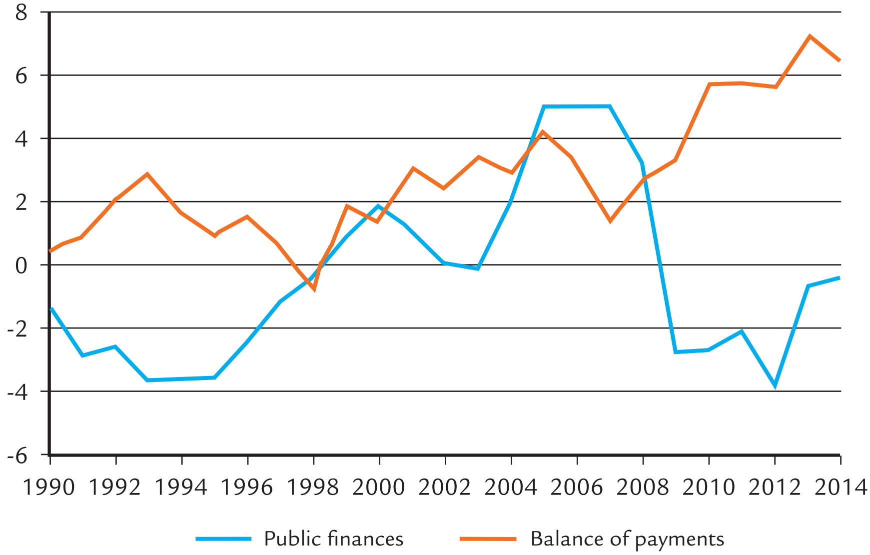
Figure 11.6 *Public finances and balance of payments in Denmark, 1990–2014 (%)*



Note: The figures for 2014 are Danske Bank estimates.

Source: Statistics Denmark, StatBank and Danske Bank, danskeanalyse.danskebank.dk

Denmark had a budget surplus in the period leading up to the financial crisis, due to high growth and low unemployment, which boosted tax revenues and reduced spending on unemployment benefits, etc.

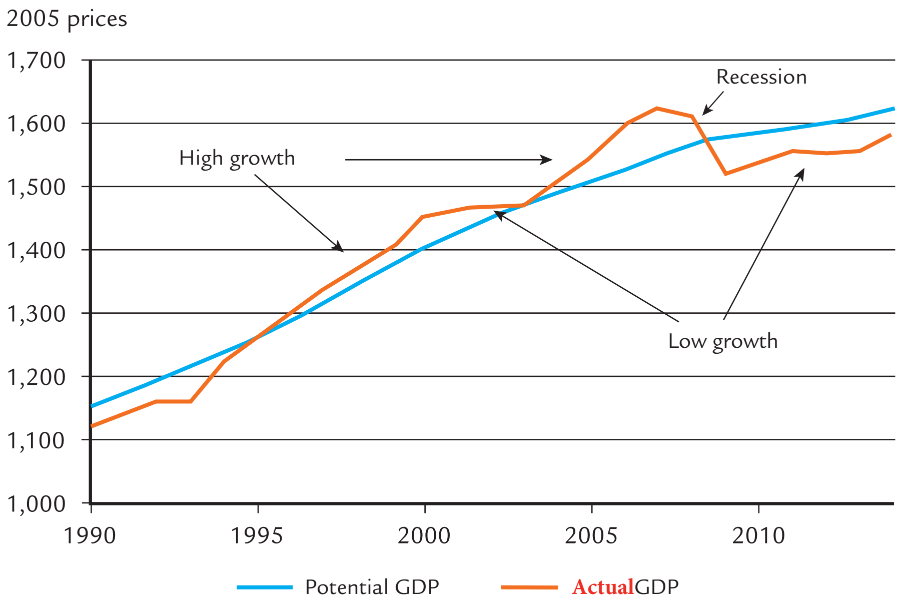
As growth fell, the fast-tracking of public-sector investment projects and tax cuts turned the surplus into a deficit of approx. 4% of GDP in 2012. This was greater than the EU's limit of 3% of GDP. In recent years, Denmark has again almost managed a balanced budget.

11.3 The economy, potential GDP, unemployment and inflation

As mentioned above, the first economic target is usually growth, measured as the year-on-year percentage change in gross domestic product (GDP).

Figure 11.7 shows GDP in Denmark (here, called **actual** GDP) from 1990 un-til 2014. Note that in some years, GDP increased substantially, e.g. in the late the 1990s and mid-2000s. In other words, growth was strong during these periods.

Figure 11.7 *Potential and* ***actual*** *GDP in Denmark 1990–2014 (2005 prices – DKK bil-lion)*



Source: OECD.StatExtracts

At other times, the increase in GDP was relatively small, e.g. at the start of the 1990s and in the first few years of the new Millennium. During these periods, growth was weak.

In rare cases, GDP falls year on year, as was the case from 2008 to 2009 in the wake of the financial crisis. During this period, growth was negative. This is also called a recession.

Figure 11.7 also shows what is referred to as **potential** GDP, which is neither an observable phenomenon nor a figure published by Statistics Denmark. However, the OECD[86] calculates the **potential** GDP for a large number of countries, including Denmark. Potential GDP shows what the situation would be had the economy been in equilibrium, i.e. neither in boom nor in recession.

Note that **actual** GDP was below **potential** GDP at the start of the 1990s. The situation then changed during this decade, and **actual** GDP remained higher

86 The OECD is an economic co-operation body for democratic countries with market economies. Based in Paris, it now has 30 members, mainly Western, industrialised nations.

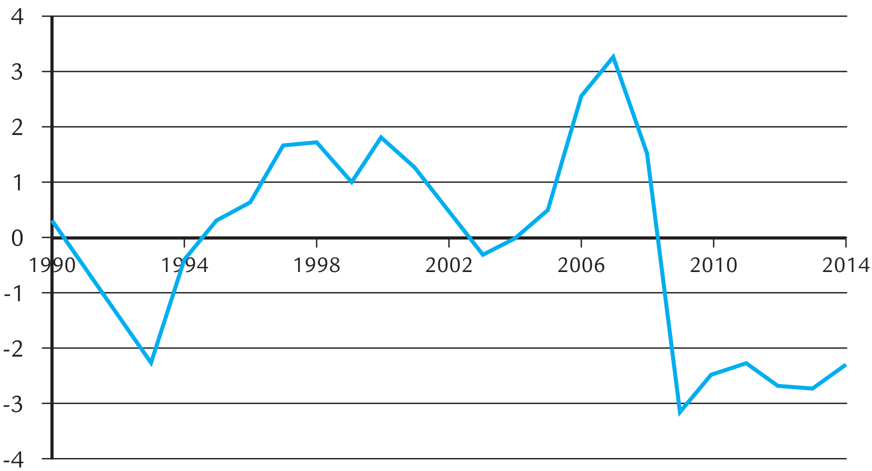
than **potential** GDP until the financial crisis hit Denmark in 2008. Since then, **actual** GDP has been lower than **potential** GDP.

11.3.1 Output gap

The difference between **actual** GDP and **potential** GDP is also called the out-put gap.

Figure 11.8 shows the output gap in Denmark from 1990 until 2014. Note that in years when **actual** GDP is greater than **potential** GDP, the output gap is positive. In years when **actual** GDP is less than **potential** GDP, the output gap is negative.

Figure 11.8 *Output gap in Denmark 1990–2014 (%)*



Note: 2014 is an estimate.

Source: Ministry of the Economy and Interior

The figure shows that the output gap fluctuates around zero. This cor-responds to **actual** GDP in Figure 11.7 revolving around the nominal GDP, which can therefore be considered the economy's long-term equilibrium or pivot point.

In economic theory, the short term is defined as the period in which prices and wages are fixed, e.g. by collective bargaining agreements. Note that in the short term, **actual** GDP may well deviate from **potential** GDP. The output gap is positive when growth is high and negative when growth is low.

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However, it is assumed that, in the long term, prices and wages will adapt to supply and demand, and that **actual** GDP will correspond with **potential** GDP. In other words, the long-term output gap is zero.

11.3.2 The effect on public finances

The state of the economy also has implications for public finances, because fluctuations have an effect on income (tax revenues, etc.) and on public spending.

During a period of low economic growth, household and corporate earnings are lower than "normal" and tax revenues fall. However, as seen above, lower growth also means higher unemployment and higher public spending on unemployment benefits, etc. Both of these factors (lower tax revenue and higher public spending) have a detrimental effect on public finances.

Conversely, high growth leads to higher tax revenue and lower public spending on benefits. When growth is strong, the public finances automatically improve.

Danish unemployment benefit is generous by international standards. Tax on the last earned krone, also called the marginal tax rate, is higher in Denmark than in most other countries. As a consequence, prevailing economic trends have a particularly profound effect on Danish public finances.

11.3.3 Okun's Law

Decades ago, the economist Arthur Okun[87] identified a correlation – Okun's Law – which says that growth determines unemployment. The higher the growth, the lower the unemployment. Figure 11.9 shows Okun's Law for Denmark, 1967–2013.

87 Okun served as an adviser to President Kennedy in the USA.