

# External Rebalancing in the Euro Zone: Do Structural Reforms Help?

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## Abstract:

The paper uses a three-region version (Spain, other euro area, rest of the world) of QUEST to assess the impact of (credible) structural reforms on external positions. It analyses two dimensions, namely the impact of enhanced flexibility and prudence on the resilience to shocks and the contribution of structural reforms to the correction of unsustainable imbalances. Firstly, the simulations show that price and wage flexibility beyond current levels has moderate and ambivalent effects on the adjustment to bubble and demand shocks, whereas prudent collateral validation mitigates imbalances linked to housing booms. Secondly, product market reform, wage moderation and fiscal consolidation can support/accelerate the correction of unsustainable imbalances. These reforms increase price competitiveness and improve trade and current account balances in the short and medium run (here, up to 5-6 years). Successful activity-enhancing reforms do also raise import demand, which reduces external balances in the longer run, however. Area-wide reforms affect external balances with the rest of the world, but do not reduce disparities across EMU member states.

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## 1. INTRODUCTION

External imbalances at the global level have been on the economic research and policy agenda already for many years. Related studies and discussions have centred on the emergence and sustainability of large external deficits and surpluses, the prospects of rebalancing and the implications for deficit and surplus countries.

Similar questions are now raised at the level of the euro area, where the scale and disparity of current account positions and foreign debt levels have become major concerns especially since the collapse of the housing bubble and the debt crisis in numerous member countries. The current account of the euro area aggregate is approximately balanced, but external positions of member countries scaled by GDP are similarly diverse as imbalances at the global level.

The current account imbalances in the euro area during the past decade reflect generally higher consumption/low saving rates rather than exceptionally high investment in the deficit countries (e.g., Blanchard and Giavazzi, 2002; Jaumotte and Sodsriwiboon, 2010). The growing disparity of current account positions has been facilitated by financial market integration and the decline of borrowing costs in the periphery of the euro zone.

Neither the occurrence of large current account deficit and surplus positions, nor the dominant role of low saving in external deficits is necessarily problematic. The external deficits and surpluses may rather reflect the play of convergence in an increasingly integrated market. The theory behind this benign perspective builds on capital return equalisation and/or consumption smoothing.

To the extent that marginal returns to capital decrease with the size of the capital stock, return equalisation implies that capital should flow to capital-scarce regions in an integrated financial market, leading to growing (declining) investment and external deficits (surpluses) in countries with low (high) initial capital endowment (e.g., Schmitz and von Hagen, 2009).

The second factor is consumption smoothing, motivated by decreasing marginal returns to period consumption. Unless subject to binding borrowing constraints, the households borrow against expected growth in future income and increase consumption already at present, before the domestic activity and productivity actually expand. The consumption smoothing implies an initial rise in imports and net foreign indebtedness (e.g., Blanchard and Giavazzi, 2002).

Consumption smoothing may relate not only to the perspective of catch-up growth and income convergence, but also to demographic trends. Ageing populations with projected future shortages of labour and contributors to pension systems should save more for consumption spending after retirement. Younger and growing societies, on the other hand, may borrow against future work-force, income and contribution growth.

Blanchard and Giavazzi (2002) and Schmitz and von Hagen (2009) are examples of empirical studies that consider the evidence of strengthening financial integration and growing elasticity of net capital flows with respect to per-capita income in euro area, where capital flows from high-income to low-income countries, as signs of the proper functioning of financial markets, not as manifestation of unsustainable debt accumulation.

According to the benign view, smooth rebalancing should narrow current account positions in the longer term. External deficits and surpluses will diminish when the economies have grown more equal. Net cross-border investment declines when cross-country return differentials narrow, and consumption is increasingly financed domestically as household incomes grow. The time path of the adjustment depends on the persistence of the underlying factors.

The less benign perspective is that external imbalances reflect, at least partly, misperceptions on the prospects of deficit countries from borrower and lender sides, notably an overestimation of future income growth and underestimation of lending risks. Declining borrowing costs and exuberant growth expectations trigger consumption and investment booms, such as the housing bubble (e.g., European Commission, 2010; Gourinchas, 2002; Jaumotte and Sodsriwiboon, 2010).

Demand expansion and asset bubbles tend to amplify domestic price and wage growth, which translates into real effective appreciation and reduces the competitiveness of domestic tradable products in international markets and at home (e.g., Berger and Nitsch, 2010; Biroli et al., 2010; Blanchard, 2007; Ruscher and Wolff, 2009; Zemanek et al., 2010). Falling trade competitiveness reduces the ability of deficit countries to earn export revenues and to service their foreign debt.

Despite the lack of smooth and automatic rebalancing, as in the benign convergence case, imbalances of the second type eventually have to unwind. The fear and reality is that such adjustment can be very sudden and highly disruptive. Borrowing and budget constraints may suddenly tighten as the risk assessment of lenders shifts. The debtors may no longer be able to borrow in international financial markets and not even be able to service the outstanding debt (e.g., Gourinchas, 2002). What follows is a painful and long episode of depression, adjustment and correction.

Risk neglect, consumption booms and housing bubbles in deficit countries do also impose costs on surplus economies already before the unwinding of unsustainable positions. During the time of careless lending, sound investment projects in surplus countries could not compete with the (faulty) promise of high and save returns in the EMU periphery, so that the export of savings has disadvantaged activity and employment in surplus countries (e.g., Sinn, 2010).

The present paper makes no attempt to assess the relative contribution of benign (convergence) and problematic (unsustainable expansion, competitiveness loss) determinants to external account positions in euro area countries. It rather focuses on the adjustment process, especially on adjustment in situations in which smooth rebalancing cannot be taken for granted.

Specifically, the paper considers the potential of structural reforms to support external adjustment along two dimensions:

- The impact of reforms on the resilience of external balances to exogenous shocks, i.e. imbalance prevention;
- The potential of reforms to support/accelerate the imbalance correction.

The first dimension concentrates on the role of price and wages flexibility and prudent lending in the adjustment to exogenous shocks that imply a (temporary) deterioration of foreign positions. The second dimension analyses the impact of product market, labour market and fiscal

reform on external positions, notably their potential contribution to the correction of large external deficits. Berger and Nitsch (2010), Birolì et al. (2010), Ruscher and Wolff (2009) and Zemanek et al. (2010) suggest on the basis of econometric estimates that structural reforms that facilitate price and wage adjustment may significantly improve the export performance and/or reduce import demand of economies with high external deficit and debt levels.

The analysis uses a three-region version of DG ECFIN's QUEST III model. The three regions are Spain, as example for euro-area countries with adjustment need, the rest euro area, and the rest of world. The model includes tradable, non-tradable and housing sectors, liquidity-constrained, credit-constrained and Ricardian households, and numerous nominal (price and wage stickiness) as well as real rigidities (employment, investment, capital-stock and capacity-utilisation adjustment costs, habit persistence).

Looking at the short-term adjustment and resilience of external positions, the simulations test the effect of increased price and wage flexibility and increasingly prudent lending behaviour on the response of external balances to falling risk premia on house investment (housing bubble) and general domestic demand shocks, starting from the hypothesis that increasing nominal flexibility may amplify price and dampen volume responses to temporary shocks.

The corrective dimension looks at the impact of product market reform (price mark-up reduction), labour market reform (wage moderation) and fiscal consolidation on external balances in reforming countries. The case for structural reforms rests primarily on their positive employment, activity and income effects. The simulations test whether these reforms have a double dividend in the case of external adjustment needs. Besides testing the impact of unilateral reforms in one country (here, Spain), the simulations also consider the effect of EMU-wide reform implementation.

Section 2 sketches the three-country, three-sector version of QUEST as the underlying framework. Section 3 presents the response of external balances to temporary housing and domestic demand shocks for alternative degrees of price stickiness, wage inertia and collateral constraints. Section 4 portrays the impact of product market reform, labour market reform and fiscal consolidation on economic activity and external positions. Section 5 summarises the simulation results and relates them to empirical evidence.

## 2. ANALYTICAL FRAMEWORK

The analysis uses DG ECFIN's QUEST III macroeconomic model with three sectors (tradable goods, non-tradable goods, housing services/construction) and three different types of households (liquidity-constrained, collateral-constrained and unconstrained).<sup>1</sup> This version consists of three regions, namely Spain, as country with adjustment needs, the rest of the euro area, and the rest of the world. Figure 3.1 sketches the basic structure of a regional block.

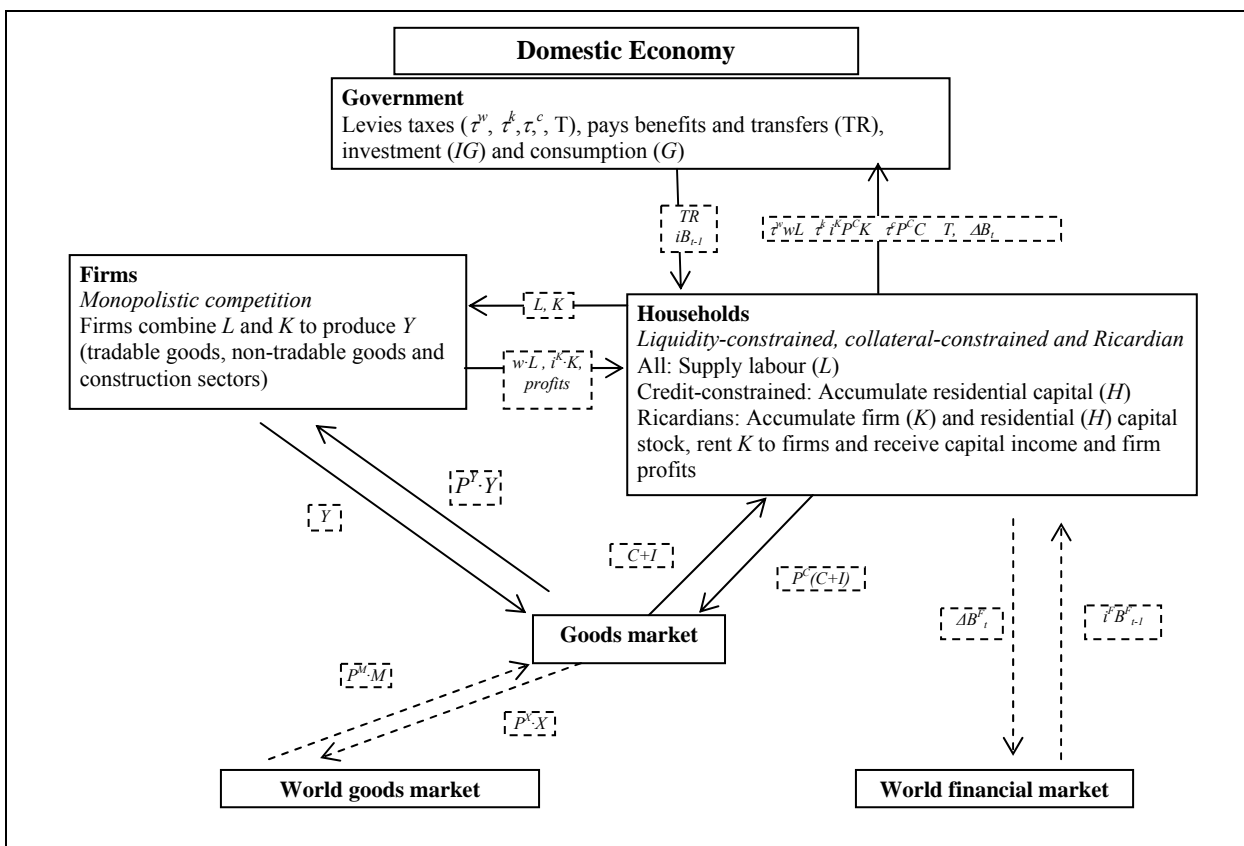
The regions are populated by representative households and firms. More precisely, each region is home to three different types of households:

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<sup>1</sup> See Roeger and in't Veld (2009; 2010) for detailed descriptions of the QUEST III model version with housing sector and [http://ec.europa.eu/economy\\_finance/research/macroeconomic\\_models\\_en.htm](http://ec.europa.eu/economy_finance/research/macroeconomic_models_en.htm) for multiple applications.

- Liquidity-constrained households, who cannot borrow against expected future income and do not save income through financial and/or real investment. Every period, these households simply consume their currently disposable wage and transfer income.
- Collateral-constrained households, who are forward-looking, but more impatient than the Ricardian households. Collateral-constrained households borrow from Ricardians, consume and invest in residential property. Making optimal intertemporal choices, the households face collateral constraints on the borrowing. Notably, the ability to borrow depends on the current value of the housing collateral. The credit constraint tightens (relaxes) when the value of residential property falls (increases).
- Ricardian households, who are infinitely-lived and forward-looking. Ricardian households have full access to financial markets to make optimal intertemporal choices. Ricardian households face neither borrowing nor lending constraints. They consume and invest in productive capital, residential property, land and financial assets (government bonds, domestic and foreign household debt). Ricardians own the domestic firms and receive labour income, the returns to capital, land and financial assets, and the profits of domestic firms.

**Figure 3.1: QUEST III country block**



Tradable goods, non-tradable goods and housing services are imperfect substitutes in the consumption and investment/intermediate bundles of households and firms. In addition, tradable goods produced in one region are imperfect substitutes for tradables produced in other regions.

Import volumes depend on domestic demand, i.e. domestic private and government consumption and investment, and the relative price of imports:

$$M_t = s^M \left( \frac{P_t^C}{P_t^M} \right)^{\sigma^M} (C_t + I_t^{inp} + C_t^G + I_t^G)$$

The parameter  $s^M$  indicates the steady-state share of imports in domestic demand, and  $\sigma^M$  is the elasticity of substitution between bundles of domestic and foreign tradable goods. Assuming similar behaviour in other regions, export demand is derived symmetrically as:

$$X_t = s^{M,W} \left( E_t \frac{P_t^{C,F}}{P_t^X} \right)^{\sigma^X} Y_t^F$$

The variables  $P_t^X$ ,  $P_t^{C,F}$  and  $Y_t^F$  are the export price deflator, the foreign consumer price index (in foreign currency) and foreign demand. Instead of adding an export sector with monopolistic competition and distinct export price setting, export prices are set equal to the price of domestic tradable goods.

Net exports and interest income/payment on foreign asset positions determine the dynamic of net foreign asset (NFA) positions  $B_t^F$ :

$$E_t B_t^F = (1 + i_t^F) E_t B_{t-1}^F + P_t^X X_t - P_t^M M_t$$

The economy's current account equals the period net interest income plus net export revenues:

$$CA_t = i_t^F E_t B_{t-1}^F + P_t^X X_t - P_t^M M_t$$

The focus on NFA positions precludes valuation effects, i.e. changes in the value of foreign asset and/or liabilities denominated in different currencies due to exchange rate dynamics. However, excluding valuation effects seems admissible in the present context, because Spanish foreign assets and liabilities are largely denominated in the same currency, namely in euro.

The regions have monetary (except individual EMU countries) and fiscal authorities committed to rules-based stabilisation policies. The simulations focus on private-sector adjustment and keep government consumption and investment constant in real terms, except for the analysis of fiscal consolidation.

The calibration of economic size, trade openness, trade linkages and regional sector sizes (tradable, non-tradable, construction) is taken from the GTAP database. The calibration of the other parameters in Table 2.1 is deliberately simple. The paper takes Spain as stylised example of euro members with adjustment need, but does not attempt to replicate its economic structure in detail. The approach is common in the analysis of intra-EMU and global dynamics. The chosen parameter values are also consistent with estimated/calibrated DSGE models of the Spanish economy in Andrés et al. (2010), Boscá et al. (2010), and Burriel et al. (2010).<sup>2</sup>

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<sup>2</sup> The studies by Andrés et al. (2010), Boscá et al. (2010), and Burriel et al. (2010) pursue a more rigorous estimation and/or calibration of model parameters for the Spanish economy. The particular models do not include a spe-

Table 2.1: Model calibration

	<i>Spain</i>	<i>Euro area</i>	<i>RoW</i>
<b>Nominal Rigidities:</b>			
Average duration between price adjustment (quarters)	4	4	4
Average duration between wage adjustment (quarters)	5	5	5
Average duration between house price adjustment (quarters)	2	2	2
<b>Real Rigidities:</b>			
Labour adjustment cost	13	13	10
Labour supply elasticity	1/5	1/5	1/3
Capital adjustment cost	20	20	20
Investment adjustment cost	75	75	75
Housing stock adjustment cost	40	40	40
Housing investment adjustment cost	40	40	40
Substitution elasticity domestic versus imported goods	1.5	1.5	1.5
Substitution elasticity tradables versus non-tradables	0.5	0.5	0.5
Substitution elasticity between imported goods	0.9	0.9	0.9
Mark-up for tradable goods (%)	9	8	10
Mark-up for non-tradable goods (%)	16	17	18
Mark-up for wages (%)	20	20	20
Capital income tax (%)	28	28	28
Consumption tax (%)	17	17	17
Labour income tax (%)	35	35	35
<b>Consumption:</b>			
Share of liquidity-constrained consumers	0.30	0.30	0.30
Share of credit-constrained consumers	0.30	0.30	0.30
Share of non-constrained consumers	0.40	0.40	0.40
Down-payment rate	0.25	0.25	0.25
Habit persistence	0.70	0.70	0.70
<b>Monetary policy:</b>			
Lagged interest rate	-	0.82	0.82
Consumer price inflation	-	1.50	1.50
Output gap	-	0.05	0.05
<b>National accounts decomposition:</b>			
Consumption	0.61	0.61	0.60
Investment tradables	0.05	0.05	0.06
Investment non-tradables	0.07	0.07	0.07
Investment residential	0.07	0.07	0.06
Government consumption	0.18	0.18	0.18
Government investment	0.04	0.04	0.04
Exports	0.29	0.20	0.06
Imports	0.29	0.20	0.06
Transfers to households	0.16	0.16	0.16
<b>Share in world output</b>	<b>0.03</b>	<b>0.21</b>	<b>0.77</b>

cific construction sector, however. The lack of a construction sector limits the ability of these models to replicate and analyse the boom and bust in the Spanish housing market.

Nominal and real rigidities, such as price, wage, employment, investment and capital adjustment costs, are set at equal levels in Spain and the rest of the euro area. For nominal price and wage stickiness, the simplification harmonises with results from the ECB Inflation Persistence and Wage Dynamics Networks that the average duration of price and wage contracts is fairly similar across euro area countries (Druant et al., 2009; Knell, 2010).<sup>3</sup>

Kolasa (2010) also sets nominal and real adjustment costs in Spain equal to average euro area values and calibrates long-run trade linkages and demand shares to actual data. If anything, the estimates in Andrés et al. (2010) suggest moderately lower tradable price and wage stickiness in Spain, but stronger wage indexation than for the euro area aggregate. Druant et al. (2009) and Knell (2010) also report lower average duration but higher indexation of wage contracts in Spain.

### 3. FLEXIBILITY AND THE RESILIENCE OF EXTERNAL POSITIONS

This section looks at a first dimension of structural reforms, namely reforms that reduce adjustment friction in the economy and may thereby accelerate economic adjustment and increase economic resilience. The simulations focus on increased nominal price and wage flexibility and increased prudence in lending behaviour, i.e. lower risk of over-borrowing.

Increasing price and wage flexibility in the economy strengthens the reaction of goods and factor prices and dampens the volatility of demand and output volumes in response to exogenous shocks. This section explores the implication for external balances.

The section describes and explains the adjustment to two different temporary shocks, namely:

- A housing bubble that distorts domestic demand towards housing investment and softens borrowing constraints for collateral-constrained households as the value of housing collateral increases,
- A temporary exogenous push in private consumption and investment demand in Spain.

More precisely, I model the housing bubble as gradual decline of the risk premium on housing investment. The risk premium declines in quarterly steps of 25 basis points to reach 500 basis points below the initial value after five years. The risk premium stays low for additional five years and gradually returns to the initial value thereafter. The domestic demand shock as second scenario combines exogenous growth of consumption and productive investment demand. Domestic demand exogenously rises by 1 percent relative to the baseline level. The demand push lasts two years, after which the domestic demand schedule gradually returns to baseline.

Positive demand and housing investment shocks have been major factors in the build-up of (unsustainable) external imbalances in the periphery of the euro area in recent years (Andrés et al., 2010; Blanchard and Giavazzi, 2002). The calibration of the shock processes in this section is purely illustrative, however. The impact of the two shocks (500 basis-point decline of housing investment risk premium, 1% domestic demand increase) on the current account and

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<sup>3</sup> Italian wage contracts, which last 20 months on average compared to 15 months average duration in the euro area aggregate, are the exception.



foreign debt is much lower than the actual degradation of Spain's external balances in recent years, namely -7 percent of GDP for the current account and -48 percent of GDP for net foreign assets during 1999-2008. The DSGE studies by Andrés et al. (2010) and Boscá et al. (2010) present estimates of actual shock sizes and shock decompositions for the Spanish economy.

Housing bubble and domestic demand shocks generate trade balance and current account deficits. Housing bubbles raise the demand for residential investment and construction activity, partly financed by capital inflows. The positive demand shock also generates temporary gaps between domestic demand and production. Households borrow from abroad and import goods and services to close the gap between domestic demand and supply.

In addition to nominal price and wage stickiness, the QUEST model includes numerous real rigidities that affect the adjustment to shocks, e.g. investment, capital and employment adjustment costs, and consumption habits. Reducing real rigidities should amplify the reaction of investment, employment and output to exogenous shocks. Real frictions reflect, at least partly, technology or preferences, however, and seem therefore less accessible to regulatory reform than nominal adjustment frictions.

**Table 3.1: Baseline and alternative scenarios for adjustment frictions**

	Baseline	Alternative
<b>Nominal Rigidities:</b>		
Average length of price contracts (quarters)	4	3
Average length of wage contracts (quarters)	5	4
<b>Credit constraints:</b>		
Prudent assessment of the housing collateral value (adjustment of collateral value by GDP-price instead of house-price inflation)	no	yes

The Figures 3.1 and 3.2 show the impact of the housing bubble and positive domestic demand shocks under the alternative structural settings shown in Table 3.1. The baseline series display adjustment given the baseline calibration of Table 2.1, namely an average duration of price (wage) contracts of 4 (5) quarters and housing collateral valued at current house prices. The series label *prices* refers to impulse responses in which the average duration of price contracts in tradable and non-tradable sectors is reduced from 4 to 3 quarters, but all other parameters remain as in the baseline calibration.<sup>4</sup> The *wages* series show impulse responses for an average duration of wage contracts of 4 instead of 5 quarters; all other parameters correspond to the baseline calibration. The *house* series illustrate the adjustment with cautious valuation of housing collateral, where the evolution of housing collateral values is indexed to the GDP deflator instead of indexation to current house prices (baseline model) in order to reduce the risk of bubble-driven over-borrowing and credit-expansion; all other parameters equal the baseline of Table 2.1. Finally, the *all* series combines the amendments along all three dimensions (price and wage flexibility, prudent collateral valuation) and present their joint impact on the impulse responses.

<sup>4</sup> Simulations for separate reductions in tradable/non-tradable price stickiness have also been tested. The results are very similar to the joint reduction of price stickiness and therefore not reproduced here.

Figure 3.1: Impulse responses for 500 basis-point housing bubble

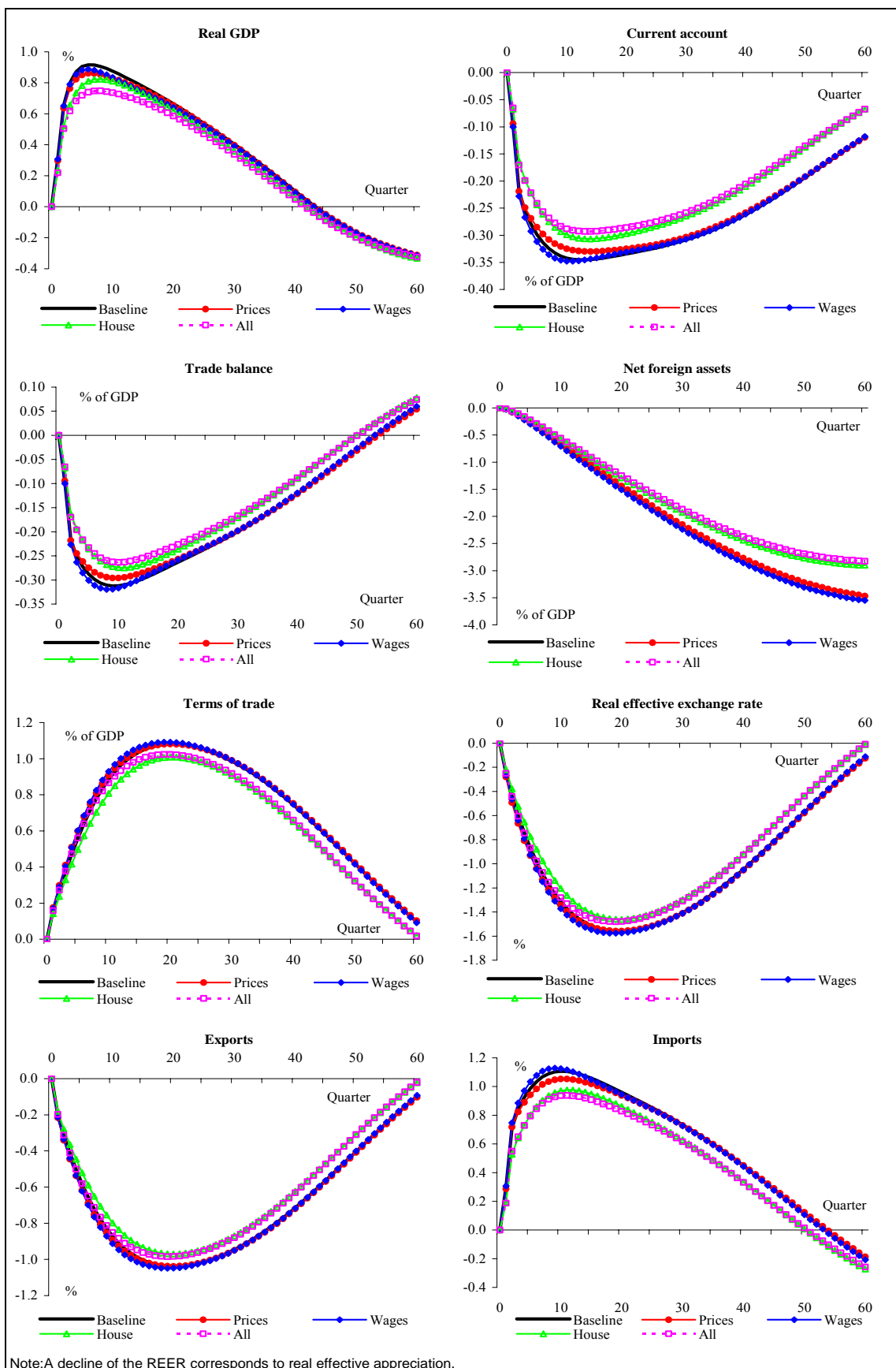
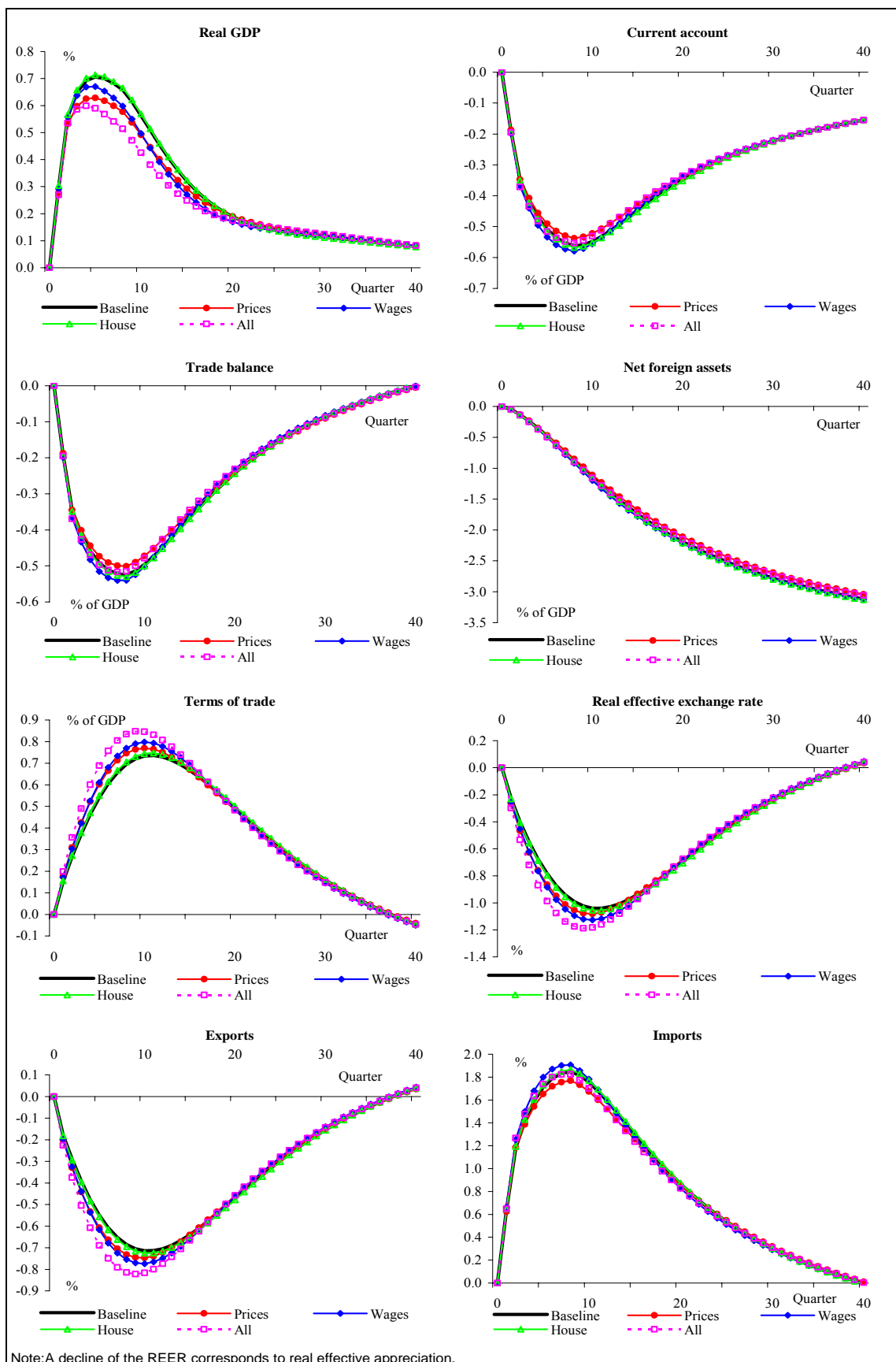


Figure 3.2: Impulse responses for 1-percent domestic demand shock



The results in Figures 3.1 and 3.2 show that increasing nominal flexibility as described in Table 3.1, namely reducing the average duration of price and wage contracts by one quarter, and more adopting a more prudent valuation of housing collateral have only moderate impact on the adjustment of external variables and balances in response to housing bubbles and domestic demand shocks.<sup>5</sup>

Interestingly, price and wage flexibility affect the amplitude of the shock responses in different directions. More frequent price adjustment reduces the current account and trade balance deterioration compared to the baseline calibration, whereas increasing wage flexibility amplifies the negative response of external balances.

Reducing price stickiness increases the price and dampens the volume response to house investment and general demand shocks. Prices rise in response to the shift in the demand schedule and reduce the effective demand compared to a situation in which prices do adjust only sluggishly and remain low for longer time. The dampening impact of increasing prices on domestic demand dampens the increase in import demand and the deterioration of the trade and current account balances.

Increasing wage flexibility, on the other hand, negatively affects domestic supply. The housing and non-housing demand shocks increase domestic demand and the demand for domestic labour. Flexible wages respond more quickly to increasing labour demand than sticky wages, resulting in stronger wage increases and lower employment growth. The wage inflation raises production costs and domestic goods prices. The competitiveness of domestic tradables deteriorates. The domestic demand shifts increasingly towards imported tradable goods, import demand raises and the trade and current account balances become more negative than in the baseline setting with less nominal wage flexibility.

Prudent assessment of the value of housing collateral reduces borrowing and housing investment and dampens the deterioration of external balances in response to the house-price bubble in Figure 3.1 by up to  $\frac{1}{3}$ <sup>rd</sup>. The credit-constrained households reduce the investment in residential property compared to housing bubbles in the standard setting, which dampens the domestic debt and demand expansion and growth of import demand. The weaker demand expansion also reduces real effective appreciation and the deterioration of price competitiveness, so that export volumes fall less strongly than in the standard setting.

The limited impact of higher nominal price and wage flexibility in Figures 3.1 and 3.2 does not imply that nominal rigidities as such have little impact on the adjustment to shocks. The importance of nominal rigidities should increase with the degree of stickiness. High nominal price and wage persistence together, e.g., imply high real wage rigidity, which prolongs the adjustment to shocks and leads to larger swings in volumes instead of relative prices. The results, however, suggest that modestly reducing price and wage rigidity below *current* levels has limited impact on the amplitude and persistence of the impulse responses.

The joint effect of structural change along all three dimensions (price and wage flexibility, prudent valuation of housing collateral) is mixed. It reduces the reaction of real GDP to housing bubble and general domestic demand shocks, i.e. dampens the fluctuation in economic activity associated with such shocks. Encompassing reforms also limit the deterioration of external balances associated with housing bubbles, a result that is mainly driven by the dampening

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<sup>5</sup> Annualised results for a broader set of variables are summarised in the annex.

impact of prudent lending policies. The impact of joint reforms on the reaction of external balances to general demand shocks, on the other hand, lies in between the performance of higher price flexibility and more flexible wages. Price flexibility accelerates price adjustment and reduces the adjustment of volumes in response to the demand push. Wage flexibility, on the other hand, strengthens wage claims in response to inflation, which increases production costs, reduces labour demand and strengthens expenditure switching from domestic to foreign tradable goods. Prudent collateral valuation does not affect the adjustment in Figure 3.2 compared to the baseline calibration as the demand shock has little impact on relative house prices.

Results on the short-term adjustment of external accounts to shocks have no straightforward normative interpretation. Blanchard (2007a) argues that frictions like price stickiness, wage rigidity and financial constraints may imply too small rather than too large volatility in current accounts compared to the frictionless benchmark. In a first best world, eliminating rigidities would then be optimal even if it increased the (short-run) disparity of external positions. Removing frictions that reduce the reaction of external balances to exogenous shocks may not be optimal in a second-best world with additional distortions, however.

#### 4. REFORMS AND THE CORRECTION OF EXTERNAL IMBALANCES

The previous section has analysed the impact of structural reforms that increase price and wage flexibility and reduce the risk of over-borrowing on the short-term adjustment of macroeconomic variables, notably external accounts, to temporary exogenous housing bubble and non-housing demand shocks.

This section focuses on structural reform that shift the steady-state levels of macroeconomic variables like employment, activity and relative prices in the reforming country. Particularly, it discusses the impact of competitiveness-enhancing structural reforms on external balances in the shorter, medium and longer term and asks whether competitiveness-enhancing reforms can make a contribution to the external rebalancing in economies characterised by external deficits and indebtedness.

**Table 4.1: Structural reform scenarios**

	Reduction
<b>Product market:</b>	
Reduction of producer price mark-up (tradable and non-tradable sectors)	1 percentage point
<b>Labour market:</b>	
Real wage moderation	1 %
<b>Fiscal consolidation:</b>	
Reducing the debt-to-GDP ratio...	
... through lower government purchases	5 % of GDP
... through higher labour taxation	5 % of GDP

Table 4.1 lists the basic reform scenarios. Discussion is limited to a small number of scenarios from the large set of potential structural reforms, namely permanent price mark-up reductions, wage moderation and fiscal consolidation.

The section analyses how structural reforms that raise the equilibrium level of, e.g., output, employment, consumption and investment and the competitiveness of domestic tradable goods affect the external balances of countries in monetary union.<sup>6</sup> Reforms are assumed to be credible, i.e. they change long-term expectations of private households and firms upon implementation. The simulations focus on the private sector adjustment and, except for expenditure-based fiscal consolidation, keep government consumption and investment constant in real terms.

#### 4.1 Product market reform

Product market reform that reinforces competition in goods markets, e.g. by facilitating market entry and exit, reduces the price-setting power of firms and the price mark-up that firms can charge. The impact on trade and current account balances depends on different factors and their relative strength. Price reduction improves the price competitiveness of domestic tradable goods in foreign and domestic markets, which increases export and reduces import demand (competitiveness effect). But lower mark-ups should also increase domestic activity and incomes in the longer term, which raises import demand when (as in the model calibration in Table 2.1) domestic and foreign tradables are imperfect substitutes (income effect).

Figure 4.1 illustrates the impact of 1 percentage-point price mark-up reductions in the tradable (T) and non-tradable (NT) sectors in Spain. The mark-up reduction initially lowers domestic demand, due to the decline of expected profits, the temporary increase in real interest rates and the associated lower demand from Ricardian and credit-constrained households, but improves the trade balance and the current account. The export volumes increase and import volumes decrease as domestic tradables become cheaper (substitution effect).

The trade balance and current account improvement weakens in the medium term. Both balances turn even slightly negative after 4 years as import volumes recover in response to rising domestic activity, employment and income (income effect). Domestic investment exceeds domestic saving; net capital imports close the saving gap. The countervailing competitiveness and income effects of mark-up cuts (nearly) offset each other in their current account and trade balance effects in the long run.

The competitiveness effect materialises quickly after reform implementation in the simulations, because nominal prices and wages are sufficiently flexible with average contract durations of only few quarters.

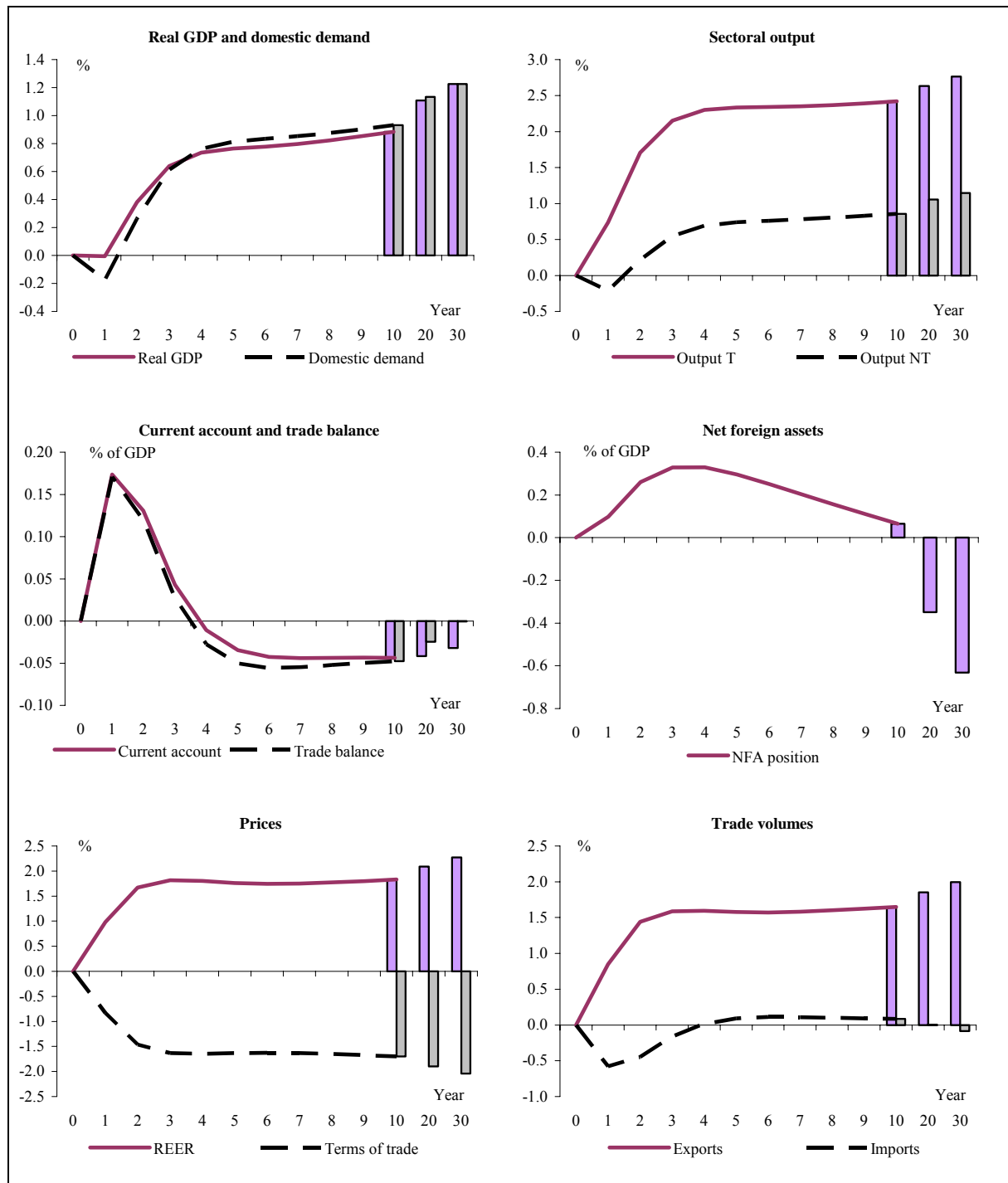
The countervailing income effect, on the other hand, is fully effective only after several years. Real adjustment frictions, such as investment, capital stock and labour adjustment costs, delay the response of economic activity to structural reforms, so that output and income increase only gradually. Constrained consumers cannot (freely) borrow against future income gains, so that activity and wage incomes have to increase before their consumption and housing investment demand increases. The quantitative importance of liquidity-constrained and collateral-

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<sup>6</sup> Actual reforms may affect the steady state and the speed of adjustment to exogenous shocks at the same time. E.g., measures that reduce firms' market power and increase goods market competition are likely to increase price flexibility as well, because demand becomes more price-elastic and non-adjustment more costly in terms of losing market share. The focus of this section is beyond the few-quarter horizon, however. In addition, section 3 has shown that (moderately) reducing current levels of price and wage rigidity has only moderate effects on the short-term adjustment to shocks.

constrained households in the model delays the response of aggregate demand for domestic goods and import to product market reform.

**Figure 4.1: 1 percentage-point steady-state price mark-up reduction in the total economy**



In addition, price mark-up reduction increases real interest rates in the periods after implementation. The real interest rate effect is particular to adjustment in monetary union (e.g., Blanchard, 2007). Combining the exogenous nominal interest rate and expected declines in the domestic price level, real interest rates raise and temporarily reduce consumption and investment

demand from intertemporal optimising households, implying an initial reduction of domestic demand. The price mark-up compression reduces the profits of domestic firms and contributes to the decline of Ricardian consumption demand.

The initial current account improvement that is associated with the 1 percentage-point price mark-up reduction is moderate. The current account improvement peaks at 0.17 percent of GDP. The 1 percentage-point reduction of mark-ups reflects rather modest product market reform at the same time. Estimates by Badinger (2007) suggest that manufacturing price mark-ups in EU member states have, on average, fallen by around 10 percentage points after the introduction of the internal market program. Price mark-ups in construction have even declined by 20 percentage points during the same period, whereas service sector mark-ups appear to have increased by 7 percentage points.

Figure 4.2 shows that limitation of the mark-up reduction to tradable goods leaves the interaction of competitiveness and income effects intact. The 1 percentage-point mark-up reduction has less impact on external balances compared to the economy-wide mark-up decline in Figure 4.1, because the shock is concentrated on the tradable sector and smaller in total-economy terms, which weakens the substitution effect in favour of domestic goods (less demand switching from tradable to non-tradable goods) and the demand-dampening real interest rate increase (smaller expected price-level decline).<sup>7</sup>

Analogously to the qualitatively similar responses to general and tradable price mark-up reduction, 1 percentage-point non-tradable mark-up reduction (Figure 4.3) also has similar effects on trade and current account balances. Domestic households substitute non-tradable for tradable goods as non-tradable goods become relatively cheaper. The substitution effect reduces the demand for tradable goods and imports and improves external balances. Trade competitiveness is affected only indirectly via lower production costs (cheaper non-tradable inputs, less wage inflation pressure). The terms-of-trade decline is less pronounced and export volumes increase only  $\frac{1}{4}$  of the volume increase under falling tradable price mark-ups.

Taken together, price mark-up reduction in the tradable sector boosts net export volumes stronger than price mark-up reduction for non-tradable goods. Lower tradable mark-ups lead to stronger reductions in the terms of trade, which also reduces the positive impact of volume responses on net trade values and the current account, however. The simulations illustrate that lasting shifts in the terms of trade or REER that permanently improve price competitiveness of domestic tradable goods do not permanently shift trade and current account balances.

The similar responses for tradable and non-tradable mark-up reduction in Figures 4.2 and 4.3 contrast the results of Everaert and Schule (2008) that suggest qualitatively different trade-balance and NFA effect. Lower non-tradable mark-ups lead to REER depreciation in Everaert and Schule (2008), as in Figure 4.3. Surprisingly and unlike Figure 4.3, however, lower tradable prices are found to lead to REER appreciation.

The results in Figure 4.3 contradict the idea that reforms lowering service sector mark-ups would reduce the trade surplus of net exporters by strengthening domestic and import demand.

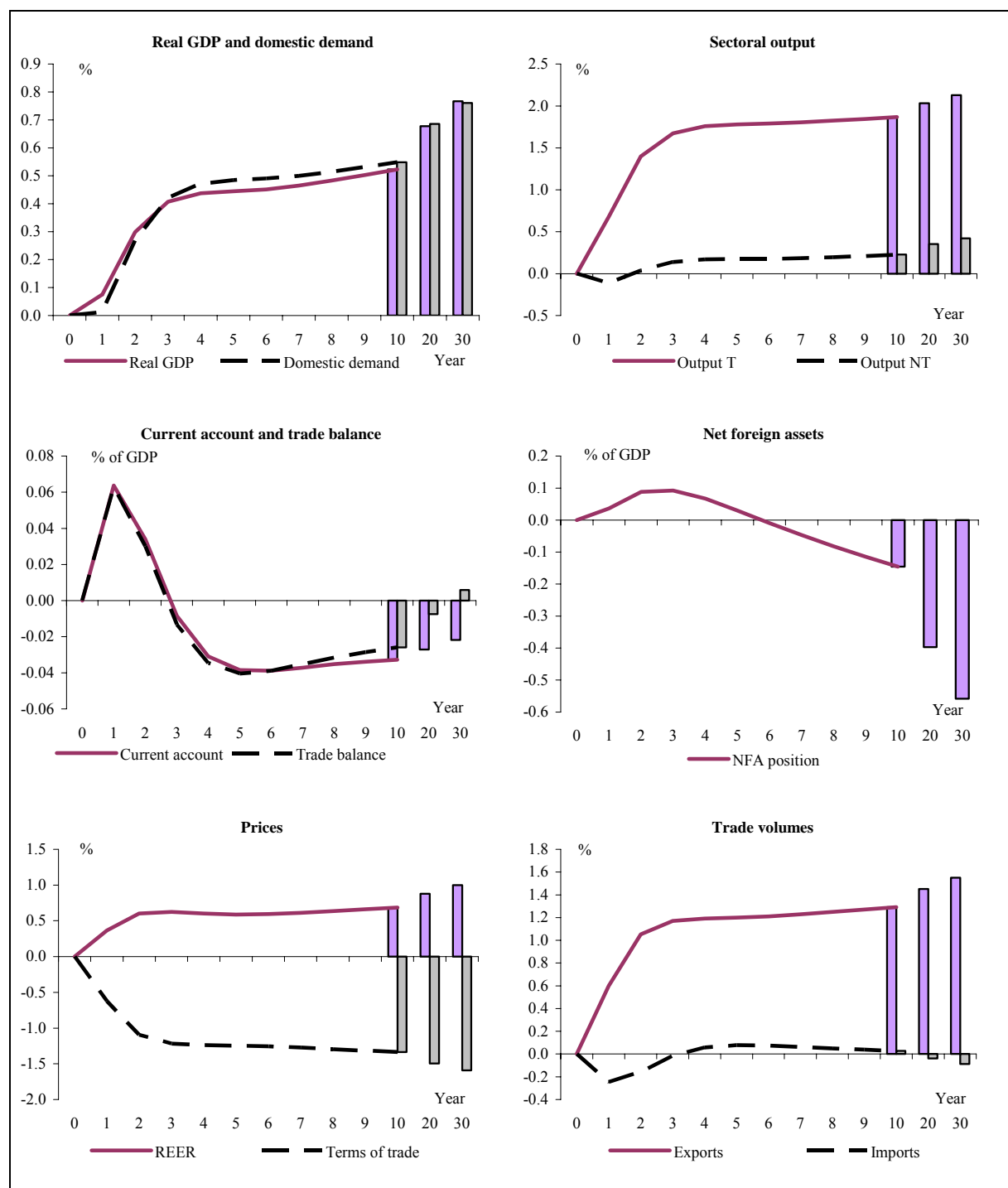
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<sup>7</sup> The differences between the real effective exchange rate (REER) and the terms-of-trade responses result from the fact that the REER includes tradable and non-tradable goods prices, whereas the terms of trade compare export to import prices. An increase in the REER signifies real effective *depreciation*; increases in the terms of trade describe increases of export relative to import prices.

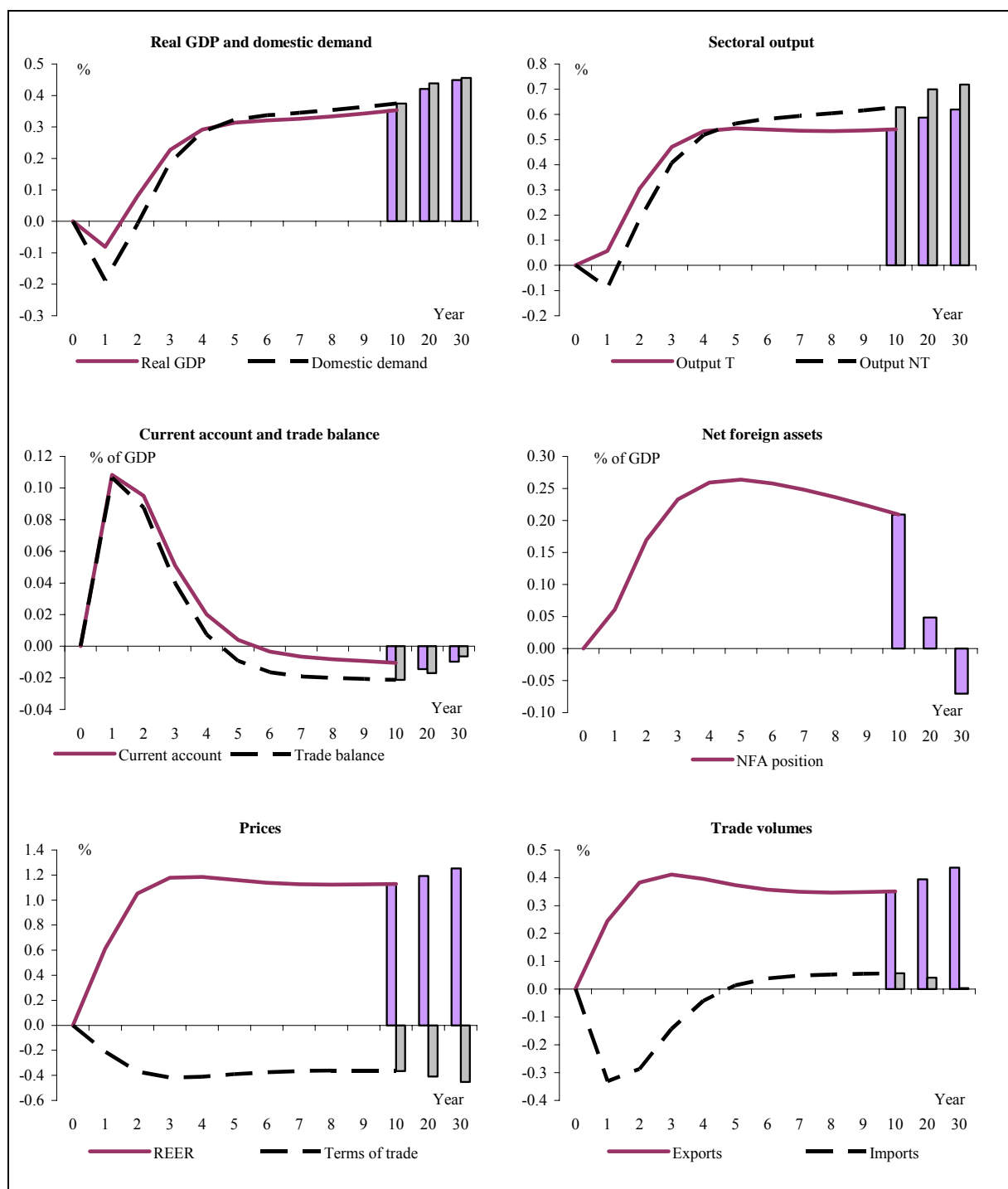


Instead, lower relative non-tradable goods prices trigger relocation of domestic demand from tradable to non-tradable goods, which *reduces* import demand, before long-term income effects materialise and raise demand for domestic products and imports alike. Evidence for the positive impact of falling non-tradable prices on the trade balance is reported, e.g., in Obstfeld and Rogoff (2005) and Ruscher and Wolff (2009).

**Figure 4.2: 1 percentage-point steady-state price mark-up reduction in the tradable sector**



**Figure 4.3: 1 percentage-point steady-state price mark-up reduction in the non-tradable sector**

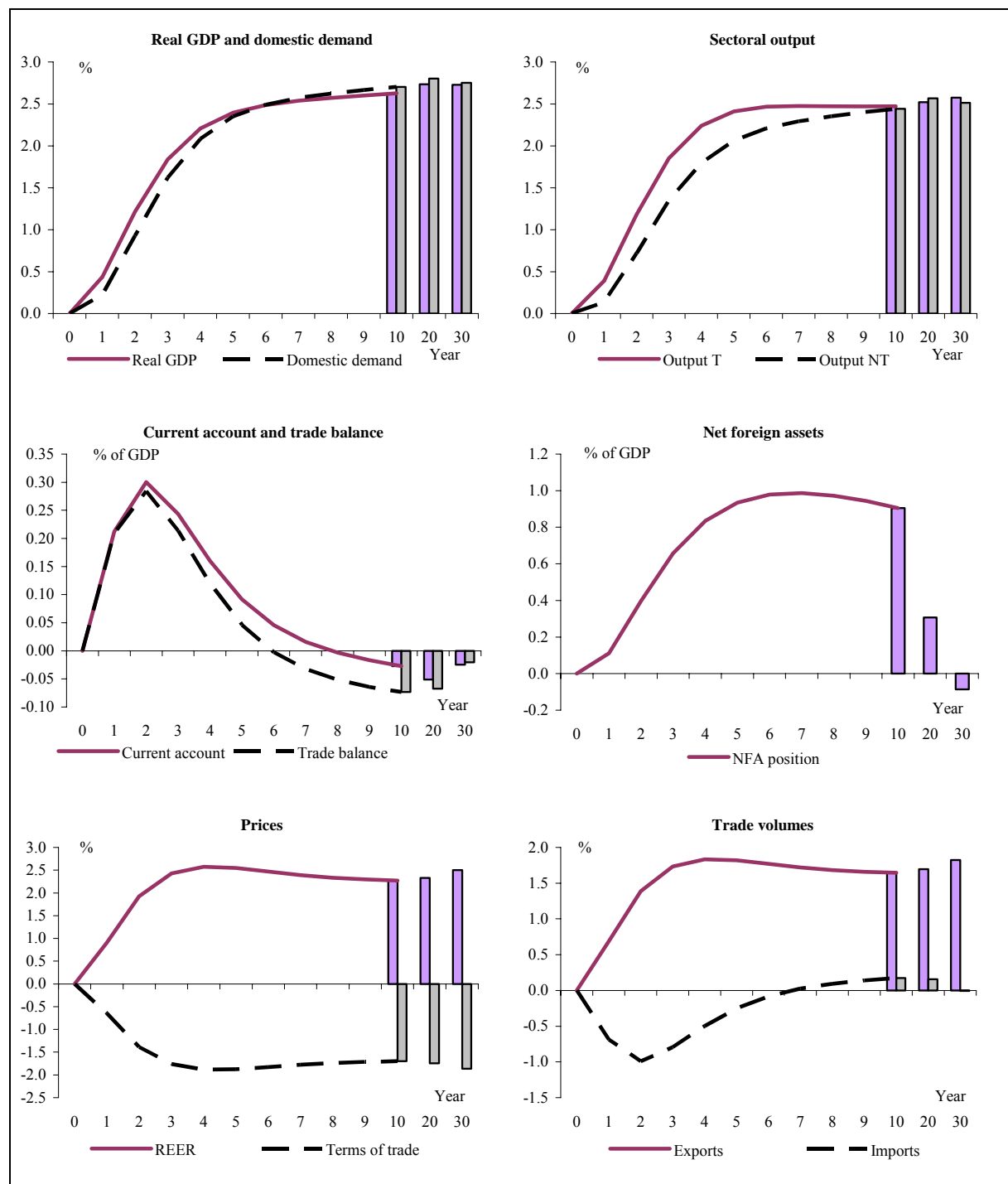


## 4.2 Wage moderation

To the extent that lower wages and production costs translate into decreasing prices (instead of higher profits), wage cuts are regularly proposed as one measure to restore competitiveness in EMU member countries with high initial unit labour costs and trade deficits (e.g., Blanchard,

2007).<sup>8</sup> Symmetrically, stronger wage growth is occasionally suggested to reduce the price competitiveness and net export performance of economies with large external surpluses.

**Figure 4.4: Real wage reduction of 1 percent on impact**



This subsection displays the general-equilibrium effect of real wage moderation on Spain's external position. The wage moderation is modelled as permanent shift in labour supply that

<sup>8</sup> The conditionality of the competitiveness effect may suggest a joint implementation of product and labour market reforms to contain or avoid the possible increase in profit margins.

reduces real wages by 1 percent on impact and raises the level of employment, provided labour demand is sufficiently elastic. Practically, wage moderation can result from household preference shifts, wage mark-up reduction or falling reservation wages. Labour input is treated as homogenous factor, so that the wage reduction applies to workers in the entire economy.<sup>9</sup>

Real wage moderation reduces domestic production costs and domestic tradable and non-tradable goods prices. The competitiveness gain lowers import and raises export volumes (Figure 4.4). The trade and current account balances improve relative to baseline for a period of 6-8 years, with a peak of 0.30% of GDP in year 2. The initial fall of import volumes results from the expenditure switching towards domestic tradable goods.

The wage moderation also increases employment, domestic activity and income levels. The rising net incomes translate into growing domestic and import demand. The income effect weakens the current account improvement and counterbalances the competitiveness-driven improvement of external balances in the long run. The reversal of the current account effect also reduces the NFA position after its first-decade peak.

Structural reforms which increase labour supply, employment, activity and domestic demand affect the government budget. Such reforms raise the tax revenue and reduce transfers to unemployed households. The scenario in Figure 4.4 assumes that the government uses the growing revenue to reduce distortionary labour taxation. Reducing the tax wedge between labour costs and net wages adds to the positive impact on employment and activity. Given the reinforcement of the positive supply-side effect, the real GDP impact of wage moderation in Figure 4.4 is an upper-bound estimate. Excluding second-round effects from wage tax reductions dampens the reduction of production cost and the employment and activity growth. On the external side, smaller competitiveness and income gains from wage moderation reduce the initial current account improvement and the countervailing long-run income effect alike.

In sum, wage moderation improves external balances and NFA positions in the short and medium term, but does itself no bring a permanent shift in the external position. Both wage moderation and price mark-up reduction have qualitatively similar impact on trade and current account positions in the short, medium and long term.

### 4.3 Fiscal consolidation

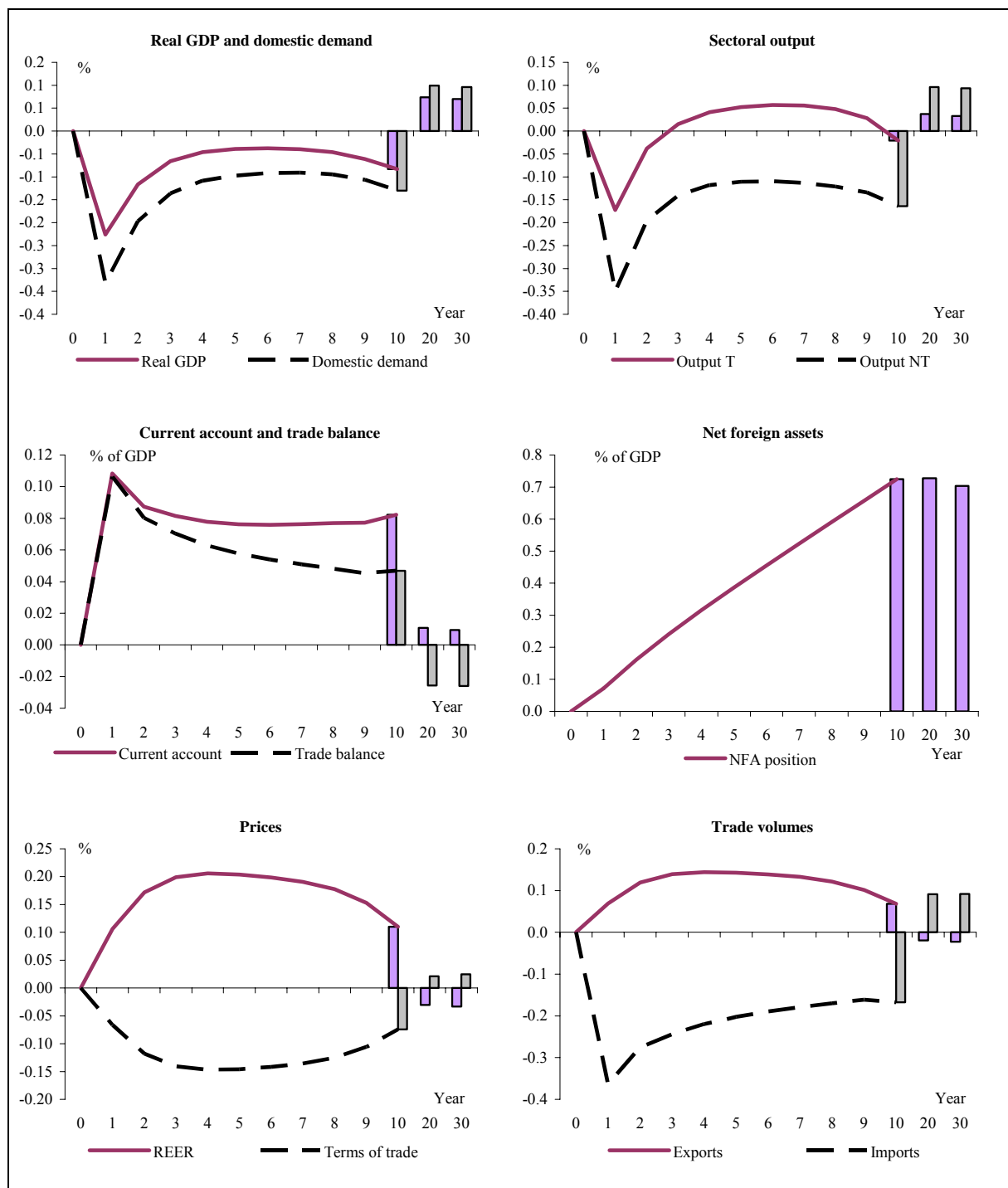
Fiscal consolidation is the third selected area of structural reforms. Reducing government deficits and the level of public debt is currently a mayor challenge for EU countries, especially for those countries that have been hit hardest by the economic and debt crisis. Budgetary consolidation can follow expenditure-based or revenue-based approaches, reducing the debt-to-GDP ratio by lower government expenditure, higher government revenues, or a mix of expenditure and revenue components.<sup>10</sup>

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<sup>9</sup> The 1-percent reduction refers to the gross wage deflated by GDP prices, i.e. real wages from a wage-cost perspective. The impact on real consumption wages differs to the extent that, contrary to the GDP price level, import prices do not respond to the shock and labour tax rates may adjust in an endogenous policy response to the impact of growing domestic activity on public finances.

<sup>10</sup> The two scenarios in this section are just examples of expenditure-based and revenue-based fiscal consolidation strategies to illustrate the general pattern in their impact on external balances. For comprehensive analysis of fiscal consolidation and alternative consolidation strategies in QUEST see Roeger and in't Veld (2010).

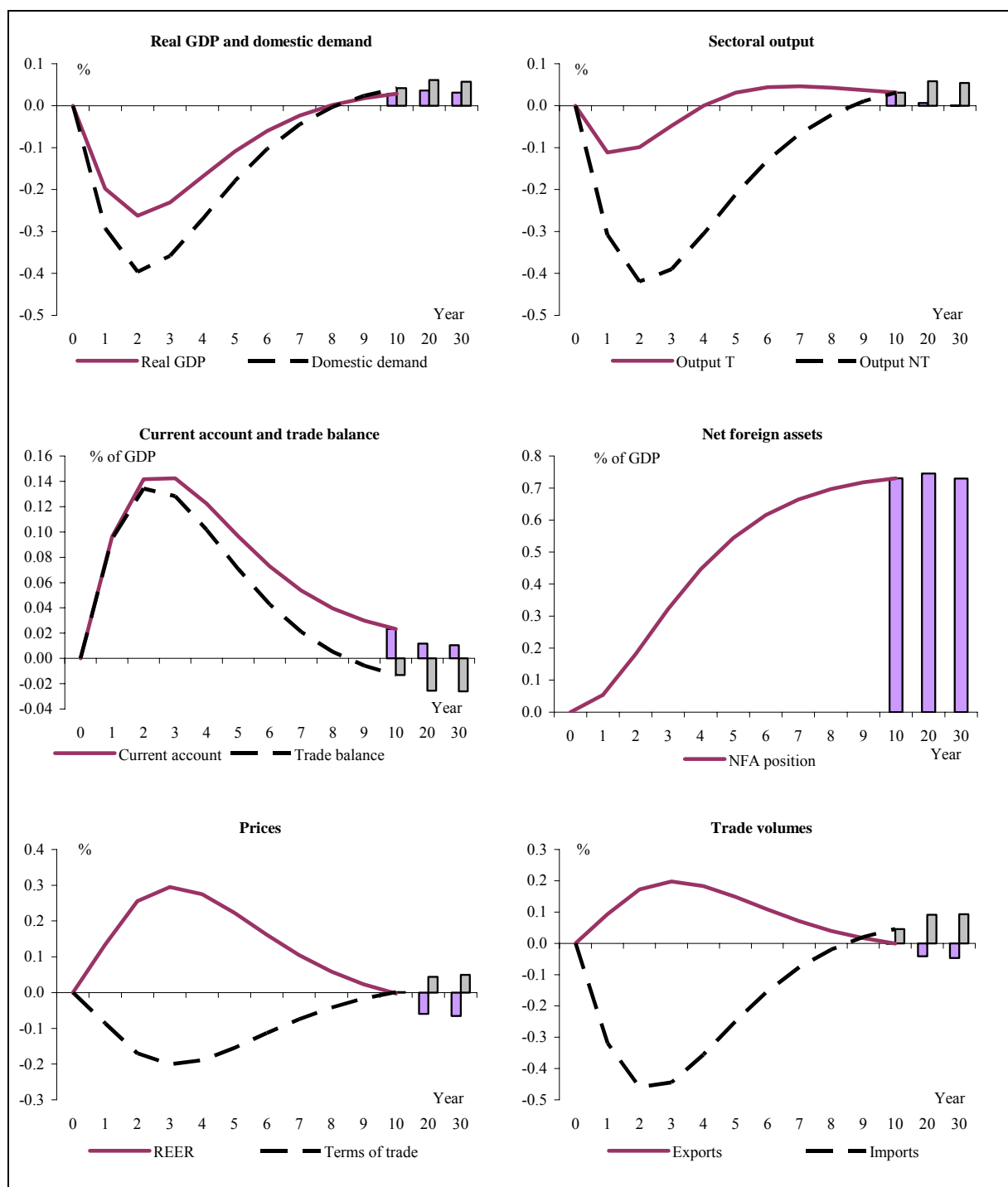
**Figure 4.5: 5 percentage-point expenditure-based reduction of public debt to GDP**



The Figures 4.5 and 4.6 show results for fiscal consolidations reducing the government debt-to-GDP ratio by 5 percentage points. Figure 4.5 portrays the impact of expenditure-based consolidation in the form of lower government consumption. Figure 4.6 shows the effects for revenue-based consolidation, where labour income tax rates are raised to increase tax revenues. The fiscal consolidation is gradual in both scenarios. The government debt-to-GDP ratios reach their new target level after 10 years.

Figure 4.5 shows that expenditure-based consolidation brings an improvement in the trade and current account balances in the short and medium term and long-lasting improvement in the NFA position. Lower government consumption reduces domestic demand and translates into lower tradable, non-tradable and import demand. At the same time, declining domestic activity puts downward pressure on wages and prices and improves the price competitiveness of domestic tradable goods. The terms of trade decline and export volumes increase, so that the demand for domestic tradables weakens less than the demand for domestic non-tradable goods.

**Figure 4.6: 5 percentage-point revenue-based reduction of public debt to GDP**



Lower public debt reduces the government's interest burden and increases fiscal space in the longer term. The simulation assumes that the government uses the fiscal space to reduce the tax burden on labour income once the new debt target has been reached. Such tax reduction raises net wages and stimulates domestic activity and private-sector demand. After the demand compression from fiscal tightening, domestic prices recover, exports volumes fall and import demand increases in the longer term, which does however also reduce the positive impact of fiscal consolidation on external balances. Revenue-based consolidation has qualitatively similar impact on external balances (Figure 4.6). Higher labour taxation reduces the disposable income of workers and private demand. Economic activity and domestic prices decline, import demand falls, exports increase and external balances improve in the short and medium term.

Revenue-based consolidation also reduces the government's interest burden and the long-term required revenue to stabilise public debt at the lower target level. The opening fiscal space is again used to lower distortionary labour taxation in the present scenario. Reducing the tax burden stimulates employment and economic activity. The domestic price level recovers, which reduces price competitiveness gains, imports volumes increase and exports decline. The positive income and demand effect of economic recovery and expansion balances the short-term and medium-term increase in trade and current account balances associated with fiscal consolidation and demand compression in the longer term.

#### **4.4 EMU-wide reforms and member state balances**

The scenarios in the previous subsections have all considered unilateral reforms, i.e. reforms in one country of the euro area (here, Spain) alone. In the context of area-wide fiscal consolidation needs and reform programs such as Europe 2020, however, structural reforms in several member countries at the same time seem to be a plausible scenario.

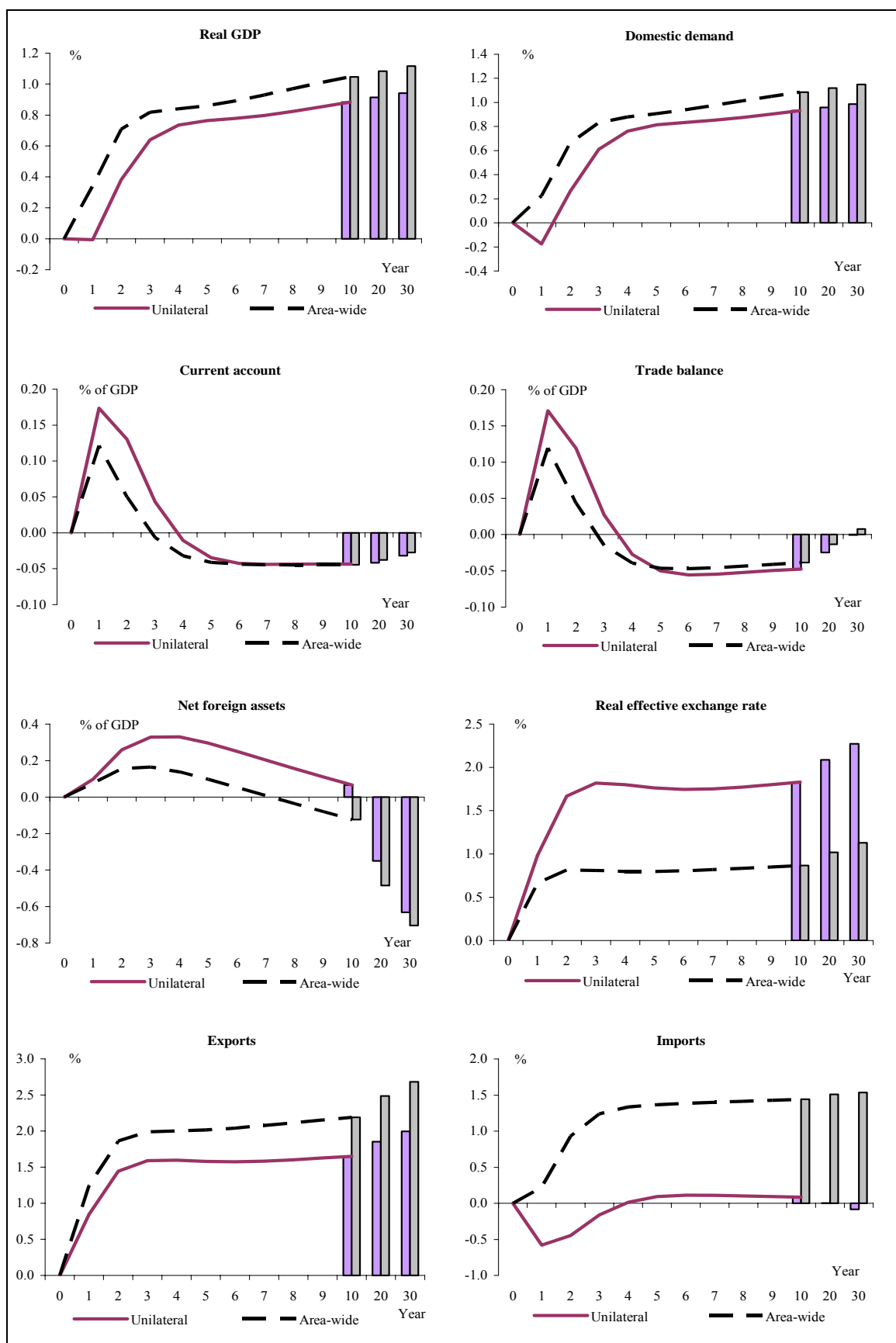
How do synchronised reforms in the euro area affect the impact of structural reforms on member state trade and current account balances? Do area-wide reforms reduce or offset the impact on competitiveness and external balances? This subsection compares unilateral and area-wide reforms to provide an answer to this question.

The Figures 4.7-4.9 illustrate that EMU-wide implementation of product market reform, wage moderation and fiscal consolidation dampens the positive short-term and medium-term impact on the external balances in individual member states compared to unilateral reform implementation, but does not fully offset the positive effects.

EMU-wide price mark-up reduction, wage moderation and fiscal consolidation reduces price competitiveness gains of member country vis-à-vis other euro area members. Unlike unilateral reforms, the area-wide measures are complemented by monetary accommodation that leads to temporary depreciation of the euro exchange rate. The euro depreciation improves price competitiveness vis-à-vis the rest of the world in the short and medium term.

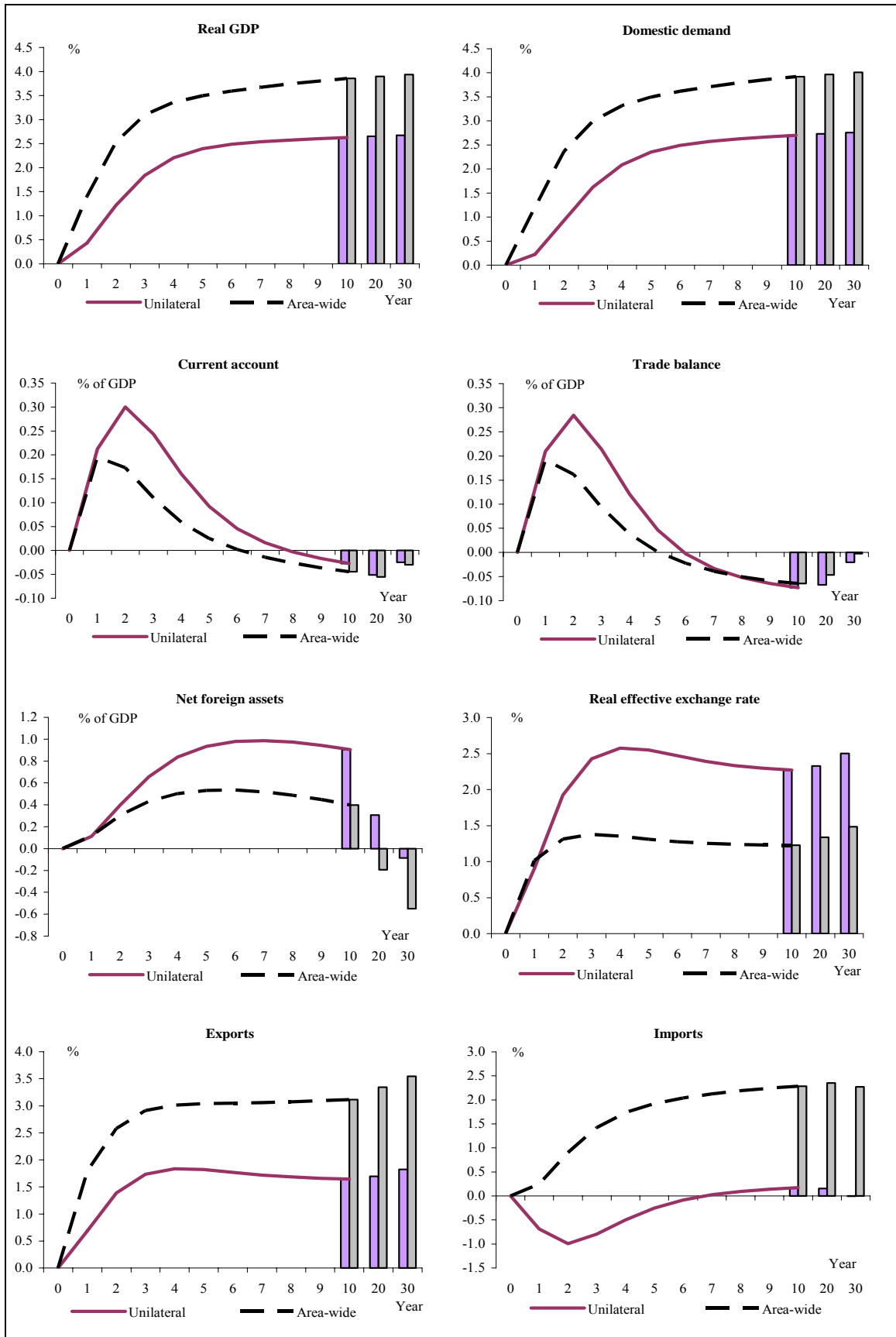
Accommodative monetary policy also mitigates demand-dampening real interest rate effects of structural reforms, which strengthens consumption, investment and domestic activity. Import demand starts rising early after the implementation of product and labour market reforms or falls less strongly in the case of fiscal consolidation. The frontloading of domestic demand growth associated with lower real interest rates and earlier expansion dampens the initial improvement of trade and current account balances.

**Figure 4.7 Area-wide 1 percentage-point price mark-up reductions in T and NT sectors**

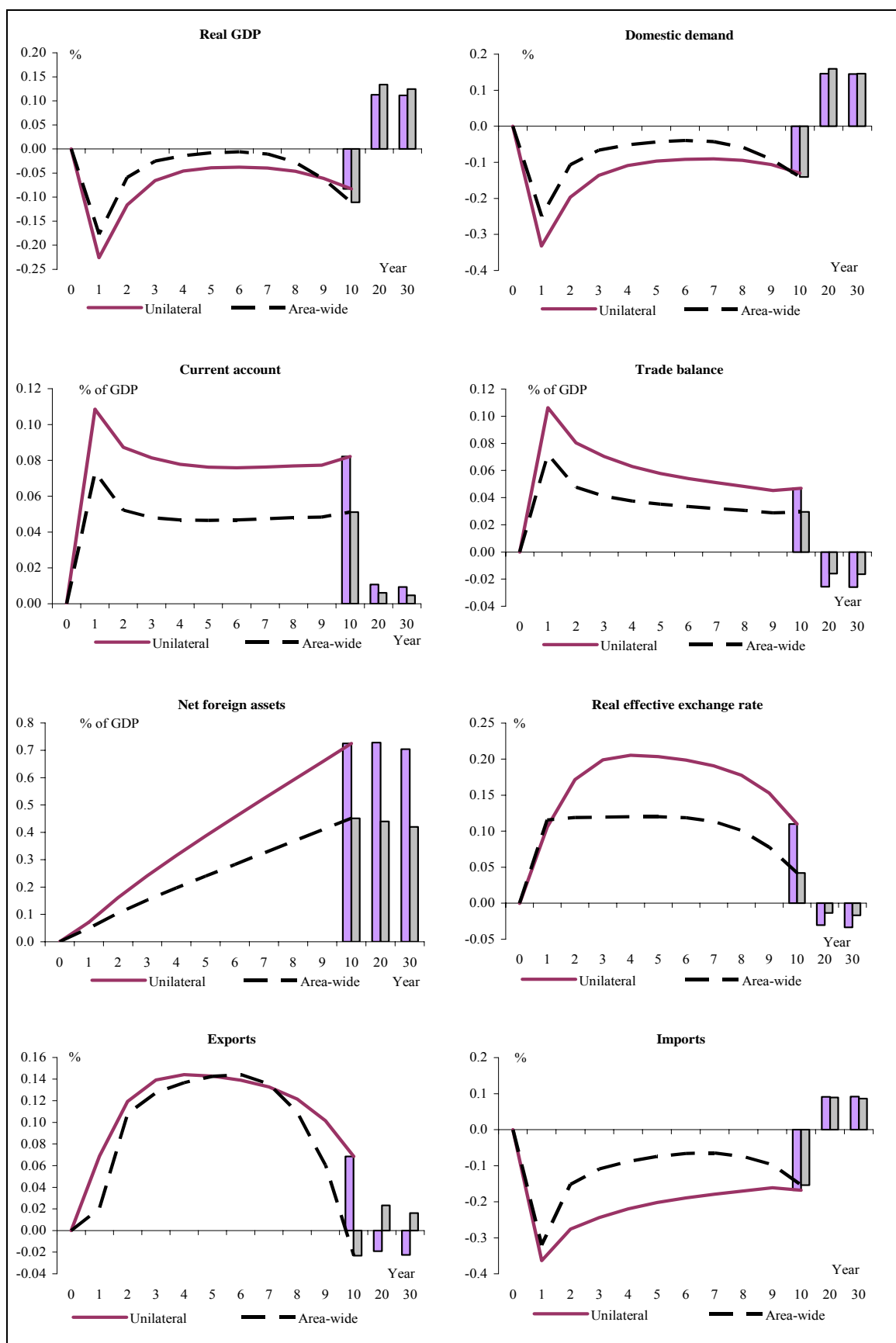




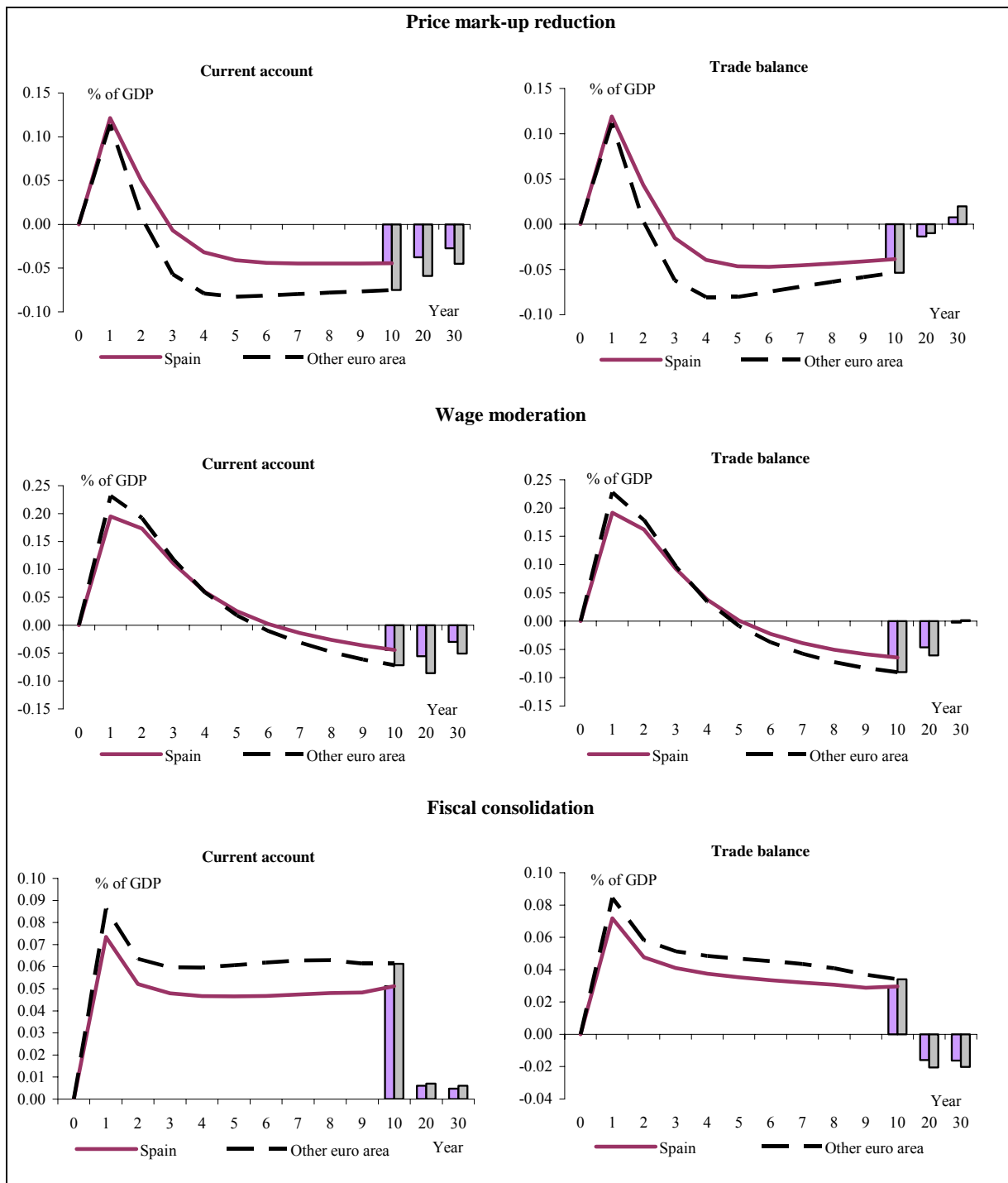
**Figure 4.8: Area-wide 1 percent real wage reduction**



**Figure 4.9: Area-wide 5 percentage-point reduction of public debt to GDP**



**Figure 4.10: Area-wide reforms and area-wide external balances**



EMU-wide reform implementation that dampens the improvement of trade and current account balance compared to unilateral reforms imply also less net capital outflow. To the extent that capital inflow increases productive investment, instead of fuelling consumption and housing bubbles, net outflows reduce economic prospect in the longer term. To the extent that net capital outflows signal the correction of previous over-borrowing, the reversal may increase the economy's resilience and avoid a replay of debt crises.

Area-wide structural reforms do not narrow current account differentials between EMU member countries, but improve bilateral trade balances with the rest of the world. Figure 4.10 displays the reaction of current account and trade balances of Spain and the rest of the euro area in reaction to area-wide product market reform, labour market reform and expenditure-based fiscal consolidation, i.e. the scenarios of Figures 4.7 to 4.9. It illustrates the similar behaviour of external balances in Spain and other euro area countries in reaction to similar reform impulses. The similar impact of area-wide reforms on external positions implies that changes in trade and current account balances reflect changes vis-à-vis the rest of the world instead of intra-EMU adjustment.

#### 4.5 Robustness checks

The previous simulations provide a fairly uniform picture. Structural reforms improve trade and current account balances of an economy in monetary union on impact, namely for a period of 5-10 years, but do generate permanent shifts in external balances and NFA positions themselves.

This subsection presents two modifications to the set-up to assess the robustness of these conclusions along two key dimensions. The robustness checks investigate, first, the impact of higher trade price elasticities and, second, the impact of alternative initial conditions, namely large initial external deficits and foreign debt levels, on the impact of reforms on external balances.

##### 4.5.1 *The impact of higher trade elasticities*

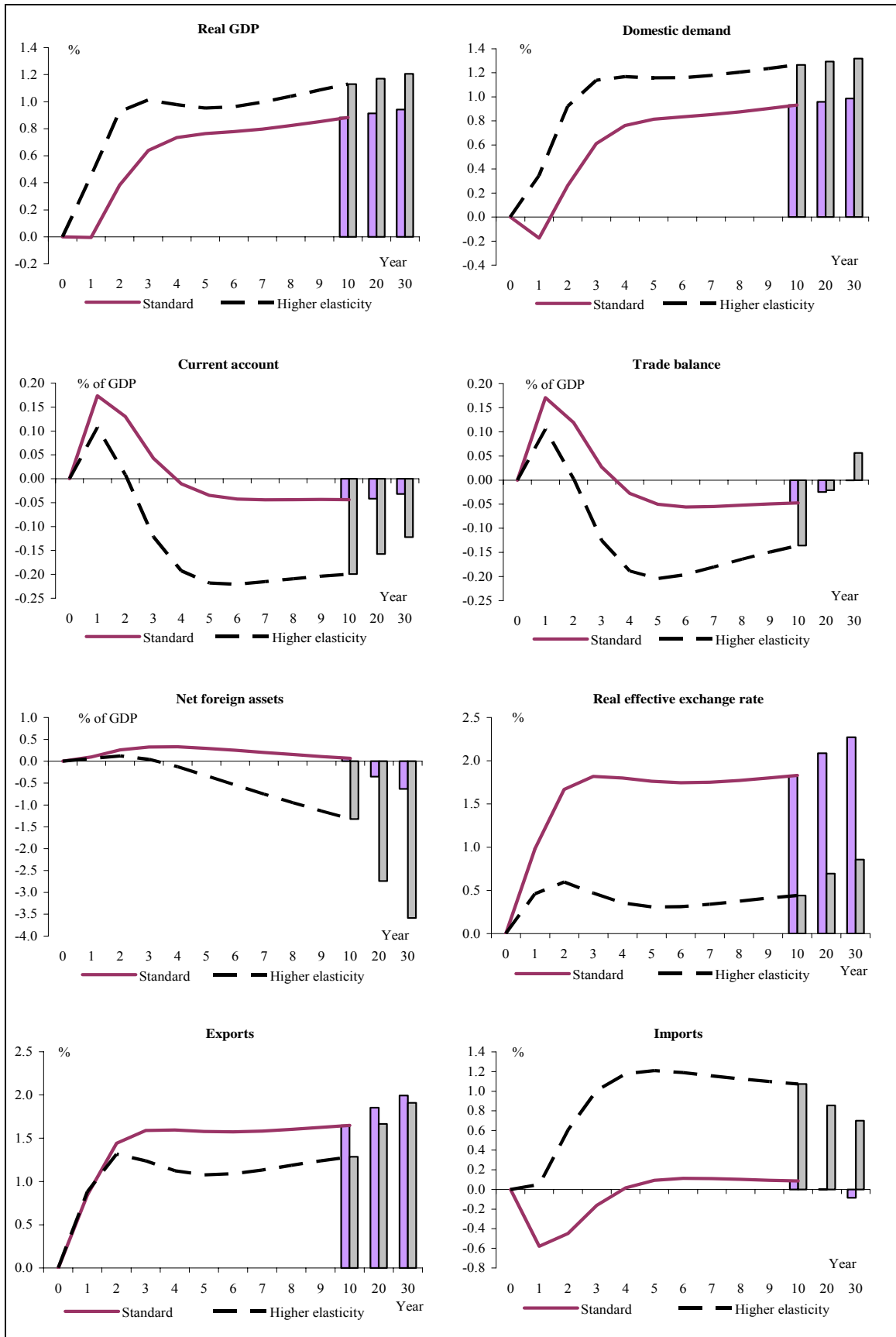
Figure 4.11 compares the effect of 1 percentage-point tradable and non-tradable price mark-up reduction in Spain under alternative trade elasticity values. Series for the standard calibration are identical to those presented in Figure 4.1, with an elasticity of substitution of 1.5 between domestic and foreign tradable goods and an elasticity of substitution of 0.9 between foreign tradables of different origin. The scenario with higher trade elasticity parameters doubles the two values to 3 and 1.8.

The standard calibration of 1.5 and 0.9 is compatible with estimated versions of QUEST. Other DSGE models of the Spanish economy adopt/estimate similar (e.g., Boscá et al., 2010) or even lower (e.g., Andrés et al., 2010) parameter values. The estimates of Imbs and Méjean (2010), on the other hand, suggest values up to 3 for the aggregate price elasticity of Spanish trade. Higher elasticity values imply that smaller price adjustment has similar volume effects, or, equivalently, that given volume effects can be achieved with less relative price adjustment.

The higher-elasticity series in Figure 4.11 apply the value of 3 to the price elasticity of Spanish exports and imports alike and show that a higher price elasticity of trade does not increase, but rather reduce the positive initial impact of product market reform on external balances.

The doubling of the trade elasticity values reduces the terms-of-trade decline and REER depreciation compared to the relative price adjustment under the standard calibration by more than  $\frac{1}{2}$ . The adjustment combines comparable increases in export volumes with smaller terms-of-trade adjustment. Import demand rises even in the short run. The smaller price adjustment reduces the demand-dampening short-term increase in real interest rates in and more moderate real depreciation contains the associated loss of purchasing power of incomes.

**Figure 4.11: Price mark-up reduction with alternative trade elasticities**



Contrary to the initial decline under the standard calibration, domestic demand expands from the beginning in the setting with higher trade elasticity. Investment growth is particularly strong and financed through net capital inflows. The income effect of structural reform quickly compensates the competitiveness effect. Trade and current account balances improvements peaks at half the size of the improvement under the standard calibration and reverts to negative territory already within three years.

Taken together, higher trade price elasticity amplifies the positive GDP and income effects of structural reforms, but reduces the size and duration of positive net trade and current account responses. Increasing the price elasticity of trade strengthens net capital inflows relative to the benchmark calibration, which here finance additional investment in the reforming country.

#### *4.5.2 The impact of initial external deficits and debt*

The second robustness check looks at whether the effect of product market reform on domestic activity and external balances depends on the initial conditions of the economy, namely on its initial current account deficit and level of foreign indebtedness.

Figure 4.12 compares the impact of 1 percentage-point price mark-up reduction for tradable and non-tradable in the standard setting (Figure 4.1) to an alternative baseline in which the economy starts at pre-reform current account deficits of 6 percent of GDP and initial net foreign debt of circa 55 percent of GDP. These deficit and debt levels approximate the average foreign position of the Spanish economy since the start of EMU.

The comparison suggests that starting from high levels of external deficits and debt does not significantly alter effects and gains of product market reform. If anything, the improvement of trade and current account balances is moderately stronger if the country has large foreign debt.

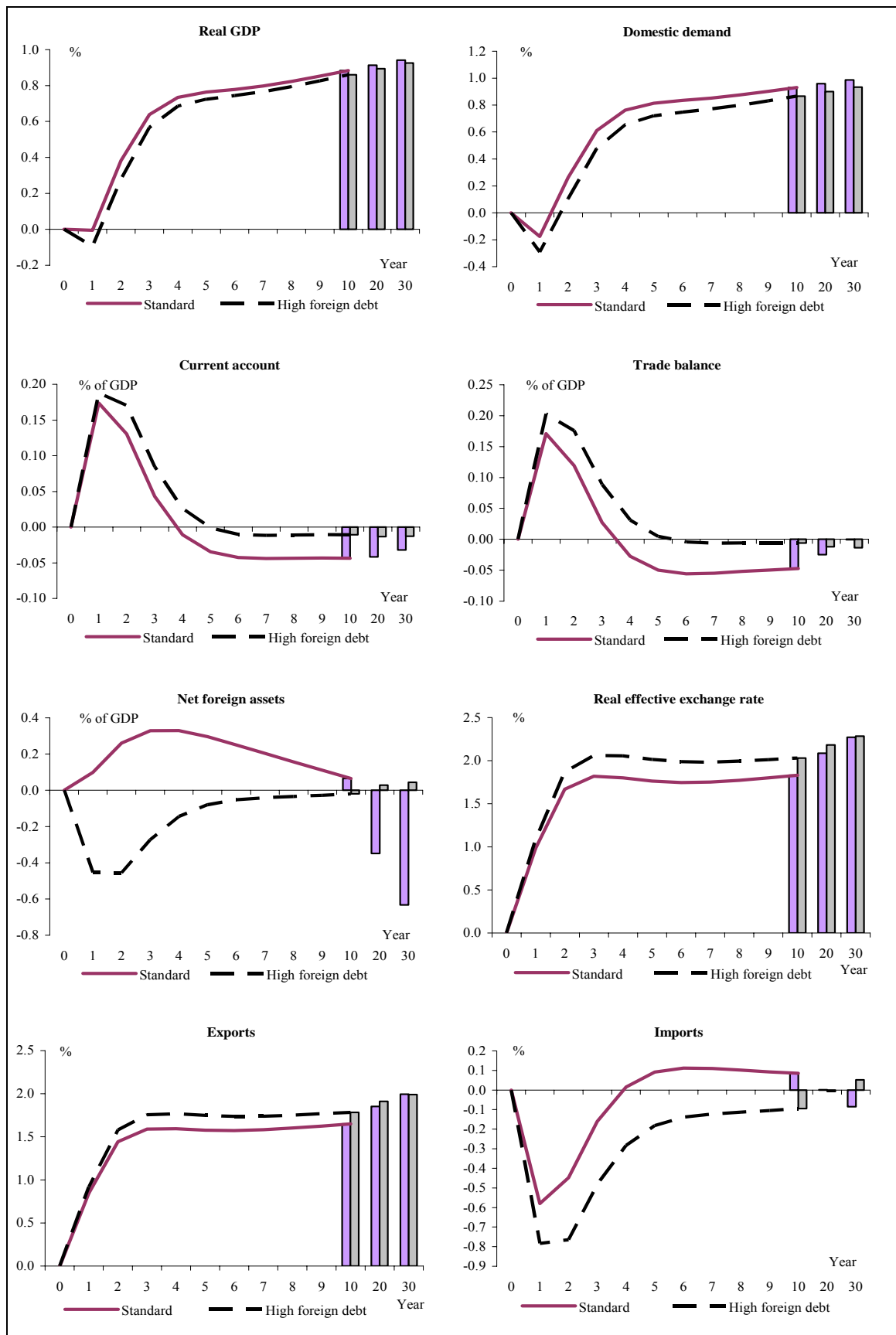
The decline of domestic tradable prices improves the price competitiveness of domestic tradable goods and stimulates net exports as foreign demand for Spanish tradables rises and domestic agents substitute domestic for imported tradable goods. The particular effect of high foreign debt is a denominator effect. The reform-related domestic price level reduction increases the euro-denominated debt and interest burden in real domestic terms.<sup>11</sup>

The initial jump in the real value of external debt dampens the demand-increasing income effect of product market reform. Import demand declines steeper and trade and current account balances improve (modestly) stronger than in the case of initially balanced external positions.

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<sup>11</sup> The effect is visible in Figure 4.12. The economy-wide price mark-up reduction reduces the GDP deflator and nominal GDP on impact by approximately 1 percent. Given the initial foreign debt stock of 55 percent of GDP, the denominator effect increases the euro-denominated foreign debt in terms of nominal GDP by around 0.6 percent. Together with the current account balance improvement of circa 0.2 percent of GDP, the NFA-to-GDP ratio declines initially by circa 0.4 percentage points.

**Figure 4.12: Price mark-up reduction with different initial foreign positions**



## 5. CONCLUSIONS

The paper has built on a three-region version (Spain, other euro area, rest of the world) of the QUEST model to assess the transitory and permanent general-equilibrium effects of (credible) structural reforms on external balances and external rebalancing in the euro area. The analysis has focused on Spain as example of a euro area country with external adjustment need.

In a first step, the paper considers the impact of price and wage flexibility and prudent lending behaviour on the short-term response to housing and domestic demand shocks, i.e. whether more flexibility and prudence reduce the volatility of external positions and imbalances associated with exogenous shocks.

The simulations suggest that increasing price and wage flexibility above current levels has limited quantitative impact on the adjustment path. Increasing price flexibility reduces the decline in external balances in reaction to housing bubbles and demand shocks, whereas higher wage flexibility amplifies net imports and borrowing from abroad.

Prudent lending behaviour that avoids the relaxation of borrowing constraints in reaction to increasing house prices reduces housing investment, the current account deficit and the growth of external indebtedness in reaction to housing booms compared to a baseline setting in which borrowing increases in reaction to higher nominal housing wealth.

The paper then turns to structural reforms that permanently shift equilibrium output, employment and income levels and assesses their potential contribution to the correction of external imbalances. The simulations consider three types of structural reforms, namely product market reform (lower price mark-ups), wage moderation and fiscal consolidation.

Price mark-up reduction, wage moderation and fiscal consolidation improve trade and current account balances over periods of up to 5-6 years. The improvement is associated with the competitiveness gain and the initial demand-dampening effects of high real interest rates and fiscal consolidation. Terms-of-trade adjustment as basis for increased price competitiveness weakens the positive impact of higher net export volumes on the trade balance, however.

The contribution of structural reforms to trade balance and current account rebalancing declines in the longer term, with external positions returning (close to) initial levels. The decline of initial current account increases in the long term is associated with the countervailing positive income effect of successful reforms. Structural reforms that increase domestic activity, employment and income also raise domestic import demand and net capital inflows in the longer term.

Economic frictions, such as investment, capital, employment and capacity adjustment costs, habit persistence, collateral constraints and liquidity constraints, delay the positive income effect, whereas faster real adjustment along these dimension should frontload the demand expansion from expected income growth, strengthen borrowing from abroad and reduce the initial improvement of current account and NFA positions.

EMU-wide structural reforms reduce the improvement of trade and current account balances of reforming member states compared to unilateral reform implementation. The area-wide re-



forms improve net trade and lending positions of member states vis-à-vis the rest of the world, but cannot be expected to reduce the disparity of external positions inside the euro area.

The contribution of structural reforms to external rebalancing does not depend on initial levels of net foreign borrowing and foreign debt. Structural reforms that lead to real devaluation and improve the price competitiveness of domestic goods raise the initial foreign debt burden in real domestic terms, but at the same time strengthen the subsequent current account adjustment.

The positive initial response of external balances to structural reforms suggests that the latter can support and accelerate the correction of external imbalances. The simulation results, however, suggest that such adjustment remains painful. The impact of structural reforms on external rebalancing is limited: The current account responses to 1 percentage-point price markup reduction, 1 percent real wage moderation and 5 percentage-point government debt reduction peak at 0.1, 0.3 and 0.1 percent of GDP. The limited contribution of structural reforms to support the correction of external imbalances underlines the importance of early-warning tools that can effectively prevent the build-up of large imbalances in the first place.

The weakening of trade balance and current account responses to product market reform, labour market reform and fiscal consolidation in the long run is plausible in general equilibrium frameworks with intertemporal budget constraints. It is the mirror image of the impossible eternal prolongation of foreign borrowing. Economies that lose trade competitiveness and continuously borrow from abroad will finally have to adjust. Economies that lend to foreigners accumulate foreign assets as a savings device. From the perspective of intertemporal transfers, current net lending should be matched by higher net imports, i.e. declining external balances, in future periods.

The previous discussion suggests that factors other than price competitiveness affect saving-investment gaps and external positions in the long run. Such factors include demography (youth and old-age dependency ratios), financial markets (risk awareness) and long-term productivity trends. The structural reforms that have been discussed in this paper have little direct impact on such long-term trends.

The model-based analysis complements econometric research on the impact of structural policies and reforms on current account adjustment. The simulation results support key empirical findings, but also suggest some qualification.

The simulations on short-term adjustment find a limited impact of observed variation in nominal wage and price rigidity on the adjustment of EMU countries to exogenous shocks. Contrary to the discussion in Biroli et al. (2010), effects of price and wage stickiness may actually differ. Notably, wage flexibility can increase the volatility of external balances. The difference between the simulations and the estimates of Biroli et al. (2010) may result from the larger bundle of shocks reflected in the data, a broader indicator-based definition of price and wage stickiness that captures more than the average duration of price and wage contracts the simulations focus on. In addition, the simulations illustrate that lasting improvements in price competitiveness are not equivalent to lasting shift in external balances.

The QUEST results complement empirical work by Zemanek et al. (2010), finding positive effects of structural reforms on bilateral trade balances, but caution against the idea that structural reforms and wage restraints in deficit countries may provide permanent rebalancing in

the euro area. Given the short lag structure of the reform indicators in the regressions, Zemanek et al. (2010) are likely to stress competitiveness effects of structural adjustment, while countervailing income effects on the long-term response should enter via the lagged dependent variable.

Similarly, Berger and Nitsch (2010) find that stricter product and labour market regulation deteriorates bilateral trade balances. Given the focus on short lag structures and contemporaneous correlations, the result should also primarily reflect the competitiveness gains that may support/accelerate the correction of unsustainable imbalances. The income effect of structural reforms that dampens the current account response in the longer term should again be implicitly reflected in the regression coefficient for lagged dependent variables. The Berger and Nitsch (2010) result that differentials in GDP growth reduce bilateral trade surpluses does also illustrate the income effect of successful structural reforms.

The simulations are also compatible with empirical work by Kennedy and Sløk (2005) and Kerdrain et al. (2010). Kennedy and Sløk (2005) find a positive short-term effect of product market liberalisation and a negative impact of lagged current account balances on current account positions. They discuss various channels of structural reform transmission and stress countervailing effects in the longer term. Kerdrain et al. (2010) find little direct significant long-term effects of structural reforms on external positions. Instead, the authors conclude that current account positions of OECD countries are primarily driven by youth and old-age dependency ratios, productivity growth, terms-of-trade dynamics and social security systems, variables that do, however, partly reflect the impact of structural reforms.

The estimates in Jaumotte and Sodsriwiboon (2010) suggest that current account deficits in the euro area since the mid-1990s reflect declines of private saving rates and have been fuelled by financial liberalisation and increasing dependency ratios. The analysis stresses the importance of regulatory reform to avoid over-borrowing in the future and cost adjustment to regain competitiveness and improve export performance in the internal market.

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## ANNEX: DETAILED SIMULATION RESULTS

### A. Flexibility and the resilience of external positions

**Figure 3.1: Impulse responses for 500 basis-point housing bubble**

#### Baseline calibration of adjustment frictions:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.66	0.91	0.87	0.79	0.70	0.60	0.50	0.39	0.27	0.15	-0.40	-0.29
OUTPUT.T_PCER	0.06	-0.17	-0.43	-0.62	-0.74	-0.80	-0.81	-0.80	-0.77	-0.71	0.00	0.22
OUTPUT.NT_PCER	1.16	1.69	1.77	1.74	1.65	1.53	1.37	1.18	0.97	0.73	-0.66	-0.64
CAPITAL.T_PCER	0.01	0.01	-0.01	-0.05	-0.11	-0.18	-0.26	-0.33	-0.41	-0.48	-0.67	-0.37
CAPITAL.NT_PCER	0.02	0.07	0.11	0.12	0.12	0.09	0.04	-0.03	-0.10	-0.19	-0.82	-0.80
EMPLOYMENT_PCER	0.75	1.10	1.09	1.03	0.95	0.86	0.75	0.63	0.50	0.37	-0.23	-0.16
.EMPLOYMENT.T_PCER	0.61	0.85	0.79	0.71	0.63	0.54	0.45	0.36	0.27	0.17	-0.15	-0.06
.EMPLOYMENT.NT_PCER	0.97	1.49	1.55	1.52	1.45	1.34	1.20	1.04	0.86	0.66	-0.37	-0.33
DEMAND.DOM_PCER	0.87	1.21	1.18	1.08	0.97	0.85	0.72	0.59	0.44	0.28	-0.56	-0.48
CONSUMPTION_PCER	-1.13	-2.17	-2.69	-2.88	-2.82	-2.57	-2.21	-1.79	-1.33	-0.85	0.74	0.34
.CLC_PCER	0.36	0.78	0.93	0.96	0.92	0.86	0.78	0.69	0.58	0.46	-0.53	-0.52
.CCC_PCER	-5.79	-10.45	-12.34	-12.80	-12.31	-11.12	-9.53	-7.75	-5.85	-3.90	1.19	-1.13
.CNLC_PCER	0.22	0.09	-0.16	-0.33	-0.42	-0.44	-0.41	-0.35	-0.26	-0.14	1.19	1.45
INVESTMENT.CAPITAL_PCER	0.62	0.76	0.39	-0.10	-0.58	-1.00	-1.36	-1.64	-1.85	-1.99	-1.03	-0.17
.INVESTMENT.T_PCER	0.17	-0.03	-0.38	-0.70	-0.94	-1.11	-1.22	-1.30	-1.33	-1.33	-0.42	0.04
.INVESTMENT.NT_PCER	0.96	1.35	0.98	0.36	-0.31	-0.92	-1.46	-1.90	-2.25	-2.49	-1.48	-0.33
INVESTMENT.HOUSE_PCER	29.99	51.15	59.49	62.15	60.78	56.28	49.75	41.91	33.02	23.31	-24.62	-21.77
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.36	-0.68	-0.89	-0.99	-1.03	-1.03	-1.00	-0.94	-0.86	-0.76	0.30	0.50
IMPORTS_PCER	0.69	1.04	1.10	1.06	0.99	0.91	0.82	0.72	0.61	0.49	-0.58	-0.69
REAL.WAGE_PCER	0.04	0.14	0.14	0.09	0.05	0.03	0.02	0.01	0.01	-0.00	-0.22	-0.21
PRICE.LEVEL.GDP_PCER	0.42	0.90	1.20	1.36	1.43	1.45	1.43	1.37	1.29	1.18	-0.12	-0.47
.PRICE.LEVEL.T_PCER	0.23	0.54	0.75	0.88	0.94	0.97	0.97	0.95	0.91	0.85	0.01	-0.28
.PRICE.LEVEL.NT_PCER	0.41	0.87	1.13	1.28	1.34	1.36	1.33	1.28	1.20	1.10	-0.09	-0.40
.PRICE.LEVEL.HOUSE_PCER	11.77	15.64	15.96	16.01	16.04	16.05	16.06	16.06	16.06	16.05	15.85	15.73
EXPORT.PRICES_PCER	0.23	0.54	0.75	0.88	0.94	0.97	0.97	0.95	0.91	0.85	0.01	-0.28
IMPORT.PRICES_PCER	-0.09	-0.13	-0.15	-0.15	-0.13	-0.10	-0.07	-0.03	0.02	0.07	0.32	0.24
TOT_PCER	0.32	0.67	0.90	1.03	1.07	1.07	1.04	0.98	0.89	0.79	-0.32	-0.53
REER_PCER	-0.51	-1.03	-1.34	-1.50	-1.56	-1.54	-1.49	-1.39	-1.26	-1.11	0.45	0.72
EXR_PCER	-0.14	-0.16	-0.17	-0.17	-0.15	-0.12	-0.09	-0.05	-0.00	0.04	0.30	0.23

Data Set by Archive - Error

TEMP_SIM_ER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.01	-0.01	0.00	0.01	0.03	0.03	0.04	0.05	0.05	0.05	0.00	-0.01
REAL.INT.RATE_ER	-0.58	-0.36	-0.20	-0.09	-0.01	0.04	0.08	0.12	0.15	0.17	0.08	-0.01
INFL.GDP_ER	0.63	0.40	0.24	0.12	0.05	-0.00	-0.03	-0.06	-0.09	-0.12	-0.08	-0.01
INFL.PC_ER	0.53	0.33	0.19	0.10	0.04	0.00	-0.02	-0.05	-0.07	-0.09	-0.07	-0.01
LABOUR.TAX.RATE_ER	-0.10	-0.29	-0.41	-0.46	-0.46	-0.44	-0.41	-0.36	-0.31	-0.25	0.25	0.22
GOV.DEBT.GDP_ER	-0.48	-0.98	-1.14	-1.12	-1.00	-0.83	-0.62	-0.41	-0.20	0.01	0.82	0.19
GOV.BALANCE.GDP_ER	0.24	0.20	0.06	-0.04	-0.09	-0.12	-0.13	-0.13	-0.12	-0.11	0.04	0.05
GOV.EXP.GDP_ER	-0.45	-0.64	-0.62	-0.58	-0.53	-0.47	-0.40	-0.33	-0.25	-0.17	0.22	0.17
GOV.REV.GDP_ER	-0.23	-0.49	-0.62	-0.67	-0.66	-0.61	-0.54	-0.46	-0.36	-0.26	0.29	0.22
TRADE.BAL.GDP_ER	-0.21	-0.30	-0.31	-0.30	-0.27	-0.25	-0.22	-0.20	-0.17	-0.13	0.16	0.19
CURRENT.ACC.GDP_ER	-0.21	-0.32	-0.34	-0.34	-0.34	-0.33	-0.32	-0.31	-0.29	-0.27	-0.01	0.06
NFA.GDP_ER	-0.11	-0.40	-0.73	-1.06	-1.38	-1.69	-1.98	-2.26	-2.52	-2.76	-3.55	-2.67

#### 3-quarter average price duration:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.63	0.86	0.82	0.76	0.69	0.59	0.49	0.38	0.26	0.14	-0.39	-0.29
OUTPUT.T_PCER	0.01	-0.25	-0.50	-0.66	-0.76	-0.81	-0.82	-0.81	-0.77	-0.72	0.01	0.22
OUTPUT.NT_PCER	1.11	1.61	1.70	1.69	1.63	1.51	1.36	1.17	0.96	0.72	-0.65	-0.64
CAPITAL.T_PCER	0.01	0.01	-0.02	-0.06	-0.13	-0.19	-0.27	-0.34	-0.42	-0.49	-0.67	-0.36
CAPITAL.NT_PCER	0.02	0.06	0.10	0.11	0.11	0.08	0.03	-0.04	-0.11	-0.19	-0.81	-0.79
EMPLOYMENT_PCER	0.73	1.06	1.06	1.02	0.95	0.86	0.75	0.63	0.50	0.37	-0.23	-0.16
.EMPLOYMENT.T_PCER	0.59	0.81	0.76	0.70	0.62	0.54	0.45	0.36	0.27	0.17	-0.14	-0.06
.EMPLOYMENT.NT_PCER	0.94	1.45	1.52	1.50	1.44	1.33	1.20	1.04	0.86	0.66	-0.36	-0.32
DEMAND.DOM_PCER	0.84	1.14	1.12	1.05	0.95	0.84	0.71	0.58	0.43	0.28	-0.55	-0.48
CONSUMPTION_PCER	-1.16	-2.24	-2.75	-2.92	-2.85	-2.59	-2.22	-1.80	-1.34	-0.86	0.75	0.35
.CLC_PCER	0.29	0.66	0.81	0.85	0.84	0.80	0.74	0.65	0.55	0.44	-0.51	-0.50

.CCC_PCER	-5.79	-10.55	-12.43	-12.86	-12.35	-11.15	-9.55	-7.77	-5.87	-3.92	1.21	-1.11
.CNLC_PCER	0.20	0.05	-0.18	-0.33	-0.41	-0.43	-0.40	-0.34	-0.25	-0.14	1.19	1.46
INVESTMENT.CAPITAL_PCER	0.56	0.67	0.32	-0.14	-0.60	-1.00	-1.35	-1.63	-1.84	-1.97	-1.01	-0.17
.INVESTMENT.T_PCER	0.12	-0.10	-0.44	-0.73	-0.95	-1.11	-1.23	-1.30	-1.33	-1.32	-0.41	0.04
.INVESTMENT.NT_PCER	0.90	1.25	0.90	0.31	-0.33	-0.92	-1.45	-1.89	-2.23	-2.47	-1.46	-0.33
INVESTMENT.HOUSE_PCER	29.96	51.05	59.39	62.07	60.73	56.24	49.73	41.89	33.00	23.31	-24.58	-21.76
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.39	-0.72	-0.91	-1.00	-1.04	-1.03	-1.00	-0.94	-0.86	-0.76	0.29	0.50
IMPORTS_PCER	0.68	0.99	1.05	1.02	0.96	0.89	0.81	0.72	0.61	0.50	-0.57	-0.68
REAL.WAGE_PCER	-0.05	0.00	0.02	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.20	-0.21
PRICE.LEVEL.GDP_PCER	0.47	0.96	1.23	1.37	1.44	1.45	1.43	1.38	1.30	1.19	-0.12	-0.47
.PRICE.LEVEL.T_PCER	0.25	0.58	0.78	0.89	0.95	0.97	0.97	0.96	0.92	0.86	0.01	-0.28
.PRICE.LEVEL.NT_PCER	0.47	0.92	1.16	1.29	1.35	1.36	1.34	1.29	1.21	1.11	-0.09	-0.40
.PRICE.LEVEL.HOUSE_PCER	11.79	15.65	15.97	16.02	16.04	16.05	16.06	16.06	16.06	16.05	15.84	15.73
EXPORT.PRICES_PCER	0.25	0.58	0.78	0.89	0.95	0.97	0.97	0.96	0.92	0.86	0.01	-0.28
IMPORT.PRICES_PCER	-0.09	-0.13	-0.14	-0.14	-0.13	-0.10	-0.07	-0.03	0.02	0.07	0.32	0.24
TOT_PCER	0.35	0.71	0.92	1.03	1.08	1.07	1.04	0.98	0.90	0.79	-0.31	-0.52
REER_PCER	-0.56	-1.08	-1.37	-1.51	-1.56	-1.54	-1.49	-1.40	-1.27	-1.12	0.44	0.72
EXR_PCER	-0.15	-0.16	-0.16	-0.16	-0.15	-0.12	-0.09	-0.05	-0.00	0.04	0.30	0.22

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.01	-0.01	0.00	0.01	0.02	0.03	0.04	0.05	0.05	0.05	0.00	-0.01
REAL.INT.RATE_ER	-0.62	-0.34	-0.18	-0.08	-0.01	0.04	0.08	0.12	0.15	0.17	0.08	-0.01
INFL.GDP_ER	0.70	0.38	0.21	0.11	0.04	-0.00	-0.03	-0.06	-0.09	-0.12	-0.08	-0.01
INFL.PC_ER	0.59	0.30	0.17	0.09	0.04	0.00	-0.02	-0.05	-0.07	-0.09	-0.07	-0.01
LABOUR.TAX.RATE_ER	-0.10	-0.28	-0.38	-0.43	-0.43	-0.42	-0.38	-0.34	-0.29	-0.23	0.24	0.21
GOV.DEBT.GDP_ER	-0.47	-0.93	-1.07	-1.05	-0.94	-0.78	-0.60	-0.40	-0.20	0.01	0.79	0.18
GOV.BALANCE.GDP_ER	0.22	0.17	0.04	-0.04	-0.08	-0.11	-0.12	-0.12	-0.11	-0.10	0.04	0.05
GOV.EXP.GDP_ER	-0.44	-0.61	-0.60	-0.57	-0.52	-0.47	-0.40	-0.33	-0.25	-0.17	0.21	0.17
GOV.REV.GDP_ER	-0.24	-0.49	-0.61	-0.65	-0.64	-0.60	-0.53	-0.45	-0.35	-0.25	0.29	0.22
TRADE.BAL.GDP_ER	-0.20	-0.29	-0.29	-0.28	-0.26	-0.24	-0.22	-0.19	-0.17	-0.13	0.16	0.19
CURRENT.ACC.GDP_ER	-0.21	-0.30	-0.33	-0.33	-0.33	-0.32	-0.31	-0.30	-0.29	-0.27	-0.02	0.06
NFA.GDP_ER	-0.11	-0.39	-0.70	-1.01	-1.32	-1.62	-1.91	-2.19	-2.44	-2.68	-3.49	-2.62

4-quarter average wage duration:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.65	0.88	0.82	0.75	0.67	0.58	0.48	0.38	0.26	0.14	-0.39	-0.29
OUTPUT.T_PCER	0.05	-0.20	-0.48	-0.66	-0.77	-0.82	-0.83	-0.81	-0.78	-0.72	0.01	0.22
OUTPUT.NT_PCER	1.17	1.69	1.74	1.70	1.63	1.51	1.35	1.17	0.96	0.72	-0.66	-0.64
CAPITAL.T_PCER	0.01	0.01	-0.01	-0.06	-0.12	-0.20	-0.27	-0.35	-0.42	-0.49	-0.68	-0.37
CAPITAL.NT_PCER	0.02	0.06	0.10	0.11	0.11	0.07	0.02	-0.04	-0.12	-0.20	-0.82	-0.80
EMPLOYMENT_PCER	0.74	1.06	1.04	0.99	0.93	0.84	0.74	0.62	0.50	0.36	-0.23	-0.16
.EMPLOYMENT.T_PCER	0.59	0.80	0.74	0.67	0.60	0.53	0.44	0.36	0.26	0.17	-0.14	-0.05
.EMPLOYMENT.NT_PCER	0.95	1.46	1.51	1.49	1.42	1.32	1.19	1.03	0.85	0.66	-0.36	-0.32
DEMAND.DOM_PCER	0.87	1.19	1.14	1.04	0.94	0.83	0.71	0.57	0.42	0.27	-0.56	-0.48
CONSUMPTION_PCER	-1.12	-2.17	-2.71	-2.91	-2.85	-2.60	-2.23	-1.81	-1.35	-0.87	0.74	0.34
.CLC_PCER	0.40	0.84	0.95	0.93	0.88	0.82	0.74	0.66	0.56	0.44	-0.53	-0.51
.CCC_PCER	-5.75	-10.43	-12.36	-12.83	-12.35	-11.15	-9.55	-7.76	-5.87	-3.92	1.19	-1.12
.CNLC_PCER	0.21	0.05	-0.21	-0.37	-0.44	-0.46	-0.42	-0.36	-0.27	-0.15	1.19	1.45
INVESTMENT.CAPITAL_PCER	0.59	0.69	0.32	-0.17	-0.63	-1.04	-1.38	-1.66	-1.87	-2.00	-1.02	-0.17
.INVESTMENT.T_PCER	0.15	-0.08	-0.44	-0.75	-0.97	-1.13	-1.24	-1.31	-1.34	-1.34	-0.42	0.04
.INVESTMENT.NT_PCER	0.93	1.28	0.89	0.27	-0.37	-0.96	-1.49	-1.92	-2.26	-2.50	-1.47	-0.33
INVESTMENT.HOUSE_PCER	30.05	51.20	59.49	62.11	60.74	56.24	49.72	41.89	32.99	23.29	-24.62	-21.77
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.38	-0.73	-0.93	-1.02	-1.05	-1.04	-1.00	-0.94	-0.86	-0.76	0.30	0.50
IMPORTS_PCER	0.73	1.09	1.12	1.06	0.98	0.89	0.81	0.71	0.61	0.49	-0.58	-0.69
REAL.WAGE_PCER	0.09	0.23	0.18	0.10	0.04	0.02	0.01	0.01	0.01	-0.00	-0.22	-0.21
PRICE.LEVEL.GDP_PCER	0.45	0.96	1.26	1.40	1.46	1.47	1.44	1.38	1.30	1.19	-0.13	-0.47
.PRICE.LEVEL.T_PCER	0.25	0.59	0.80	0.91	0.96	0.98	0.98	0.96	0.92	0.86	0.00	-0.29
.PRICE.LEVEL.NT_PCER	0.44	0.93	1.19	1.32	1.37	1.37	1.34	1.29	1.21	1.11	-0.10	-0.40
.PRICE.LEVEL.HOUSE_PCER	11.78	15.65	15.98	16.03	16.05	16.06	16.07	16.07	16.07	16.06	15.85	15.73
EXPORT.PRICES_PCER	0.25	0.59	0.80	0.91	0.96	0.98	0.98	0.96	0.92	0.86	0.00	-0.29
IMPORT.PRICES_PCER	-0.09	-0.13	-0.14	-0.14	-0.12	-0.10	-0.06	-0.02	0.02	0.07	0.32	0.24
TOT_PCER	0.34	0.72	0.94	1.05	1.09	1.08	1.04	0.98	0.90	0.79	-0.32	-0.53
REER_PCER	-0.54	-1.09	-1.39	-1.53	-1.57	-1.55	-1.49	-1.40	-1.27	-1.11	0.46	0.72
EXR_PCER	-0.15	-0.16	-0.17	-0.16	-0.14	-0.12	-0.08	-0.04	0.00	0.05	0.30	0.22

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.01	-0.01	0.00	0.01	0.02	0.03	0.04	0.05	0.05	0.05	0.00	-0.01
REAL.INT.RATE_ER	-0.62	-0.37	-0.18	-0.07	0.00	0.05	0.09	0.12	0.15	0.18	0.08	-0.01
INFL.GDP_ER	0.68	0.42	0.22	0.10	0.03	-0.01	-0.04	-0.06	-0.09	-0.12	-0.08	-0.01
INFL.PC_ER	0.57	0.34	0.18	0.08	0.03	-0.00	-0.03	-0.05	-0.07	-0.09	-0.07	-0.01
LABOUR.TAX.RATE_ER	-0.10	-0.29	-0.40	-0.44	-0.44	-0.42	-0.38	-0.34	-0.28	-0.23	0.24	0.21
GOV.DEBT.GDP_ER	-0.48	-0.97	-1.11	-1.07	-0.94	-0.77	-0.58	-0.38	-0.17	0.03	0.78	0.18
GOV.BALANCE.GDP_ER	0.23	0.18	0.03	-0.05	-0.10	-0.11	-0.12	-0.11	-0.10	-0.10	0.04	0.05
GOV.EXP.GDP_ER	-0.44	-0.61	-0.59	-0.56	-0.51	-0.46	-0.39	-0.32	-0.25	-0.16	0.21	0.17

GOV.REV.GDP_ER	-0.23	-0.48	-0.61	-0.65	-0.64	-0.59	-0.52	-0.44	-0.35	-0.25	0.29	0.22
TRADE.BAL.GDP_ER	-0.22	-0.31	-0.31	-0.29	-0.27	-0.24	-0.22	-0.19	-0.16	-0.13	0.16	0.19
CURRENT.ACC.GDP_ER	-0.22	-0.33	-0.35	-0.34	-0.33	-0.33	-0.32	-0.31	-0.29	-0.27	-0.01	0.06
NFA.GDP_ER	-0.12	-0.42	-0.75	-1.08	-1.40	-1.70	-2.00	-2.27	-2.53	-2.77	-3.56	-2.68

### Prudent valuation of housing collateral:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.54	0.81	0.80	0.74	0.65	0.56	0.45	0.34	0.23	0.11	-0.39	-0.28
OUTPUT.T_PCER	-0.01	-0.19	-0.42	-0.60	-0.71	-0.77	-0.79	-0.77	-0.73	-0.67	0.03	0.19
OUTPUT.NT_PCER	0.96	1.52	1.65	1.64	1.57	1.44	1.27	1.08	0.87	0.63	-0.67	-0.60
CAPITAL.T_PCER	0.01	0.01	-0.01	-0.05	-0.11	-0.18	-0.26	-0.33	-0.40	-0.47	-0.59	-0.29
CAPITAL.NT_PCER	0.02	0.06	0.09	0.11	0.10	0.06	0.01	-0.06	-0.13	-0.21	-0.76	-0.70
EMPLOYMENT_PCER	0.63	0.99	1.02	0.97	0.90	0.80	0.70	0.58	0.45	0.32	-0.25	-0.18
.EMPLOYMENT.T_PCER	0.50	0.76	0.74	0.67	0.59	0.50	0.42	0.33	0.24	0.14	-0.16	-0.08
.EMPLOYMENT.NT_PCER	0.82	1.35	1.45	1.44	1.37	1.26	1.12	0.96	0.78	0.58	-0.40	-0.33
DEMAND.DOM_PCER	0.70	1.06	1.08	1.01	0.90	0.78	0.65	0.51	0.36	0.21	-0.55	-0.44
CONSUMPTION_PCER	-1.26	-2.23	-2.67	-2.83	-2.76	-2.52	-2.16	-1.76	-1.31	-0.85	0.71	0.41
.CLC_PCER	0.27	0.65	0.82	0.86	0.83	0.78	0.70	0.60	0.49	0.37	-0.54	-0.45
.CCC_PCER	-5.82	-9.91	-11.44	-11.76	-11.24	-10.07	-8.52	-6.80	-4.97	-3.10	1.94	0.24
.CNLC_PCER	0.02	-0.21	-0.47	-0.65	-0.74	-0.77	-0.74	-0.67	-0.57	-0.45	0.79	0.94
INVESTMENT.CAPITAL_PCER	0.55	0.67	0.31	-0.18	-0.65	-1.06	-1.40	-1.65	-1.83	-1.92	-0.80	-0.09
.INVESTMENT.T_PCER	0.14	-0.04	-0.38	-0.70	-0.94	-1.10	-1.21	-1.27	-1.28	-1.26	-0.29	0.08
.INVESTMENT.NT_PCER	0.87	1.21	0.83	0.21	-0.44	-1.03	-1.54	-1.94	-2.24	-2.43	-1.19	-0.22
INVESTMENT.HOUSE_PCER	28.35	49.13	57.55	60.26	58.91	54.38	47.85	40.00	31.12	21.47	-24.38	-21.08
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.32	-0.62	-0.81	-0.92	-0.97	-0.96	-0.92	-0.86	-0.77	-0.67	0.31	0.42
IMPORTS_PCER	0.52	0.87	0.97	0.95	0.89	0.81	0.72	0.61	0.50	0.38	-0.56	-0.56
REAL.WAGE_PCER	0.01	0.10	0.12	0.09	0.06	0.04	0.02	0.01	0.00	-0.01	-0.19	-0.17
PRICE.LEVEL.GDP_PCER	0.36	0.80	1.09	1.26	1.34	1.36	1.34	1.28	1.19	1.07	-0.16	-0.39
.PRICE.LEVEL.T_PCER	0.20	0.48	0.69	0.81	0.88	0.91	0.91	0.88	0.84	0.78	-0.03	-0.23
.PRICE.LEVEL.NT_PCER	0.35	0.77	1.04	1.19	1.26	1.28	1.25	1.19	1.11	1.00	-0.13	-0.33
.PRICE.LEVEL.HOUSE_PCER	10.60	14.06	14.35	14.41	14.44	14.45	14.46	14.46	14.45	14.44	14.22	14.13
EXPORT.PRICES_PCER	0.20	0.48	0.69	0.81	0.88	0.91	0.91	0.88	0.84	0.78	-0.03	-0.23
IMPORT.PRICES_PCER	-0.09	-0.12	-0.14	-0.14	-0.12	-0.09	-0.05	-0.01	0.03	0.08	0.30	0.21
TOT_PCER	0.28	0.60	0.82	0.95	1.00	1.00	0.96	0.90	0.81	0.70	-0.32	-0.44
REER_PCER	-0.44	-0.92	-1.23	-1.39	-1.46	-1.45	-1.38	-1.28	-1.15	-0.98	0.47	0.60
EXR_PCER	-0.13	-0.15	-0.16	-0.16	-0.14	-0.11	-0.07	-0.03	0.01	0.06	0.28	0.19

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.02	-0.01	0.00	0.01	0.03	0.04	0.04	0.05	0.05	0.05	-0.00	-0.01
REAL.INT.RATE_ER	-0.52	-0.35	-0.21	-0.09	-0.01	0.05	0.09	0.13	0.16	0.18	0.06	-0.01
INFL.GDP_ER	0.55	0.38	0.24	0.13	0.05	-0.00	-0.04	-0.07	-0.10	-0.13	-0.06	0.00
INFL.PC_ER	0.46	0.31	0.19	0.11	0.04	0.00	-0.03	-0.05	-0.08	-0.10	-0.05	-0.00
LABOUR.TAX.RATE_ER	-0.07	-0.23	-0.34	-0.39	-0.40	-0.39	-0.35	-0.31	-0.25	-0.19	0.26	0.20
GOV.DEBT.GDP_ER	-0.38	-0.82	-0.99	-1.00	-0.90	-0.73	-0.54	-0.34	-0.14	0.06	0.75	0.12
GOV.BALANCE.GDP_ER	0.17	0.16	0.06	-0.03	-0.08	-0.11	-0.12	-0.12	-0.11	-0.10	0.04	0.04
GOV.EXP.GDP_ER	-0.37	-0.57	-0.58	-0.54	-0.49	-0.43	-0.37	-0.30	-0.22	-0.14	0.22	0.17
GOV.REV.GDP_ER	-0.22	-0.45	-0.57	-0.61	-0.61	-0.56	-0.49	-0.41	-0.32	-0.22	0.30	0.21
TRADE.BAL.GDP_ER	-0.16	-0.25	-0.27	-0.26	-0.24	-0.22	-0.19	-0.17	-0.14	-0.10	0.16	0.16
CURRENT.ACC.GDP_ER	-0.16	-0.27	-0.30	-0.31	-0.30	-0.29	-0.28	-0.26	-0.24	-0.22	0.02	0.06
NFA.GDP_ER	-0.09	-0.32	-0.60	-0.90	-1.18	-1.46	-1.72	-1.96	-2.17	-2.37	-2.77	-1.86

### Increased price and wage flexibility and prudent valuation of housing collateral:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.51	0.74	0.73	0.68	0.61	0.53	0.43	0.32	0.21	0.09	-0.38	-0.28
OUTPUT.T_PCER	-0.06	-0.29	-0.52	-0.68	-0.77	-0.81	-0.81	-0.79	-0.75	-0.68	0.04	0.19
OUTPUT.NT_PCER	0.93	1.44	1.57	1.57	1.51	1.40	1.24	1.06	0.85	0.61	-0.66	-0.59
CAPITAL.T_PCER	0.00	0.00	-0.03	-0.07	-0.14	-0.21	-0.28	-0.35	-0.42	-0.49	-0.59	-0.29
CAPITAL.NT_PCER	0.02	0.05	0.08	0.09	0.08	0.04	-0.01	-0.08	-0.15	-0.23	-0.76	-0.69
EMPLOYMENT_PCER	0.60	0.93	0.96	0.93	0.87	0.78	0.68	0.57	0.44	0.31	-0.25	-0.18
.EMPLOYMENT.T_PCER	0.47	0.69	0.67	0.62	0.56	0.49	0.40	0.32	0.23	0.13	-0.15	-0.08
.EMPLOYMENT.NT_PCER	0.79	1.29	1.39	1.39	1.34	1.24	1.10	0.95	0.77	0.57	-0.39	-0.33
DEMAND.DOM_PCER	0.67	0.99	0.99	0.94	0.85	0.74	0.62	0.49	0.34	0.19	-0.53	-0.43
CONSUMPTION_PCER	-1.28	-2.29	-2.75	-2.90	-2.81	-2.56	-2.20	-1.78	-1.34	-0.87	0.72	0.42
.CLC_PCER	0.23	0.58	0.72	0.75	0.73	0.69	0.62	0.54	0.44	0.32	-0.51	-0.43
.CCC_PCER	-5.80	-9.96	-11.53	-11.85	-11.32	-10.12	-8.57	-6.84	-5.01	-3.14	1.96	0.26
.CNLC_PCER	-0.00	-0.27	-0.53	-0.69	-0.76	-0.77	-0.74	-0.67	-0.58	-0.45	0.80	0.94
INVESTMENT.CAPITAL_PCER	0.49	0.54	0.18	-0.28	-0.72	-1.10	-1.42	-1.66	-1.83	-1.92	-0.78	-0.09
.INVESTMENT.T_PCER	0.09	-0.14	-0.49	-0.77	-0.98	-1.13	-1.23	-1.28	-1.29	-1.26	-0.28	0.08
.INVESTMENT.NT_PCER	0.79	1.06	0.68	0.09	-0.52	-1.08	-1.56	-1.95	-2.24	-2.42	-1.16	-0.22
INVESTMENT.HOUSE_PCER	28.37	49.09	57.47	60.17	58.83	54.32	47.80	39.96	31.09	21.44	-24.33	-21.07

GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.36	-0.68	-0.86	-0.95	-0.98	-0.97	-0.93	-0.87	-0.78	-0.68	0.30	0.41
IMPORTS_PCER	0.53	0.86	0.93	0.91	0.85	0.78	0.70	0.60	0.50	0.38	-0.54	-0.55
REAL.WAGE_PCER	-0.04	0.03	0.04	0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.02	-0.18	-0.17
PRICE.LEVEL.GDP_PCER	0.43	0.90	1.17	1.32	1.38	1.38	1.36	1.30	1.20	1.08	-0.16	-0.38
.PRICE.LEVEL.T_PCER	0.23	0.55	0.75	0.86	0.91	0.93	0.93	0.90	0.86	0.79	-0.03	-0.23
.PRICE.LEVEL.NT_PCER	0.42	0.87	1.11	1.24	1.29	1.30	1.27	1.21	1.13	1.01	-0.13	-0.33
.PRICE.LEVEL.HOUSE_PCER	10.62	14.08	14.37	14.43	14.45	14.46	14.47	14.47	14.46	14.45	14.22	14.13
EXPORT.PRICES_PCER	0.23	0.55	0.75	0.86	0.91	0.93	0.93	0.90	0.86	0.79	-0.03	-0.23
IMPORT.PRICES_PCER	-0.09	-0.12	-0.13	-0.13	-0.11	-0.08	-0.05	-0.00	0.04	0.09	0.30	0.20
TOT_PCER	0.32	0.67	0.88	0.98	1.02	1.01	0.97	0.91	0.82	0.70	-0.32	-0.43
REER_PCER	-0.51	-1.02	-1.30	-1.44	-1.48	-1.46	-1.39	-1.29	-1.16	-0.99	0.46	0.59
EXR_PCER	-0.13	-0.15	-0.15	-0.15	-0.13	-0.10	-0.07	-0.02	0.02	0.07	0.28	0.19

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.01	-0.01	0.00	0.02	0.03	0.04	0.04	0.05	0.05	0.05	-0.00	-0.01
REAL.INT.RATE_ER	-0.59	-0.34	-0.18	-0.07	0.00	0.05	0.09	0.13	0.16	0.18	0.06	-0.01
INFL.GDP_ER	0.64	0.38	0.21	0.10	0.04	-0.01	-0.04	-0.07	-0.10	-0.13	-0.06	0.00
INFL.PC_ER	0.54	0.31	0.17	0.08	0.03	-0.00	-0.03	-0.05	-0.08	-0.10	-0.05	-0.00
LABOUR.TAX.RATE_ER	-0.08	-0.23	-0.31	-0.35	-0.35	-0.34	-0.31	-0.26	-0.22	-0.16	0.25	0.19
GOV.DEBT.GDP_ER	-0.37	-0.78	-0.91	-0.89	-0.79	-0.64	-0.47	-0.29	-0.10	0.09	0.69	0.10
GOV.BALANCE.GDP_ER	0.15	0.12	0.03	-0.04	-0.08	-0.10	-0.10	-0.10	-0.10	-0.09	0.04	0.04
GOV.EXP.GDP_ER	-0.35	-0.53	-0.54	-0.51	-0.48	-0.42	-0.36	-0.29	-0.21	-0.13	0.21	0.17
GOV.REV.GDP_ER	-0.23	-0.45	-0.55	-0.59	-0.58	-0.53	-0.47	-0.39	-0.30	-0.20	0.29	0.21
TRADE.BAL.GDP_ER	-0.16	-0.25	-0.26	-0.25	-0.23	-0.21	-0.19	-0.16	-0.13	-0.10	0.15	0.15
CURRENT.ACC.GDP_ER	-0.16	-0.26	-0.29	-0.29	-0.29	-0.28	-0.27	-0.26	-0.24	-0.22	0.02	0.06
NFA.GDP_ER	-0.09	-0.32	-0.59	-0.87	-1.15	-1.41	-1.66	-1.90	-2.11	-2.30	-2.71	-1.82

**Figure 3.2: Impulse responses for 1-percent domestic demand shock***Baseline calibration of adjustment frictions:*

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.55	0.69	0.54	0.34	0.22	0.16	0.13	0.11	0.10	0.08	-0.02	-0.05
OUTPUT.T_PCER	0.45	0.46	0.25	0.07	-0.02	-0.04	-0.02	0.00	0.03	0.05	0.08	0.07
OUTPUT.NT_PCER	0.82	1.07	0.92	0.65	0.45	0.31	0.23	0.17	0.13	0.09	-0.12	-0.16
CAPITAL.T_PCER	0.06	0.18	0.29	0.35	0.38	0.39	0.39	0.38	0.37	0.36	0.19	0.07
CAPITAL.NT_PCER	0.02	0.08	0.12	0.15	0.16	0.15	0.14	0.13	0.11	0.09	-0.07	-0.17
EMPLOYMENT_PCER	0.53	0.66	0.50	0.31	0.18	0.12	0.09	0.08	0.06	0.05	-0.03	-0.03
.EMPLOYMENT.T_PCER	0.47	0.57	0.40	0.21	0.11	0.06	0.05	0.05	0.04	0.04	-0.00	-0.01
.EMPLOYMENT.NT_PCER	0.61	0.81	0.66	0.45	0.30	0.21	0.16	0.12	0.09	0.07	-0.06	-0.08
DEMAND.DOM_PCER	0.90	1.20	1.02	0.72	0.50	0.35	0.26	0.19	0.14	0.09	-0.13	-0.18
CONSUMPTION_PCER	1.37	1.96	1.82	1.43	1.07	0.81	0.60	0.45	0.32	0.21	-0.28	-0.36
.CLC_PCER	1.26	1.79	1.83	1.60	1.33	1.08	0.87	0.70	0.55	0.43	-0.20	-0.27
.CCC_PCER	1.02	1.36	1.13	0.83	0.60	0.45	0.35	0.28	0.22	0.17	-0.18	-0.26
.CNLC_PCER	1.59	2.32	2.14	1.61	1.16	0.83	0.59	0.40	0.25	0.12	-0.36	-0.45
INVESTMENT.CAPITAL_PCER	1.26	1.67	1.26	0.77	0.40	0.17	0.04	-0.04	-0.10	-0.14	-0.25	-0.22
.INVESTMENT.T_PCER	1.39	1.78	1.38	0.94	0.64	0.46	0.35	0.28	0.23	0.18	-0.00	-0.04
.INVESTMENT.NT_PCER	1.16	1.58	1.17	0.63	0.22	-0.04	-0.20	-0.29	-0.35	-0.38	-0.43	-0.36
INVESTMENT.HOUSE_PCER	-0.20	-0.55	-0.76	-0.81	-0.77	-0.66	-0.53	-0.42	-0.32	-0.25	-0.18	-0.20
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.33	-0.62	-0.71	-0.65	-0.52	-0.38	-0.25	-0.14	-0.05	0.02	0.27	0.27
IMPORTS_PCER	1.21	1.79	1.71	1.35	0.99	0.69	0.46	0.28	0.14	0.03	-0.41	-0.44
REAL.WAGE_PCER	0.21	0.41	0.38	0.26	0.13	0.06	0.02	0.00	0.00	-0.00	-0.03	-0.05
PRICE.LEVEL.GDP_PCER	0.42	0.87	1.04	1.00	0.85	0.68	0.52	0.38	0.27	0.18	-0.19	-0.25
.PRICE.LEVEL.T_PCER	0.27	0.60	0.73	0.72	0.63	0.51	0.40	0.31	0.23	0.16	-0.11	-0.17
.PRICE.LEVEL.NT_PCER	0.40	0.81	0.97	0.93	0.80	0.64	0.49	0.37	0.27	0.19	-0.14	-0.21
.PRICE.LEVEL.HOUSE_PCER	-0.19	-0.12	-0.05	-0.04	-0.08	-0.12	-0.17	-0.21	-0.24	-0.27	-0.39	-0.43
EXPORT.PRICES_PCER	0.27	0.60	0.73	0.72	0.63	0.51	0.40	0.31	0.23	0.16	-0.11	-0.17
IMPORT.PRICES_PCER	-0.05	-0.03	0.00	0.04	0.08	0.11	0.14	0.16	0.17	0.18	0.18	0.12
TOT_PCER	0.31	0.62	0.73	0.68	0.55	0.40	0.26	0.15	0.05	-0.02	-0.28	-0.29
REER_PCER	-0.46	-0.90	-1.03	-0.95	-0.77	-0.57	-0.38	-0.22	-0.10	0.01	0.37	0.38
EXR_PCER	-0.09	-0.07	-0.02	0.02	0.06	0.09	0.12	0.14	0.15	0.16	0.16	0.11

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	0.02	0.05	0.05	0.05	0.04	0.03	0.02	0.02	0.01	0.01	-0.00	-0.00
REAL.INT.RATE_ER	-0.54	-0.22	0.03	0.17	0.21	0.20	0.17	0.14	0.11	0.09	0.01	-0.00
INFL.GDP_ER	0.63	0.34	0.07	-0.09	-0.16	-0.17	-0.15	-0.13	-0.10	-0.08	-0.01	-0.00
INFL.PC_ER	0.53	0.28	0.06	-0.07	-0.13	-0.14	-0.12	-0.10	-0.08	-0.07	-0.01	-0.00
LABOUR.TAX.RATE_ER	-0.13	-0.40	-0.56	-0.60	-0.58	-0.51	-0.44	-0.36	-0.30	-0.23	0.13	0.16
GOV.DEBT.GDP_ER	-0.53	-1.14	-1.36	-1.27	-1.04	-0.77	-0.51	-0.28	-0.08	0.08	0.57	0.24
GOV.BALANCE.GDP_ER	0.39	0.38	0.17	-0.02	-0.12	-0.16	-0.16	-0.15	-0.13	-0.12	0.01	0.02
GOV.EXP.GDP_ER	-0.37	-0.46	-0.36	-0.23	-0.15	-0.10	-0.07	-0.06	-0.05	-0.03	0.03	0.05
GOV.REV.GDP_ER	0.01	-0.11	-0.23	-0.29	-0.30	-0.28	-0.25	-0.21	-0.18	-0.14	0.06	0.08
TRADE.BAL.GDP_ER	-0.35	-0.51	-0.48	-0.38	-0.28	-0.19	-0.13	-0.08	-0.04	-0.01	0.11	0.12



CURRENT.ACC.GDP_ER	-0.36	-0.54	-0.54	-0.46	-0.38	-0.31	-0.26	-0.22	-0.19	-0.16	-0.06	-0.05
NFA.GDP_ER	-0.19	-0.68	-1.21	-1.68	-2.06	-2.37	-2.61	-2.80	-2.95	-3.08	-3.47	-3.40

### 3-quarter average price duration:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.51	0.61	0.47	0.31	0.21	0.16	0.14	0.12	0.10	0.09	-0.02	-0.05
OUTPUT.T_PCER	0.37	0.33	0.15	0.02	-0.03	-0.03	-0.00	0.02	0.04	0.05	0.08	0.07
OUTPUT.NT_PCER	0.76	0.95	0.81	0.59	0.43	0.32	0.24	0.19	0.14	0.10	-0.12	-0.16
CAPITAL.T_PCER	0.06	0.18	0.27	0.33	0.36	0.37	0.38	0.37	0.37	0.35	0.19	0.07
CAPITAL.NT_PCER	0.02	0.07	0.11	0.14	0.15	0.15	0.14	0.12	0.11	0.09	-0.07	-0.16
EMPLOYMENT_PCER	0.50	0.61	0.46	0.29	0.18	0.13	0.10	0.08	0.07	0.05	-0.03	-0.03
.EMPLOYMENT.T_PCER	0.44	0.51	0.35	0.20	0.11	0.07	0.06	0.05	0.05	0.04	-0.00	-0.01
.EMPLOYMENT.NT_PCER	0.58	0.75	0.61	0.42	0.29	0.22	0.17	0.13	0.10	0.07	-0.06	-0.07
DEMAND.DOM_PCER	0.85	1.10	0.93	0.68	0.48	0.36	0.27	0.21	0.15	0.10	-0.13	-0.17
CONSUMPTION_PCER	1.33	1.85	1.72	1.37	1.05	0.80	0.61	0.46	0.33	0.22	-0.27	-0.35
.CLC_PCER	1.16	1.62	1.66	1.47	1.25	1.04	0.86	0.70	0.56	0.43	-0.19	-0.27
.CCC_PCER	1.01	1.20	0.95	0.70	0.52	0.41	0.34	0.28	0.22	0.17	-0.17	-0.25
.CNLC_PCER	1.57	2.27	2.11	1.61	1.18	0.85	0.61	0.41	0.26	0.13	-0.36	-0.44
INVESTMENT.CAPITAL_PCER	1.18	1.55	1.17	0.74	0.42	0.22	0.09	-0.00	-0.06	-0.11	-0.24	-0.22
.INVESTMENT.T_PCER	1.32	1.68	1.31	0.92	0.65	0.49	0.38	0.30	0.24	0.19	-0.00	-0.04
.INVESTMENT.NT_PCER	1.08	1.45	1.07	0.60	0.25	0.01	-0.14	-0.23	-0.30	-0.35	-0.42	-0.35
INVESTMENT.HOUSE_PCER	-0.25	-0.71	-0.92	-0.92	-0.81	-0.65	-0.50	-0.38	-0.28	-0.21	-0.15	-0.19
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.38	-0.68	-0.74	-0.65	-0.52	-0.37	-0.25	-0.14	-0.06	0.01	0.26	0.27
IMPORTS_PCER	1.18	1.72	1.63	1.30	0.97	0.69	0.47	0.30	0.16	0.05	-0.40	-0.43
REAL.WAGE_PCER	0.09	0.22	0.21	0.15	0.10	0.06	0.04	0.03	0.02	0.02	-0.03	-0.05
PRICE.LEVEL.GDP_PCER	0.49	0.95	1.08	1.01	0.84	0.67	0.51	0.38	0.27	0.18	-0.19	-0.25
.PRICE.LEVEL.T_PCER	0.31	0.66	0.77	0.73	0.63	0.51	0.40	0.30	0.23	0.16	-0.11	-0.17
.PRICE.LEVEL.NT_PCER	0.46	0.88	1.00	0.93	0.78	0.63	0.49	0.37	0.27	0.19	-0.14	-0.21
.PRICE.LEVEL.HOUSE_PCER	-0.17	-0.09	-0.03	-0.04	-0.08	-0.13	-0.17	-0.21	-0.24	-0.27	-0.39	-0.44
EXPORT.PRICES_PCER	0.31	0.66	0.77	0.73	0.63	0.51	0.40	0.30	0.23	0.16	-0.11	-0.17
IMPORT.PRICES_PCER	-0.05	-0.02	0.01	0.05	0.08	0.12	0.14	0.16	0.17	0.18	0.17	0.12
TOT_PCER	0.36	0.68	0.76	0.68	0.54	0.39	0.26	0.15	0.06	-0.02	-0.28	-0.28
REER_PCER	-0.53	-0.97	-1.07	-0.95	-0.76	-0.55	-0.37	-0.22	-0.10	0.00	0.36	0.37
EXR_PCER	-0.09	-0.06	-0.02	0.03	0.07	0.10	0.12	0.14	0.15	0.16	0.15	0.10

Data Set by Archive - Error

TEMP_SIM_ER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	0.03	0.05	0.05	0.04	0.04	0.03	0.02	0.02	0.01	0.01	-0.00	-0.00
REAL.INT.RATE_ER	-0.58	-0.19	0.07	0.19	0.21	0.19	0.16	0.13	0.11	0.09	0.01	-0.00
INFL.GDP_ER	0.72	0.32	0.03	-0.12	-0.17	-0.17	-0.15	-0.12	-0.10	-0.08	-0.01	-0.00
INFL.PC_ER	0.60	0.27	0.03	-0.10	-0.14	-0.13	-0.12	-0.10	-0.08	-0.07	-0.01	-0.00
LABOUR.TAX.RATE_ER	-0.13	-0.38	-0.52	-0.56	-0.53	-0.48	-0.41	-0.35	-0.28	-0.23	0.12	0.16
GOV.DEBT.GDP_ER	-0.51	-1.08	-1.26	-1.17	-0.96	-0.72	-0.49	-0.28	-0.10	0.06	0.54	0.24
GOV.BALANCE.GDP_ER	0.37	0.34	0.15	-0.01	-0.10	-0.13	-0.14	-0.13	-0.12	-0.11	0.00	0.02
GOV.EXP.GDP_ER	-0.35	-0.42	-0.33	-0.22	-0.15	-0.11	-0.08	-0.06	-0.05	-0.04	0.03	0.04
GOV.REV.GDP_ER	0.01	-0.11	-0.21	-0.26	-0.27	-0.26	-0.23	-0.20	-0.17	-0.14	0.06	0.08
TRADE.BAL.GDP_ER	-0.34	-0.49	-0.46	-0.36	-0.27	-0.19	-0.13	-0.09	-0.05	-0.02	0.11	0.12
CURRENT.ACC.GDP_ER	-0.35	-0.52	-0.51	-0.44	-0.37	-0.31	-0.26	-0.22	-0.19	-0.16	-0.06	-0.05
NFA.GDP_ER	-0.19	-0.66	-1.17	-1.62	-1.99	-2.28	-2.52	-2.72	-2.87	-3.00	-3.41	-3.34

### 3-quarter average wage duration:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.54	0.64	0.47	0.29	0.19	0.15	0.13	0.12	0.10	0.09	-0.02	-0.06
OUTPUT.T_PCER	0.44	0.41	0.19	0.01	-0.05	-0.04	-0.01	0.02	0.04	0.06	0.08	0.07
OUTPUT.NT_PCER	0.85	1.07	0.88	0.60	0.40	0.29	0.22	0.17	0.13	0.09	-0.12	-0.17
CAPITAL.T_PCER	0.06	0.18	0.27	0.33	0.36	0.37	0.37	0.37	0.36	0.35	0.19	0.07
CAPITAL.NT_PCER	0.02	0.07	0.11	0.14	0.14	0.14	0.13	0.11	0.10	0.08	-0.08	-0.17
EMPLOYMENT_PCER	0.50	0.60	0.43	0.26	0.16	0.12	0.10	0.09	0.07	0.06	-0.02	-0.03
.EMPLOYMENT.T_PCER	0.44	0.49	0.32	0.16	0.09	0.07	0.06	0.06	0.05	0.05	-0.00	-0.00
.EMPLOYMENT.NT_PCER	0.59	0.76	0.60	0.40	0.27	0.20	0.16	0.13	0.10	0.07	-0.06	-0.08
DEMAND.DOM_PCER	0.91	1.17	0.96	0.66	0.46	0.33	0.25	0.19	0.14	0.10	-0.13	-0.18
CONSUMPTION_PCER	1.41	1.97	1.79	1.37	1.02	0.77	0.59	0.44	0.32	0.21	-0.28	-0.36
.CLC_PCER	1.35	1.90	1.86	1.56	1.25	1.00	0.81	0.66	0.53	0.41	-0.20	-0.27
.CCC_PCER	1.15	1.44	1.11	0.75	0.51	0.39	0.31	0.26	0.21	0.16	-0.18	-0.26
.CNLC_PCER	1.56	2.24	2.06	1.56	1.14	0.83	0.60	0.41	0.26	0.13	-0.37	-0.46
INVESTMENT.CAPITAL_PCER	1.21	1.55	1.13	0.67	0.36	0.17	0.06	-0.02	-0.08	-0.12	-0.24	-0.22
.INVESTMENT.T_PCER	1.35	1.69	1.28	0.87	0.61	0.46	0.36	0.30	0.24	0.19	-0.01	-0.04
.INVESTMENT.NT_PCER	1.10	1.44	1.02	0.52	0.17	-0.05	-0.18	-0.26	-0.31	-0.36	-0.43	-0.36
INVESTMENT.HOUSE_PCER	-0.09	-0.48	-0.80	-0.91	-0.86	-0.72	-0.57	-0.43	-0.33	-0.25	-0.18	-0.21
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.37	-0.69	-0.76	-0.68	-0.52	-0.37	-0.24	-0.13	-0.05	0.02	0.27	0.27

IMPORTS_PCER	1.27	1.87	1.73	1.33	0.95	0.66	0.44	0.27	0.14	0.03	-0.41	-0.44
REAL.WAGE_PCER	0.33	0.57	0.46	0.25	0.10	0.02	-0.00	-0.01	-0.00	-0.00	-0.03	-0.05
PRICE.LEVEL.GDP_PCER	0.48	0.98	1.13	1.05	0.86	0.67	0.50	0.37	0.26	0.17	-0.19	-0.26
.PRICE.LEVEL.T_PCER	0.31	0.67	0.80	0.76	0.64	0.51	0.39	0.30	0.22	0.16	-0.11	-0.17
.PRICE.LEVEL.NT_PCER	0.45	0.92	1.05	0.97	0.80	0.63	0.48	0.36	0.26	0.19	-0.15	-0.21
.PRICE.LEVEL.HOUSE_PCER	-0.17	-0.08	-0.02	-0.02	-0.07	-0.12	-0.17	-0.21	-0.24	-0.27	-0.39	-0.44
EXPORT.PRICES_PCER	0.31	0.67	0.80	0.76	0.64	0.51	0.39	0.30	0.22	0.16	-0.11	-0.17
IMPORT.PRICES_PCER	-0.05	-0.02	0.01	0.06	0.09	0.12	0.15	0.17	0.18	0.19	0.18	0.12
TOT_PCER	0.36	0.70	0.79	0.71	0.55	0.39	0.25	0.13	0.04	-0.03	-0.28	-0.29
REER_PCER	-0.52	-1.00	-1.12	-0.99	-0.77	-0.55	-0.36	-0.20	-0.08	0.01	0.37	0.38
EXR_PCER	-0.10	-0.06	-0.01	0.03	0.07	0.10	0.13	0.14	0.16	0.17	0.16	0.10

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	0.03	0.06	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	-0.00	-0.00
REAL.INT.RATE_ER	-0.61	-0.22	0.08	0.21	0.23	0.21	0.17	0.13	0.11	0.08	0.01	-0.00
INFL.GDP_ER	0.72	0.36	0.04	-0.14	-0.19	-0.19	-0.15	-0.12	-0.10	-0.08	-0.01	-0.00
INFL.PC_ER	0.60	0.30	0.04	-0.11	-0.16	-0.15	-0.12	-0.10	-0.08	-0.06	-0.01	-0.00
LABOUR.TAX.RATE_ER	-0.14	-0.40	-0.54	-0.57	-0.53	-0.47	-0.40	-0.34	-0.28	-0.22	0.13	0.16
GOV.DEBT.GDP_ER	-0.53	-1.13	-1.30	-1.18	-0.94	-0.69	-0.46	-0.25	-0.08	0.07	0.54	0.24
GOV.BALANCE.GDP_ER	0.39	0.35	0.14	-0.03	-0.11	-0.14	-0.14	-0.13	-0.12	-0.11	0.00	0.02
GOV.EXP.GDP_ER	-0.35	-0.42	-0.32	-0.20	-0.13	-0.10	-0.08	-0.06	-0.05	-0.04	0.03	0.05
GOV.REV.GDP_ER	0.02	-0.10	-0.21	-0.27	-0.28	-0.26	-0.23	-0.20	-0.17	-0.14	0.06	0.08
TRADE.BAL.GDP_ER	-0.37	-0.53	-0.49	-0.37	-0.27	-0.18	-0.12	-0.08	-0.04	-0.01	0.11	0.12
CURRENT.ACC.GDP_ER	-0.38	-0.56	-0.54	-0.45	-0.37	-0.30	-0.25	-0.22	-0.19	-0.16	-0.06	-0.05
NFA.GDP_ER	-0.20	-0.71	-1.26	-1.73	-2.10	-2.39	-2.62	-2.81	-2.96	-3.09	-3.49	-3.42

### Prudent valuation of housing collateral:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.56	0.69	0.54	0.35	0.22	0.16	0.13	0.11	0.10	0.08	-0.02	-0.06
OUTPUT.T_PCER	0.45	0.46	0.25	0.06	-0.03	-0.05	-0.03	0.00	0.03	0.05	0.09	0.07
OUTPUT.NT_PCER	0.83	1.09	0.93	0.66	0.45	0.32	0.23	0.17	0.13	0.09	-0.13	-0.17
CAPITAL.T_PCER	0.06	0.18	0.29	0.34	0.37	0.38	0.38	0.38	0.37	0.35	0.19	0.07
CAPITAL.NT_PCER	0.02	0.08	0.12	0.15	0.16	0.15	0.14	0.12	0.11	0.09	-0.08	-0.17
EMPLOYMENT_PCER	0.53	0.67	0.51	0.31	0.19	0.12	0.09	0.08	0.06	0.05	-0.03	-0.03
.EMPLOYMENT.T_PCER	0.48	0.57	0.40	0.22	0.11	0.06	0.05	0.05	0.04	0.04	-0.00	-0.00
.EMPLOYMENT.NT_PCER	0.62	0.82	0.67	0.46	0.30	0.21	0.16	0.12	0.09	0.07	-0.06	-0.08
DEMAND.DOM_PCER	0.91	1.21	1.03	0.73	0.50	0.35	0.26	0.19	0.14	0.09	-0.14	-0.18
CONSUMPTION_PCER	1.38	1.97	1.83	1.44	1.08	0.81	0.61	0.45	0.32	0.21	-0.28	-0.36
.CLC_PCER	1.26	1.80	1.85	1.62	1.34	1.08	0.87	0.70	0.55	0.42	-0.21	-0.27
.CCC_PCER	1.06	1.40	1.17	0.86	0.62	0.45	0.35	0.27	0.21	0.15	-0.22	-0.29
.CNLC_PCER	1.59	2.31	2.13	1.61	1.16	0.83	0.59	0.40	0.25	0.13	-0.35	-0.44
INVESTMENT.CAPITAL_PCER	1.26	1.66	1.24	0.75	0.38	0.15	0.02	-0.06	-0.11	-0.15	-0.24	-0.22
.INVESTMENT.T_PCER	1.38	1.77	1.36	0.92	0.63	0.45	0.34	0.27	0.22	0.18	-0.00	-0.04
.INVESTMENT.NT_PCER	1.16	1.57	1.15	0.61	0.20	-0.07	-0.22	-0.31	-0.36	-0.40	-0.43	-0.35
INVESTMENT.HOUSE_PCER	-0.08	-0.36	-0.57	-0.66	-0.65	-0.58	-0.49	-0.40	-0.32	-0.27	-0.23	-0.23
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.34	-0.63	-0.72	-0.66	-0.53	-0.39	-0.26	-0.14	-0.06	0.02	0.27	0.28
IMPORTS_PCER	1.22	1.81	1.73	1.37	1.00	0.70	0.46	0.28	0.14	0.03	-0.41	-0.44
REAL.WAGE_PCER	0.21	0.42	0.39	0.26	0.14	0.06	0.02	0.00	-0.00	-0.00	-0.03	-0.05
PRICE.LEVEL.GDP_PCER	0.43	0.88	1.06	1.01	0.87	0.69	0.53	0.39	0.27	0.18	-0.19	-0.26
.PRICE.LEVEL.T_PCER	0.27	0.60	0.74	0.73	0.64	0.52	0.41	0.31	0.23	0.16	-0.11	-0.17
.PRICE.LEVEL.NT_PCER	0.40	0.83	0.98	0.94	0.81	0.65	0.50	0.38	0.27	0.19	-0.15	-0.21
.PRICE.LEVEL.HOUSE_PCER	-0.16	-0.08	-0.01	-0.01	-0.04	-0.09	-0.14	-0.18	-0.21	-0.24	-0.36	-0.40
EXPORT.PRICES_PCER	0.27	0.60	0.74	0.73	0.64	0.52	0.41	0.31	0.23	0.16	-0.11	-0.17
IMPORT.PRICES_PCER	-0.05	-0.03	0.00	0.04	0.08	0.11	0.14	0.16	0.17	0.19	0.18	0.12
TOT_PCER	0.32	0.63	0.74	0.69	0.56	0.41	0.27	0.15	0.05	-0.02	-0.29	-0.29
REER_PCER	-0.47	-0.91	-1.05	-0.97	-0.79	-0.58	-0.39	-0.23	-0.10	0.01	0.38	0.38
EXR_PCER	-0.09	-0.07	-0.03	0.02	0.06	0.09	0.12	0.14	0.15	0.16	0.16	0.11

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	0.02	0.05	0.05	0.05	0.04	0.03	0.02	0.02	0.01	0.01	-0.00	-0.00
REAL.INT.RATE_ER	-0.55	-0.22	0.03	0.17	0.21	0.20	0.17	0.14	0.11	0.09	0.01	-0.00
INFL.GDP_ER	0.64	0.34	0.07	-0.10	-0.17	-0.17	-0.16	-0.13	-0.10	-0.08	-0.01	-0.00
INFL.PC_ER	0.53	0.29	0.06	-0.07	-0.13	-0.14	-0.12	-0.10	-0.08	-0.07	-0.01	-0.00
LABOUR.TAX.RATE_ER	-0.13	-0.40	-0.56	-0.61	-0.58	-0.52	-0.44	-0.37	-0.30	-0.23	0.13	0.16
GOV.DEBT.GDP_ER	-0.53	-1.16	-1.38	-1.28	-1.05	-0.77	-0.51	-0.28	-0.08	0.09	0.57	0.24
GOV.BALANCE.GDP_ER	0.40	0.38	0.18	-0.02	-0.12	-0.16	-0.16	-0.15	-0.13	-0.12	0.01	0.02
GOV.EXP.GDP_ER	-0.37	-0.47	-0.37	-0.23	-0.15	-0.10	-0.07	-0.06	-0.04	-0.03	0.03	0.05
GOV.REV.GDP_ER	0.01	-0.11	-0.23	-0.29	-0.30	-0.28	-0.25	-0.21	-0.18	-0.14	0.06	0.08
TRADE.BAL.GDP_ER	-0.36	-0.52	-0.49	-0.38	-0.28	-0.19	-0.13	-0.08	-0.04	-0.01	0.11	0.12
CURRENT.ACC.GDP_ER	-0.36	-0.54	-0.54	-0.46	-0.38	-0.31	-0.26	-0.22	-0.19	-0.16	-0.06	-0.05
NFA.GDP_ER	-0.20	-0.69	-1.23	-1.70	-2.08	-2.39	-2.63	-2.82	-2.97	-3.09	-3.48	-3.40

Increased price and wage flexibility and prudent valuation of housing collateral:

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.50	0.55	0.40	0.26	0.19	0.16	0.14	0.12	0.10	0.09	-0.02	-0.05
OUTPUT.T_PCER	0.35	0.26	0.07	-0.04	-0.05	-0.03	0.00	0.03	0.05	0.06	0.09	0.07
OUTPUT.NT_PCER	0.79	0.94	0.77	0.55	0.40	0.31	0.24	0.19	0.14	0.10	-0.12	-0.16
CAPITAL.T_PCER	0.05	0.17	0.26	0.31	0.34	0.35	0.36	0.35	0.35	0.34	0.18	0.07
CAPITAL.NT_PCER	0.02	0.07	0.10	0.12	0.13	0.13	0.12	0.11	0.09	0.08	-0.07	-0.17
EMPLOYMENT_PCER	0.48	0.54	0.39	0.24	0.17	0.13	0.11	0.09	0.07	0.06	-0.02	-0.03
.EMPLOYMENT.T_PCER	0.42	0.44	0.28	0.15	0.10	0.08	0.07	0.06	0.05	0.05	0.00	-0.00
.EMPLOYMENT.NT_PCER	0.57	0.71	0.56	0.38	0.28	0.22	0.17	0.14	0.10	0.07	-0.06	-0.07
DEMAND.DOM_PCER	0.86	1.07	0.87	0.62	0.45	0.35	0.27	0.20	0.15	0.10	-0.13	-0.17
CONSUMPTION_PCER	1.37	1.86	1.68	1.31	1.01	0.78	0.60	0.45	0.32	0.21	-0.27	-0.36
.CLC_PCER	1.24	1.70	1.67	1.43	1.19	0.98	0.81	0.66	0.53	0.42	-0.19	-0.27
.CCC_PCER	1.17	1.30	0.94	0.63	0.46	0.36	0.30	0.24	0.19	0.13	-0.21	-0.28
.CNLC_PCER	1.54	2.19	2.03	1.56	1.17	0.86	0.62	0.43	0.27	0.15	-0.35	-0.44
INVESTMENT.CAPITAL_PCER	1.12	1.41	1.03	0.64	0.37	0.20	0.09	0.01	-0.06	-0.10	-0.24	-0.22
.INVESTMENT.T_PCER	1.27	1.57	1.19	0.84	0.62	0.48	0.38	0.31	0.25	0.20	-0.00	-0.04
.INVESTMENT.NT_PCER	1.01	1.29	0.90	0.48	0.18	-0.01	-0.14	-0.22	-0.29	-0.33	-0.41	-0.35
INVESTMENT.HOUSE_PCER	-0.03	-0.48	-0.79	-0.86	-0.77	-0.63	-0.49	-0.37	-0.29	-0.23	-0.19	-0.21
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	-0.43	-0.76	-0.80	-0.68	-0.52	-0.36	-0.24	-0.13	-0.05	0.02	0.26	0.27
IMPORTS_PCER	1.26	1.80	1.65	1.28	0.94	0.67	0.46	0.29	0.15	0.04	-0.40	-0.43
REAL.WAGE_PCER	0.18	0.33	0.26	0.15	0.08	0.04	0.03	0.02	0.02	0.01	-0.03	-0.05
PRICE.LEVEL.GDP_PCER	0.56	1.08	1.19	1.06	0.86	0.67	0.51	0.37	0.27	0.18	-0.19	-0.26
.PRICE.LEVEL.T_PCER	0.36	0.75	0.85	0.78	0.65	0.51	0.40	0.30	0.23	0.17	-0.11	-0.17
.PRICE.LEVEL.NT_PCER	0.53	1.00	1.10	0.98	0.80	0.63	0.48	0.37	0.27	0.19	-0.14	-0.21
.PRICE.LEVEL.HOUSE_PCER	-0.12	-0.02	0.03	0.01	-0.04	-0.10	-0.14	-0.18	-0.21	-0.24	-0.37	-0.41
EXPORT.PRICES_PCER	0.36	0.75	0.85	0.78	0.65	0.51	0.40	0.30	0.23	0.17	-0.11	-0.17
IMPORT.PRICES_PCER	-0.05	-0.02	0.02	0.06	0.10	0.13	0.15	0.17	0.18	0.19	0.17	0.11
TOT_PCER	0.41	0.77	0.83	0.72	0.55	0.38	0.25	0.14	0.05	-0.02	-0.28	-0.29
REER_PCER	-0.61	-1.09	-1.16	-1.00	-0.76	-0.54	-0.36	-0.21	-0.09	0.01	0.37	0.38
EXR_PCER	-0.10	-0.06	-0.01	0.04	0.08	0.11	0.13	0.15	0.16	0.17	0.15	0.10

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	0.03	0.06	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	-0.01	-0.01
REAL.INT.RATE_ER	-0.67	-0.18	0.12	0.23	0.24	0.20	0.16	0.13	0.10	0.09	0.01	-0.00
INFL.GDP_ER	0.83	0.34	-0.01	-0.17	-0.20	-0.18	-0.15	-0.12	-0.10	-0.08	-0.01	-0.00
INFL.PC_ER	0.69	0.28	-0.00	-0.14	-0.16	-0.14	-0.12	-0.10	-0.08	-0.06	-0.01	-0.00
LABOUR.TAX.RATE_ER	-0.14	-0.38	-0.51	-0.53	-0.49	-0.44	-0.38	-0.32	-0.27	-0.21	0.12	0.16
GOV.DEBT.GDP_ER	-0.52	-1.07	-1.20	-1.08	-0.87	-0.65	-0.44	-0.26	-0.09	0.05	0.52	0.23
GOV.BALANCE.GDP_ER	0.36	0.30	0.12	-0.02	-0.09	-0.11	-0.12	-0.11	-0.11	-0.10	0.00	0.02
GOV.EXP.GDP_ER	-0.34	-0.39	-0.29	-0.19	-0.14	-0.10	-0.08	-0.07	-0.05	-0.04	0.03	0.04
GOV.REV.GDP_ER	0.01	-0.11	-0.20	-0.25	-0.25	-0.23	-0.21	-0.19	-0.16	-0.13	0.06	0.07
TRADE.BAL.GDP_ER	-0.37	-0.51	-0.46	-0.36	-0.26	-0.19	-0.13	-0.08	-0.05	-0.01	0.11	0.12
CURRENT.ACC.GDP_ER	-0.37	-0.54	-0.52	-0.44	-0.36	-0.30	-0.25	-0.22	-0.19	-0.16	-0.06	-0.05
NFA.GDP_ER	-0.20	-0.69	-1.22	-1.66	-2.03	-2.32	-2.55	-2.74	-2.89	-3.02	-3.42	-3.36

**B. Reforms and the correction of external imbalances:**

**Figure 4.1: 1 percentage-point steady-state price mark-up reduction in the total economy**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	-0.01	0.38	0.64	0.73	0.76	0.78	0.80	0.82	0.85	0.88	1.11	1.23
OUTPUT.T_PCER	0.74	1.71	2.15	2.30	2.34	2.34	2.35	2.37	2.39	2.42	2.64	2.77
OUTPUT.NT_PCER	-0.21	0.21	0.55	0.69	0.74	0.76	0.78	0.80	0.83	0.86	1.05	1.14
CAPITAL.T_PCER	0.04	0.18	0.38	0.58	0.77	0.95	1.12	1.27	1.42	1.56	2.55	3.10
CAPITAL.NT_PCER	0.02	0.09	0.19	0.31	0.43	0.55	0.66	0.77	0.86	0.96	1.64	2.03
EMPLOYMENT_PCER	-0.20	-0.03	0.12	0.14	0.12	0.10	0.08	0.07	0.07	0.08	0.09	0.08
.EMPLOYMENT.T_PCER	-0.10	0.13	0.29	0.31	0.28	0.25	0.23	0.23	0.23	0.23	0.23	0.23
.EMPLOYMENT.NT_PCER	-0.35	-0.28	-0.14	-0.11	-0.12	-0.14	-0.16	-0.16	-0.16	-0.16	-0.14	-0.15
DEMAND.DOM_PCER	-0.18	0.26	0.61	0.76	0.81	0.83	0.85	0.88	0.90	0.93	1.13	1.23
CONSUMPTION_PCER	-0.79	-0.70	-0.42	-0.26	-0.19	-0.15	-0.12	-0.08	-0.04	0.00	0.27	0.38
.CLC_PCER	0.44	1.04	1.54	1.86	2.06	2.17	2.24	2.30	2.35	2.40	2.65	2.71
.CCC_PCER	-0.49	0.59	1.36	1.71	1.87	1.96	2.04	2.12	2.20	2.27	2.70	2.79
.CNLC_PCER	-1.56	-2.19	-2.23	-2.25	-2.28	-2.31	-2.31	-2.30	-2.28	-2.26	-2.06	-1.91
INVESTMENT.CAPITAL_PCER	1.02	2.36	3.09	3.38	3.46	3.44	3.41	3.37	3.35	3.33	3.21	3.16
.INVESTMENT.T_PCER	1.10	2.34	2.92	3.13	3.18	3.18	3.19	3.21	3.23	3.26	3.48	3.62
.INVESTMENT.NT_PCER	0.96	2.37	3.22	3.58	3.67	3.64	3.57	3.50	3.44	3.39	3.01	2.81
INVESTMENT.HOUSE_PCER	-1.71	-1.51	-1.03	-0.75	-0.62	-0.56	-0.52	-0.48	-0.45	-0.42	-0.29	-0.32
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	0.85	1.44	1.59	1.59	1.58	1.57	1.58	1.60	1.63	1.65	1.85	1.99

IMPORTS_PCER	-0.58	-0.45	-0.16	0.02	0.09	0.11	0.11	0.10	0.09	0.09	0.00	-0.08
REAL.WAGE_PCER	1.02	2.09	2.67	2.96	3.08	3.13	3.15	3.17	3.19	3.21	3.39	3.49
PRICE.LEVEL.GDP_PCER	-0.90	-1.56	-1.70	-1.69	-1.65	-1.63	-1.63	-1.65	-1.67	-1.69	-1.89	-2.04
.PRICE.LEVEL.T_PCER	-0.77	-1.40	-1.57	-1.59	-1.57	-1.56	-1.56	-1.58	-1.59	-1.61	-1.77	-1.88
.PRICE.LEVEL.NT_PCER	-0.71	-1.20	-1.28	-1.25	-1.20	-1.18	-1.18	-1.19	-1.21	-1.22	-1.38	-1.51
.PRICE.LEVEL.HOUSE_PCER	-1.49	-2.02	-2.08	-2.07	-2.05	-2.03	-2.03	-2.03	-2.03	-2.04	-2.07	-2.10
EXPORT.PRICES_PCER	-0.77	-1.40	-1.57	-1.59	-1.57	-1.56	-1.56	-1.58	-1.59	-1.61	-1.77	-1.88
IMPORT.PRICES_PCER	0.07	0.07	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.14	0.16
TOT_PCER	-0.83	-1.46	-1.63	-1.65	-1.63	-1.63	-1.63	-1.65	-1.67	-1.70	-1.90	-2.04
REER_PCER	0.98	1.67	1.82	1.80	1.76	1.75	1.75	1.77	1.80	1.83	2.09	2.27
EXR_PCER	0.11	0.08	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.13	0.15

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.03	-0.03	-0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
REAL.INT.RATE_ER	0.97	0.24	0.00	-0.04	-0.02	0.00	0.02	0.03	0.03	0.03	0.02	0.01
INFL.GDP_ER	-1.29	-0.39	-0.05	0.04	0.03	0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01
INFL.PC_ER	-0.96	-0.27	-0.02	0.04	0.03	0.01	-0.00	-0.01	-0.02	-0.02	-0.01	-0.01
LABOUR.TAX.RATE_ER	0.10	0.20	0.14	0.04	-0.05	-0.13	-0.18	-0.23	-0.26	-0.29	-0.43	-0.44
GOV.DEBT.GDP_ER	0.25	0.31	0.04	-0.24	-0.44	-0.58	-0.67	-0.72	-0.75	-0.76	-0.52	-0.23
GOV.BALANCE.GDP_ER	-0.09	0.13	0.24	0.23	0.17	0.12	0.09	0.06	0.05	0.03	-0.02	-0.01
GOV.EXP.GDP_ER	0.13	0.01	-0.11	-0.14	-0.14	-0.13	-0.13	-0.13	-0.14	-0.15	-0.21	-0.24
GOV.REV.GDP_ER	0.04	0.14	0.13	0.08	0.02	-0.03	-0.07	-0.10	-0.13	-0.15	-0.25	-0.26
TRADE.BAL.GDP_ER	0.17	0.12	0.03	-0.03	-0.05	-0.06	-0.05	-0.05	-0.05	-0.05	-0.02	-0.00
CURRENT.ACC.GDP_ER	0.17	0.13	0.04	-0.01	-0.03	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.03
NFA.GDP_ER	0.10	0.26	0.33	0.33	0.30	0.25	0.20	0.16	0.11	0.07	-0.35	-0.63

**Figure 4.2: 1 percentage-point steady-state price mark-up reduction in the T sector**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.08	0.30	0.41	0.44	0.44	0.45	0.46	0.48	0.50	0.52	0.68	0.77
OUTPUT.T_PCER	0.68	1.40	1.67	1.76	1.78	1.79	1.81	1.82	1.85	1.87	2.03	2.13
OUTPUT.NT_PCER	-0.12	0.04	0.14	0.17	0.17	0.18	0.18	0.19	0.21	0.23	0.35	0.42
CAPITAL.T_PCER	0.03	0.14	0.29	0.44	0.59	0.73	0.86	0.98	1.10	1.21	2.00	2.43
CAPITAL.NT_PCER	0.01	0.05	0.10	0.17	0.24	0.31	0.38	0.44	0.50	0.56	0.99	1.25
EMPLOYMENT_PCER	-0.08	-0.02	0.00	-0.01	-0.04	-0.06	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
.EMPLOYMENT.T_PCER	0.00	0.13	0.17	0.16	0.13	0.11	0.10	0.10	0.10	0.10	0.10	0.10
.EMPLOYMENT.NT_PCER	-0.21	-0.26	-0.25	-0.28	-0.30	-0.32	-0.33	-0.34	-0.34	-0.34	-0.33	-0.33
DEMAND.DOM_PCER	0.01	0.27	0.42	0.47	0.48	0.49	0.50	0.51	0.53	0.55	0.69	0.76
CONSUMPTION_PCER	-0.37	-0.38	-0.31	-0.28	-0.27	-0.27	-0.26	-0.24	-0.22	-0.20	-0.05	0.04
.CLC_PCER	0.17	0.45	0.66	0.78	0.83	0.86	0.87	0.88	0.89	0.91	1.03	1.10
.CCC_PCER	-0.21	0.29	0.60	0.71	0.75	0.77	0.79	0.82	0.84	0.87	1.07	1.14
.CNLC_PCER	-0.72	-1.12	-1.22	-1.28	-1.31	-1.32	-1.31	-1.30	-1.28	-1.26	-1.11	-1.01
INVESTMENT.CAPITAL_PCER	0.64	1.52	2.00	2.20	2.26	2.27	2.27	2.26	2.26	2.26	2.26	2.25
.INVESTMENT.T_PCER	0.85	1.80	2.24	2.39	2.44	2.46	2.48	2.50	2.53	2.55	2.74	2.85
.INVESTMENT.NT_PCER	0.48	1.31	1.82	2.05	2.12	2.13	2.11	2.08	2.06	2.04	1.89	1.79
INVESTMENT.HOUSE_PCER	-0.66	-0.61	-0.52	-0.49	-0.50	-0.51	-0.51	-0.50	-0.49	-0.48	-0.37	-0.32
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	0.60	1.05	1.17	1.19	1.20	1.21	1.23	1.25	1.27	1.29	1.45	1.55
IMPORTS_PCER	-0.25	-0.16	-0.02	0.06	0.08	0.07	0.06	0.05	0.04	0.03	-0.04	-0.09
REAL.WAGE_PCER	0.51	1.06	1.34	1.46	1.51	1.53	1.54	1.55	1.57	1.58	1.71	1.78
PRICE.LEVEL.GDP_PCER	-0.36	-0.60	-0.64	-0.62	-0.60	-0.61	-0.62	-0.64	-0.67	-0.69	-0.85	-0.96
.PRICE.LEVEL.T_PCER	-0.63	-1.11	-1.25	-1.27	-1.28	-1.29	-1.30	-1.32	-1.34	-1.36	-1.50	-1.58
.PRICE.LEVEL.NT_PCER	-0.05	-0.04	0.02	0.07	0.09	0.09	0.08	0.07	0.05	0.03	-0.10	-0.19
.PRICE.LEVEL.HOUSE_PCER	-0.58	-0.70	-0.66	-0.64	-0.62	-0.62	-0.62	-0.62	-0.63	-0.63	-0.67	-0.69
EXPORT.PRICES_PCER	-0.63	-1.11	-1.25	-1.27	-1.28	-1.29	-1.30	-1.32	-1.34	-1.36	-1.50	-1.58
IMPORT.PRICES_PCER	-0.00	-0.02	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02	-0.00	0.01
TOT_PCER	-0.62	-1.10	-1.22	-1.24	-1.24	-1.26	-1.27	-1.29	-1.32	-1.34	-1.50	-1.59
REER_PCER	0.36	0.60	0.63	0.60	0.59	0.59	0.61	0.64	0.66	0.69	0.88	1.00
EXR_PCER	-0.00	-0.02	-0.03	-0.04	-0.04	-0.04	-0.03	-0.03	-0.03	-0.03	-0.01	-0.00

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.02	-0.02	-0.01	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REAL.INT.RATE_ER	0.38	0.06	-0.02	-0.02	-0.00	0.01	0.02	0.03	0.03	0.02	0.02	0.01
INFL.GDP_ER	-0.51	-0.12	0.00	0.02	0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01
INFL.PC_ER	-0.20	-0.02	0.03	0.03	0.01	-0.00	-0.01	-0.02	-0.02	-0.02	-0.01	-0.01
LABOUR.TAX.RATE_ER	0.04	0.07	0.04	0.01	-0.02	-0.03	-0.04	-0.05	-0.06	-0.06	-0.12	-0.15
GOV.DEBT.GDP_ER	0.07	0.05	-0.06	-0.15	-0.20	-0.22	-0.23	-0.23	-0.23	-0.23	-0.21	-0.14
GOV.BALANCE.GDP_ER	-0.03	0.06	0.08	0.06	0.04	0.02	0.01	0.01	0.01	0.01	0.00	-0.00
GOV.EXP.GDP_ER	0.06	0.01	-0.02	-0.02	-0.01	-0.00	-0.00	-0.01	-0.01	-0.02	-0.06	-0.08
GOV.REV.GDP_ER	0.03	0.07	0.06	0.04	0.02	0.01	0.00	-0.01	-0.01	-0.02	-0.06	-0.09
TRADE.BAL.GDP_ER	0.06	0.03	-0.01	-0.03	-0.04	-0.04	-0.04	-0.03	-0.03	-0.03	-0.01	0.01
CURRENT.ACC.GDP_ER	0.06	0.03	-0.01	-0.03	-0.04	-0.04	-0.04	-0.04	-0.03	-0.03	-0.03	-0.02
NFA.GDP_ER	0.04	0.09	0.09	0.07	0.03	-0.01	-0.05	-0.08	-0.11	-0.15	-0.40	-0.56

**Figure 4.3: 1 percentage-point steady-state price mark-up reduction in the NT sector**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	-0.08	0.08	0.23	0.29	0.31	0.32	0.33	0.33	0.34	0.35	0.42	0.45
OUTPUT.T_PCER	0.06	0.30	0.47	0.53	0.54	0.54	0.53	0.53	0.54	0.54	0.59	0.62
OUTPUT.NT_PCER	-0.09	0.18	0.41	0.52	0.56	0.58	0.59	0.60	0.62	0.63	0.70	0.72
CAPITAL.T_PCER	0.01	0.04	0.09	0.13	0.18	0.22	0.25	0.28	0.31	0.34	0.54	0.65
CAPITAL.NT_PCER	0.01	0.04	0.09	0.14	0.19	0.24	0.28	0.32	0.36	0.40	0.64	0.77
EMPLOYMENT_PCER	-0.12	-0.01	0.11	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15
.EMPLOYMENT.T_PCER	-0.10	0.01	0.11	0.15	0.15	0.14	0.13	0.13	0.13	0.13	0.13	0.13
.EMPLOYMENT.NT_PCER	-0.14	-0.03	0.11	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.18
DEMAND.DOM_PCER	-0.19	-0.01	0.19	0.28	0.32	0.34	0.35	0.35	0.36	0.37	0.44	0.46
CONSUMPTION_PCER	-0.42	-0.31	-0.10	0.02	0.09	0.12	0.14	0.16	0.19	0.21	0.32	0.35
.CLC_PCER	0.27	0.59	0.87	1.07	1.21	1.30	1.36	1.40	1.44	1.47	1.60	1.59
.CCC_PCER	-0.28	0.30	0.75	0.99	1.11	1.18	1.24	1.29	1.34	1.38	1.62	1.63
.CNLC_PCER	-0.83	-1.06	-0.99	-0.95	-0.96	-0.97	-0.98	-0.98	-0.98	-0.98	-0.93	-0.88
INVESTMENT.CAPITAL_PCER	0.38	0.83	1.08	1.17	1.18	1.16	1.12	1.09	1.07	1.05	0.94	0.90
.INVESTMENT.T_PCER	0.24	0.53	0.67	0.72	0.72	0.71	0.69	0.69	0.69	0.69	0.72	0.75
.INVESTMENT.NT_PCER	0.48	1.06	1.38	1.51	1.53	1.50	1.45	1.40	1.36	1.33	1.10	1.01
INVESTMENT.HOUSE_PCER	-1.02	-0.88	-0.50	-0.25	-0.11	-0.04	-0.00	0.03	0.05	0.07	0.08	0.01
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	0.24	0.38	0.41	0.40	0.37	0.36	0.35	0.35	0.35	0.35	0.39	0.44
IMPORTS_PCER	-0.33	-0.29	-0.14	-0.04	0.01	0.04	0.05	0.05	0.06	0.06	0.04	0.00
REAL.WAGE_PCER	0.50	1.01	1.31	1.47	1.55	1.57	1.58	1.59	1.59	1.60	1.65	1.67
PRICE.LEVEL.GDP_PCER	-0.54	-0.95	-1.07	-1.07	-1.05	-1.02	-1.01	-1.00	-1.00	-1.00	-1.04	-1.08
.PRICE.LEVEL.T_PCER	-0.14	-0.28	-0.33	-0.32	-0.29	-0.28	-0.26	-0.26	-0.26	-0.26	-0.27	-0.30
.PRICE.LEVEL.NT_PCER	-0.67	-1.16	-1.30	-1.31	-1.29	-1.27	-1.26	-1.25	-1.25	-1.25	-1.28	-1.32
.PRICE.LEVEL.HOUSE_PCER	-0.90	-1.32	-1.41	-1.43	-1.42	-1.41	-1.41	-1.40	-1.40	-1.40	-1.40	-1.41
EXPORT.PRICES_PCER	-0.14	-0.28	-0.33	-0.32	-0.29	-0.28	-0.26	-0.26	-0.26	-0.26	-0.27	-0.30
IMPORT.PRICES_PCER	0.07	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.11	0.14	0.15
TOT_PCER	-0.21	-0.37	-0.42	-0.41	-0.39	-0.37	-0.37	-0.36	-0.36	-0.37	-0.41	-0.45
REER_PCER	0.61	1.05	1.18	1.18	1.16	1.14	1.13	1.12	1.13	1.13	1.19	1.25
EXR_PCER	0.11	0.10	0.09	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.14	0.16

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.01	-0.01	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REAL.INT.RATE_ER	0.59	0.18	0.03	-0.02	-0.02	-0.01	-0.00	0.00	0.00	0.01	0.01	0.01
INFL.GDP_ER	-0.77	-0.26	-0.05	0.02	0.03	0.02	0.01	0.00	0.00	-0.00	-0.00	-0.00
INFL.PC_ER	-0.76	-0.25	-0.05	0.01	0.02	0.02	0.01	0.00	0.00	-0.00	-0.00	-0.00
LABOUR.TAX.RATE_ER	0.06	0.13	0.10	0.03	-0.03	-0.09	-0.14	-0.18	-0.21	-0.23	-0.32	-0.29
GOV.DEBT.GDP_ER	0.18	0.26	0.10	-0.08	-0.24	-0.36	-0.44	-0.49	-0.52	-0.53	-0.32	-0.09
GOV.BALANCE.GDP_ER	-0.06	0.07	0.15	0.16	0.13	0.10	0.08	0.05	0.04	0.03	-0.02	-0.01
GOV.EXP.GDP_ER	0.07	-0.01	-0.09	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13	-0.15	-0.16
GOV.REV.GDP_ER	0.02	0.07	0.07	0.04	-0.00	-0.04	-0.07	-0.09	-0.11	-0.13	-0.18	-0.17
TRADE.BAL.GDP_ER	0.11	0.09	0.04	0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01
CURRENT.ACC.GDP_ER	0.11	0.10	0.05	0.02	0.00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
NFA.GDP_ER	0.06	0.17	0.23	0.26	0.26	0.26	0.25	0.24	0.22	0.21	0.05	-0.07

**Figure 4.4: Real wage reduction of 1 percent on impact:**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.44	1.22	1.84	2.21	2.40	2.49	2.54	2.57	2.60	2.63	2.73	2.73
OUTPUT.T_PCER	0.39	1.18	1.85	2.24	2.41	2.47	2.48	2.47	2.47	2.47	2.52	2.57
OUTPUT.NT_PCER	0.13	0.72	1.35	1.80	2.06	2.21	2.29	2.35	2.40	2.44	2.57	2.51
CAPITAL.T_PCER	-0.01	-0.01	0.03	0.11	0.19	0.27	0.35	0.42	0.47	0.53	0.84	0.99
CAPITAL.NT_PCER	-0.01	-0.00	0.02	0.08	0.14	0.21	0.28	0.34	0.40	0.45	0.73	0.84
EMPLOYMENT_PCER	0.59	1.49	2.13	2.49	2.65	2.72	2.76	2.78	2.80	2.81	2.85	2.80
.EMPLOYMENT.T_PCER	0.64	1.58	2.23	2.57	2.72	2.77	2.80	2.81	2.82	2.83	2.86	2.82
.EMPLOYMENT.NT_PCER	0.51	1.35	1.99	2.36	2.55	2.65	2.70	2.73	2.76	2.79	2.84	2.77
DEMAND.DOM_PCER	0.23	0.93	1.62	2.08	2.35	2.49	2.57	2.62	2.67	2.70	2.80	2.75
CONSUMPTION_PCER	0.18	0.84	1.56	2.09	2.43	2.65	2.80	2.91	3.00	3.08	3.32	3.22
.CLC_PCER	-0.70	-0.92	-0.37	0.37	1.06	1.62	2.05	2.39	2.66	2.87	3.30	2.89
.CCC_PCER	-1.15	-0.82	0.21	1.03	1.60	1.98	2.25	2.47	2.64	2.80	3.28	2.99
.CNLC_PCER	1.24	2.51	3.17	3.45	3.52	3.49	3.43	3.38	3.34	3.32	3.35	3.50
INVESTMENT.CAPITAL_PCER	-0.25	0.25	0.96	1.45	1.68	1.73	1.69	1.63	1.55	1.49	1.13	1.09
.INVESTMENT.T_PCER	-0.24	0.20	0.78	1.14	1.28	1.30	1.27	1.22	1.19	1.16	1.09	1.15
.INVESTMENT.NT_PCER	-0.25	0.28	1.10	1.69	1.98	2.06	2.02	1.93	1.83	1.73	1.16	1.04
INVESTMENT.HOUSE_PCER	-1.10	-1.04	-0.25	0.53	1.13	1.53	1.80	1.98	2.12	2.22	2.12	1.60
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	0.68	1.39	1.73	1.83	1.82	1.77	1.72	1.68	1.66	1.65	1.70	1.82
IMPORTS_PCER	-0.69	-0.99	-0.79	-0.50	-0.25	-0.08	0.03	0.09	0.14	0.17	0.16	-0.01
REAL.WAGE_PCER	-1.00	-1.58	-1.45	-1.19	-0.99	-0.88	-0.83	-0.82	-0.81	-0.80	-0.75	-0.73
PRICE.LEVEL.GDP_PCER	-0.81	-1.79	-2.30	-2.48	-2.49	-2.45	-2.40	-2.37	-2.35	-2.33	-2.41	-2.55
.PRICE.LEVEL.T_PCER	-0.57	-1.31	-1.71	-1.87	-1.90	-1.89	-1.86	-1.85	-1.84	-1.83	-1.90	-2.00

.PRICE.LEVEL.NT_PCER	-0.74	-1.62	-2.07	-2.22	-2.22	-2.18	-2.14	-2.11	-2.09	-2.08	-2.14	-2.27
.PRICE.LEVEL.HOUSE_PCER	0.31	0.15	-0.01	-0.09	-0.10	-0.10	-0.09	-0.09	-0.09	-0.09	-0.11	-0.15
EXPORT.PRICES_PCER	-0.57	-1.31	-1.71	-1.87	-1.90	-1.89	-1.86	-1.85	-1.84	-1.83	-1.90	-2.00
IMPORT.PRICES_PCER	0.08	0.08	0.05	0.01	-0.03	-0.06	-0.09	-0.11	-0.13	-0.14	-0.16	-0.13
TOT_PCER	-0.65	-1.39	-1.76	-1.88	-1.88	-1.83	-1.78	-1.74	-1.71	-1.70	-1.74	-1.87
REER_PCER	0.91	1.92	2.43	2.57	2.55	2.47	2.39	2.33	2.29	2.27	2.33	2.50
EXR_PCER	0.14	0.11	0.06	0.01	-0.03	-0.06	-0.09	-0.11	-0.13	-0.14	-0.16	-0.14

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.02	-0.05	-0.05	-0.04	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	0.00	0.00
REAL.INT.RATE_ER	1.16	0.63	0.22	0.01	-0.07	-0.08	-0.06	-0.04	-0.03	-0.02	0.02	0.01
INFL.GDP_ER	-1.27	-0.81	-0.36	-0.09	0.02	0.05	0.04	0.03	0.02	0.01	-0.01	-0.01
INFL.PC_ER	-1.03	-0.65	-0.29	-0.08	0.01	0.04	0.03	0.02	0.01	0.01	-0.01	-0.01
LABOUR.TAX.RATE_ER	0.02	-0.07	-0.38	-0.81	-1.25	-1.65	-1.99	-2.27	-2.50	-2.68	-3.02	-2.67
GOV.DEBT.GDP_ER	-0.12	-0.60	-1.51	-2.50	-3.36	-4.01	-4.44	-4.69	-4.78	-4.76	-2.14	-0.28
GOV.BALANCE.GDP_ER	0.28	0.74	0.97	0.97	0.84	0.66	0.49	0.33	0.21	0.10	-0.20	-0.08
GOV.EXP.GDP_ER	-0.30	-0.80	-1.16	-1.36	-1.46	-1.51	-1.53	-1.54	-1.55	-1.56	-1.60	-1.58
GOV.REV.GDP_ER	-0.03	-0.09	-0.27	-0.51	-0.78	-1.03	-1.24	-1.42	-1.56	-1.67	-1.89	-1.67
TRADE.BAL.GDP_ER	0.21	0.28	0.21	0.12	0.05	-0.00	-0.03	-0.05	-0.06	-0.07	-0.07	-0.02
CURRENT.ACC.GDP_ER	0.21	0.30	0.24	0.16	0.09	0.05	0.02	-0.00	-0.02	-0.03	-0.05	-0.02
NFA.GDP_ER	0.11	0.40	0.66	0.84	0.93	0.98	0.99	0.97	0.94	0.90	0.31	-0.09

**Figure 4.5: 5 percentage-point expenditure-based reduction of public debt to GDP:**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER													
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A	
GDP.REAL_PCER	-0.23	-0.12	-0.07	-0.05	-0.04	-0.04	-0.04	-0.05	-0.06	-0.08	0.07	0.07	
OUTPUT.T_PCER	-0.17	-0.04	0.02	0.04	0.05	0.06	0.06	0.05	0.03	-0.02	0.04	0.03	
OUTPUT.NT_PCER	-0.35	-0.20	-0.14	-0.12	-0.11	-0.11	-0.11	-0.12	-0.13	-0.16	0.10	0.09	
CAPITAL.T_PCER	-0.00	-0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.07	0.07	0.06	
CAPITAL.NT_PCER	-0.00	-0.00	-0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.10	0.10	
EMPLOYMENT_PCER	-0.22	-0.13	-0.08	-0.06	-0.06	-0.06	-0.06	-0.07	-0.09	-0.11	0.06	0.05	
.EMPLOYMENT.T_PCER	-0.20	-0.10	-0.05	-0.04	-0.03	-0.04	-0.04	-0.05	-0.07	-0.09	0.05	0.05	
.EMPLOYMENT.NT_PCER	-0.25	-0.16	-0.11	-0.09	-0.09	-0.09	-0.10	-0.11	-0.13	-0.13	0.07	0.07	
DEMAND.DOM_PCER	-0.33	-0.20	-0.14	-0.11	-0.10	-0.09	-0.09	-0.09	-0.11	-0.13	0.10	0.10	
CONSUMPTION_PCER	0.20	0.39	0.46	0.49	0.50	0.51	0.51	0.51	0.50	0.46	0.89	0.90	
.CLC_PCER	-0.09	-0.09	-0.07	-0.05	-0.04	-0.04	-0.04	-0.04	-0.04	-0.03	1.07	1.07	
.CCC_PCER	-0.06	0.05	0.13	0.17	0.19	0.21	0.22	0.24	0.23	0.12	1.04	1.10	
.CNLC_PCER	0.48	0.80	0.89	0.92	0.93	0.92	0.92	0.91	0.90	0.87	0.73	0.73	
INVESTMENT.CAPITAL_PCER	-0.03	0.00	0.07	0.13	0.19	0.23	0.27	0.30	0.30	0.28	0.08	0.07	
.INVESTMENT.T_PCER	-0.02	0.02	0.07	0.11	0.15	0.17	0.19	0.20	0.20	0.18	0.05	0.04	
.INVESTMENT.NT_PCER	-0.04	-0.01	0.07	0.15	0.22	0.28	0.33	0.37	0.38	0.35	0.11	0.09	
INVESTMENT.HOUSE_PCER	0.05	0.07	0.07	0.05	0.01	-0.04	-0.11	-0.17	-0.19	0.06	0.60	0.48	
GOVERNMENT.PURCHASES_PCER	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	
EXPORTS_PCER	0.07	0.12	0.14	0.14	0.14	0.14	0.13	0.12	0.10	0.07	-0.02	-0.02	
IMPORTS_PCER	-0.36	-0.28	-0.24	-0.22	-0.20	-0.19	-0.18	-0.17	-0.16	-0.17	0.09	0.09	
REAL.WAGE_PCER	-0.03	-0.06	-0.04	-0.02	-0.01	-0.00	-0.00	-0.01	-0.01	0.01	0.01	0.01	
.PRICE.LEVEL.GDP_PCER	-0.09	-0.16	-0.18	-0.19	-0.20	-0.20	-0.20	-0.20	-0.19	-0.18	-0.14	-0.00	0.01
.PRICE.LEVEL.T_PCER	-0.05	-0.11	-0.13	-0.14	-0.14	-0.14	-0.14	-0.14	-0.13	-0.11	-0.01	0.00	
.PRICE.LEVEL.NT_PCER	-0.09	-0.15	-0.17	-0.18	-0.18	-0.18	-0.18	-0.18	-0.17	-0.14	-0.01	0.01	
.PRICE.LEVEL.HOUSE_PCER	0.31	0.38	0.38	0.37	0.37	0.37	0.37	0.36	0.37	0.38	0.42	0.43	
EXPORT.PRICES_PCER	-0.05	-0.11	-0.13	-0.14	-0.14	-0.14	-0.14	-0.14	-0.13	-0.11	-0.01	0.00	
IMPORT.PRICES_PCER	0.01	0.01	0.01	0.01	0.01	0.00	-0.01	-0.02	-0.02	-0.03	-0.03	-0.02	
TOT_PCER	-0.07	-0.12	-0.14	-0.15	-0.15	-0.14	-0.14	-0.13	-0.11	-0.07	0.02	0.02	
REER_PCER	0.11	0.17	0.20	0.21	0.20	0.20	0.19	0.18	0.15	0.11	-0.03	-0.03	
EXR_PCER	0.02	0.02	0.02	0.01	0.01	0.01	-0.00	-0.01	-0.02	-0.03	-0.03	-0.02	

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	0.00
REAL.INT.RATE_ER	0.08	0.03	0.01	-0.00	-0.00	-0.01	-0.01	-0.02	-0.04	-0.07	-0.00	0.00
INFL.GDP_ER	-0.13	-0.05	-0.02	-0.00	-0.00	-0.00	0.00	0.01	0.02	0.05	0.00	0.00
INFL.PC_ER	-0.11	-0.04	-0.01	-0.00	-0.00	-0.00	-0.00	0.00	0.01	0.04	0.00	0.00
LABOUR.TAX.RATE_ER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.92	-0.92
GOV.DEBT.GDP_ER	-0.12	-0.56	-1.05	-1.55	-2.07	-2.59	-3.11	-3.63	-4.15	-4.66	-5.00	-5.00
GOV.BALANCE.GDP_ER	0.37	0.47	0.52	0.56	0.59	0.61	0.63	0.65	0.66	0.67	0.18	0.18
GOV.EXP.GDP_ER	-0.33	-0.39	-0.43	-0.44	-0.44	-0.44	-0.44	-0.44	-0.43	-0.42	-0.49	-0.49
GOV.REV.GDP_ER	0.04	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.05	-0.53	-0.53
TRADE.BAL.GDP_ER	0.11	0.08	0.07	0.06	0.06	0.05	0.05	0.05	0.05	0.05	-0.03	-0.03
CURRENT.ACC.GDP_ER	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.01	0.01
NFA.GDP_ER	0.07	0.16	0.24	0.32	0.39	0.46	0.52	0.59	0.66	0.72	0.73	0.70

**Figure 4.6: 5 percentage-point revenue-based reduction of public debt to GDP:**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	-0.20	-0.26	-0.23	-0.17	-0.11	-0.06	-0.02	0.00	0.02	0.03	0.04	0.03
OUTPUT.T_PCER	-0.11	-0.10	-0.05	0.00	0.03	0.04	0.05	0.04	0.04	0.03	0.01	0.00
OUTPUT.NT_PCER	-0.31	-0.42	-0.39	-0.30	-0.21	-0.13	-0.07	-0.02	0.01	0.03	0.06	0.05
CAPITAL.T_PCER	0.00	0.01	0.02	0.03	0.05	0.06	0.07	0.08	0.08	0.08	0.07	0.05
CAPITAL.NT_PCER	-0.00	0.00	0.01	0.02	0.03	0.05	0.06	0.07	0.07	0.08	0.09	0.08
EMPLOYMENT_PCER	-0.21	-0.29	-0.27	-0.21	-0.15	-0.10	-0.06	-0.03	-0.01	0.00	0.02	0.01
.EMPLOYMENT.T_PCER	-0.18	-0.25	-0.22	-0.17	-0.11	-0.07	-0.04	-0.02	-0.01	0.00	0.01	0.01
.EMPLOYMENT.NT_PCER	-0.25	-0.36	-0.34	-0.27	-0.20	-0.13	-0.08	-0.04	-0.02	0.00	0.03	0.02
DEMAND.DOM_PCER	-0.29	-0.40	-0.36	-0.27	-0.18	-0.10	-0.04	-0.00	0.02	0.04	0.06	0.06
CONSUMPTION_PCER	-0.47	-0.68	-0.66	-0.54	-0.40	-0.27	-0.17	-0.09	-0.03	0.01	0.09	0.09
.CLC_PCER	-1.15	-1.83	-1.90	-1.65	-1.28	-0.91	-0.59	-0.34	-0.15	-0.03	0.13	0.12
.CCC_PCER	-1.02	-1.44	-1.42	-1.22	-0.97	-0.74	-0.54	-0.38	-0.26	-0.18	0.10	0.14
.CNLC_PCER	0.13	0.27	0.33	0.34	0.31	0.27	0.22	0.18	0.14	0.12	0.06	0.05
INVESTMENT.CAPITAL_PCER	0.00	0.11	0.23	0.31	0.33	0.31	0.28	0.23	0.19	0.16	0.06	0.05
.INVESTMENT.T_PCER	0.01	0.11	0.20	0.24	0.24	0.22	0.19	0.15	0.12	0.10	0.04	0.03
.INVESTMENT.NT_PCER	-0.00	0.11	0.25	0.35	0.39	0.38	0.34	0.30	0.25	0.21	0.08	0.07
INVESTMENT.HOUSE_PCER	-0.72	-1.18	-1.18	-0.95	-0.64	-0.34	-0.09	0.10	0.24	0.33	0.34	0.24
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	0.09	0.17	0.20	0.18	0.15	0.11	0.07	0.04	0.02	-0.00	-0.04	-0.05
IMPORTS_PCER	-0.32	-0.46	-0.44	-0.36	-0.25	-0.15	-0.08	-0.02	0.02	0.05	0.09	0.09
REAL.WAGE_PCER	-0.04	-0.07	-0.05	-0.02	0.01	0.03	0.03	0.04	0.03	0.03	0.02	0.02
PRICE.LEVEL.GDP_PCER	-0.12	-0.24	-0.29	-0.28	-0.24	-0.19	-0.14	-0.10	-0.07	-0.04	0.02	0.04
.PRICE.LEVEL.T_PCER	-0.07	-0.16	-0.20	-0.20	-0.17	-0.14	-0.11	-0.08	-0.06	-0.04	0.01	0.02
.PRICE.LEVEL.NT_PCER	-0.12	-0.23	-0.27	-0.26	-0.22	-0.18	-0.13	-0.09	-0.06	-0.04	0.02	0.03
.PRICE.LEVEL.HOUSE_PCER	-0.08	-0.14	-0.16	-0.16	-0.15	-0.14	-0.12	-0.11	-0.10	-0.09	-0.07	-0.06
EXPORT.PRICES_PCER	-0.07	-0.16	-0.20	-0.20	-0.17	-0.14	-0.11	-0.08	-0.06	-0.04	0.01	0.02
IMPORT.PRICES_PCER	0.01	0.01	0.00	-0.01	-0.02	-0.03	-0.04	-0.04	-0.04	-0.05	-0.04	-0.02
TOT_PCER	-0.09	-0.17	-0.20	-0.19	-0.16	-0.11	-0.07	-0.04	-0.02	0.00	0.04	0.05
REER_PCER	0.13	0.26	0.30	0.27	0.22	0.16	0.11	0.06	0.02	-0.00	-0.06	-0.07
EXR_PCER	0.03	0.02	0.01	-0.00	-0.01	-0.02	-0.03	-0.04	-0.04	-0.04	-0.03	-0.02

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	0.00	0.00
REAL.INT.RATE_ER	0.15	0.06	-0.01	-0.05	-0.06	-0.06	-0.05	-0.04	-0.03	-0.02	-0.00	-0.00
INFL.GDP_ER	-0.18	-0.09	-0.02	0.03	0.05	0.05	0.05	0.04	0.03	0.02	0.00	0.00
INFL.PC_ER	-0.15	-0.08	-0.02	0.02	0.04	0.04	0.04	0.03	0.02	0.02	0.00	0.00
LABOUR.TAX.RATE_ER	0.93	1.49	1.57	1.38	1.09	0.79	0.52	0.31	0.16	0.05	-0.09	-0.09
GOV.DEBT.GDP_ER	-0.16	-0.80	-1.67	-2.55	-3.32	-3.92	-4.36	-4.66	-4.85	-4.96	-5.01	-5.00
GOV.BALANCE.GDP_ER	0.49	0.84	0.95	0.90	0.78	0.64	0.51	0.40	0.32	0.26	0.18	0.18
GOV.EXP.GDP_ER	0.10	0.13	0.11	0.08	0.05	0.03	0.01	-0.00	-0.01	-0.01	-0.02	-0.02
GOV.REV.GDP_ER	0.58	0.94	0.99	0.87	0.69	0.50	0.33	0.20	0.10	0.03	-0.06	-0.05
TRADE.BAL.GDP_ER	0.09	0.13	0.13	0.10	0.07	0.04	0.02	0.01	-0.01	-0.01	-0.03	-0.03
CURRENT.ACC.GDP_ER	0.10	0.14	0.14	0.12	0.10	0.07	0.05	0.04	0.03	0.02	0.01	0.01
NFA.GDP_ER	0.05	0.18	0.32	0.45	0.54	0.62	0.66	0.70	0.72	0.73	0.75	0.73

**Figure 4.7 Area-wide 1 percentage-point price mark-up reductions in T and NT sectors:**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.34	0.71	0.82	0.84	0.86	0.89	0.93	0.97	1.01	1.05	1.33	1.49
OUTPUT.T_PCER	1.18	2.06	2.35	2.42	2.45	2.48	2.52	2.56	2.59	2.63	2.90	3.08
OUTPUT.NT_PCER	0.25	0.70	0.87	0.92	0.95	0.98	1.02	1.06	1.10	1.13	1.40	1.54
CAPITAL.T_PCER	0.07	0.26	0.48	0.70	0.90	1.09	1.27	1.44	1.61	1.76	2.90	3.58
CAPITAL.NT_PCER	0.03	0.14	0.27	0.42	0.56	0.70	0.83	0.96	1.08	1.19	2.07	2.61
EMPLOYMENT_PCER	0.10	0.24	0.23	0.17	0.14	0.12	0.12	0.12	0.12	0.12	0.13	0.13
.EMPLOYMENT.T_PCER	0.19	0.37	0.37	0.31	0.28	0.26	0.25	0.25	0.26	0.26	0.26	0.26
.EMPLOYMENT.NT_PCER	-0.04	0.03	0.01	-0.04	-0.07	-0.09	-0.09	-0.09	-0.08	-0.08	-0.07	-0.07
DEMAND.DOM_PCER	0.22	0.66	0.83	0.88	0.91	0.94	0.98	1.01	1.05	1.09	1.34	1.48
CONSUMPTION_PCER	-0.25	0.04	0.18	0.23	0.27	0.32	0.37	0.42	0.48	0.53	0.87	1.06
.CLC_PCER	0.77	1.71	2.26	2.53	2.68	2.77	2.84	2.91	2.97	3.02	3.33	3.45
.CCC_PCER	0.34	1.74	2.25	2.41	2.51	2.60	2.69	2.77	2.85	2.93	3.37	3.52
.CNLC_PCER	-1.04	-1.60	-1.83	-1.94	-1.98	-1.98	-1.95	-1.92	-1.89	-1.85	-1.53	-1.29
INVESTMENT.CAPITAL_PCER	1.69	3.24	3.78	3.93	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.99
.INVESTMENT.T_PCER	1.65	2.98	3.35	3.42	3.44	3.48	3.52	3.56	3.61	3.65	4.01	4.26
.INVESTMENT.NT_PCER	1.72	3.43	4.11	4.31	4.34	4.32	4.28	4.24	4.21	4.17	3.91	3.78
INVESTMENT.HOUSE_PCER	-0.95	-0.89	-0.88	-0.90	-0.87	-0.80	-0.72	-0.64	-0.56	-0.48	-0.05	0.10
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	1.24	1.86	1.99	2.00	2.01	2.04	2.08	2.11	2.15	2.19	2.49	2.68
IMPORTS_PCER	0.22	0.93	1.24	1.34	1.37	1.38	1.40	1.42	1.43	1.44	1.51	1.54
REAL.WAGE_PCER	1.16	2.31	2.85	3.08	3.18	3.23	3.26	3.29	3.32	3.35	3.59	3.73
PRICE.LEVEL.GDP_PCER	-0.69	-1.13	-1.21	-1.20	-1.17	-1.14	-1.11	-1.09	-1.07	-1.05	-0.90	-0.85
.PRICE.LEVEL.T_PCER	-0.66	-1.19	-1.35	-1.37	-1.35	-1.32	-1.30	-1.27	-1.25	-1.23	-1.06	-0.98

.PRICE.LEVEL.NT_PCER	-0.53	-0.87	-0.91	-0.88	-0.84	-0.81	-0.78	-0.75	-0.72	-0.70	-0.53	-0.46
.PRICE.LEVEL.HOUSE_PCER	-0.89	-1.29	-1.38	-1.39	-1.36	-1.33	-1.29	-1.26	-1.23	-1.21	-0.98	-0.85
EXPORT.PRICES_PCER	-0.66	-1.19	-1.35	-1.37	-1.35	-1.32	-1.30	-1.27	-1.25	-1.23	-1.06	-0.98
IMPORT.PRICES_PCER	-0.06	-0.43	-0.57	-0.59	-0.56	-0.52	-0.48	-0.45	-0.41	-0.37	-0.06	0.11
TOT_PCER	-0.60	-0.77	-0.78	-0.79	-0.79	-0.80	-0.82	-0.83	-0.85	-0.86	-1.00	-1.09
REER_PCER	0.66	0.81	0.81	0.80	0.80	0.81	0.82	0.83	0.85	0.87	1.02	1.13
EXR_PCER	0.54	0.23	0.04	-0.01	0.01	0.05	0.10	0.15	0.20	0.25	0.62	0.84

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.31	-0.28	-0.09	0.01	0.05	0.07	0.07	0.06	0.06	0.06	0.04	0.02
REAL.INT.RATE_ER	0.37	-0.12	-0.09	-0.02	0.02	0.04	0.04	0.04	0.04	0.04	0.03	0.02
INFL.GDP_ER	-0.95	-0.24	-0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.00
INFL.PC_ER	-0.74	-0.21	-0.02	0.03	0.04	0.03	0.03	0.03	0.02	0.02	0.01	0.00
LABOUR.TAX.RATE_ER	0.01	-0.07	-0.20	-0.31	-0.39	-0.44	-0.49	-0.53	-0.56	-0.59	-0.73	-0.76
GOV.DEBT.GDP_ER	-0.10	-0.42	-0.74	-0.93	-1.03	-1.08	-1.10	-1.10	-1.09	-1.07	-0.65	-0.33
GOV.BALANCE.GDP_ER	0.20	0.39	0.29	0.16	0.09	0.05	0.03	0.01	0.00	-0.01	-0.03	-0.02
GOV.EXP.GDP_ER	-0.10	-0.24	-0.27	-0.25	-0.24	-0.25	-0.26	-0.27	-0.28	-0.29	-0.38	-0.43
GOV.REV.GDP_ER	0.01	0.00	-0.06	-0.13	-0.18	-0.22	-0.25	-0.28	-0.30	-0.32	-0.43	-0.46
TRADE.BAL.GDP_ER	0.12	0.04	-0.02	-0.04	-0.05	-0.05	-0.05	-0.04	-0.04	-0.04	-0.01	0.01
CURRENT.ACC.GDP_ER	0.12	0.05	-0.01	-0.03	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.03
NFA.GDP_ER	0.08	0.16	0.17	0.14	0.10	0.05	0.01	-0.04	-0.08	-0.12	-0.48	-0.70

OTHER EURO AREA

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.51	0.85	0.88	0.86	0.87	0.89	0.93	0.98	1.02	1.06	1.34	1.50
OUTPUT.T_PCER	1.36	2.13	2.29	2.31	2.32	2.36	2.40	2.44	2.48	2.52	2.81	2.99
OUTPUT.NT_PCER	0.46	0.90	0.99	0.99	0.99	1.01	1.05	1.09	1.12	1.16	1.42	1.56
CAPITAL.T_PCER	0.07	0.27	0.50	0.71	0.92	1.10	1.28	1.45	1.61	1.76	2.89	3.56
CAPITAL.NT_PCER	0.04	0.16	0.31	0.46	0.62	0.76	0.90	1.03	1.16	1.28	2.19	2.74
EMPLOYMENT_PCER	0.27	0.39	0.31	0.22	0.16	0.15	0.14	0.14	0.15	0.15	0.15	0.14
.EMPLOYMENT.T_PCER	0.35	0.50	0.42	0.32	0.27	0.25	0.25	0.25	0.25	0.26	0.26	0.26
.EMPLOYMENT.NT_PCER	0.14	0.22	0.15	0.05	-0.00	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.03
DEMAND.DOM_PCER	0.40	0.85	0.95	0.94	0.95	0.97	1.00	1.04	1.08	1.11	1.35	1.48
CONSUMPTION_PCER	-0.06	0.27	0.36	0.36	0.38	0.41	0.46	0.51	0.55	0.60	0.91	1.09
.CLC_PCER	0.89	1.93	2.47	2.69	2.80	2.86	2.91	2.96	3.01	3.06	3.32	3.44
.CCC_PCER	0.63	2.08	2.50	2.58	2.63	2.69	2.77	2.85	2.92	2.98	3.37	3.51
.CNLC_PCER	-0.86	-1.41	-1.69	-1.84	-1.89	-1.89	-1.86	-1.82	-1.78	-1.75	-1.44	-1.22
INVESTMENT.CAPITAL_PCER	1.90	3.51	4.01	4.11	4.11	4.10	4.09	4.08	4.08	4.07	4.04	4.05
.INVESTMENT.T_PCER	1.78	3.08	3.38	3.41	3.42	3.45	3.49	3.54	3.59	3.63	3.99	4.23
.INVESTMENT.NT_PCER	1.99	3.83	4.49	4.64	4.63	4.59	4.54	4.50	4.45	4.40	4.07	3.91
INVESTMENT.HOUSE_PCER	-0.62	-0.56	-0.68	-0.81	-0.84	-0.81	-0.74	-0.67	-0.59	-0.52	-0.10	0.07
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	1.40	1.69	1.62	1.58	1.59	1.64	1.69	1.74	1.79	1.84	2.22	2.46
IMPORTS_PCER	-0.11	0.62	0.97	1.06	1.06	1.05	1.04	1.03	1.03	1.02	0.95	0.90
REAL.WAGE_PCER	1.23	2.40	2.90	3.07	3.14	3.17	3.20	3.24	3.27	3.30	3.54	3.68
PRICE.LEVEL.GDP_PCER	-0.56	-0.82	-0.83	-0.79	-0.75	-0.73	-0.71	-0.69	-0.67	-0.65	-0.50	-0.43
.PRICE.LEVEL.T_PCER	-0.55	-0.96	-1.06	-1.06	-1.04	-1.01	-0.99	-0.97	-0.94	-0.92	-0.73	-0.63
.PRICE.LEVEL.NT_PCER	-0.36	-0.51	-0.48	-0.42	-0.38	-0.35	-0.32	-0.30	-0.28	-0.26	-0.08	0.01
.PRICE.LEVEL.HOUSE_PCER	-0.61	-0.88	-0.93	-0.92	-0.89	-0.86	-0.83	-0.80	-0.77	-0.74	-0.51	-0.37
EXPORT.PRICES_PCER	-0.55	-0.96	-1.06	-1.06	-1.04	-1.01	-0.99	-0.97	-0.94	-0.92	-0.73	-0.63
IMPORT.PRICES_PCER	0.41	0.07	-0.11	-0.15	-0.12	-0.07	-0.02	0.04	0.09	0.14	0.57	0.81
TOT_PCER	-0.95	-1.03	-0.94	-0.91	-0.91	-0.94	-0.97	-1.01	-1.04	-1.06	-1.29	-1.43
REER_PCER	1.02	0.97	0.79	0.71	0.71	0.74	0.78	0.82	0.86	0.89	1.17	1.35
EXR_PCER	0.54	0.23	0.04	-0.01	0.01	0.05	0.10	0.15	0.20	0.25	0.62	0.84

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.31	-0.28	-0.09	0.01	0.05	0.07	0.07	0.06	0.06	0.06	0.04	0.02
REAL.INT.RATE_ER	0.16	-0.23	-0.13	-0.02	0.03	0.04	0.05	0.04	0.04	0.04	0.03	0.02
INFL.GDP_ER	-0.74	-0.10	0.03	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.00
INFL.PC_ER	-0.51	-0.10	0.02	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01
LABOUR.TAX.RATE_ER	-0.03	-0.17	-0.33	-0.43	-0.49	-0.54	-0.57	-0.59	-0.62	-0.64	-0.74	-0.77
GOV.DEBT.GDP_ER	-0.25	-0.69	-1.01	-1.16	-1.19	-1.19	-1.17	-1.14	-1.10	-1.06	-0.60	-0.31
GOV.BALANCE.GDP_ER	0.29	0.44	0.27	0.12	0.04	0.01	-0.01	-0.01	-0.02	-0.02	-0.03	-0.01
GOV.EXP.GDP_ER	-0.20	-0.33	-0.31	-0.27	-0.25	-0.26	-0.27	-0.28	-0.29	-0.31	-0.39	-0.45
GOV.REV.GDP_ER	-0.00	-0.05	-0.13	-0.20	-0.25	-0.28	-0.30	-0.32	-0.34	-0.35	-0.44	-0.46
TRADE.BAL.GDP_ER	0.11	0.00	-0.06	-0.08	-0.08	-0.07	-0.07	-0.06	-0.06	-0.05	-0.01	0.02
CURRENT.ACC.GDP_ER	0.11	0.01	-0.06	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.06	-0.05
NFA.GDP_ER	0.08	0.12	0.09	0.01	-0.07	-0.15	-0.23	-0.30	-0.37	-0.44	-0.99	-1.31



**Figure 4.8: Area-wide 1 percent real wage reduction:**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	1.40	2.53	3.09	3.36	3.50	3.59	3.67	3.74	3.80	3.85	4.09	4.16
OUTPUT.T_PCER	1.62	2.59	3.12	3.35	3.46	3.52	3.56	3.61	3.64	3.68	3.89	4.02
OUTPUT.NT_PCER	1.15	2.14	2.75	3.07	3.27	3.40	3.51	3.60	3.68	3.75	4.01	4.03
CAPITAL.T_PCER	0.03	0.15	0.30	0.45	0.60	0.73	0.84	0.95	1.04	1.13	1.71	2.08
CAPITAL.NT_PCER	0.03	0.11	0.24	0.38	0.52	0.64	0.76	0.87	0.97	1.06	1.65	1.99
EMPLOYMENT_PCER	1.51	2.79	3.36	3.59	3.69	3.76	3.80	3.85	3.88	3.91	3.98	3.93
.EMPLOYMENT.T_PCER	1.58	2.87	3.43	3.64	3.73	3.78	3.82	3.85	3.88	3.91	3.97	3.93
.EMPLOYMENT.NT_PCER	1.40	2.67	3.26	3.52	3.64	3.72	3.78	3.84	3.88	3.92	3.99	3.91
DEMAND.DOM_PCER	1.21	2.36	3.00	3.32	3.50	3.62	3.71	3.79	3.86	3.92	4.14	4.16
CONSUMPTION_PCER	1.21	2.60	3.42	3.89	4.19	4.43	4.62	4.78	4.92	5.04	5.45	5.43
.CLC_PCER	-0.32	0.08	1.02	1.94	2.71	3.34	3.85	4.27	4.61	4.89	5.47	5.03
.CCC_PCER	-0.43	0.74	1.97	2.78	3.34	3.78	4.15	4.46	4.72	4.94	5.51	5.15
.CNLC_PCER	2.74	4.73	5.31	5.40	5.34	5.28	5.22	5.19	5.17	5.16	5.42	5.76
INVESTMENT.CAPITAL_PCER	1.14	2.50	3.17	3.37	3.35	3.26	3.15	3.04	2.95	2.87	2.55	2.66
.INVESTMENT.T_PCER	0.88	1.86	2.29	2.38	2.36	2.30	2.26	2.22	2.20	2.18	2.26	2.50
.INVESTMENT.NT_PCER	1.34	2.99	3.84	4.12	4.11	3.98	3.82	3.67	3.52	3.39	2.77	2.78
INVESTMENT.HOUSE_PCER	0.70	1.73	2.30	2.54	2.63	2.66	2.67	2.69	2.69	2.70	2.48	2.18
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	1.78	2.58	2.91	3.01	3.04	3.05	3.06	3.07	3.09	3.11	3.34	3.54
IMPORTS_PCER	0.25	0.90	1.43	1.74	1.92	2.04	2.12	2.19	2.24	2.29	2.35	2.27
REAL.WAGE_PCER	-1.00	-1.58	-1.49	-1.32	-1.19	-1.12	-1.06	-1.02	-0.98	-0.95	-0.75	-0.66
PRICE.LEVEL.GDP_PCER	-0.80	-1.81	-2.56	-3.11	-3.53	-3.87	-4.14	-4.36	-4.53	-4.67	-5.06	-5.06
.PRICE.LEVEL.T_PCER	-0.55	-1.46	-2.19	-2.75	-3.19	-3.54	-3.83	-4.05	-4.24	-4.38	-4.75	-4.71
.PRICE.LEVEL.NT_PCER	-0.67	-1.66	-2.41	-2.96	-3.38	-3.72	-3.99	-4.21	-4.38	-4.52	-4.89	-4.88
.PRICE.LEVEL.HOUSE_PCER	0.99	0.84	0.36	-0.06	-0.39	-0.65	-0.85	-1.02	-1.15	-1.25	-1.42	-1.30
EXPORT.PRICES_PCER	-0.55	-1.46	-2.19	-2.75	-3.19	-3.54	-3.83	-4.05	-4.24	-4.38	-4.75	-4.71
IMPORT.PRICES_PCER	0.31	-0.38	-1.07	-1.66	-2.13	-2.51	-2.82	-3.06	-3.24	-3.39	-3.67	-3.52
TOT_PCER	-0.86	-1.08	-1.13	-1.11	-1.08	-1.06	-1.04	-1.03	-1.03	-1.02	-1.12	-1.24
REER_PCER	1.01	1.31	1.38	1.35	1.31	1.28	1.25	1.24	1.23	1.23	1.34	1.48
EXR_PCER	1.27	0.80	0.13	-0.49	-1.01	-1.42	-1.75	-2.01	-2.21	-2.37	-2.68	-2.49

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.36	-0.70	-0.70	-0.58	-0.45	-0.36	-0.28	-0.22	-0.16	-0.12	0.04	0.02
REAL.INT.RATE_ER	0.75	0.16	-0.07	-0.10	-0.08	-0.05	-0.03	-0.02	-0.00	0.00	0.04	0.03
INFL.GDP_ER	-1.22	-0.93	-0.68	-0.51	-0.40	-0.32	-0.26	-0.21	-0.17	-0.13	-0.00	-0.01
INFL.PC_ER	-0.98	-0.90	-0.68	-0.51	-0.40	-0.32	-0.26	-0.21	-0.17	-0.13	0.00	-0.00
LABOUR.TAX.RATE_ER	-0.14	-0.60	-1.25	-1.90	-2.47	-2.96	-3.37	-3.70	-3.97	-4.18	-4.55	-4.14
GOV.DEBT.GDP_ER	-0.85	-2.26	-3.74	-4.97	-5.88	-6.49	-6.84	-7.00	-6.99	-6.85	-2.99	-0.53
GOV.BALANCE.GDP_ER	0.91	1.62	1.64	1.39	1.09	0.82	0.58	0.39	0.23	0.10	-0.27	-0.11
GOV.EXP.GDP_ER	-0.90	-1.65	-1.99	-2.13	-2.20	-2.24	-2.27	-2.30	-2.32	-2.35	-2.43	-2.44
GOV.REV.GDP_ER	-0.11	-0.38	-0.76	-1.16	-1.52	-1.82	-2.08	-2.29	-2.46	-2.59	-2.83	-2.56
TRADE.BAL.GDP_ER	0.19	0.16	0.09	0.04	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.05	-0.00
CURRENT.ACC.GDP_ER	0.19	0.17	0.11	0.06	0.02	0.00	-0.01	-0.03	-0.04	-0.04	-0.06	-0.03
NFA.GDP_ER	0.12	0.30	0.43	0.50	0.53	0.53	0.52	0.49	0.45	0.40	-0.19	-0.55

OTHER EURO AREA

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	1.65	2.81	3.35	3.60	3.73	3.82	3.90	3.98	4.04	4.10	4.35	4.42
OUTPUT.T_PCER	1.95	2.90	3.39	3.58	3.67	3.73	3.78	3.82	3.86	3.90	4.14	4.29
OUTPUT.NT_PCER	1.40	2.44	3.03	3.34	3.52	3.65	3.76	3.86	3.94	4.01	4.27	4.28
CAPITAL.T_PCER	0.04	0.17	0.33	0.49	0.64	0.77	0.90	1.01	1.11	1.20	1.84	2.24
CAPITAL.NT_PCER	0.03	0.13	0.26	0.41	0.55	0.69	0.81	0.93	1.03	1.13	1.77	2.13
EMPLOYMENT_PCER	1.74	3.08	3.63	3.84	3.93	3.99	4.04	4.09	4.12	4.15	4.22	4.16
.EMPLOYMENT.T_PCER	1.82	3.16	3.69	3.89	3.97	4.02	4.06	4.09	4.12	4.15	4.21	4.17
.EMPLOYMENT.NT_PCER	1.62	2.95	3.52	3.77	3.88	3.96	4.03	4.08	4.13	4.16	4.23	4.14
DEMAND.DOM_PCER	1.41	2.63	3.25	3.56	3.74	3.86	3.96	4.05	4.13	4.19	4.41	4.42
CONSUMPTION_PCER	1.39	2.87	3.69	4.17	4.47	4.71	4.91	5.08	5.23	5.35	5.76	5.72
.CLC_PCER	-0.25	0.24	1.23	2.18	2.97	3.61	4.13	4.56	4.91	5.19	5.77	5.30
.CCC_PCER	-0.23	1.02	2.24	3.05	3.61	4.06	4.44	4.76	5.03	5.25	5.82	5.43
.CNLC_PCER	2.97	5.05	5.62	5.69	5.64	5.58	5.53	5.50	5.49	5.48	5.73	6.06
INVESTMENT.CAPITAL_PCER	1.31	2.74	3.38	3.56	3.54	3.45	3.34	3.25	3.16	3.08	2.75	2.82
.INVESTMENT.T_PCER	1.03	2.04	2.43	2.50	2.47	2.42	2.39	2.37	2.35	2.34	2.45	2.68
.INVESTMENT.NT_PCER	1.53	3.26	4.10	4.36	4.34	4.22	4.07	3.92	3.77	3.65	2.98	2.93
INVESTMENT.HOUSE_PCER	0.89	1.95	2.50	2.73	2.80	2.83	2.85	2.86	2.87	2.88	2.63	2.30
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	2.23	2.87	3.00	2.96	2.90	2.85	2.83	2.81	2.81	2.82	3.12	3.44
IMPORTS_PCER	-0.43	0.14	0.65	0.99	1.19	1.33	1.42	1.50	1.56	1.60	1.56	1.36
REAL.WAGE_PCER	-1.00	-1.57	-1.50	-1.34	-1.23	-1.16	-1.11	-1.07	-1.03	-1.00	-0.78	-0.69
PRICE.LEVEL.GDP_PCER	-0.74	-1.68	-2.39	-2.93	-3.35	-3.69	-3.97	-4.20	-4.38	-4.52	-4.91	-4.90
.PRICE.LEVEL.T_PCER	-0.47	-1.30	-2.00	-2.55	-2.99	-3.35	-3.64	-3.87	-4.06	-4.20	-4.57	-4.51
.PRICE.LEVEL.NT_PCER	-0.60	-1.54	-2.26	-2.80	-3.23	-3.57	-3.84	-4.06	-4.24	-4.38	-4.75	-4.73
.PRICE.LEVEL.HOUSE_PCER	1.27	1.21	0.74	0.33	-0.00	-0.27	-0.47	-0.64	-0.77	-0.87	-1.04	-0.92
EXPORT.PRICES_PCER	-0.47	-1.30	-2.00	-2.55	-2.99	-3.35	-3.64	-3.87	-4.06	-4.20	-4.57	-4.51
IMPORT.PRICES_PCER	1.06	0.50	-0.19	-0.81	-1.31	-1.71	-2.03	-2.28	-2.47	-2.61	-2.81	-2.56
TOT_PCER	-1.51	-1.79	-1.81	-1.75	-1.70	-1.67	-1.64	-1.63	-1.63	-1.63	-1.81	-2.00

REER_PCER	1.88	2.30	2.35	2.27	2.20	2.14	2.11	2.09	2.08	2.08	2.30	2.56
EXR_PCER	1.27	0.80	0.13	-0.49	-1.01	-1.42	-1.75	-2.01	-2.21	-2.37	-2.68	-2.49

Data Set by Archive - Error

TEMP_SIM_ER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.36	-0.70	-0.70	-0.58	-0.46	-0.36	-0.28	-0.22	-0.16	-0.12	0.04	0.02
REAL.INT.RATE_ER	0.65	0.10	-0.09	-0.10	-0.07	-0.05	-0.03	-0.01	-0.00	0.01	0.04	0.03
INFL.GDP_ER	-1.13	-0.87	-0.65	-0.50	-0.40	-0.33	-0.27	-0.22	-0.17	-0.14	0.00	-0.00
INFL.PC_ER	-0.82	-0.84	-0.66	-0.51	-0.41	-0.33	-0.27	-0.22	-0.17	-0.13	0.00	-0.00
LABOUR.TAX.RATE_ER	-0.18	-0.71	-1.41	-2.09	-2.69	-3.19	-3.61	-3.95	-4.23	-4.44	-4.81	-4.37
GOV.DEBT.GDP_ER	-1.03	-2.59	-4.15	-5.41	-6.32	-6.92	-7.27	-7.40	-7.37	-7.21	-3.12	-0.55
GOV.BALANCE.GDP_ER	1.03	1.72	1.71	1.43	1.11	0.83	0.59	0.39	0.22	0.09	-0.28	-0.11
GOV.EXP.GDP_ER	-1.04	-1.81	-2.13	-2.26	-2.33	-2.37	-2.40	-2.43	-2.46	-2.48	-2.57	-2.58
GOV.REV.GDP_ER	-0.13	-0.44	-0.86	-1.27	-1.65	-1.96	-2.22	-2.44	-2.61	-2.75	-2.98	-2.71
TRADE.BAL.GDP_ER	0.23	0.18	0.10	0.03	-0.01	-0.04	-0.06	-0.07	-0.08	-0.09	-0.06	0.00
CURRENT.ACC.GDP_ER	0.23	0.19	0.12	0.06	0.02	-0.01	-0.03	-0.05	-0.06	-0.07	-0.09	-0.05
NFA.GDP_ER	0.14	0.36	0.49	0.56	0.58	0.57	0.53	0.48	0.42	0.35	-0.51	-1.03

**Figure 4.9: Area-wide 5 percentage-point reduction of public debt to GDP**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	-0.18	-0.06	-0.03	-0.01	-0.01	-0.01	-0.01	-0.03	-0.06	-0.11	0.08	0.08
OUTPUT.T_PCER	-0.12	0.02	0.06	0.08	0.09	0.10	0.09	0.06	0.01	-0.09	0.06	0.05
OUTPUT.NT_PCER	-0.28	-0.12	-0.08	-0.07	-0.07	-0.07	-0.08	-0.10	-0.13	-0.19	0.10	0.09
CAPITAL.T_PCER	0.00	0.02	0.03	0.05	0.06	0.08	0.10	0.12	0.14	0.14	0.11	0.09
CAPITAL.NT_PCER	0.00	0.01	0.02	0.04	0.05	0.07	0.09	0.11	0.12	0.13	0.13	0.11
EMPLOYMENT_PCER	-0.17	-0.08	-0.05	-0.04	-0.04	-0.05	-0.06	-0.08	-0.11	-0.14	0.06	0.05
.EMPLOYMENT.T_PCER	-0.15	-0.06	-0.03	-0.02	-0.02	-0.02	-0.03	-0.05	-0.09	-0.13	0.05	0.05
.EMPLOYMENT.NT_PCER	-0.20	-0.11	-0.08	-0.07	-0.08	-0.08	-0.09	-0.11	-0.14	-0.16	0.06	0.06
DEMAND.DOM_PCER	-0.25	-0.11	-0.07	-0.05	-0.04	-0.04	-0.04	-0.06	-0.09	-0.14	0.10	0.09
CONSUMPTION_PCER	0.28	0.48	0.53	0.54	0.55	0.55	0.55	0.55	0.52	0.47	0.90	0.90
.CLC_PCER	-0.06	-0.04	-0.02	-0.00	0.00	0.00	-0.01	-0.03	-0.05	-0.05	1.08	1.07
.CCC_PCER	0.04	0.14	0.18	0.20	0.21	0.24	0.26	0.29	0.29	0.16	1.07	1.10
.CNLC_PCER	0.56	0.89	0.96	0.98	0.98	0.98	0.97	0.96	0.92	0.87	0.73	0.72
INVESTMENT.CAPITAL_PCER	0.12	0.24	0.31	0.37	0.42	0.47	0.49	0.47	0.41	0.31	0.08	0.07
.INVESTMENT.T_PCER	0.10	0.19	0.23	0.26	0.30	0.33	0.35	0.34	0.30	0.22	0.07	0.06
.INVESTMENT.NT_PCER	0.13	0.27	0.37	0.45	0.51	0.57	0.59	0.57	0.50	0.37	0.09	0.07
INVESTMENT.HOUSE_PCER	0.26	0.35	0.33	0.28	0.21	0.12	-0.00	-0.14	-0.23	-0.03	0.49	0.42
GOVERNMENT.PURCHASES_PCER	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63
EXPORTS_PCER	0.02	0.11	0.13	0.14	0.14	0.14	0.14	0.11	0.06	-0.02	0.02	0.02
IMPORTS_PCER	-0.32	-0.15	-0.11	-0.09	-0.07	-0.07	-0.06	-0.08	-0.10	-0.15	0.09	0.09
REAL.WAGE_PCER	-0.00	-0.01	0.01	0.03	0.03	0.03	0.02	0.00	-0.02	-0.01	0.02	0.02
PRICE.LEVEL.GDP_PCER	-0.06	-0.09	-0.10	-0.13	-0.17	-0.22	-0.28	-0.34	-0.39	-0.41	-0.27	-0.18
.PRICE.LEVEL.T_PCER	-0.03	-0.05	-0.07	-0.09	-0.13	-0.18	-0.24	-0.30	-0.35	-0.38	-0.28	-0.18
.PRICE.LEVEL.NT_PCER	-0.06	-0.08	-0.09	-0.12	-0.16	-0.21	-0.27	-0.33	-0.39	-0.41	-0.28	-0.18
.PRICE.LEVEL.HOUSE_PCER	0.34	0.43	0.42	0.40	0.38	0.34	0.29	0.24	0.19	0.15	0.21	0.27
EXPORT.PRICES_PCER	-0.03	-0.05	-0.07	-0.09	-0.13	-0.18	-0.24	-0.30	-0.35	-0.38	-0.28	-0.18
IMPORT.PRICES_PCER	0.07	0.05	0.03	0.00	-0.03	-0.08	-0.15	-0.22	-0.30	-0.35	-0.29	-0.19
TOT_PCER	-0.09	-0.09	-0.10	-0.10	-0.10	-0.09	-0.09	-0.08	-0.06	-0.03	0.01	0.01
REER_PCER	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.10	0.08	0.04	-0.01	-0.02
EXR_PCER	0.17	0.15	0.13	0.11	0.08	0.04	-0.02	-0.10	-0.19	-0.28	-0.26	-0.18

Data Set by Archive - Error

TEMP_SIM_ER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.03	-0.03	-0.03	-0.03	-0.05	-0.06	-0.08	-0.10	-0.10	-0.08	0.01	0.01
REAL.INT.RATE_ER	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01	-0.02	-0.04	-0.07	-0.11	-0.00	-0.00
INFL.GDP_ER	-0.07	-0.02	-0.02	-0.03	-0.04	-0.05	-0.06	-0.06	-0.04	0.00	0.01	0.01
INFL.PC_ER	-0.05	-0.02	-0.02	-0.03	-0.04	-0.06	-0.06	-0.06	-0.05	-0.01	0.01	0.01
LABOUR.TAX.RATE_ER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.93	-0.92
GOV.DEBT.GDP_ER	-0.17	-0.69	-1.21	-1.75	-2.28	-2.82	-3.37	-3.91	-4.43	-4.94	-5.01	-5.00
GOV.BALANCE.GDP_ER	0.42	0.52	0.57	0.60	0.63	0.66	0.69	0.70	0.71	0.69	0.18	0.18
GOV.EXP.GDP_ER	-0.36	-0.43	-0.45	-0.46	-0.46	-0.46	-0.46	-0.45	-0.42	-0.40	-0.50	-0.49
GOV.REV.GDP_ER	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	-0.54	-0.53
TRADE.BAL.GDP_ER	0.07	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	-0.02	-0.02
CURRENT.ACC.GDP_ER	0.07	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.00
NFA.GDP_ER	0.05	0.11	0.15	0.20	0.24	0.28	0.32	0.37	0.41	0.45	0.44	0.42

OTHER EURO AREA

Data Set by Archive - Percent Error

TEMP_SIM_PCER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	-0.15	-0.05	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.03	-0.06	-0.11	0.08
OUTPUT.T_PCER	-0.09	0.04	0.06	0.08	0.09	0.09	0.09	0.09	0.06	0.01	-0.09	0.05

OUTPUT_NT_PCER	-0.26	-0.10	-0.07	-0.06	-0.06	-0.06	-0.07	-0.09	-0.13	-0.19	0.10	0.10
CAPITAL_T_PCER	0.00	0.02	0.03	0.04	0.06	0.08	0.09	0.11	0.12	0.13	0.10	0.08
CAPITAL_NT_PCER	0.00	0.01	0.02	0.03	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.12
EMPLOYMENT_PCER	-0.15	-0.07	-0.04	-0.04	-0.04	-0.05	-0.05	-0.07	-0.11	-0.14	0.06	0.05
.EMPLOYMENT_T_PCER	-0.13	-0.05	-0.02	-0.02	-0.02	-0.02	-0.03	-0.05	-0.09	-0.13	0.05	0.05
.EMPLOYMENT_NT_PCER	-0.18	-0.10	-0.07	-0.07	-0.07	-0.08	-0.09	-0.11	-0.14	-0.16	0.07	0.06
DEMAND_DOM_PCER	-0.24	-0.10	-0.07	-0.06	-0.05	-0.05	-0.05	-0.07	-0.10	-0.15	0.10	0.10
CONSUMPTION_PCER	0.28	0.48	0.52	0.53	0.54	0.54	0.54	0.54	0.52	0.46	0.90	0.90
.CLC_PCER	-0.05	-0.03	-0.01	-0.00	0.00	0.00	-0.01	-0.02	-0.05	-0.05	1.09	1.07
.CCC_PCER	0.06	0.16	0.18	0.20	0.21	0.23	0.26	0.28	0.28	0.16	1.07	1.10
.CNLC_PCER	0.56	0.89	0.95	0.96	0.96	0.96	0.96	0.94	0.91	0.86	0.73	0.73
INVESTMENT_CAPITAL_PCER	0.12	0.23	0.29	0.33	0.38	0.42	0.44	0.43	0.38	0.29	0.09	0.07
.INVESTMENT_T_PCER	0.10	0.18	0.21	0.24	0.27	0.30	0.31	0.31	0.27	0.20	0.07	0.06
.INVESTMENT_NT_PCER	0.13	0.26	0.34	0.41	0.47	0.51	0.54	0.52	0.46	0.36	0.10	0.08
INVESTMENT_HOUSE_PCER	0.28	0.37	0.34	0.28	0.21	0.12	-0.00	-0.14	-0.23	-0.03	0.49	0.42
GOVERNMENT_PURCHASES_PCER	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63	-2.63
EXPORTS_PCER	0.19	0.21	0.21	0.22	0.22	0.22	0.21	0.18	0.12	0.03	-0.02	-0.02
IMPORTS_PCER	-0.39	-0.22	-0.18	-0.16	-0.15	-0.14	-0.13	-0.14	-0.14	-0.16	0.11	0.10
REAL_WAGE_PCER	0.01	0.00	0.02	0.03	0.04	0.03	0.02	0.00	-0.02	-0.01	0.02	0.02
PRICE_LEVEL_GDP_PCER	-0.05	-0.06	-0.08	-0.10	-0.14	-0.19	-0.25	-0.31	-0.37	-0.39	-0.27	-0.18
.PRICE_LEVEL_T_PCER	-0.01	-0.03	-0.04	-0.06	-0.10	-0.15	-0.21	-0.28	-0.34	-0.37	-0.28	-0.18
.PRICE_LEVEL_NT_PCER	-0.05	-0.05	-0.07	-0.09	-0.13	-0.18	-0.24	-0.31	-0.37	-0.40	-0.27	-0.18
.PRICE_LEVEL_HOUSE_PCER	0.35	0.45	0.44	0.42	0.39	0.36	0.31	0.25	0.20	0.16	0.21	0.28
EXPORT_PRICES_PCER	-0.01	-0.03	-0.04	-0.06	-0.10	-0.15	-0.21	-0.28	-0.34	-0.37	-0.28	-0.18
IMPORT_PRICES_PCER	0.15	0.12	0.09	0.07	0.03	-0.02	-0.09	-0.17	-0.26	-0.34	-0.30	-0.21
TOT_PCER	-0.16	-0.14	-0.13	-0.13	-0.13	-0.13	-0.13	-0.11	-0.08	-0.03	0.02	0.02
REER_PCER	0.21	0.19	0.18	0.17	0.17	0.17	0.17	0.15	0.11	0.05	-0.03	-0.03
EXR_PCER	0.17	0.15	0.13	0.11	0.08	0.04	-0.02	-0.10	-0.19	-0.28	-0.26	-0.18

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.03	-0.03	-0.03	-0.03	-0.05	-0.07	-0.08	-0.10	-0.10	-0.08	0.01	0.01
REAL.INT.RATE_ER	-0.02	-0.02	-0.01	-0.00	-0.00	-0.01	-0.02	-0.04	-0.06	-0.10	-0.00	-0.00
INFL.GDP_ER	-0.06	-0.01	-0.02	-0.03	-0.04	-0.06	-0.07	-0.06	-0.05	-0.00	0.01	0.01
INFL.PC_ER	-0.03	-0.01	-0.02	-0.03	-0.04	-0.06	-0.07	-0.07	-0.05	-0.01	0.01	0.01
LABOUR.TAX.RATE_ER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.94	-0.93
GOV.DEBT.GDP_ER	-0.19	-0.72	-1.25	-1.78	-2.32	-2.86	-3.40	-3.94	-4.46	-4.96	-5.01	-5.00
GOV.BALANCE.GDP_ER	0.43	0.53	0.57	0.60	0.63	0.66	0.69	0.71	0.71	0.70	0.18	0.18
GOV.EXP.GDP_ER	-0.37	-0.44	-0.45	-0.46	-0.46	-0.46	-0.46	-0.45	-0.42	-0.40	-0.50	-0.49
GOV.REV.GDP_ER	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	-0.54	-0.53
TRADE.BAL.GDP_ER	0.08	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.03	-0.02	-0.02
CURRENT.ACC.GDP_ER	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.01	0.01
NFA.GDP_ER	0.06	0.12	0.18	0.24	0.30	0.35	0.41	0.46	0.52	0.57	0.55	0.52

**Figure 4.11: Price mark-up reduction with alternative trade Elasticities:**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	0.45	0.93	1.01	0.98	0.95	0.96	1.00	1.04	1.09	1.13	1.43	1.60
OUTPUT_T_PCER	1.32	2.37	2.56	2.52	2.47	2.47	2.50	2.55	2.60	2.66	3.03	3.26
OUTPUT_NT_PCER	0.39	0.97	1.16	1.16	1.14	1.14	1.17	1.20	1.24	1.27	1.51	1.63
CAPITAL_T_PCER	0.07	0.28	0.54	0.78	1.01	1.22	1.41	1.60	1.78	1.94	3.18	3.91
CAPITAL_NT_PCER	0.04	0.17	0.34	0.52	0.69	0.86	1.01	1.16	1.30	1.43	2.39	2.93
EMPLOYMENT_PCER	0.19	0.42	0.38	0.28	0.19	0.15	0.14	0.14	0.14	0.14	0.14	0.12
.EMPLOYMENT_T_PCER	0.29	0.55	0.51	0.39	0.31	0.27	0.25	0.25	0.26	0.26	0.27	0.27
.EMPLOYMENT_NT_PCER	0.05	0.21	0.19	0.10	0.02	-0.02	-0.03	-0.04	-0.04	-0.04	-0.07	-0.10
DEMAND_DOM_PCER	0.34	0.92	1.14	1.17	1.16	1.16	1.18	1.21	1.24	1.27	1.45	1.54
CONSUMPTION_PCER	-0.07	0.33	0.54	0.58	0.59	0.61	0.64	0.68	0.73	0.77	1.04	1.16
.CLC_PCER	0.90	2.00	2.62	2.90	3.01	3.07	3.12	3.17	3.22	3.26	3.52	3.62
.CCC_PCER	0.53	1.99	2.61	2.78	2.83	2.88	2.95	3.03	3.11	3.18	3.60	3.71
.CNLC_PCER	-0.83	-1.28	-1.47	-1.60	-1.67	-1.69	-1.69	-1.66	-1.64	-1.61	-1.40	-1.27
INVESTMENT_CAPITAL_PCER	1.99	3.82	4.49	4.66	4.65	4.61	4.57	4.54	4.51	4.49	4.33	4.26
.INVESTMENT_T_PCER	1.85	3.32	3.75	3.82	3.82	3.83	3.87	3.91	3.96	4.01	4.38	4.61
.INVESTMENT_NT_PCER	2.11	4.20	5.06	5.30	5.28	5.19	5.10	5.01	4.93	4.85	4.29	4.00
INVESTMENT_HOUSE_PCER	-0.78	-0.52	-0.30	-0.26	-0.28	-0.30	-0.29	-0.26	-0.23	-0.20	-0.10	-0.13
GOVERNMENT_PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	0.88	1.32	1.24	1.12	1.08	1.09	1.13	1.19	1.24	1.29	1.67	1.91
IMPORTS_PCER	0.05	0.60	1.01	1.18	1.21	1.19	1.16	1.13	1.10	1.07	0.85	0.70
REAL_WAGE_PCER	1.23	2.51	3.08	3.26	3.31	3.31	3.33	3.35	3.38	3.42	3.67	3.81
PRICE_LEVEL_GDP_PCER	-0.46	-0.62	-0.52	-0.41	-0.37	-0.37	-0.39	-0.42	-0.45	-0.47	-0.68	-0.80
.PRICE_LEVEL_T_PCER	-0.48	-0.74	-0.72	-0.66	-0.64	-0.64	-0.65	-0.68	-0.70	-0.72	-0.87	-0.96
.PRICE_LEVEL_NT_PCER	-0.32	-0.36	-0.22	-0.12	-0.07	-0.07	-0.08	-0.11	-0.13	-0.15	-0.32	-0.43
.PRICE_LEVEL_HOUSE_PCER	-0.51	-0.65	-0.61	-0.56	-0.54	-0.54	-0.54	-0.55	-0.55	-0.56	-0.60	-0.63
EXPORT_PRICES_PCER	-0.48	-0.74	-0.72	-0.66	-0.64	-0.64	-0.65	-0.68	-0.70	-0.72	-0.87	-0.96
IMPORT_PRICES_PCER	-0.01	-0.04	-0.06	-0.07	-0.07	-0.06	-0.06	-0.05	-0.05	-0.04	0.00	0.03
TOT_PCER	-0.46	-0.70	-0.66	-0.60	-0.57	-0.58	-0.60	-0.62	-0.65	-0.68	-0.87	-0.99
REER_PCER	0.46	0.60	0.47	0.35	0.31	0.31	0.34	0.38	0.41	0.44	0.70	0.86
EXR_PCER	-0.01	-0.04	-0.07	-0.08	-0.08	-0.07	-0.07	-0.06	-0.06	-0.05	-0.01	0.02

Data Set by Archive - Error

TEMP_SIM_ER												
	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A

NOM.INT.RATE_ER	-0.04	-0.03	-0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
REAL.INT.RATE_ER	0.35	-0.11	-0.13	-0.07	-0.01	0.02	0.03	0.04	0.03	0.03	0.02	0.01
INFL.GDP_ER	-0.62	0.02	0.13	0.08	0.02	-0.01	-0.03	-0.03	-0.03	-0.03	-0.02	-0.01
INFL.PC_ER	-0.42	0.05	0.12	0.07	0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01
LABOUR.TAX.RATE_ER	-0.01	-0.14	-0.32	-0.46	-0.55	-0.61	-0.65	-0.68	-0.70	-0.73	-0.82	-0.83
GOV.DEBT.GDP_ER	-0.19	-0.65	-1.06	-1.28	-1.36	-1.37	-1.34	-1.30	-1.25	-1.20	-0.64	-0.29
GOV.BALANCE.GDP_ER	0.20	0.40	0.32	0.19	0.09	0.04	0.01	-0.00	-0.01	-0.01	-0.03	-0.01
GOV.EXP.GDP_ER	-0.18	-0.38	-0.39	-0.34	-0.30	-0.29	-0.30	-0.31	-0.32	-0.34	-0.43	-0.48
GOV.REV.GDP_ER	0.01	-0.02	-0.12	-0.21	-0.27	-0.31	-0.34	-0.37	-0.39	-0.40	-0.49	-0.51
TRADE.BAL.GDP_ER	0.11	0.00	-0.12	-0.19	-0.20	-0.20	-0.18	-0.16	-0.15	-0.14	-0.02	0.06
CURRENT.ACC.GDP_ER	0.11	0.01	-0.12	-0.19	-0.22	-0.22	-0.21	-0.20	-0.20	-0.16	-0.16	-0.12
NFA.GDP_ER	0.06	0.12	0.04	-0.13	-0.33	-0.55	-0.75	-0.95	-1.14	-1.32	-2.74	-3.58

**Figure 4.12: Price mark-up reduction with different initial foreign positions:**

ES

Data Set by Archive - Percent Error

TEMP_SIM_PCER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
GDP.REAL_PCER	-0.10	0.28	0.57	0.68	0.72	0.74	0.77	0.79	0.83	0.86	1.13	1.31
OUTPUT.T_PCER	0.67	1.66	2.16	2.34	2.39	2.40	2.41	2.43	2.46	2.49	2.71	2.85
OUTPUT.NT_PCER	-0.35	0.03	0.39	0.55	0.62	0.64	0.66	0.69	0.72	0.75	1.02	1.20
CAPITAL.T_PCER	0.04	0.17	0.36	0.56	0.76	0.94	1.11	1.27	1.42	1.56	2.61	3.22
CAPITAL.NT_PCER	0.01	0.07	0.17	0.28	0.39	0.50	0.61	0.71	0.81	0.91	1.64	2.11
EMPLOYMENT_PCER	-0.28	-0.13	0.05	0.10	0.09	0.07	0.05	0.05	0.05	0.05	0.08	0.11
.EMPLOYMENT.T_PCER	-0.17	0.06	0.25	0.29	0.28	0.25	0.23	0.23	0.23	0.23	0.25	0.27
.EMPLOYMENT.NT_PCER	-0.46	-0.41	-0.25	-0.19	-0.20	-0.21	-0.23	-0.23	-0.23	-0.22	-0.18	-0.15
DEMAND.DOM_PCER	-0.29	0.11	0.48	0.65	0.72	0.75	0.77	0.80	0.83	0.87	1.15	1.32
CONSUMPTION_PCER	-0.99	-1.00	-0.71	-0.55	-0.47	-0.43	-0.40	-0.36	-0.32	-0.28	0.07	0.29
.CLC_PCER	0.36	0.87	1.35	1.67	1.85	1.96	2.03	2.08	2.14	2.19	2.60	2.83
.CCC_PCER	-0.66	0.34	1.12	1.47	1.64	1.73	1.80	1.88	1.96	2.05	2.64	2.92
.CNLC_PCER	-1.84	-2.59	-2.64	-2.65	-2.69	-2.71	-2.72	-2.72	-2.72	-2.70	-2.60	-2.53
INVESTMENT.CAPITAL_PCER	0.78	1.92	2.64	2.98	3.12	3.17	3.19	3.20	3.22	3.24	3.39	3.50
.INVESTMENT.T_PCER	0.94	2.11	2.72	2.97	3.06	3.10	3.13	3.16	3.21	3.25	3.59	3.82
.INVESTMENT.NT_PCER	0.67	1.80	2.58	2.99	3.16	3.22	3.23	3.23	3.23	3.24	3.24	3.23
INVESTMENT.HOUSE_PCER	-1.86	-1.75	-1.26	-0.95	-0.80	-0.74	-0.70	-0.67	-0.63	-0.60	-0.41	-0.37
GOVERNMENT.PURCHASES_PCER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPORTS_PCER	0.92	1.58	1.76	1.77	1.75	1.74	1.74	1.75	1.77	1.78	1.91	1.99
IMPORTS_PCER	-0.78	-0.76	-0.48	-0.28	-0.18	-0.14	-0.12	-0.11	-0.10	-0.09	-0.01	0.05
REAL.WAGE_PCER	0.96	1.99	2.59	2.90	3.05	3.10	3.13	3.15	3.18	3.21	3.45	3.61
PRICE.LEVEL.GDP_PCER	-0.98	-1.73	-1.92	-1.92	-1.88	-1.85	-1.85	-1.85	-1.87	-1.88	-2.01	-2.10
.PRICE.LEVEL.T_PCER	-0.82	-1.51	-1.72	-1.75	-1.73	-1.72	-1.71	-1.72	-1.73	-1.75	-1.85	-1.92
.PRICE.LEVEL.NT_PCER	-0.79	-1.37	-1.48	-1.46	-1.41	-1.38	-1.37	-1.37	-1.38	-1.39	-1.47	-1.53
.PRICE.LEVEL.HOUSE_PCER	-1.77	-2.39	-2.46	-2.46	-2.44	-2.43	-2.42	-2.42	-2.42	-2.42	-2.42	-2.41
EXPORT.PRICES_PCER	-0.82	-1.51	-1.72	-1.75	-1.73	-1.72	-1.71	-1.72	-1.73	-1.75	-1.85	-1.92
IMPORT.PRICES_PCER	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.11	0.12
TOT_PCER	-0.90	-1.59	-1.80	-1.82	-1.80	-1.79	-1.79	-1.80	-1.82	-1.83	-1.96	-2.03
REER_PCER	1.08	1.87	2.06	2.06	2.01	1.99	1.98	1.99	2.01	2.03	2.18	2.28
EXR_PCER	0.14	0.11	0.08	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.11	0.11

Data Set by Archive - Error

TEMP_SIM_ER	2011A	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	2020A	2030A	2040A
NOM.INT.RATE_ER	-0.03	-0.03	-0.01	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REAL.INT.RATE_ER	1.08	0.29	0.02	-0.04	-0.03	-0.01	0.01	0.02	0.02	0.02	0.01	0.01
INFL.GDP_ER	-1.41	-0.46	-0.08	0.03	0.04	0.02	-0.00	-0.01	-0.02	-0.02	-0.01	-0.01
INFL.PC_ER	-1.06	-0.33	-0.04	0.04	0.04	0.02	0.00	-0.01	-0.01	-0.01	-0.01	-0.00
LABOUR.TAX.RATE_ER	0.13	0.28	0.26	0.18	0.11	0.04	-0.01	-0.05	-0.09	-0.12	-0.36	-0.49
GOV.DEBT.GDP_ER	0.33	0.51	0.31	0.07	-0.13	-0.28	-0.38	-0.45	-0.51	-0.55	-0.64	-0.49
GOV.BALANCE.GDP_ER	-0.18	0.04	0.18	0.19	0.16	0.12	0.09	0.07	0.06	0.05	0.01	-0.00
GOV.EXP.GDP_ER	0.19	0.07	-0.06	-0.10	-0.11	-0.10	-0.10	-0.11	-0.12	-0.13	-0.21	-0.27
GOV.REV.GDP_ER	0.02	0.12	0.13	0.09	0.05	0.01	-0.03	-0.05	-0.07	-0.10	-0.23	-0.29
TRADE.BAL.GDP_ER	0.20	0.18	0.09	0.03	0.00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
CURRENT.ACC.GDP_ER	0.19	0.17	0.08	0.03	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
NFA.GDP_ER	-0.45	-0.45	-0.27	-0.14	-0.08	-0.05	-0.04	-0.03	-0.03	-0.02	0.03	0.04