

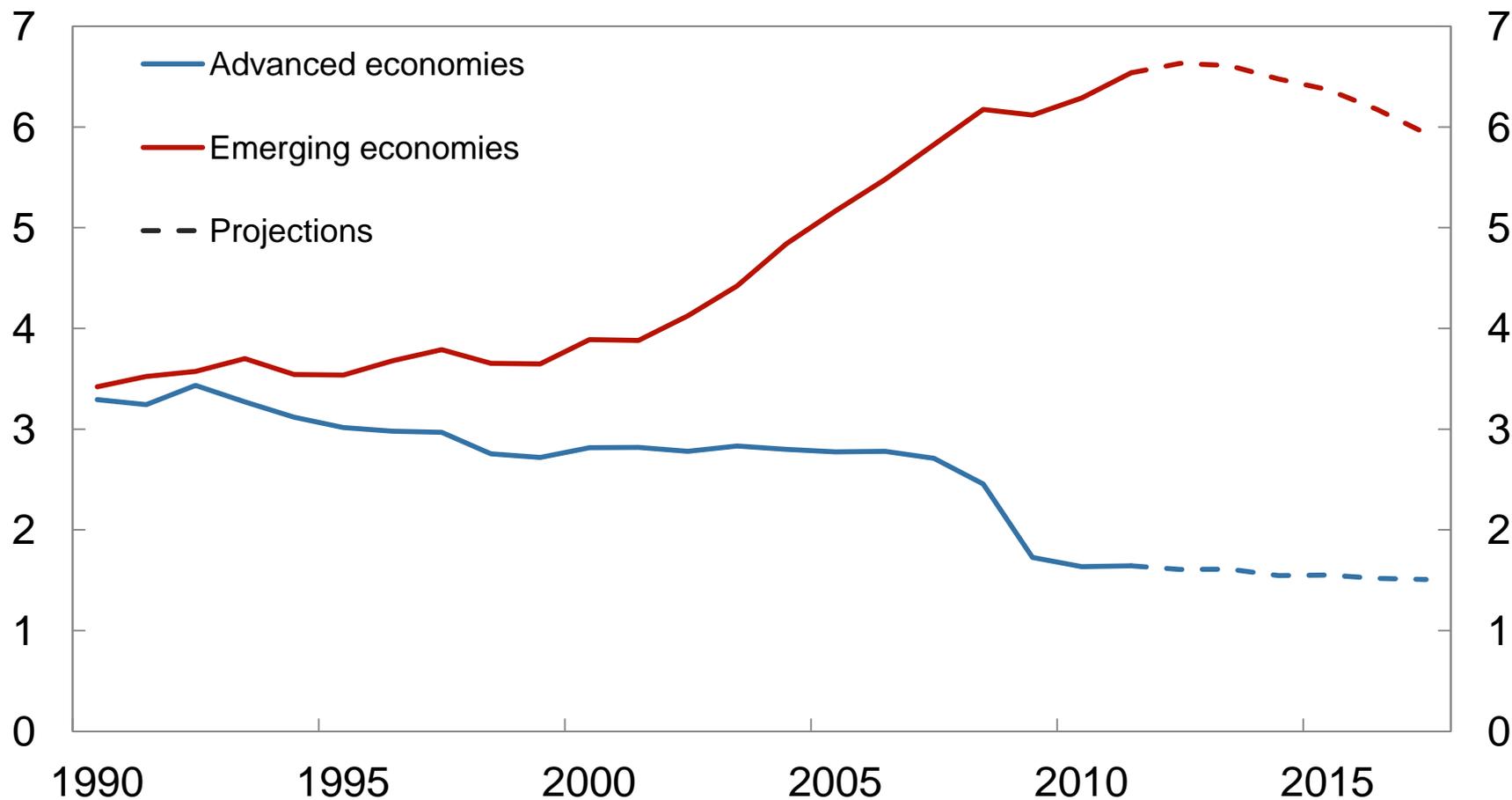
Monetary policy in turbulent times

Governor Øystein Olsen

CME, 20 September 2012

GDP growth

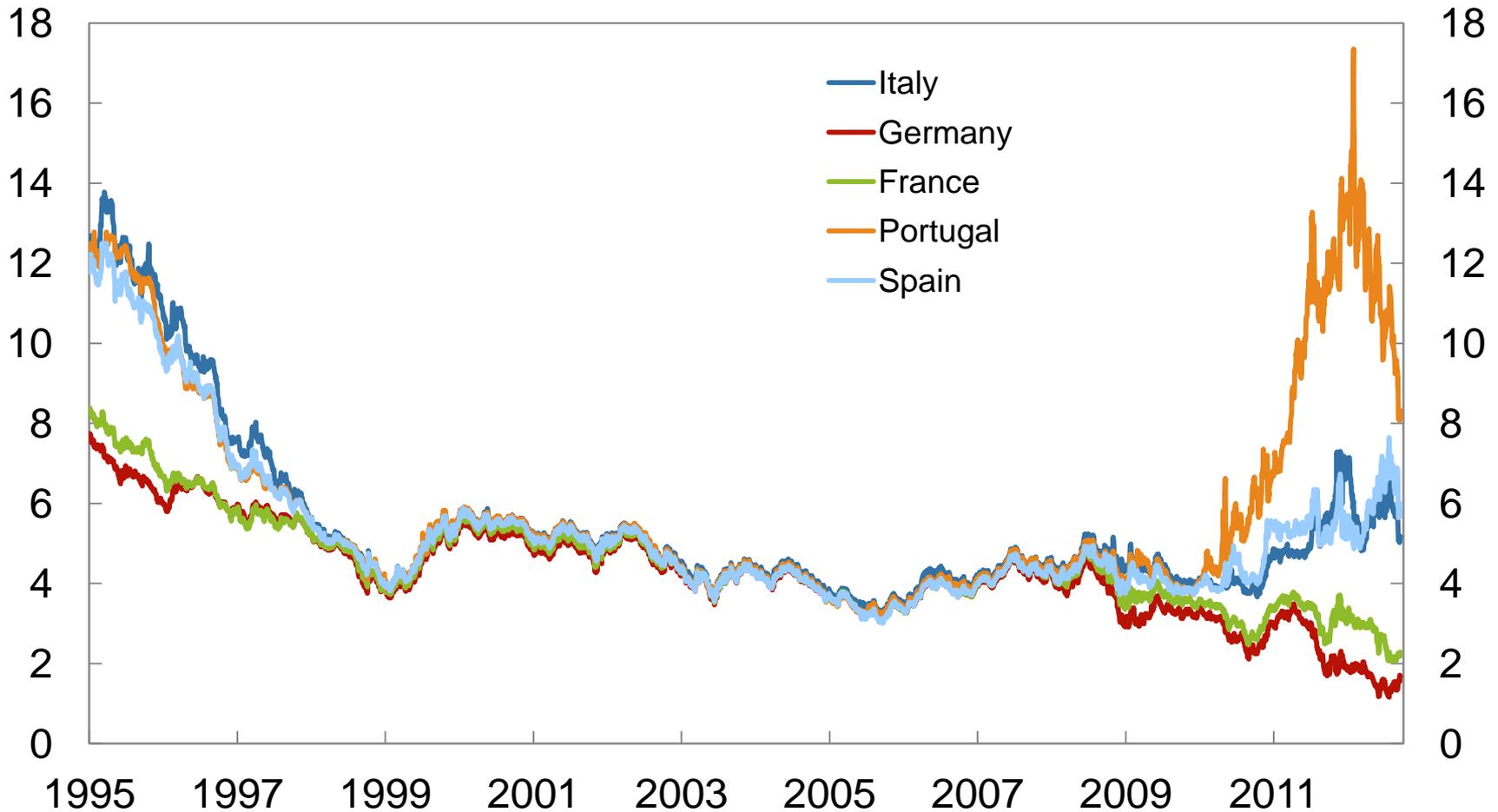
10-year moving average of annual GDP growth¹⁾. Percent



1) IMF projections for 2012-2017

Source: Statistics Norway and IMF WEO April

Yields on 10-year government bonds



Source: Thomson Reuters

Central bank balance sheets – stylised

Assets	Liabilities
Foreign exchange reserves	Deposits from banks (central bank reserves)
Lending to banks/ traditional supply of liquidity	

Central bank balance sheets – government bond purchases

Assets	Liabilities
Foreign exchange reserves	Deposits from banks (central bank reserves)
Lending to banks/traditional supply	
Government bond purchases	

Central bank balance sheets – private sector bond purchases

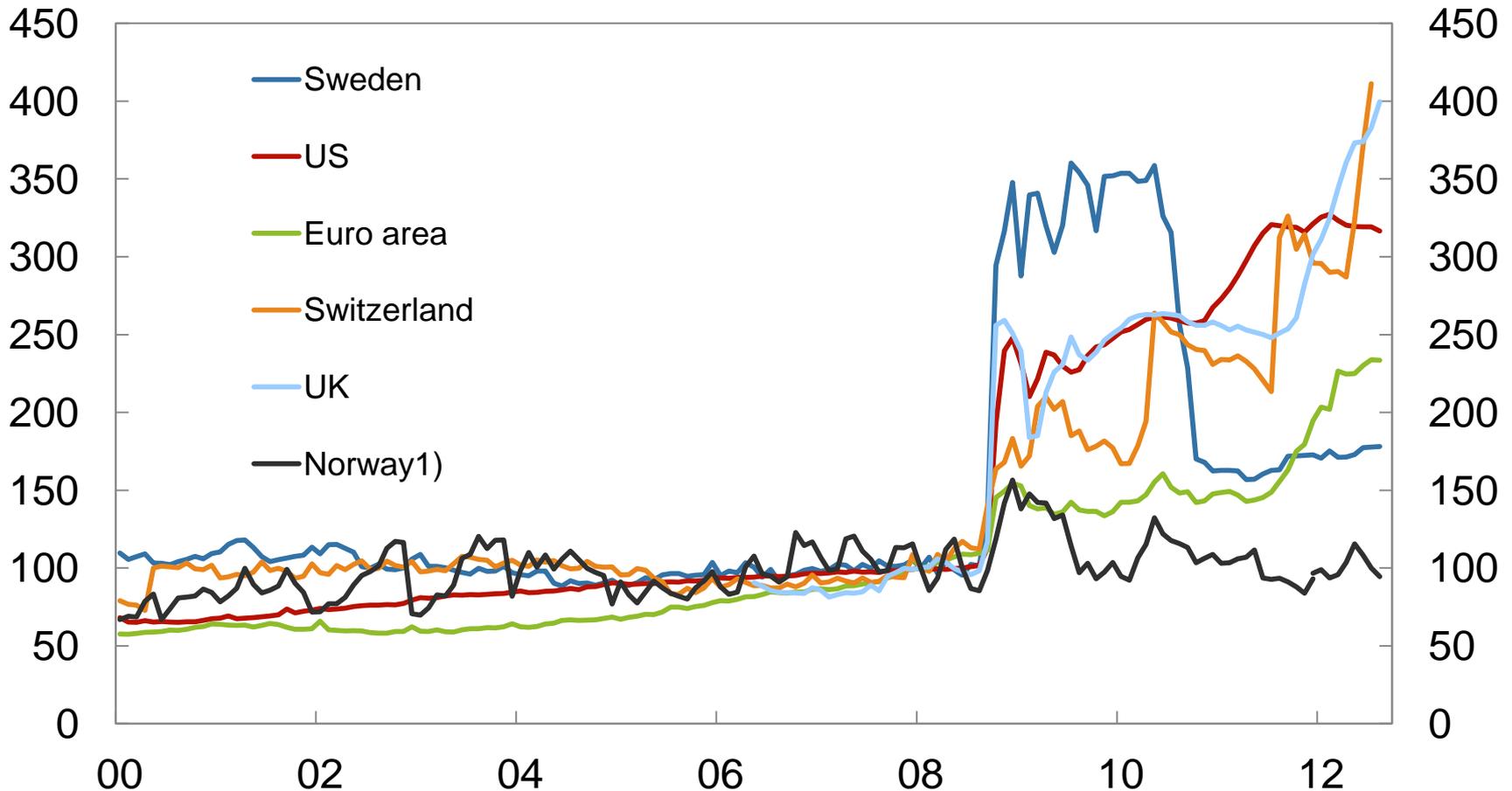
Assets	Liabilities
Foreign exchange reserves	Deposits from banks (central bank reserves)
Lending to banks/traditional supply	
Private sector bond purchases	

Central bank balance sheets – foreign exchange purchases

Assets	Liabilities
Foreign exchange reserves	Deposits from banks (central bank reserves)
Extra foreign exchange reserves	
Lending to banks/traditional supply	

Central bank balance sheets

Index. January 2008 = 100. January 2000 – August 2012

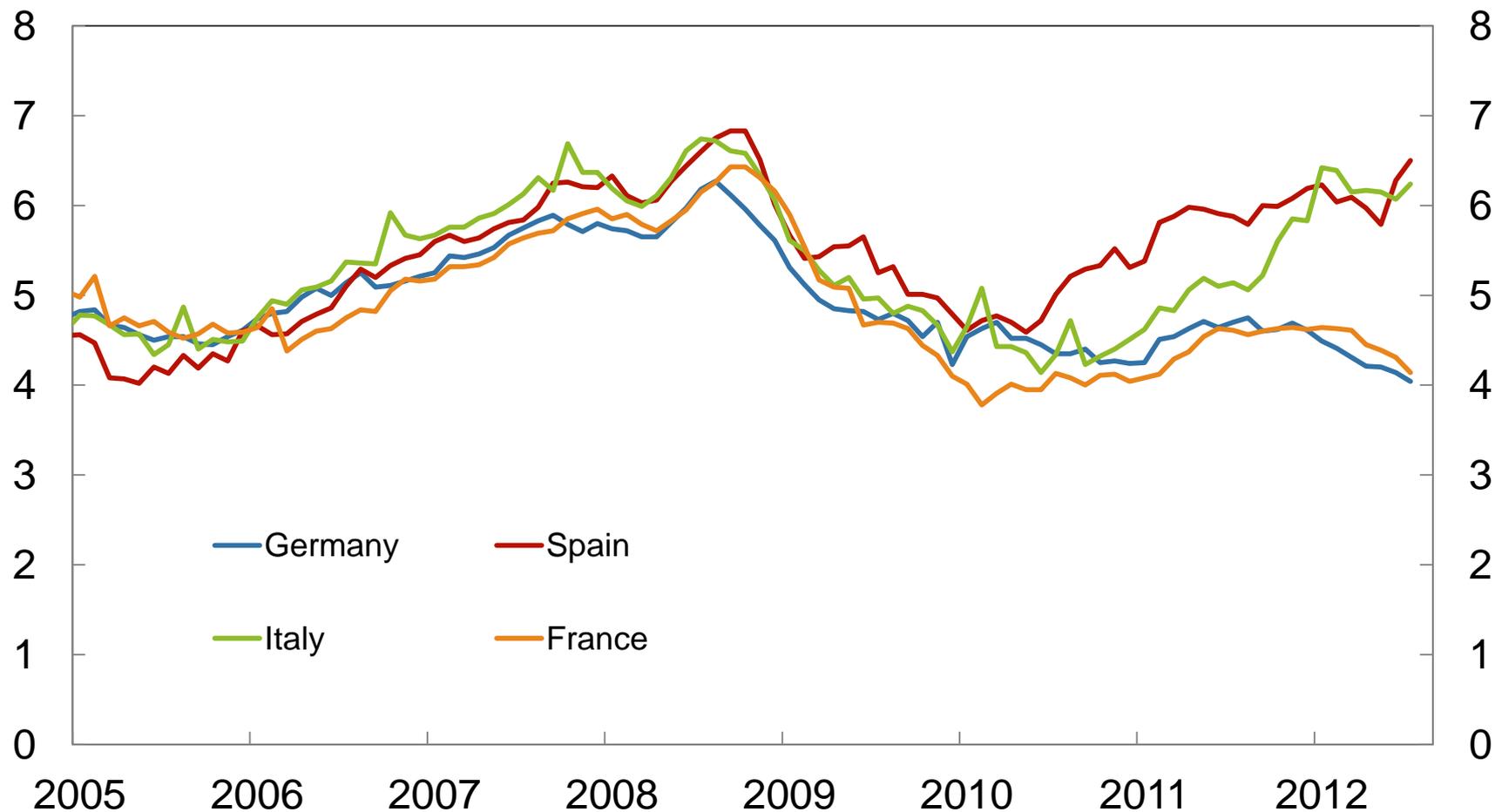


¹⁾Sum of assets excluding Government Pension Fund Global investments.
Break due to new method of calculation as from December 2011

Sources: Thomson Reuters and Norges Bank

Corporate borrowing rates¹⁾

Percent

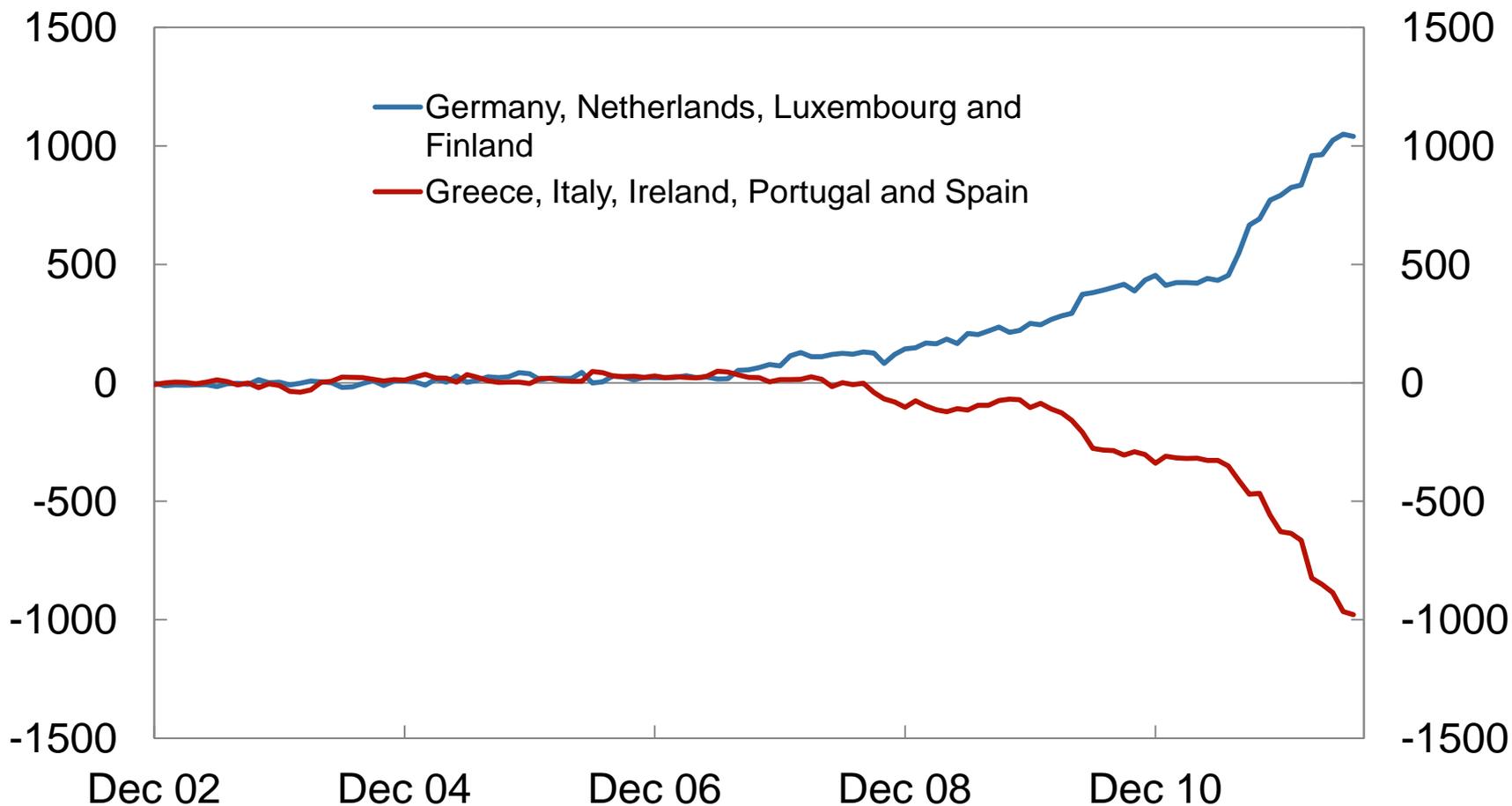


¹⁾ Up to EUR 1m, maturity between 1 and 5 years.

Source: ECB

TARGET2 balances

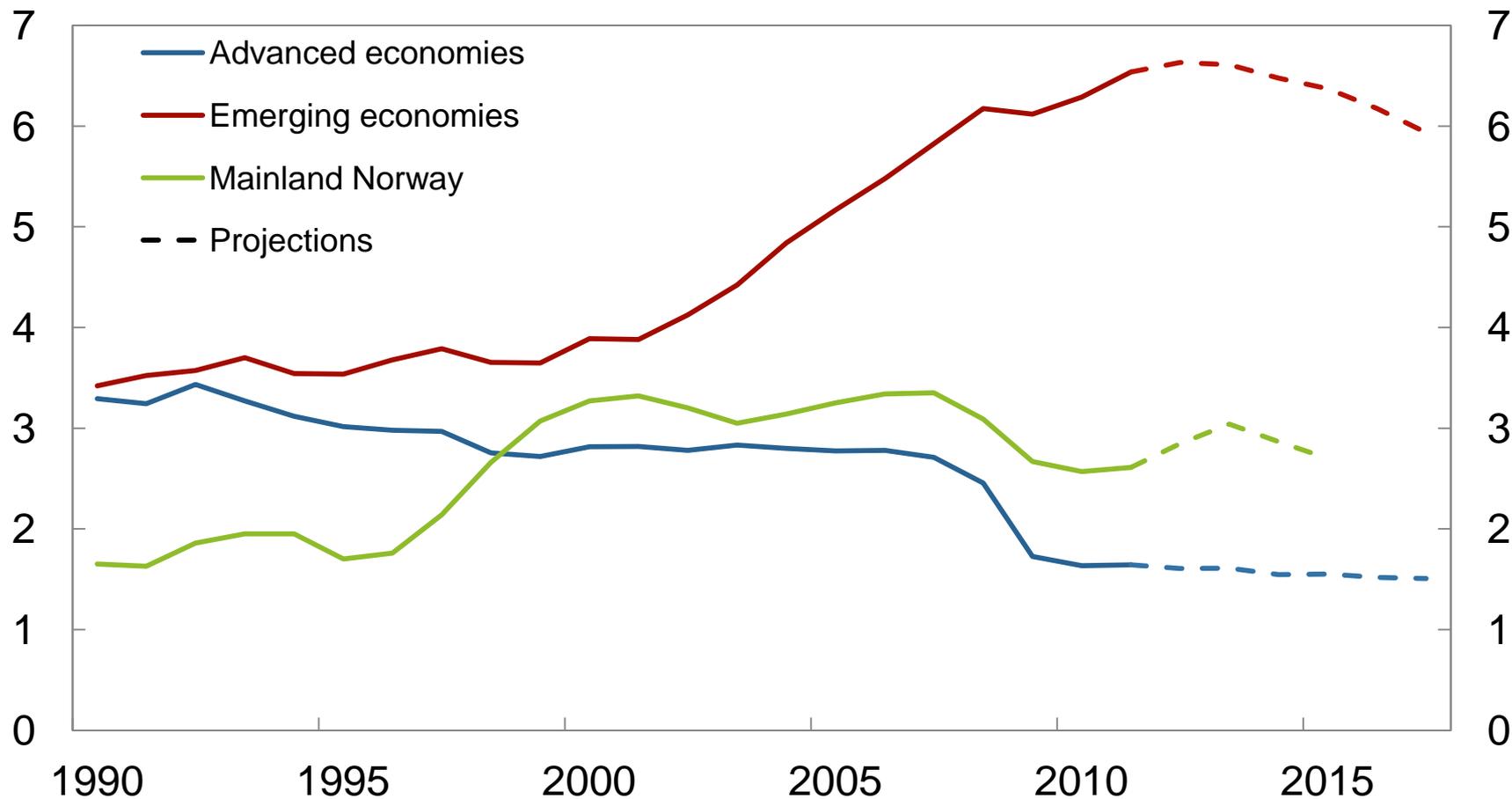
In billions of EUR



Source: Institute of Empirical Research

GDP growth

10-year moving average of annual GDP growth¹⁾. Percent



1) IMF projections for advanced and emerging economies

Sources: Statistics Norway, Norges Bank and IMF WEO April 2012

Criteria for an appropriate interest rate path

1. The inflation target is achieved
2. The inflation targeting regime is flexible
3. Monetary policy is robust

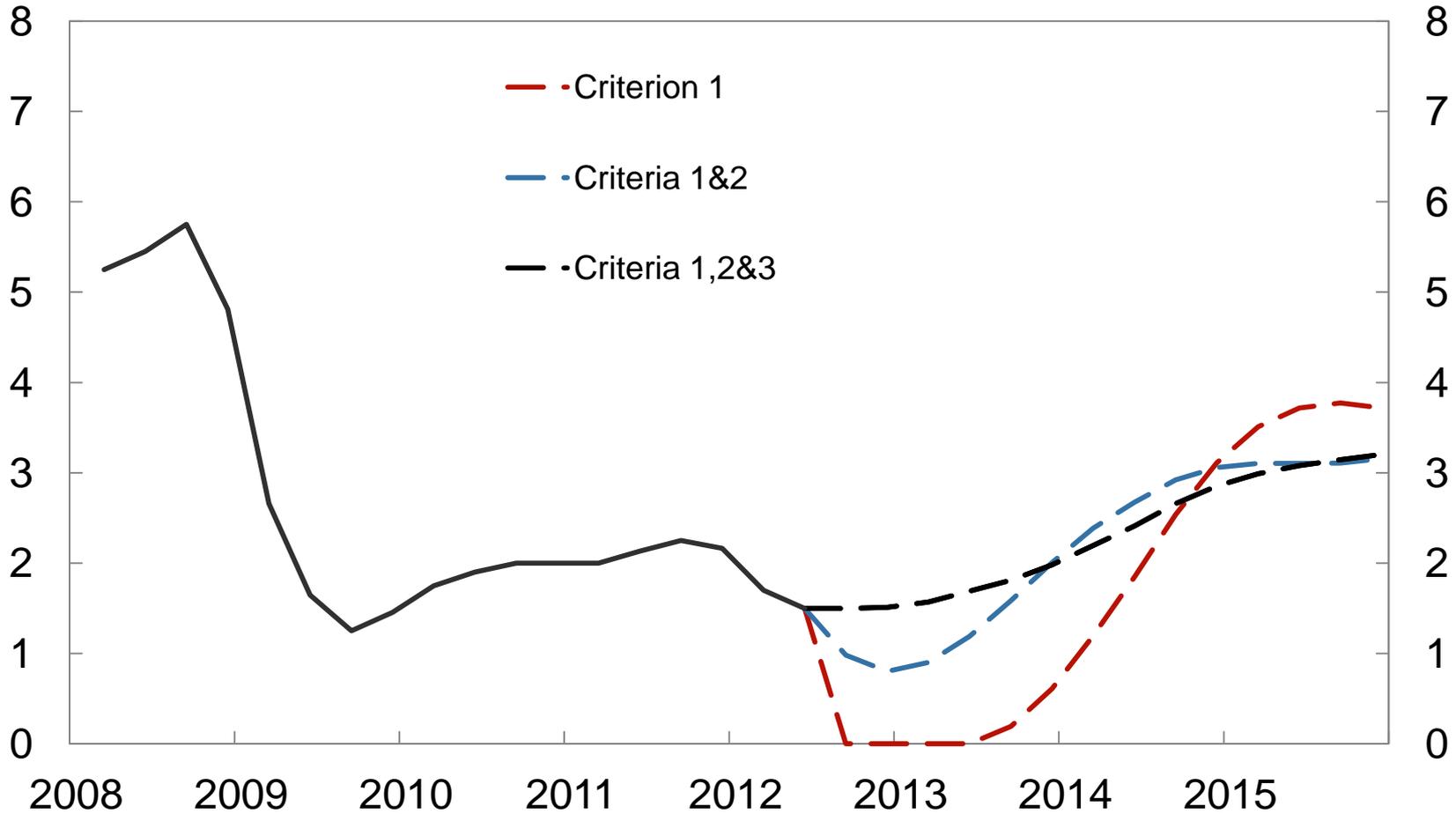
“Loss function”:

$$L_t = (\pi_t - \pi^*)^2 + \lambda(y_t - y_t^*)^2 + \gamma(i_t - i_{t-1})^2 + \tau(i_t - i_t^*)^2$$

The diagram consists of three horizontal brackets with vertical lines pointing to the corresponding terms in the loss function equation above. The first bracket, labeled 'Criterion 1', spans the inflation term $(\pi_t - \pi^*)^2$. The second bracket, labeled 'Criterion 2', spans the output gap term $\lambda(y_t - y_t^*)^2$. The third bracket, labeled 'Criterion 3', spans the interest rate change term $\gamma(i_t - i_{t-1})^2$ and the interest rate level term $\tau(i_t - i_t^*)^2$.

Key policy rate

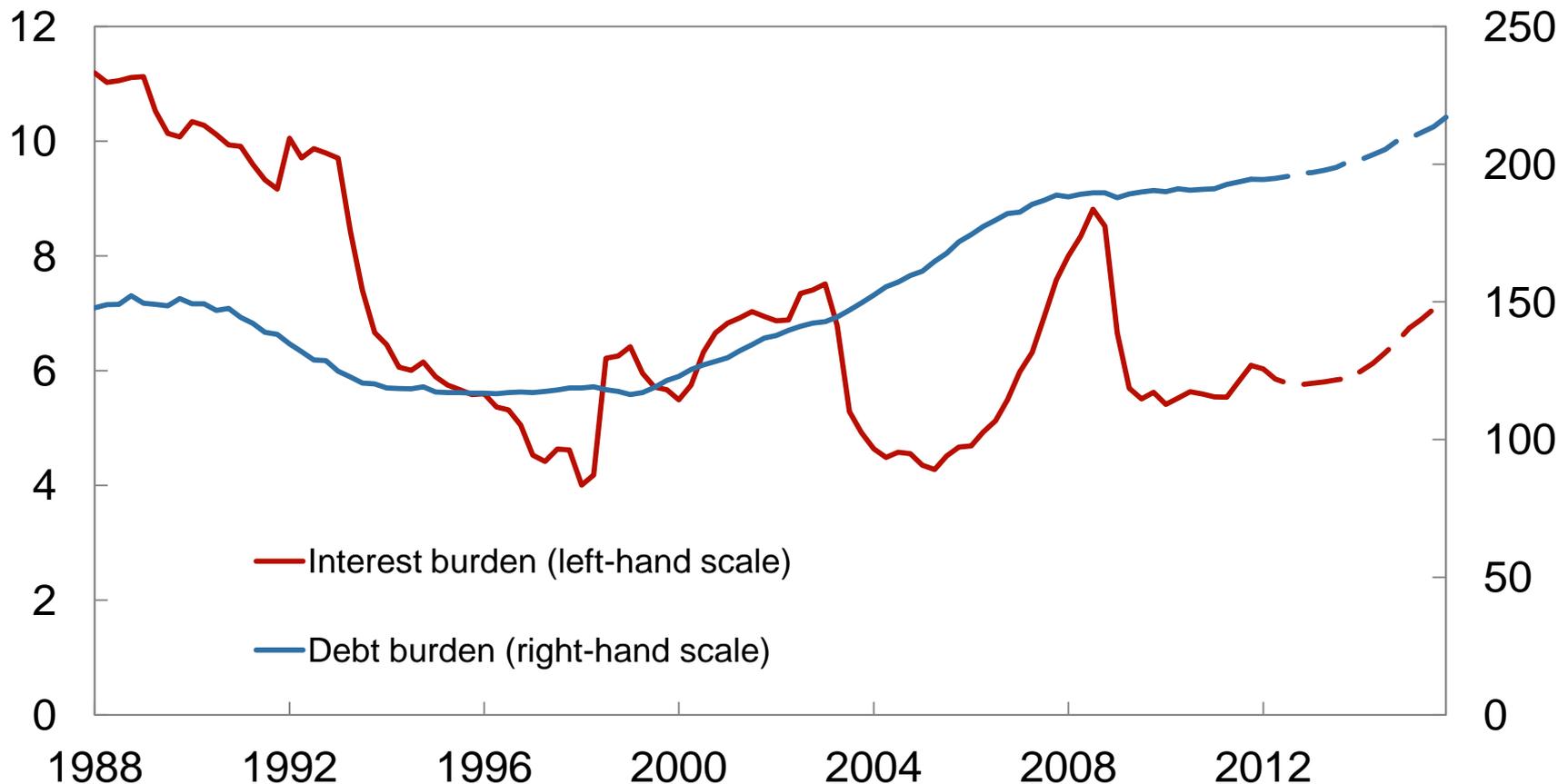
Percent. 2008 Q1 – 2015 Q4



Source: Norges Bank

Household debt burden¹⁾ and interest burden²⁾

Percent. 1988 Q1 – 2015 Q4



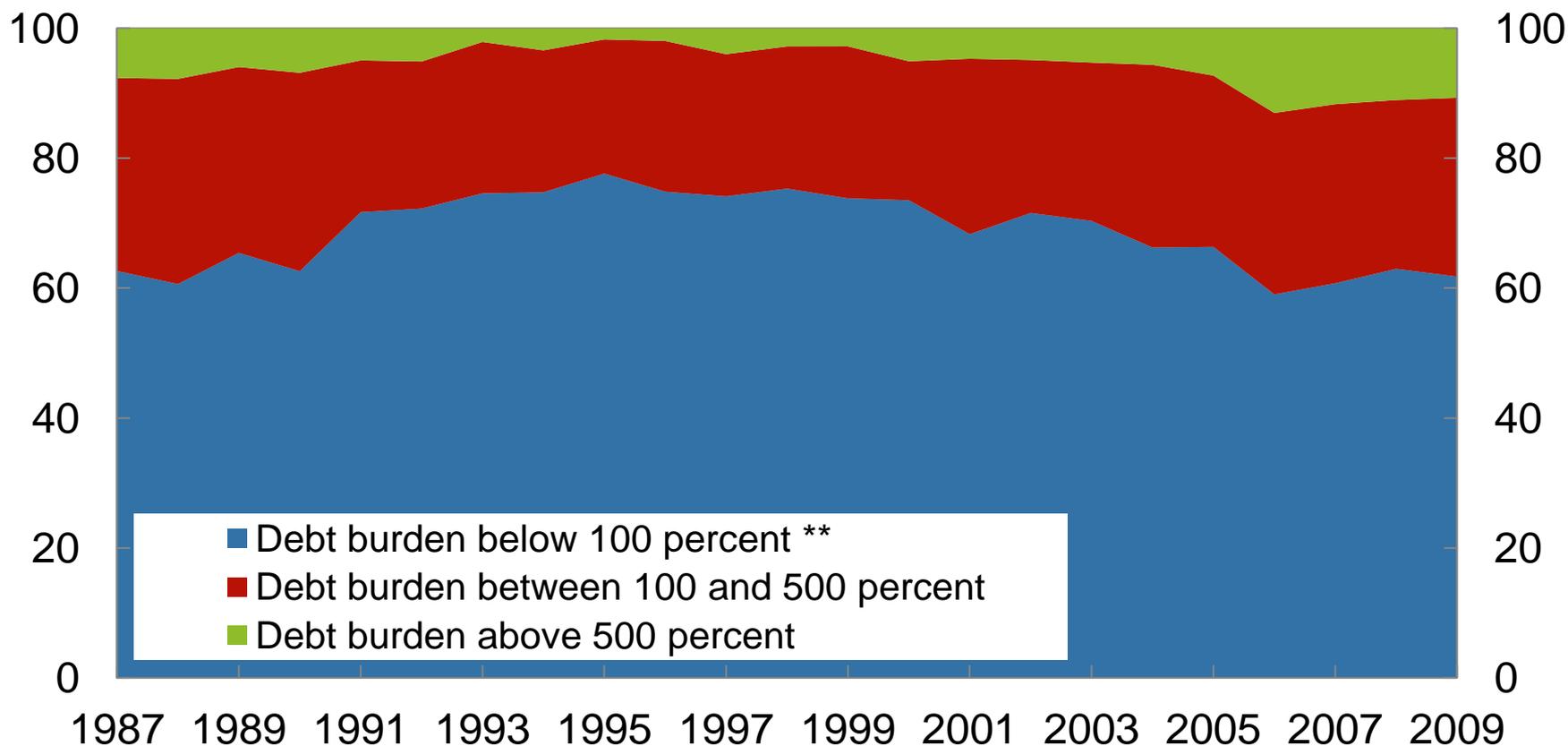
1) Loan debt as a percentage of disposable income adjusted for estimated reinvested dividends for 2000–2005 and redemption/reduction of equity capital for 2006–2015

2) Interest expenses after tax as a percentage of disposable income adjusted for estimated reinvested dividends for 2000–2005 and redemption/reduction of equity capital for 2006–2015 plus interest expenses

Sources: Statistics Norway and Norges Bank

Household financial wealth* by debt burden

Percent. Annual figures. 1987 – 2009



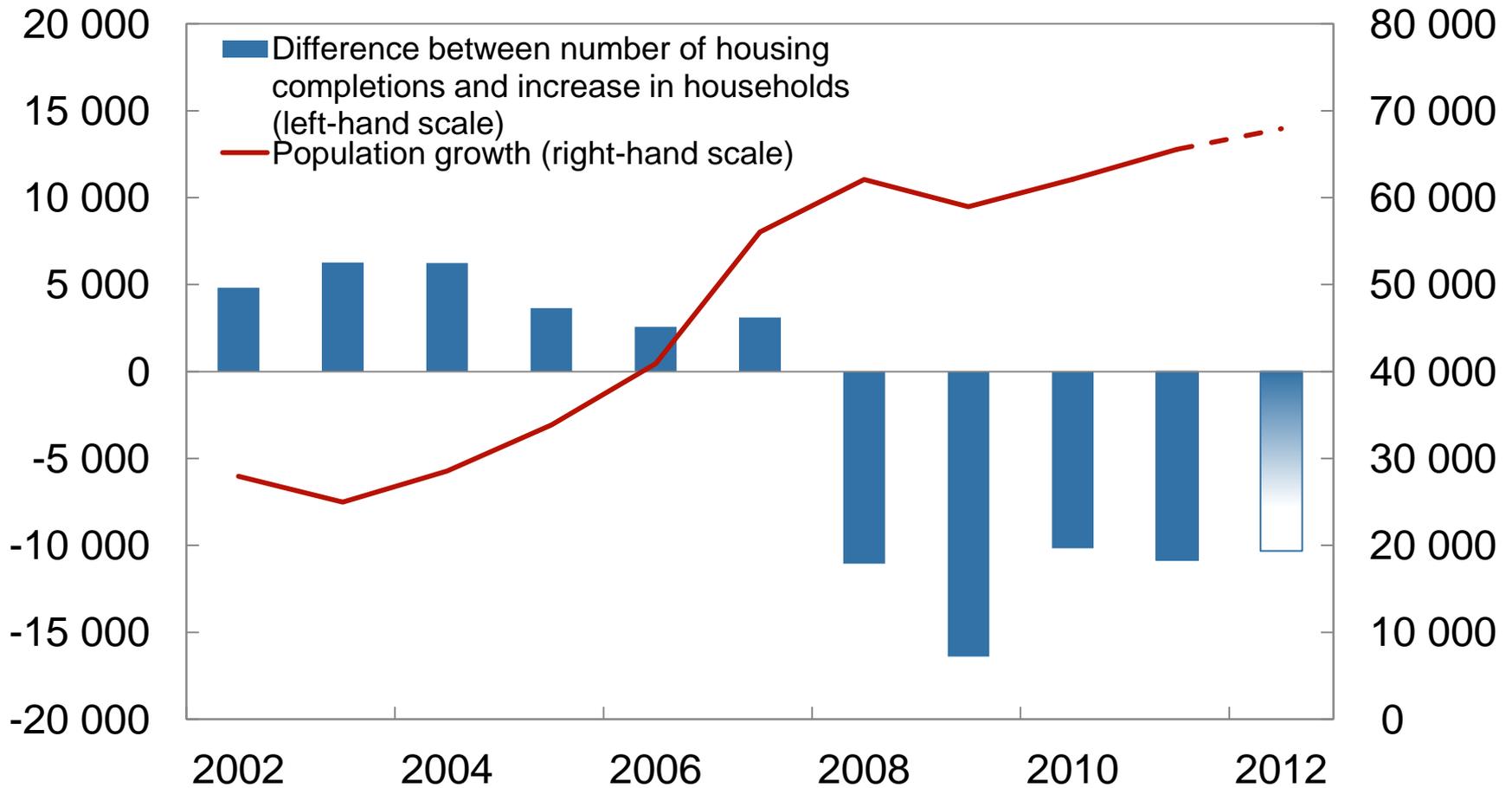
* From tax assessments, excluding insurance reserves

** Including households with no debt and/or no income

Source: Norges Bank and Statistics Norway

High population growth and low residential construction rate

Yearly figures¹⁾

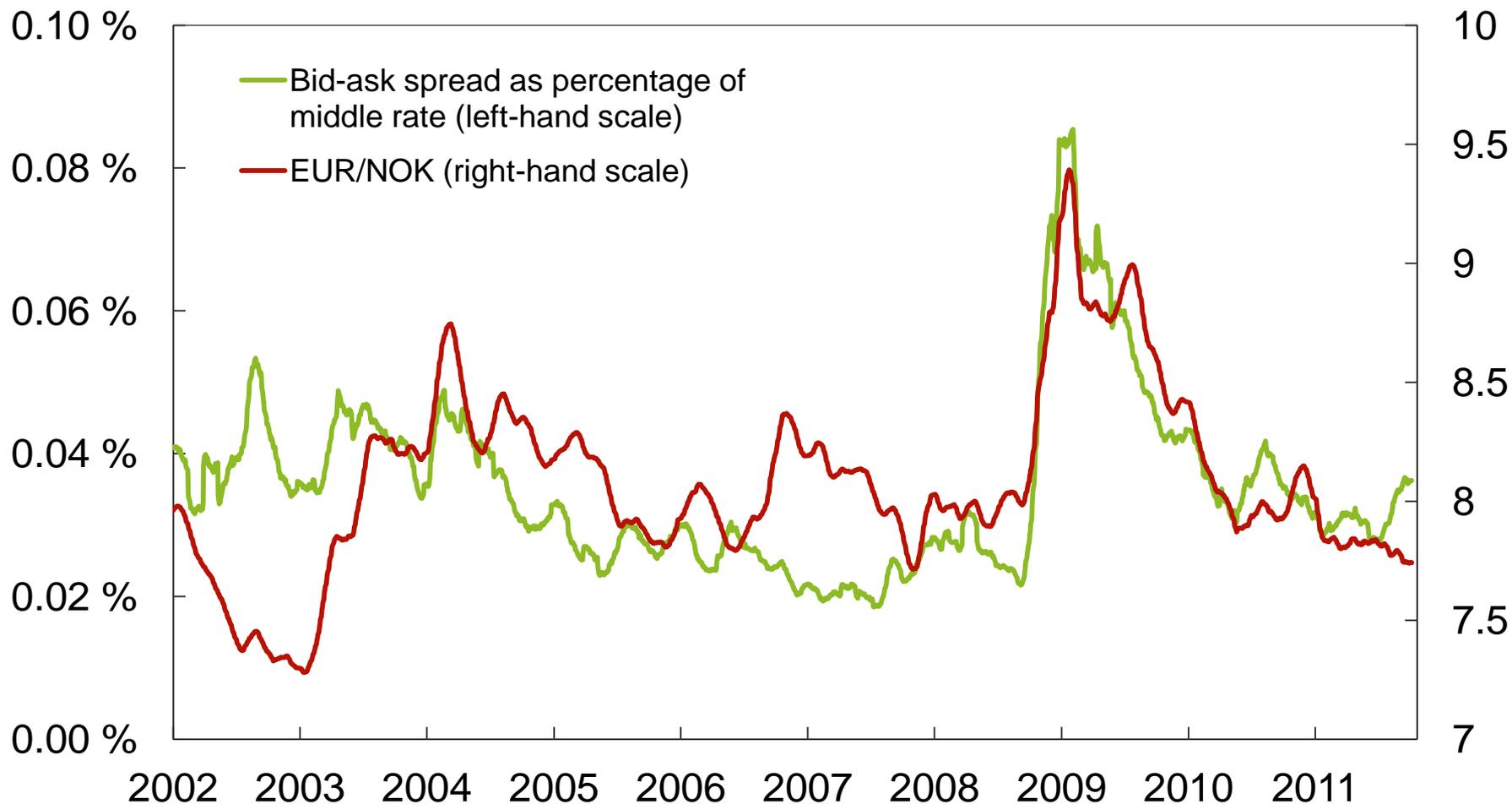


1) Projections for 2012

Source: Statistics Norway

Liquidity and EUR/NOK exchange rate

2 January 2002 – 5 October 2011



Sources: Thomson Reuters and Norges Bank

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