

Monetary Economics: Chapter 11

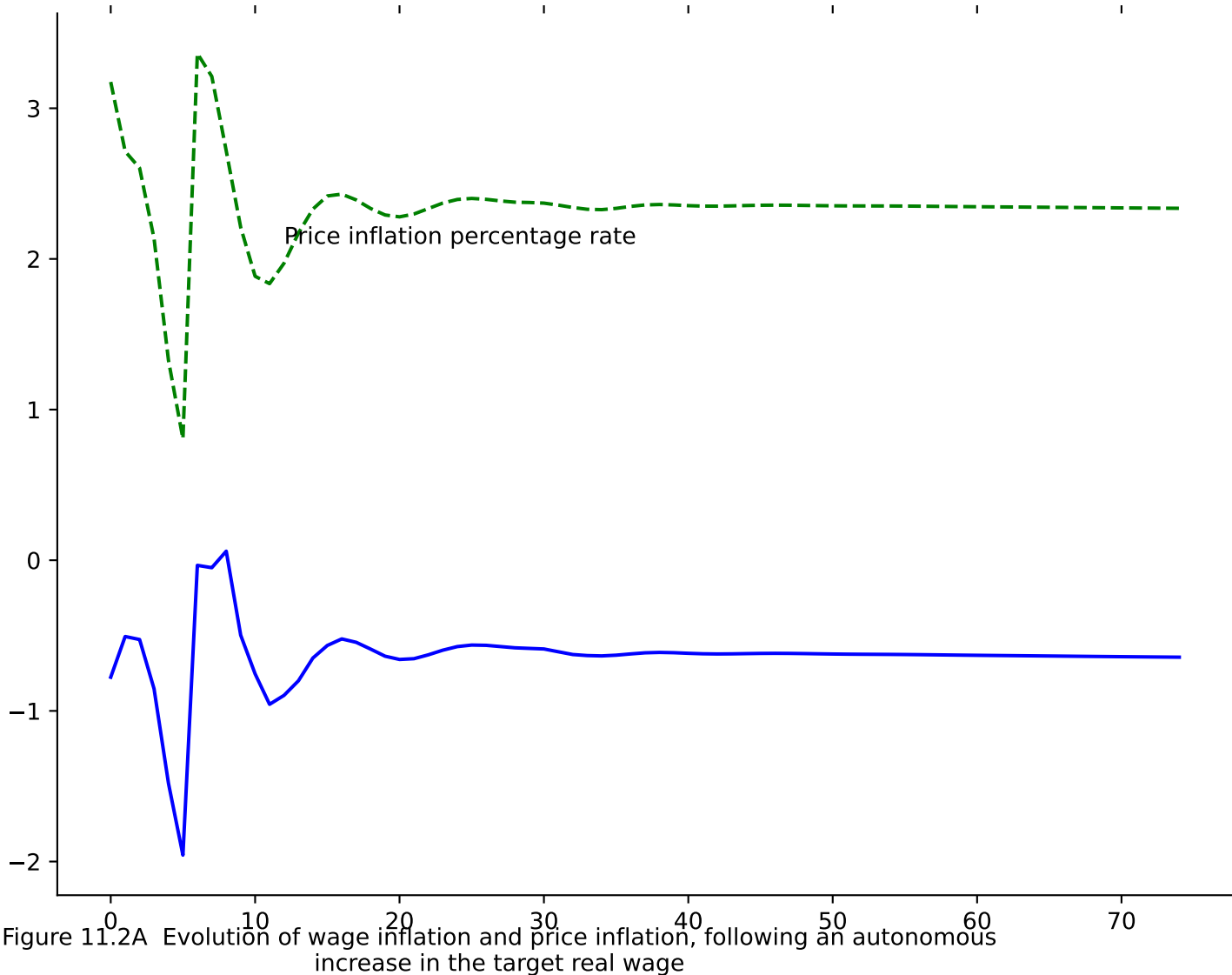
Model GROWTH: Simulation Figures

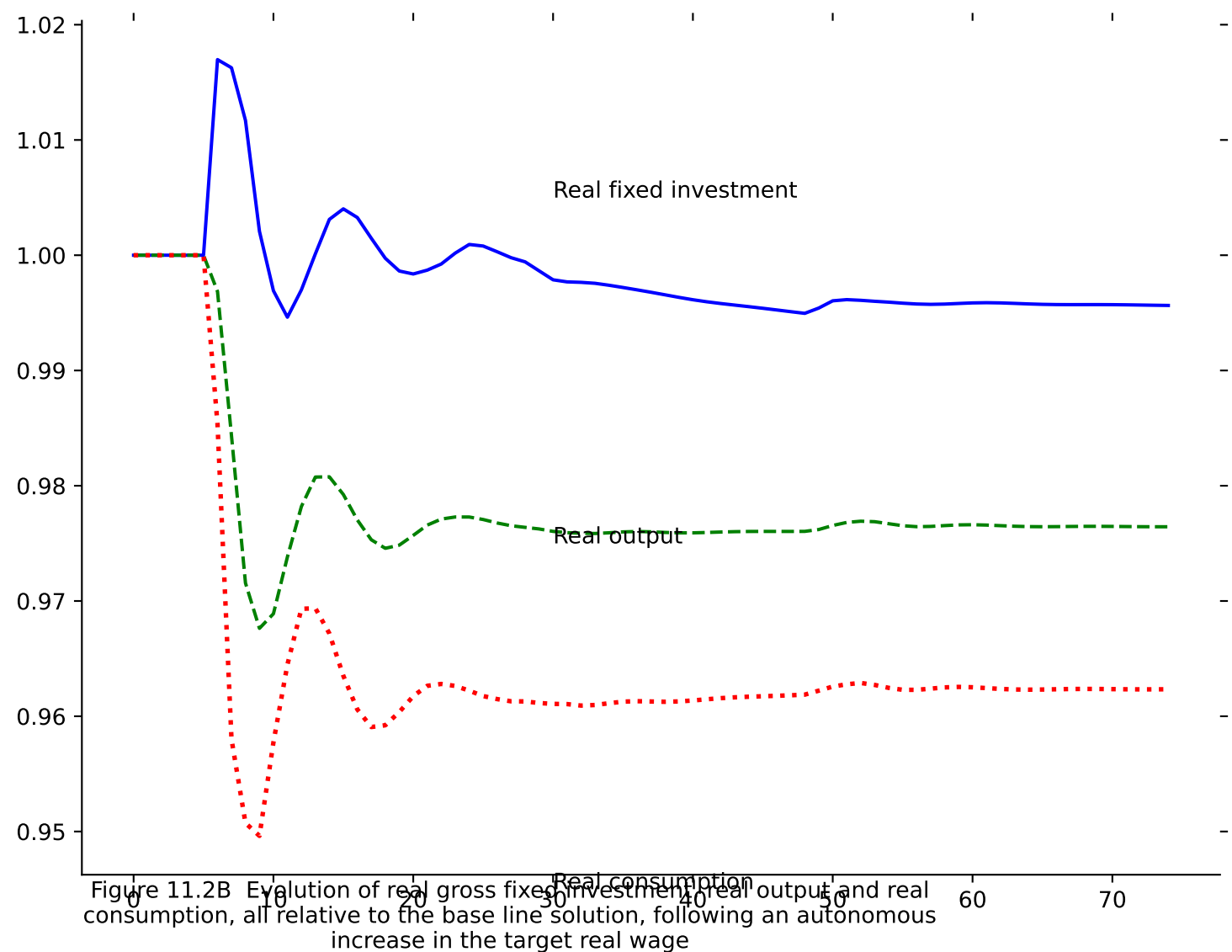
This document contains figures from running simulations of the GROWTH model described in Chapter 11 of the Monetary Economics textbook.

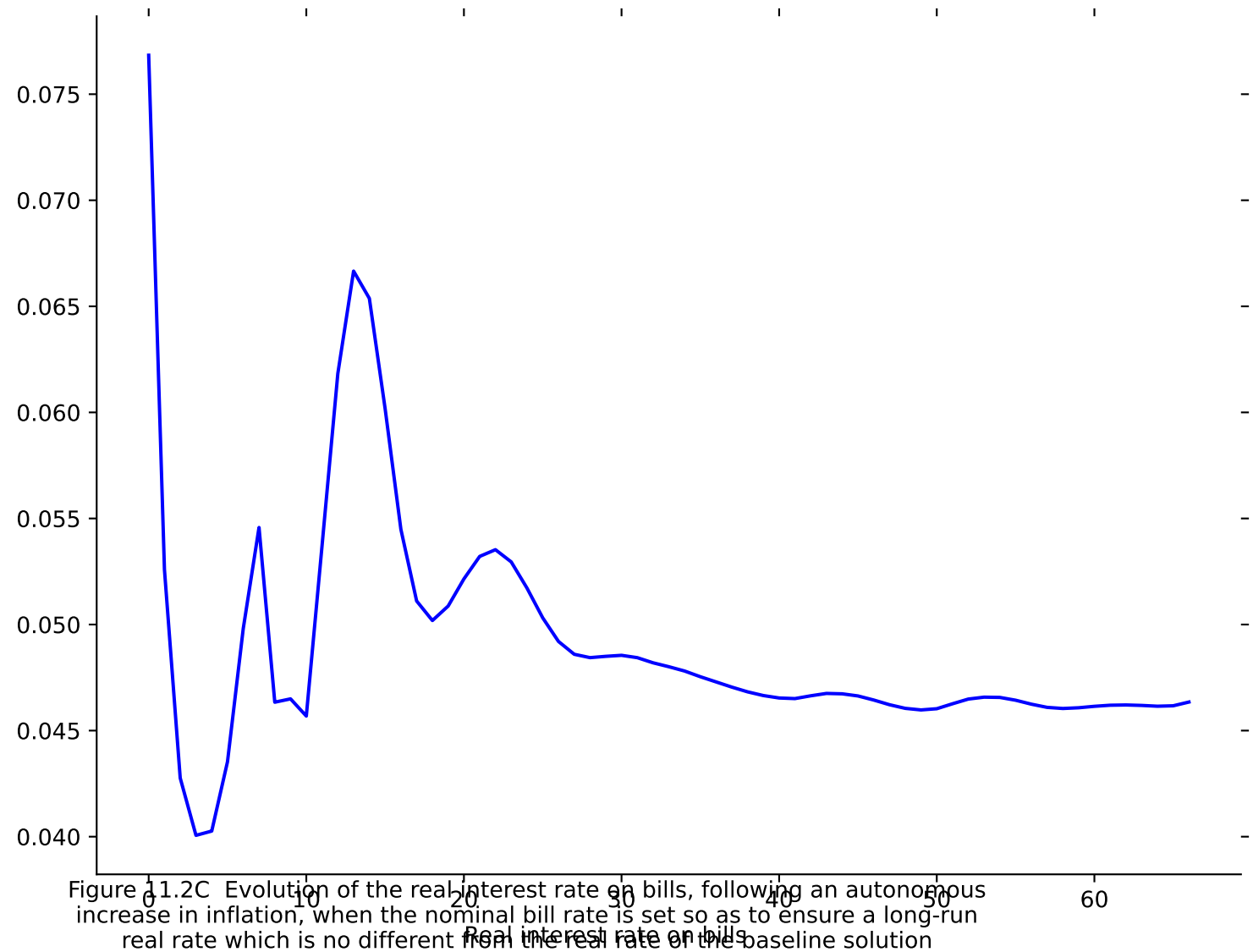
The model examines how changes in various economic parameters affect key economic variables.

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Wage inflation percentage rate







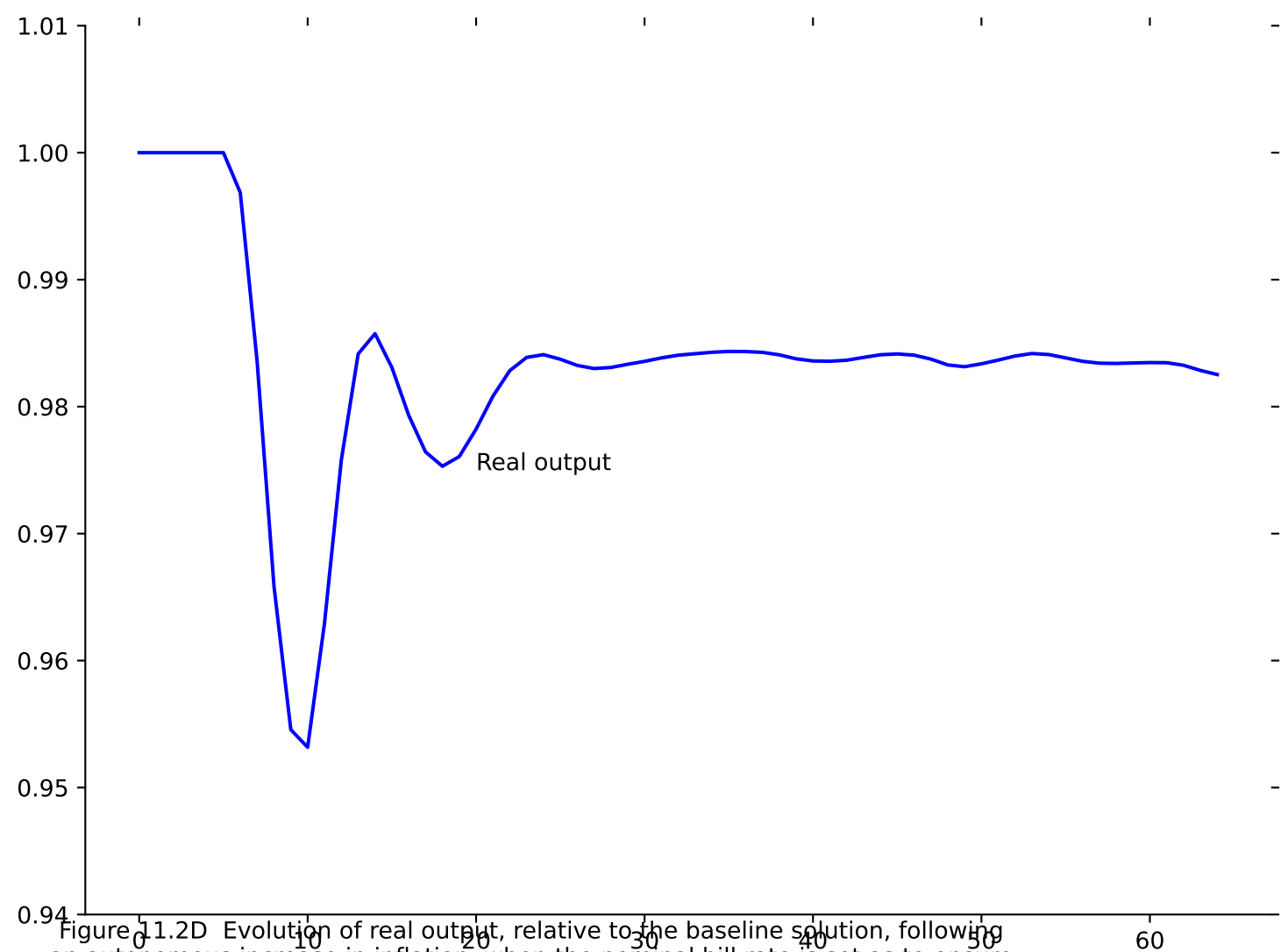


Figure 11.2D Evolution of real output, relative to the baseline solution, following an autonomous increase in inflation, when the nominal bill rate is set as to ensure a long-run real rate which is no different from the real rate of the baseline solution

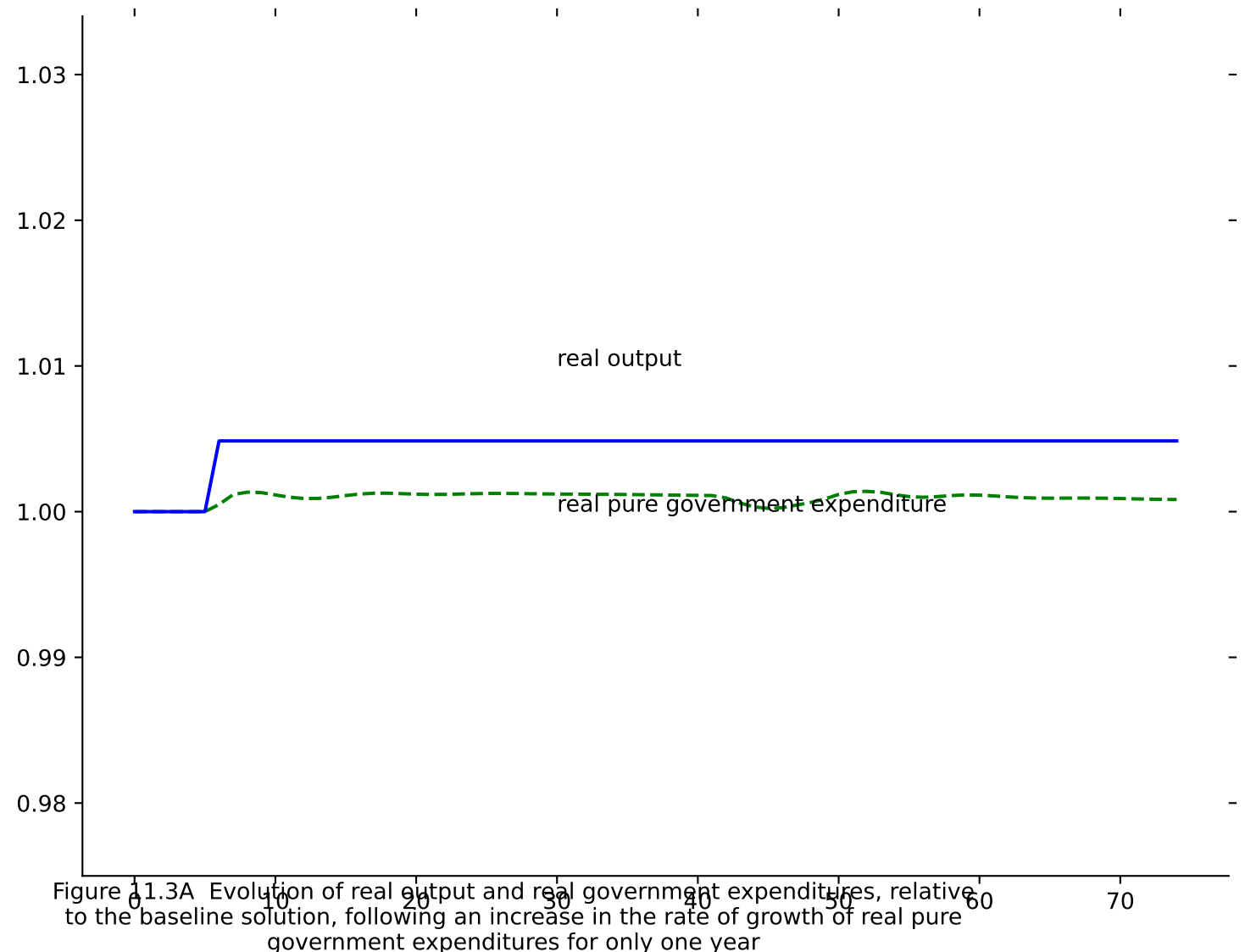


Figure 11.3A Evolution of real output and real government expenditures, relative to the baseline solution, following an increase in the rate of growth of real pure government expenditures for only one year

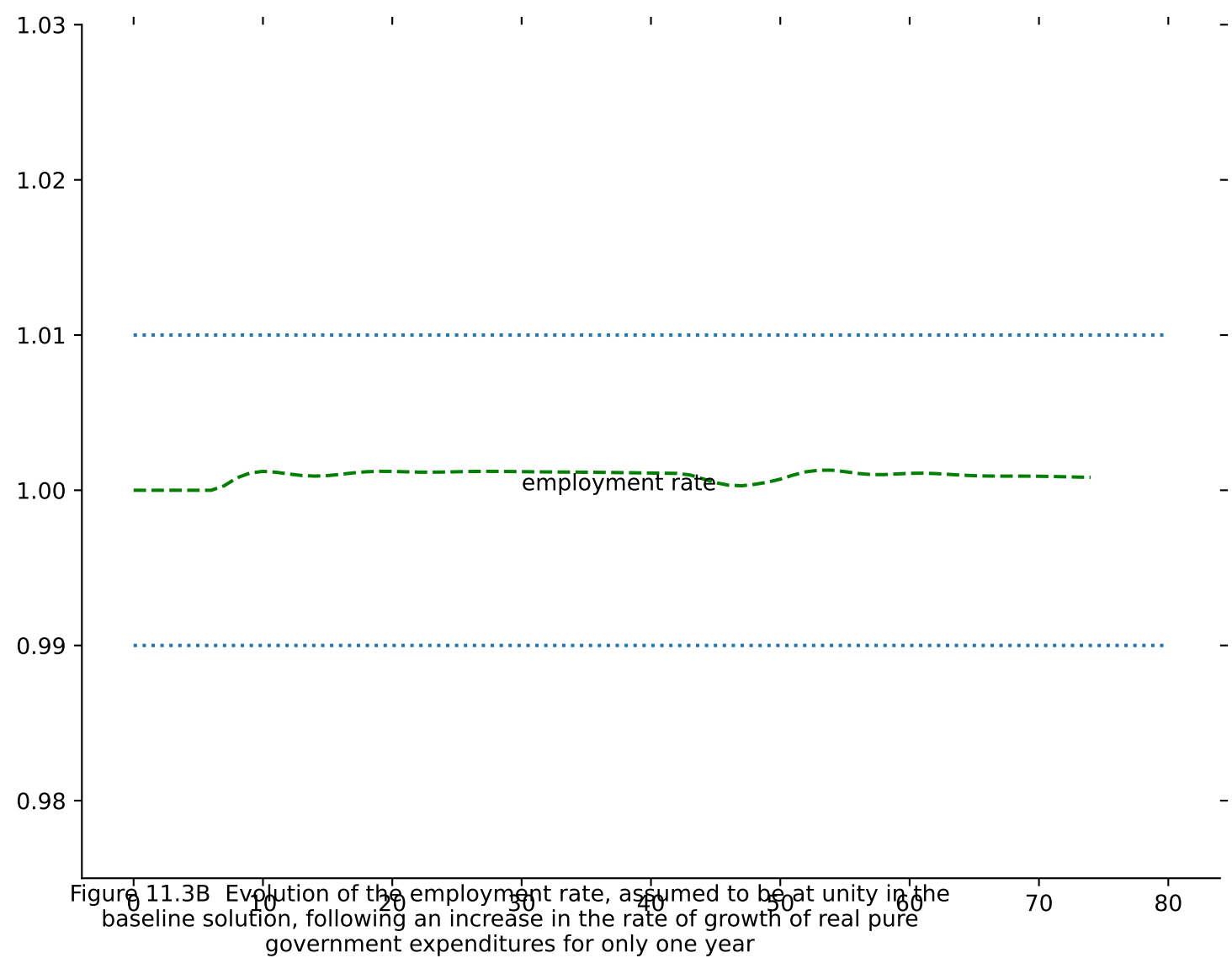


Figure 11.3B Evolution of the employment rate, assumed to be at unity in the baseline solution, following an increase in the rate of growth of real pure government expenditures for only one year

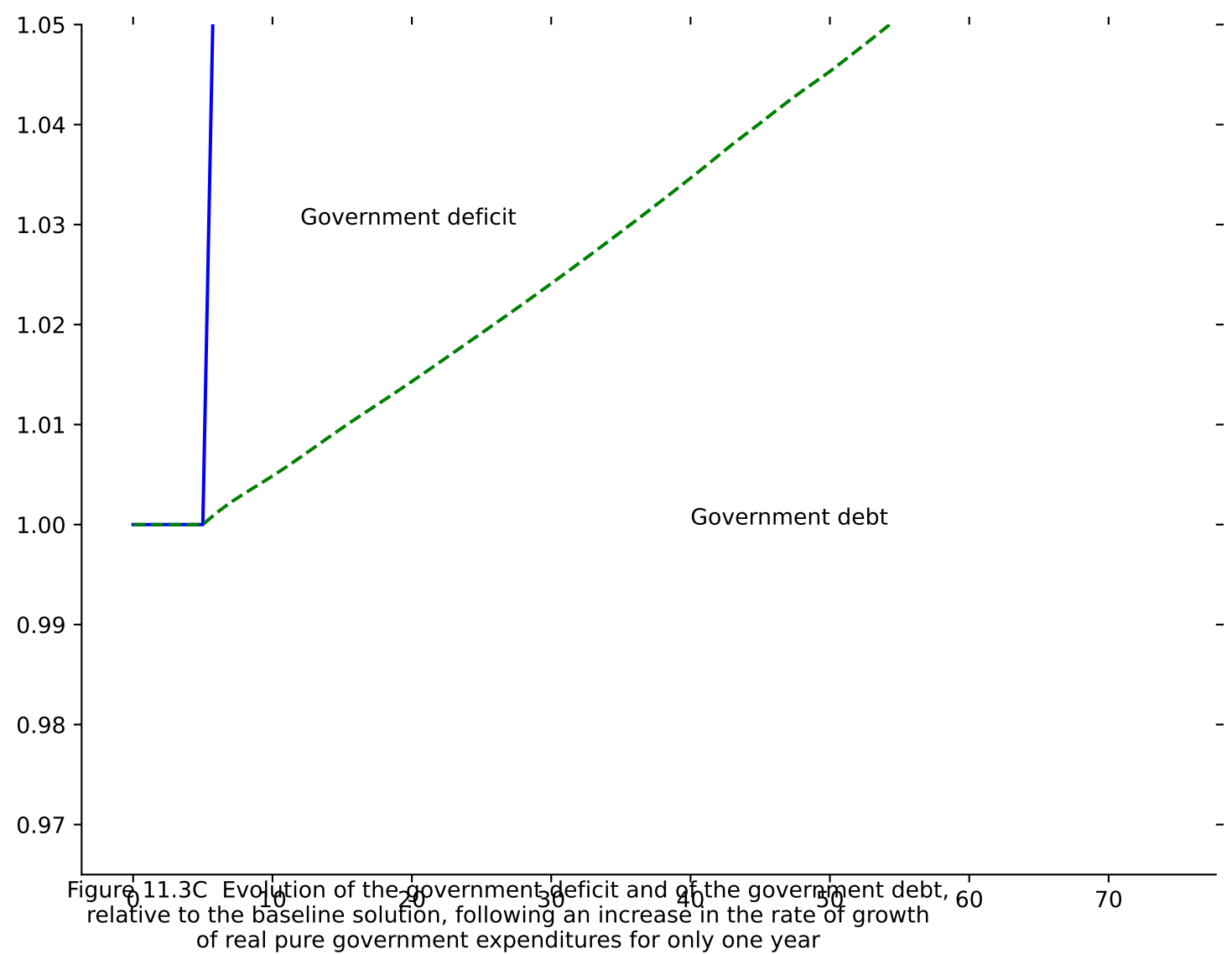


Figure 11.3C Evolution of the government deficit and of the government debt, relative to the baseline solution, following an increase in the rate of growth of real pure government expenditures for only one year

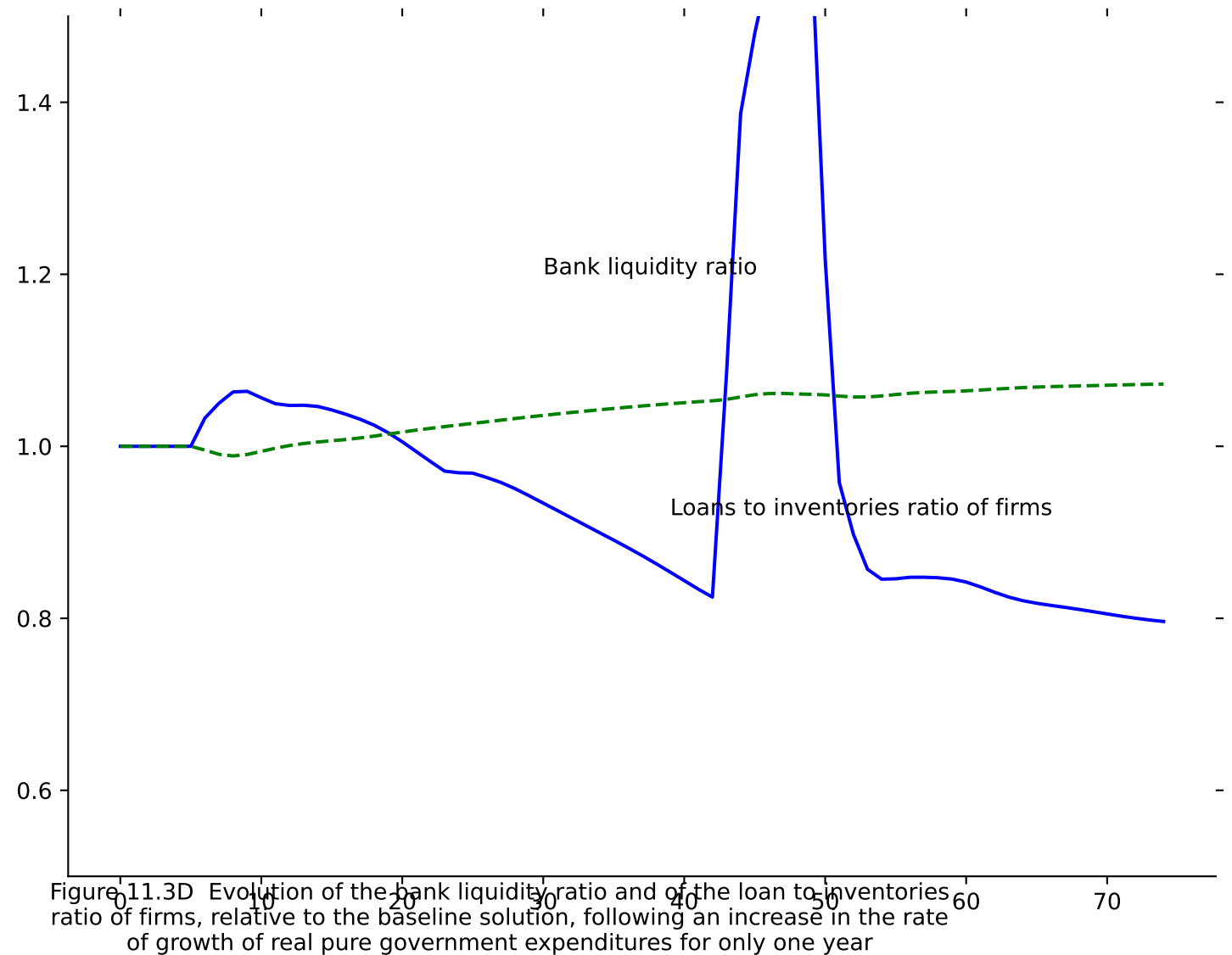
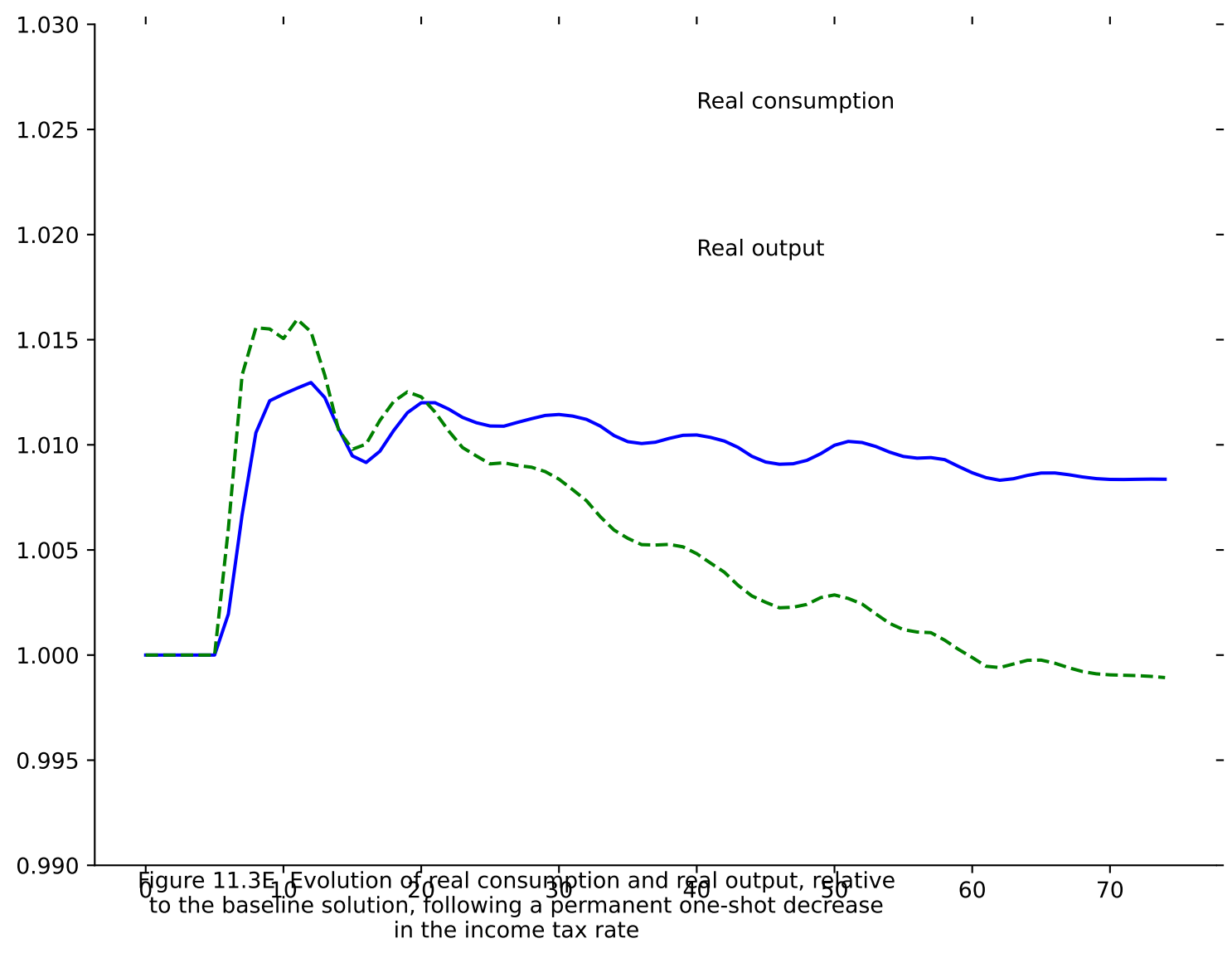


Figure 11.3D Evolution of the bank liquidity ratio and of the loan to inventories ratio of firms, relative to the baseline solution, following an increase in the rate of growth of real pure government expenditures for only one year



Employment rate

Inflation rate

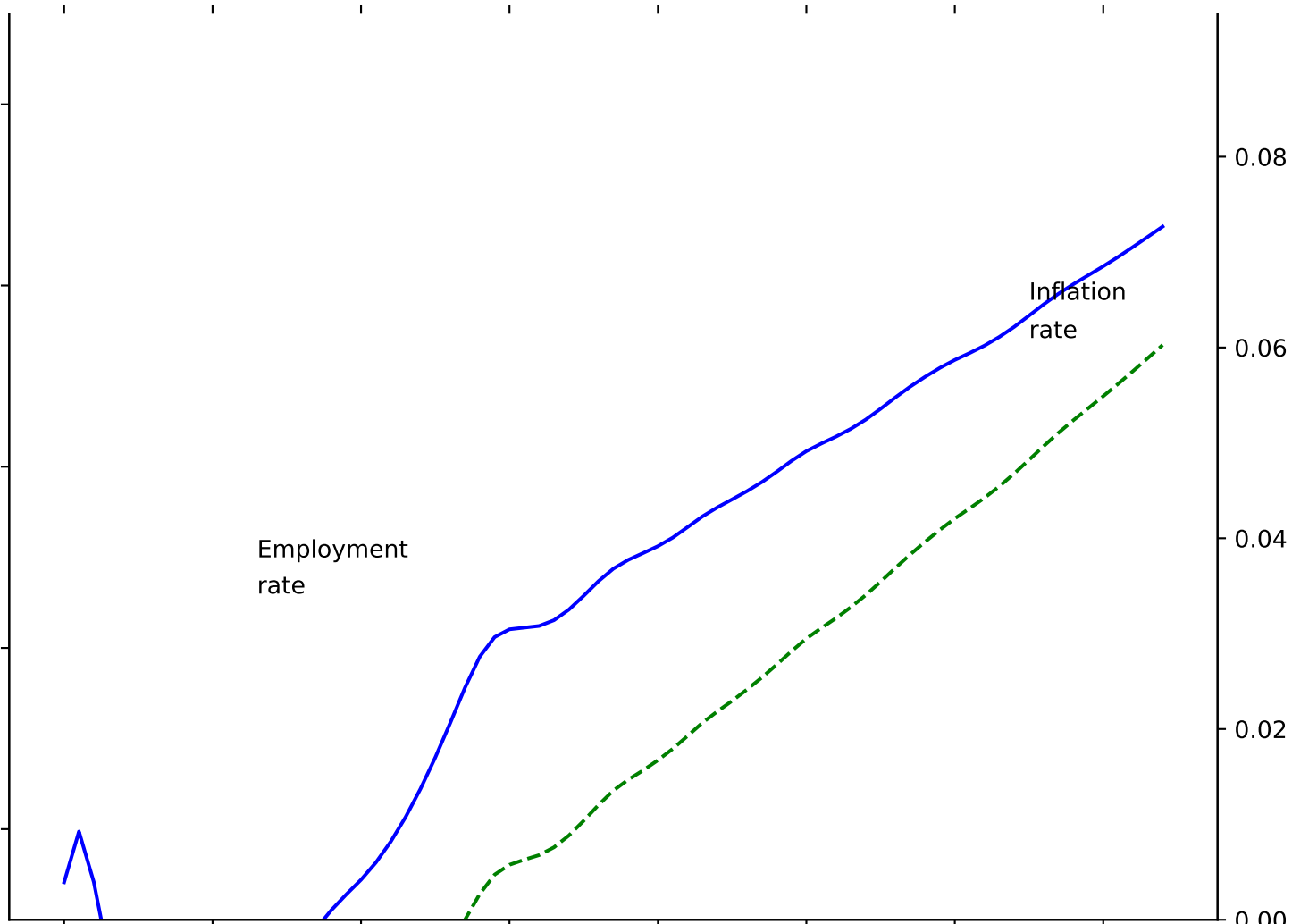
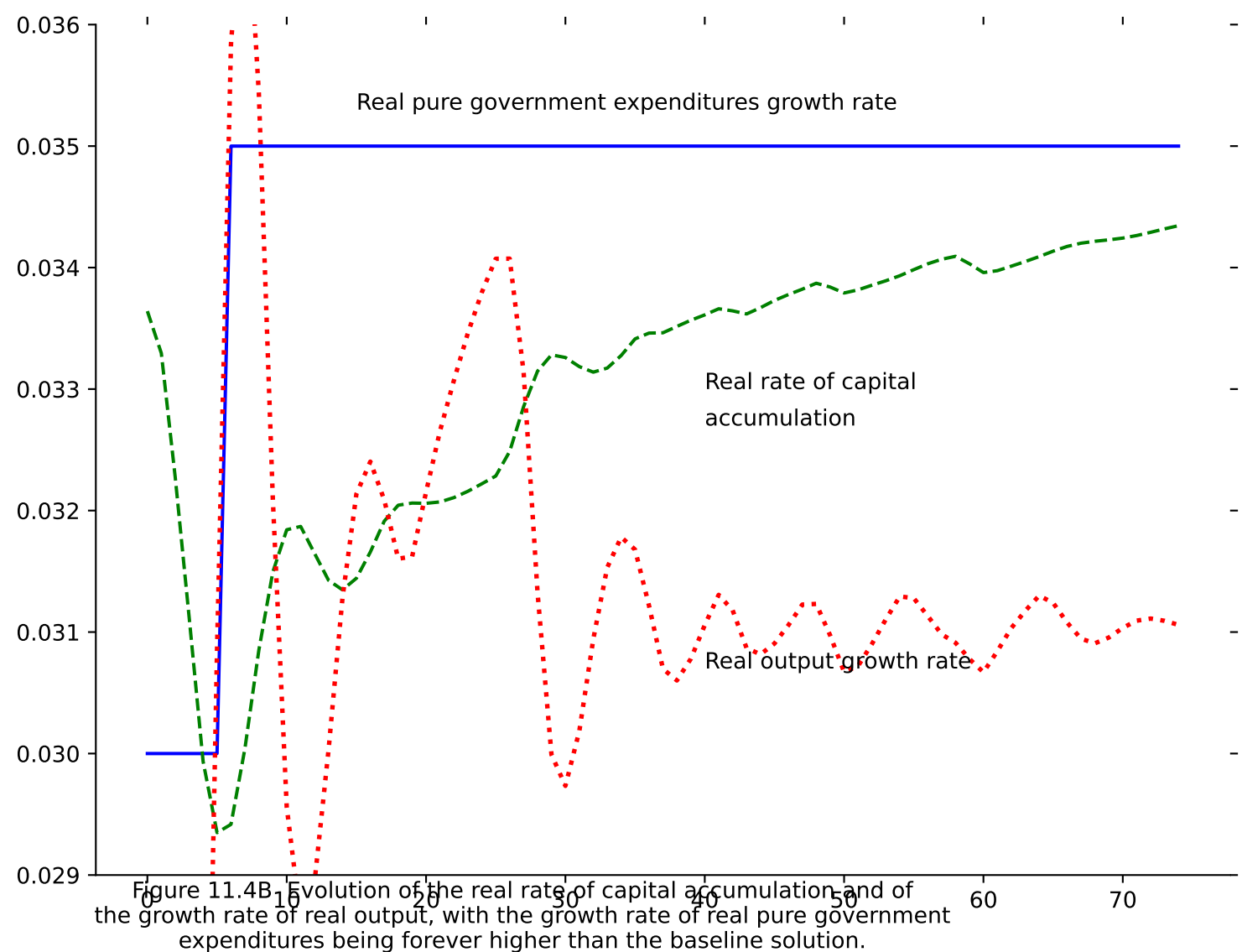


Figure 11.4A Evolution of the employment rate and of the inflation rate, with the growth rate of real pure government expenditure being forever higher than in the baseline solution



Deficit to GDP ratio

Debt to GDP ratio

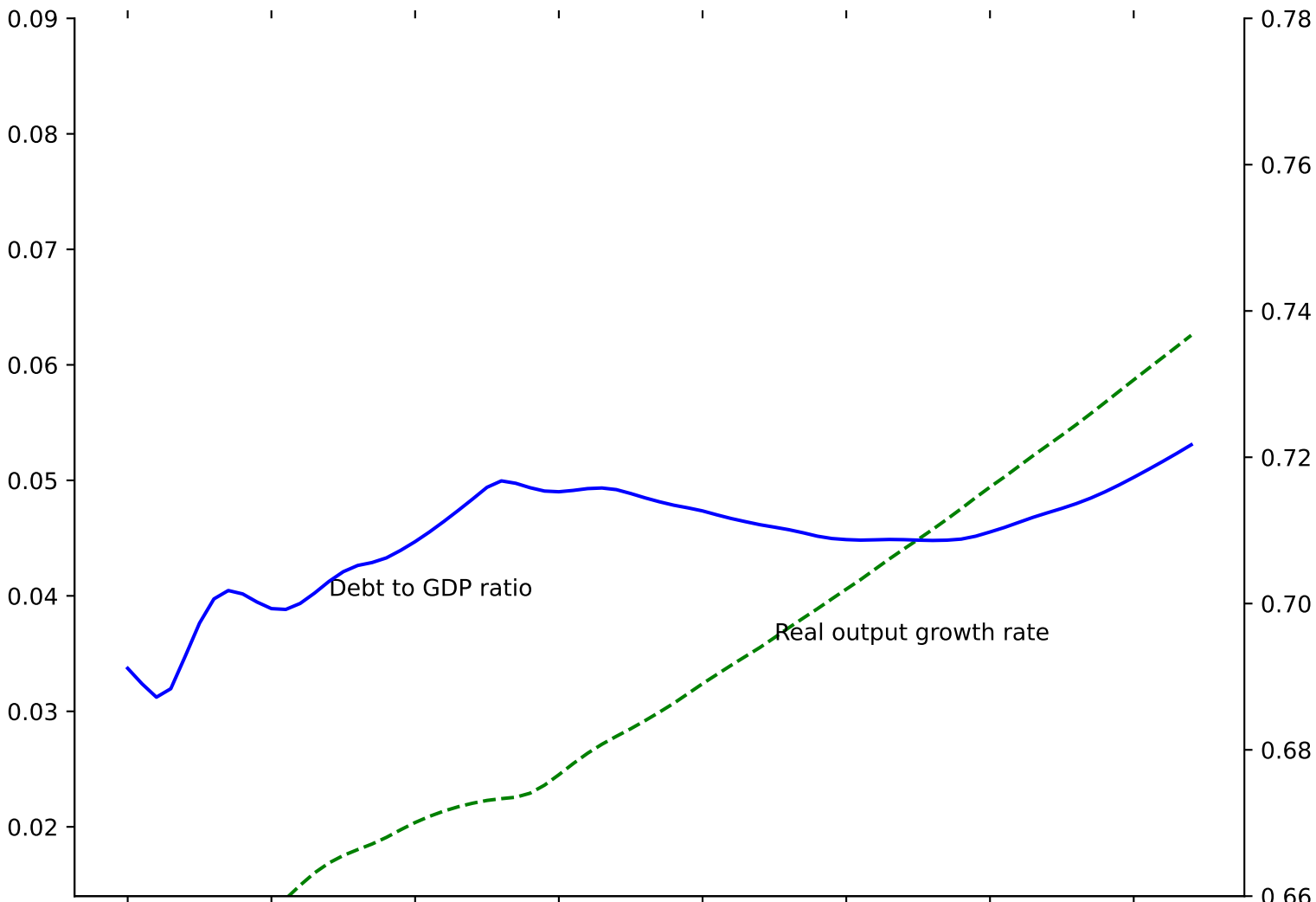
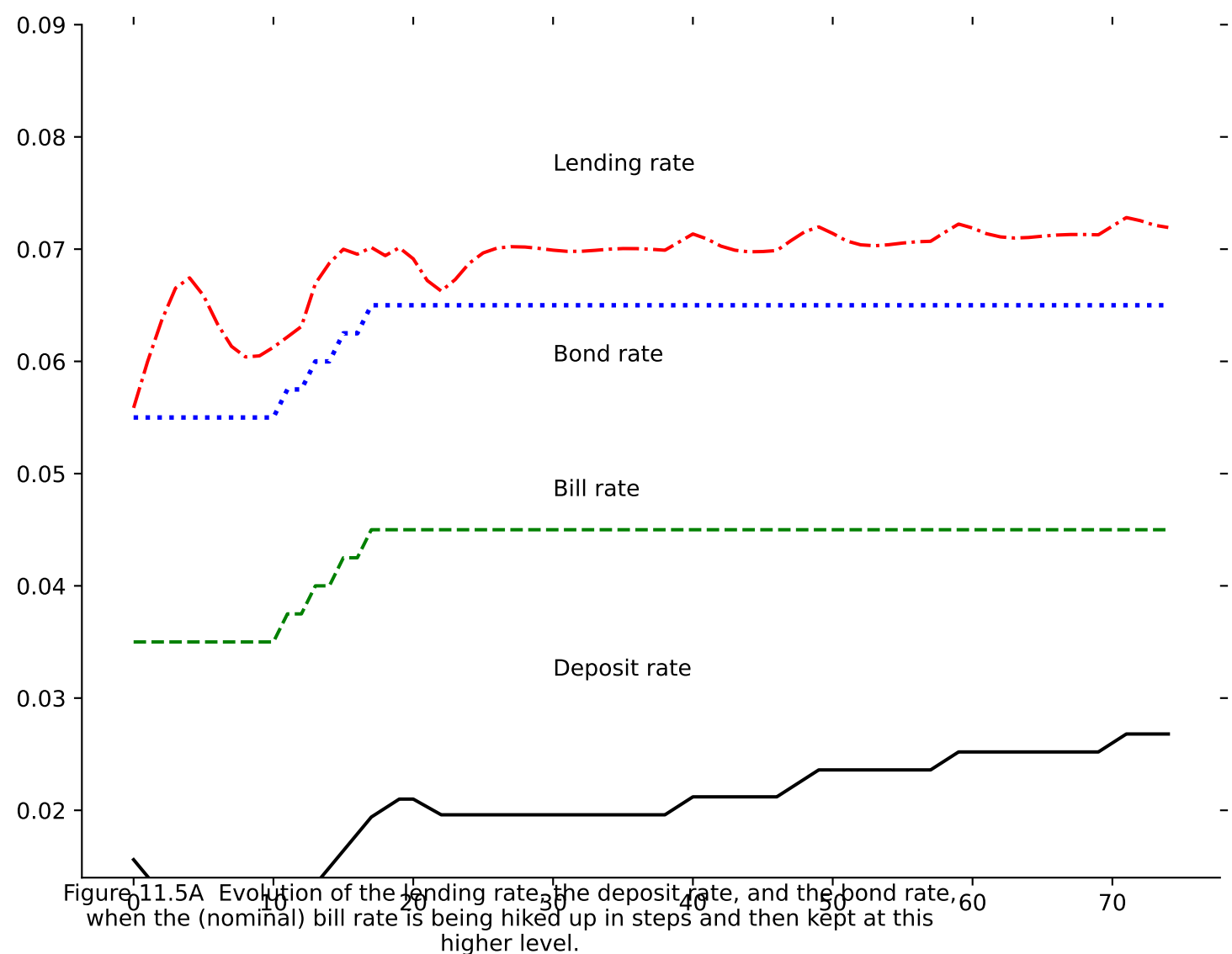


Figure 11.4C Evolution of the government deficit to GDP ratio and of the government debt to GDP ratio, with the growth rate of real pure government expenditures being forever higher than in the baseline solution.



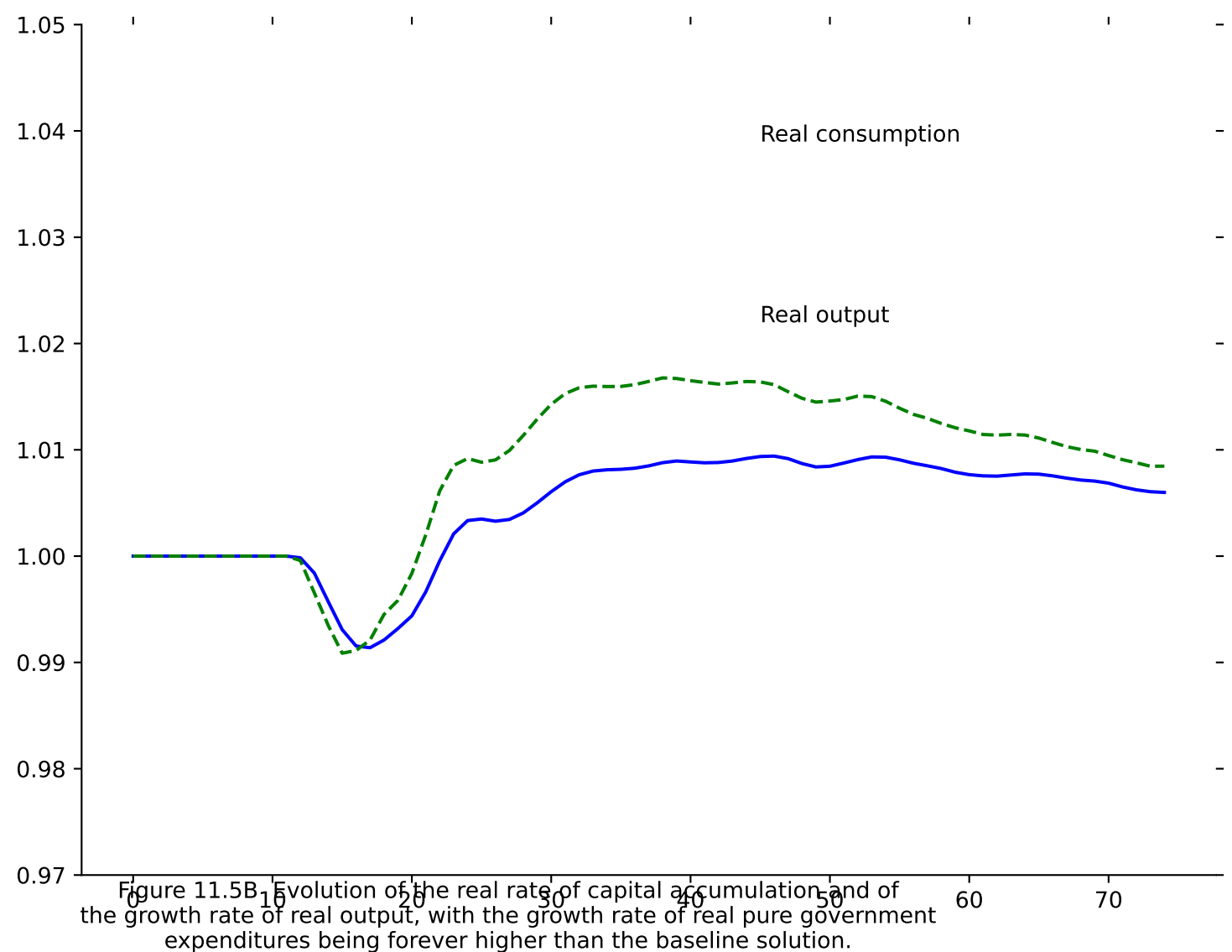


Figure 11.5B Evolution of the real rate of capital accumulation and of the growth rate of real output, with the growth rate of real pure government expenditures being forever higher than the baseline solution.

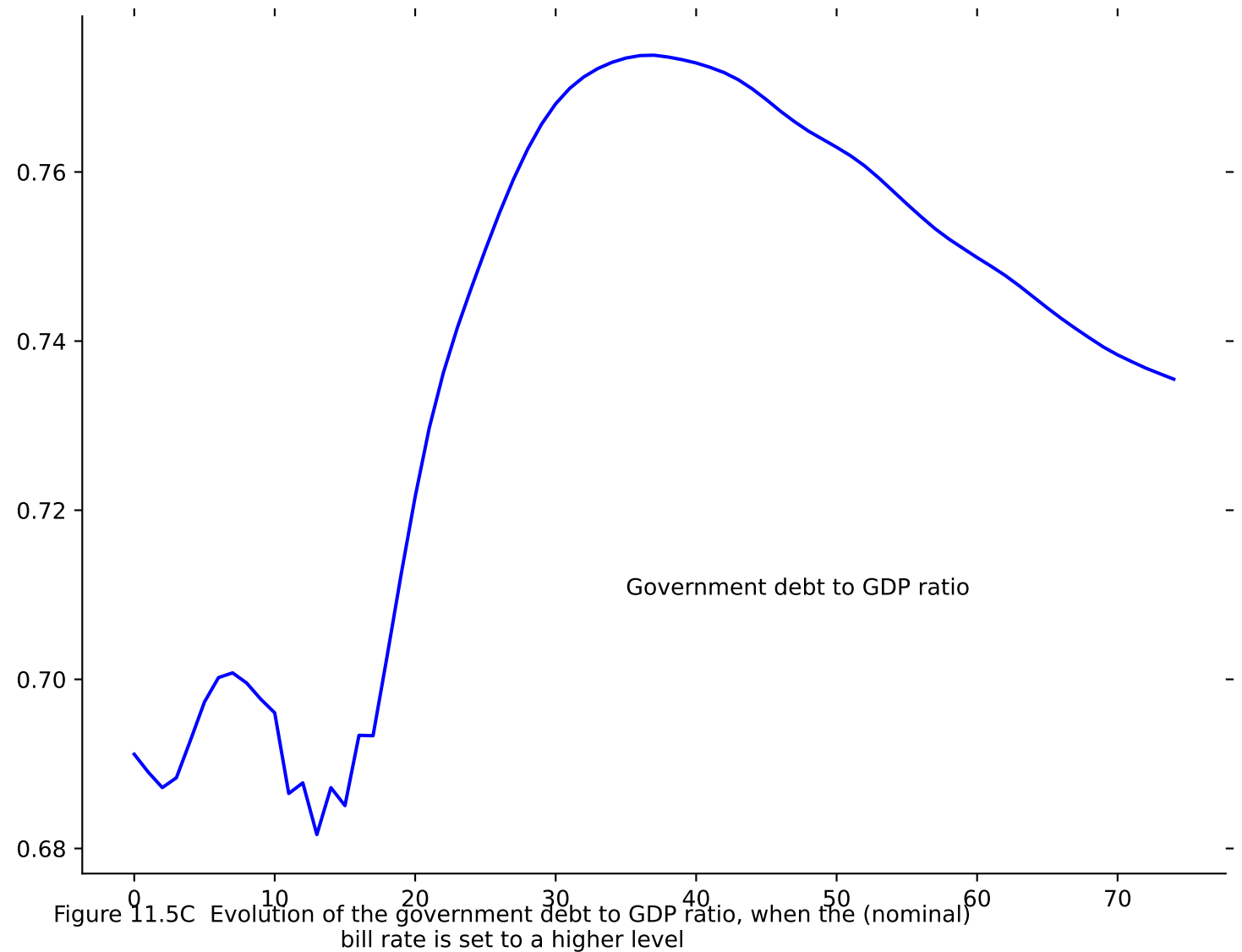
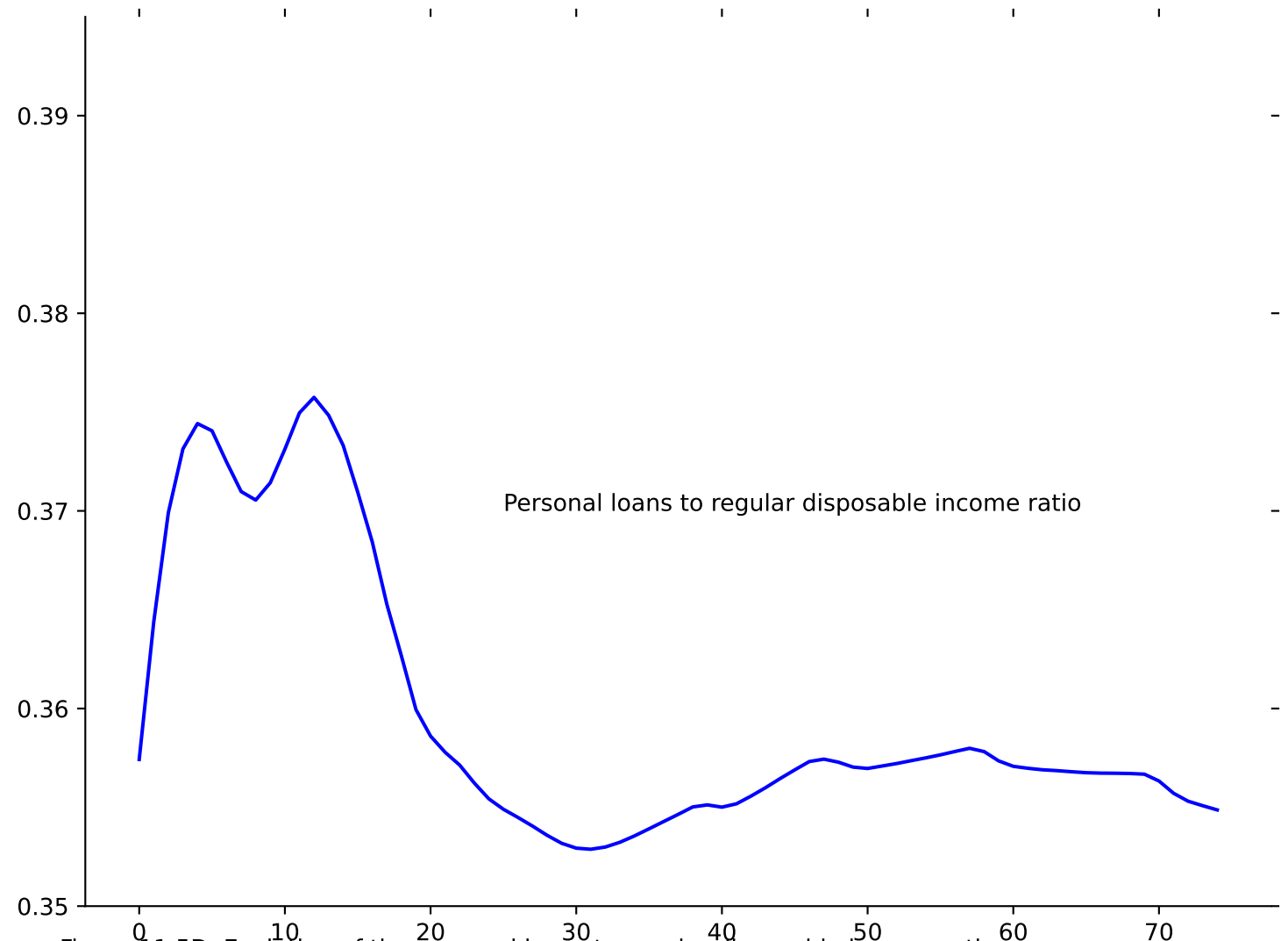


Figure 11.5C Evolution of the government debt to GDP ratio, when the (nominal) bill rate is set to a higher level



Personal loans to regular disposable income ratio

Figure 11.5D Evolution of the personal loans to regular disposable income ratio, when the (nominal) bill rate is set at a higher level.

The burden of personal debt

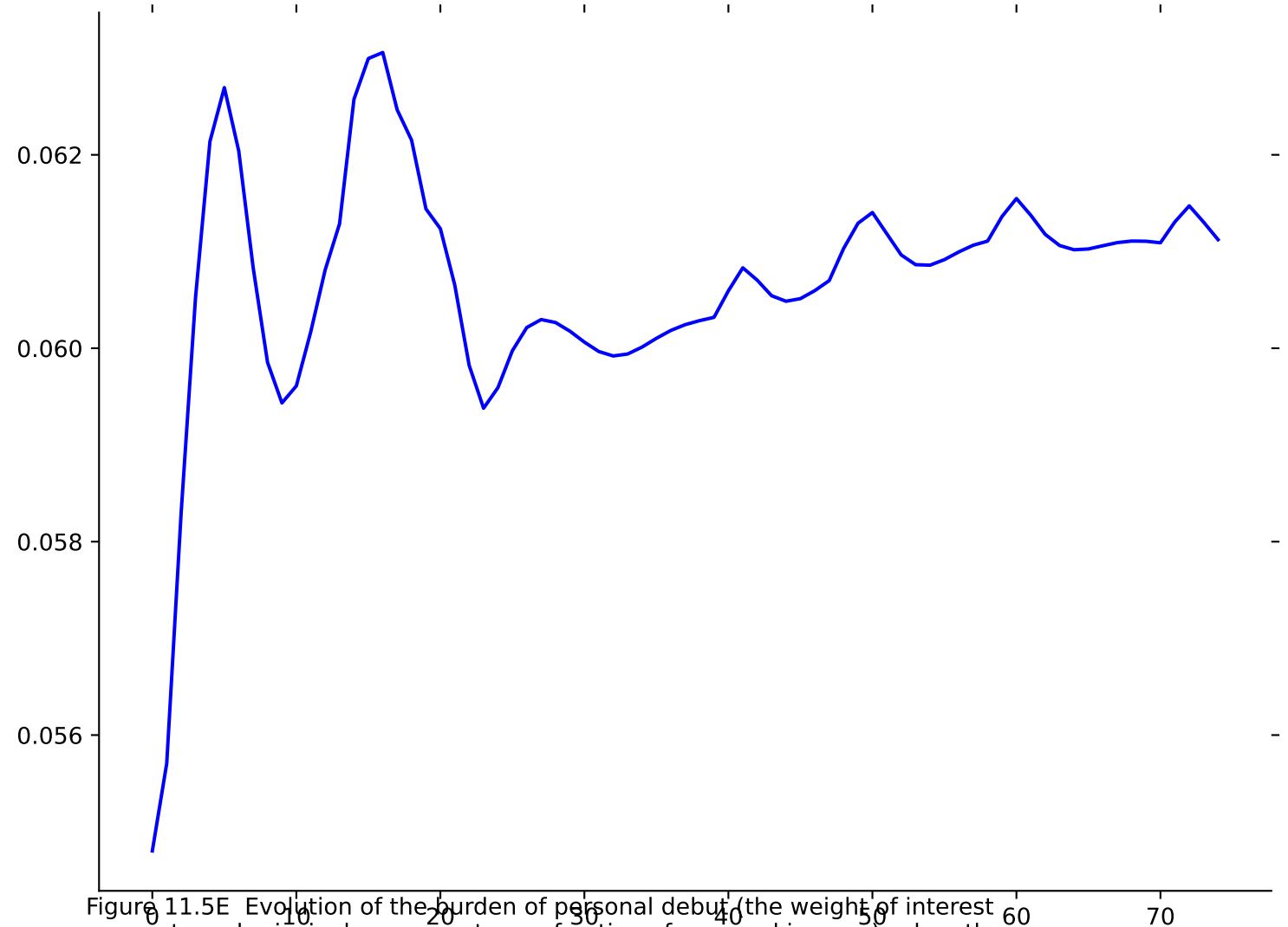
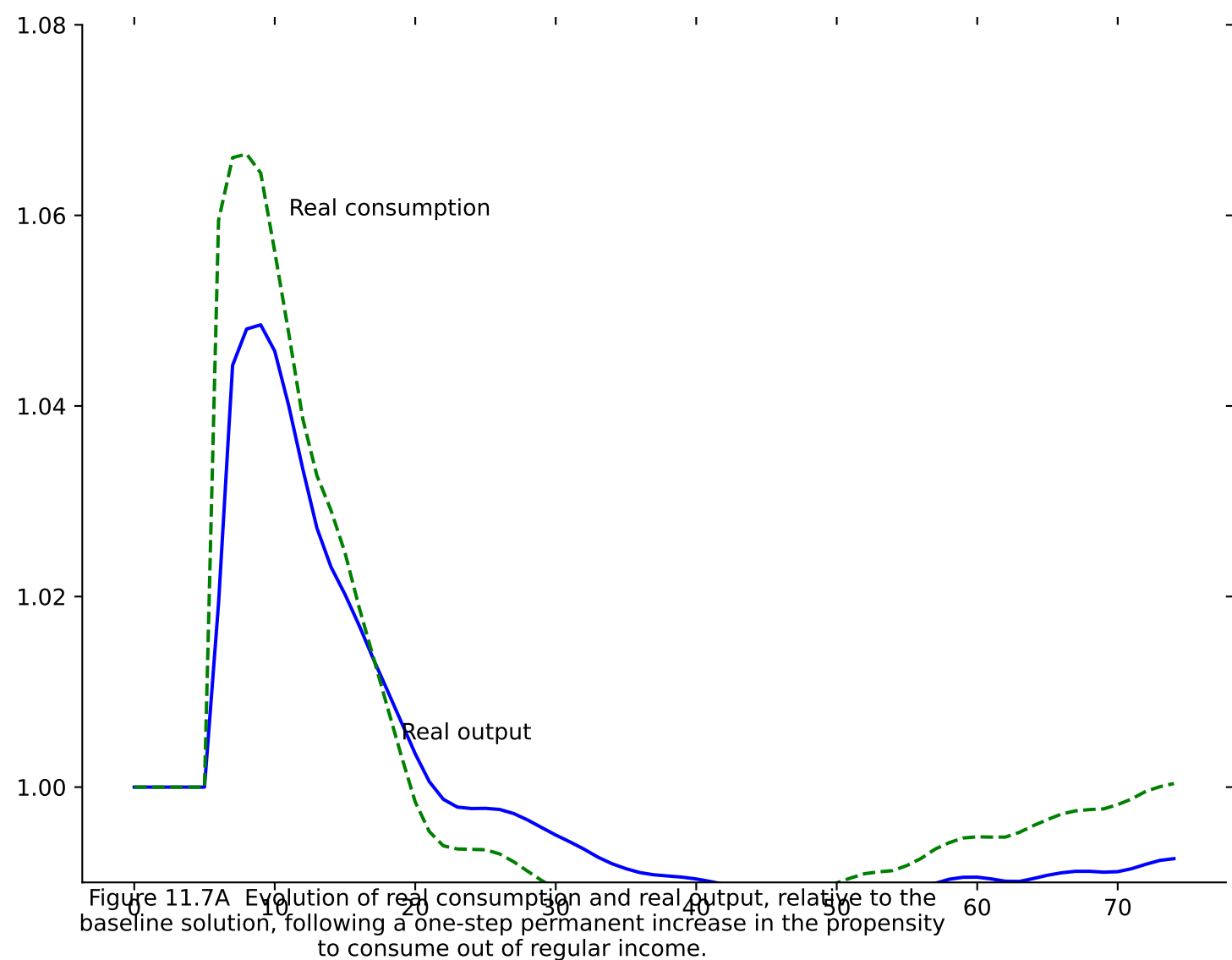
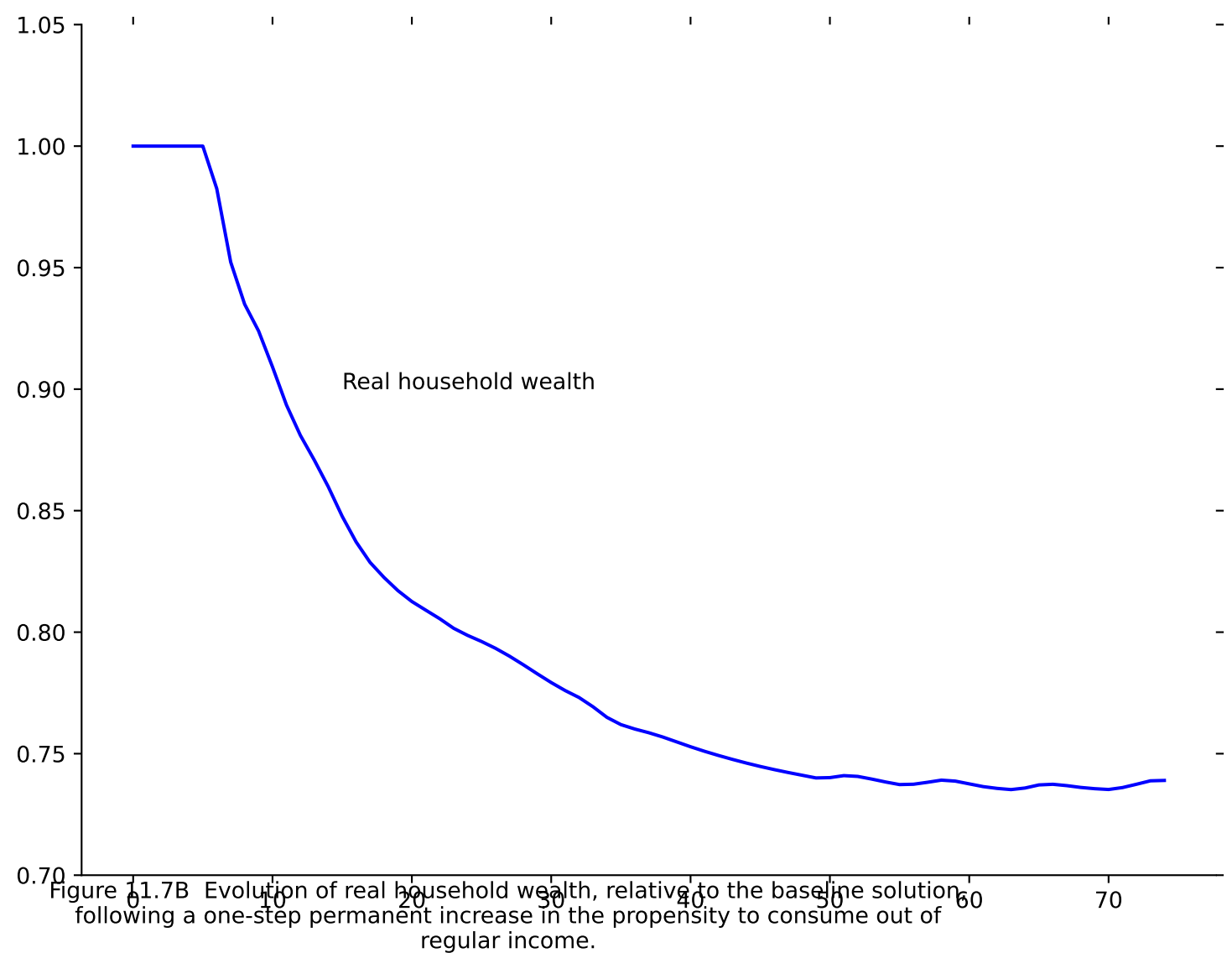


Figure 11.5E Evolution of the burden of personal debt (the weight of interest payments and principal repayment, as a fraction of personal income), when the (nominal) bill rate is set at a higher level.





Inflation rate

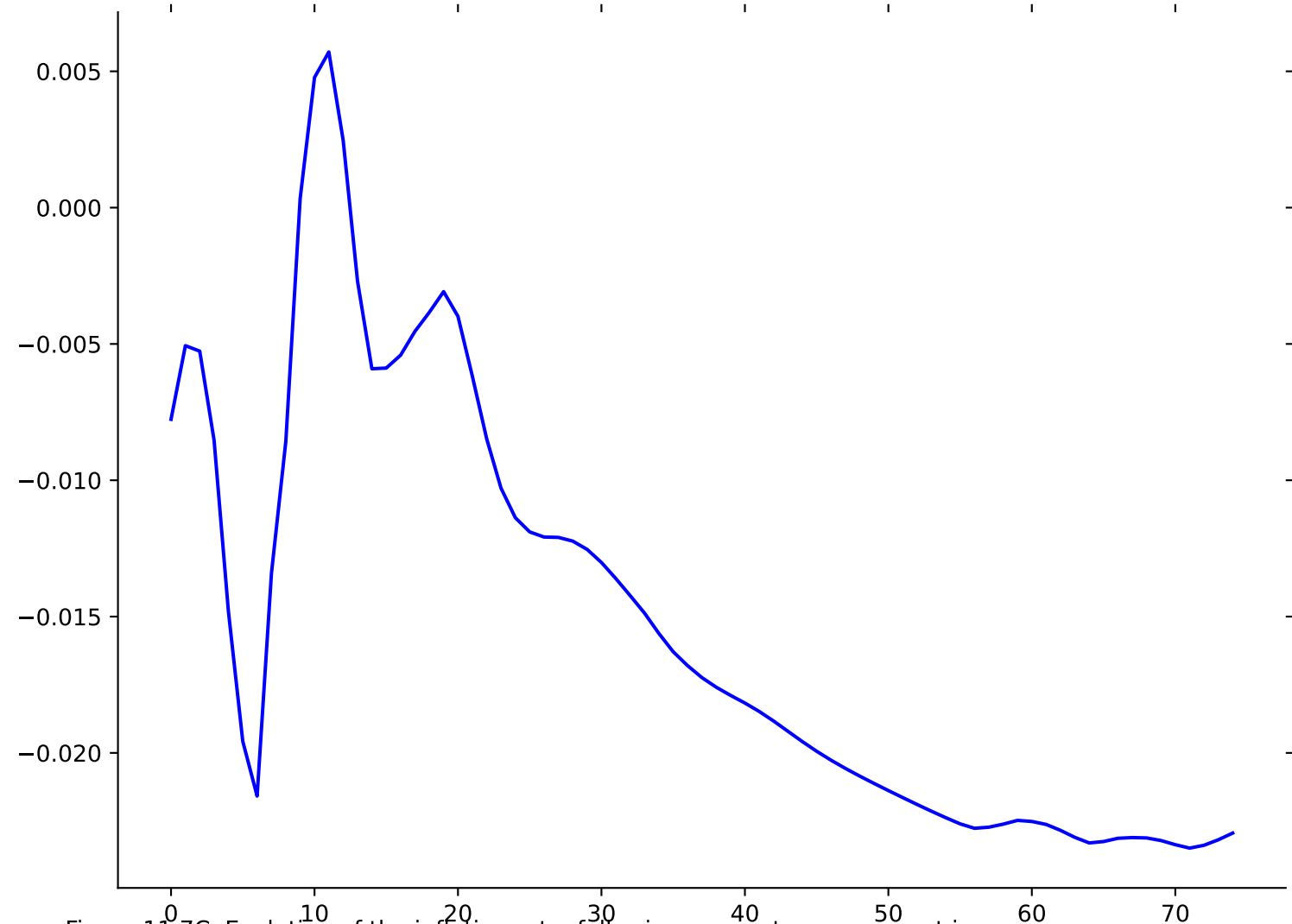
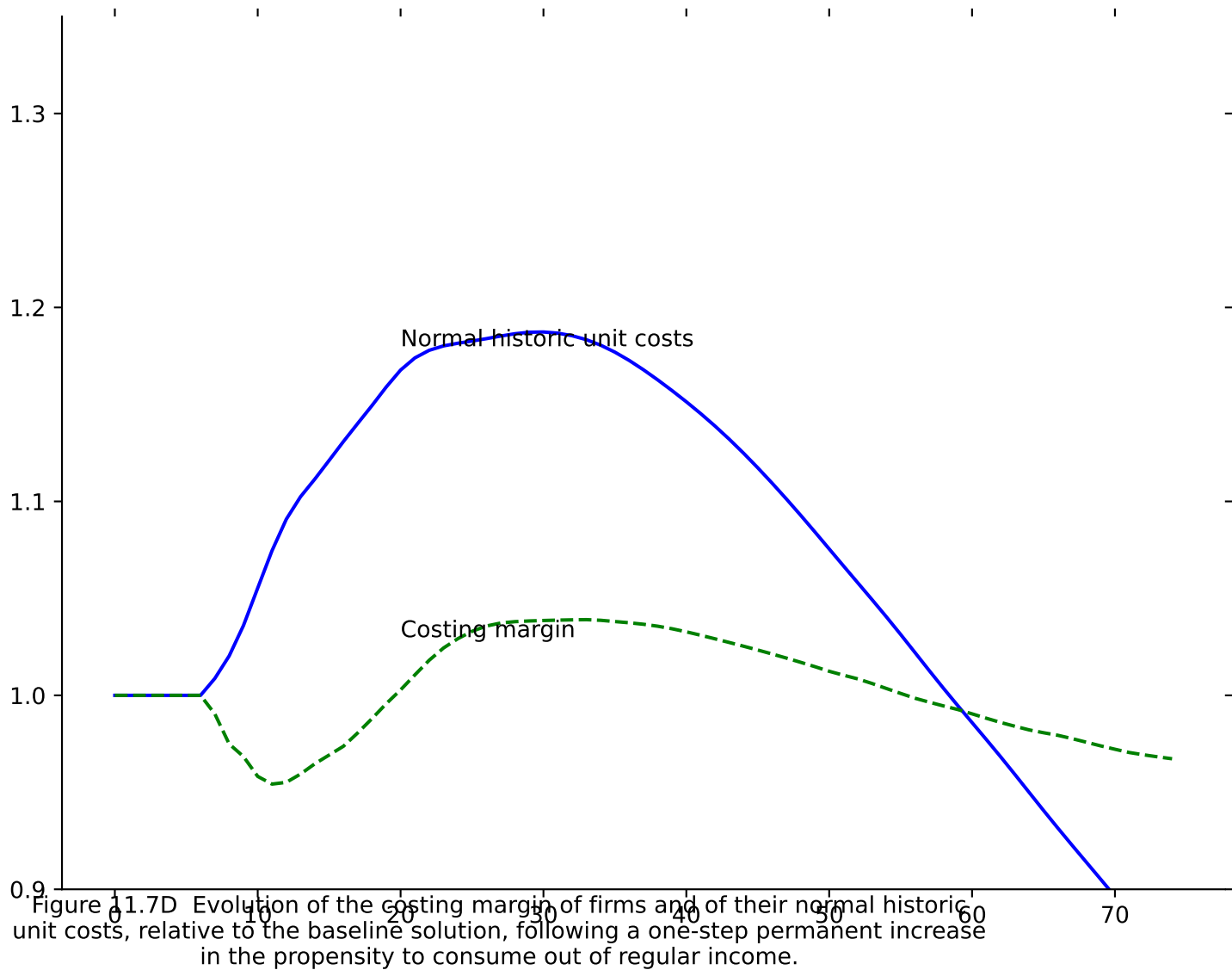


Figure 11.7C Evolution of the inflation rate, following a one-step permanent increase in the propensity to consume out of regular income.



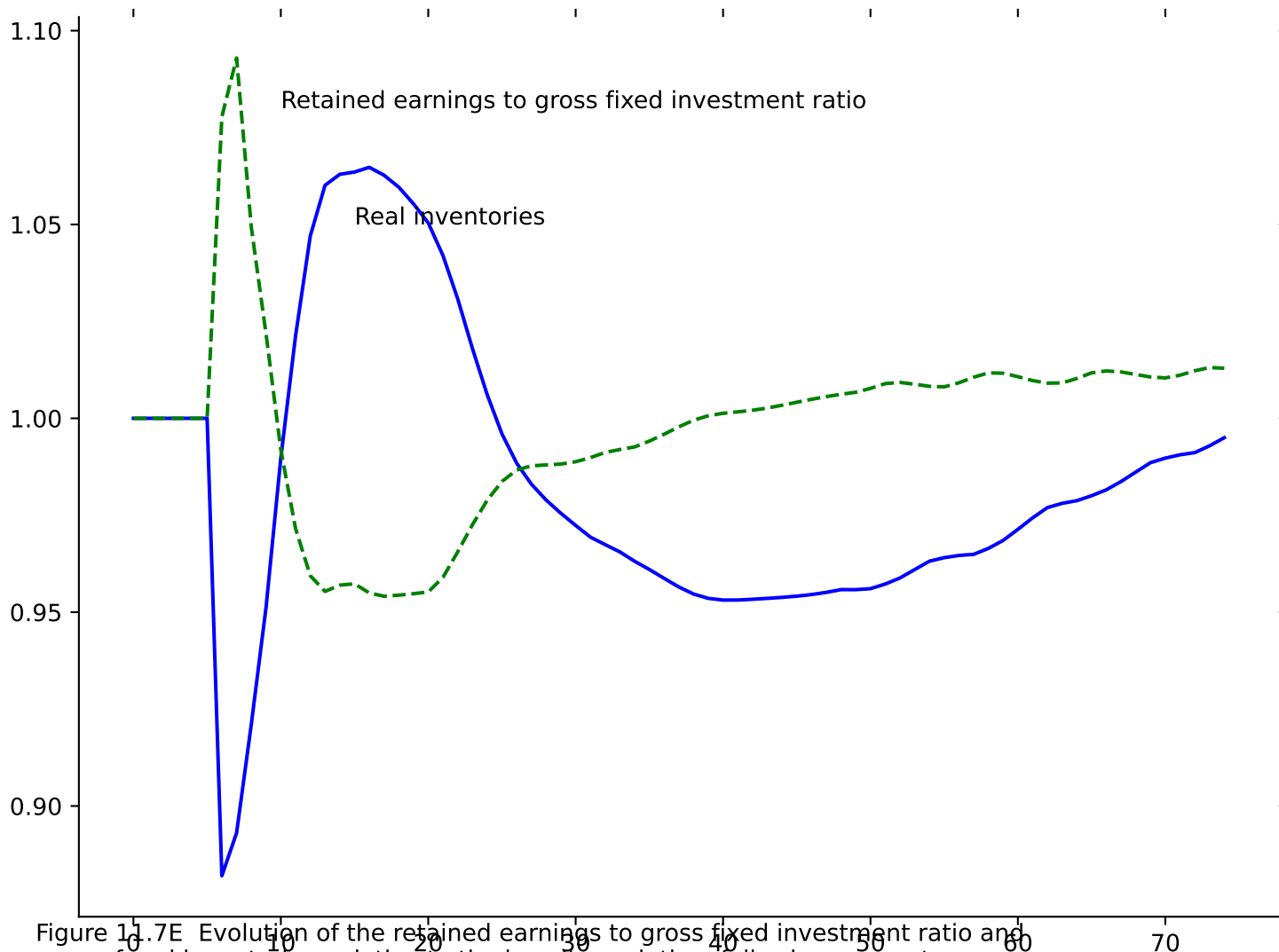


Figure 11.7E Evolution of the retained earnings to gross fixed investment ratio and of real inventories, relative to the baseline solution, following a one-step permanent increase in the propensity to consume out of regular income.

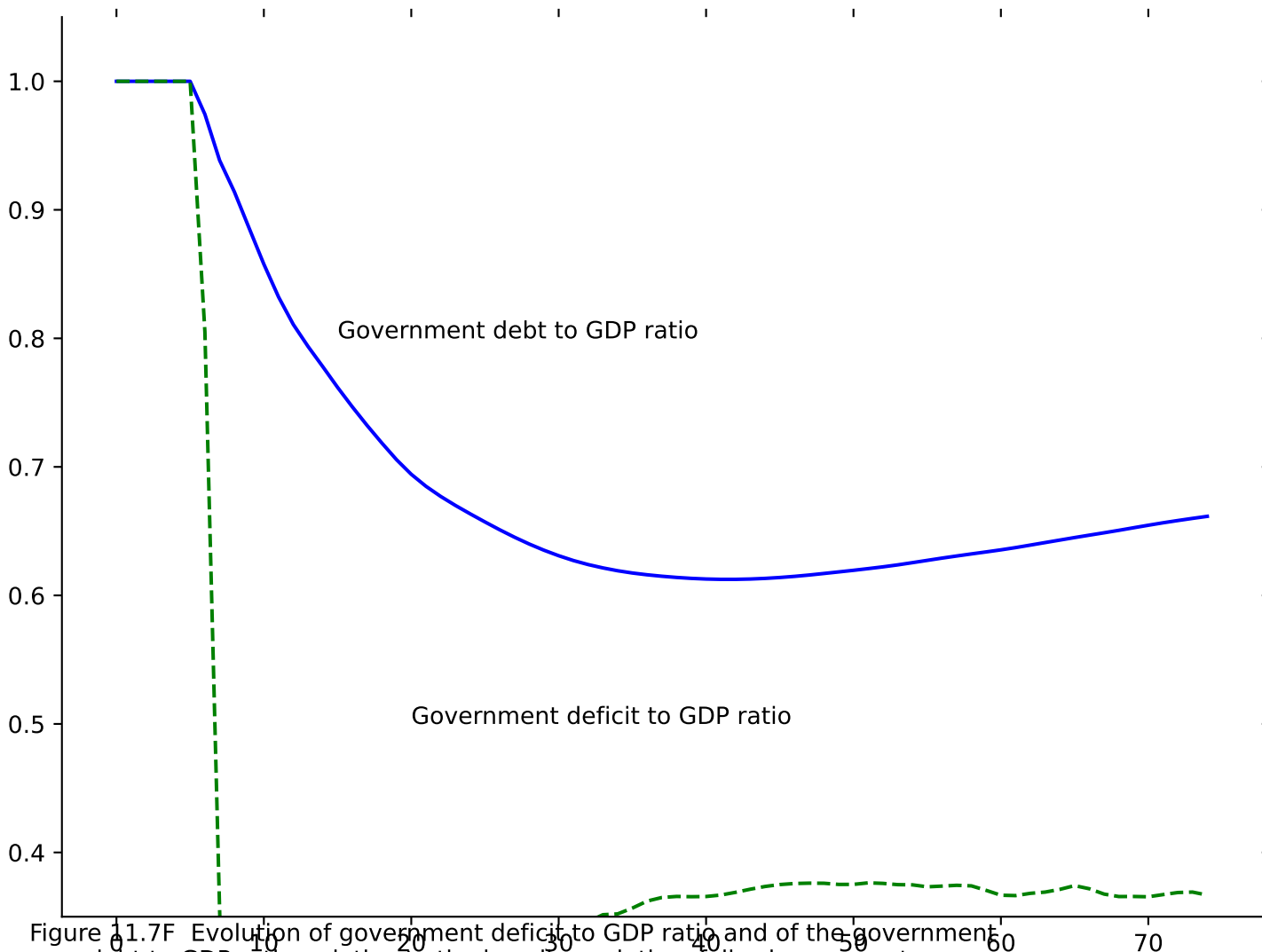
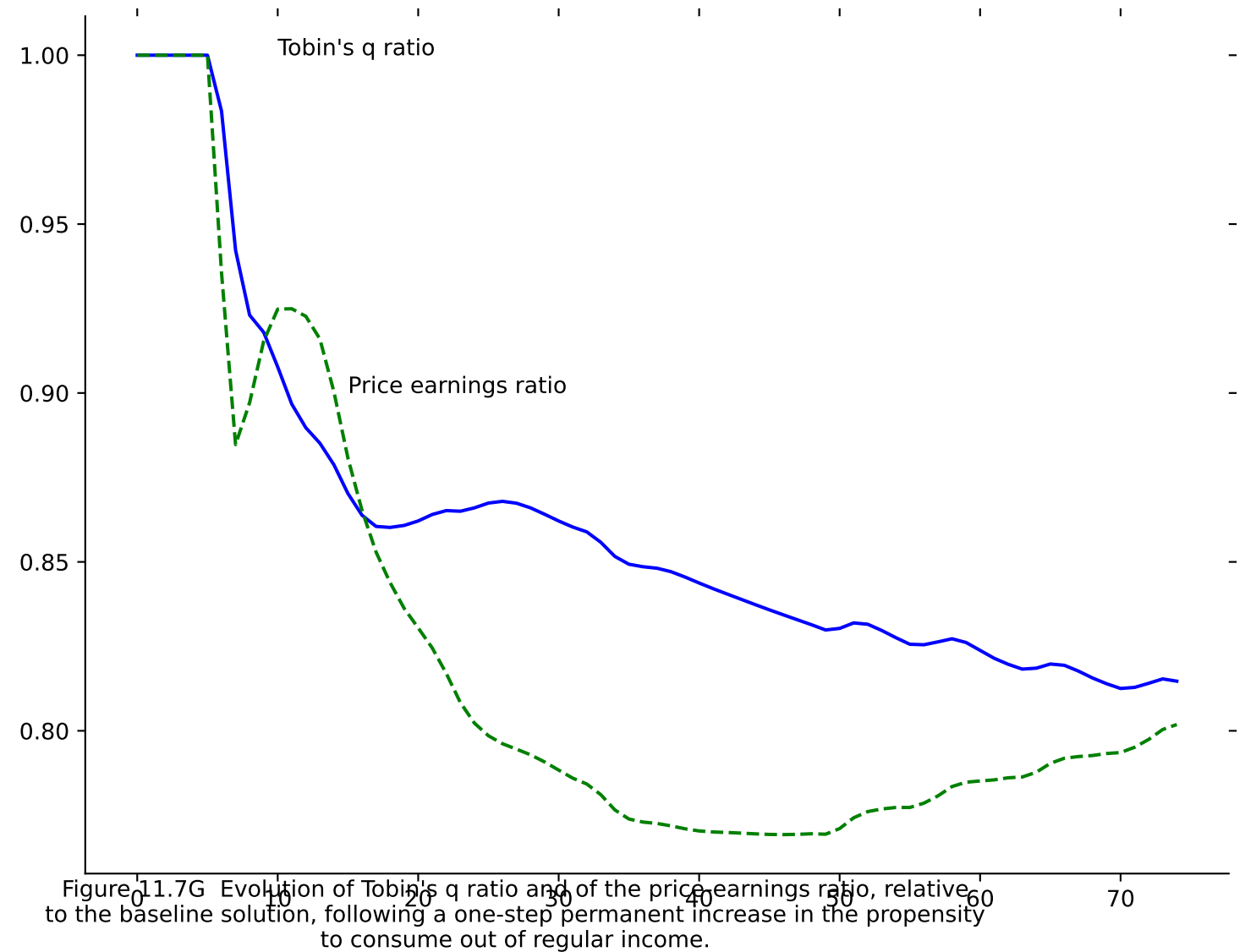


Figure 11.7F Evolution of government deficit to GDP ratio and of the government debt to GDP ratio, relative to the baseline solution, following a one-step permanent increase in the propensity to consume out of regular income.



Burden

Loans to income ratio

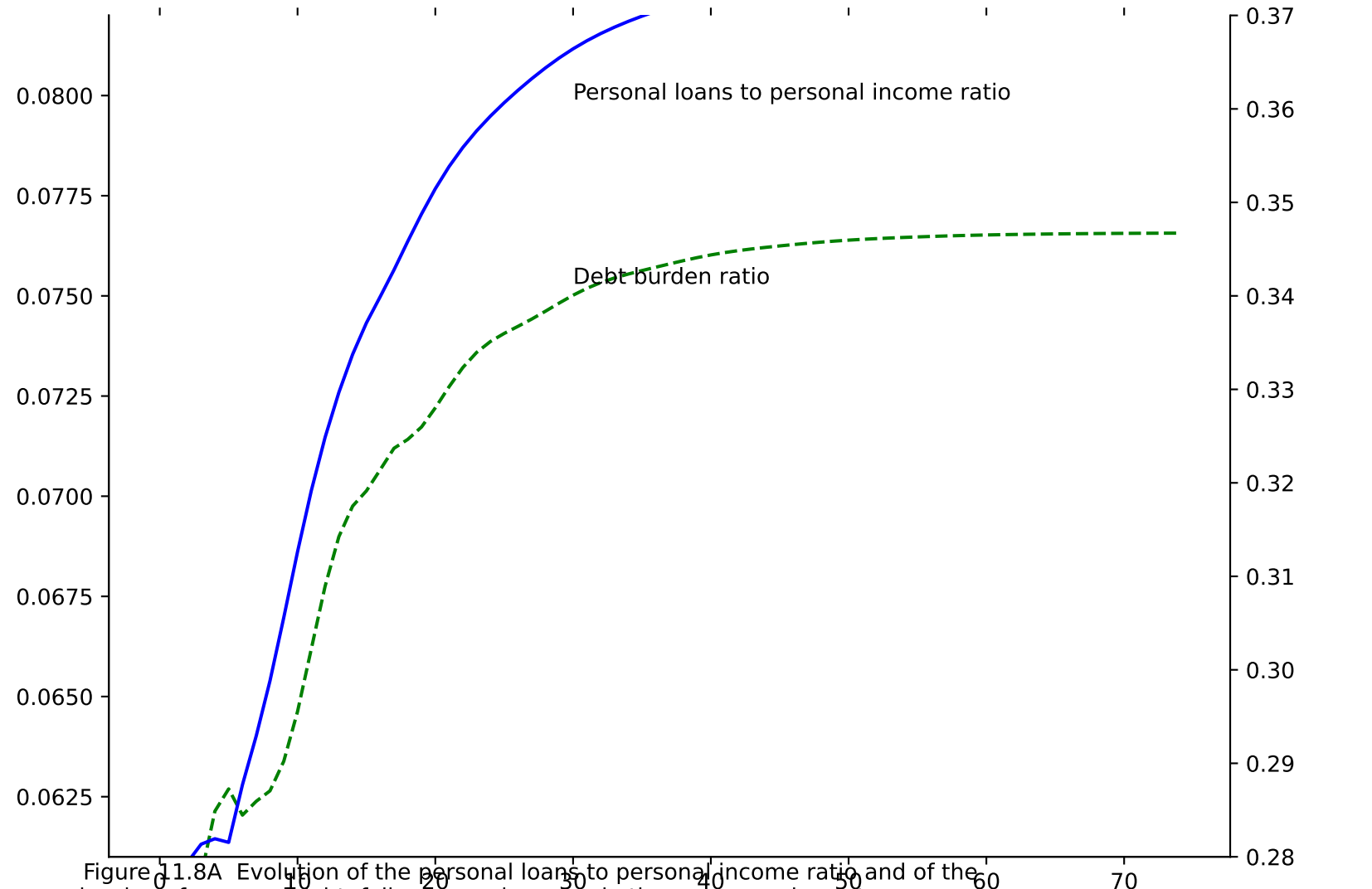


Figure 11.8A Evolution of the personal loans to personal income ratio and of the burden of personal debt, following an increase in the gross new loans to personal income ratio.

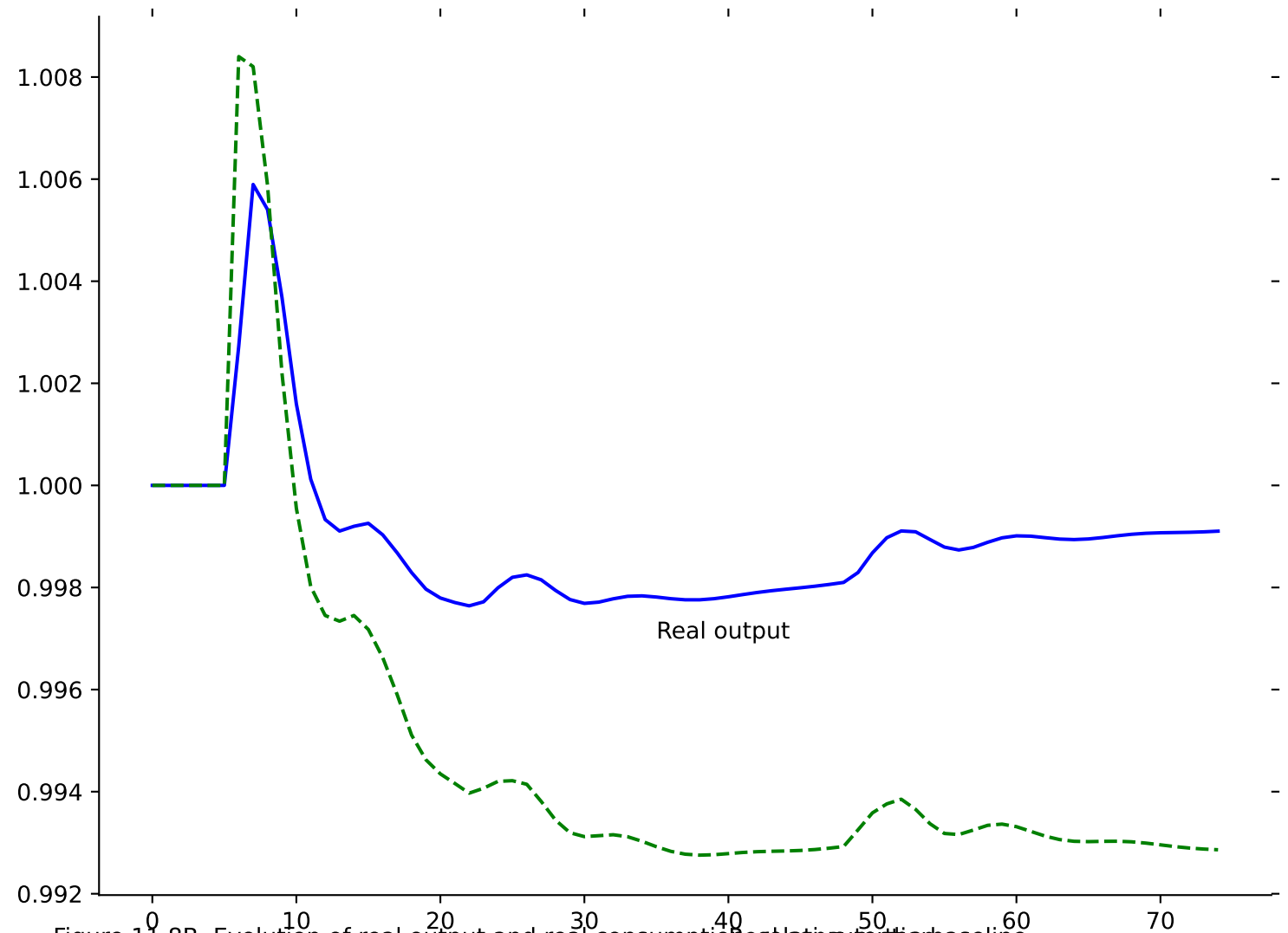
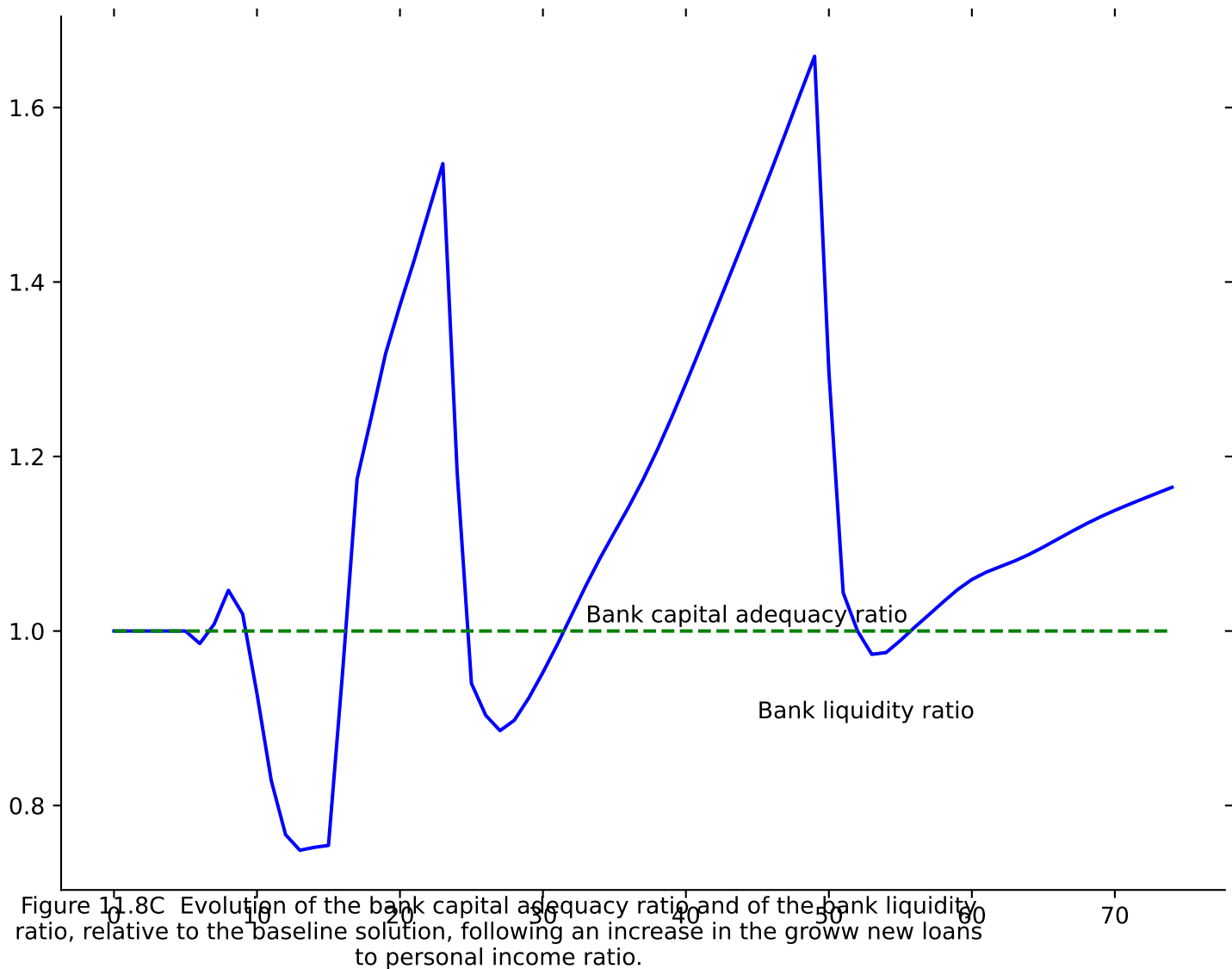
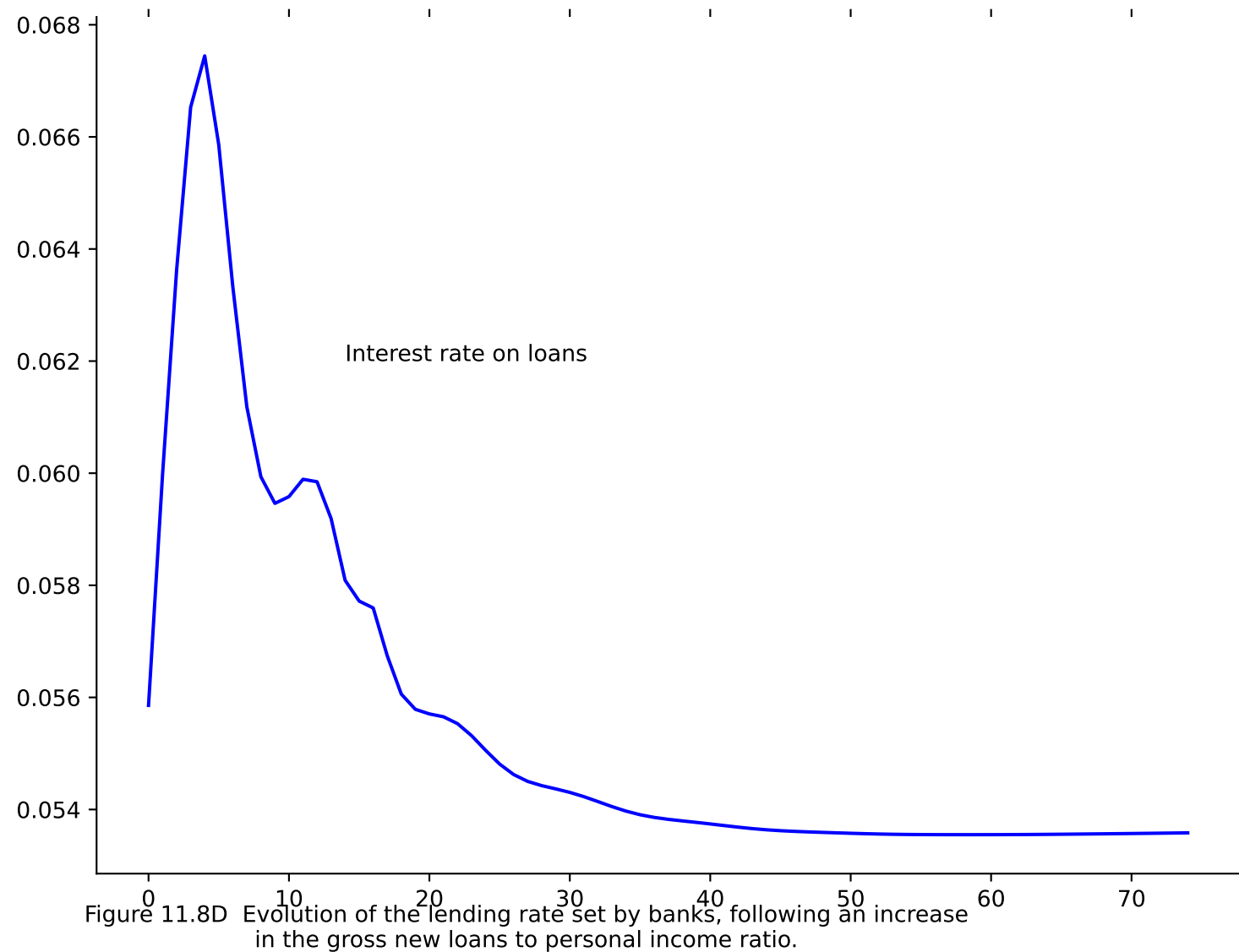


Figure 11.8B Evolution of real output and real consumption relative to the baseline solution, following an increase in the growth new loans to personal income ratio.





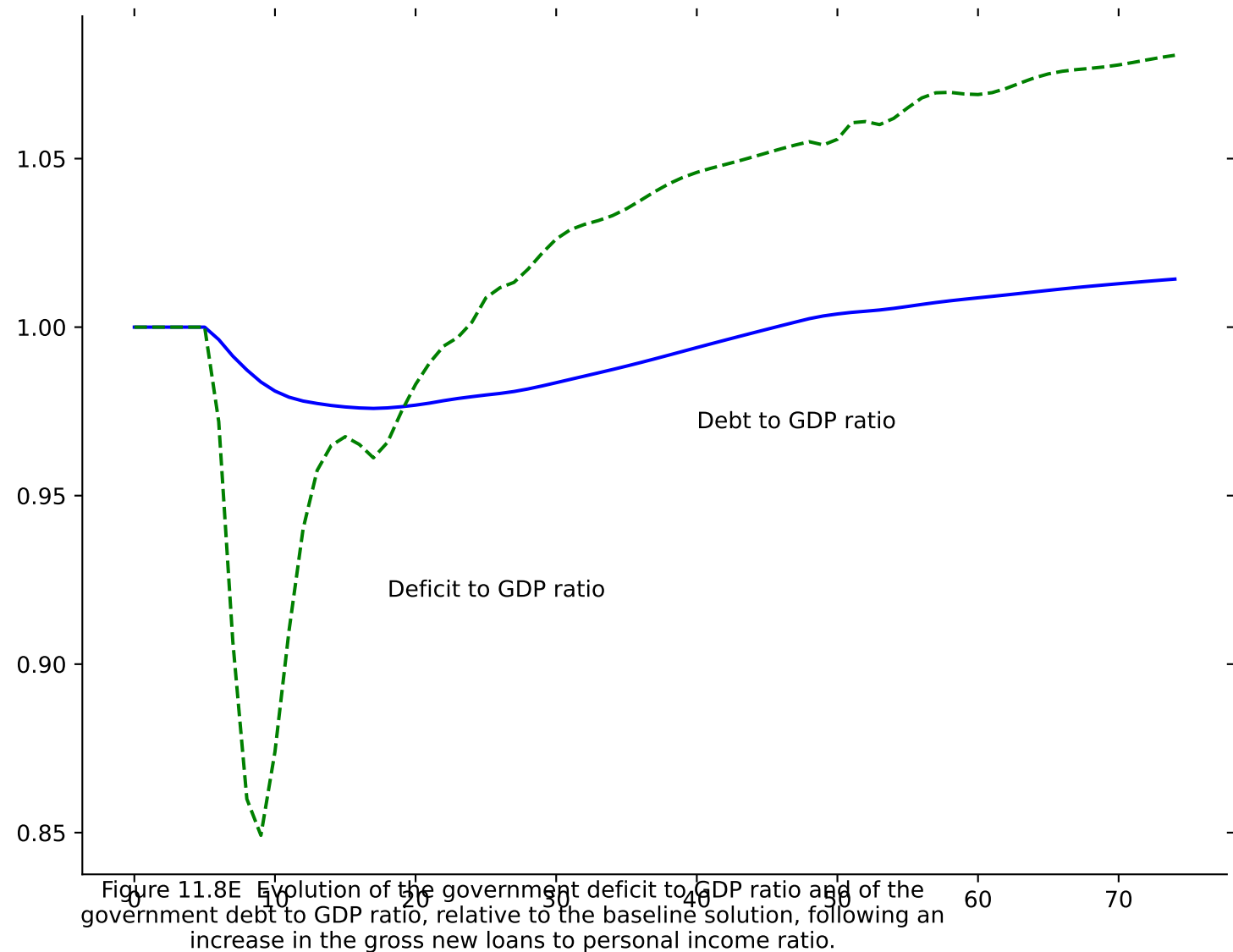


Figure 11.8E Evolution of the government deficit to GDP ratio and of the government debt to GDP ratio, relative to the baseline solution, following an increase in the gross new loans to personal income ratio.

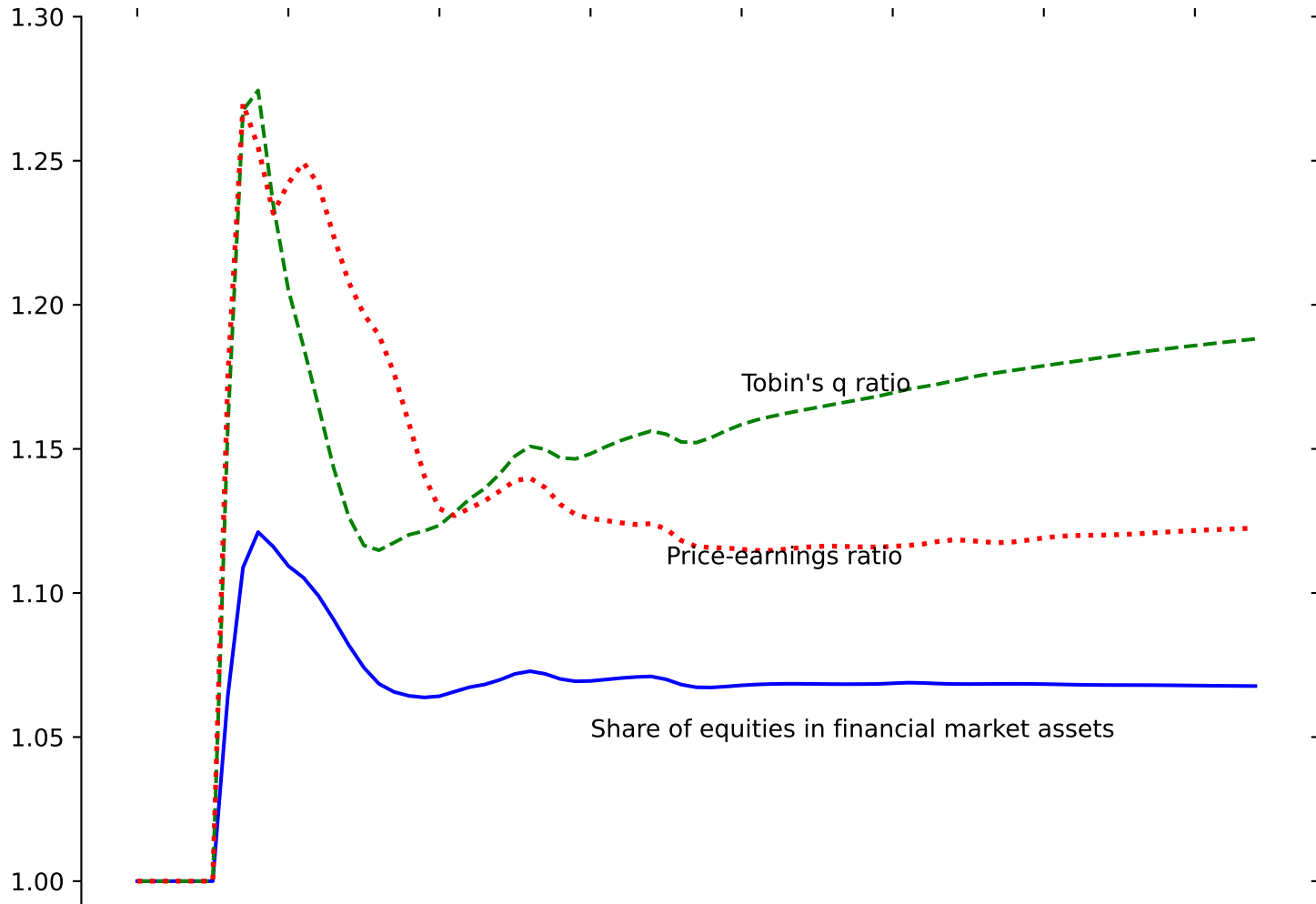
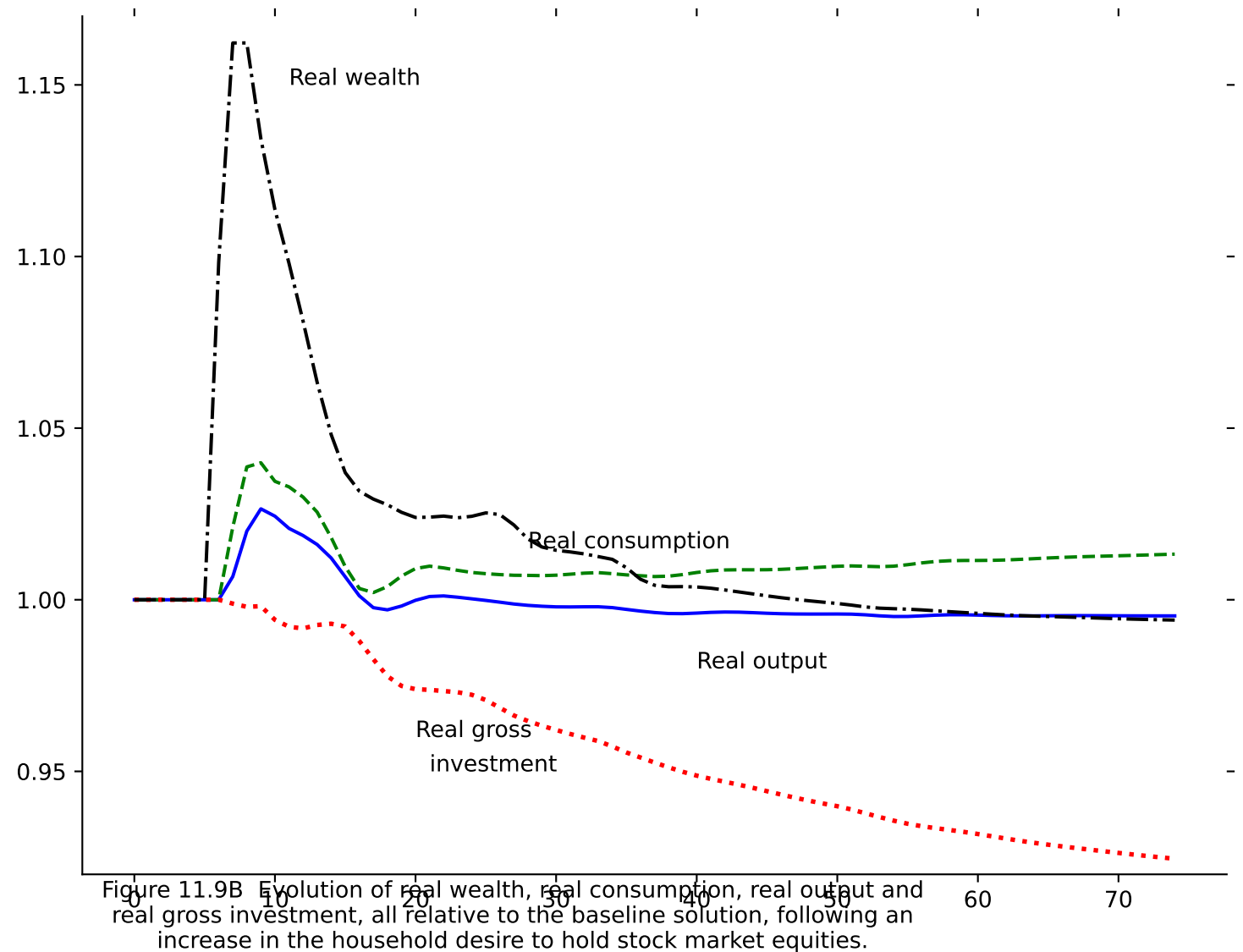
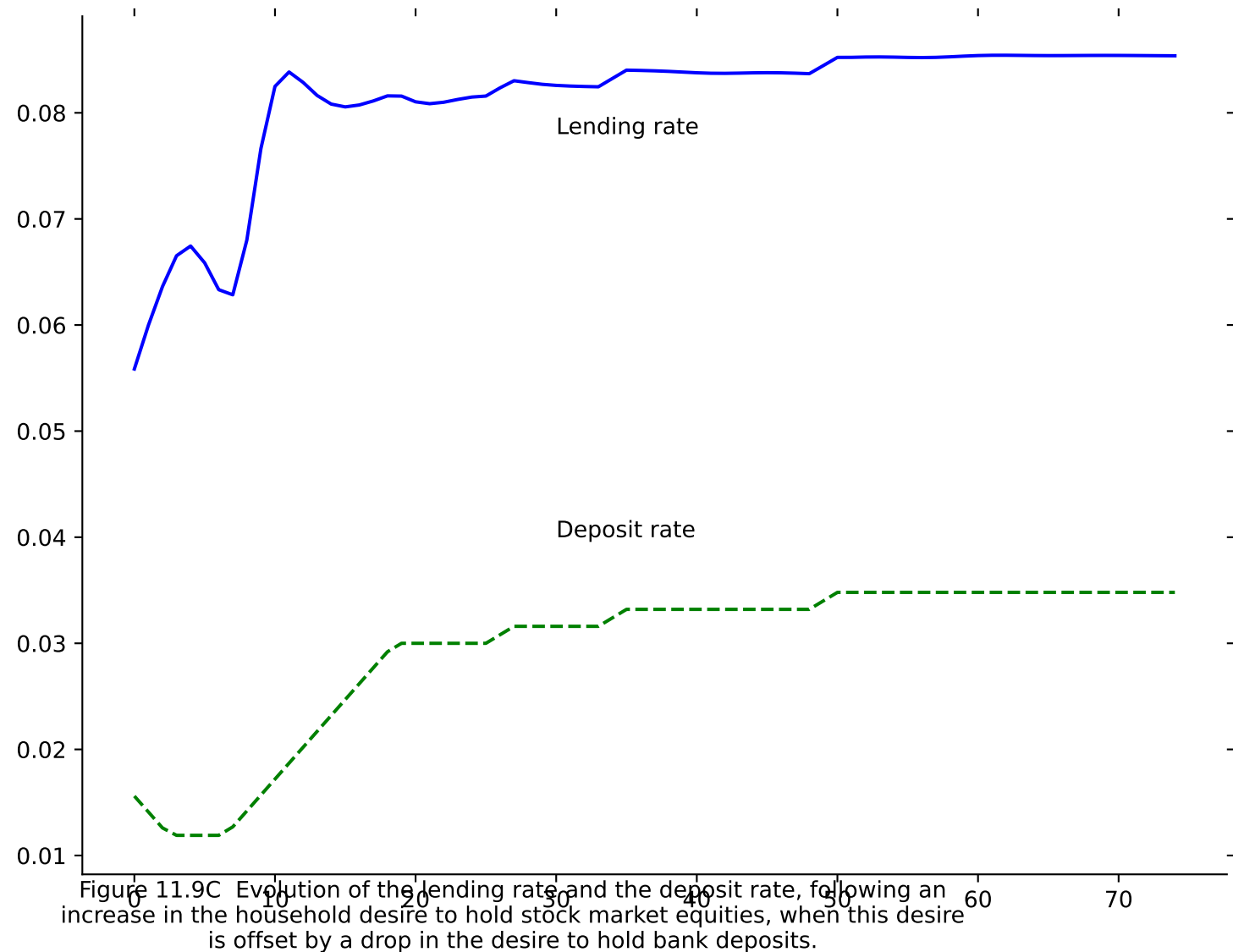
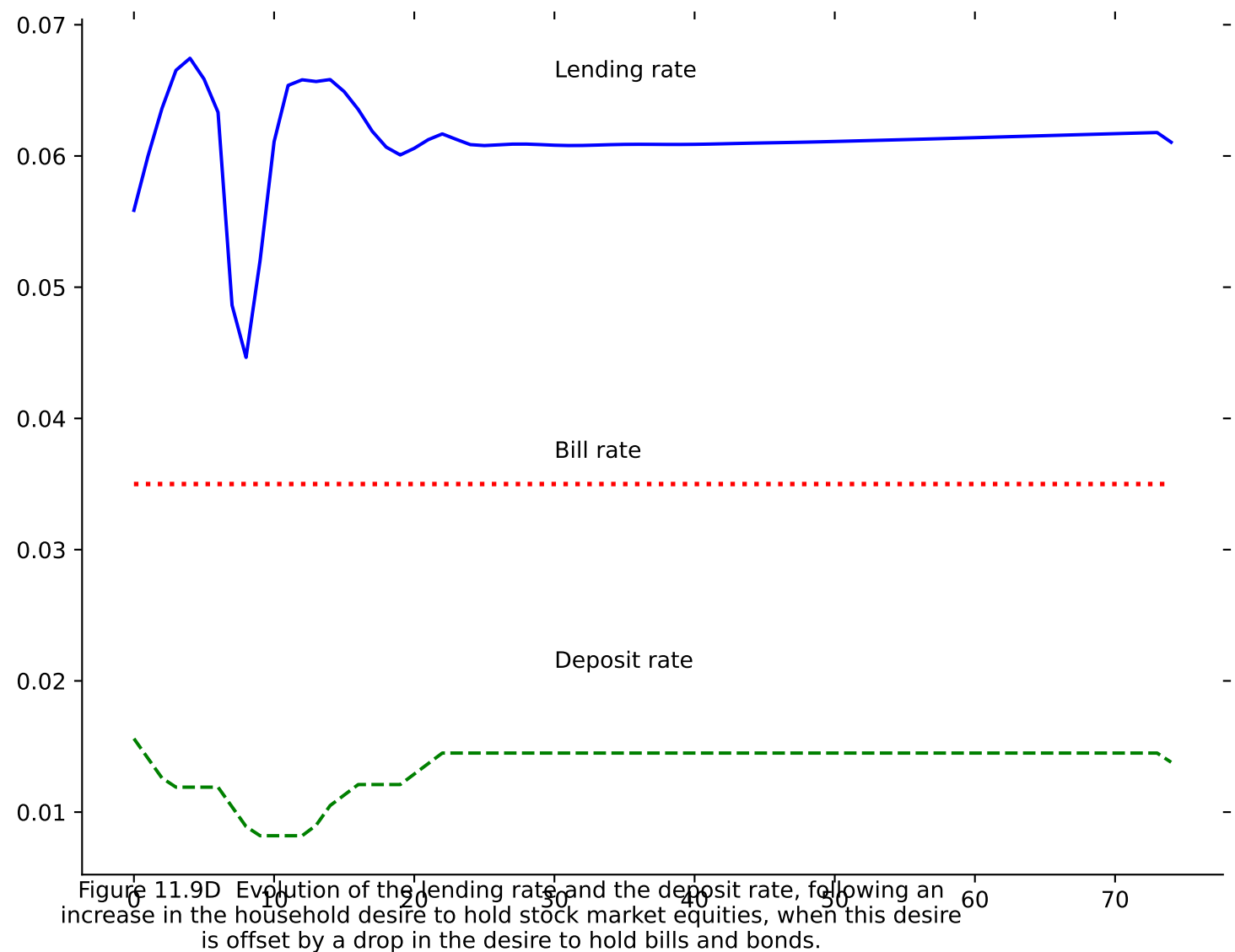


Figure 11.9A Evolution of Tobin's q ratio, the price-earnings ratio and the share of equities in household wealth held in the form of financial market assets, all relative to the baseline solution, following an increase in the household desire to hold stock market equities.







Costing margin

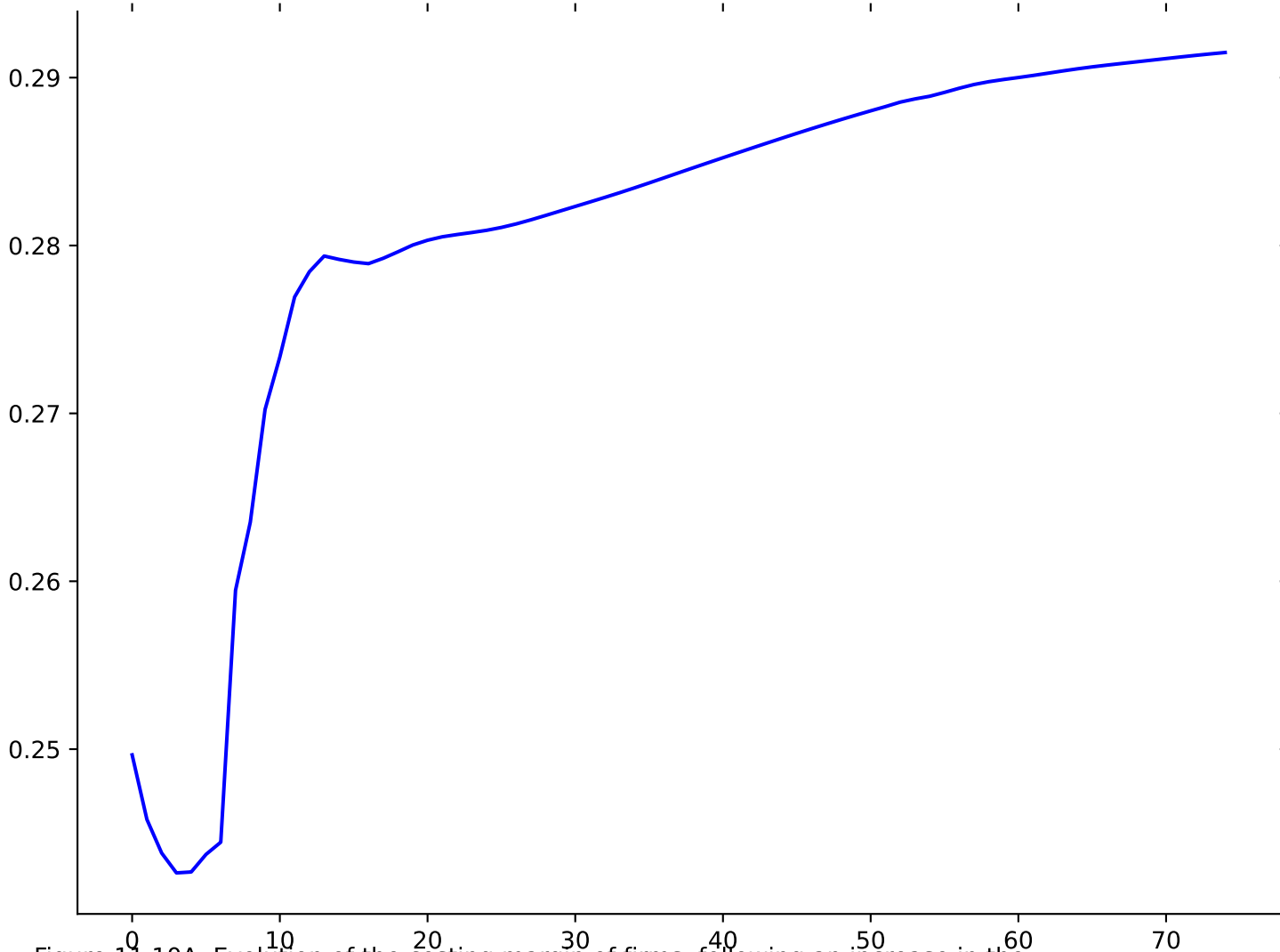


Figure 11.10A Evolution of the costing margin of firms, following an increase in the target proportion of gross investment being financed by gross retained earnings.

Wage inflation rate

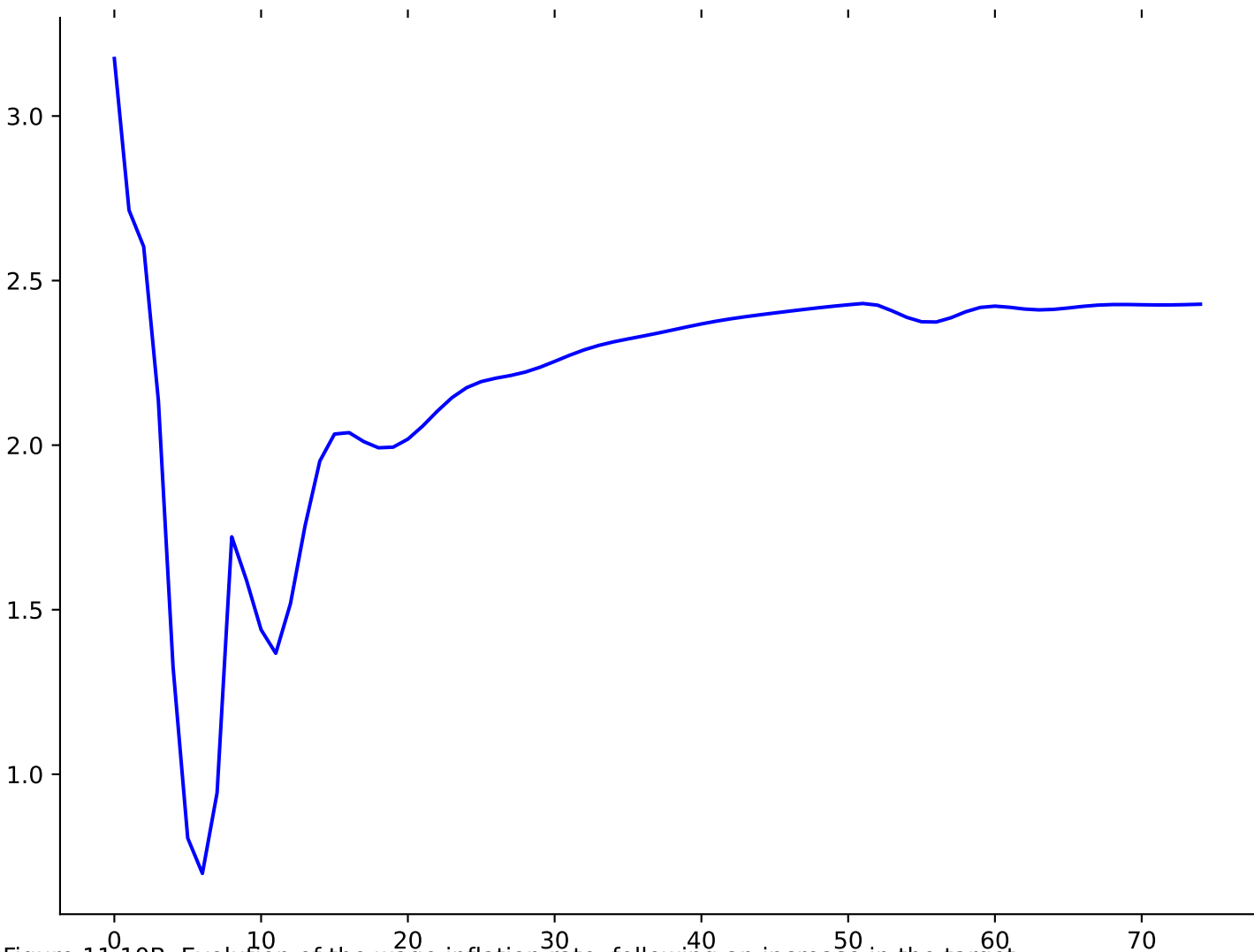


Figure 11.10B Evolution of the wage inflation rate, following an increase in the target proportion of gross investment being financed by gross retained earnings.

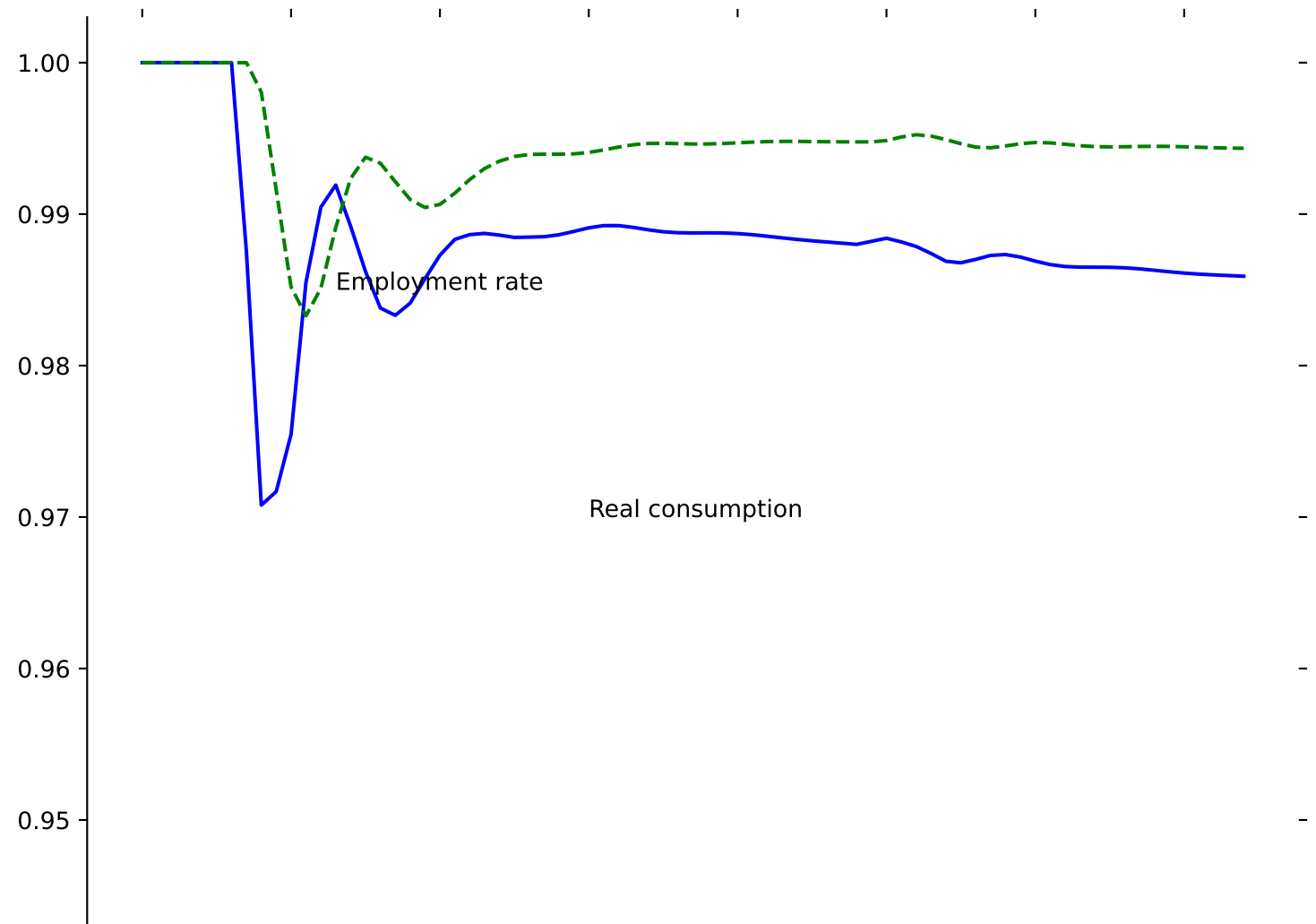
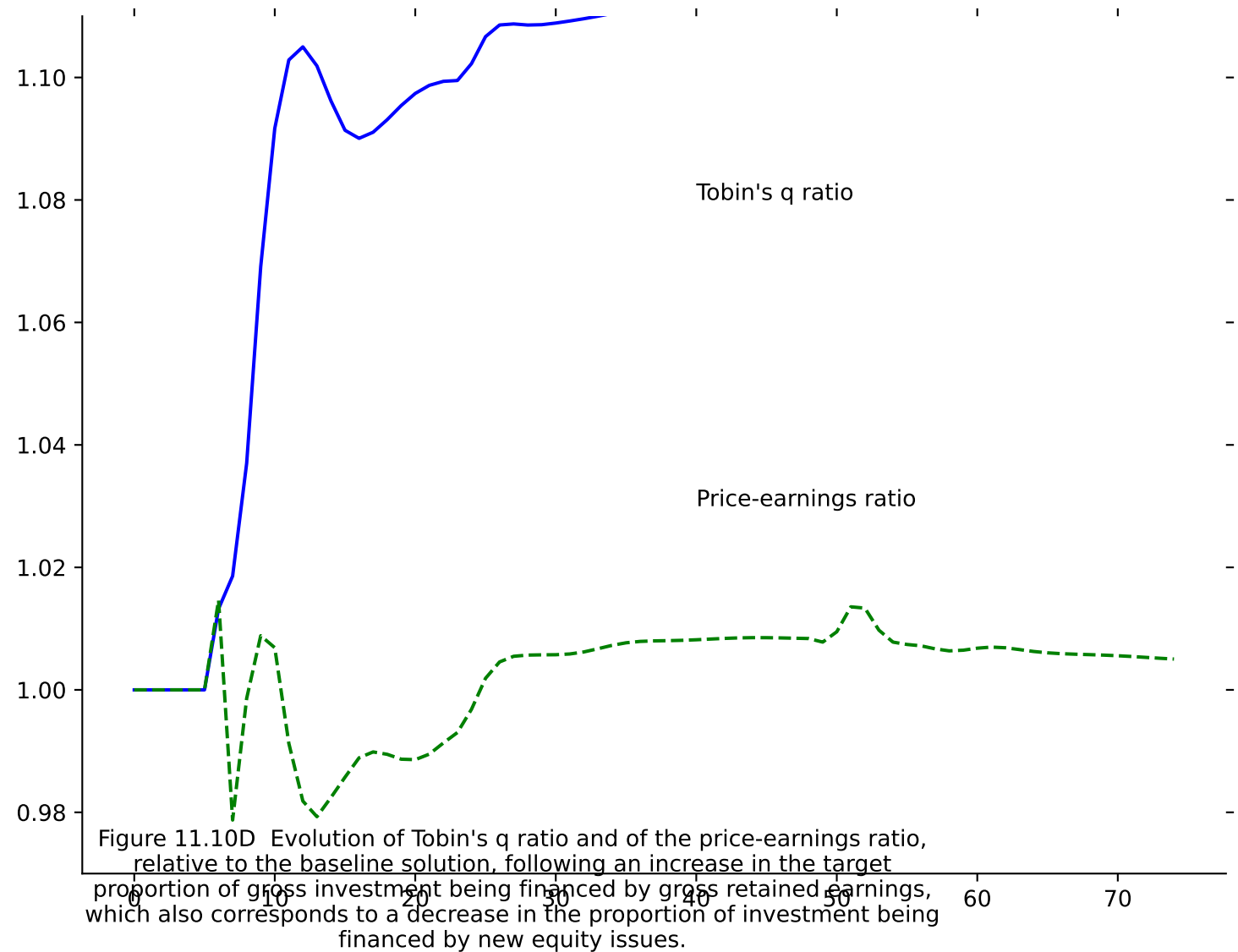
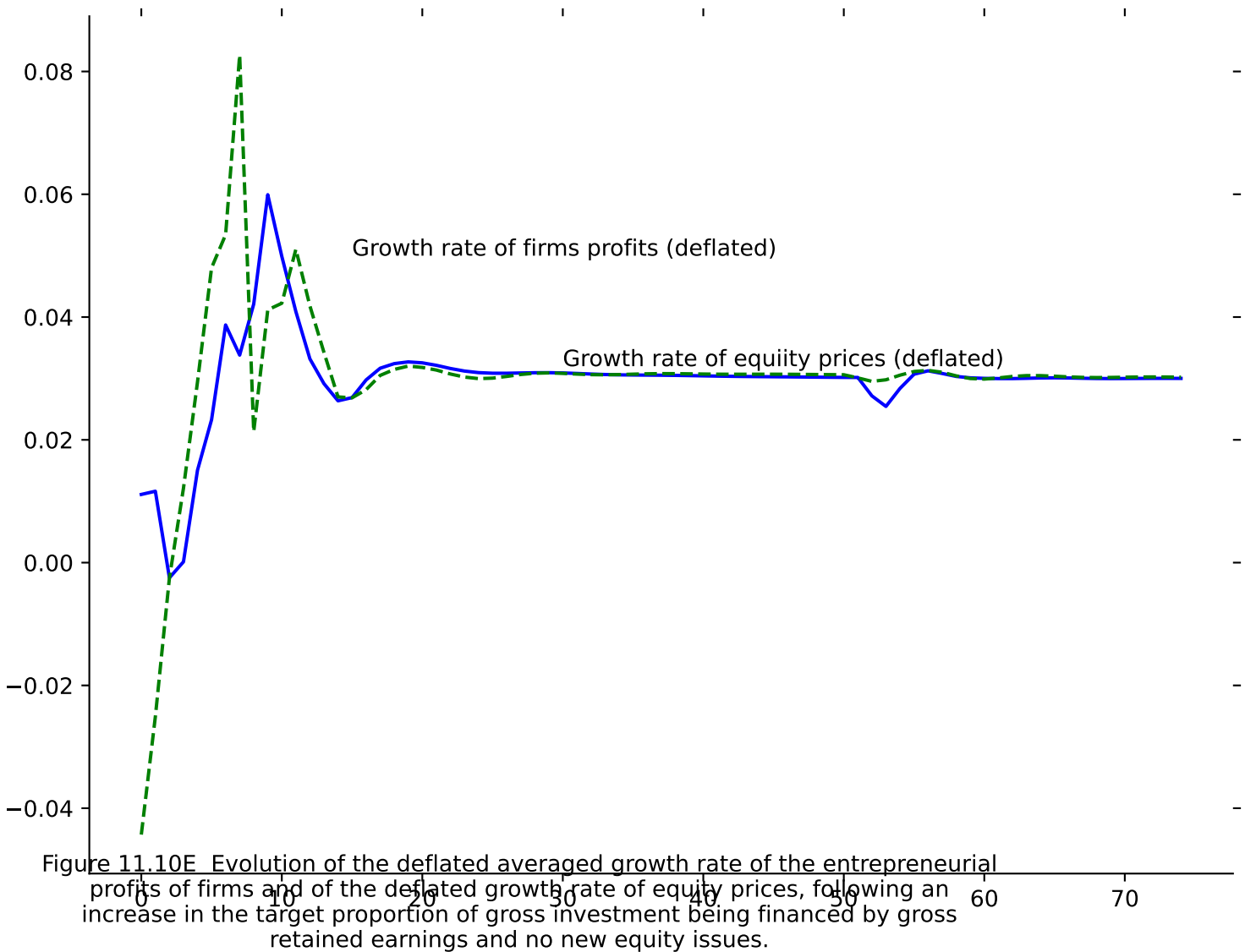


Figure 11.10C Evolution of the employment rate and of real consumption, relative to the baseline solution, following an increase in the target proportion of gross investment being financed by gross retained earnings.





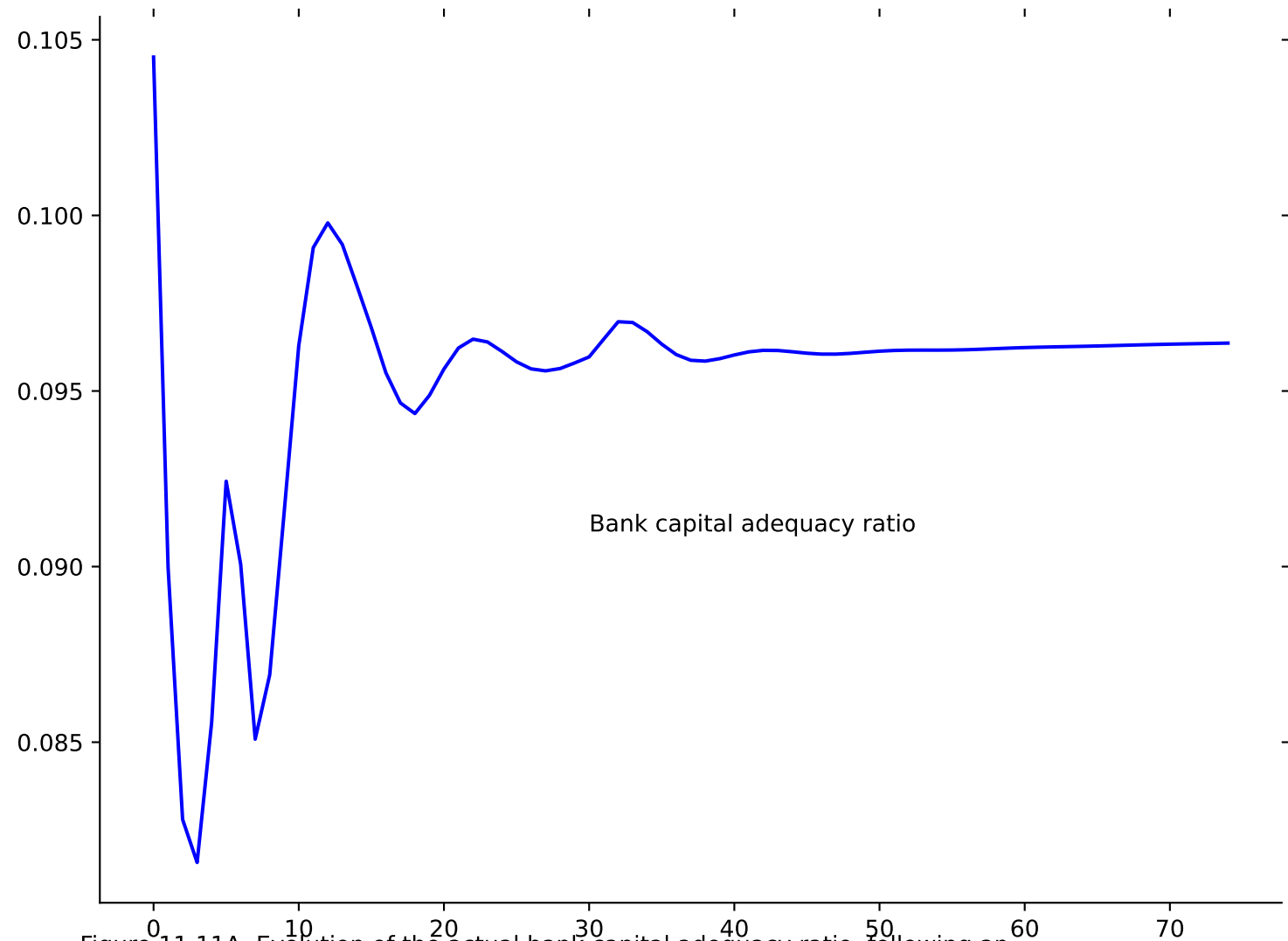
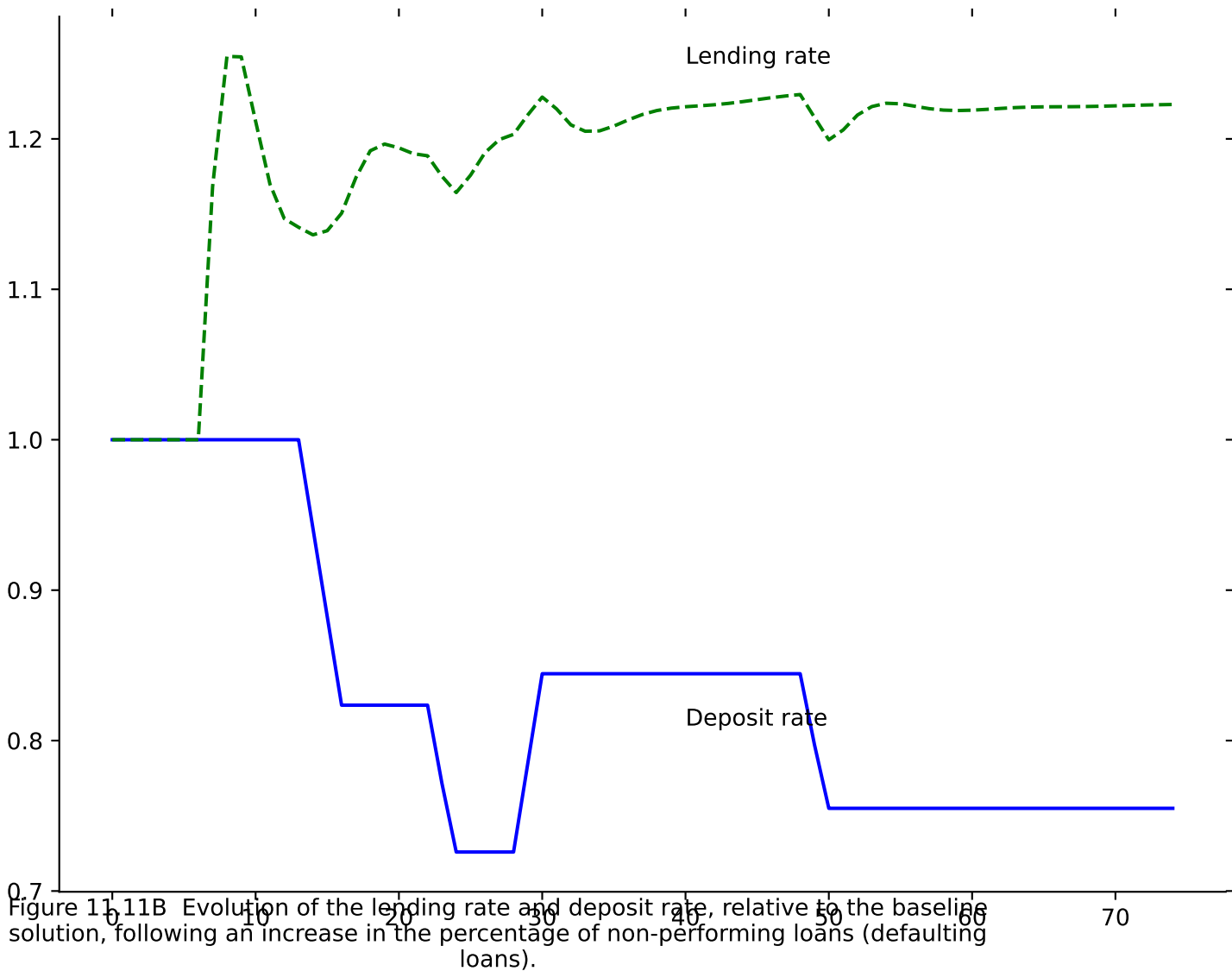


Figure 11.11A Evolution of the actual bank capital adequacy ratio, following an increase in the percentage of non-performing loans (defaulting loans).



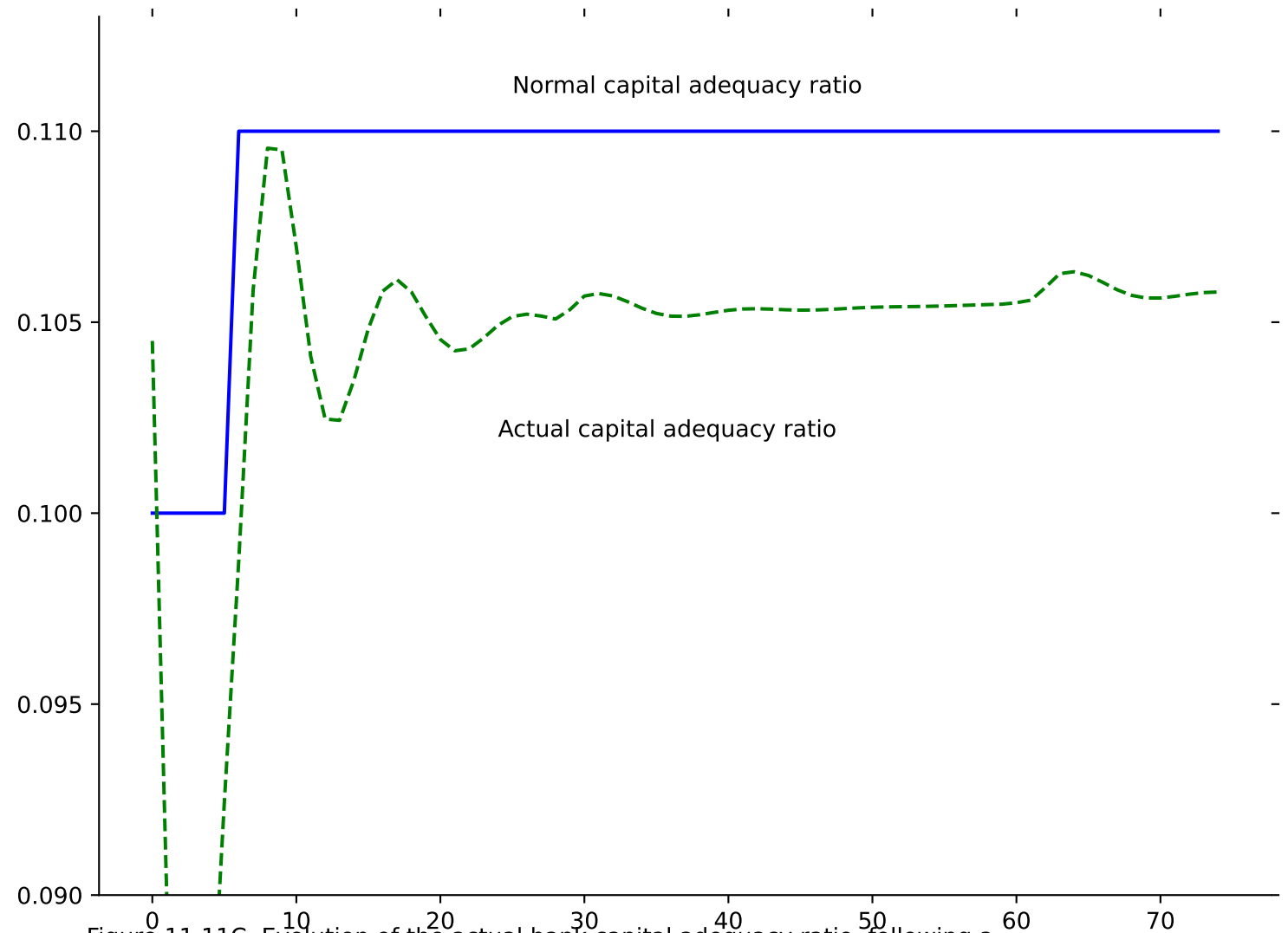


Figure 11.11C Evolution of the actual bank capital adequacy ratio, following a one-time permanent increase in the normal capital adequacy ratio.

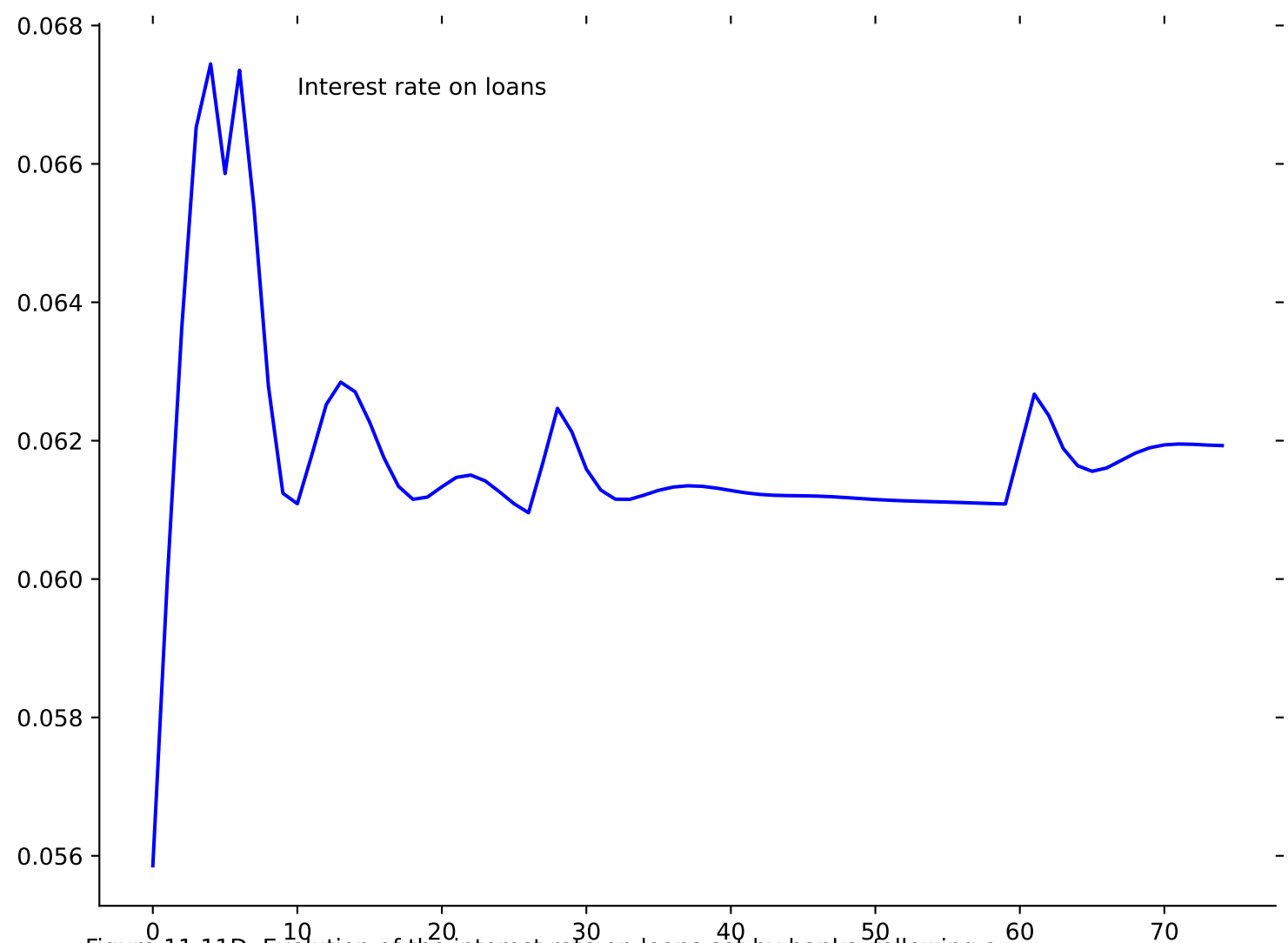


Figure 11.11D Evolution of the interest rate on loans set by banks, following a one-time permanent increase in the normal capital adequacy ratio.

Unemployment Rate Over Time



Figure: Unemployment Rate - Evolution of unemployment over time, with full employment defined as 2% unemployment. This shows how the economy transitions from the initial ~8% unemployment towards the natural rate of 2%.

Disposable Income Over Time

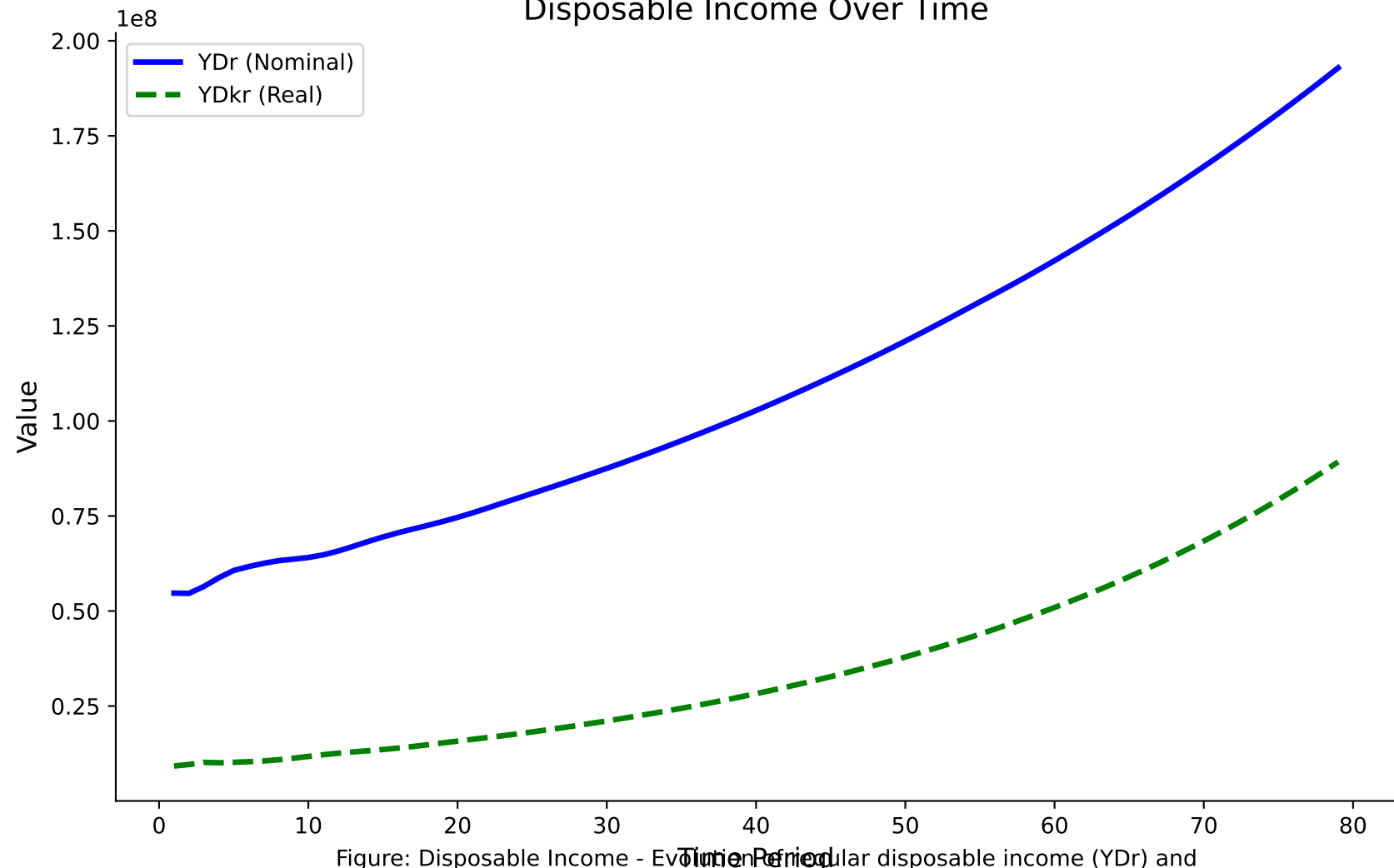


Figure: Disposable Income - Evolution of regular disposable income (YDr) and real regular disposable income (YDkr) over time.

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