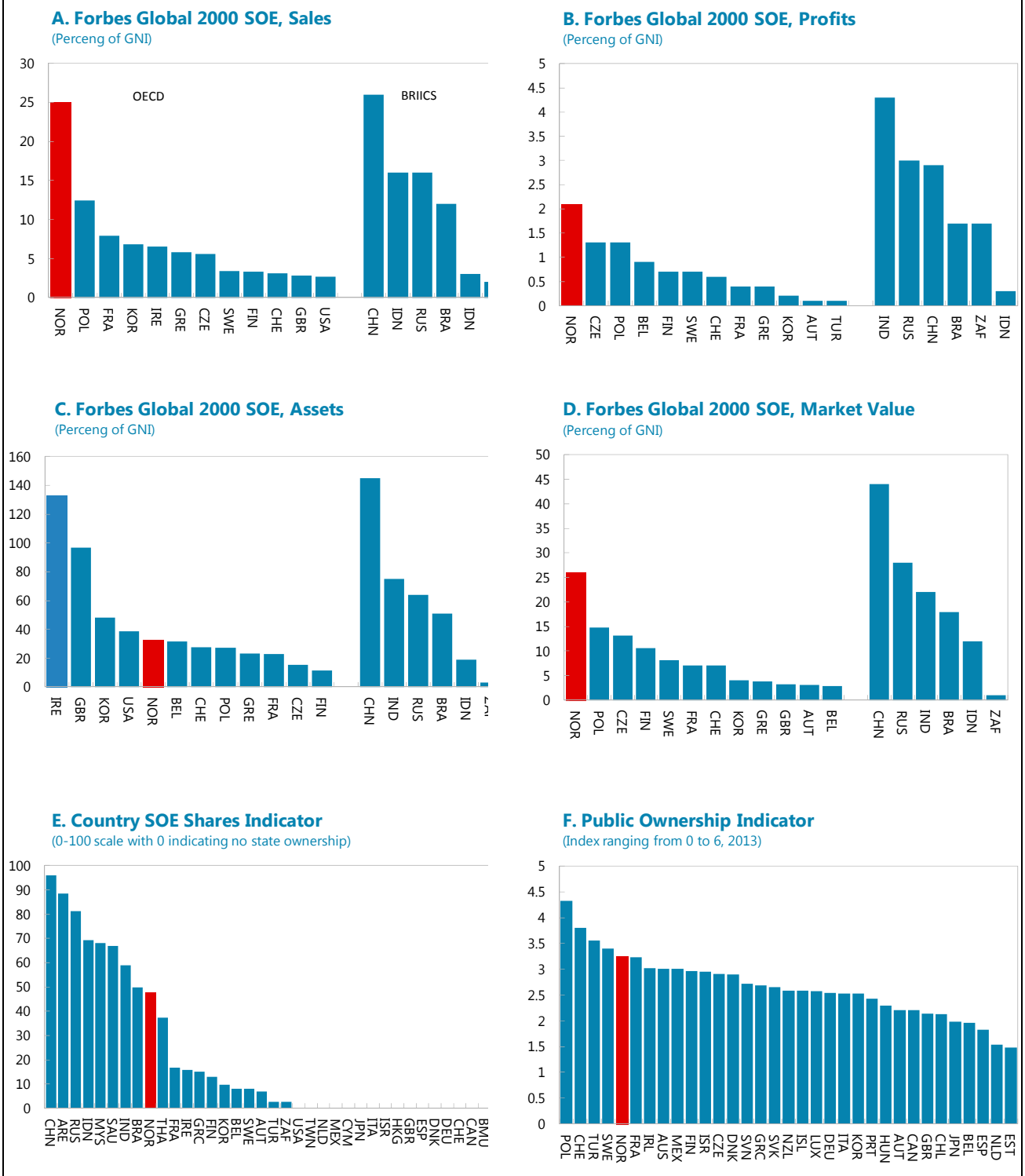
1. Norway has among the highest shares of state ownership of commercial enterprises among advanced economies. Available data indicate that Norway's state ownership is higher than in any other advanced economy by most measures (Figure 1.A-D). The size of state ownership in Norway measured by sales, profits, and market value is larger than in any other OECD country and similar in scale to that of large emerging market economies, which often have a greater share of state owned enterprises (SOEs) in their economies. A few other OECD countries are ranked higher in terms of assets owned by SOEs, but this is due to the takeover of distressed financial institutions.[2]

2. Two composite indicators of state ownership also suggest that the state ownership in Norway is among the highest in the world (Box 1). Kowalski et al. (2013) compiled a composite SOE share (CSS) indiator which is equally weighted average of SOE shares of sales, assets, and market value among country's top ten companies. Norway's CSS indicator is among the highest in the 38-country sample and also substantially higher in its Nordic neighbors, Finland and Sweden (Figure 1.E). Simillary, the OECD's public ownership indicator, which is part of the OECD Indicators of Product Market Regulation (PMR), shows that Norway's public ownership is among the highest in the OECD sample (Figure 1.F).

[1] Prepared by Kazuko Shirono (EUR).

[2] Measured by the size of assets, Ireland, UK, add US rank high in Figure 1, but this is driven by a small number of large financial sector firms. These firms are categorized as SOEs in 2011, but this is largely due to nationalization in the aftermath of the financial crisis. These measures are expected to be temporary and some of them have been reversed since then.

Figure 1. State Ownership International Comparison



Sources: OECD Economic Surveys Norway 2014, Kowalski, P. et al. (2013) and Fund staff calculations.

Box 1. Composite Indicators of State Ownership

Because state ownership is multifaceted, composite indicators have been developed to measure it. Comparing state ownership across countries is no easy task. Data on cross-country measures for state-ownership are not readily available because state ownership is often defined differently across countries and information on SOEs is not always disclosed. Despite these challenges, Kowalski et al. (2013) have developed a database for world's largest SOEs using listed companies on the Forbes Global 2000 list. In their database, a firm is classified as an SOE when a state holds more than 50.01 percent of the firm's shares. Otherwise firms are considered private. This excludes some of the listed Norwegian companies in which the state has minority ownership.

Their composite SOE share (CSS) measure is compiled using a sub-sample of the ten largest firms for each country, irrespective of ownership types. Countries with fewer than ten firms on the Forbes Global 2000 list are therefore excluded. The CSS is calculated as an equally weighted average of SOE shares of sales, assets, and market values among country's top ten countries. This indicator measures the importance of SOEs for 38 sample countries, including both OECD and non-OECD countries. Norway ranks among the top ten measured by the CSS share.

The OECD also produces an indicator of public ownership as part of OECD Indicators of Product Market Regulation (PMR). The indicator of public ownership covers four components: (i) scope of SOEs; (ii) government involvement in network sectors; (iii) direct control over enterprises; and (iv) governance of SOEs. The indicator ranges from 0 to 6, and the higher the indicator, the higher the degree of public ownership. Unlike the index based on Forbes Global 2000 SOE, which measures purely the size of the state ownership of large companies, this indicator also takes account of governance of SOEs (a lower value is assigned if market discipline is more prevalent) given its original purpose as a product market regulation indicator. The public ownership indicator also shows that Norway's public ownership is among the highest in the OECD sample.

3. The new government in Norway has expressed interest in reducing the state's direct ownership in the Norwegian economy, while acknowledging that Norway will have significant state ownership of enterprises for the foreseeable future. This paper will focus on companies with commercial objectives (category 1-3 companies), and review how these companies are administered in Norway and discuss options for reducing their share in the economy.[3] The rest of the paper is organized as follows. The next section provides an overview of the state ownership in Norway,

[3] The *State Ownership Report 2012* divides companies into four categories: 1) companies with commercial objectives; 2) companies with commercial objectives and head office functions in Norway; 3) companies with commercial objectives and other specifically defined objectives; and 4) companies with sectoral policy objectives. This paper will mainly focus on companies in categories 1-3.

describing the current patterns of state ownership of commercial enterprises. Section C discusses privatization issues and options using best practices from OECD experience in SOE management as a guide. Section D concludes.

B. State Ownership in Norway[4]

4. The Norwegian state has a large ownership role in the "commanding heights" of the Norwegian economy. The state owns 67 percent of the main oil and gas producer, Statoil; 54 percent of the telecom company, Telenor; 34 percent of the aluminum producer, Norsk Hydro; and 34 percent of the largest domestic bank, DNB among other enterprises (Table 1). In addition to their large presence in the Norwegian economy, the four companies mentioned above all have substantial external operations. Taken together, state ownership of eight commercial companies listed on stock exchanges amount to NOK 566 billion (19 percent of GDP).

5. There are also state enterprises that are engaged in commercial operations but are not listed on stock exchanges because they are 100 percent state-owned. The Norwegian state's share of the *accounting value* of these unlisted companies was NOK 103 billion at end-2012. The total estimated value of listed and unlisted companies with commercial objectives is roughly equivalent to NOK 669 billion or about 22 percent of total Norwegian GDP.

6. Companies with state ownership are large employers. Roughly 285 thousand people or 11 percent of total employment were employed in companies with state ownership in 2012, of which the eight listed companies accounted for 46 percent. The rest is largely accounted for by companies in category 4, notably the regional health authorities.

[4] The Norwegian state also has holdings of foreign assets, mostly equity stakes in foreign-headquartered firms, in a broadly diversified portfolio of foreign financial holdings of the sovereign wealth funds, the Government Pension Fund Global. The value of these holdings is approaching one trillion dollars. The holdings of the GPFG fall outside this study and are not included in the figures on state ownership.

Table 1. State Ownership in Norway
(In millions, otherwise noted)

	Market Capitalization (USD)	Market Capitalization (NOK) 1/	Government Share 2/	Government Share (NOK)	Government Share (% GDP) 3/
Listed companies					
Statoil ASA	79,210	486,191	67%	325,748	11%
Telenor ASA	36,298	222,795	54%	120,309	4%
DNB ASA	29,615	181,774	34%	61,803	2%
Yara International ASA	11,933	73,246	36%	26,515	1%
Norsk Hydro ASA	9,408	57,746	34%	19,807	1%
Cermaq ASA	1,029	6,313	44%	2,746	0%
Kongsberg Gruppen ASA	2,502	15,360	50%	7,680	0%
SAS AB	1,081	6,635	14%	949	0%
Listed companies total	171,076	1,050,060		565,557	19%
Unlisted companies total 4/				103,000	3%
Total				668,557	22%

1/ Market capitalization for listed companies is based on closing stock prices on January 14, 2014.
2/ As of end 2012. Taken from the Norwegian Government's *The State Ownership Report 2012*.
3/ Based on 2013 GDP figure.
4/ The accounting value of unlisted companies where commercial operation is one of the objectives. The government's share is as of end 2012, based on *The State Ownership Report 2012*.

7. The framework for administering state ownership is well established. The government sets goals for the ownership of each company and its ownership policy is reviewed and updated periodically. State ownership, particularly of commercial companies, is administered by the central administration to help professionalize and strengthen the State's corporate governance. More specifically,

- For companies with commercial objectives, the State exercises its role of owner through the annual general meeting but the distribution of roles between owner, board and general management are respected in accordance with company legislation.
- The majority of the State's commercial shareholdings are administered by the Ministry of Trade and Industry while companies with sectoral policy objectives are administered by the sector ministries. Centralization of administering the corporate governance for companies with commercial objectives helps to limit the risks of conflict of interest by separating sector supervision and ownership;
- Norway has clearly set principles for corporate governance that are in line with generally accepted corporate governance principles prepared by the Norwegian Corporate Governance Board (NUES) and the OECD (see Box 2); and

- Information on Norway's state ownership is readily accessible. A *State Ownership Report* is published annually in Norwegian and English with information on the companies with state ownership.[5] The recent *White Paper* on active ownership (2010-2011) also discusses how state ownership is administered as well as the government's ownership policy.[6]

8. *The 2011 White Paper* on active ownership justifies the state ownership as follows:

- *National anchoring of important companies* – Through state ownership, the government can ensure that important companies will keep the head office functions in Norway. Having an head office is important because decisions that impact commercial development of a company are usually made in the head office and training for key expertise and innovation also mostly take place in headquarters.

- *Management of and revenues from natural resources* – State ownership will ensure that national resources are exploited in the best interest of society (e.g. Statoil).

- *Addressing market failure and monopolies* –The Norwegian government established a company (i.e. Telenor) and a market for telecom service in early 1990s in light of this consideration.

- *Sectoral policy purposes* – Certain tasks are so important that they need to be carried out by the public bodies or companies, not necessarily based on commercial interests. State ownership in the health and transport sectors falls under this category.

- *Long-term ownership* – More generally, as a long-term investor, the state will contribute to stability of the ownership of a company and promote growth of industries within Norway.

9. These considerations suggest that privatization could be considered in sectors where market failure is no longer a relevant concern. Some sectors where a SOE is a dominant player may also benefit from more competition and market discipline if competition improves efficiency in delivering particular services.[7] Moreover, state ownership in a few areas, notably energy and banking sectors, would point to special issues that deserve further consideration. The next section will discuss these issues and privatization options.

[5] http://www.regjeringen.no/upload/NHD/StatensEierberetning2012/PDF/engelskforside/The_State_Ownership_Report_2012.pdf

[6] http://www.regjeringen.no/upload/NHD/StatensEierberetning2012/PDF/engelskforside/Active_Ownership_Norwegian_State_Ownership_in_a_Global_Economy.pdf

[7] For example, the privatization of Japan National Rail (JNR), which started in 1987, is generally considered to be a successful case. Mizutani and Nakamura (2004) report that the privatization of JNR improved the company's efficiency and labor productivity.

Box 2. Corporate Governance of SOEs

Norway's Principles for Good Ownership

1. All shareholders shall be treated equally.
2. There shall be transparency in the State's ownership of companies.
3. Ownership decisions and resolutions shall be made at the general meeting.
4. The State will establish result objectives for the companies, if appropriate in cooperation with other shareholders. The board is responsible for realizing the objectives.
5. The capital structure of the company shall be consistent with the objective of the ownership and the company's situation.
6. The composition of the board shall be characterized by competence, capacity and diversity and shall reflect the distinctive characteristics of each company.
7. Compensation and incentive schemes shall promote the creation of value within the companies and be generally regarded as reasonable.
8. The board shall exercise independent control over the company's management on behalf of the owners.
9. The board shall adopt a plan for its own work and work actively to develop its own competencies. The board's activities shall be evaluated.
10. The company shall recognize its social responsibility.

OECD Guidelines on Corporate Governance of State-owned Enterprises

1. The legal and regulatory framework should ensure level-playing field in markets where SOEs and private sector companies compete to avoid market distortions.
2. The state should act as an informed and active owner and establish a clear and consistent ownership policy, ensuring that the governance of SOEs is carried out in a transparent and accountable manner, with the necessary degree of professionalism and effectiveness.
3. The state and SOEs should recognize the rights of all shareholders and in accordance with the OECD Principles of Corporate Governance ensure their equitable treatment and equal access to corporate information.
4. The state ownership policy should fully recognize the SOEs' responsibilities towards stakeholders and request that they report on their relations with stakeholders.
5. SOEs should observe high standards of transparency in accordance with the OECD principles of Corporate Governance.
6. The boards of SOEs should have the necessary authority, competencies and objectivity to carry out their function of strategic guidance and monitoring of management. They should act with integrity and be held accountable for their actions.

Sources: *Active Ownership***,** Ministry of Trade and Industry, 2013, Report to the Storting (White Paper) Summary, and *OECD Guidelines on Corporate Governance of State-owned Enterprises*, 2005.

C. Issues with State Ownership and Privatization Options

10. State ownership in a few areas raise some issues that would merit further consideration. In particular,

- ***State ownership in the energy sector.*** The Norwegian economy is increasingly dependent on the offshore activity. The high state ownership in the oil company Statoil seems to go against the idea of diversifying the economy away from the oil sector. However, revenues from the offshore activity are largely invested in overseas through the highly-diversified portfolio of the Government Pension Fund Global (GPFG). The value of the government's holding in Statoil is only 6 percent of the value of the GPFG.

- ***State ownership in a commercial bank.*** The large government stake could create moral hazard problems or a greater market expectation of a bailout in the event of financial difficulties. Moreover, while DNB is supposed to operate on purely commercial terms, its credit rating seems affected by its ownership; the recent credit rating report for DNB by Moody's (March 2014) notes that "The rating uplift reflects our assessments of a very high probability of systemic (government) support for the bank in the event of need, in light of the Norwegian government's 34 % ownership of DNB." This raises the issue of a level playing field relative to banks without a state owner in raising funds.

11. More generally, state ownership could result with preferential access to financing. While companies with state ownership may obtain financing on market terms, unintended advantages could arise due to the ownership if lenders attribute lower risk rating due to explicit or perceived government backing. DNB's credit rating clearly presents such a case. The 2005 OECD guidance recommends that SOEs access credit on the same term as the private sector (OECD (2012) calls it "debt neutrality"). This principle applies to all state-owned entities including state owned banks. Kommunalbanken, which has been identified as one of the three systemically important financial institutions (SIFI) in Norway in 2014, is 100 percent state owned. It lends solely to sub-national governments and public entities so there is less question of distorting competition, but its rating (AAA) suggests a strong market perception of an implicit government guarantee. Ongoing regulatory reforms for SIFIs may reduce implicit public subsidy to these systemically important banks, but they may not necessarily address competitive advantage arising from state ownership. [8]

12. The OECD (2012) suggests addressing debt neutrality challenges through offsetting measures. For example, Australia addresses the debt neutrality problem by requiring "debt neutrality charges." Government-owned businesses are required to obtain a credit evaluation from debt rating agencies under a counterfactual assumption of private ownership. The difference

[8] See Chapter 3 in *Global Financial Stability Report*, April 2014, for discussion on implicit public subsidy to systemically important banks.

between actual terms and counterfactual terms would be subtracted from the revenue streams of government businesses as "debt neutrality charges."

13. Privatization could directly address the potential risks and distortions arising from state ownership. State ownership of DNB originates from the banking crisis in 1990s. Most of the banks which were nationalized back then were subsequently privatized with the exception of DNB where the state has retained a shareholding of 34 percent. Now that the banking crisis of 1990s is history, there seems no strong case for maintaining state ownership in the major domestic bank apart from keeping it out of foreign ownership. Further privatization of the remaining shares could reduce the government's stake and diminish the market perception of government backing while raising additional funds for the state. At the same time, the government's remaining ownership stake together with the 10 percent stake held by a Norwegian savings bank association would make it unlikely that it would pass into non-Norwegian control.[9]

14. The new government is starting to implement some privatization. A planned divesture of state-owned real estate company Entra Holding AS was announced in January 2014, and financial advisers for privatization were appointed in March 2014. The book value or Entra Holding was 7.8 billion NOK in 2012, but it has 25 billion NOK (4.1 billion USD) total assets. The company owns and manages more than 100 buildings. A public listing would be a possible option, and if there is going to be a listing, it is expected to be among the biggest in recent years. More recently, a divesture of several companies is being considered.[10] Specifically, sales of the state's shares in part or in full for eight companies, including SAS and Cermaq, are under consideration while reduction of state ownership down to 34 percent in Kongsberg Gruppen ASA and Telnor ASA are also being proposed.

15. There are various ways to privatize SOEs used by OECD countries to date:

- Share offering
    - Initial public offering (IPO) – A listing of an SOE with all or a tranche of the enterprise's shares on a stock exchange. This is considered the most resource intensive form of privatization.
    - Secondary public offering – After the IPO, additional tranches of SOE share could be offered to the public through public offerings. As with an IPO, this is also expensive and time consuming.

[9] The third largest share holder is National Insurance Scheme Fund with a shareholding of 6.55 percent. The rest is mostly institutional investors whose share holdings are less than 2 percent each.

[10] *Press release, 20.06.2014, No.:66/2014*, "Adjustments in order to increase distribution of power and private ownership," available at http://www.regjeringen.no/en/dep/nfd/press-centre/Press-releases/2014/Adjustments-in-order-to-increase-distribution-of-power-and-private-ownership-.html?id=764157.

  - Accelerated book building (ABB) – this process, through investment banks, allows the government to place tranches of shares of already listed SOEs with institutional investors. This is less expensive and faster than public offering, but sales prices are likely to come at a discount.

- The share of state ownership could also be reduced without privatization through a merger that would dilute the Norwegian state share, something that has been a subject of market speculation in the case of Statoil.

- Privatization by SOE

  - Capital increases – the government owners or the SOEs themselves issue additional stock, resulting a reduction of the relative size of government's ownership share.

  - Indirect privatization – De facto privatization can happen when wholly state-owned enterprises sell off their corporate assets, subsidiaries or commercial activities.

- Trade sales

  - Private placement – Negotiated sales of entire SOEs to a preferred bidder are not common among OECD countries. Instead, more common practice is "block trades" where tranches of shares in already listed SOEs are privately offered to groups of preferred investors.

  - Trade sale auctions – In trade sale auctions, SOEs are auctioned off as a whole to highest bidder, who is typically strategic investors or private companies involved in related business.

- Management or employee buy-out (MEBO): A form of trade sale through private placement where SOEs are sold to legal entities controlled by the incumbent staff, management or combinations thereof.

16. Preferred methods for privatization depend on the characteristics of the company to be privatized and the government's goals. Trade sales and MEBO are more suitable if a SOE is small and a whole SOE is to be sold off within a short time period. However, if the SOE to be privatized is very large relative to the size of the markets and existing competitors or the SOE is large and operates internationally, then an IPO is the preferred method of privatization. Either way, competitive bidding in the privatization process is considered desirable. Another advantage of an IPO, if retaining local control is a goal, is that ownership would likely be spread across a large group of institutional investors holding a relatively small stake each. If ABB is selected on efficiency grounds, then the role of external advisors and governments' efforts to maintain a level playing field become important. Privatization by SOE itself to adjust its capital structure is in line with the SOE Guidelines.

17. Further considerations need to be made if privatization is targeted at certain group of buyers. Pre-qualification of targeted buyers is key, and the government should fully disclose the

criteria based on which a preference for certain shareholders is given and the objectives they are expected to pursue after privatization.

D. Conclusions

18. Norway's state ownership is high and there is scope for reducing it in line with the Norwegian authorities' economic goals.

- Most large enterprises operate on commercial basis and are profitable, so there is no urgency about reducing state ownership to eliminate quasi-fiscal deficits.
- Market distortions are not large: most large corporations with state ownership are subject to market discipline through partial private ownership and share listing, the need to sell in competitive markets, or both.
- Companies with state ownership are administered in a professional way in line with international best practices.

Nevertheless, some sectors may benefit from privatization or more market discipline. In particular, in the case of the banking sector, privatization could be one way to achieve debt neutrality and ensure level playing field.

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TAX REFORM OPTIONS[1]

Norway's tax system is changing. The new government is committed to reducing the overall tax level, making the tax code more job-friendly, and adopting the business taxation to international developments. This paper argues that the ongoing tax reform is an opportunity for a comprehensive improvement of the tax system. A simpler and more neutral tax system could help to promote efficiency and economic growth. Less preferential tax treatment for residential and commercial real estate would promote productive investment and ease the transition to a non-oil-and-gas growth model. Fewer exemptions and preferences could create fiscal space for a reduction in overall tax rates, including the corporate income tax.

A. Introduction

1. The new Norwegian government is committed to reducing the overall tax level. The coalition government, in power since October 2013, has made several commitments, mostly non-quantified, regarding specific taxes. These include raising thresholds for higher individual income tax rates, reducing wealth tax rates and exemption amounts, and expanding tax schemes to encourage home ownership and retirement savings. The government's revised budget for 2014 already included some minor tax reductions valued at ¼ percent of GDP: (i) a reduction of the personal income tax rate from 28 percent to 27 percent, to align it with the corporate income tax rate; (ii) a reduction in the net wealth tax rate by 0.1 percentage point to 1 percent; and (iii) elimination of the inheritance tax. Additional corporate tax changes are planned, to be informed by a tax commission's report. This paper documents key features of the present Norwegian tax system, takes stock of recent reforms, and compares these proposals to best international practice.

[1] Prepared by Sylwia Nowak (EUR).

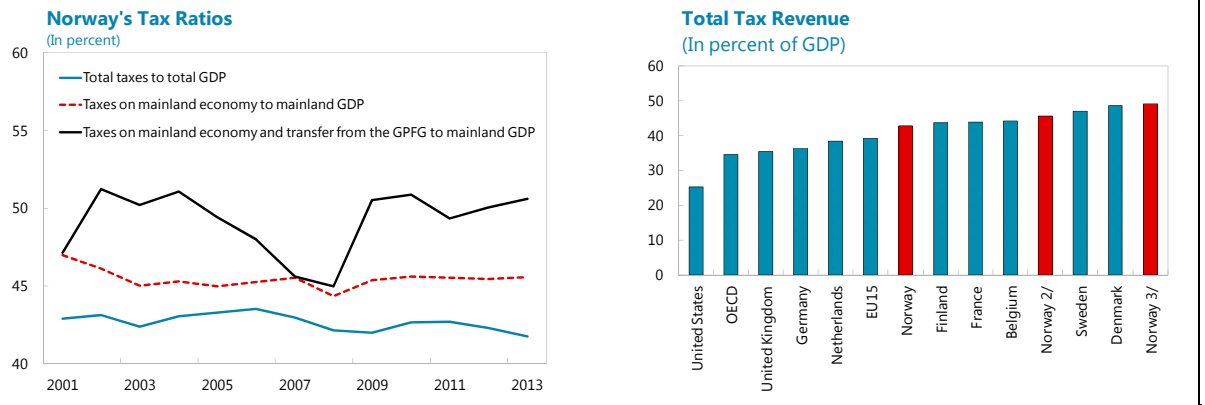
Box 1. Measuring the Tax Level in Norway

The offshore oil and gas industry in Norway accounts for almost a quarter of total GDP, half of total exports, and a third of state revenue. The Government Pension Fund Global (GPFG, Norway's sovereign wealth fund) receives the government's oil and gas revenue. Norway's fiscal rule, established in 2001, is designed to smooth spending from the oil wealth and to insulate the economy from Dutch disease. The fiscal rule allows for a transfer of about 4 percent of the fund's value to the yearly government budget, taking into account the cyclical position of the economy.

The offshore industry in Norway complicates the cross-country tax system comparison, as there are three ways of presenting various tax ratios. The first approach is the ratio of total taxes, and its subcomponents, in percent of total GDP. This is the most direct method that facilitates an easy cross-country assessment and is therefore used in this analysis. Alternatively, the calculations could express tax ratios in percent of Norway's mainland GDP, which sums up all domestic economic activity except for the extraction of crude oil and natural gas (including related services), pipeline, and deep-sea transport. This approach would reflect the relatively successful separation of offshore oil and gas activities from the rest of the economy and the state budget. Thus the second approach is the ratio of taxes on mainland economy in percent of mainland GDP. Finally, the third approach also presents the tax burden in percent of mainland GDP, but with numerator equal to the sum of taxes on mainland economy and the annual fiscal transfer from the GPFG to the federal budget. However, the latter two approaches do not allow for a straightforward cross-country comparison of Norway's tax system due to data limitations.

Since the introduction of the fiscal rule in 2001, total taxes in percent of total GDP and taxes on mainland economy in percent of mainland GDP have remained relatively stable at around 43 and 45 percent (figure). The transfers from the GPFG to the budget were more volatile, and the third ratio has moved between 45 and 51 percent. The ratio of total taxes to total GDP ranks Norway slightly above the EU15 average, whereas the other two approaches suggest a much higher tax burden.

Different Approaches to Measuring the Tax Level in Norway[1]



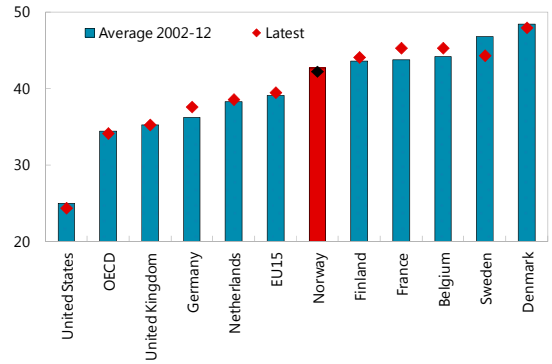
Sources: Norwegian authorities and IMF staff calculations.

[1]Total taxes in percent of total GDP, except for Norway 2/, which depicts taxes on mainland economy in percent of mainland GDP and Norway 3/, which depicts taxes on mainland economy and transfer from the GPFG in percent of mainland GDP.

Figure 1. Norwegian Tax Primer[1]

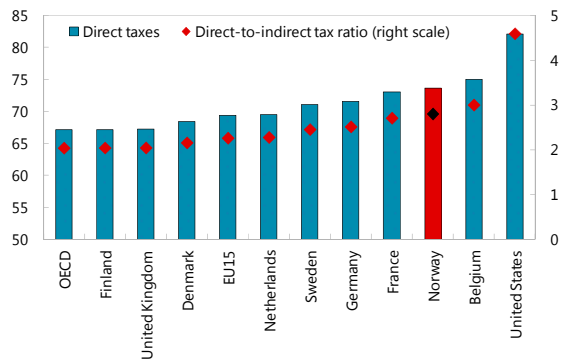
The tax level in Norway is high…

Total Tax Revenue
(In percent of GDP)



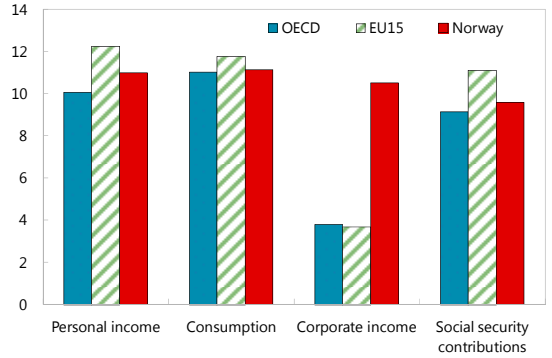
…with the tax mix skewed toward direct taxes.

Tax Mix, 2012
(In percent of total tax revenue; ratio)



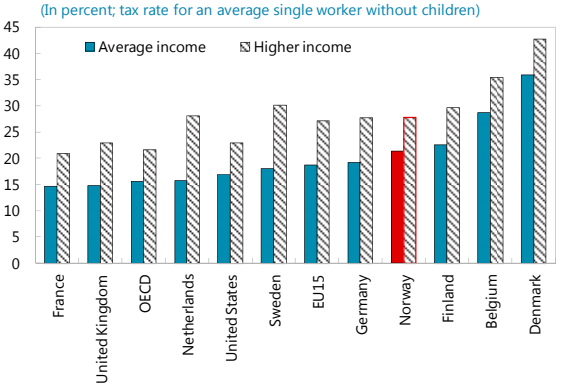
To a degree, the high direct tax revenue is due to special petroleum income tax, recorded as corporate income tax.

Structure of Tax Revenue, 2012[2]
(In percent of GDP)



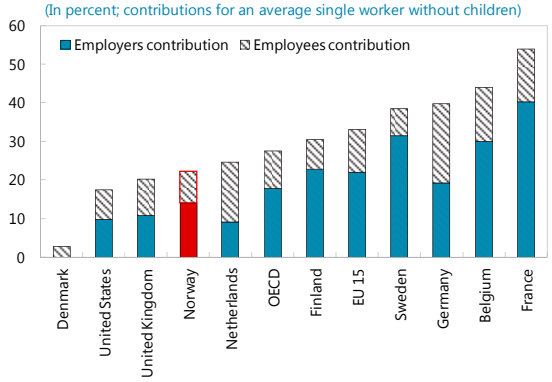
Average personal income tax rates are the fourth highest among advanced countries…

Average Income Tax Rate, 2013[2,3]
(In percent; tax rate for an average single worker without children)



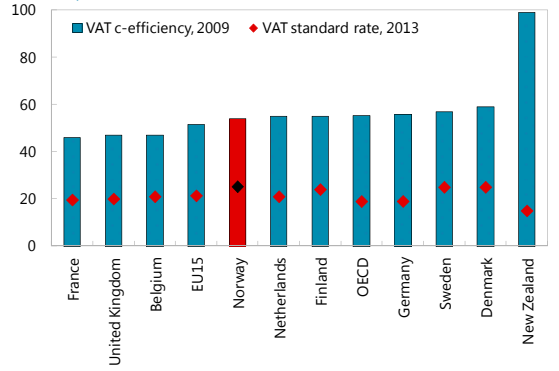
…with mandatory social security contributions adding to the tax burden on labor income.

Social Security Contributions, 2013[4]
(In percent; contributions for an average single worker without children)



Indirect taxes, mostly VAT, bring in about a fourth of total tax revenue but the revenue efficiency is low.

VAT C-Efficiency and Standard Rate
(In percent)



Sources: Norwegian authorities, OECD, PricewaterhouseCoopers, and IMF staff estimates.
[1] OECD and EU15 are simple averages for OECD and EU15 countries, respectively.
[2] Income taxes include taxes on income and net wealth plus capital taxes.
[3] Higher income is defined as 167 percent of average earnings.
[4] 2014 rates for Norway.

B. Norwegian Tax Primer

2. The tax level in Norway is high (Box 1 and Figure 1)**.** Total tax revenue fluctuated within a band of 42.0 and 43.5 percent of GDP between 2001 and 2013, well above the OECD average of 34.4 percent and the EU15 average of 39.0 percent of GDP. This level of taxation reflects high public spending and extensive welfare arrangements. Indeed, in other European modern welfare states, including the neighboring Nordic countries as well as Belgium and France, the tax burden is even more substantial than in Norway by up to 5.8 percentage points of GDP. In line with developments in other countries, the tax ratio declined slightly in the recent rates compared with the 10-year average, and the new government is committed to further tax reduction.

3. The tax mix is skewed toward direct taxes. Direct taxes, defined as all taxes that can be adjusted to the individual characteristics of the taxpayer (Atkinson, 1977), yielded 73.6 percent of total tax revenue in 2012, above the OECD and EU15 averages. The corresponding direct-to-indirect tax ratio stood at 2.8 in 2012, considerably higher than in other OECD and EU15 countries. To a large extent, the high revenue from direct taxes is due to special tax on petroleum income, which is recorded as corporate tax revenue. In 2012, the corporate tax yielded 10.5 percent of GDP, more than three times the EU15 average.

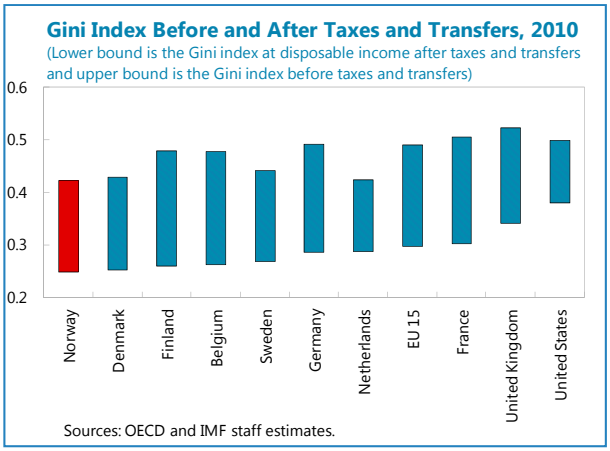
4. Personal income is taxed twice, at relatively high rates. Norway, similarly to other Nordic countries, has a dual income tax system. Ordinary income (labor, pension, and capital income less deductions) is taxed at the same flat rate and labor income above a certain threshold is taxed at the progressive rate. Taxable income includes salaries, dividends, interest, income from real property and other capital, and capital gains from the sales of real property and financial securities. In 2014, the statutory tax rate on the ordinary income is 27 percent.[2] Gross labor income, gross pension income, and income from self-employment—the so-called personal income—above NOK 527,400 is subject to progressive surtaxes of 9 and 12 percent, with annual incomes above NOK 857,300 (approximately US$ 142,900) taxed at the top rate of 47.2 percent.[3] Compared with other countries, Norway's average income tax rate[4] was the fourth highest in 2013.

[2] All expenses incurred for the purpose of earning income are deductible. Taxpayers may choose to claim a minimum deduction of NOK 84,150 (about US$14,000) rather than claiming itemized expenses.

[3] Taxpayers in the extreme northeastern parts of Norway (Finnmark and Nord-Troms regions) enjoy reduced tax rates of 23.5, 30.5, and 42.5 percent.

[4] The average income tax rate for an average single worker without children was 21.4 percent in 2013. Personal incomes at 167 percent of average earnings were taxed 27.8 percent.

5. Wealthier taxpayers pay a higher average income tax rate. In 2013, personal incomes at 167 percent of average earnings were taxed at 27.8 percent. Higher taxation of wealthier taxpayers reflects both the progressiveness of labor income taxation and the fact that the most financial wealth is owned by the richest 10 percent of households.[5] As a result, the tax system supplements the benefits system to provide a significant redistribution from the rich to the poor and the makes final distribution of net income is very even. Norway's post-taxes and transfers income inequality is the one the lowest amongst OECD countries.



6. The tax code has a myriad of tax deductions, various allowances, and tax credits. All expenses related to earning the income are deductible. However, taxpayers may choose to claim a so-called basic allowance instead of claiming for itemized expenses. The basic allowance is limited to 43 percent of wage income and 27 percent of pension income, with upper and lower limits that vary depending on the source of income and the geographic location of the tax payer. In 2014, the maximum basic allowance was set to NOK 84,150 (about US$14,000). On top of the basic allowance, the personal allowance of up to NOK 72,000 (about US$12,000) is given for both personal and corporate income, including pensions and capital income. There are also special allowances pensioners, the disabled, the sick, seamen, fishermen, self-employed within agriculture, and others. Further, credits are available for charitable donations, paid labor union fees, home investment savings for the young (see below), and childcare expenses.

7. Mandatory social security contibutions add to tax burden on labor income. The employee's contribution is 8.2 percent of gross labor income.[6] The employer's contribution is regionally differentiated and ranges between 0 and 14.1 percent.[7] At the top rate for employer's contribution, social security payments are lower than in other advanced economies. Revenues from social security contributions are also lower as a share of total tax revenue and as a ratio to GDP.

8. In addition to taxing capital income, the capital stock and some capital transfers are also taxed. An annual net wealth tax is levied at both central and municipal government level on

[5] The OECD (2012b) estimates that the richest 10 percent of Norwegian households pay 70 percent of all tax revenue from capital income.

[6] Income from self-employment other than fishing, hunting, and child care is subject to employee's contribution of 11.4 percent of gross labor income.

[7] New European Economic Area regulations on regional state aid, effective from July 1, 2014, may necessitate changes to the system of regionally differentiated employer's social security contributions.

the capital stock in excess of NOK 1 million (about US$166,700).[8] The central government tax rate is 0.3 percent and the municipal tax rate is 0.7 percent. In addition, some municipalities levy real property taxes at rates ranging from 0.2 to 0.7 percent of the assessed value of real property, depending on the location. In 2010, 70 percent of municipalities levied this tax. Finally, real property transactions are subject to stamp duty of 2.5 percent of the market value of the property. Overall, property taxes account for less than 3 percent of total tax revenue, compare with above 5 percent in OECD countries.

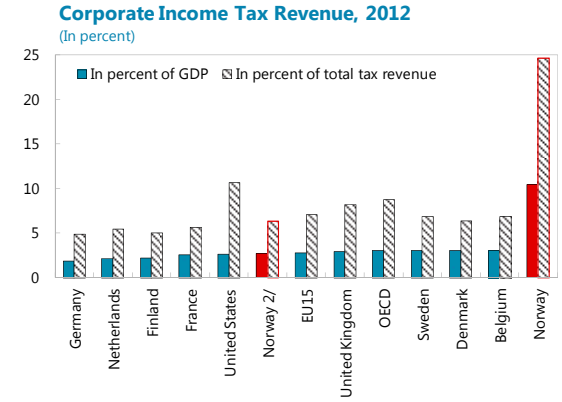
9. The tax code is biased toward owner-occupied housing. Imputed rental income and capital gains on owner-occupied housing are exempt from capital income taxation. The wealth tax on owner-occupied and rental housing in excess of NOK 1 million is levied at much lower effective rate of 0.25 percent for owner-occupied housing and 0.4 percent for rental housing, as only a fraction of their value is included in the tax base.[9] Mortgage interest on both owner-occupied and rental housing is fully deductible from capital income. Also, local property taxes are based on outdated property values. In addition, a tax relief scheme is available for young taxpayers under age 34 saving to buy a house; annual savings up to NOK 25,000 are subject to income tax relief at 20 percent of the annual amount saved, with the upper limit of NOK 0.2 million savings in the scheme.

[8] The threshold is for single taxpayers. For married couples who are assessed together for joint assets, the threshold is NOK 2 million (about US$ 333,300).

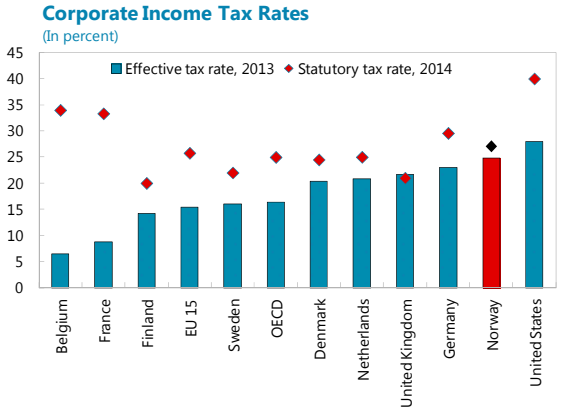
[9] The wealth tax rate is 1 percent on the capital stock in excess of NOK 1 million. However, only 25 percent of the value of owner-occupied housing is included in the tax base, which implies an effective tax rate of 0.25 percent. Rental housing also gets a favorable treatment: only 40 percent of the property value is included in the tax base, which implies an effective tax rate of 0.4 percent.

Figure 2. Corporate Taxation in Norway[1]

To a large extent, Norway's high revenue from direct taxes is due to special tax on petroleum income, which is recorded as corporate tax revenue...



...though the effective corporate tax rate is the second highest amongst advanced countries.



Sources: KPMG, Norwegian authorities, OECD, *Paying Taxes 2014*, and IMF staff estimates.
[1] OECD and EU15 are simple averages for OECD and EU15 countries, respectively.
[2] Excluding petroleum income taxation. End-2011 data.

10. Corporate income is taxed at the same flat rate as personal income. Income, dividends, and capital gains are pooled together and taxed the same rate of 27 percent. In addition, petroleum companies licensed to explore and exploit gas and oil resources are taxed an additional 51 percent tax rate on petroleum income (see also Box 1).[10] Overall, corporate income tax revenue in Norway is the highest in the OECD, both as a share of GDP and as a share of total tax revenue (Figure 2). However, this is due in large part to the gas and petroleum taxes, which are recorded as corporate tax revenue. Excluding this revenue ranks Norway just below the EU15 average. Nevertheless, the effective corporate income tax rate is about 10 percentage points higher than, on average, in other advanced countries (PwC and the World Bank, 2014), even though the statutory rate is only about 2 percentage points higher than in the EU15 and the OECD.

11. Indirect taxes, mostly VAT, bring in about a fourth of total tax revenue but the revenue efficiency is low. In 2012, taxes on goods and services stood at 11.1 percent of GDP, broadly in line with the OECD and EU15 averages. The value-added tax (VAT) revenue accounted for 72 percent of indirect taxes. The statutory VAT rate is high at 25 percent—only Denmark and Sweden have equally high standard VAT rates. However, the VAT revenue efficiency is low. In 2009, the revenue efficiency ratio (*c*-efficiency),[11] stood at 54 percent, below the ratio of most other advanced countries (OECD, 2012a). Among the reasons for this relatively low performance are reduced VAT rates on food (15 percent); passenger transport, accommodation, and similar services

[10] Detailed treatment of the oil and gas taxation is largely outside this analysis.

[11] The VAT revenue ratio is defined as the ratio of VAT revenue to final consumption, divided by the standard tax rate. It measures the difference between the VAT revenue actually collected and potentially possible if VAT was applied at the standard rate to the entire tax base.

(8 percent); and a zero rate on books, newspapers, and electric cars (Box 2). Many other services are exempt from the VAT, including financial services, health care, education, and some cultural and sport events.

12. Tax expenditures add up to about 6 percent of GDP.[12] This is significantly above, for example, Denmark (2.2 percent of GDP; Nordic Working Group, 2010) or Germany (0.7 percent of GDP; OECD, 2010) but on par with Sweden (5.7 percent of GDP, OECD, 2010). The most important tax expenditures relate to lack of taxation of imputed income from owner-occupied housing and too low cadastral values of real estate properties in the net wealth tax.[13]Overall, housing-related exemptions results in revenue loss of about 2.5 percent of GDP (34 percent of all tax expenditures). VAT-related tax expenditures, due to lower or zero-rate and exemptions from the VAT system, are the second largest category, with an estimated revenue loss of about 1.5 percent of GDP. Other significant tax expenditures are related to the geographically differentiated employer's social security contribution and various personal income taxation deductions and allowances.

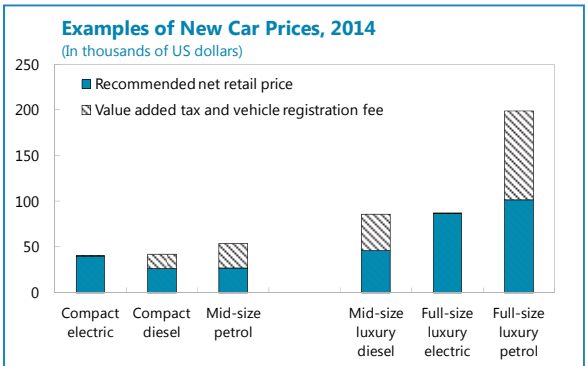
[12] The sum of general government forgone revenue in the form of exemptions, allowances, credits, preferential tax rates, and so on. The actual number is higher, as there are several tax expenditures that are not calculated due to technical difficulties. All existing tax expenditures are reported in the National Budget.

[13] The cadastral value refers to the valuation of a property in a public register used for taxation purposes.

Box 2. Tax Incentives for Electric Cars

Taxation of electric vehicles provides an example of how the tax code leads to distortions of incentives and unexpected consequences. Tax incentives for the purchase and ownership of electric cars are very generous in Norway. Electric cars are exempt from the vehicle registration tax and value added tax (VAT), making electric car purchase price competitive with conventional cars. In addition, the annual road tax is only a small fraction of the tax paid for petrol and diesel vehicles (about 15 percent); municipal parking, public charging stations, ferry rides, and road tolls are free; and electric cars can drive in the bus lanes and highway express lanes. Electric company cars are exempt from taxation for company car benefit tax. These tax incentives are in effect until 2018 or until Norway—a country of about 5 million people—reaches its 50,000 electric vehicle target.

The registration tax and VAT can more than double the retail price of cars in Norway. For conventionally-fuelled cars, the vehicle registration tax can reach about 40 percent of the net retail price, depending on the vehicle's weight, engine power, carbon dioxide (CO_2) emissions, and nitrogen oxides (NO_X) emissions. However, electric vehicles only pay a small fee of approximately US$400 to the scrapping scheme. The VAT rate is 25 percent for petrol and diesel car and 0 percent for electric cars.



Sources: Norwegian authorities and IMF staff estimates. Prices are converted to US dollars assuming an exchange rate of 6 NOK/US$.

Generous public subsidies and the ability to drive for free in less-congested bus lanes have fueled the sales of zero-emission vehicles at all price ranges. The number of electric cars nearly doubled in 2013 and reached almost 25,000 in early 2014, with electric cars accounting for up to 20 percent of total new car sales recently. Electric car ownership is the largest per capita in the world, with electric cars accounting for about 1 percent of all registered cars. For a compact electric car, such as the best selling Nissan Leaf, the tax breaks and other benefits are estimated to be worth up to US$ 8,200 per car annually (Doyle and Adomaitis, 2013). However, there are no price or engine size caps, and popularity of high-end electric cars is soaring. Tesla Model S, a luxury electric sedan costing about US$ 87,000, is the second top-selling electric car with a market share of 15 percent. With a claimed top speed of 125 miles per hour, acceleration to 60 miles per hour in 5.4 seconds, and a driving range of around 300 miles, the Model S would retail for about US$200,000 if it had a conventional gas engine. In this case, the purchase tax breaks alone are worth more than US$100,000. Overall, the increased sales of electric cars cost the central government up to NOK 4 billion (approximately US$ 0.67 billion) in reduced tax revenue and Norway accounts for 45 percent of Tesla's international sales.

C. Ongoing Tax Reforms—The 2014 Budget and Beyond

13. A new government took office in October, 2013. The government's economic policy platform emphasizes lower taxes and duties, more infrastructure investment, greater private ownership, and measures to improve productivity and competitiveness. The revised 2014 budget was the new government's first opportunity to implement its tax program. This section reviews the changes to the tax code in the revised 2014 budget and provisions carried over from the previous government.

14. Personal and corporate income tax rates were reduced from 28 to 27 percent. The Norwegian corporate tax rate of 28 percent had remained unchanged since 1992 while the average corporate tax rate in the EU15 countries had fallen from 38.9 percent to 26.7 percent in 2013. In its initial 2014 budget, the previous government cut the statutory corporate tax rate by 1 percentage point. The current administration cut the tax rate on personal incomes to the same level while increasing up the surtax thresholds by 3.5 percent, in line with expected wage growth for 2014. Various personal allowances and upper limits of the basic allowances in wage and pension income were increased in a similar manner.

15. Personal income tax rate cuts were accompanied by an increase in social security contributions but overall, effective marginal tax rates fell. Employees' social security contributions, including contributions from pensions and self-employment, were increased by 0.4 percentage point.[14] Overall, changes to personal income taxation reduced the maximum effective marginal tax rates by about 0.5 percentage points for labor and pension income and 1.5 percentage points for dividends and distributions.

16. Corporate income tax rate cuts were complemented with restrictions on deductibility of interest expenses and increased depreciation allowance. In order to keep multinational enterprises away from shifting taxable profit from Norway to lower-tax countries, deductions for of intra-group debt interest expenses were limited to 30 percent of taxable ordinary income.[15] Previously, all interest expenses were fully tax deductible. The 2014 budget also introduced an additional depreciation allowance for certain investments and marginally strengthened the business R&D tax incentives.[16]

[14] An existing tax credit for pension income was adjusted so that the minimum pension remained tax free.

[15] The interest expense limit is triggered if the company claims interest expenses with respect to borrowings from both related and unrelated parties of more than NOK 5 million (about US$ 0.83 million). If the interest expense exceeds this threshold amount, the limitation applies to all intra-group interest expenditure (i.e., the entire amount is limited). Third-party loans guaranteed by a group company are considered as intra-group loans, and thus subject to the new legislation.

[16] Initial depreciation rules for machinery, cars, and other operating equipment were increased from 20 percent to 30 percent in the year of purchase. The depreciation rate will remain at 20 percent in the following years.

17. An experts' tax commission is considering further changes to business taxation. The commission was appointed in March 2013 to examine whether the corporate tax regime in Norway is well adapted to international developments and whether the difference in the tax treatment of debt and equity financing creates room for tax avoidance. The commission is also examining the alignment of tax and real depreciation rates. The commission's report is expected by mid-October 2014.

18. The new government made considerable changes to wealth taxation. The tax rate on net wealth was reduced by 0.1 percentage point to 1 percent. The threshold for tax-free net wealth was increased by 15 percent to NOK 1 million and the taxable values of holiday homes, second homes, and commercial properties were increased by 10 percentage points.[17] The inheritance and gift tax was abolished but revenue losses are minimal because of the allowances that offer tax avoidance options (OECD, 2012b).

19. Tax incentives for home ownership were expanded. Thresholds for annual and total tax reliefs for taxpayers under age 34 saving to buy a house were increased by generous 25 and 33.3 percent, respectively. Only the maximum allowance for charitable donations was increased by a higher fraction of 40 percent. Further, capital gains tax exemption was granted to recipients of real estate inheritance who sold the inherited property, be it an owner-occupied house or other real estate. Finally, judicial registration fees on real estate and mortgage bonds were reduced.

20. A good tax system should be simple, transparent, and efficient with no arbitrary tax differentiation across taxpayers and forms of economic activity. Norway's tax system has many good characteristics—most notably the equal treatment of income from employment, capital, and corporate sources (subject to surtaxes on higher labor income). However, the system could be more efficient while continuing to raise roughly the same amount of revenue and redistributing resources to roughly the same degree. The ongoing tax reform should thus be seen as an opportunity for a comprehensive improvement of the tax system and removing the distortions created by tax preferences, especially for housing. The reminder of this section briefly discusses international best tax design practices drawing on Mirrlees and others (2011), and the implications for the recommended directions for Norwegian tax reform.

21. Shifting the tax burden from more distortive income taxes toward indirect taxes should enhance growth and efficiency. A revenue-neutral increase in indirect taxes compensated with a reduction in income taxes and social security contributions has a positive effect on the long-run economic activity. The 'tax and growth ranking' of Arnold and others (2011) suggests that property taxes, in particular recurrent taxes on immovable property, are the least distortive taxes in terms of long-term economic growth, followed by consumption and other property taxes, personal income taxes, and corporate income taxes. Their empirical results suggest that on average, a 1

[17] The net wealth taxation of primary residences remained unchanged.

percent shift of tax revenues from income taxes to indirect taxes would increase GDP per capita in OECD countries by up to 1 percentage point in the long run.

22. Recurrent taxes on immovable property are comparatively good for economic growth, unlike other property taxes. In most advanced countries, taxation of real estate—in particular owner-occupied housing—is full of non-neutralities which result in a misallocation of capital towards housing, away from productive investment. This implies that increasing recurrent taxes on immovable property will shift some investment out of tax-subsidized housing into un-subsidized business activities that are more productive and increase the rate of economic growth. In Norway, this shift towards productive investment is critical for the successful transition to an economic growth model less dependent on supplying the oil and gas sector. At the same time, other property taxes—taxes on financial and capital transactions, inheritance, and net wealth—can distort the allocation of capital and are likely to be more harmful to growth than recurrent taxes on immovable property. For example, taxes on property transactions can discourage real estate transactions and thus the shift of capital towards more productive investment (Arnold and others, 2011). These taxes also have a negative impact on labor mobility given the high transaction costs incurred by changing property.

23. Income from all sources should be taxed on a flat rate schedule. Current research suggests that applying different tax rates to different income sources complicates the system, discriminates among taxpayers and forms of economic activity, distorts economic activity towards lightly taxed forms, and facilitates tax avoidance. Personal income taxation should be kept simple: progressive with two or three rates; transparent, and coherent, with a single allowance and an integrated benefit for low-income taxpayers. The single rate schedule should be applied to income after allowing deductions for the costs incurred in generating income, such as work-related expenses and production inputs (Mirrlees and others, 2011). The personal tax and benefit systems need to be as simple and integrated as possible to provide strong incentives to work and avoid the 'poverty trap.' In Norway, the focus should be on simplifying the myriad of allowances, deductions, and exemption and on reducing the extent to which the income tax system subsidizes housing investment.

24. Capital income taxation should be neutral between different types of assets. An optimal taxation of savings income should have a standard income tax schedule applied to capital income after an allowance for the normal rate of return on savings, with lower personal tax rates on income from company shares to reflect the already paid corporate tax. Different types of assets should be treated equally. In Norway, this principle strengthens the need for reducing the implicit tax subsidy to owner-occupied housing by reintroducing taxation of imputed rest or—as the second best solution—limiting the mortgage interest deductibility. This could free up resources of about 1 percent of GDP, currently tied up in tax expenditures related to the favorable taxation of housing.

25. The VAT should be broad-based and levied at a single rate. A broad-based, single-rate VAT taxation is an effective and cost-efficient form of growth-friendly revenue collection, which has less negative impact on households' and firms' choices of saving, investment, and employment than

income and wealth taxes. However, reduced rates, zero rates, and exemptions pose a great challenge to the tax compliance and administration. A multiple rate structure also results in arbitrary distortions between different kinds of consumption and inequitable treatment of consumers with different tastes.

26. Broadening the base of VAT taxes by gradually reducing preferential treatments simplifies the tax system and improves its effectiveness. Reduced rates, zero rates, and exemptions violate the guidelines of optimal tax policy. Reduced rates on basic goods, such as food, are a poor mechanism to achieve redistribution goals. While the motive behind these exemptions is lowering the tax burden on the low-income individuals, Atkinson and Stiglitz (1976) show that differential consumption taxation is not optimal and that recommend progressive income taxation should be used for achieving redistribution objectives. Mirrlees and others (2011) calculate that in the United Kingdom, applying the standard VAT rate to all goods and services (except for housing and exports) while increasing means-tested benefits by 15 percent would leave the poorest 30 percent of the population better off. In this context, the Norwegian authorities should focus on making the VAT tax base more robust by phasing out non-standard rates and exemptions (e.g., equalizing VAT taxes on services and removing exemptions for high-value electric cars).
The experience of New Zealand shows that many exemptions are unnecessary and it is possible to levy VAT at a uniform rate on a much wider range of goods and services (Mirrlees and others, 2011).

D. Conclusions

27. Tax policy affects socioeconomic activity in non-trivial ways. On one hand, the tax level reflects societal choices as to the desired level of public spending and welfare arrangements. In Norway, as in other modern welfare states, the tax level is high in order to provide financing for high public spending and income redistribution objectives. On the other hand, the tax structure—the tax mix and the tax rates and bases of individual taxes—affects economic incentives, income inequality, efficiency, and economic growth.

28. The forthcoming tax reform in Norway is a critical opportunity to support the transition to an economic growth model less dependent on supplying the oil and gas sector. The system should be considerably more neutral with regards to capital taxation. A reduction in the extent to which the personal income tax system promotes housing rather than productive investment would help productivity and remove disincentives toward investment in those parts of the productive economy that will need to replace oil and gas as a source of growth. More generally, a simpler tax system with fewer exemptions and preferences and broader tax bases could create fiscal space for a reduction in overall tax rates, including the corporate income tax.

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