

# ECONOMIC COMMENTARIES

## Debt-servicing capacity of Norwegian listed non-financial companies

NO 3 | 2016

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# Debt-servicing capacity of Norwegian listed non-financial companies<sup>1</sup>

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OF NORWEGIAN LISTED  
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*The debt-servicing capacity of Norwegian non-financial companies listed on Oslo Børs has declined somewhat and is currently lower than the average for the past 14 years. Recently, the oil service sector in particular has experienced a marked decline in debt-servicing capacity and its debt-servicing capacity is now at a very low level compared with the historical average. Nevertheless, the level of the debt-servicing capacity of listed companies is overall well above the troughs in the early 2000s and during the financial crisis. This commentary reviews various ways of calculating debt-servicing capacity on the basis of different definitions of earnings and debt. Developments in corporate debt-servicing capacity are discussed in the light of the various calculation methods.*

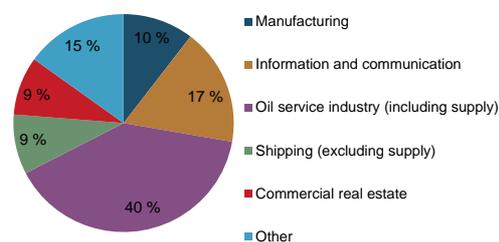
## Data set

The analysis uses quarterly financial data from non-financial companies listed on Oslo Børs in the period 2002 to 2015.<sup>2</sup> Companies registered in other countries and companies in oil and gas production have been excluded.<sup>3</sup> The number of companies included each quarter varies between 44 and 118. The number of companies per quarter increases gradually in the period to 2008.<sup>4</sup> After 2008, the number of companies per quarter remains fairly stable at around 90.

The analysis is based on accounting variables from income statements, along with interest-bearing debt and cash and cash equivalents from balance sheets. Income statement variables are described further in the appendix. The accounting variables are aggregated by adding together the observations for all companies, and all income statement items are calculated as the sum of the previous four quarters.

For listed companies, interest-bearing debt primarily comprises loans from banks and other financial institutions in Norway and abroad and bonds. In 2015 Q3, debt in the sample was NOK 480 billion, which corresponds to over 20 percent of total debt (C3) of mainland non-financial enterprises.<sup>5</sup> The oil service industry is the sector on Oslo Børs with the most interest-bearing debt (Chart 1). In the corporate sector as whole,

**Chart 1:** Share of interest-bearing debt of selected industries as a percentage of total interest bearing debt. At 2015 Q3



Sources: Bloomberg and Norges Bank

<sup>1</sup> I would like to thank Kristine Høegh-Omdal, Kjersti Næss Torstensen, Haakon Solheim, Trond Eklund and Sindre Weme for valuable and useful comments.

<sup>2</sup> Financial data have been obtained from Bloomberg and are based on consolidated reporting in instances where consolidated financial statements are prepared.

<sup>3</sup> Norsk Hydro is included in the data set after 2007 Q3.

<sup>4</sup> The number of companies per quarter is illustrated in Chart A1 in the appendix.

<sup>5</sup> The sample includes some shipping companies that are not classified as mainland enterprises in C3 mainland Norway.

commercial real estate has the highest share of interest-bearing debt. Since there are few commercial real estate companies listed on Oslo Børs, this sector is underrepresented in the analytical base. On the other hand, oil service companies are overrepresented.

## Various measures of debt-servicing capacity

Corporate debt-servicing capacity may be calculated as earnings as a percentage of debt (earnings-to-debt ratio).

$$\text{Debt-servicing capacity} = \frac{\text{earnings} * 100}{\text{interest-bearing debt}}$$

Put in simple terms, debt-servicing capacity can be understood as the share of debt obligations that companies are capable of meeting from current earnings. Over time, earnings must cover such expenses as debt obligations and self-financing of new investment.<sup>6</sup> Insufficient earnings will prompt companies to draw on liquid reserves and may after some time result in problems with servicing debt. Earnings and debt may be defined in various ways. The definitions used in the calculation will have a bearing on what the concept “debt-servicing capacity” provides an indication of.

### Earnings

Debt-servicing capacity is analysed on the basis of four measures of earnings: earnings before and after depreciation, amortisation and impairment and earnings before and after financial items (Table 1).

Measures 1 and 2 are earnings before depreciation, amortisation and impairment. These measures can be interpreted as earnings to meet debt obligations in the short term. Measures 3 and 4 include depreciation, amortisation and impairment and take into account companies’ need for new investment over time.<sup>7</sup> These measures may therefore provide a more accurate picture of the long-term ability to service debt.

Measures 1 and 3 are earnings before financial items and measure earnings from operations. Put simply, these measures shall be able to meet both net interest expenses and principal payments.<sup>8</sup> Measures 2 and 4 are earnings after financial items.

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6 Earnings must also cover increased needs for working capital, dividend payments and taxes.

7 The level of depreciation, amortisation and impairment is assumed to be sufficient to cover new investment.

8 Earnings must also cover other net financial expenses.

**Table 1:** Various measures of corporate earnings

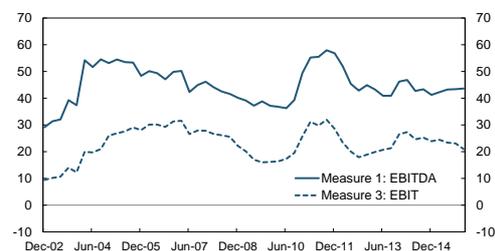
Measure	Name	Abbreviation	Must over time cover at least
1	Earnings before interest, tax, depreciation, amortisation and impairment	EBITDA	Principal, interest and new investment
2	Earnings before tax, depreciation, amortisation and impairment <sup>9</sup>	EBTDA	Principal payments and new investment
3	Earnings before interest and tax	EBIT	Principal and interest
4	Earnings before tax	EBT	Principal

Debt-servicing capacity calculated using the various earnings measures shows roughly the same path, but there are differences that are worth noting.

### Earnings before and after depreciation, amortisation and impairment

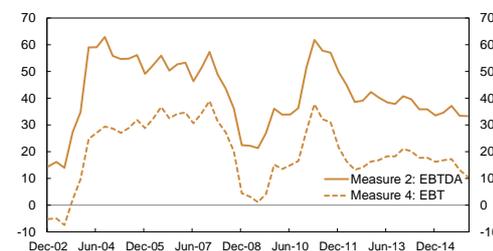
Debt-servicing capacity calculated using measures of earnings before depreciation, amortisation and impairment is higher than debt-servicing capacity calculated using the measures after these items (Charts 2a and 2b).<sup>10</sup> This is because the measures before depreciation, amortisation and impairment are intended to cover more payment obligations than the measures after these items. Measures of earnings before depreciation, amortisation and impairment are more similar to the actual cash flow in each period than measures that include these items. The disadvantage of such measures is that they disregard costs associated with capital depreciation and asset impairment, which over time are important considerations. On the other hand, earnings measures after depreciation, amortisation and impairment may provide a distorted picture of underlying earnings from one period to another, since impairment charges are somewhat unsystematic and are usually recognised in downturns.

**Chart 2a:** Debt-servicing capacity calculated using earnings before and after depreciation, amortisation and impairment as a percentage of net interest-bearing debt. Earnings measures before financial items. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

**Chart 2b:** Debt-servicing capacity calculated using earnings before and after depreciation, amortisation and impairment as a percentage of net interest-bearing debt. Earnings measures after financial items. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

<sup>9</sup> In recent years, Norges Bank has used this measure of corporate earnings. Using this measure makes sense if the underlying data contain a large number of company financial statements in which a large portion of the revenue base is in the financial items, rather than in the operating items. This measure will likely provide a truer picture of the cash earnings of such enterprises. In addition, using this earnings measure makes it possible to test the sensitivity of debt-servicing capacity to changes in enterprises' interest expenses.

<sup>10</sup> Debt-servicing capacity is calculated on the basis of net interest-bearing debt (interest-bearing debt less cash and cash-equivalents). The difference between using gross and net interest-bearing debt is discussed below.

## Earnings before and after financial items

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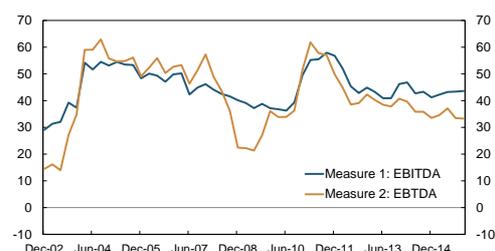
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In the financial statements, financial items are income and expenses associated with the company's financial investments and obligations. Debt-servicing capacity calculated using the earnings measures after financial items fluctuates more than debt-servicing capacity calculated using the measures before financial items (Charts 3a and 3b). This reflects the fact that financial items are more sensitive than operating items to market movements and cyclical conditions. During the financial crisis, the measures after financial items fell more sharply than measures before financial items. Higher financing costs reflected such factors as a fall in the value of equities and derivatives, as well as foreign exchange losses owing to the depreciation of the krone.

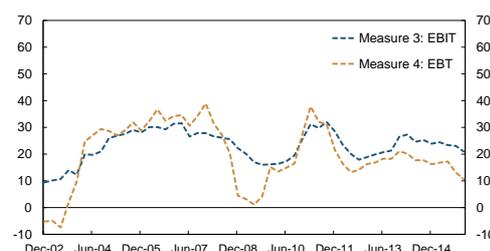
The inclusion of financial items takes into account the fact that companies have financial income and expenses that may impact cash flow. On the other hand, a number of financial items do not affect cash flow directly, such as impairment losses on investments in associates and changes in value of marketable shares.

**Chart 3a:** Debt-servicing capacity calculated using earnings before and after financial items as a percentage of net interest-bearing debt. Earnings measures before depreciation, amortisation and impairment. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

**Chart 3b:** Debt-servicing capacity calculated using earnings before and after financial items as a percentage of net interest-bearing debt. Earnings measures after depreciation, amortisation and impairment. 2002 Q4 – 2015 Q4

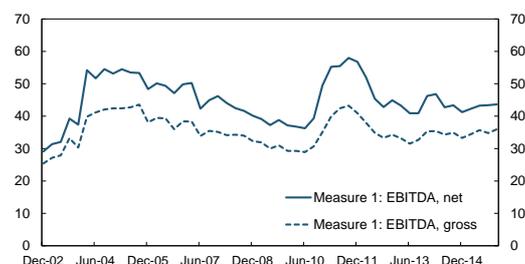


Sources: Bloomberg and Norges Bank

## Gross and net interest-bearing debt

Interest-bearing debt may be calculated on a gross or net basis. Net interest-bearing debt is interest-bearing debt less cash and cash equivalents. The interest-bearing debt of companies with large cash reserves will be less exposed in periods of low earnings. The primary result of using net rather than gross interest-bearing debt is that debt-servicing capacity rises over the entire period (Chart 4).

**Chart 4:** Debt-servicing capacity calculated using earnings before depreciation, amortisation and impairment and financial items as a percentage of gross and net interest-bearing debt. 2002 Q4 – 2015 Q4



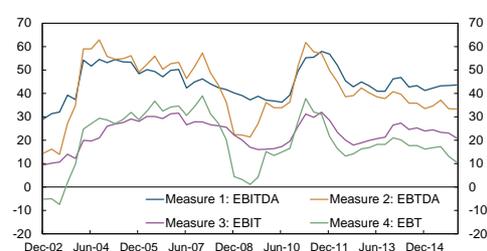
Sources: Bloomberg and Norges Bank

# Is corporate debt-servicing capacity adequate?

In the years prior to the financial crisis, corporate earnings were solid. At the same time, there was a substantial accumulation of debt, which kept debt-servicing capacity fairly stable (Chart 5). During the financial crisis, debt-servicing capacity fell, but picked up again quickly. In recent years, debt-servicing capacity has fallen to some extent.

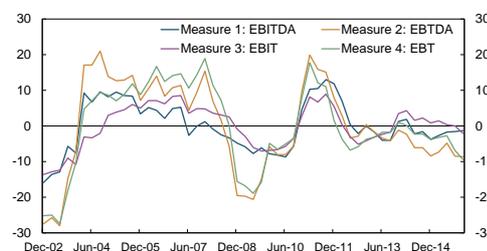
There is uncertainty regarding what a normal level of corporate debt-servicing capacity is. A method for determining this is to compare the various measures of debt-servicing capacity with their historical averages through the period.<sup>11</sup> In 2015 Q4, all of the measures were lower than their historical averages (Chart 6). The gaps were widest for measures that include financial items. Financial items have pulled down debt-servicing capacity, and over the past two years, below its historical average.

**Chart 5:** Debt-servicing capacity. All sectors. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

**Chart 6:** Debt-servicing capacity gap. All sectors. Deviation from historical average. Percentage points. 2002 Q4 – 2015 Q4

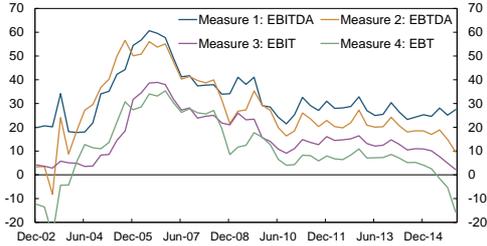


Sources: Bloomberg and Norges Bank

The decline in oil prices and the fall in petroleum investment are weakening the oil service industry’s revenue base. Oil service companies are pulling down total corporate debt-servicing capacity. Recently, debt-servicing capacity calculated using the measures of earnings after financial items and the measures of earnings after depreciation, amortisation and impairment have fallen markedly (Chart 7). Debt-servicing capacity calculated using the measure of earnings before all these items (EBITDA) has remained fairly stable. Developments suggest that total earnings have been considerably weakened by higher financing costs and an increase in impairment charges, while underlying operating earnings have so far held steady. Nevertheless, all measures of debt-servicing capacity are well below their historical averages in 2015 Q4 (Chart 8). Debt-servicing capacity has not been this low since the early 2000s.

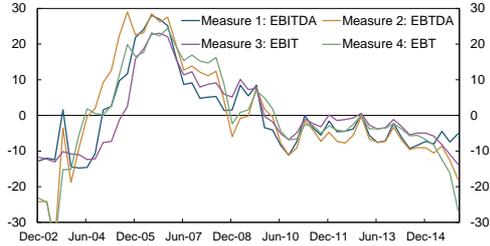
<sup>11</sup> The four earnings measures are calculated as a percentage of net interest-bearing debt. The deviation of debt-servicing capacity from its historical average is defined as a “debt-servicing capacity gap” in the charts.

**Chart 7:** Debt-servicing capacity. Oil service companies. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

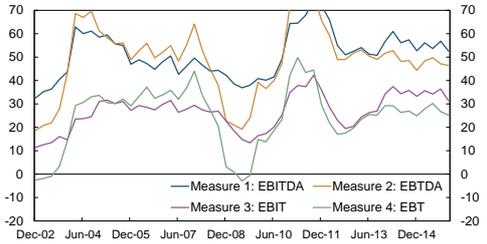
**Chart 8:** Debt-servicing capacity gap. Oil service companies. Deviation from historical average. Percentage points. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

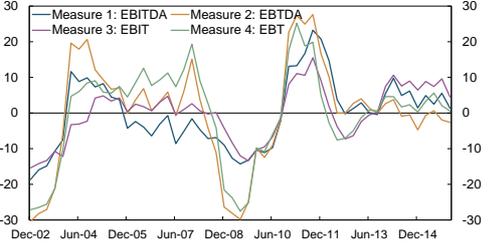
After the financial crisis, the debt-servicing capacity of the other sectors overall has remained fairly stable. Even though the debt-servicing capacity of these sectors has weakened somewhat over the past quarters, it is still considerably higher than is the case for oil services (Chart 9). In 2015 Q4, the measure that includes financial items and excludes depreciation, amortisation and impairment in the definition of earnings is somewhat below its historical average, while the other three measures are somewhat above their historical averages (Chart 10). These developments suggest that the debt-servicing capacity of companies excluding oil services continues to be fairly good overall.

**Chart 9:** Debt-servicing capacity. All sectors excluding oil services. Percent. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

**Chart 10:** Debt-servicing capacity gap. All sectors excluding oil services. Deviation from historical average. Percentage points. 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

## Summary

Corporate debt-servicing capacity may be calculated as earnings as a percentage of debt. This commentary has examined the debt-servicing capacity of Norwegian non-financial companies listed on Oslo Børs on the basis of various measures of earnings and debt. Four different earnings measures indicated that total debt-servicing capacity is lower than the average for the past 14 years. Recently, the debt-servicing capacity of oil service companies has declined markedly. The debt-servicing capacity of these companies has not been this low since the early 2000s. Nevertheless, the level of the debt-servicing capacity of listed companies is overall well above the troughs in the early 2000s and during the financial crisis.

# Appendix

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## Main income statements items

Operating revenue

- Operating expenses
- = Earnings before interest, tax, depreciation, amortisation and impairment (EBITDA)
- Depreciation, amortisation and impairment
- = Earnings before interest and tax (EBIT)
- + Net financial items
- = Earnings before tax (EBT)

EBIT	Earnings Before Interest and Tax. Bloomberg's definition of EBIT is synonymous with operating profit, but in certain cases, some adjustments to operating profit have been made compared with the amounts disclosed in companies' financial statements.
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation. In practice, EBITDA often includes impairment charges. Bloomberg calculates this expression as EBIT plus depreciation, amortisation and impairment. Since depreciation, amortisation and impairment are ordinarily the three largest items that do not affect cash flow, EBITDA should probably be considered the equivalent of cash flow from operating activities. However, the need for new investment is not captured by EBITDA.
Depreciation, amortisation and impairment	Depreciation and amortisation are methods for accounting for the reduction in the value of a capital asset over time. Impairment is of a more extraordinary nature and represents more unforeseen declines in the value of assets. These expenses do not have an effect on cash flow. The variable downloaded from Bloomberg is defined as all depreciation and amortisation expenses classified as operating expenses. Bloomberg obtains this amount from companies' cash flow statements. Normally, impairment losses on tangible and intangible assets are also included, but these are not always captured. This may result in an underestimation of the total level of companies' impairment losses.
Net financial items	The net position of all income and expenses associated with companies' financial investments and obligations, i.e. the net position of all financial income and financial expenses. Typical financial items in consolidated financial statements are interest income and expense, changes in the value of marketable current assets, impairment losses on non-current and current financial assets, foreign exchange gains and losses and gains and losses on derivatives and on the sale of non-current and current financial assets. Since the data are only partially split up by type of financial item, the information base in this area is limited.

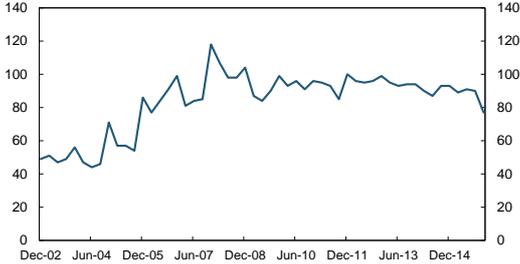
# Number of companies in the data set

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Chart A1: Number of companies in the data set per quarter, 2002 Q4 – 2015 Q4



Sources: Bloomberg and Norges Bank

At the time of publication, the data set for 2015 Q4 was not complete. Therefore, somewhat fewer companies are included in 2015 Q4 compared with the preceding quarters.