

## V Labour market and factor utilisation

According to the Statistics Iceland labour force survey (LFS), growth in total hours worked was somewhat stronger in Q1/2017 than was forecast in the February *Monetary Bulletin*. Unemployment continued to decline and is at its lowest level since early 2008. About one-fourth of firms still plan to recruit staff rather than downsizing, and the share of firms considering themselves short-staffed has remained steady at about 40% in the past year despite considerable importation of labour. According to figures from Statistics Iceland, productivity growth measured just over 4% in 2016, after having been below 1% per year for the preceding six years. This sudden increase could indicate an overestimation stemming from an underestimation of the increase in imported labour. Strong labour importation is expected to continue in the coming term, with potential output rising well above its long-term trend growth rate. In spite of this, the output gap continues to widen and is forecast to be wider than was projected in February.

### Labour market

#### Total hours worked rise rapidly and unemployment continues to decline

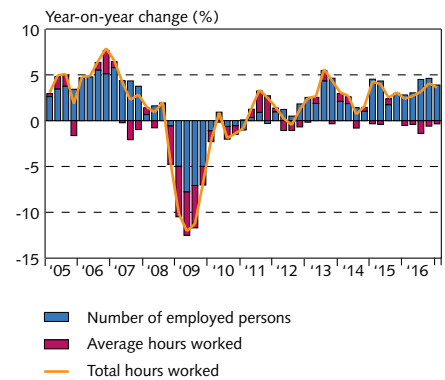
Total hours worked grew by 3% in 2016 and by 3.5% year-on-year in Q1/2017, or 0.2 percentage points more than was forecast in February (Chart V-1). Job creation remains strong, but the average work week grew shorter, as it did throughout 2016, with survey responses suggesting that some firms have chosen to cut down on expensive overtime in response to costly wage settlements. In Q1/2017, as in the previous quarter, the seasonally adjusted labour participation rate was 83.8%, which is equal to the pre-crisis peak, while the employment rate at 81.6% is still ½ a percentage point below the previous peak.

According to the LFS, unemployment fell by 0.4 percentage points between years in Q1/2017, to a seasonally adjusted rate of 2.7%, the lowest since the first half of 2008. Unemployment would probably have been still lower had it not been for the fishermen's strike, which put an estimated 1,300 fishing company employees on unemployment benefits for the duration of the strike (Chart V-2).<sup>1</sup>

#### Executives still expect a sizeable increase in staffing

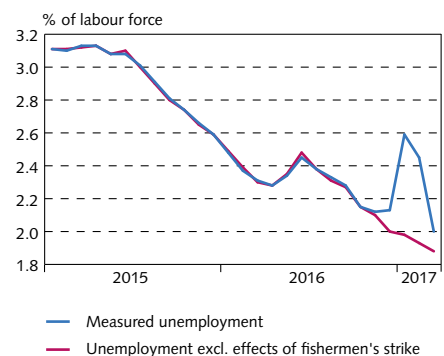
The outlook is for continued strong labour demand, even though Gallup's spring survey indicates that the share of firms planning to recruit rather than lay off staff has declined by over 5 percentage points, to 24%, after adjusting for seasonality (Chart V-3). The ratio therefore remains high, as it has been in the recent term, although the situation varies from one sector to another. The fishermen's strike appears to have exacerbated pessimism in the fishing industry, as firms planning to downsize outnumbered those planning to recruit by over 16 percentage points at the time the survey was taken (14 February-3

Chart V-1  
Employment and hours worked<sup>1</sup>  
Q1/2005 - Q1/2017



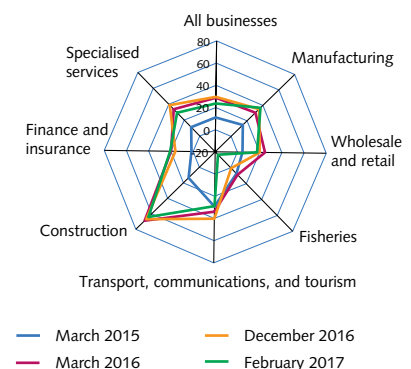
1. Quarterly averages of monthly figures.  
Source: Statistics Iceland.

Chart V-2  
Registered unemployment<sup>1</sup>  
January 2015 - March 2017



1. Seasonally adjusted figures.  
Sources: Directorate of Labour, Central Bank of Iceland.

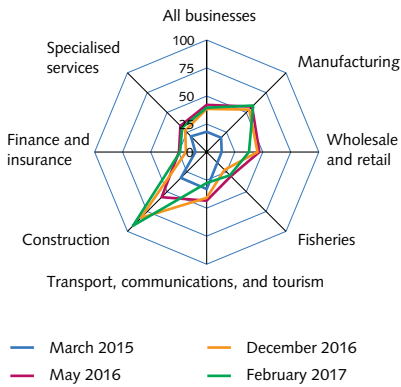
Chart V-3  
Firms planning recruitment net of firms planning redundancies within 6 months<sup>1</sup>  
Share of businesses (%)



1. Seasonally adjusted figures.  
Sources: Gallup, Central Bank of Iceland.

1. According to a report on the economic cost of the fishermen's strike, prepared for the Ministry of Industries and Innovation.

Chart V-4  
Firms considering themselves short-staffed<sup>1</sup>  
Share of businesses (%)



1. Seasonally adjusted figures.  
Sources: Gallup, Central Bank of Iceland.

March). Demand for construction workers is broadly at the high level seen in the past one-and-a-half years, with firms planning to recruit outnumbering those planning redundancies by 64 percentage points. In other sectors, the same ratio lay in the range of 18-37 percentage points.

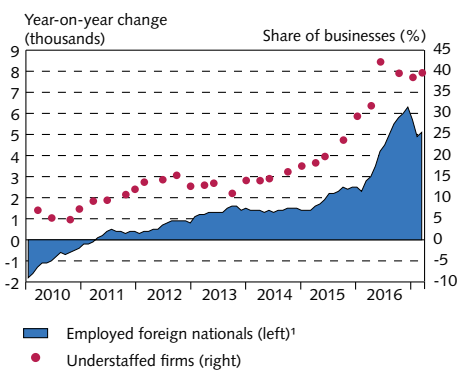
## Indicators of factor utilisation

### Strong and persistent labour shortage ...

According to Gallup's spring survey, the share of companies considering themselves understaffed was broadly similar to that in the winter survey, at about 40%, and broadly unchanged from the summer 2016 survey as well (Chart V-4). Since mid-2015, the shortage has been most pronounced in the construction industry, where nearly 93% of firms (adjusted for seasonality) had difficulty filling available positions in February, an increase of nearly 10 percentage points between surveys. This is the largest shortage measured in any sector in the history of Gallup's survey of Iceland's 400 largest firms.

Part of this shortage has been addressed with imported labour. According to estimates from pay-as-you-earn (PAYE) tax data, the number of foreign nationals working in the construction industry has risen by 124% since 2014, from 11% of the construction workforce to last year's total of 20%. In spite of this significant importation of labour, the number of construction companies considering themselves understaffed is still rising. A pronounced and protracted shortage of workers could to some degree reduce the sector's capacity to respond to increased demand. The number of tourism companies considering themselves short-staffed declined between surveys, however, and the number planning redundancies in the next six months increased. The number of foreign workers in tourism-related sectors has risen sharply, which could explain the decline in the number of firms considering themselves understaffed. However, the increase in planned redundancies could also indicate weaker tourist demand, owing to the appreciation of the króna in the past year.

Chart V-5  
Foreign labour and worker shortages  
January 2010 - February 2017



1. Estimate based on PAYE data.  
Sources: Gallup, Statistics Iceland.

### ... despite significant importation of labour

In recent years, net foreign migration has been positive in Iceland, and by a growing margin. Similar trends can be seen in figures on the estimated number of foreign nationals in the PAYE register and the Directorate of Labour's (DoL's) registry of temporary employment agencies, foreign service companies, and new work permits. The rise in the number of workers of foreign nationality began early in 2011 and then accelerated in 2016, in line with the growing shortage of labour (Chart V-5). In all, the number of workers in the PAYE register rose 4.7% in 2016, and some 60% of the increase was due to foreign nationals. This was the first time since 2010 that foreign nationals contributed more than Icelandic nationals to the increase in worker numbers. Most foreign nationals were employed in service sectors that have grown rapidly with the surge in tourism, although many were also employed in construction and retail and wholesale trade. This growing importation of labour can also be seen in increased activities among temporary

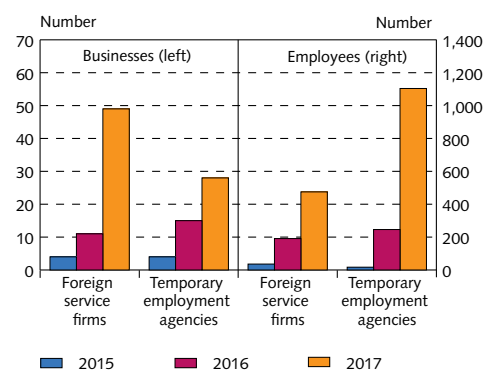
employment agencies and foreign service companies in Iceland. These firms and their employees have grown significantly in number since last year (Chart V-6). At the same time, new temporary work permits issued by the DoL for workers from outside EFTA and the EEA are on the rise.

### Signs of underestimation of total hours worked in official statistics

Foreign labour is probably underestimated in official figures, and this underestimation has likely been exacerbated in the recent past. The LFS sample extends only to individuals in the national registry and therefore with a registered legal address in Iceland, but part of the foreign labour force is only temporarily in Iceland and thus not listed in the national registry. Foreign nationals therefore show up with a time lag – or not at all – in the LFS. Another factor indicating that the foreign labour force is underestimated is last year's surge in productivity growth. As Chart V-7 shows, productivity growth measured 4.1%, which is far above the level in previous years and well in excess of the long-term trend growth rate. This spike in productivity growth in 2016 appears to be due to a surge in total factor productivity, while the capital stock per hour worked is still contracting, as it has done continuously since the onset of the financial crisis.<sup>2</sup> Although it is likely that total factor productivity has increased with improved utilisation of production factors – for instance, those relating to the tourism industry – it is unlikely that growth was as strong and rapid as these estimates imply. It is more probable that growth in total hours worked is underestimated because of the steep increase in foreign workers who reside in Iceland temporarily and are therefore not included in official registers (see also Chapter I).<sup>3</sup>

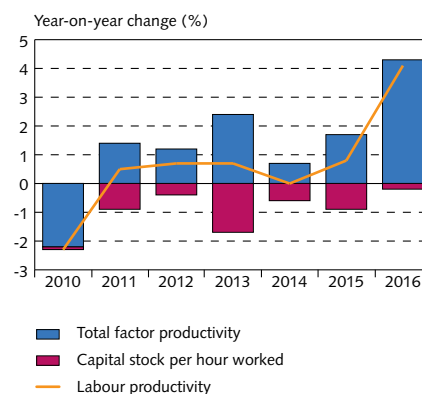
With reference to this, the baseline forecast assumes that the working-age population will rise somewhat faster than Statistics Iceland's population forecast implies.<sup>4</sup> The increase provided for in the baseline forecast is also larger than in the Bank's February forecast. In addition, the labour participation rate is also projected to rise. More rapid growth in the labour force increases the output capacity of the economy. Given the significant import of labour, increased labour participation, and reduced long-term unemployment, the equilibrium unemployment rate is estimated to be about ½ a percentage point lower in both 2016 and 2017 than was projected in February.

Chart V-6  
Temporary employment agencies and foreign service firms and their employees at end-Q1



Source: Directorate of Labour.

Chart V-7  
Labour productivity and its sub-components 2010-2016<sup>1</sup>



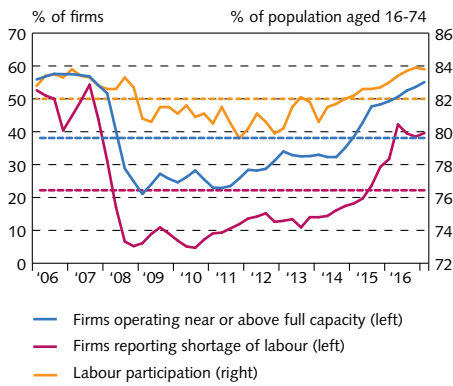
1. Labour productivity is given as GDP per total hours worked. Total factor productivity is given as the deviation of GDP from the output level obtained with full factor utilisation using the production function in the Bank's macroeconomic model.  
Sources: Statistics Iceland, Central Bank of Iceland.

2. Total factor productivity is the portion of increased output over and above the increase in inputs of capital and labour. It is estimated as the deviation in GDP from the output level obtained with the Cobb-Douglas production function in the Bank's macroeconomic model:  $A = Y/[N^\beta K^{1-\beta}]$ , where  $A$  is total factor productivity,  $Y$  is GDP,  $N$  is total hours worked,  $K$  is the capital stock, and  $\beta$  ( $\approx 0.6$ ) is the share of labour in total factor income. The contribution of total factor productivity and the capital stock to labour productivity can then be calculated as:  $Y/N = A(K/N)^{1-\beta}$ , where  $Y/N$  is labour productivity and  $K/N$  is the capital stock per hour worked.

3. As is discussed in Chapter VI, the overestimation of productivity growth can also stem from an overestimation of 2016 GDP growth, which could in turn be due to an underestimation of the rise in the GDP price deflator in Statistics Iceland's preliminary figures.

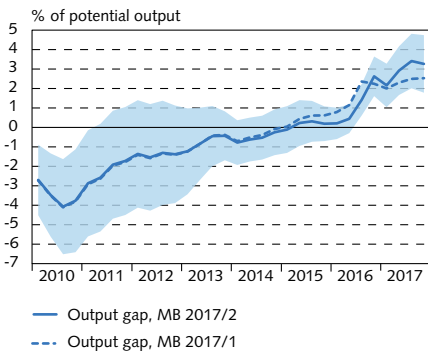
4. For the aforementioned reasons, it is not a given that official figures will show such a large increase in population. Population growth is probably underestimated in historical data as well.

Chart V-8  
Capacity utilisation and labour participation<sup>1</sup>  
Q1/2006 - Q1/2017



1. Indicators of factor utilisation are from the Gallup Sentiment Survey conducted among Iceland's 400 largest companies, and labour participation data are from Statistics Iceland's Labour Force Survey. All data are seasonally adjusted. Broken lines show period averages. Sources: Gallup, Statistics Iceland, Central Bank of Iceland.

Chart V-9  
Output gap<sup>1</sup>  
Q1/2010 - Q4/2017



1. Shaded area shows  $\pm 1$  five-year standard deviation. Central Bank baseline forecast 2017. Sources: Statistics Iceland, Central Bank of Iceland.

### Wider output gap in spite of increased capacity

A survey conducted among executives shows that firms are experiencing increased difficulty in responding to unexpected increases in demand. After adjusting for seasonality, the share of firms operating at or above full capacity is over 55%, only 2½ percentage points below the autumn 2006 peak (Chart V-8). A persistent shortage of labour and various indicators from the labour market also suggest a high rate of capacity utilisation. The output gap is therefore considered to have widened ever since it opened up in early 2015, in tandem with strong GDP growth (see also Chapter IV). On the other hand, it is assumed that total hours worked will rise more quickly because of an expanded labour force and a higher participation rate and that the equilibrium unemployment rate will fall further than previously projected. Even though it is assumed that potential output is growing more rapidly than was forecast in February, the outlook is also for a wider output gap than was projected then, or about 3.3% of potential output, some 0.7 percentage points more than was provided for in the February forecast (Chart V-9). As is discussed in Chapter I, this projection is subject to considerable uncertainty, as it is based to a degree on the interpretation of variables that are not directly observable.