Labour Cost, Competitiveness and Imbalances within the Eurozone

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Abstract

This paper examines the impact of the cost of labour on macroeconomic imbalances within the eurozone. For this purpose, I construct a three-country stock-flow consistent macroeconomic model in an open economy including the eurozone and the rest of the world. I show that internal devaluation is not effective as an economic policy for getting the eurozone economies to converge. Cutting wage costs cannot kick-start economic activity through a rebound in exports of those countries that do so. Instead it involves the risk of locking their economies concerned into low-wage production activities. The fall in unemployment it entails is the consequence, then, of a downturn in labour productivity. In contradistinction, I defend the idea that the introduction of a new wage rule making wages dependent on productivity gains and on the target for inflation set by the European Central Bank, together with a budgetary stimulation policy, would be conducive to initiating convergence among European economies. In particular, it would produce a convergence in living conditions by improving labour productivity but it would also bring production structures closer together. However, coordinating wage and budget policies in this way would require a major change in European institutions.

Keywords: SFC modelling; Eurozone crisis; labour cost competitiveness; wage and budget policies coordination.

1. Introduction

Ever since the 2008 economic and financial crisis and even more so since the eurozone crisis that set in in 2010, many European economies have implemented competitive disinflationary policies to curb the recession and counter rising unemployment. This has been so in particular in Spain, Greece, Italy, Ireland, Portugal and indeed in France,[1] where numerous structural reforms of the labour market have been brought in under the presidencies of François Hollande and Emmanuel Macron.

These policies rest on the idea that the eurozone crisis is caused in part by a problem of labour cost competitiveness in the countries of southern Europe. From this perspective, the current disequilibria are supposedly the consequence of relative unit wage costs among countries with surplus and deficit positions. In the absence of any nominal foreign exchange rate in a monetary union, the solution supposedly lies in implementing a deflationary policy, referred to as internal devaluation, in those economies that are running deficits, that is, through the introduction of social-fiscal arrangements and/or structural reforms on European labour markets. This policy should slow the growth of nominal wages relative to the growth of labour productivity, thereby bringing down relative unit wage costs. The ensuing improvement in cost competitiveness should then enable firms to lower export prices, thereby stimulating exports, production and employment (Sinn, 2014). Such reforms were legitimated in part by the supposed success of the Hartz laws introduced under Chancellor Gerhard Schröder between 2003 and 2005 and that helped to make the German model the example to be followed. The wage restraint that ensued did indeed make it possible to cut Germany's relative unit wage cost,

[1] For a detailed view of employment policies in these countries see Box 3, (p. 282-291) of Le Bayon S. et al. (2014), "La dévaluation par les salaires dans la zone euro : Un ajustement perdant-perdant", *Revue de l'OFCE*, Analyse et Prévisions, n°136, pages 255-291 and chapter 4 (p. 96-139) of Giuseppe Celi. et al. (2018), *Crisis in the European Monetary Union: a core-periphery perspective*, Routledge.

and so better cost competitiveness could explain why the German economy performed successfully despite the crisis.

Some heterodox economists, however, take the view that German wage restraint lies behind the imbalances in the eurozone. Inasmuch as the nominal unit wage cost is the main determinant of long-term inflation, the way it is trending is crucial for determining the dynamics of the general price level (Flassbeck and Lapavitsas, 2013). In order to exclude divergences in unit wage costs and therefore price competitiveness, the rule for determining nominal wages in the eurozone should be modified so that nominal wage growth within each economy is made dependent on productivity gains of the whole of the economy and on the target for inflation set by the European Central Bank. Under an arrangement of this kind, the unit wage cost changes at the same pace and in conjunction with the target for inflation throughout the economies of the eurozone. Starting from a position that is supposedly in equilibrium in terms of the balance of goods and services, unsustainable current disequilibria would henceforth be ruled out.[2] So it seems that German wage restraint entailed a divergence in unit wage costs and therefore in inflation within the eurozone. And the fact is that over the period 1999–2007, the German wage cost did remain flat, whereas the countries of southern Europe experienced more dynamic growth of nominal wages relative to labour productivity. This difference in cost and price competitiveness is supposedly behind Germany's commercial advantage and the disequilibria in the eurozone. The solution, it is argued, is henceforth to better coordinate wage policies so that the nominal wage moves in conjunction with labour productivity within each economy. Growth in Germany's unit wage cost and therefore in the nominal wage must besides be stronger so as to narrow this gap in competitiveness and reduce the current imbalances resulting from it.

Other heterodox economists, though, suggest that the relative unit wage cost plays only a marginal role in improved competitiveness. The two foregoing analyses with their focus on relative unit wage cost are supposedly mistaken and economists should instead look into the role of non-wage determinants of competitiveness. Storm and Nastepaad (2015, 2016) and Storm (2016) advance a number of arguments to support this claim. First, the elasticity of German exports to variations in relative unit wage cost is supposedly weak, in that wage costs in the German tradeable sector make up just 20 to 24% of the production price. Intermediate costs make up the lion's share of the production price for German firms (67–68%), which Celi et al. (2018) attribute to the outsourcing of a growing part of their production to countries of Eastern Europe. Besides, firms tend not to pass on all the variations in wage costs in their prices. Storm (2016) then defends the idea that the lower German unit wage cost is due not to nominal wage restraint but to better performance in terms of productivity. Lastly, through their effects on spending, differences in the pace at which domestic and foreign incomes change seem to be the main determinants of imports and exports. Relative unit wage costs arguably have only a marginal effect on the change in the commercial balance, with the income effect exceeding any competitiveness effect. So, even assuming that relative unit wage costs remain constant because of the application of the rule for determining nominal wages within a monetary union, it is still possible to observe an asymmetrical shift in current balances. On the one side, divergences in

[2] Provided that the commercial and productive structures of eurozone countries do not diverge too much, which is what Flassbeck and Lapavitsas (2013) assume.

growth between world income and domestic income will play a part. For example, if one particular economy specializes in goods and on markets for which world demand is thriving compared with other goods and markets, its exports will surge. On the other side, structural differences in productive specialization will affect the value of elasticity of exports to world income and elasticity of imports to domestic income. For a given growth in world demand, an economy with better productive specialization will see, for instance, its exports rise more insofar as this is reflected by greater elasticity of exports to world income. For Storm and Nastepaad (2015, 2016) the competitiveness problem for the countries of the south of the eurozone is that they specialize on markets and in goods with a different technological make-up from Germany. German businesses specialize largely in medium to high range goods, with high-tech, high value added goods that command high prices. These goods, they argue, are therefore not in competition with the output from Spain, Portugal, Greece or even Italy, whose businesses specialize in medium to low range goods that are low-tech, with low value added and that command lower prices and so are in competition instead with Asian countries like China. So reducing unit wage costs would then just trap the southern economies in low-wage activities to an even greater extent. The reduction in imbalances in the eurozone could only come about by these economies catching up with the German level of productivity.

This paper engages in this debate by analysing the role of labour costs in the macroeconomic imbalances within the eurozone in terms of the current account balance but also of income, unemployment and again labour productivity. In particular, I attempt to determine whether internal devaluation policies can reduce these imbalances and get the eurozone economies to converge. To do this, I have constructed a three-country stock-flow consistent macroeconomic model in an open economy, drawing on Godley and Lavoie (2007) and Duwiquet (2020). I defend the idea that these internal devaluation policies must be analysed in a macroeconomic framework, inasmuch as the reduction in labour cost can produce composition effects and even perverse effects between the results obtained at the microeconomic level and their macroeconomic generalization. The three blocs that form the model represent the economy of the particular eurozone country under study (country i), the rest of the eurozone (country z) and the rest of the world (country m). The first two blocs form a monetary union and share the same currency. The big difference in size among the three blocs makes it possible to better ascertain the effects of economic policies and/or shocks limited to just one country and the effects of their spread to other economies in the model (Duwicquet, 2020). Studying a three-country model in an open economy also seems the most suitable way to take account of competitivity effects specific to internal devaluation policies.

I begin by presenting the model used in this paper and situating it within the post-Keynesian economic literature. I explain in what way the work is original compared with the SFC models in open economies so far developed in the literature. I then detail the stock and flow matrices and the decisive equations for the dynamics of the model. The modelling method employed is then expounded. More specifically I present the various economic policy scenarios contemplated, the characteristics of the various eurozone economies staged and the settings used. I end by describing the reference scenario so as to bring out the model's macroeconomic dynamics. Next, I analyse and discuss the results for the various scenarios depending on the chosen setting. I conclude by discussing the feasibility and desirability of the proposed economic policies.

2. SFC modelling and presentation of the model

This contribution fits in with post-Keynesian works using stock-flow consistent (SFC) modelling. Many studies have sought to model the macroeconomic mechanisms at work in open economies. In chapter 12 of their reference book, Godley and Lavoie (2007) construct a two-country SFC model. Two closures are proposed for the foreign exchange rate: a first closure in which the exchange rate is flexible and a second in which the central bank uses its foreign exchange reserves to prevent fluctuations. They show that under the fixed-exchange regime there are no automatic adjustment mechanism for current imbalances but that the state must intervene. Three ways of making adjustments are then studied: through public spending, through interest rates and through currency devaluation/revaluation. The exchange rate adjustments proves to be an effective mechanism for reducing external imbalances. Using a three-country SFC model involving China, the United States and the eurozone, Lavoie and Zhao (2009) evaluate the impact of a diversification of China's foreign exchange reserves from dollars into euros. They show that the ensuing appreciation in the euro, due to greater demand for European assets, benefits the United States and China but turns out to be penalizing for the eurozone. Mazier and Tiou-Tagba Aliti (2012) take up and extend this work, this time proposing three variants on the model: one in which the diversification of foreign exchange reserves occurs when the exchange rate between the United States and China is fixed; a second in which the exchange rate is flexible; a third in which prices are flexible rather than unchanging. They find that foreign exchange flexibility between the dollar yuan is a powerful mechanism for reducing external imbalances. In taking up Keynes's proposal made at Bretton Woods, Valdecantos and Zezza (2015) propose to study global imbalances through the introduction of the bancor. A change of this kind in the international monetary system would, in their view, make it possible to eliminate global imbalances. In a two-country SFC model in a monetary union, Duwicquet (2020) examines the effects of de-financialization of the economy through the reduction of dividends distributed to shareholders. He shows that a policy of the kind can enable a return to full employment in the eurozone if it is accompanied by a reduction in financial accumulation, in other words purchases of equities by firms and an expansionary budgetary policy.

Other studies have looked into the question of the imbalances within the eurozone. By constructing a two-country SFC model in a monetary union, Lavoie (2003) studies three scenarios to show the multiple possible causes of disequilibria: higher imports, lower public spending and a higher interest rate. He also emphasizes the persistence of these imbalances depending on the economic policies introduced. Duwicquet and Mazier (2010) take up this model to analyse the stabilizing effect of financial integration in the eurozone. By adding credit, equities and an investment function, they find that holding foreign assets has a slight stabilizing effect, contrary to what was predicted by the "risk sharing" approach. Moreover, they fail to detect any intra-zone credit stabilizing effect brought about by foreign loans. However, Duwicquet and Mazier (2012) show that intra-zone credit may have a stabilizing effect if non-resident banks do not ration their purchases of treasury bills from countries running deficits. Using a three-country SFC model with two economies of the eurozone and the rest of the world, Lavoie and Godley (2007) examine the consequences of increased propensity in southern Europe to import from the rest of the world. They demonstrate that the current disequilibria that

appear further to this shock are sustainable as long as the ECB is prepared to buy back bills issued by the country running a deficit. Otherwise, these imbalances are reflected by an increase in the interest rate in the deficit country. In monetary union and therefore in the absence of any flexible exchange rate, the adjustment is made by introducing budgetary austerity policies, in other words by recession and import reductions. In assuming that the eurozone crisis arises from misaligned foreign exchange rates and from uncoordinated wage policies, Mazier and Valdecantos (2015) examine whether it is worthwhile abandoning the euro to a greater or lesser extent in order to reduce current imbalances, that is, whether it is worth putting in place a multi-speed eurozone. In particular, they highlight positive effects of Germany's exiting because of the appreciation of its currency. Duwicquet, Mazier and Saadaoui (2018) propose an evaluation of these misalignments in exchange rates within the eurozone using a FEER approach.[3] Then an SFC model in monetary union is built to determine the economic policies that might damp out these misalignments within the eurozone.

My SFC model is inspired by the one developed by Godley and Lavoie (2007). So as to be in a position to study the impact of the labour cost on intra-eurozone macroeconomic imbalances, I complete it by adding a whole series of variables:[4] the rate of use of production capacities; capital stock; productive capacities; capital accumulation rate; production price; consumer prices; prices of capital, public spending and exports; bond prices; wages; margins; unit wage costs; profits; corporation taxes; welfare contributions; welfare payments; employment; working population; working-age population; bank deposits; bank loans; refinancing; mandatory reserves. Besides these changes imply the introduction of private banks into the model. For some of the variables to be introduced, inspiration is drawn this time around from the SFC model developed by Duwicquet (2020), who provides the possibility of taking account of various marginal propensities to consume (propensity to consume wages, capital income, capital gains, welfare provisions and wealth). Even so, this model stands apart from that of Duwicquet (2020) inasmuch as I introduce the rest of the world in addition to two blocs representing the eurozone. Moreover, labour productivity is not modelled by a time trend but is made endogenous based on the equation proposed by Storm and Nastepaad (2012). Growth in employment is obtained here by the difference between the growth in real output and growth in labour productivity. The accounting closure is also altered so that the ECB uses its exchange reserves to maintain the fixed exchange rate with the rest of the world.[5] This hypothesis should make it possible to concentrate on the effects related to labour cost. That said, the closure used maintains the possibility of easily endogenizing the exchange rate. So the approach adopted here is the same as that followed by Mazier and Tiou-Tagba Aliti (2012): a first variant of the model is proposed in which the exchange rate between the eurozone and the rest of the world is fixed; a second variant is then proposed in which the exchange rate is completely flexible. Given the substantial number of scenarios already contemplated, that work will be the subject of future research. Lastly, I look to propose original scenarios of economic policies that shall be presented later in this paper.

[3] Fundamental equilibrium exchange rate approach developed by Williamson (1994).

[4] **Figure 1**, setting out the main effects to be expected of an internal devaluation policy, brings out the necessity of introducing these variables in the modelling.

[5] Godley and Lavoie (2007) assume that the exchange rate between the eurozone and the rest of the world is free floating.

Table 1. Balance sheet matrix

	Eurozone									Exchange rate	Rest of the World					
	Country i				Rest of the eurozone											
	Hhlds	Firms	Gvt	PB	Hhlds	Firms	Gvt	PB	CB		Hhlds	Firms	Gvt	PB	CB	Total
Money	$+H^i$								$-H^i$							0
					$+H^z$				$-H^z$							0
											$+H^m$				$-H^m$	0
Deposits	$+BD^i$			$-BD^i$												0
					$+BD^z$			$-BD^z$								0
											$+BD^m$			$-BD^m$		0
Bonds	$+B_i^i$		$-B^i$		$+B_z^i$				$+Bbce^i$	xr^e	$+B_m^i$					0
	$+B_i^z$				$+B_z^z$		$-B^z$		$+Bbce^z$	xr^e	$+B_m^z$					0
	$+B_i^m$				$+B_z^m$				$+Bbce^m$	xr^e	$+B_m^m$		$-B^m$		$+Brdm^m$	0
Loans		$-L^i$		$+L^i$												0
						$-L^z$		$+L^z$								0
												$-L^m$		$+L^m$		0
Refinancing				$-RF^i$					$+RF^i$							0
								$-RF^z$	$+RF^z$							0
														$-RF^m$	$+RF^m$	0
Reserves				$+R^i$					$-R^i$							0
								$+R^z$	$-R^z$							0
														$+R^m$	$-R^m$	0
Net wealth	$-VH^i$	$-VF^i$	$-VG^i$	0	$-VH^z$	$-VF^z$	$-VG^z$	0	$-Vbce$	xr^e	$-VH^m$	$-VF^m$	$-VG^m$	0	0	0
Total	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

2.1 Stock-flow matrices

Table 1 sets out the summary matrix for the model. The three economies that make it up each comprise five sectors: households, firms, private banks, government and the central bank. Each economy is made up of six assets: central money (notes and coins), bank deposits, treasury bonds, business loans, refinancing of commercial banks with the central bank and reserves deposited by private banks with the central bank. Households have the choice of holding their wealth in the form of central money, deposits with commercial banks or public bonds. They can only demand and hold national money. Deposits, too, can only be made with national banking institutions. Conversely, households do have the possibility of holding treasury bonds issued by the home government and/or foreign governments. Businesses, for their part, can only borrow from national private banks. To simplify the accounting closure, it is assumed that private banks deposit all of households' bank deposits in the form of reserves with the central bank. This means that business loans from commercial banks are fully passed on in the refinancing of commercial banks with the central bank. The two eurozone economies share the same central bank, the European Central Bank (ECB). It holds treasury bonds issued by country i and by the rest of the eurozone, but also bonds issued by the rest of the world. These bonds make up the ECB's foreign exchange reserves. Contrariwise, the rest of the world's central bank holds only domestic bonds.

Our matrix takes up in part the working and notation of the matrix in Godley and Lavoie (2007). The country in which a treasury bond is held is given as a subscript whereas the country in which the bond is issued is given as a superscript. For example, B_i^z stands for the treasury bonds issued by the government of the rest of the eurozone and held by households in country i. In addition, a distinction is drawn between the issuing of and the demand for public bonds. $B_{i\,d}^{z}$ therefore stands for demand for bonds of the rest of the eurozone by households of country i. $B_{i\,s}^{z}$ on the contrary stands for treasury bonds of the rest of the eurozone supplied to households of country i. All of the stock variables on the left-hand side of the matrix, belonging therefore to the eurozone, are denominated in euros. The variables on the right-hand side, belonging to the rest of the world, are denominated in the currency of the rest of the world. It is assumed here that it is the US dollar. The equivalence between these variables is provided by the foreign exchange rate, positioned between the two sides of the matrix, inasmuch as it can be used to convert the variables denominated in euros into dollars.

Table 2 shows the model's transactions flow matrix. It operates in the same way as the stock matrix and uses the same notation. For imports of goods and services, the importing country is indicated by the superscript and the exporting country by the subscript. For example, M_z^i stands for the imports of country i from the rest of the eurozone. Once again, the foreign exchange rate is used to make the two parts of the matrix equivalent.

Table 2. Transactions flow matrix

	Eurozone										Rest of the World					
	Country i					Rest of the eurozone										
	Hhlds	Firms		Gvt	PB	Hhlds	Firms		Gvt	PB	CB		Hhlds	Firms		Gvt	PB	CB	Tot-al
		C	K				C	K						C	K				
Consumption	$-C^i$	$+C^i$				$-C^z$	$+C^z$						$-C^m$	$+C^m$					0
Investment		$+I^i$	$-I^i$				$+I^z$	$-I^z$						$+I^m$	$-I^m$				0
Public Spending		$+G^i$		$-G^i$			$+G^z$		$-G^z$					$+G^m$		$-G^m$			0
Trade		$+M_i^m$					$+M_z^m$					xr^e		$-M^m$					0
		$-M_m^i$					$-M_m^z$					xr^e		$+X^m$					
		$+M_i^z$					$-M_i^z$					xr^e							
		$-M_z^i$					$+M_z^i$					xr^e							
Wages	$+w^iN^i$	$-w^iN^i$				$+w^zN^z$	$-w^zN^z$						$+w^mN^m$	$-w^mN^m$					0
Services	$+PS^i$			$-PS^i$		$+PS^z$			$-PS^z$				$+PS^m$			$-PS^m$			
Firms' profits		$-UP^i$	$+UP^i$				$-UP^z$	$+UP^z$						$-UP^i$	$+UP^i$				0
Taxes	$-T_h^i$			$+T_h^i$		$-T_h^z$			$+T_h^z$				$-T_h^m$			$+T_h^m$			0
		$-T_f^i$		$+T_f^i$			$-T_f^z$		$+T_f^z$					$-T_f^m$		$+T_f^m$			0
Contributions	$-CL^i$			$+CL^i$		$-CL^z$			$+CL^z$				$-CL^m$			$+CL^m$			
Interest Payments	$+r^iB_i^i$			$-r^iB^i$		$+r^iB_z^i$					$+r^iBbce^i$	xr^e	$+r^iB_m^i$						
	$+r^zB_i^z$					$+r^zB_z^z$			$-r^zB^z$		$+r^zBbce^z$	xr^e	$+r^zB_m^z$						
	$+r^mB_i^m$					$+r^mB_z^m$					$+r^mBbce^m$	xr^e	$+r^mB_m^m$			$-r^mB^m$		$+r^mBrdm^n$	
CB profits				$+F^i$					$+F^z$		$-Fbce$					$+F^m$		$-F^m$	0
Changes:																			0
Money	$-\Delta H^i$					$-\Delta H^z$					$+\Delta H$		$-\Delta H^m$					$+\Delta H^m$	0
Deposits	$-\Delta BD^i$				$+\Delta BD^i$	$-\Delta BD^z$				$+\Delta BD^z$			$-\Delta BD^m$				$+\Delta BD^m$		
Bonds i	$-\Delta B_i^i$			$+\Delta B^i$		$-\Delta B_z^i$					$-\Delta Bbce^i$		$-\Delta B_m^i$						0
Bonds z	$-\Delta B_i^z$					$-\Delta B_z^z$			$+\Delta B^z$		$-\Delta Bbce^z$		$-\Delta B_m^z$						0
Bonds m	$-\Delta B_i^m$					$-\Delta B_z^m$					$-\Delta Bbce^m$		$-\Delta B_m^m$			$+\Delta B^m$		$-\Delta Brdm^m$	0
Loans			$+\Delta L^i$		$-\Delta L^i$			$+\Delta L^z$		$-\Delta L^z$					$+\Delta L^m$		$-\Delta L^m$		
Refinancing					$+\Delta RF^i$						$-\Delta RF^i$								
										$+\Delta RF^z$	$-\Delta RF^z$								
																	$+\Delta RF^m$	$-\Delta RF^m$	
Reserves					$-\Delta R^i$					$-\Delta R^z$	$+\Delta R$						$-\Delta R^m$	$+\Delta R^m$	
Total	0	0		0	0	0	0		0	0	0		0	0		0	0	0	0

2.2 Main equations of the model

Let us now turn to the most decisive equations in the macroeconomic dynamics of the model.[6] Two equations play a paramount role; those representing household's consumer behaviour and firms' investment behaviour.

$$(16)\ C_r^i = c_0^i + c_1^i \frac{NLI^i}{P^i} + c_2^i \frac{CI^i}{P^i} + c_3^i \frac{CG^i}{P^i} + c_4^i \frac{PS^i}{P^i} + c_5^i \frac{VH_{-1}^i}{P^i}$$

C_r = real consumption; NLI = net income of labour; CI = capital income; CG = capital gains; PS = welfare benefits; VH = household wealth; P = consumer prices.

Households consume a part of the wages they earn in exchange for their labour. They also spend by consuming other sources of income such as any welfare benefits received or capital income, represented here by the interest received on treasury bonds held by households. They also consume in proportion to capital gains made or the variation in the value of assets held through a wealth effect. As in Duwicquet (2020), the consumption equation brings out five marginal propensities to consume: the propensity to consume wages (c_1), income from capital (c_2), capital gains (c_3), welfare benefits (c_4) and household wealth (c_5).

As concerns the rate of accumulation of firms' capital, it is assumed here that it depends entirely on the rate of profit, that is broken down into the share of retained profits, the rate of use of production capacities and the price of production relative to the price of capital.[7]

$$(40)\ gk^i = k_0^i + k_1^i \frac{UP_{c-1}^i}{Y_{-1}^i} + k_2^i TUC_{-1}^i + k_3^i \frac{P_{P-1}^i}{P_{-1}^i}$$

$gk = \frac{I}{K_{-1}}$ = rate of accumulation; I = investment; K = stock of fixed capital; UP_c = profits retained by firms after paying tax; Y = domestic production, in nominal terms; $\frac{UP_c}{Y}$ = share of retained profits; TUC = rate of use of production capacities; P_p = production price; P = price of capital.

This equation gives us to realize that firms self-finance a part of their investment. To simplify matters, it is assumed there are just two types of prices: production prices (Pp), defined as the ratio between nominal domestic production and real domestic production, and consumer prices (P). It is assumed, then, that the prices of capital, exports and public spending are the same as consumer prices. Accordingly, the model can account for the effect of the relative price of capital, in other words the price of production compared with the price of capital over the rate of profit and therefore over firms' accumulation of capital.

In the model, the growth of labour productivity is endogenous. It depends on the growth in real production via the Kaldor-Verdoorn relation. On the one hand, more sustained growth of aggregate demand enables firms to make scale economies by exploiting new divisions of

[6] The full model is shown in the appendices for a more detailed view. The Eviews simulations are available on request.

[7] As in Duwicquet (2020), it is assumed that the profit rate can be decomposed as follows:

$$\frac{UP}{K} = \frac{UP}{Y_r P_P} \frac{Y_r}{K_r} \frac{P_P}{P}$$

labour and new forms of specialization that were limited until then by the size of markets. On the other hand, it appears that the new investments incorporate the latest production technology, making the newly fitted machinery more productive. If growth in production entails growth in investment, then the modernization of the capital stock improves productivity. Moreover, growth in labour productivity depends on growth in real wages since the change in the relative price of production factors influences the type of technical progress put in place by firms. A high real wage impels firms to invest in innovations that save on labour so as to maintain their profits, thereby improving productivity. The aim is to save on the use of a production factor that has become comparatively more expensive. The labour productivity equation used here is again inspired by the equation proposed by Storm and Nastepaad (2012).

$$(49)\ \hat{\lambda}^i = \beta_0^i + \beta_1^i \widehat{Y}_r^i + \beta_2^i \left(\widehat{\frac{w^i}{p^i}}\right)$$

$\hat{\lambda}$ = growth in labour productivity; $\widehat{Y_r}$ = growth in real output; $\left(\widehat{\frac{w}{p}}\right)$ = growth in real wages.

Real imports of goods and services are influenced by domestic real income, nominal exchange rate and national and foreign prices. Here we take the case of real imports of country i from the rest of the world:

$$(85)\ \log\left(M_{r\,m}^i\right) = \mu_{01}^i + \mu_{11}^i \log\left(Y_r^i\right) - \mu_{21}^i \log(exr^m) + \mu_{31}^i \log\left(\frac{P^i}{P^m}\right) + \mu_{41}^i \log\left(\frac{P^z}{P^m}\right)$$

M_r = real imports of goods and services; Y_r = real output; exr = nominal exchange rate; P^i = price of country i; P^z = price of country z; P^m = price of country m.

Imports depend on the real domestic output by way of a demand effect. When domestic income increases, households and firms consume and invest more. A part of this spending is directed at the outside. This spending feeds both imports of household consumer goods and imports of firms' intermediate goods and equipment. The nominal exchange rate also acts on income and demand for imports. When the euro rises against the dollar, importers in country i are in a position to buy more goods produced in the rest of the world. Relative prices, for their part, have two effects on the domestic country's imports: a price effect and a substitution effect. On the one hand, if prices in country i rise compared with prices in the rest of the world, importers will prefer to import goods produced in the rest of the world rather than consume those produced at home, inasmuch as the latter are now comparatively more expensive. On the other hand, if domestic prices do not vary with respect to the price in the rest of the world, it is still possible that imports between the domestic country and the rest of the world will be modified. If prices in the rest of the eurozone rise compared with prices in the rest of the world, importers in country i may decide to import more goods from the rest of the world by substituting goods previously imported from the rest of the eurozone.

When the time comes for wage bargaining, workers take account of the prices of the current period and prices of the previous period, in an attempt to maintain their real wage. Labour productivity gains are also redistributed in part to workers in the form of higher wages. These wage demands from workers, based on the changes in prices and labour productivity, depend on the unions' bargaining power, which itself depends on the situation on the labour

market and the extent to which it is regulated. For example, when unemployment falls, unions enjoy greater bargaining power, enabling them to secure higher wages to some extent.

$$(97)\ w^i = w_0^i + w_1^i P^i + w_2^i P_{-1}^i + w_3^i \lambda^i - w_4^i U^i$$

w = nominal wage rate; P = consumer prices in the current period; P_{-1} = consumer prices in the previous period; λ = labour productivity; U = unemployment rate.

Firms set prices by applying a mark-up to their unit costs of production, which are made up of unit wage costs and the price of imported intermediate consumption:

$$(112)\ P^i = \left(1+ \emptyset^i\right)\left(\frac{w^i N^i + r_0^i M_{r\,z}^i P^z + r_1^i M_{r\,m}^i P^m exr^m}{Y_r^i}\right)$$

P^i = price in country i; Ø = mark-up; $\frac{wN}{Y_r}$ = unit wage cost; r_0 = share of intermediate consumption in imports from the rest of the eurozone; r_1 = share of intermediate consumption in imports from the rest of the world; M_r = real imports; P^z = price in the rest of the eurozone; P^m = price in the rest of the world; exr = nominal exchange rate.

Firms' margins are made endogenous so as to take account of their behaviour in terms of self-financing and competitiveness. When they look to invest more, firms have to self-finance a part of this spending, requiring them to raise margins and prices (Wood, 1975). Conversely, when the prices of foreign firms decline, domestic firms will cut their own margins so as to defend and maintain their price competitiveness.

Employment growth is achieved by subtracting labour productivity growth from growth in real output:

$$(100)\ \widehat{N^i} = \widehat{Y_r^i} - \widehat{\lambda^i}$$

$\widehat{N}$ = growth in employment; $\widehat{Y_r}$ = growth in real output; $\hat{\lambda}$ = growth in labour productivity.[8]

The unemployment rate is obtained from the ratio of the number of unemployed to the active population, and so depends crucially on the change in employment. The active population is a function of employment and the population of working age, which evolves exogenously.

For the accounting closure of the model, I take up in part that proposed by Godley and Lavoie (2007). States finance their public deficit by issuing bonds[9] on the (primary) financial markets. This deficit depends on public spending and welfare benefits, which rise exogenously, and on welfare contributions and taxes paid by households and firms. Central banks pay back all of their profits, represented by the interest earned on the bonds they hold, to states. The ECB's profits are distributed according to the size of the two blocs of the eurozone under study. Households allocate a part of their wealth to the purchase of these public securities. The portfolio equations reflect the choice they must make between domestic and foreign bonds that depend on their relative rate of return. Households can then buy back or resell domestic/foreign public securities on the secondary market. Demand for central money varies with household consumption. Bank deposits are then obtained like a left-over of wealth once the holding of

[8] It is assumed that working hours are constant. Variations in per capita labour productivity therefore correspond here to variations in labour time productivity.

[9] It is assumed that they are fixed rate bonds maturing in 10 years.

bonds and the demand for central money has been taken into account. It is assumed here that central banks engage in an accommodating monetary policy and purchase treasury bonds that are not demanded by households on the bond markets, with the result that interest rates on bonds remain fixed. It is assumed besides that the ECB maintains a fixed exchange rate with the rest of the world by using its foreign exchange reserves. The central banks supply all the central money demanded by households and refinance private banks unrestrictedly. In order to simplify the accounting framework, no interest rate is imposed here on the refinancing of private banks with the central bank or on business loans by commercial banks. Furthermore, banks deposit all bank deposits by way of loans with the central bank. Variations in business loans are therefore passed on entirely in variations in refinancing. Lastly private banks make unlimited business loans.

2.3 The different scenarios and variants of the model

So as to determine the effect of the labour cost on macroeconomic imbalances within the eurozone, I propose to simulate the impact of three different economic policies: a policy of internal devaluation; a change in the rule for determining nominal wages; and a policy of budgetary recovery when the rule for nominal wage formation is changed. In each case, I shall look at the effect of these policies when they are conducted asymmetrically (in country i alone) and symmetrically (in country i and in the rest of the eurozone). These shocks are made by altering one or more variables in the reference scenario. The idea is then to compare the new scenario with the base scenario in order to determine the effect of the shock on the macroeconomic dynamics. The model is run over the period 3-20.[10] The shocks are produced in period 10.

Moreover, the model is designed to compare the effects of these economic policies among different economies in the eurozone. I shall look especially here at France, Germany, Spain, Greece, Italy, the Netherlands and Portugal.[11]

Consideration is then given to the structural differences among these countries in the model. **Table 3** and **Table A2** set out these main distinctions. Allowance is made especially for the size of the country with respect to the eurozone, the degree of openness, the weight of consumption in production, where imports come from and where exports go to. The model also accounts for the imbalances among eurozone countries in terms of income per capita, unemployment, labour productivity and the trade balance.

[10] The choice of the number of periods is determined by the instability of the model. Even if other explanations can be advanced, two points seem particularly important for understanding this instability. Fundamentally, the model's instability arises, as in most post-Keynesian work, from the coupling, in a long-term perspective, of the accelerator and multiplier. Furthermore, adding variables to the model tends to increase instability and so reduce the number of periods over which it is able to run. This is what we observe, for example, when wages and prices are introduced, especially when we change the rule of monetary wage formation. That said, we can simulate our economic policy scenarios over the interval of time when the model is stable, namely the period 3-20.

[11] This notation is adopted so as to simplify the expression. Even so, I am aware of the limits of this modelling. It is fairer, then, for example to interpret the modelling for France as that of an economy seeking to approximate the characteristics of the French economy. The same applies for the other economies under study. Here I try primarily to compare economies with different structures so as to highlight the role played by these structural differences when economic policies are simulated.

Table 3. Structural differences among the eurozone economies under study

	France	Germany	Spain	Greece	Italy	Netherlands	Portugal
Size of eurozone vs country i	4.8	3.5	9.4	61.5	6.6	15	56.5
Share of consumption (% GDP)	53.7	52.4	57.3	69	60	43.8	63.9
Trade balance (% GDP)	-0.98	5.8	3	-1.7	3.3	10.4	0.35
Openness (%)	32.3	44	33.4	41	30.1	78.1	43.4
Exports to rest of eurozone (as % exports)	44.9	37	52.6	40	41.3	56.1	65.4
Exports to rest of the world (as % exports)	55.1	63	47.4	60	58.7	43.9	34.6
Imports from rest of eurozone (as % imports)	56.7	45.3	47.7	40.8	47.2	34.2	69.2
Imports from rest of the world (as % imports)	43.3	54.7	52.3	59.2	52.8	65.8	30.8
Per capita income	1.48	1.65	1.08	0.73	1.21	1.84	0.83
Labour productivity	3.45	3.04	2.51	1.73	2.93	3.41	1.71
Real wage	2.3	1.98	1.49	1.05	1.77	2.2	1.03
Unit labour costs	0.665	0.653	0.592	0.609	0.603	0.646	0.61
Unemployment (%)	7.9	3	13.8	15.4	9.39	3.2	6.4
Deficit/Public debt (% GDP)	3/97.6	-1.7/59.7	3.4/95.5	-1.1/180.5	1.6/134.6	-1.9/48.7	-0.1/116.8

In greater detail, the scenarios examined are identified as follows:

- *Scenario 1:* I examine the impact of an internal devaluation policy in country i. This policy entails a 1 percentage point reduction in the growth of nominal wages compared with the reference scenario. It is assumed that firms pass on very little of this cut in wage costs in their prices, inasmuch as inflation declines by just 0.1 percentage points;
- *Scenario 2:* I examine the effects of the scenario 1 policy when conducted in both country i and the rest of the eurozone;
- *Scenario 3:* I attempt to determine the impact of the policy in scenario 1 when firms pass on more of the cut in wage costs in their prices. This time inflation falls by 0.5 percentage points;
- *Scenario 4:* I look at the effects of scenario 3 when conducted in both country i and in the rest of the eurozone;

- *Scenario 5:* I alter the rule for the formation of nominal wages in the three blocs to make it dependent on labour productivity gains throughout the economy and on the inflation target set by the central bank;
- *Scenario 6:* I add to scenario 5 a policy for boosting the budget conducted in country i, in particular a policy for boosting public investment. The ex-ante amount of this boost is equivalent to 1% of the GDP in the reference scenario;
- *Scenario 7:* I study the effects of the budget boosting policy in scenario 6 when conducted simultaneously in country i and in the rest of the eurozone.

Figure 1 shows the main theoretical effects of an internal devaluation policy. The signs between two variables show the nature of their relationship. Arrows indicate the direction of cause and effect. Labour productivity and employment, for example, have an inverse relation running from the former variable to the latter, with the result that more sustained growth of labour productivity will come to curb growth in employment.

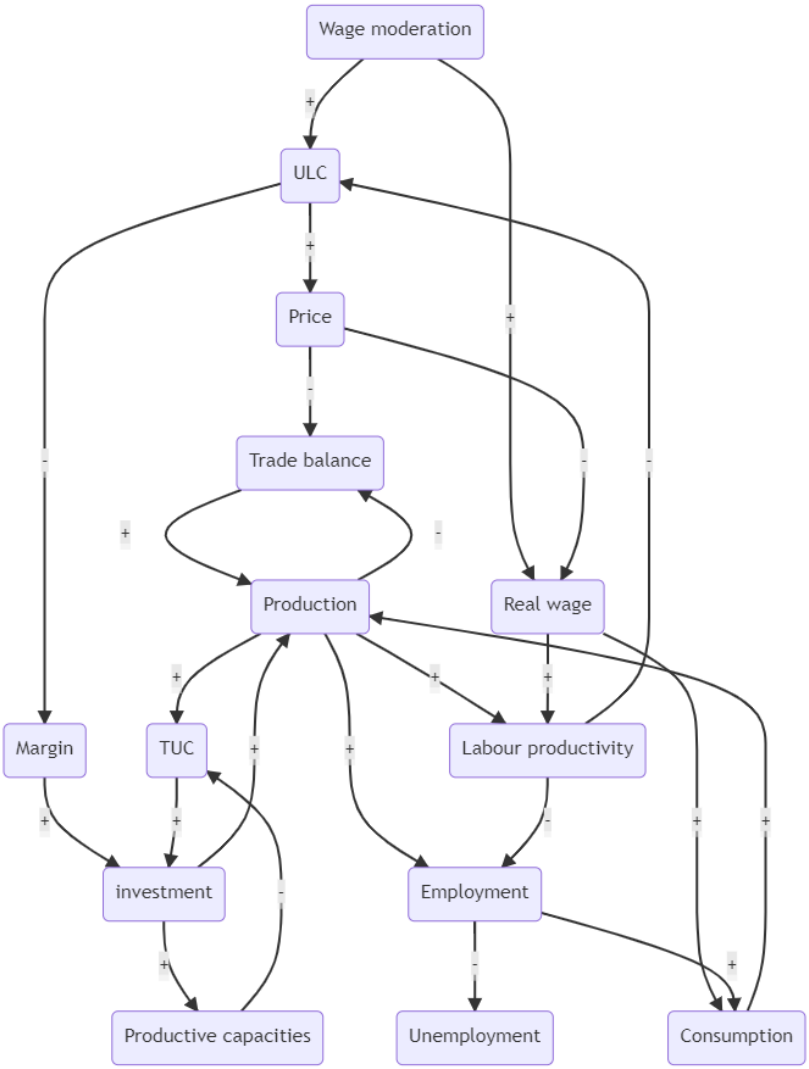

Figure 1. Main effects of an internal devaluation policy

Internal devaluation entails a moderation of nominal wages and therefore a reduction in unit wage costs of domestic firms. Firms may either benefit from this gain in cost competitiveness to cut their prices, with a positive impact on the balance of trade; or alternatively they may use it to increase their margins. The policy of internal devaluation will therefore have a positive effect on investment and so on productive capacity by way of the increased share of profits retained by firms. Conversely, the reduction in the real wage[12] resulting *de facto* from nominal wage restraint reduces household consumption by holding down labour income. At the end of the day, the impact on production depends on the interplay among these three effects. In the event that the reduction in consumption exceeds the rise in investment and the trade balance, internal devaluation entails a fall in the level of production and therefore of employment. The fact is that firms respond to the fall in aggregate demand by reducing their output and so their need for labour. However, this slowdown in growth curbs growth in labour productivity through the Kaldor-Verdoorn relation. By reducing incentives for firms to invest in new technologies, the fall in real wages further slows productivity growth. In the end, the impact of internal devaluation on employment, and therefore on the unemployment rate, depends on the relative change in productivity and output. When growth in labour productivity slows more than growth in output, growth in employment is more dynamic, bringing unemployment down.

Therefore an internal devaluation policy produces four direct effects in the model: an effect on the trade balance through relative prices; an effect on the accumulation of capital through the share of profits retained by firms; an effect on consumption, which involves households' income from labour; and effect on labour productivity through growth in real output and real wages. The final impact of this policy depends on the calibration of the model and the coefficients selected in the equations for the behaviour of economic agents. The result depends especially on the marginal propensity to consume labour income, sensitivity of the accumulation of capital to the share of retained profits and to the rate of use of production capacity, the import elasticity to real income and price and on the sensitivity of growth of labour productivity to the growth of real output and real wages. In the first calibration, it is assumed that the elasticity of imports of the rest of the eurozone from country i (country i's exports to the rest of the eurozone) to real output is 1, as is the elasticity of the rest of the world's imports from country i (country i's exports to the rest of the world). Moreover, we assume this is so for all of the countries under study. In order to allow for the effects of productive specialization between the various economies of the eurozone, an alternative calibration is proposed, though, making it possible to test how robust the results of modelling are. **Table 4** sets out the value of the coefficients used in the second calibration.[13] The classification proposed by Storm and Nastepaad (2015, 2016) or again by Celi et al. (2018) is used, highlighting three groups of countries. The first group, specializing in technology, is made up of Germany and the Netherlands. These countries export essentially medium to high end of the range goods. The second group is represented by Spain, Greece, Portugal and to a lesser extent Italy. These economies have less specialized output and for the most part they export middle to low end of

[12] In the situation when firms do not fully pass on the reduction in nominal wages in their prices.

[13] Based on Storm and Nastepaad (2015, 2016), it is assumed that marked productive specialization is reflected by export elasticity to high foreign real income and vice versa.

the range goods. Lastly, it is taken that France, making up the third and final group, lies in an intermediate position.

Obviously, the reference scenario differs with the selected calibration. Each economic policy scenario is compared with its specific baseline scenario. Each time, the results obtained for real GDP growth, unemployment rate, trade balance, labour productivity growth and public debt are highlighted. This is done for each eurozone economy under study, according to the selected scenarios and calibration. All of the results from the modelling are in the appendix.[14] I begin here by presenting the reference scenario of the model for France. It is then compared with the reference scenarios for the other eurozone economies. The results of the two calibrations are also compared. It will be recalled that this approach is meant to isolate the role of productive specialization in imbalances within the eurozone.

Table 4. Coefficient values in the two calibrations of the model

	Country	**Elasticity of imports of rest of eurozone from country i to real output:** μ_{12}^{z}	**Elasticity of imports of rest of the world from country i to real output:** μ_{11}^{m}
Calibration 1	France	1	1
	Germany	1	1
	Spain	1	1
	Greece	1	1
	Italy	1	1
	Netherlands	1	1
	Portugal	1	1
Calibration 2	France	1	1
	Germany	1.4	1.4
	Spain	0.6	0.6
	Greece	0.6	0.6
	Italy	0.8	0.8
	Netherlands	1.4	1.4
	Portugal	0.6	0.6

2.4 Model dynamics and reference scenarios

To calibrate the reference scenario of the model, I follow the method suggested by Duwicquet (2020), for whom: "[i]n SFC models, a baseline, or reference scenario must first be calibrated. To reach this objective, the parameters of the equations are allotted values that will enable the model to generate a realistic change over time in the main economic quantities. … The calibration is based on indicators in the National Accounts." In the model, France and the rest of the eurozone experience lower growth than in the rest of the world (~1.2 and 1% respectively versus 2.1%). This situation reflects the comparative stagnation of the French and

[14] To shed light on the presentation, I set out in the case of France the macroeconomic dynamics of the various scenarios using graphs. Given the different countries, scenarios and calibrations studied in the model, it seems on the contrary more relevant to summarize the results of all the other scenarios in the tables in the appendices.

European economies. The reference scenario is also characterized by stability over time in the trade balances,[15] because income-related effects fully offset competitiveness effects. The point is that while France experiences more dynamic change in its unit wage costs and its prices compared with the other two blocs, the more sustained growth in production in the rest of the world enables it to maintain its external deficit at the same level. The same mechanisms are to be found in the case of the rest of the eurozone. The rise in income in the rest of the world on the contrary boosts imports and adversely affects the trade balance, which is this time fully offset by a more favourable change in unit wage costs and prices. Moreover, the model shows a stagnationist trend in the accumulation of capital of European economies. Firms invest only to renew the capital stock that has depreciated and do not undertake new productive investment projects. Firms therefore save the proceeds from the rise in gross and retained profits. Insofar as the model ignores the behaviour of firms concerning financial accumulation and payment of dividends, firms use this extra saving to pay off debt. In contrast, investment by firms in the rest of the world is more dynamic, forcing them to borrow more from private banks.

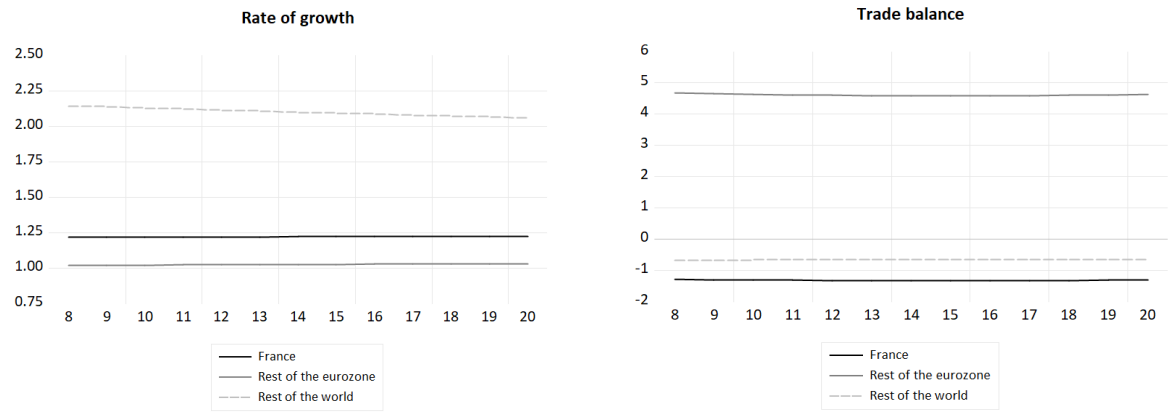

Figure 2. Real GDP growth rate (percentage) and trade balance (as percentage of GDP) in each economy.

Despite the stagnating of capital accumulation in the two European economies and the stability of trade balances, output tends to increase in the baseline scenario in the wake of household consumption, which is the main driving force of economic growth here. Labour income, through higher real wages, and welfare benefits are the main determinants of consumption in the three blocs. Wealth effects related to the higher value of household assets also have a positive impact on consumption. Household wealth rises even more sharply than wages and welfare benefits. Even so the proportion of that wealth spent on consumption is lower than the proportion of wages or welfare benefits. Besides, public spending helps to sustain household consumption by its multiplying effect on national income. It should be emphasized that the effect of income from capital, represented by interest on treasury bonds, is negligible here. Capital gains are non-existent since it is assumed that the foreign exchange rate between the eurozone and the rest of the world is fixed, as are bond prices.

[15] Here I use indifferently the terms of external balance, commercial balance and current account balance insofar as the variations in the balance of trade explain most of the variations in the current account balance in the model.

Despite stronger growth in labour productivity, the dynamism of nominal wages explains the more sustained growth of French unit wage costs compared with the rest of the eurozone. Conversely, the less favourable change in labour productivity explains the stronger growth in French unit wage costs compared with the rest of the world. In any event, French firms do not pass on all of the rise in their unit wage costs in prices. They have their margins so as to maintain their price competitiveness with respect to their trading partners.

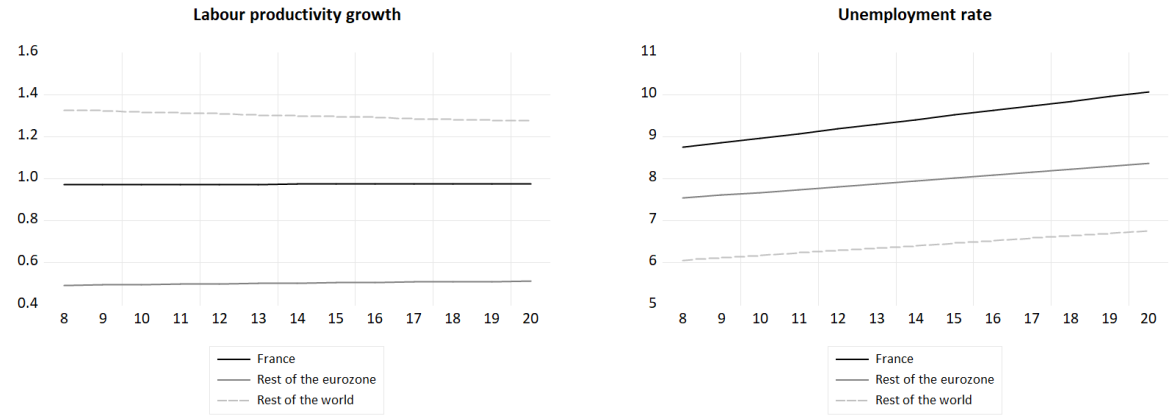

Figure 3. Rate of growth of labour productivity (percentage) and unemployment rate (percentage) in each economy.

All three economies display improved labour productivity. On the one side, the rise in real wages prompts firms to innovate so as to maintain profit levels. On the other side, increased output stimulates productivity through the Kaldor-Verdoorn relation. Labour productivity is improved more in the rest of the world because the growth in real wages and output is more prominent there. At the end of the day, economic growth is not high enough in the three blocs to absorb both these productivity gains and the change in the working population. Accordingly unemployment tends to rise over the whole of the period despite the growth in employment. It can be seen that unemployment rises more in France and in the rest of the eurozone whereas the working population grows more strongly in the rest of the world. This finding can be explained by higher economic growth in the rest of the world.

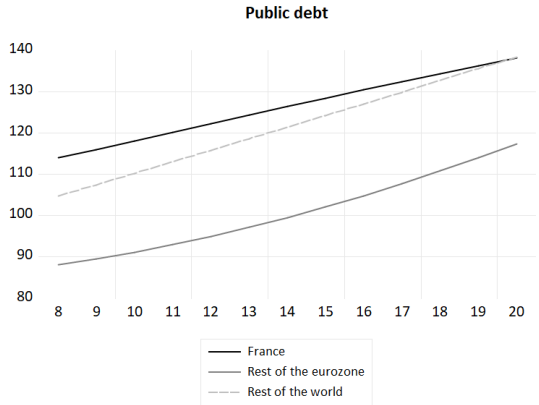

Figure 4. Public debt (as a percentage of GDP) in each economy.

The rise in private sector saving, especially by firms, and the external deficit tend to deepen the deficit and therefore public debt in France as in the rest of the world. In the rest of the eurozone, high trade surpluses are not enough to offset increased public sector saving with a resulting deepening of the deficit and public debt.

Observation of the reference scenarios obtained for the other eurozone economies under study shows that the calibration can appropriately account for the structural differences among these countries. For example, the southern European countries are characterized by high unemployment, low labour productivity and by a high level of public debt compared with the economies of northern Europe. The dynamics and mechanisms in operation are much the same since we have: lower economic growth in the eurozone than in the rest of the world and that is sustained by household consumption; a stable balance of trade; stagnating investment; improved labour productivity; and higher unemployment. However, some divergences can be spotted. In particular, economic growth is more sustained in the case of Greece and Portugal (~1.4% and 1.3% respectively). As consumption is the main driving force of economic growth in the reference scenario, these two economies derive more benefit from it inasmuch as consumption represents a larger part of their output. Conversely, Germany and the Netherlands are the two economies in the model with the lowest growth because consumption makes up a small part of their output. Labour productivity therefore improves more strongly in Greece and Portugal through the Kaldor-Verdoorn relation. France also experiences sustained growth in labour productivity, but this can be explained instead by the dynamic growth of real wages. Unlike the other economies under study, it seems that public debt tends to decline in Germany and the Netherlands thanks to their trade surpluses.

In comparing the reference scenarios between the two calibrations, in other words when allowance is made for differences in productive specialization, it can be observed that the results are very nearly identical. The only differences lie in the change in trade balances. While trade balances are stable with the first calibration throughout the period under study, the southern European countries now see their trade balance deteriorate continually whereas northern European countries accumulate increasing trade surpluses. Consideration of productive specializations thus entails the appearance of structural foreign trade deficits/surpluses.

3. Modelling economic policy scenarios

3.1 Internal devaluation

3.1.1 Results

Further to the presentation of the dynamics of the baseline scenario, and the differences between the countries and calibrations under study, it is now proposed to interpret the results of the different economic policy scenarios proposed. I begin once again by presenting those for France. I then compare these with the results for the other eurozone countries under study.

In the scenarios simulating an internal devaluation policy, the unemployment rate proves to be lower in the medium term than in the reference scenario.[16] In the first scenario, firms pass on very little of the lower wage costs in their prices. The slowdown in growth of nominal wages (-1 percent point[17] compared with the reference scenario) then entails a far lower fall in inflation (-0.1pp), which is reflected by a large fall in the growth of real wages (–0.9pp). However, the French trade balance improves through the interplay of relative prices. As foreign goods are now less competitive in price terms, French importers prefer to consume home produced goods while French firms' exports become more dynamic. However, the impact of the internal devaluation policy on the trade balance remains very moderate (+0.68pp after 11 periods), inasmuch as little of the costs is passed on in prices. Besides, firms profit here from the reduction in nominal wages to strengthen their margins. The rise in the share of profits, both gross and retained, and, as it follows on from that, in the rate of profit, stimulates investment by firms. The capital stock increases and bolsters the productive capacities of the French economy. At the same time, internal demand and output stagnate because of the fall in real wages, consequently reducing the level of use of production capacities. This partly offsets the positive impact of the rise in retained profits and ultimately leads to a limited increase in investment (+0.20pp).

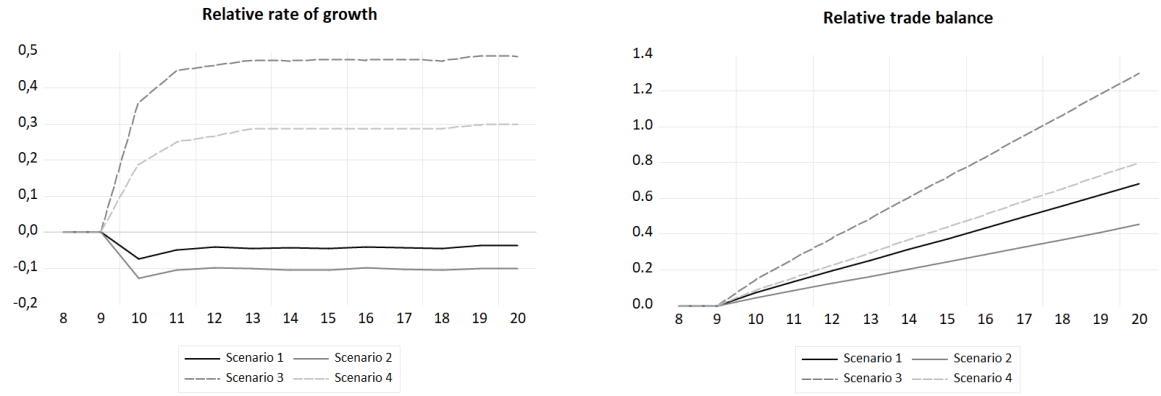

Figure 5. Relative growth rate and relative trade balance in France (percentage points).

Conversely, the reduction in real wages caused by internal devaluation keeps down the real wage bill and therefore household consumption (-0.31pp). At the end of the day, the improvement in the trade balance and in investment by firms, on the one hand, and the reduction in household consumption, on the other, offset one another, meaning that the internal devaluation policy in this first scenario has zero effect on the growth of real GDP. Even so, employment is more dynamic than in the reference scenario, with the effect of reducing unemployment (-0.7pp). It appears that this decline is entirely due to the slower growth in labour productivity (-0.3pp). Here we again come across the findings highlighted by Storm and Nastepaad (2012), namely that "the unemployment decline (and higher employment growth) is due solely to a change in the nature – not the pace – of economic growth; the same output is now being produced using more labor (working hours), especially lower-paid workers". This

[16] I use the following formula to calculate relative unemployment (and likewise for the other variables):
unemployment (percentage) scenario under study – unemployment (percentage) reference scenario
[17] From now on the abbreviation "pp" is used for percentage points.

downturn in labour productivity is indeed the consequence of the fall in real wages, which is a disincentive for firms to invest in technological advances. The slowing of productivity besides reduces the positive effect of the internal devaluation of unit wage costs.

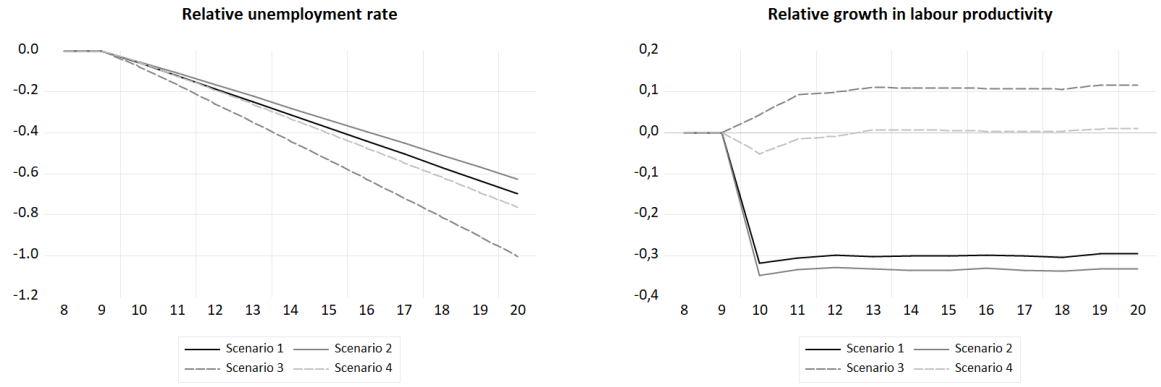

Figure 6. Relative rate of growth of labour productivity and relative unemployment rate in France (percentage points).

Despite the improved trade balance, the public deficit deepens compared with the reference scenario. The change in income distribution from wages to profits increases private sector saving and in particular the savings of non-financial companies. As the rise in the proportion of retained profits is higher than the rise in investment, firms' savings rise and firms use those savings to pay off debt. Although this excess of firms' profits increases the state's revenues, the taxes collected from households and welfare contributions decline further to the reduction in disposable income, and consequently deepen the deficit. This has a repercussion on public debt which is higher at the end of the period (+8.45pp).

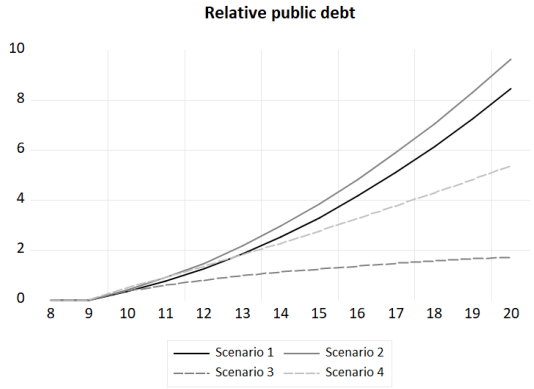

Figure 7. Relative public debt in France (percentage points).

I simulate the same internal devaluation policy in scenario 2 as in scenario 1 but symmetrically, that is, when conducted in both France and the rest of the eurozone. I find the same dynamics and macroeconomic sequences as before. However, because this time European firms react by reducing their prices in the same proportions, France's trade balance is not improved as much as in scenario 1 (+0.45pp versus +0.68pp). Relative prices in France and the rest of the eurozone are now unchanged, as are exports to and imports from the rest of the eurozone. The price competitiveness gain is now with respect to the rest of the world alone, thereby rendering the internal devaluation policy less effective. It is worth noting that the

smaller improvement in the trade balance in this scenario entails a slightly greater dip in the deficit and the public debt (+9.63pp). Again, lower household consumption (-0.33pp) offsets the upturn in investments by firms (+0.14pp) and the trade balance. Economic growth remains much on a par with the reference scenario. The fall in unemployment is again brought about by the slowing of labour productivity growth. For the rest of the eurozone we find the same results as for France, that is: an upturn in firms' investments and in the trade balance; a fall in household consumption; steady growth in economic activity; a decline in labour productivity; a fall in unemployment; a deepening of the deficit and public debt.

In scenario 3, I work on the assumption that firms pass on more of the fall in wage costs in their prices. The slower growth in nominal wages (-1pp compared with the baseline scenario) is reflected by a larger fall in inflation (-0.5pp), in other words a smaller decline in real wage growth (-0.5pp). Obviously the improvement in France's trade balance is greater in this scenario (+1.3pp), making it possible to contain the change in the deficit and in public debt (+1.69pp). This outcome can be attributed in the main to the upturn in exports because of the more marked fall in relative prices that makes the internal devaluation policy more effective. By contrast, imports increase this time further to the rise in domestic income. The hike in firms' margins increases the proportion of retained profits, stimulating the accumulation of capital through the improved rate of profit. Although the profits retained grow less than in the first scenario, growth in investment is higher (+0.68pp) because there is a smaller fall in the rate of use of production capacities. The more sustained growth of aggregate demand and of production in this scenario implies greater use of production capacities. Besides, the fall in real wages is more than made up for here by the rise in employment, thereby boosting the real wage bill and household consumption (+0.16pp). All told, the internal devaluation policy improves the balance of trade, stimulates firms' investment and household consumption with the result that economic activity grows more strongly with respect to the reference scenario (+0.49pp). Labour productivity improves (+0.12pp) and cuts the number of hours of work needed to carry out production. On the one side, the shrinkage in real wages deteriorates productivity by reducing the incentives for firms to invest in labour-saving innovations. On the other side, this effect is offset by increased demand via the Kaldor-Verdoorn relation. At the end of the day, growth in production more than offsets the acceleration in labour productivity, dynamizing employment and reducing unemployment compared with the baseline scenario (-1pp). This means that job creation is indeed, this time round, the consequence of a more sustained pace of economic growth.

In scenario 4 the same internal devaluation policy as in scenario 3 is simulated but symmetrically. When European firms riposte by cutting their prices in the same proportions, the French trade balance again sees a weaker improvement (+0.8pp). Since relative prices between France and the rest of the eurozone are unchanged, the price competitiveness gain is once again made at the expense of the rest of the world only, thereby weakening the effect of the international devaluation policy on French exports. In the end, higher household consumption (+0.12pp), higher investment by firms (+0.48pp) and the improved trade balance invariably stimulate production, but less so than in scenario 3 (+0.3pp). The negative impact of labour productivity on employment fades in this scenario since the Kaldor-Verdoorn effect now fully offsets the effect of wage costs, and the growth in economic activity stimulates employment and reduces unemployment (-0.77pp). The lower improvement in the trade balance, for its part, deepens the deficit and public indebtedness (+5.37).

3.1.2 Conclusion as to the internal devaluation scenarios

Comparing the internal devaluation scenarios among the various eurozone economies under study highlights the part played by the degree of openness and by the share of consumption in GDP. Internal devaluation appears more effective in the more open economies, those that give greater weight to the effects of price competitiveness. This is a result already identified by Mazier, Oudinet and Saglio (2002/4). The Netherlands, then, is the country that sees its exports[18] improve most further to internal devaluation. Then come Germany, Greece and Portugal that are less open, followed by Spain, France and Italy. However, this result is not necessarily found when observing the change in trade balances. Given that the Netherlands sees its economic activity grow more further to the rebound of exports, this phenomenon stimulates imports and reduces the positive impact of internal devaluation on the balance of trade. Conversely, the economies that are most reliant on internal demand, and especially on household consumption, benefit least from internal devaluation.

When comparing the results between two calibrations, it can be seen that productive specialization plays no part in modelling when introducing an internal devaluation policy. The economies that enjoy greater specialization do not seem to benefit from better results because internal devaluation does not have significant ratchet effects on the economic activity of the rest of the eurozone and the rest of the world. Yet it is along this channel of income that the productive specialization effects pass. However, internal devaluation, for its part, may in return affect the specialization of eurozone economies in particular by bringing about a decline in labour productivity. Ultimately internal devaluation sees its effectiveness vary crucially with three factors: the degree of openness; the degree of repercussion of wage costs on prices, in other words firms' marginal behaviour; and the behaviour of trading partners. For a policy of the kind to boost economic activity through a rebound in exports, firms must first and foremost take advantage of it to cut their export prices relative to those of the competing economies. When there is little repercussion, the lower consumption entailed by internal devaluation cancels out the positive effect on capital accumulation and on the balance of trade, with the result that it has no impact on growth. Economic activity may even slow for the economies that are most reliant on their internal demand. When the knock-on effect is greater, economic activity is more sustained but the improved trade balance comes at the cost of the other eurozone economies, exacerbating current imbalances within the zone. Moreover, if European firms react by reducing wage costs and prices in the same proportions, then these price competitiveness efforts neutralize each other within the eurozone, and market share is then gained with respect to the rest of the world. This outcome arises because the foreign exchange rate between the eurozone and the rest of the world is assumed to be fixed in the model. In the event the exchange rate should float freely, it is to be expected that internal devaluation would be reflected by a zero sum game on the trade balances of European economies. Such a policy might even compress aggregate demand and European growth further to the reduction in real wages.

[18] Here we can observe exports as a percentage of GDP for each economy.

3.2 Modification of the rule for determining nominal wages

I now propose to examine the impact of a reform of European wage policies designed to introduce a common rule for changes to monetary wages. In particular, the idea is to determine whether this new rule of wage formation is able to make the current imbalances within the eurozone sustainable. As some heterodox economists suggest,[19] introducing it should stop divergences between unit wage costs and prices from first forming and then persisting. In this scenario, the growth of nominal wages from now on depends on productivity gains made by the whole of the economy and on the target for inflation set by the central bank. For ease of modelling, it is assumed that the three blocs in the model enforce this new rule and that the ECB, like the central bank of the rest of the world, sets a target for inflation of 2%.

It appears then that the new wage policy reduces economic growth compared with the reference scenario (~0.85% versus 1.2%). The return of inflation to a higher level penalizes both consumption and investment. In particular, it is detrimental to households on welfare benefits. As welfare benefits are not index-linked, they decline in real terms, penalizing growth and the accumulation of capital. Moreover, households suffer from weaker growth in real wages further to a slowdown in labour productivity in this scenario through the Kaldor-Verdoorn relation. As the new rule for determining wages changes the real wage as a function of average productivity gains in the economy, the distribution of income between wages and profits is balanced. The share of wages like the share of gross and retained profits is now constant. However, production capacities are used more by firms, which can be explained essentially by the fact that productive capacities are less important in this scenario.

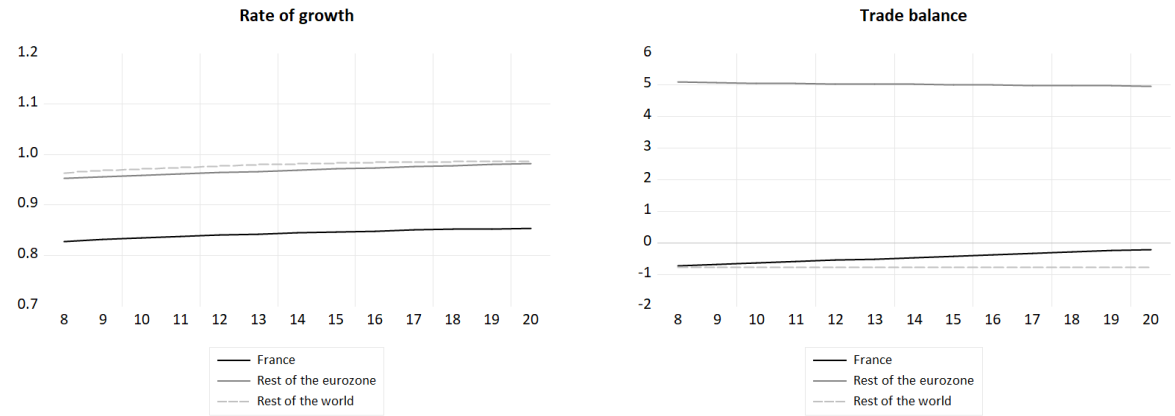

Figure 8. Growth rate of real GDP (percentage) and trade balance (as a percentage of GDP) for each economy with a change in the rule for nominal wage formation.

Whereas France's trade balance is stable in the reference scenario, it can be observed that France's external deficit diminishes here over the period as a whole. The new wage rule makes it possible to close the cost competitiveness and price gaps to be found in France, the rest of the eurozone and the rest of the world given that the unit wage costs and prices now move together at around the 2% mark. Now, in the reference scenario, France suffers from a lack of competitiveness compared with its trading partners inasmuch as its unit wage costs and

[19] See especially Stockhammer (2011), Flassbeck and Lapavitsas (2013), Bofinger (2015) and Wren-Levis (2015).

prices are more dynamic. The new convergence of unit wage costs and prices is therefore more beneficial to it. Moreover, France benefits from lower growth in its aggregate demand and income is weaker than in the rest of the eurozone and the rest of the world, enabling it to see its exports rise faster than its imports and therefore improve its trade balance compared with the baseline scenario (~-0.2% versus -1.3%).

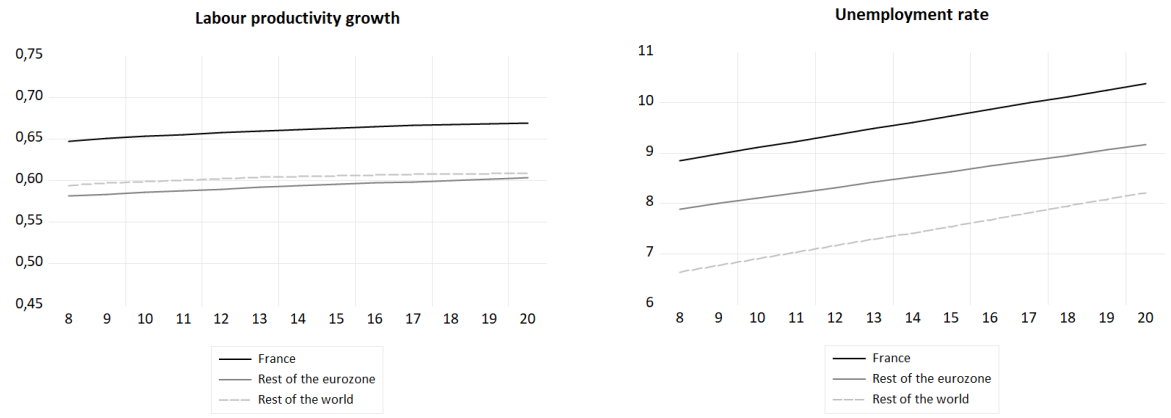

Figure 9. Growth rate of labour productivity (percentage) and unemployment rate (percentage) for each economy with a change in the rule for the formation of nominal wages.

Unlike the position defended by Flassbeck and Lapavitsas (2013), we observe that the introduction of a rule that has nominal wages dependent on average productivity gains of the economy and on the inflation target is not enough to remove the risk of external imbalances that are unsustainable in the eurozone. In particular, it can be seen that France's external deficit is continually dwindling. To contain current imbalances, the three blocs in the model would have to experience homogenous growth in their income. Should one of the economies see its internal demand grow more slowly than that of its trading partners, as is the case here with France, that would enable it to increase its trade surplus or reduce its deficit permanently.

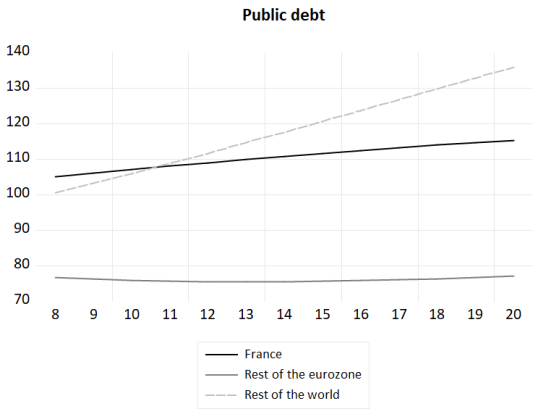

Figure 10. Public debt (as a percentage of GDP) for each economy with a change in the rule for nominal wage formation.

These results are to be found again when observing those for the other eurozone economies. The external trade balances of Germany, Spain, Italy and Portugal continue to improve throughout the period: their domestic income grows more slowly than the income of the rest of the eurozone and the rest of the world. By contrast, the trade balance of the Netherlands and Greece remains stable. Here too, the trade balance depends on the relative change in domestic income and foreign income. I extend the reasoning by observing what happens in calibration 2, when allowance is made for differences in productive specialization among the eurozone economies. The countries that enjoy enhanced productive specialization seem this time to enjoy better trade performances. For example, the German trade surplus grows more here while German income grows more strongly than the income of both the rest of the world and of the rest of the eurozone. Germany's productive specialization enables it to capture a larger share of external demand, thereby stimulating its exports. This same result can be found for the Netherlands. Conversely, economies like Greece and Portugal see their external performances decline continually despite less dynamic growth of their domestic income, as a consequence of low-level productive specialization rendering their exports less dynamic. So it can be observed that to ensure a sustainable change in current balances, it is not enough either to introduce a new wage rule that narrows the cost competitiveness and price gaps or to ensure homogeneous growth in income. As Storm and Nastepaad (2015, 2016) maintain, allowance must also be made for the differences in productive specialization among eurozone economies because they entail the appearance of structural external deficits/surpluses. So a result already found in the reference scenario reappears.

3.3 Modification of the rule on determining nominal wages and budgetary reflation

I propose finally to accompany the change in the rule on determining nominal wages with a budgetary reflation policy consisting in increasing public investment.[20] It should be specified that I compare the results from scenarios 6 and 7 with the previous scenario of modification of the rule for setting monetary wages, that is, scenario 5, that becomes the new reference scenario.[21] Given that the model rests on post-Keynesian assumptions, boosting demand through public spending stimulates consumption by a multiplier effect and triggers an accelerator effect through an increase in capital accumulation. The rise in firms' investment and household spending thereby stimulates economic activity (+1.07pp). The boost to public spending also tends to improve labour productivity (+0.85pp) through the Kaldor-Verdoorn relation, thereby making it possible to increase real wages and further stimulate household consumption. The impact of this policy on employment and unemployment depends on the relative change in output and in labour productivity. On the one side, the more sustained growth in economic activity stimulates employment. On the other side, the growth in labour productivity tends to reduce the amount of labour required to achieve output.

[20] The recovery policy consists in increasing public spending by an ex-ante amount equivalent to 1% of GDP in the reference scenario (scenario 5) in period 10.

[21] Scenarios 1, 2, 3 and 4 are analysed with respect to the baseline scenario presented in part 2. Alteration of the rule for nominal wage formation necessarily entails the development of a new reference scenario. Scenarios 6 and 7 are then used relative to scenario 5, which serves as the new baseline scenario.

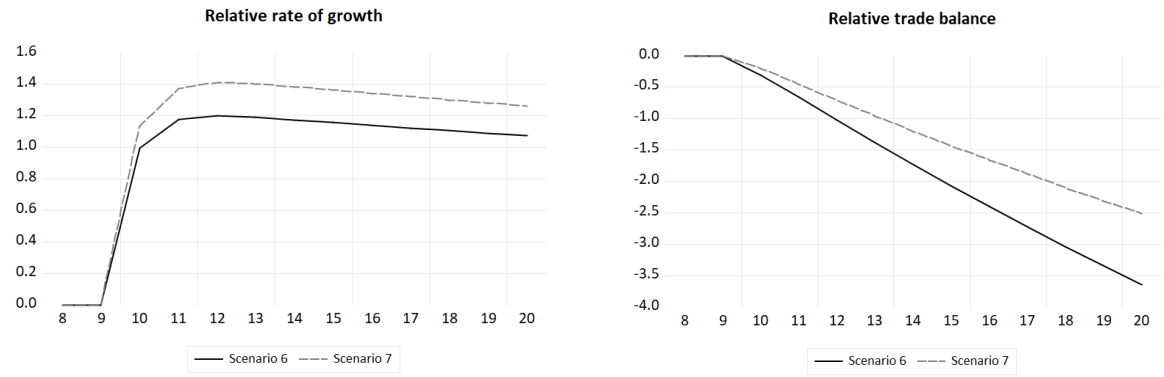

Figure 11. France's relative growth rate and relative trade balance (percentage points).

Ultimately it is the output effect that wins out and the unemployment rate falls over the medium term (-0.7pp). However, the unilateral boost to public spending results in substantial deepening of France's external deficit (-3.64pp), as a result of the acceleration of French growth compared with the rest of the eurozone and the rest of the world, which increases imports. The upshot of the wage rule in force is that French firms' price competitiveness is maintained despite the expansionary budget policy. When this scenario is compared with that of internal devaluation, we bring out the importance of the income effects compared with the price competitiveness effects on the trade balance. Moreover, the boost to public spending deepens the deficit and public debt in the medium term (+14.9pp).

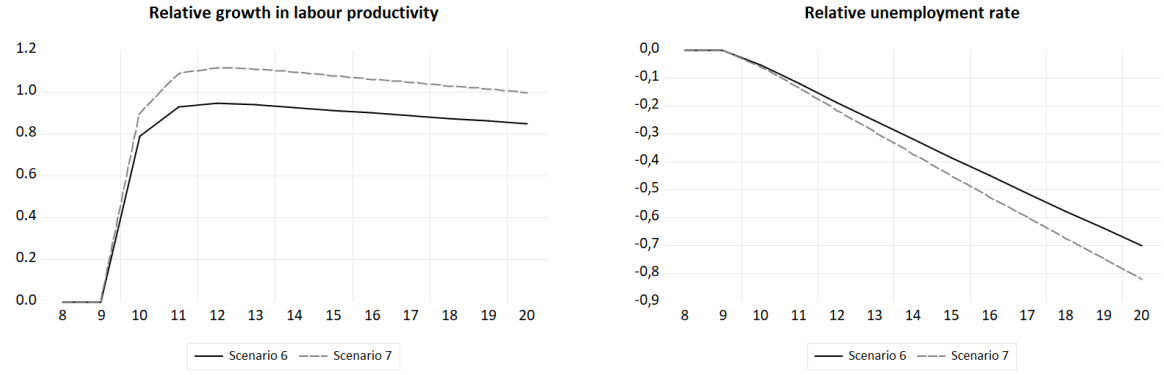

Figure 12. Growth rate of labour productivity and relative unemployment rate in France (percentage points).

When the boost to public spending is symmetrical and common to all the eurozone economies (scenario 6), the negative impact on the balance of trade is reduced (-2.5pp). By stimulating aggregate demand and economic growth, the budget policy increases European imports from France and the rest of the world. Part of the boost thus benefits French exports and attenuates the deepening of the external deficit. In particular, France's trade balance stabilizes with respect to the rest of the eurozone and now only worsens with respect to the rest of the world, containing the increase in the public debt (+8.61pp). Moreover, French growth is more dynamic in this scenario (+1.26pp) and unemployment lower (-0.82pp). It appears, then,

that the budget policy is more effective when conducted in a coordinated way within the eurozone.

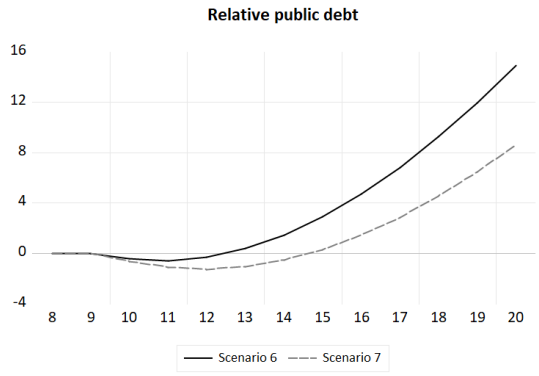

Figure 13. France's relative public debt (percentage points).

Observation of the results achieved for the other eurozone economies again emphasizes the importance of the degree of openness and the share of internal demand in production. A budget boosting policy does indeed seem more effective in economies oriented towards internal demand. For example, Spain, France and Italy are the three countries whose economic activity grows most further to a boost in public spending. Since internal demand represents a large share of output, the multiplier effect is stronger there. Similarly, the budget policy tends to further deteriorate the trade balance of the more open economies. The Netherlands, Germany and Portugal are thus the three countries that suffer most from the introduction of an expansionary budget policy. Moreover, by comparing the results, it is possible to highlight the role of the destination of exports and the provenance of imports. Germany, Spain, Greece, Italy and the Netherlands above all import primarily from the rest of the world. Conversely, the imports of Portugal and France come mostly from the rest of the eurozone. A boost to public spending is reflected, then, by a large downturn in the trade balance with the rest of the world for the first group of countries, and with the eurozone for the second group. Moreover, the Netherlands, Spain and above all Portugal export a large share of their output to the rest of the eurozone. Exports from Germany, Greece and Italy, and to a lesser extent from France, are essentially directed at the rest of the world. The economies of the first group therefore benefit more from a boost in public spending in the rest of the eurozone. It is worth noting that French unemployment improves more weakly further to a boost in public spending because it is assumed growth in labour productivity is more sensitive to economic growth. In other words, the Kaldor-Verdoorn relation acts more strongly for France.

To end with, the results obtained between the two calibrations can be compared. It can be shown that the economies with advanced productive specialization experience a lower downturn in their trade performances when the boost to public spending is symmetrical. In particular, the marked specialization of the Netherlands and Germany enables them to capture a greater share of the increase in European imports, which further limits the downturn in the trade balance. Conversely, the countries of southern Europe see their outside balance more strongly degraded because of their weak productive specialization.

4. Conclusion

In this contribution I have sought to determine the role that labour cost might play in the macroeconomic imbalances with the eurozone in terms of income, unemployment, labour productivity and the current account balance. To this end, I have developed a three-country SFC model in an open economy comprising the eurozone and the rest of the world with which to ascertain the effectiveness of three types of economic policy: a policy of internal devaluation; a change in the rule on nominal wage formation; a change in the rule on determining nominal wages associated with a policy to boost public spending. In light of the results, it seems that internal devaluation is not an effective economic policy for getting eurozone economies to converge. Contrary to the mainstream discourse whereby the reduction in European imbalances requires the introduction of ever more excessive structural reforms of the labour market, I take the view that these policies tend to mire the economies adopting them a little more in stagnation, especially the countries of southern Europe. Beyond the degree of openness of the various economies, it has been shown that the effectiveness of an internal devaluation policy depends primarily on the marginal behaviour of firms, in other words on the degree to which wage costs are passed on in prices. For economic activity to be stimulated by the bounce back in exports, firms must grasp the fall in wage costs to cut their export prices. However, many studies struggle to highlight a significant negative relation between export growth and growth in relative unit wage costs.[22] Storm and Nastepaad (2015) in particular show for eurozone economies that "a relative price elasticity of export demand of -1 is consistent with a RULC elasticity of export demand of just -0.09". A 1 percentage point fall in unit wage costs therefore entails a fall of 0.09 percentage points in production costs since, they argue, wage costs make up only a small share of production prices and firms do not pass on all of the reduction in costs in their prices.

I take the view that the macroeconomic effects to be expected of an internal devaluation policy may then be approximated by the results of the first scenario, in which it is assumed that a 1 percentage point reduction in nominal wage growth comes across as a 0.1 percentage point reduction in inflation. Under these circumstances, internal devaluation may intensify the macroeconomic imbalances among eurozone economies. Given that relative export prices are little changed, the fall in nominal wages has a limited impact on exports and the external balance. The large fall in real wages keeps household consumption down and offsets the improvement in the balance of trade and investment. Internal devaluation then has no effect on economic growth, or even a negative effect for the economies that are most reliant on their internal demand. In addition, internal devaluation tends to strengthen structural divergences related to productive specialization among European economies. On the one side, the reduction in real wages provides a disincentive for firms to invest in technological advances that save on labour and accordingly productivity deteriorates. On the other side, the slight rise in investment induced by the increased share of retained profits is not enough to diversify, innovate and raise the quality of output and therefore improve the technological competitiveness of European economies. On the contrary, there is a risk that these structural reforms might further confine the countries adopting them to low-wage production activities. The fall in unemployment then

[22] See the empirical results as to the relation between export growth and growth in relative unit wage costs obtained by Danninger and Joutz (2007), Di Mauro and Foster (2010), Felipe and Kumar (2011), Diaz Sanchez and Varoudakis (2013) and Le Bayon et al. (2014).

occurs through the slowing of productivity which raises firms' labour requirements, especially for low-wage workers. While it cannot be used to make income converge, internal devaluation increases functional inequalities by modifying the distribution of income between wages and profits. The ensuing reduction in real wages deteriorates workers' living conditions. Besides, the slowdown in productivity jeopardizes the catch-up of real wages and living conditions by way of the convergence of productive performances. Husson and Chagny (2014) show that the same tendency is now towards devaluation of the internal exchange rate in the eurozone, that is, towards the introduction of structural reforms of European labour markets aimed at changing real wages in line with the labour productivity specific to each sector and no longer in line with the average productivity of the economy. Such policies, then, entail a risk of increased individual inequalities to the detriment of workers in the least productive sectors. To the extent that modelling does not allow for the behaviours of payments of dividends and financial accumulation of firms, I assume that the margins are used by firms to increase productive investment and to pay off debt. However, Duwicquet (2020) shows for a financialized economy that "[i]n a context of insufficient demand, firms favor savings and financial accumulation behaviors rather than productive investment projects". It is most likely, then, that they take advantage of the reduced wage costs to pay dividends and/or buy equities. Allowance for such behaviour by firms would further reduce the positive impact of internal devaluation on investment and therefore on economic growth and productive specialization. The coordinated introduction of this internal devaluation policy within the eurozone may also contribute to making it less effective since the general reduction of unit wage costs does not alter the price competitiveness among the different economies. The internal devaluation policy then entails a risk of deflation because it acts as an incentive for European economies to further cut unit wage costs, with the economy that goes furthest in that direction being the one that improves its competitiveness and ultimately wins market share.

I defend the idea that the introduction of a new wage rule making nominal wages dependent on productivity gains across the entire economy and the inflation target set by the ECB, together with an expansionary budget policy, is a more suitable policy for reducing macroeconomic imbalances and ensuring convergence of European economies in terms of income, labour productivity, living conditions and also productive specialization. I take the view that the eurozone suffers primarily from insufficient aggregate demand because of budgetary and wage austerity policies conducted since the eurozone crisis, which reflects its current account surplus with respect to the rest of the world. A policy devised to boost growth through public spending consequently stimulates economic growth through its impact on household consumption and on the accumulation of capital by firms. It takes in tow labour productivity, which improves through the Kaldor-Verdoorn relation. The new wage rule ensures that a part of these productivity gains is redistributed to workers in the form of wage rises so as to improve their living conditions. Moreover, in the present instance, speeding the investment of firms triggered by public spending entails a diversification and improvement in the quality of output particularly through spending on research and development and on innovation. Bolstering the technological competitiveness of exports then reduces structural divergences among eurozone economies by getting productive specialization to converge, making it possible, in the longer term, to reduce external structural imbalances. However, the boost to public spending brings about a downturn in trade performances since some internal demand is

directed to the outside and feeds imports. Even if the new wage rule prevents the development of differences in price competitiveness among European economies, it fails to contain the divergences arising from the relative change in aggregate demand. Coordination of the budgetary policy must make it possible to soften this negative impact on the external trade balance. In any event, I take the view that economic policy should not set itself the sole objective of reducing external imbalances. I argue that the current account deficits that may arise from budget policy remain sustainable in monetary union so long as external indebtedness is used for productive purposes. In other words, investments must be directed at the sectors where the largest productivity gains are to be made, which requires, as Celi et al. (2018) suggest to assign "a key role to investment guidance by the state through industrial policies geared to diversifying, innovating and strengthening the economic structures of the peripheral countries". However, it can be observed that this policy does not seem sufficient to reduce unemployment in a substantial way and to move European economies closer to full employment, inasmuch as growth in output entails growth in labour productivity. Part of the solution might be to introduce in parallel a policy to shorten working hours so as to share the hours worked more equitably among the working population to create jobs and reduce unemployment. Apart from its effectiveness in terms of employment, the additional value of a policy to shorten working hours is, ecologically, that it creates employment without additional growth. For the share of increased employment that would stem from increased consumption and investment further to the rise in public spending and real wages, it would be suitable to supplement the macroeconomic policy of strong constraints surrounding the welfare and environmental quality of such spending.

To face up to the economic and welfare consequences of the health measures taken to combat the COVID-19 pandemic, the European Commission has suspended the Stability and Growth Pact until the end of 2022. This measure means Member State governments have the possibility of introducing ambitious budget policies to escape from economic stagnation and to initiate convergence among European economies. The increased repurchases of public debt securities by the ECB as part of the Pandemic Emergency Purchase Programme (PEPP) bolsters incentives for European governments to commit to public investment projects, taking advantage of low interest rates. This boost to public spending may take the form of coordinated national budget policies, or the introduction of a federal budget financed by federal taxes, or the issuing of euro-bonds allowing transfers among eurozone countries. The rule for determining nominal wage rates may be altered by introducing a system of minimum wages at European level and by better coordinating collective bargaining. In any event, such policies require closer European cooperation and integration in order to better coordinate economic, budgetary and wage policies. Recent events tend even so to underscore the difficulty in establishing genuine cooperation among European economies. The development of a "Next Generation EU" recovery plan has once again highlighted the divergences and political impediments within the eurozone. In particular, the so-called frugal countries of northern Europe[23] have sought to limit the proportion of subsidies in the recovery plan, but also to make European funding conditional upon allowance being made for European Semester recommendations, that is, on the future introduction of structural reforms. These economies are also allied today with those of eastern Europe to counter the more flexible budget rules in the context of the consultation proposed by

[23] These are the Netherlands, Denmark, Sweden, Austria and Finland.

the European Commission. They take the view that the recovery plan, financed by common debt, should entail a return to budgetary rigour in exchange.

These points suggest that closer coordination of economic policies at European level seems unlikely in the short term and that we are more likely to see austerity policies for budgets and wages. By way of illustration, the French case seems particularly enlightening. Despite support for the countries of southern Europe to make the budgetary rules of the Stability and Growth Pact more flexible, the stability programme that France presented to the European Commission for the period 2022–2027 proposes to reduce public spending so as to stabilize public debt by bringing the deficit below the 3 per cent bar. After adopting the Macron orders in 2017 and transforming the tax credit for competitiveness and employment (*Crédit d'Impôt pour la Compétitivité et l'Emploi* (CICE)) into a mechanism for exempting employer welfare contributions in 2019, the French government is now preparing to continue making the labour market more flexible by reforming unemployment benefits. Before the beginning of the health crisis, the European Commission was besides recommending that France and the southern European countries pursue structural reforms of the labour market in the context of the European Semester.

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Appendix A – Model parameters and variables

Table 1. Model parameters

Firms investment			
k_0^i	k_0^z	k_0^m	Autonomous component
k_1^i	k_1^z	k_1^m	Marginal impact of profits share retained
k_2^i	k_2^z	k_2^m	Marginal impact of the capacity utilization rate
k_3^i	k_3^z	k_3^m	Marginal impact of relative price of capital
δ^i	δ^z	δ^m	Rate of depreciation
Labour productivity			
β_0^i	β_0^z	β_0^m	Autonomous component
β_1^i	β_1^z	β_1^m	Marginal impact of real output growth
β_2^i	β_2^z	β_2^m	Marginal impact of real wage growth
External trade			
μ_0^i	μ_0^z	μ_0^m	Autonomous component
μ_1^i	μ_1^z	μ_1^m	Income elasticity
μ_2^i	μ_2^z	μ_2^m	Nominal exchange rate elasticity
μ_3^i	μ_3^z	μ_3^m	Price elasticity
μ_4^i	μ_4^z	μ_4^m	Substitution elasticity
Consumption			
c_0^i	c_0^z	c_0^m	Autonomous component
c_1^i	c_1^z	c_1^m	Marginal propensity to consume out of net labour income
c_2^i	c_2^z	c_2^m	Marginal propensity to consume out of capital income
c_3^i	c_3^z	c_3^m	Marginal propensity to consume out of capital gains
c_4^i	c_4^z	c_4^m	Marginal propensity to consume out of social benefits
c_5^i	c_5^z	c_5^m	Marginal propensity to consume out of wealth
Tax rates			
θ_h^i	θ_h^z	θ_h^m	Personal income tax rate
θ_f^i	θ_f^z	θ_f^m	Tax rate on profits
cl_0^i	cl_0^z	cl_0^m	Social contributions rate
Potential GDP and markup			
γ^i	γ^z	γ^m	Capital coefficient
x_0^i	x_0^z	x_0^m	Autonomous component
x_1^i	x_1^z	x_1^m	Marginal impact of investment
x_2^i			Marginal impact of relative unit labour cost
x_3^i			

Price of goods and services			
r_0^i r_1^i	r_0^z r_1^z	r_0^m r_1^m	Share of intermediate and capital goods in imports
Wages			
w_0^i	w_0^z	w_0^m	Autonomous component
w_1^i	w_1^z	w_1^m	Marginal impact of current price
w_2^i	w_2^z	w_2^m	Marginal impact of previous period price
w_3^i	w_3^z	w_3^m	Marginal impact of labour productivity
w_4^i	w_4^z	w_4^m	Marginal impact of unemployment rate
Population			
a^i	a^z	a^m	Share of employment in the labour force
b^i	b^z	b^m	Growth of the working age population
Public expenditures			
g_0^i	g_0^z	g_0^m	Autonomous component
g_1^i	g_1^z	g_1^m	Growth of the public expenditures
ε^i	ε^z	ε^m	Growth of the social benefits
Reserves and Central Bank profits			
ρ^i	ρ^z	ρ^m	Commercial banks' reserves at the Central Bank
φ^i	φ^z		Share of profits redistributed by the ECB
Households cash money			
h_0^i	h_0^z	h_0^m	Cash to consumption ratio
Demand of country i bonds by households of country i			
v_{10i}			Autonomous demand
v_{11i}			Marginal impact of rate on country i bonds
v_{12i}			Marginal impact of rate on country z bonds
v_{13i}			Marginal impact of rate on country m bonds
Demand of country z bonds by households of country i			
v_{20i}			Autonomous demand
v_{21i}			Marginal impact of rate on country i bonds
v_{22i}			Marginal impact of rate on country z bonds
v_{23i}			Marginal impact of rate on country m bonds

Demand of country m bonds by houselholds of country i	
v_{30i}	Autonomous demand
v_{31i}	Marginal impact of rate on country i bonds
v_{32i}	Marginal impact of rate on country z bonds
v_{33i}	Marginal impact of rate on country m bonds
Demand of country i bonds by households of country z	
v_{10z}	Autonomous demand
v_{11z}	Marginal impact of rate on country i bonds
v_{12z}	Marginal impact of rate on country z bonds
v_{13z}	Marginal impact of rate on country m bonds
Demand of country z bonds by households of country z	
v_{20z}	Autonomous demand
v_{21z}	Marginal impact of rate on country i bonds
v_{22z}	Marginal impact of rate on country z bonds
v_{23z}	Marginal impact of rate on country m bonds
Demand of country m bonds by households of country z	
v_{30z}	Autonomous demand
v_{31z}	Marginal impact of rate on country i bonds
v_{32z}	Marginal impact of rate on country z bonds
v_{33z}	Marginal impact of rate on country m bonds
Demand of country i bonds by households of country m	
v_{10m}	Autonomous demand
v_{11m}	Marginal impact of rate on country i bonds
v_{12m}	Marginal impact of rate on country z bonds
v_{13m}	Marginal impact of rate on country m bonds
Demand of country z bonds by households of country m	
v_{20m}	Autonomous demand
v_{21m}	Marginal impact of rate on country i bonds
v_{22m}	Marginal impact of rate on country z bonds
v_{23m}	Marginal impact of rate on country m bonds

Demand of country m bonds by households of country m	
v_{30m}	Autonomous demand
v_{31m}	Marginal impact of rate on country i bonds
v_{32m}	Marginal impact of rate on country z bonds
v_{33m}	Marginal impact of rate on country m bonds

Table A2. Model parameters values (calibration 1 in the baseline scenario)

	France	Germany	Spain	Greece	Italy	Netherlands	Portugal	Rest of the eurozone	Rest of the world
k_0	-0.014	-0.01	-0.023	-0.048	-0.029	-0.01	-0.018		-0.0016
k_1	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065
k_2	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065
k_3	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
δ	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
β_0	0	0	0	0	0	0	0	0	0
β_1	0.54	0.43	0.43	0.45	0.43	0.45	0.45	0.43	0.43
β_2	0.31	0.32	0.3	0.33	0.32	0.33	0.33	0.3	0.3
β_3	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
μ_{01}	-1.95	-1.49	-1.79	-1.4	-1.9	-0.74	-2.02		
μ_{11}	1	1	1	1	1	1	1	1	1
μ_{21}	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	1
μ_{31}	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	1
μ_{41}	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	1
μ_{02}	-1.68	-1.68	-1.88	-1.77	-2.01	-1.39	-1.21		
μ_{12}	1	1	1	1	1	1	1	1	1
μ_{22}									1
μ_{32}	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	1
μ_{42}	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	1
c_0	1.04	-1.35	0.43	0.92	2.75	-2.64	0.50		93.2
c_1	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
c_2	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
c_3	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
c_4	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
c_5	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
θ_h	0.2	0.2	0.17	0.16	0.24	0.2	0.16	0.2	0.16
θ_f	0.284	0.158	0.25	0.24	0.24	0.25	0.3	0.23	0.23
cl_0	0.23	0.245	0.21	0.2	0.22	0.21	0.16	0.22	0.14
γ	0.32	0.35	0.30	0.28	0.29	0.38	0.36	0.33	0.33
x_0	0.15	0.08	0.25	0.15	0.26	-0.14	0.12		0.45
x_1	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
x_2	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
x_3	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
r_0	0.64	0.68	0.66	0.55	0.64	0.68	0.64		
r_1	0.70	0.72	0.69	0.77	0.75	0.78	0.79		
w_0	-2.24	-2.88	-0.37	0.76	-1.64	-3.21	-1.02		-0.2
w_1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
w_2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
w_3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
w_4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
a	0.8	0.84	0.70	0.64	0.81	0.83	0.79	0.79	0.89
b	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.008	1.012
g_0	0	0	0	0	0	0	0	0	0
g_1	1.011	1.011	1.012	1.018	1.013	1.01	1.015		1.013
ε	1.017	1.018	1.018	1.025	1.019	1.017	1.02		1.02
ρ	1	1	1	1	1	1	1	1	1
φ	0.21	0.29	0.11	0.016	0.15	0.07	0.018		
h_0	0.06	0.15	0.07	0.14	0.15	0.03	0.05		0.10
v_{10i}	0.012	0.0129	0.0062	-0.013	-0.005	0.0125	0.005		
v_{11i}	1	1	1	1	1	1	1		
v_{12i}	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
v_{13i}	0.5	0.5	0.5	0.5	0.5	0.5	0.5		

v_{20i}	0.0053	0.0048	0.0079	0.018	0.0137	0.0056	0.0086		
v_{21i}	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
v_{22i}	1	1	1	1	1	1	1		
v_{23i}	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
v_{30i}	-0.0123	-0.0131	-0.0114	-0.0009	-0.0053	-0.0105	-0.001		
v_{31i}	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
v_{32i}	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
v_{33i}	1	1	1	1	1	1	1		
v_{10z}									
v_{11z}								2	
v_{12z}								2	
v_{13z}								2	
v_{20z}									
v_{21z}								0.5	
v_{22z}								1	
v_{23z}								0.5	
v_{30z}									
v_{31z}								0.5	
v_{32z}								0.5	
v_{33z}								1	
v_{10m}									
v_{11m}									2
v_{12m}									2
v_{13m}									2
v_{20m}									
v_{21m}									0.5
v_{22m}									1
v_{23m}									0.5
v_{30m}									
v_{31m}									0.5
v_{32m}									0.5
v_{33m}									1

Table A3. Variables involved in the model

Variables			Name
Y^i	Y^z	Y^m	Domestic production, in nominal terms
Y_r^i	Y_r^z	Y_r^m	Domestic production, in real terms
$Y_{potential}^i$	$Y_{potential}^z$	$Y_{potential}^m$	Potential production, in nominal terms
$Y_{r\ potential}^i$	$Y_{r\ potential}^z$	$Y_{r\ potential}^m$	Potential production, in real terms
P_p^i	P_p^z	P_p^m	Price of domestic production
P^i	P^z	P^m	Price of consumption, capital, public expenditures and exports
TUC^i	TUC^z	TUC^m	Capacity utilization rate
NLI^i	NLI^z	NLI^m	Net labour income
CI^i	CI^z	CI^m	Capital income
$\emptyset^i$	$\emptyset^z$	$\emptyset^m$	Mark-up
ULC^i	ULC^z	ULC^m	Unit labour costs
w^i	w^z	w^m	Unit wage
$w^i N^i$	$w^z N^z$	$w^m N^m$	Employee compensation
PA^i	PA^z	PA^m	Labour force
PAT^i	PAT^z	PAT^m	Working age population
N^i	N^z	N^m	Employment
U^i	U^z	U^m	Unemployment rate
T_h^i	T_h^z	T_h^m	Taxes on personal income
T_f^i	T_f^z	T_f^m	Taxes on firms
YD_r^i	YD_r^z	YD_r^m	Households regular disposable income
YD_{hs}^i	YD_{hs}^z	YD_{hs}^m	Households Heigh-Simon disposable income
C^i	C^z	C^m	Households consumption, in nominal terms
C_r^i	C_r^z	C_r^m	Households consumption, in real terms
BD^i	BD^z	BD^m	Bank deposits held by households
CG^i	CG^z	CG^m	Households' capital gains
VH^i	VH^z	VH^m	Households' wealth
$B_{i\,d}^i$			Demand of country i bonds by households of country i
$B_{i\,d}^z$			Demand of country z bonds by households of country i
$B_{i\,d}^m$			Demand of country m bonds by households of country i
	$B_{z\,d}^i$		Demande of country i bonds by households of country z
	$B_{z\,d}^z$		Demand of country z bonds by households of country z
	$B_{z\,d}^m$		Demand of country m bonds by households of country z
		$B_{m\,d}^i$	Demande of country i bonds by households of country m
		$B_{m\,d}^z$	Demande of country z bonds by households of country m
		$B_{m\,d}^m$	Demand of country m bonds by households of country m
H_d^i	H_d^z	H_d^m	Cash money held by households
UP^i	UP^z	UP^m	Firm profits
UP_c^i	UP_c^z	UP_c^m	Retained firm profits
gk^i	gk^z	gk^m	Capital accumulation rate
I^i	I^z	I^m	Investment made by firms, in nominal terms
I_r^i	I_r^z	I_r^m	Investment made by firms, in real terms
K^i	K^z	K^m	Firms' fixed capital stock, in nominal terms
K_r^i	K_r^z	K_r^m	Firms' fixed capital stock, in real terms

L^i	L^z	L^m	Private bank loans to firms
pb^i	pb^z	pb^m	Price of bonds held by households
rb^i	rb^z	rb^m	Nominal interest rate on bonds held by households
R^i	R^z	R^m	Private banks' reserve requirements
RF^i	RF^z	RF^m	Central Bank refinancing made to private banks
F^i	F^z	F^m	Central Bank profits
G^i	G^z	G^m	Public expenditures, in nominal terms
G_r^i	G_r^z	G_r^m	Public expenditures, in real terms
X^i	X^z	X^m	Exports, in nominal terms
M^i	M^z	M^m	Imports, in nominal terms
X_r^i	X_r^z	X_r^m	Exports, in real terms
M_r^i	M_r^z	M_r^m	Imports, in real terms
λ^i	λ^z	λ^m	Technical progress
PS^i	PS^z	PS^m	Social benefits
CL^i	CL^z	CL^m	Firms' social contributions
$\frac{w^i}{p^i}$	$\frac{w^z}{p^z}$	$\frac{w^m}{p^m}$	Real wage
DEF^i	DEF^z	DEF^m	Government deficit
$M_{r\,z}^i$			Imports of country i from country z
$M_{r\,m}^i$			Imports of country i from country m
	$M_{r\,i}^z$		Imports of country z from country i
	$M_{r\,m}^z$		Imports of country z from country m
		$M_{r\,i}^m$	Imports of country m from country i
		$M_{r\,z}^m$	Imports of country m from country z
xr^e	xr^e	xr^m	Nominal exchange rate
$Bbce^i$			Demand of country i bonds by ECB
	$Bbce^z$		Demand of country z bonds by ECB
		$Bbce^m$	Demand of country m bonds by ECB (foreign exchange reserves)
		$Brdm^m$	Demand of country m bonds by the Central Bank of country m

Appendix B – Model equations

$$(1)\ Y^i = C^i + I^i + G^i + X^i - M^i$$

$$(2)\ Y^z = C^z + I^z + G^z + X^z - M^z$$

$$(3)\ Y^m = C^m + I^m + G^m + X^m - M^m$$

$$(4)\ Y^i_r = C^i_r + I^i_r + G^i_r + X^i_r - M^i_r$$

$$(5)\ Y^z_r = C^z_r + I^z_r + G^z_r + X^z_r - M^z_r$$

$$(6)\ Y^m_r = C^m_r + I^m_r + G^m_r + X^m_r - M^m_r$$

$$(7)\ Y^i_{r\ potential} = \gamma^i K^i_r$$

$$(8)\ Y^z_{r\ potential} = \gamma^z K^z_r$$

$$(9)\ Y^m_{r\ potential} = \gamma^m K^m_r$$

$$(10)\ Y^i_{potential} = P^i_p Y^i_{r\ potential}$$

$$(11)\ Y^z_{potential} = P^z_p Y^z_{r\ potential}$$

$$(12)\ Y^m_{potential} = P^m_p Y^m_{r\ potential}$$

$$(13)\ TUC^i = \frac{(\frac{Y^i_r}{K^i_r})}{\gamma^i}$$

$$(14)\ TUC^z = \frac{(\frac{Y^z_r}{K^z_r})}{\gamma^z}$$

$$(15)\ TUC^m = \frac{(\frac{Y^m_r}{K^m_r})}{\gamma^m}$$

$$(16)\ C^i_r = c^i_0 + c^i_1 \frac{NLI^i}{P^i} + c^i_2 \frac{CI^i}{P^i} + c^i_3 \frac{CG^i}{P^i} + c^i_4 \frac{PS^i}{P^i} + c^i_5 \frac{VH^i_{-1}}{P^i}$$

$$(17)\ C^z_r = c^z_0 + c^z_1 \frac{NLI^z}{P^z} + c^z_2 \frac{CI^z}{P^z} + c^z_3 \frac{CG^z}{P^z} + c^z_4 \frac{PS^z}{P^z} + c^z_5 \frac{VH^z_{-1}}{P^z}$$

$$(18)\ C^m_r = c^m_0 + c^m_1 \frac{NLI^m}{P^m} + c^m_2 \frac{CI^m}{P^m} + c^m_3 \frac{CG^m}{P^m} + c^m_4 \frac{PS^m}{P^m} + c^m_5 \frac{VH^m_{-1}}{P^m}$$

$$(19)\ C^i = P^i C^i_r$$

$$(20)\ C^z = P^z C^z_r$$

$$(21)\ C^m = P^m C_r^m$$

$$(22)\ YD_r^i = w^i N^i + PS^i - CL^i - T_h^i + rb^i pb^i B_{i\,d-1}^i + rb^z pb^z B_{i\,d-1}^z + rb^m pb^m B_{i\,d-1}^m exr^m$$

$$(23)\ YD_r^z = w^z N^z + PS^z - CL^z - T_h^z + rb^i pb^i B_{z\,d-1}^i + rb^z pb^z B_{z\,d-1}^z + rb^m pb^m B_{z\,d-1}^m exr^m$$

$$(24)\ YD_r^m = w^m N^m + PS^m - CL^m - T_h^m + rb^i pb^i B_{m\,d-1}^i exr^e + rb^z pb^z B_{m\,d-1}^z exr^e + rb^m pb^m B_{m\,d-1}^m$$

$$(25)\ YD_{hs}^i = YD_r^i + CG^i$$

$$(26)\ YD_{hs}^z = YD_r^z + CG^z$$

$$(27)\ YD_{hs}^m = YD_r^m + CG^m$$

$$(28)\ NLI^i = w^i N^i - CL^i - T_h^i$$

$$(29)\ NLI^z = w^z N^z - CL^z - T_h^z$$

$$(30)\ NLI^m = w^m N^m - CL^m - T_h^m$$

$$(31)\ CI^i = rb^i pb^i B_{i\,d-1}^i + rb^z pb^z B_{i\,d-1}^z + rb^m pb^m B_{i\,d-1}^m exr^m$$

$$(32)\ CI^z = rb^i pb^i B_{z\,d-1}^i + rb^z pb^z B_{z\,d-1}^z + rb^m pb^m B_{z\,d-1}^m exr^m$$

$$(33)\ CI^m = rb^i pb^i B_{m\,d-1}^i exr^e + rb^z pb^z B_{m\,d-1}^z exr^e + rb^m pb^m B_{m\,d-1}^m$$

$$(34)\ CG^i = \Delta pb^i B_{i\,d-1}^i + \Delta pb^z B_{i\,d-1}^z + (\Delta pb^m B_{i\,d-1}^m) exr^m + \Delta exr^m (B_{i\,d-1}^m pb^m)$$

$$(35)\ CG^z = \Delta pb^i B_{z\,d-1}^i + \Delta pb^z B_{z\,d-1}^z + (\Delta pb^m B_{z\,d-1}^m) exr^m + \Delta exr^m (B_{z\,d-1}^m pb^m)$$

$$(36)\ CG^m = (\Delta pb^i B_{m\,d-1}^i) exr^e + (\Delta pb^z B_{m\,d-1}^z) exr^e + \Delta pb^m B_{m\,d-1}^m + \Delta exr^e \left(B_{m\,d-1}^i pb^i + B_{m\,d-1}^z pb^z\right)$$

$$(37)\ \Delta VH^i = YD_{hs}^i - C^i$$

$$(38)\ \Delta VH^z = YD_{hs}^z - C^z$$

$$(39)\ \Delta VH^m = YD_{hs}^m - C^m$$

$$(40)\ gk^i = k_0^i + k_1^i \frac{UP_{c-1}^i}{Y_{-1}^i} + k_2^i TUC_{-1}^i + k_3^i \frac{P_{P-1}^i}{P_{-1}^i}$$

$$(41)\ gk^z = k_0^z + k_1^z \frac{UP_{c-1}^z}{Y_{-1}^z} + k_2^z TUC_{-1}^z + k_3^z \frac{P_{P-1}^z}{P_{-1}^z}$$

$$(42)\ gk^m = k_0^m + k_1^m \frac{UP_{c-1}^m}{Y_{-1}^m} + k_2^m TUC_{-1}^m + k_3^m \frac{P_{P-1}^m}{P_{-1}^m}$$

$$(43)\ I_r^i = \frac{I^i}{P^i}$$

$$(44)\ I_r^z = \frac{I^z}{P^z}$$

$$(45)\ I_r^m = \frac{I^m}{P^m}$$

$$(46)\ I^i = gk^i(K_{r-1}^i P^i)$$

$$(47)\ I^z = gk^z(K_{r-1}^z P^z)$$

$$(48)\ I^m = gk^m(K_{r-1}^m P^m)$$

$$(49)\ \hat{\lambda}^i = \beta_0^i + \beta_1^i \hat{Y}_r^i + \beta_2^i \left(\widehat{\frac{w^i}{p^i}}\right)$$

$$(50)\ \hat{\lambda}^z = \beta_0^z + \beta_1^z \hat{Y}_r^z + \beta_2^z \left(\widehat{\frac{w^z}{p^z}}\right)$$

$$(51)\ \hat{\lambda}^m = \beta_0^m + \beta_1^m \hat{Y}_r^m + \beta_2^m \left(\widehat{\frac{w^m}{p^m}}\right)$$

$$(52)\ \Delta K^i = I^i - \delta^i K_{-1}^i$$

$$(53)\ \Delta K^z = I^z - \delta^z K_{-1}^z$$

$$(54)\ \Delta K^m = I^m - \delta^m K_{-1}^m$$

$$(55)\ K_r^i = \frac{K^i}{P^i}$$

$$(56)\ K_r^z = \frac{K^z}{P^z}$$

$$(57)\ K_r^m = \frac{K^m}{P^m}$$

$$(58)\ PS^i = \varepsilon^i PS_{-1}^i$$

$$(59)\ PS^z = \varepsilon^z PS_{-1}^z$$

$$(60)\ PS^m = \varepsilon^m PS_{-1}^m$$

$$(61)\ G_r^i = g_0^i + g_1^i G_{r-1}^i$$

$$(62)\ G_r^z = g_0^z + g_1^z G_{r-1}^z$$

$$(63)\ G_r^m = g_0^m + g_1^m G_{r-1}^m$$

$$(64)\ G^{i} = G_{r}^{i}P^{i}$$

$$(65)\ G^{z} = G_{r}^{z}P^{z}$$

$$(66)\ G^{m} = G_{r}^{m}P^{m}$$

$$(67)\ T_{h}^{i} = \theta_{h}^{i}\left(w^{i}N^{i} + rb^{i}pb^{i}B_{i\ d-1}^{i} + rb^{z}pb^{z}B_{i\ d-1}^{z} + rb^{m}pb^{m}B_{i\ d-1}^{m}exr^{m} + GC^{i}\right)$$

$$(68)\ T_{h}^{z} = \theta_{h}^{z}(w^{z}N^{z} + rb^{i}pb^{i}B_{z\ d-1}^{i} + rb^{z}pb^{z}B_{z\ d-1}^{z} + rb^{m}pb^{m}B_{z\ d-1}^{m}exr^{m} + GC^{z})$$

$$(69)\ T_{h}^{m} = \theta_{h}^{m}(w^{m}N^{m} + rb^{i}pb^{i}B_{m\ d-1}^{i}exr^{e} + rb^{z}pb^{z}B_{m\ d-1}^{z}exr^{e} + rb^{m}pb^{m}B_{m\ d-1}^{m} + GC^{m})$$

$$(70)\ CL^{i} = cl_{0}^{i}(w^{i}N^{i})$$

$$(71)\ CL^{z} = cl_{0}^{z}(w^{z}N^{z})$$

$$(72)\ CL^{m} = cl_{0}^{m}(w^{m}N^{m})$$

$$(73)\ T_{f}^{i} = \theta_{f}^{i}UP^{i}$$

$$(74)\ T_{f}^{z} = \theta_{f}^{z}UP^{z}$$

$$(75)\ T_{f}^{m} = \theta_{f}^{m}UP^{m}$$

$$(76)\ DEF^{i} = \left(\frac{G^{i} + PS^{i} + rb^{i}pb^{i}B_{s-1}^{i} - CL^{i} - T_{h}^{i} - T_{f}^{i} - F^{i}}{Y^{i}}\right)$$

$$(77)\ DEF^{z} = \left(\frac{G^{z} + PS^{z} + rb^{z}pb^{z}B_{s-1}^{z} - CL^{z} - T_{h}^{z} - T_{f}^{z} - F^{z}}{Y^{z}}\right)$$

$$(78)\ DEF^{m} = \left(\frac{G^{m} + PS^{m} + rb^{m}pb^{m}B_{s-1}^{m} - CL^{m} - T_{h}^{m} - T_{f}^{m} - F^{m}}{Y^{m}}\right)$$

$$(79)\ M^{i} = M_{r\ m}^{i}P^{m}exr^{m} + M_{r\ z}^{i}P^{z}$$

$$(80)\ M^{z} = M_{r\ m}^{z}P^{m}exr^{m} + M_{r\ i}^{z}P^{i}$$

$$(81)\ M^{m} = M_{r\ i}^{m}P^{i}exr^{e} + M_{r\ z}^{m}P^{z}exr^{e}$$

$$(82)\ X^{i} = M_{r\ i}^{z}P^{i} + M_{r\ i}^{m}P^{i}$$

$$(83)\ X^{z} = M_{r\ z}^{i}P^{z} + M_{r\ z}^{m}P^{z}$$

$$(84)\ X^{m} = M_{r\ m}^{i}P^{m} + M_{r\ m}^{z}P^{m}$$

$$(85)\ \log\left(M_{r\ m}^{i}\right) = \mu_{01}^{i} + \mu_{11}^{i}\log\left(Y_{r}^{i}\right) - \mu_{21}^{i}\log(exr^{m}) + \mu_{31}^{i}\log\left(\frac{P^{i}}{P^{m}}\right) + \mu_{41}^{i}\log\left(\frac{P^{z}}{P^{m}}\right)$$

$$(86)\ \log\left(M^{i}_{r\,z}\right) = \mu^{i}_{02} + \mu^{i}_{12}\log\left(Y^{i}_{r}\right) + \mu^{i}_{32}\log\left(\frac{P^{i}}{P^{z}}\right) + \mu^{i}_{42}\log\left(\frac{P^{m}}{P^{z}}\right)$$

$$(87)\ \log(M^{z}_{r\,m}) = \mu^{z}_{01} + \mu^{z}_{11}\log(Y^{z}_{r}) - \mu^{z}_{21}\log(exr^{m}) + \mu^{z}_{31}\log\left(\frac{P^{z}}{P^{m}}\right) + \mu^{z}_{41}\log\left(\frac{P^{i}}{P^{m}}\right)$$

$$(88)\ \log(M^{z}_{r\,i}) = \mu^{z}_{02} + \mu^{z}_{12}\log(Y^{z}_{r}) + \mu^{z}_{32}\log\left(\frac{P^{z}}{P^{i}}\right) + \mu^{z}_{42}\log\left(\frac{P^{m}}{P^{i}}\right)$$

$$(89)\ \log(M^{m}_{r\,i}) = \mu^{m}_{01} + \mu^{m}_{11}\log(Y^{m}_{r}) - \mu^{m}_{21}\log(exr^{e}) + \mu^{m}_{31}\log\left(\frac{P^{m}}{P^{i}}\right) + \mu^{m}_{41}\log\left(\frac{P^{z}}{P^{i}}\right)$$

$$(90)\ \log(M^{m}_{r\,z}) = \mu^{m}_{02} + \mu^{m}_{12}\log(Y^{m}_{r}) - \mu^{m}_{22}\log(exr^{e}) + \mu^{m}_{32}\log\left(\frac{P^{m}}{P^{z}}\right) + \mu^{m}_{42}\log\left(\frac{P^{i}}{P^{z}}\right)$$

$$(91)\ M^{i}_{r} = M^{i}_{r\,m} + M^{i}_{r\,z}$$

$$(92)\ M^{z}_{r} = M^{z}_{r\,i} + M^{z}_{r\,m}$$

$$(93)\ M^{m}_{r} = M^{m}_{r\,i} + M^{m}_{r\,z}$$

$$(94)\ X^{i}_{r} = M^{z}_{r\,i} + M^{m}_{r\,i}$$

$$(95)\ X^{z}_{r} = M^{i}_{r\,z} + M^{m}_{r\,z}$$

$$(96)\ X^{m}_{r} = M^{i}_{r\,m} + M^{z}_{r\,m}$$

$$(97)\ w^{i} = w^{i}_{0} + w^{i}_{1}P^{i} + w^{i}_{2}P^{i}_{-1} + w^{i}_{3}\lambda^{i} - w^{i}_{4}U^{i}$$

$$(98)\ w^{z} = w^{z}_{0} + w^{z}_{1}P^{z} + w^{z}_{2}P^{z}_{-1} + w^{z}_{3}\lambda^{z} - w^{z}_{4}U^{z}$$

$$(99)\ w^{m} = w^{m}_{0} + w^{m}_{1}P^{m} + w^{m}_{2}P^{m}_{-1} + w^{m}_{3}\lambda^{m} - w^{m}_{4}U^{m}$$

$$(100)\ \widehat{N^{i}} = \widehat{Y^{i}_{r}} - \widehat{\lambda^{i}}$$

$$(101)\ \widehat{N^{z}} = \widehat{Y^{z}_{r}} - \widehat{\lambda^{z}}$$

$$(102)\ \widehat{N^{m}} = \widehat{Y^{m}_{r}} - \widehat{\lambda^{m}}$$

$$(103)\ PA^{i} = a^{i}N^{i} + (1-a^{i})PAT^{i}$$

$$(104)\ PA^{z} = a^{z}N^{z} + (1-a^{z})PAT^{z}$$

$$(105)\ PA^{m} = a^{m}N^{m} + (1-a^{m})PAT^{m}$$

$$(106)\ PAT^{i} = b^{i}PAT^{i}_{-1}$$

$$(107)\ PAT^{z} = b^{z}PAT^{z}_{-1}$$

$$(108)\ PAT^{m} = b^{m}PAT^{m}_{-1}$$

$$(109)\ U^{i} = \left(\frac{PA^{i} - N^{i}}{PA^{i}}\right) * 100$$

$$(110)\ U^{z} = \left(\frac{PA^{z} - N^{z}}{PA^{z}}\right) * 100$$

$$(111)\ U^{m} = \left(\frac{PA^{m} - N^{m}}{PA^{m}}\right) * 100$$

$$(112)\ P^{i} = \left(1 + \emptyset^{i}\right)\left(\frac{w^{i}N^{i} + r^{i}_{0}M^{i}_{r\,z}P^{z} + r^{i}_{1}M^{i}_{r\,m}P^{m}exr^{m}}{Y^{i}_{r}}\right)$$

$$(113)\ P^{z} = (1 + \emptyset^{z})\left(\frac{w^{z}N^{z} + r^{z}_{0}M^{z}_{r\,i}P^{i} + r^{z}_{1}M^{z}_{r\,m}P^{m}exr^{m}}{Y^{z}_{r}}\right)$$

$$(114)\ P^{m} = (1 + \emptyset^{m})\left(\frac{w^{m}N^{m} + r^{m}_{0}M^{m}_{r\,i}P^{i}exr^{e} + r^{m}_{1}M^{m}_{r\,z}P^{z}exr^{e}}{Y^{m}_{r}}\right)$$

$$(115)\ \emptyset^{i} = x^{i}_{0} + x^{i}_{1}\left(\frac{I^{i}}{Y^{i}_{potential}}\right) - x^{i}_{2}\left(\frac{ULC^{i}}{ULC^{z}}\right) - x^{i}_{3}\left(\frac{ULC^{i}}{ULC^{m}}\right)$$

$$(116)\ \emptyset^{z} = x^{z}_{0} + x^{z}_{1}\left(\frac{I^{z}}{Y^{z}_{potential}}\right)$$

$$(117)\ \emptyset^{m} = x^{m}_{0} + x^{m}_{1}\left(\frac{I^{m}}{Y^{m}_{potential}}\right)$$

$$(118)\ ULC^{i} = \frac{w^{i}}{\frac{Y^{i}_{r}}{N^{i}}}$$

$$(119)\ ULC^{z} = \frac{w^{z}}{\frac{Y^{z}_{r}}{N^{z}}}$$

$$(120)\ ULC^{m} = \frac{w^{m}}{\frac{Y^{m}_{r}}{N^{m}}}$$

$$(121)\ P^{i}_{p} = \frac{Y^{i}}{Y^{i}_{r}}$$

$$(122)\ P^{z}_{p} = \frac{Y^{z}}{Y^{z}_{r}}$$

$$(123)\ P^{m}_{p} = \frac{Y^{m}}{Y^{m}_{r}}$$

$$(124)\ UP^{i} = Y^{i} - w^{i}N^{i}$$

$$(125)\ UP^{z} = Y^{z} - w^{z}N^{z}$$

$$(126)\ UP^m = Y^m - w^m N^m$$

$$(127)\ UP_c^i = Y^i - w^i N^i - T_f^i$$

$$(128)\ UP_c^z = Y^z - w^z N^z - T_f^z$$

$$(129)\ UP_c^m = Y^m - w^m N^m - T_f^m$$

$$(130)\ B_{i\,d}^i = VH^i(v_{10i} + v_{11i} rb^i - v_{12i} rb^z - v_{13i} rb^m)$$

$$(131)\ B_{i\,d}^z = VH^i(v_{20i} - v_{21i} rb^i + v_{22i} rb^z - v_{23i} rb^m)$$

$$(132)\ B_{i\,d}^m = VH^i(v_{30i} - v_{31i} rb^i - v_{32i} rb^z + v_{33i} rb^m)$$

$$(133)\ H_d^i = h_0^i C^i$$

$$(134)\ BD^i = VH^i - H_d^i - pb^i B_{i\,d}^i - pb^z B_{i\,d}^z - pb^m B_{i\,d}^m exr^m$$

$$(135)\ B_{z\,d}^i = VH^z(v_{10z} + v_{11z} rb^i - v_{12z} rb^z - v_{13z} rb^m)$$

$$(136)\ B_{z\,d}^z = VH^z(v_{20z} - v_{21z} rb^i + v_{22z} rb^z - v_{23z} rb^m)$$

$$(137)\ B_{z\,d}^m = VH^z(v_{30z} - v_{31z} rb^i - v_{32z} rb^z + v_{33z} rb^m)$$

$$(138)\ H_d^z = h_0^z C^z$$

$$(139)\ BD^z = VH^z - H_d^z - pb^i B_{z\,d}^i - pb^z B_{z\,d}^z - pb^m B_{z\,d}^m exr^m$$

$$(140)\ B_{m\,d}^i = VH^m(v_{10m} + v_{11m} rb^i - v_{12m} rb^z - v_{13m} rb^m)$$

$$(141)\ B_{m\,d}^z = VH^m(v_{20m} - v_{21m} rb^i + v_{22m} rb^z - v_{23m} rb^m)$$

$$(142)\ B_{m\,d}^m = VH^m(v_{30m} - v_{31m} rb^i - v_{32m} rb^z + v_{33m} rb^m)$$

$$(143)\ H_d^m = h_0^m C^m$$

$$(144)\ BD^m = VH^m - H_d^m - pb^i B_{m\,d}^i exr^e - pb^z B_{m\,d}^z exr^e - pb^m B_{m\,d}^m$$

$$(145)\ R^i = \rho^i BD^i$$

$$(146)\ R^z = \rho^z BD^z$$

$$(147)\ R^m = \rho^m BD^m$$

$$(148)\ \Delta L^i = I^i - UP_c^i$$

$$(149)\ \Delta L^z = I^z - UP_c^z$$

(150) $\Delta L^{m} = I^{m} - UP_{c}^{m}$

(151) $RF^{i} = L^{i} + R^{i} - BD^{i}$

(152) $RF^{z} = L^{z} + R^{z} - BD^{z}$

(153) $RF^{m} = L^{m} + R^{m} - BD^{m}$

(154) $(\Delta B_{s}^{i} pb^{i}) = G^{i} + PS^{i} + rb^{i} pb^{i} B_{s-1}^{i} - CL^{i} - T_{h}^{i} - T_{f}^{i} - F^{i}$

(155) $(\Delta B_{s}^{z} pb^{z}) = G^{z} + PS^{z} + rb^{z} pb^{z} B_{s-1}^{z} - CL^{z} - T_{h}^{z} - T_{f}^{z} - F^{z}$

(156) $(\Delta B_{s}^{m} pb^{m}) = G^{m} + PS^{m} + rb^{m} pb^{m} B_{s-1}^{m} - CL^{m} - T_{h}^{m} - T_{f}^{m} - F^{m}$

(157) $F^{i} = \varphi^{i} Fbce$

(158) $F^{z} = \varphi^{z} Fbce$

(159) $Fbce = rb^{i} pb^{i} Bbce_{s-1}^{i} + rb^{z} pb^{z} Bbce_{s-1}^{z} + rb^{m} pb^{m} Bbce_{s-1}^{m} exr^{m}$

(160) $F^{m} = rb^{m} pb^{m} Brdm_{s-1}^{m}$

(161) $B_{z\,s}^{i} = B_{s}^{i} - B_{i\,s}^{i} - B_{m\,s}^{i} - Bbce_{s}^{i}$

(162) $Bbce_{s}^{z} = B_{s}^{z} - B_{i\,s}^{z} - B_{z\,s}^{z} - B_{m\,s}^{z}$

(163) $Bbce_{s}^{m} = B_{s}^{m} - B_{i\,s}^{m} - B_{z\,s}^{m} - Brdm_{s}^{m} - B_{m\,s}^{m}$

(164) $Bbce_{s}^{i} = Bbce_{d}^{i}$

(165) $Bbce_{d}^{z} = Bbce_{s}^{z}$

(166) $(\Delta Bbce_{d}^{i} pb^{i}) = \Delta H_{s}^{i} + \Delta H_{s}^{z} + \Delta R^{i} + \Delta R^{z} - \Delta Bbce_{d}^{z} pb^{z} - \Delta Bbce_{s}^{m} pb^{m} exr^{m} - \Delta RF^{i} - \Delta RF^{z}$

(167) $Bbce_{d}^{m} = Bbce_{s}^{m}$

(168) $Brdm_{d}^{m} pb^{m} = H_{s}^{m} + R^{m} - RF^{m}$

(169) $Brdm_{s}^{m} = Brdm_{d}^{m}$

(170) $H_{s}^{i} = H_{d}^{i}$

(171) $H_{s}^{z} = H_{d}^{z}$

(172) $H_{s}^{m} = H_{d}^{m}$

(173) $B_{i\,s}^{i} = B_{i\,d}^{i}$

$$(174)\ B^{z}_{z\,s} = B^{z}_{z\,d}$$

$$(175)\ B^{m}_{m\,s} = B^{m}_{m\,d}$$

$$(176)\ B^{z}_{i\,s} = B^{z}_{i\,d}$$

$$(177)\ B^{z}_{m\,s} = B^{z}_{m\,d}$$

$$(178)\ B^{m}_{i\,s} = B^{m}_{i\,d}$$

$$(179)\ B^{m}_{z\,s} = B^{m}_{z\,d}$$

$$(180)\ B^{i}_{m\,s} = B^{i}_{m\,d}$$

$$(181)\ exr^{m} = \text{constant}$$

$$(182)\ exr^{e} = \frac{1}{exr^{m}}$$

$$(183)\ pb^{i} = \frac{1}{rb^{i}}$$

$$(184)\ rb^{i} = \text{constant}$$

$$(185)\ pb^{z} = \frac{1}{rb^{z}}$$

$$(186)\ rb^{z} = \text{constant}$$

$$(187)\ pb^{m} = \frac{1}{rb^{m}}$$

$$(188)\ rb^{m} = \text{constant}$$

$$(189)\ B^{i}_{z\,s} = B^{i}_{z\,d}$$

Equation (189) represents our redundant equation. It is removed from the model in order to check for stock-flow consistency.

Modified nominal wage determination rule :

$$(97a)\ \hat{w}^{i} = \hat{\lambda}^{i} + \text{inflation target}$$

$$(98a)\ \hat{w}^{z} = \hat{\lambda}^{z} + \text{inflation target}$$

$$(99a)\ \hat{w}^{m} = \hat{\lambda}^{m} + \text{inflation target}$$

Appendix C – Modelling results[24]

Table C1. Initial values of variables of interest

		Production	**Unemployment rate** (%)	**Trade balance** (% of GDP)	**Labour productivity**	**Public debt** (% of GDP)
France	France	100	7.93	-0.98	3.45	97.6
	Rest of the eurozone	380	7.02	5	2.9	82.7
	Rest of the world	2380	5.71	-0.76	0.76	84
Germany	Germany	137	2.95	5.8	3.04	59.7
	Rest of the eurozone	343	8.75	2.94	2.98	96.2
	Rest of the world	2380	5.71	-0.76	0.76	84
Spain	Spain	51	13.8	3	2.51	95.5
	Rest of the eurozone	429	6.14	3.84	3.07	84.6
	Rest of the world	2380	5.71	-0.76	0.76	84
Greece	Greece	7.8	15.4	-1.67	1.73	180.5
	Rest of the eurozone	472.2	6.93	3.84	3.03	84.2
	Rest of the world	2380	5.71	-0.76	0.76	84
Italy	Italy	73	9.39	3.29	2.93	134.6
	Rest of the eurozone	407	6.77	3.84	3.01	77
	Rest of the world	2380	5.71	-0.76	0.76	84
Netherlands	Netherlands	32	3.24	10.4	3.41	48.7
	Rest of the eurozone	448	7.42	3.27	2.97	88.5
	Rest of the world	2380	5.71	-0.76	0.76	84
Portugal	Portugal	8.5	6.37	0.35	1.71	116.8
	Rest of the eurozone	471.5	7.21	3.81	3.04	85.2
	Rest of the world	2380	5.71	-0.76	0.76	84

[24] In the baseline and scenario 5, the growth rate of real output, unemployment and the growth rate of labour productivity are presented as percentages. The trade balance and public debt are presented as a percentage of GDP. Scenarios 1, 2, 3 and 4 are interpreted relative to the baseline scenario. Scenarios 6 and 7 are interpreted in relation to scenario 5 which, as explained above, becomes the new baseline scenario. Scenarios 1, 2, 3, 4, 6 and 7 are then presented in percentage point.

Table C2. Results for the baseline scenario (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	1.22	1.22	1.22	9.18	9.51	10.1	-1.33	-1.33	-1.31	0.97	0.97	0.98	122.3	128.4	138.1
	Rest of the eurozone	1.02	1.03	1.03	7.81	8.02	8.37	4.61	4.59	4.63	0.5	0.51	0.51	95	102.1	117.4
	Rest of the world	2.11	2.09	2.06	6.28	6.46	6.78	-0.67	-0.66	-0.66	1.31	1.29	1.27	115.7	124.1	138.4
Germany	Germany	1.08	1.08	1.09	3.62	3.79	4.07	5.35	5.35	5.4	0.69	0.69	0.7	45.1	43.1	41.2
	Rest of the eurozone	1.05	1.05	1.05	9.59	9.81	10.2	2.43	2.43	2.5	0.53	0.53	0.54	119.9	129.4	147.9
	Rest of the world	2.11	2.09	2.05	6.28	6.46	6.76	-0.65	-0.64	-0.65	1.3	1.29	1.27	115.6	124.1	138.5
Spain	Spain	1.21	1.21	1.2	14.7	14.9	15.3	2.46	2.46	2.52	0.75	0.75	0.74	120.2	125.8	134.4
	Rest of the eurozone	1.01	1.02	1.03	6.92	7.12	7.46	3.44	3.46	3.53	0.52	0.53	0.54	98.6	105.8	120.7
	Rest of the world	2.12	2.1	2.06	6.29	6.46	6.76	-0.66	-0.66	-0.67	1.31	1.3	1.28	1151.1	123.4	137.4
Greece	Greece	1.39	1.39	1.39	16.1	16.3	16.7	-2.41	-2.39	-2.3	0.9	0.9	0.91	168.9	173.3	188.5
	Rest of the eurozone	1.06	1.07	1.07	7.69	7.9	8.25	3.55	3.56	3.61	0.55	0.57	0.57	102.1	110.1	125.9
	Rest of the world	2.12	2.1	2.07	6.29	6.46	6.76	-0.68	-0.68	-0.68	1.32	1.31	1.29	118.8	127.9	143
Italy	Italy	1.12	1.12	1.12	10.2	10.4	10.8	2.78	2.78	2.82	0.71	0.71	0.71	142.6	146.4	154.6
	Rest of the eurozone	1.01	1.01	1.02	7.54	7.75	8.09	3.37	3.37	3.44	0.48	0.49	0.5	97.1	106.1	123.9
	Rest of the world	2.11	2.09	2.06	6.28	6.46	6.76	-0.65	-0.65	-0.65	1.31	1.29	1.27	115.2	123.6	137.7
Netherlands	Netherlands	0.95	0.95	0.95	4.02	4.22	4.55	9.57	9.56	9.7	0.6	0.6	0.6	26.6	20.6	10.6
	Rest of the eurozone	1.06	1.06	1.07	8.24	8.46	8.82	2.85	2.86	2.92	0.55	0.55	0.56	106	114	130.1
	Rest of the world	2.11	2.09	2.06	6.28	6.46	6.76	-0.65	-0.65	-0.65	1.31	1.29	1.27	115.3	123.7	137.8
Portugal	Portugal	1.33	1.32	1.32	7.18	7.39	7.75	0.19	0.19	0.15	0.93	0.92	0.92	113.5	115	120
	Rest of the eurozone	1.06	1.06	1.06	8.06	8.27	8.64	3.31	3.31	3.37	0.56	0.56	0.56	101.4	108.8	123.9
	Rest of the world	2.12	2.1	2.06	6.29	6.46	6.76	-0.64	-0.64	-0.65	1.32	1.3	1.28	114.6	122.7	136.3

Table C3. Results for the baseline scenario (calibration 2)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	1.22	1.22	1.22	9.18	9.51	10.1	-1.33	-1.33	-1.31	0.97	0.97	0.98	122.3	128.4	138.1
	Rest of the eurozone	1.02	1.03	1.03	7.81	8.02	8.37	4.61	4.59	4.63	0.5	0.51	0.51	95	102.1	117.4
	Rest of the world	2.11	2.09	2.06	6.28	6.46	6.78	-0.67	-0.66	-0.66	1.31	1.29	1.27	115.7	124.1	138.4
Germany	Germany	1.18	1.19	1.21	3.57	3.72	3.96	6.78	7.18	7.88	0.76	0.77	0.78	39.6	34.9	27.3
	Rest of the eurozone	0.97	0.97	0.97	9.54	9.74	10.1	2.46	2.47	2.58	0.44	0.44	0.44	121.9	132.5	153
	Rest of the world	2.09	2.07	2.03	6.28	6.45	6.75	-0.75	-0.77	-0.83	1.28	1.27	1.25	116.6	125.6	141
Spain	Spain	1.16	1.16	1.15	14.7	15	15.4	1.38	1.08	0.63	0.71	0.71	0.7	126.4	134.9	149.6
	Rest of the eurozone	1.08	1.08	1.1	6.96	7.17	7.53	3.37	3.35	3.37	0.59	0.61	0.62	96.9	103.3	116.4
	Rest of the world	2.13	2.11	2.07	6.29	6.46	6.76	-0.62	-0.61	-0.6	1.33	1.31	1.29	114.7	122.7	136.2
Greece	Greece	1.35	1.34	1.34	16.1	16.3	16.7	-3.74	-4.11	-4.7	0.86	0.86	0.86	177.7	185.7	208.6
	Rest of the eurozone	1.13	1.14	1.15	7.73	7.96	8.33	3.43	3.4	3.38	0.64	0.65	0.66	100.3	107.3	121.1
	Rest of the world	2.14	2.12	2.08	6.29	6.46	6.76	-0.66	-0.64	-0.63	1.33	1.32	1.3	118.4	127.3	141.9
Italy	Italy	1.08	1.08	1.08	10.2	10.4	10.8	2.21	2.05	1.83	0.68	0.68	0.68	146.5	152	164
	Rest of the eurozone	1.04	1.05	1.05	7.56	7.77	8.13	3.33	3.32	3.36	0.52	0.53	0.54	96.2	104.7	121.6
	Rest of the world	2.12	2.1	2.06	6.29	6.46	6.76	-0.63	-0.62	-0.61	1.31	1.3	1.28	115	123.2	137
Netherlands	Netherlands	1.06	1.07	1.08	3.98	4.16	4.47	11.3	11.8	12.7	0.69	0.7	0.7	21	12.2	-3.4
	Rest of the eurozone	1	1	1	8.2	8.4	8.74	2.91	2.94	3.05	0.47	0.47	0.48	107.6	116.5	134.4
	Rest of the world	2.1	2.08	2.04	6.28	6.45	6.75	-0.69	-0.7	-0.73	1.29	1.28	1.26	115.8	124.4	139
Portugal	Portugal	1.27	1.27	1.26	7.2	7.42	7.78	-0.99	-1.32	-1.9	0.88	0.88	0.87	119.9	124.4	135.5
	Rest of the eurozone	1.12	1.12	1.12	8.1	8.32	8.71	3.22	3.18	3.19	0.63	0.63	0.64	99.9	106.6	120
	Rest of the world	2.13	2.11	2.07	6.29	6.46	6.77	-0.62	-0.61	-0.6	1.33	1.31	1.29	114.3	122.2	135.5

Table C4. Results for scenario 1 (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	-0.04	-0.04	-0.04	-0.19	-0.38	-0.7	+0.19	+0.37	+0.68	-0.3	-0.3	-0.3	+1.25	+3.29	+8.45
	Rest of the eurozone	+0.03	+0.03	+0.03	+0.01	+0.02	+0.03	-0.03	-0.06	-0.12	+0.04	+0.04	+0.04	-0.04	-0.16	-0.58
	Rest of the world	+0.01	0	0	0	0	0	0	-0.01	-0.01	+0.01	+0.01	+0.01	+0.02	+0.04	+0.07
Germany	Germany	+0.01	+0.01	+0.02	-0.15	-0.31	-0.58	+0.23	+0.43	+0.77	-0.28	-0.28	-0.27	+0.98	+2.97	+8.39
	Rest of the eurozone	+0.02	+0.02	+0.03	+0.01	+0.01	+0.03	-0.03	-0.06	-0.11	+0.03	+0.03	+0.04	+0.01	-0.05	-0.32
	Rest of the world	0	0	0	0	0	0	-0.01	-0.01	-0.02	0	0	0	+0.06	+0.12	+0.24
Spain	Spain	-0.03	-0.03	-0.04	-0.25	-0.51	-0.94	+0.22	+0.43	+0.8	-0.28	-0.28	-0.29	+1.09	+2.85	+7.28
	Rest of the eurozone	+0.03	+0.03	+0.03	+0.01	+0.01	+0.03	-0.02	-0.05	-0.09	+0.04	+0.04	+0.04	-0.07	-0.25	-0.77
	Rest of the world	+0.01	+0.01	0	0	0	0	0	0	0	+0.01	+0.01	+0.01	0	-0.01	-0.07
Greece	Greece	-0.03	-0.03	-0.02	-0.32	-0.64	-1.19	+0.24	+0.47	+0.87	-0.31	-0.31	-0.3	+1.25	+3.09	+7.69
	Rest of the eurozone	+0.03	+0.04	+0.04	+0.01	+0.01	+0.03	-0.02	-0.04	-0.08	+0.04	+0.05	+0.05	-0.1	-0.33	-0.97
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	+0.01	+0.01	+0.01	+0.01	+0.01	-0.02	-0.06	-0.19
Italy	Italy	-0.01	-0.02	-0.01	-0.2	-0.4	-0.75	+0.18	+0.35	+0.64	-0.29	-0.3	-0.29	+1.31	+3.55	+9.47
	Rest of the eurozone	+0.03	+0.03	+0.04	+0.01	+0.02	+0.03	-0.02	-0.05	-0.1	+0.04	+0.04	+0.05	-0.07	-0.25	-0.83
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	0	0	+0.01	+0.01	+0.01	+0.01	0	-0.03
Netherlands	Netherlands	+0.07	+0.07	+0.09	-0.19	-0.38	-0.71	+0.31	+0.58	+1.03	-0.26	-0.26	-0.25	+0.49	+1.45	+4.02
	Rest of the eurozone	+0.03	+0.03	+0.03	+0.01	+0.01	+0.02	-0.02	-0.04	-0.08	+0.03	+0.04	+0.04	-0.06	-0.21	-0.65
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	0	0	+0.01	+0.01	+0.01	0	-0.01	-0.07
Portugal	Portugal	-0.02	-0.03	-0.03	-0.2	-0.41	-0.75	+0.28	+0.54	+1	-0.3	-0.31	-0.31	+0.84	+2.01	+4.82
	Rest of the eurozone	+0.03	+0.03	+0.04	+0.01	+0.01	+0.03	-0.02	-0.04	-0.08	+0.04	+0.04	+0.05	-0.1	-0.32	-0.95
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	+0.01	+0.01	+0.01	+0.01	+0.01	-0.02	-0.06	-0.18

Table C5. Results for scenario 1 (calibration 2)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	-0.04	-0.04	-0.04	-0.19	-0.38	-0.7	+0.19	+0.37	+0.68	-0.3	-0.3	-0.3	+1.25	+3.29	+8.45
	Rest of the eurozone	+0.03	+0.03	+0.03	+0.01	+0.02	+0.03	-0.03	-0.06	-0.12	+0.04	+0.04	+0.04	-0.04	-0.16	-0.58
	Rest of the world	+0.01	0	0	0	0	0	0	-0.01	-0.01	+0.01	+0.01	+0.01	+0.02	+0.04	+0.07
Germany	Germany	0	+0.01	0	-0.15	-0.31	-0.58	+0.23	+0.44	+0.8	-0.29	-0.28	-0.29	+0.95	+2.89	+8.11
	Rest of the eurozone	+0.02	+0.02	+0.02	+0.01	+0.01	+0.03	-0.03	-0.06	-0.11	+0.03	+0.03	+0.03	+0.02	-0.03	-0.26
	Rest of the world	0	0	0	0	0	0	-0.01	-0.01	-0.03	0	0	0	+0.06	+0.12	+0.26
Spain	Spain	-0.02	-0.03	-0.04	-0.25	-0.51	-0.94	+0.21	+0.42	+0.75	-0.28	-0.28	-0.28	+1.14	+2.98	+7.68
	Rest of the eurozone	+0.03	+0.03	+0.03	+0.01	+0.01	+0.02	-0.02	-0.05	-0.09	+0.04	+0.04	+0.04	-0.07	-0.26	-0.8
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	0	0	+0.01	+0.01	+0.01	0	-0.02	-0.08
Greece	Greece	-0.02	-0.02	-0.04	-0.32	-0.64	-1.18	+0.23	+0.45	+0.82	-0.31	-0.31	-0.32	+1.32	+3.28	+8.26
	Rest of the eurozone	+0.03	+0.04	+0.04	+0.01	+0.01	+0.03	-0.02	-0.04	-0.07	+0.04	+0.05	+0.04	-0.11	-0.34	-0.97
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	+0.01	+0.01	+0.01	+0.01	+0.01	-0.02	-0.07	-0.19
Italy	Italy	-0.01	-0.02	-0.02	-0.2	-0.4	-0.75	+0.18	+0.34	+0.62	-0.29	-0.3	-0.3	+1.34	+3.63	+9.71
	Rest of the eurozone	+0.03	+0.03	+0.04	+0.01	+0.01	+0.03	-0.02	-0.05	-0.1	+0.04	+0.04	+0.05	-0.07	-0.26	-0.85
	Rest of the world	+0.01	+0.01	0	0	0	0	0	0	0	+0.01	+0.01	+0.01	+0.01	0	-0.03
Netherlands	Netherlands	+0.08	+0.07	+0.09	-0.19	-0.38	-0.71	+0.32	+0.6	+1.07	-0.26	-0.26	-0.25	+0.47	+1.36	+3.71
	Rest of the eurozone	+0.03	+0.03	+0.03	+0.01	+0.01	+0.03	-0.02	-0.04	-0.08	+0.03	+0.04	+0.04	-0.05	-0.2	-0.64
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	0	0	+0.01	+0.01	+0.01	0	-0.01	-0.06
Portugal	Portugal	-0.03	-0.04	-0.04	-0.2	-0.4	-0.74	+0.26	+0.52	+0.94	-0.31	-0.32	-0.31	+0.9	+2.18	+5.35
	Rest of the eurozone	+0.03	+0.03	+0.04	+0.01	+0.01	+0.02	-0.02	-0.04	-0.07	+0.04	+0.04	+0.05	-0.1	-0.32	-0.93
	Rest of the world	+0.01	+0.01	+0.01	0	0	0	0	+0.01	+0.01	+0.01	+0.01	+0.01	-0.02	-0.06	-0.18

Table C6. Results for scenario 2 (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	-0.1	-0.1	-0.1	-0.17	-0.34	-0.63	+0.12	+0.24	+0.45	-0.33	-0.34	-0.33	+1.47	+3.83	+9.63
	Rest of the eurozone	-0.02	-0.02	-0.01	-0.18	-0.38	-0.7	+0.18	+0.35	+0.61	-0.28	-0.28	-0.27	+1.06	+2.87	+7.39
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.1	0	0	0	+0.22	+0.49	+1.09
Germany	Germany	-0.05	-0.06	-0.05	-0.13	-0.27	-0.5	+0.15	+0.3	+0.53	-0.31	-0.32	-0.31	+1.13	+3.36	+9.25
	Rest of the eurozone	-0.04	-0.02	-0.01	-0.19	-0.39	-0.73	+0.17	+0.33	+0.59	-0.29	-0.27	-0.27	+1.21	+3.21	+8.09
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.1	0	0	0	+0.21	+0.47	+1.06
Spain	Spain	-0.11	-0.11	-0.1	-0.21	-0.42	-0.79	+0.14	+0.28	+0.53	-0.32	-0.32	-0.31	+1.37	+3.52	+8.74
	Rest of the eurozone	-0.03	-0.02	-0.01	-0.16	-0.33	-0.63	+0.19	+0.36	+0.63	-0.28	-0.27	-0.27	+1.11	+2.99	+7.64
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.23	+0.51	+1.15
Greece	Greece	-0.11	-0.11	-0.09	-0.27	-0.54	-1.01	+0.16	+0.32	+0.6	-0.34	-0.35	-0.34	+1.59	+3.89	+9.39
	Rest of the eurozone	-0.03	-0.02	-0.01	-0.17	-0.36	-0.68	+0.19	+0.35	+0.62	-0.28	-0.28	-0.27	+1.11	+2.98	+7.62
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.24	+0.53	+1.2
Italy	Italy	-0.09	-0.08	-0.07	-0.17	-0.35	-0.65	+0.1	+0.21	+0.4	-0.32	-0.32	-0.31	+1.59	+4.23	+10.9
	Rest of the eurozone	-0.03	-0.02	+0.01	-0.18	-0.38	-0.71	+0.19	+0.35	+0.62	-0.28	-0.28	-0.26	+1.07	+2.89	+7.38
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.22	+0.5	+1.11
Netherlands	Netherlands	-0.06	-0.04	-0.02	-0.15	-0.31	-0.58	+0.2	+0.4	+0.72	-0.33	-0.31	-0.3	+0.68	+1.97	+5.19
	Rest of the eurozone	-0.04	-0.03	-0.01	-0.18	-0.37	-0.69	+0.18	+0.34	+0.61	-0.28	-0.28	-0.27	+1.16	+3.11	+7.93
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.23	+0.5	+1.14
Portugal	Portugal	-0.13	-0.13	-0.13	-0.16	-0.33	-0.6	+0.17	+0.35	+0.65	-0.35	-0.35	-0.36	+1.19	+2.85	+6.64
	Rest of the eurozone	-0.03	-0.03	-0.02	-0.18	-0.37	-0.69	+0.19	+0.35	+0.62	-0.28	-0.28	-0.28	+1.13	+3.04	+7.75
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.23	+0.52	+1.16

Table C7. Results for scenario 2 (calibration 2)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	-0.1	-0.1	-0.1	-0.17	-0.34	-0.63	+0.12	+0.24	+0.45	-0.33	-0.34	-0.33	+1.47	+3.83	+9.63
	Rest of the eurozone	-0.02	-0.02	-0.01	-0.18	-0.38	-0.7	+0.18	+0.35	+0.61	-0.28	-0.28	-0.27	+1.06	+2.87	+7.39
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.1	0	0	0	+0.22	+0.49	+1.09
Germany	Germany	-0.07	-0.05	-0.06	-0.13	-0.27	-0.5	+0.15	+0.3	+0.56	-0.32	-0.31	-0.31	+1.1	+3.26	+8.92
	Rest of the eurozone	-0.03	-0.01	0	-0.19	-0.39	-0.74	+0.17	+0.33	+0.58	-0.28	-0.27	-0.27	+1.19	+3.15	+7.91
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.1	0	0	0	+0.21	+0.47	+1.07
Spain	Spain	-0.1	-0.1	-0.1	-0.21	-0.43	-0.79	+0.14	+0.28	+0.51	-0.31	-0.32	-0.31	+1.4	+3.62	+9.06
	Rest of the eurozone	-0.04	-0.04	-0.02	-0.16	-0.33	-0.62	+0.19	+0.36	+0.63	-0.29	-0.29	-0.28	+1.12	+3.03	+7.8
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.23	+0.5	+1.14
Greece	Greece	-0.1	-0.09	-0.1	-0.27	-0.55	-1.01	+0.16	+0.32	+0.59	-0.34	-0.34	-0.35	+1.63	+4.01	+9.76
	Rest of the eurozone	-0.04	-0.03	-0.02	-0.17	-0.36	-0.67	+0.19	+0.36	+0.63	-0.29	-0.28	-0.28	+1.12	+3.04	+7.81
	Rest of the world	0	0	0	0	0	0	-0.03	-0.07	-0.11	0	0	0	+0.24	+0.53	+1.19
Italy	Italy	-0.07	-0.07	-0.08	-0.17	-0.35	-0.66	+0.11	+0.21	+0.4	-0.32	-0.32	-0.32	+1.6	+4.27	+11.1
	Rest of the eurozone	-0.03	-0.02	0	-0.18	-0.38	-0.71	+0.19	+0.35	+0.62	-0.28	-0.28	-0.27	+1.08	+2.93	+7.46
	Rest of the world	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.22	+0.49	+1.1
Netherlands	Netherlands	-0.06	-0.05	-0.02	-0.15	-0.3	-0.57	+0.2	+0.39	+0.73	-0.32	-0.32	-0.3	+0.67	+1.92	+5.01
	Rest of the eurozone	-0.04	-0.03	0	-0.18	-0.37	-0.7	+0.18	+0.34	+0.6	-0.29	-0.28	-0.27	+1.16	+3.1	+7.86
	Reste du monde	0	0	0	0	0	0	-0.03	-0.06	-0.11	0	0	0	+0.23	+0.51	+1.14
Portugal	Portugal	-0.13	-0.13	-0.12	-0.16	-0.33	-0.61	+0.17	+0.34	+0.64	-0.35	-0.36	-0.35	+1.2	+2.93	+6.96
	Rest of the eurozone	-0.04	-0.03	-0.02	-0.18	-0.36	-0.68	+0.19	+0.36	+0.63	-0.28	-0.28	-0.28	+1.13	+3.06	+7.89
	Rest of the world	0	0	0	0	0	0	-0.03	-0.07	-0.11	0	0	0	+0.23	+0.52	+1.17

Table C8. Results for scenario 3 (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+0.46	+0.48	+0.49	-0.26	-0.53	-1	+0.37	+0.72	+1.3	+0.1	+0.11	+0.12	+0.77	+1.23	+1.69
	Rest of the eurozone	+0.14	+0.16	+0.17	+0.04	+0.07	+0.13	-0.1	-0.21	-0.41	+0.19	+0.21	+0.22	-0.36	-1.27	-3.89
	Rest of the world	+0.03	+0.02	+0.02	0	0	+0.01	0	0	+0.01	+0.03	+0.03	+0.03	+0.02	-0.02	-0.21
Germany	Germany	+0.6	+0.6	+0.62	-0.26	-0.53	-1	+0.39	+0.72	+1.28	+0.11	+0.1	+0.11	+0.24	+0.32	+0.23
	Rest of the eurozone	+0.11	+0.11	+0.13	+0.03	+0.07	+0.12	-0.07	-0.15	-0.3	+0.15	+0.16	+0.17	-0.22	-0.87	-2.89
	Rest of the world	+0.02	+0.01	+0.01	0	0	0	-0.01	-0.02	-0.03	+0.02	+0.02	+0.01	+0.13	+0.25	+0.45
Spain	Spain	+0.54	+0.55	+0.56	-0.45	-0.93	-1.74	+0.41	+0.78	+1.42	+0.09	+0.09	+0.09	+0.39	+0.27	-0.61
	Rest of the eurozone	+0.15	+0.16	+0.17	+0.03	+0.07	+0.12	-0.09	-0.19	-0.38	+0.2	+0.21	+0.22	-0.43	-1.43	-4.23
	Rest of the world	+0.03	+0.03	+0.03	0	0	+0.01	+0.01	+0.02	+0.04	+0.04	+0.03	+0.03	-0.05	-0.2	-0.64
Greece	Greece	+0.54	+0.55	+0.58	-0.51	-1.05	-1.97	+0.44	+0.85	+1.56	+0.08	+0.09	+0.1	+0.73	+0.78	-0.16
	Rest of the eurozone	+0.17	+0.18	+0.2	+0.04	+0.07	+0.13	-0.09	-0.19	-0.37	+0.22	+0.23	+0.24	-0.53	-1.69	-4.9
	Rest of the world	+0.04	+0.03	+0.03	0	0	+0.01	+0.02	+0.03	+0.06	+0.04	+0.04	+0.04	-0.11	-0.35	-1
Italy	Italy	+0.52	+0.53	+0.54	-0.32	-0.66	-1.23	+0.37	+0.71	+1.29	+0.07	+0.07	+0.08	+0.7	+1.15	+1.78
	Rest of the eurozone	+0.16	+0.17	+0.19	+0.04	+0.07	+0.13	-0.1	-0.2	-0.4	+0.21	+0.22	+0.24	-0.44	-1.47	-4.4
	Rest of the world	+0.03	+0.03	+0.03	0	0	+0.01	+0.01	+0.01	+0.03	+0.03	+0.03	+0.03	-0.02	-0.13	-0.47
Netherlands	Netherlands	+0.8	+0.82	+0.83	-0.34	-0.69	-1.29	+0.41	+0.73	+1.28	+0.2	+0.21	+0.22	-0.38	-1.57	-5.08
	Rest of the eurozone	+0.13	+0.14	+0.15	+0.03	+0.06	+0.11	-0.08	-0.16	-0.32	+0.17	+0.18	+0.19	-0.35	-1.19	-3.58
	Rest of the world	+0.03	+0.03	+0.03	0	0	+0.01	+0.01	+0.02	+0.04	+0.03	+0.03	+0.03	-0.04	-0.19	-0.61
Portugal	Portugal	+0.59	+0.59	+0.59	-0.34	-0.7	-1.3	+0.47	+0.9	+1.63	+0.11	+0.11	+0.1	+0.22	-0.23	-2.05
	Rest of the eurozone	+0.17	+0.17	+0.18	+0.04	+0.07	+0.13	-0.08	-0.18	-0.35	+0.21	+0.22	+0.23	-0.52	-1.66	-4.8
	Rest of the world	+0.04	+0.03	+0.03	0	0	+0.01	+0.01	+0.03	+0.06	+0.04	+0.04	+0.04	-0.1	-0.34	-0.97

Table C9. Results for scenario 3 (calibration 2)

		Rate of growth			Unemployement			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+0.46	+0.48	+0.49	-0.26	-0.53	-1	+0.37	+0.72	+1.3	+0.1	+0.11	+0.12	+0.77	+1.23	+1.69
	Rest of the eurozone	+0.14	+0.16	+0.17	+0.04	+0.07	+0.13	-0.1	-0.21	-0.41	+0.19	+0.21	+0.22	-0.36	-1.27	-3.89
	Rest of the world	+0.03	+0.02	+0.02	0	0	+0.01	0	0	+0.01	+0.03	+0.03	+0.03	+0.02	-0.02	-0.21
Germany	Germany	+0.61	+0.62	+0.64	-0.26	-0.54	-1.01	+0.41	+0.76	+1.36	+0.11	+0.12	+0.12	+0.19	+0.19	-0.09
	Rest of the eurozone	+0.11	+0.12	+0.13	+0.03	+0.07	+0.12	-0.08	-0.16	-0.33	+0.15	+0.16	+0.18	-0.2	-0.82	-2.78
	Rest of the world	+0.02	+0.01	+0.01	0	0	0	-0.01	-0.02	-0.03	+0.02	+0.02	+0.01	+0.14	+0.28	+0.55
Spain	Spain	+0.52	+0.53	+0.54	-0.44	-0.91	-1.7	+0.38	+0.71	+1.29	+0.08	+0.08	+0.09	+0.5	+0.58	+0.21
	Rest of the eurozone	+0.15	+0.15	+0.17	+0.03	+0.06	+0.11	-0.09	-0.19	-0.36	+0.2	+0.2	+0.21	-0.43	-1.43	-4.23
	Rest of the world	+0.03	+0.03	+0.03	0	0	+0.01	+0.01	+0.02	+0.04	+0.04	+0.03	+0.03	-0.05	-0.21	-0.65
Greece	Greece	+0.51	+0.54	+0.53	-0.5	-1.03	-1.91	+0.4	+0.78	+1.4	+0.07	+0.08	+0.08	+0.88	+1.21	+0.97
	Rest of the eurozone	+0.17	+0.18	+0.18	+0.04	+0.07	+0.12	-0.09	-0.18	-0.35	+0.21	+0.22	+0.23	-0.53	-1.68	-4.84
	Rest of the world	+0.04	+0.03	+0.03	0	0	+0.01	+0.01	+0.03	+0.06	+0.04	+0.04	+0.04	-0.11	-0.35	-0.99
Italy	Italy	+0.51	+0.52	+0.52	-0.32	-0.65	-1.22	+0.36	+0.68	+1.23	+0.06	+0.06	+0.07	+0.76	+1.32	+2.21
	Rest of the eurozone	+0.16	+0.17	+0.18	+0.04	+0.07	+0.13	-0.1	-0.2	-0.39	+0.21	+0.22	+0.23	-0.44	-1.48	-4.42
	Rest of the world	+0.03	+0.03	+0.03	0	0	+0.01	+0.01	+0.01	+0.03	+0.03	+0.03	+0.03	-0.02	-0.14	-0.49
Netherlands	Netherlands	+0.84	+0.84	+0.87	-0.34	-0.7	-1.31	+0.44	+0.8	+1.42	+0.22	+0.22	+0.24	-0.43	-1.7	-5.32
	Rest of the eurozone	+0.13	+0.14	+0.16	+0.03	+0.06	+0.12	-0.08	-0.17	-0.34	+0.18	+0.18	+0.2	-0.34	-1.17	-3.54
	Rest of the world	+0.03	+0.03	+0.03	0	0	+0.01	+0.01	+0.02	+0.04	+0.03	+0.03	+0.03	-0.04	-0.18	-0.59
Portugal	Portugal	+0.56	+0.56	+0.57	-0.33	-0.68	-1.26	+0.42	+0.8	+1.44	+0.09	+0.09	+0.1	+0.36	+0.14	-1.05
	Rest of the eurozone	+0.16	+0.17	+0.18	+0.03	+0.07	+0.12	-0.08	-0.17	-0.33	+0.21	+0.21	+0.22	-0.52	-1.65	-4.74
	Rest of the world	+0.04	+0.03	+0.03	0	0	+0.01	+0.01	+0.03	+0.06	+0.04	+0.04	+0.04	-0.1	-0.34	-0.96

Table C10. Results for scenario 4 (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+0.27	+0.29	+0.3	-0.19	-0.41	-0.77	+0.22	+0.44	+0.8	-0.01	0	+0.01	+1.35	+2.74	+5.37
	Rest of the eurozone	+0.53	+0.55	+0.57	-0.32	-0.67	-1.26	+0.24	+0.43	+0.74	+0.08	+0.09	+0.1	+0.51	+0.71	+0.51
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.08	-0.14	0	0	0	+0.55	+1.2	+2.63
Germany	Germany	+0.39	+0.39	+0.42	-0.19	-0.4	-0.76	+0.23	+0.44	+0.78	+0.01	+0.01	+0.02	+0.62	+1.4	+3.01
	Rest of the eurozone	+0.5	+0.53	+0.55	-0.33	-0.68	-1.28	+0.25	+0.45	+0.79	+0.07	+0.08	+0.09	+0.67	+1.03	+1.07
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.53	+1.16	+2.56
Spain	Spain	+0.33	+0.35	+0.36	-0.34	-0.7	-1.31	+0.26	+0.51	+0.94	-0.01	0	0	+1	+1.84	+3.07
	Rest of the eurozone	+0.51	+0.54	+0.55	-0.28	-0.59	-1.11	+0.25	+0.45	+0.77	+0.07	+0.09	+0.09	+0.58	+0.85	+0.8
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.57	+1.24	+2.72
Greece	Greece	+0.29	+0.31	+0.35	-0.37	-0.76	-1.43	+0.28	+0.55	+1.01	-0.03	-0.02	0	+1.56	+2.87	+4.7
	Rest of the eurozone	+0.51	+0.54	+0.54	-0.3	-0.64	-1.19	+0.25	+0.45	+0.77	+0.08	+0.09	+0.09	+0.59	+0.87	+0.84
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.61	+1.32	+2.88
Italy	Italy	+0.32	+0.34	+0.36	-0.24	-0.5	-0.94	+0.2	+0.4	+0.73	-0.02	-0.01	0	+1.42	+3	+6.18
	Rest of the eurozone	+0.53	+0.56	+0.58	-0.32	-0.67	-1.26	+0.25	+0.44	+0.74	+0.08	+0.09	+0.1	+0.53	+0.72	+0.47
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.08	-0.14	0	0	0	+0.56	+1.23	+2.67
Netherlands	Netherlands	+0.55	+0.57	+0.59	-0.25	-0.53	-0.99	+0.33	+0.61	+1.09	+0.08	+0.1	+0.11	-0.06	-0.7	-3
	Rest of the eurozone	+0.48	+0.5	+0.53	-0.3	-0.63	-1.2	+0.25	+0.45	+0.78	+0.06	+0.07	+0.08	+0.66	+1.08	+1.34
	Rest of the world	+0.01	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.57	+1.24	+2.73
Portugal	Portugal	+0.3	+0.31	+0.32	-0.23	-0.47	-0.89	+0.3	+0.61	+1.13	-0.03	-0.02	-0.02	+0.94	+1.59	+2.18
	Rest of the eurozone	+0.51	+0.53	+0.55	-0.31	-0.65	-1.22	+0.25	+0.46	+0.79	+0.07	+0.08	+0.1	+0.59	+0.89	+0.87
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.59	+1.28	+2.8

Table C11. Results for scenario 4 (calibration 2)

		Rate of growth			Unemployement			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+0.27	+0.29	+0.3	-0.19	-0.41	-0.77	+0.22	+0.44	+0.8	-0.01	0	+0.01	+1.35	+2.74	+5.37
	Rest of the eurozone	+0.53	+0.55	+0.57	-0.32	-0.67	-1.26	+0.24	+0.43	+0.74	+0.08	+0.09	+0.1	+0.51	+0.71	+0.51
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.08	-0.14	0	0	0	+0.55	+1.2	+2.63
Germany	Germany	+0.42	+0.43	+0.43	-0.2	-0.42	-0.79	+0.28	+0.53	+0.95	+0.02	+0.03	+0.03	+0.51	+1.1	+2.21
	Rest of the eurozone	+0.49	+0.53	+0.54	-0.32	-0.68	-1.28	+0.23	+0.41	+0.69	+0.06	+0.09	+0.09	+0.72	+1.14	+1.31
	Rest of the world	+0.01	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.54	+1.18	+2.61
Spain	Spain	+0.31	+0.31	+0.33	-0.32	-0.66	-1.23	+0.2	+0.38	+0.69	-0.01	-0.02	-0.01	+1.22	+2.45	+4.67
	Rest of the eurozone	+0.51	+0.53	+0.55	-0.28	-0.59	-1.11	+0.26	+0.47	+0.81	+0.07	+0.08	+0.09	+0.56	+0.82	+0.75
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.57	+1.24	+2.71
Greece	Greece	+0.27	0.29	+0.31	-0.35	-0.72	-1.35	+0.23	+0.44	+0.8	-0.04	-0.03	-0.03	+1.8	+3.51	+6.35
	Rest of the eurozone	+0.5	+0.53	+0.54	-0.3	-0.63	-1.19	+0.25	+0.46	+0.79	+0.07	+0.09	+0.09	+0.59	+0.89	+0.94
	Rest of the world	+0.01	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.6	+1.31	+2.86
Italy	Italy	+0.32	+0.33	+0.33	-0.24	-0.49	-0.93	+0.18	+0.35	+0.64	-0.02	-0.02	-0.01	+1.51	+3.25	+6.84
	Rest of the eurozone	+0.52	+0.55	+0.58	-0.32	-0.67	-1.26	+0.25	+0.45	+0.76	+0.08	+0.09	+0.1	+0.53	+0.73	+0.49
	Rest of the world	+0.01	0	-0.01	0	0	0	-0.05	-0.08	-0.14	0	0	0	+0.56	+1.21	+2.66
Netherlands	Netherlands	+0.6	+0.61	+0.65	-0.27	-0.56	-1.05	+0.41	+0.79	+1.4	+0.11	+0.11	+0.13	-0.19	-1.06	-3.88
	Rest of the eurozone	+0.49	+0.51	+0.54	-0.31	-0.64	-1.2	+0.24	+0.43	+0.73	+0.06	+0.07	+0.09	+0.68	+1.1	+1.4
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.58	+1.26	+2.76
Portugal	Portugal	+0.25	+0.26	+0.27	-0.21	-0.44	-0.82	+0.21	+0.41	+0.74	-0.05	-0.04	-0.04	+1.23	+2.39	+4.33
	Rest of the eurozone	+0.5	+0.53	+0.54	-0.31	-0.64	-1.21	+0.25	+0.46	+0.81	+0.07	+0.08	+0.09	+0.59	+0.9	+0.96
	Rest of the world	0	0	-0.01	0	0	0	-0.05	-0.09	-0.15	0	0	0	+0.58	+1.27	+2.78

Table C12. Results for scenario 5 (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	0.84	0.85	0.85	9.36	9.74	10.4	-0.55	-0.42	-0.2	0.66	0.66	0.67	108.9	111.6	115.2
	Rest of the eurozone	0.96	0.97	0.98	8.32	8.64	9.17	5.04	5.01	4.97	0.59	0.6	0.6	75.4	75.5	77.1
	Rest of the world	0.98	0.98	0.99	7.15	7.54	8.21	-0.78	-0.78	-0.78	0.6	0.61	0.61	111.6	120.5	135.9
Germany	Germany	0.83	0.83	0.84	3.8	4.01	4.37	6.41	6.58	6.87	0.52	0.53	0.53	36.1	31.5	24.7
	Rest of the eurozone	0.92	0.93	0.94	10.1	10.5	11	2.97	2.99	3.02	0.56	0.57	0.57	99.3	101.6	106.2
	Rest of the world	0.97	0.97	0.98	7.15	7.55	8.21	-0.79	-0.8	-0.82	0.6	0.6	0.6	111.6	120.5	136.1
Spain	Spain	0.76	0.75	0.75	15.4	15.8	16.5	3.59	3.8	4.17	0.46	0.46	0.46	106	107.8	109.9
	Rest of the eurozone	0.94	0.95	0.96	7.3	7.59	8.08	3.85	3.86	3.88	0.57	0.58	0.59	79.2	79.7	81.5
	Rest of the world	0.97	0.98	0.98	7.15	7.54	8.21	-0.77	-0.77	-0.78	0.6	0.6	0.61	111.4	120.3	135.7
Greece	Greece	0.98	0.96	0.98	16.8	17.2	17.9	-2.72	-2.73	-2.74	0.64	0.63	0.65	152.6	154.8	166.7
	Rest of the eurozone	0.95	0.96	0.97	8.21	8.52	9.04	3.97	3.99	4.02	0.57	0.58	0.59	87.9	90.3	95.1
	Rest of the world	1	1	1	7.11	7.49	8.15	-0.77	-0.78	-0.78	0.62	0.62	0.62	114.5	124	140
Italy	Italy	0.73	0.72	0.73	10.6	10.9	11.4	3.93	4.16	4.56	0.46	0.45	0.46	121.8	119.5	116.6
	Rest of the eurozone	0.97	0.97	0.98	8.02	8.34	8.87	3.69	3.65	3.6	0.59	0.6	0.6	77.3	79	82.6
	Rest of the world	0.98	0.98	0.99	7.15	7.54	8.2	-0.75	-0.75	-0.75	0.6	0.61	0.61	111.3	120.1	135.3
Netherlands	Netherlands	0.95	0.94	0.94	4.09	4.31	4.69	10.2	10.2	10.3	0.64	0.63	0.63	19.9	12.5	0.54
	Rest of the eurozone	0.93	0.94	0.95	8.72	9.04	9.59	3.37	3.39	3.44	0.57	0.58	0.58	86.4	87.6	90.5
	Rest of the world	0.97	0.98	0.98	7.15	7.54	8.21	-0.77	-0.77	-0.78	0.6	0.6	0.61	111.4	120.3	135.7
Portugal	Portugal	0.76	0.79	0.83	7.66	7.99	8.52	1.37	1.62	1.97	0.51	0.53	0.56	100.9	100	100.7
	Rest of the eurozone	0.95	0.96	0.97	8.48	8.8	9.34	3.78	3.79	3.8	0.58	0.59	0.59	82.5	83.5	86.1
	Rest of the world	0.98	0.98	0.99	7.16	7.55	8.21	-0.75	-0.76	-0.76	0.6	0.61	0.61	111.1	120	135.2

Table C13. Results for scenario 5 (calibration 2)

		Rate of growth			Unemployement			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	0.84	0.85	0.85	9.36	9.74	10.4	-0.55	-0.42	-0.2	0.66	0.66	0.67	108.9	111.6	115.2
	Rest of the eurozone	0.96	0.97	0.98	8.32	8.64	9.17	5.04	5.01	4.97	0.59	0.6	0.6	75.4	75.5	77.1
	Rest of the world	0.98	0.98	0.99	7.15	7.54	8.21	-0.78	-0.78	-0.78	0.6	0.61	0.61	111.6	120.5	135.9
Germany	Germany	1.03	1.04	1.05	3.66	3.83	4.12	7.22	7.63	8.32	0.65	0.66	0.67	32.2	25.4	14.1
	Rest of the eurozone	0.86	0.87	0.87	10.1	10.5	11.1	2.9	2.9	2.89	0.51	0.52	0.52	100.4	103.3	109.1
	Rest of the world	0.95	0.96	0.96	7.16	7.55	8.22	-0.83	-0.86	-0.9	0.58	0.59	0.59	111.9	121	137
Spain	Spain	0.59	0.58	0.57	15.6	16.1	16.9	2.84	2.83	2.83	0.36	0.35	0.35	110.6	114.7	121.8
	Rest of the eurozone	0.96	0.97	0.97	7.29	7.58	8.06	3.89	3.9	3.93	0.59	0.59	0.6	78.9	79.1	80.6
	Rest of the world	0.98	0.98	0.99	7.15	7.54	8.21	-0.76	-0.76	-0.76	0.6	0.61	0.61	111.3	120.2	135.5
Greece	Greece	0.81	0.8	0.81	17	17.5	18.3	-3.51	-3.79	-4.22	0.53	0.52	0.54	157.4	162.2	179.7
	Rest of the eurozone	0.95	0.96	0.97	8.21	8.52	9.03	3.97	3.99	4.02	0.57	0.58	0.59	87.9	90.3	95
	Rest of the world	1	1	1	7.11	7.49	8.15	-0.77	-0.77	-0.78	0.62	0.62	0.62	114.5	123.9	140
Italy	Italy	0.65	0.64	0.64	10.6	11	11.6	3.55	3.67	3.89	0.41	0.4	0.4	124.2	123.2	123
	Rest of the eurozone	0.98	0.99	0.99	8.01	8.33	8.85	3.7	3.67	3.63	0.6	0.6	0.61	77.1	78.7	82
	Rest of the world	0.98	0.99	0.99	7.15	7.54	8.2	-0.74	-0.74	-0.74	0.6	0.61	0.61	111.2	120	135.2
Netherlands	Netherlands	1.2	1.19	1.19	3.93	4.1	4.39	11.2	11.5	12	0.8	0.8	0.8	15.3	5.49	-11.5
	Rest of the eurozone	0.9	0.9	0.91	8.73	9.07	9.63	3.32	3.34	3.36	0.54	0.55	0.55	87.1	88.7	92.4
	Rest of the world	0.97	0.98	0.98	7.15	7.54	8.21	-0.78	-0.78	-0.8	0.6	0.6	0.61	111.4	120.4	135.8
Portugal	Portugal	0.57	0.59	0.63	7.82	8.19	8.81	0.52	0.5	0.43	0.38	0.4	0.42	105.6	107.2	113.2
	Rest of the eurozone	0.96	0.96	0.97	8.48	8.8	9.33	3.79	3.79	3.81	0.58	0.59	0.6	82.4	83.4	85.9
	Rest of the world	0.98	0.98	0.99	7.16	7.55	8.21	-0.75	-0.75	-0.76	0.6	0.61	0.61	111.1	120	135.2

Table C14. Results for scenario 6 (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+1.2	+1.16	+1.07	-0.19	-0.38	-0.7	-1.03	-2.07	-3.64	+0.95	+0.91	+0.85	-0.31	+2.92	+14.9
	Rest of the eurozone	+0.07	+0.08	+0.08	-0.02	-0.04	-0.08	+0.1	+0.19	+0.35	+0.05	+0.05	+0.05	-0.26	-0.73	-1.85
	Rest of the world	+0.02	+0.02	+0.02	0	-0.01	-0.02	+0.03	+0.06	+0.11	+0.01	+0.02	+0.02	-0.09	-0.26	-0.72
Germany	Germany	+1.08	+1.04	+0.98	-0.21	-0.43	-0.78	-1.36	-2.72	-4.81	+0.68	+0.66	+0.62	+2.64	+10	+30.7
	Rest of the eurozone	+0.1	+0.1	+0.1	-0.03	-0.06	-0.11	+0.14	+0.28	+0.51	+0.06	+0.06	+0.06	-0.41	-1.14	-2.77
	Rest of the world	+0.04	+0.04	+0.04	-0.01	-0.01	-0.03	+0.05	+0.1	+0.18	+0.02	+0.02	+0.02	-0.15	-0.44	-1.2
Spain	Spain	+1.22	+1.18	+1.1	-0.46	-0.96	-1.73	-1.17	-2.37	-4.2	+0.75	+0.73	+0.68	+0.09	+4.3	+19.3
	Rest of the eurozone	+0.03	+0.03	+0.03	-0.01	-0.01	-0.03	+0.04	+0.08	+0.14	+0.02	+0.02	+0.02	-0.11	-0.3	-0.79
	Rest of the world	+0.01	+0.01	+0.01	0	0	-0.01	+0.02	+0.03	+0.06	+0.01	+0.01	+0.01	-0.05	-0.14	-0.39
Greece	Greece	+1.11	+1.06	+0.98	-0.41	-0.83	-1.49	-1.18	-2.37	-4.15	+0.74	+0.71	+0.66	-0.73	+3.39	+19.8
	Rest of the eurozone	0	0	+0.01	0	0	0	+0.01	+0.01	+0.02	0	0	0	-0.02	-0.04	-0.11
	Rest of the world	0	0	0	0	0	0	0	+0.01	+0.01	0	0	0	-0.01	-0.03	-0.08
Italy	Italy	+1.23	+1.19	+1.11	-0.32	-0.66	-1.2	-1.07	-2.17	-3.86	+0.78	+0.75	+0.7	-0.73	+2.62	+16.6
	Rest of the eurozone	+0.04	+0.04	+0.04	-0.01	-0.02	-0.04	+0.05	+0.1	+0.19	+0.02	+0.02	+0.02	-0.14	-0.43	-1.24
	Rest of the world	+0.02	+0.02	+0.02	0	-0.01	-0.01	+0.02	+0.04	+0.08	+0.01	+0.01	+0.01	-0.06	-0.18	-0.51
Netherlands	Netherlands	+0.78	+0.75	+0.71	-0.15	-0.3	-0.54	-1.85	-3.66	-6.43	+0.53	+0.51	+0.48	+3.73	+13.1	+38.5
	Rest of the eurozone	+0.02	+0.02	+0.02	-0.01	-0.01	-0.02	+0.03	+0.06	+0.11	+0.01	+0.01	+0.01	-0.08	-0.22	-0.51
	Rest of the world	+0.01	+0.01	+0.01	0	0	-0.01	+0.02	+0.03	+0.06	+0.01	+0.01	+0.01	-0.05	-0.15	-0.41
Portugal	Portugal	+1.08	+1.05	+1	-0.25	-0.52	-0.95	-1.33	-2.7	-4.81	+0.73	+0.71	+0.67	+0.9	+6.76	+25.7
	Rest of the eurozone	+0.01	+0.01	+0.01	0	0	-0.01	+0.01	+0.02	+0.04	0	0	+0.01	-0.03	-0.09	-0.22
	Rest of the world	0	0	0	0	0	0	0	+0.01	+0.01	0	0	0	-0.01	-0.02	-0.07

Table C15. Results for scenario 6 (calibration 2)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+1.2	+1.16	+1.07	-0.19	-0.38	-0.7	-1.03	-2.07	-3.64	+0.95	+0.91	+0.85	-0.31	+2.92	+14.9
	Rest of the eurozone	+0.07	+0.08	+0.08	-0.02	-0.04	-0.08	+0.1	+0.19	+0.35	+0.05	+0.05	+0.05	-0.26	-0.73	-1.85
	Rest of the world	+0.02	+0.02	+0.02	0	-0.01	-0.02	+0.03	+0.06	+0.11	+0.01	+0.02	+0.02	-0.09	-0.26	-0.72
Germany	Germany	+1.08	+1.03	+0.95	-0.21	-0.43	-0.77	-1.36	-2.73	-4.82	+0.69	+0.66	+0.61	+2.72	+10.2	+31
	Rest of the eurozone	+0.09	+0.09	+0.09	-0.03	-0.06	-0.11	+0.14	+0.28	+0.51	+0.05	+0.06	+0.06	-0.4	-1.1	-2.65
	Rest of the world	+0.04	+0.04	+0.04	-0.01	-0.01	-0.03	+0.05	+0.1	+0.18	+0.02	+0.02	+0.03	-0.15	-0.44	-1.21
Spain	Spain	+1.23	+1.19	+1.13	-0.46	-0.96	-1.76	-1.15	-2.33	-4.13	+0.76	+0.74	+0.7	-0.05	+3.89	+18.3
	Rest of the eurozone	+0.03	+0.03	+0.03	-0.01	-0.01	-0.03	+0.04	+0.08	+0.14	+0.02	+0.02	+0.02	-0.11	-0.31	-0.81
	Rest of the world	+0.01	+0.01	+0.01	0	0	-0.01	+0.02	+0.03	+0.06	+0.01	+0.01	+0.01	-0.05	-0.14	-0.39
Greece	Greece	+1.12	+1.07	+1.02	-0.41	-0.84	-1.51	-1.16	-2.33	-4.05	+0.75	+0.72	+0.69	-0.88	+2.95	+18.7
	Rest of the eurozone	0	0	+0.01	0	0	0	+0.01	+0.01	+0.02	0	0	0	-0.02	-0.04	-0.12
	Rest of the world	0	0	0	0	0	0	0	+0.01	+0.01	0	0	0	-0.01	-0.03	-0.08
Italy	Italy	+1.23	+1.19	+1.12	-0.32	-0.66	-1.21	-1.06	-2.15	-3.82	+0.78	+0.76	+0.71	-0.81	+2.39	+16
	Rest of the eurozone	+0.04	+0.04	+0.04	-0.01	-0.02	-0.04	+0.05	+0.1	+0.19	+0.02	+0.02	+0.03	-0.14	-0.43	-1.25
	Rest of the world	+0.02	+0.02	+0.02	0	-0.01	-0.01	+0.02	+0.04	+0.08	+0.01	+0.01	+0.01	-0.06	-0.18	-0.5
Netherlands	Netherlands	+0.78	+0.74	+0.68	-0.15	-0.3	-0.53	-1.85	-3.66	-6.39	+0.52	+0.5	+0.46	+3.81	+13.2	+38.5
	Rest of the eurozone	+0.02	+0.02	+0.02	-0.01	-0.01	-0.02	+0.03	+0.06	+0.11	+0.01	+0.01	+0.01	-0.08	-0.21	-0.5
	Rest of the world	+0.01	+0.01	+0.01	0	0	-0.01	+0.02	+0.03	+0.06	+0.01	+0.01	+0.01	-0.05	-0.15	-0.41
Portugal	Portugal	+1.09	+1.07	+1.03	-0.26	-0.53	-0.97	-1.31	-2.66	-4.73	+0.73	+0.72	+0.7	+0.77	+6.39	+24.8
	Rest of the eurozone	+0.01	+0.01	+0.01	0	0	-0.01	+0.01	+0.02	+0.04	0	+0.01	+0.01	-0.03	-0.09	-0.24
	Rest of the world	0	0	0	0	0	0	0	+0.01	+0.01	0	0	0	-0.01	-0.02	-0.06

Table C16. Results for scenario 7 (calibration 1)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+1.41	+1.36	+1.26	-0.22	-0.45	-0.82	-0.71	-1.44	-2.52	+1.11	+1.08	+1	-1.26	+0.3	+8.61
	Rest of the eurozone	+1.13	+1.1	+1.04	-0.32	-0.65	-1.19	-1.26	-2.52	-4.4	+0.7	+0.68	+0.64	+1.29	+6.96	+24.5
	Rest of the world	+0.17	+0.18	+0.18	-0.03	-0.06	-0.12	+0.22	+0.44	+0.81	+0.1	+0.11	+0.11	-0.67	-1.97	-5.35
Germany	Germany	+1.31	+1.27	+1.18	-0.25	-0.52	-0.95	-1.03	-2.07	-3.64	+0.83	+0.81	+0.75	+2.03	+8.17	+25.7
	Rest of the eurozone	+1.16	+1.13	+1.06	-0.34	-0.71	-1.28	-1.15	-2.3	-4.03	+0.72	+0.7	+0.66	+0.38	+4.84	+20.1
	Rest of the world	+0.16	+0.17	+0.17	-0.02	-0.06	-0.11	+0.21	+0.42	+0.77	+0.1	+0.11	+0.11	-0.64	-1.89	-5.12
Spain	Spain	+1.49	+1.44	+1.34	-0.56	-1.16	-2.11	-0.79	-1.62	-2.86	+0.92	+0.89	+0.83	-1.07	+1.16	+11.8
	Rest of the eurozone	+1.11	+1.08	+1.01	-0.28	-0.58	-1.05	-1.26	-2.51	-4.39	+0.68	+0.66	+0.63	+1.22	+6.81	+24.2
	Rest of the world	+0.18	+0.19	+0.19	-0.03	-0.06	-0.13	+0.23	+0.47	+0.85	+0.11	+0.12	+0.12	-0.71	-2.09	-5.64
Greece	Greece	+1.33	+1.27	+1.17	-0.48	-0.99	-1.79	-0.84	-1.69	-2.92	+0.9	+0.86	+0.79	-1.93	+0.31	+12.6
	Rest of the eurozone	+1.08	+1.05	+0.99	-0.3	-0.61	-1.11	-1.26	-2.51	-4.4	+0.66	+0.65	+0.61	+1.04	+6.41	+23.4
	Rest of the world	+0.19	+0.2	+0.2	-0.03	-0.07	-0.13	+0.24	+0.49	+0.88	+0.11	+0.12	+0.12	-0.75	-2.21	-5.94
Italy	Italy	+1.44	+1.39	+1.29	-0.37	-0.77	-1.4	-0.77	-1.58	-2.79	+0.91	+0.88	+0.82	-1.72	-0.01	+10.3
	Rest of the eurozone	+1.09	+1.06	+1	-0.31	-0.64	-1.16	-1.27	-2.51	-4.39	+0.67	+0.66	+0.62	+1.31	+6.92	+24.2
	Reste du monde	+0.18	+0.19	+0.19	-0.03	-0.06	-0.12	+0.23	+0.46	+0.84	+0.11	+0.12	+0.12	-0.7	-2.05	-5.56
Netherlands	Netherlands	+1.23	+1.19	+1.11	-0.23	-0.47	-0.84	-1.25	-2.46	-4.25	+0.83	+0.8	+0.75	+2.67	+9.7	+29
	Rest of the eurozone	+1.14	+1.11	+1.04	-0.32	-0.66	-1.2	-1.2	-2.4	-4.2	+0.7	+0.68	+0.65	+0.88	+6	+22.5
	Rest of the world	+0.18	+0.19	+0.19	-0.03	-0.06	-0.13	+0.23	+0.47	+0.85	+0.11	+0.12	+0.12	-0.71	-2.08	-5.62
Portugal	Portugal	+1.45	+1.41	+1.32	-0.34	-0.69	-1.27	-0.8	-1.64	-2.92	+0.98	+0.95	+0.89	-0.64	+2.64	+15.6
	Rest of the eurozone	+1.11	+1.08	+1.02	-0.31	-0.64	-1.16	-1.26	-2.5	-4.38	+0.68	+0.67	+0.63	+1.12	+6.58	+23.8
	Rest of the world	+0.19	+0.2	+0.2	-0.03	-0.07	-0.13	+0.24	+0.49	+0.89	+0.11	+0.12	+0.12	-0.74	-2.17	-5.87

Table C17. Results for scenario 7 (calibration 2)

		Rate of growth			Unemployment			Trade balance			Productivity			Public debt		
		t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20	t = 12	t = 15	t = 20
France	France	+1.41	+1.36	+1.26	-0.22	-0.45	-0.82	-0.71	-1.44	-2.52	+1.11	+1.08	+1	-1.26	+0.3	+8.61
	Rest of the eurozone	+1.13	+1.1	+1.04	-0.32	-0.65	-1.19	-1.26	-2.52	-4.4	+0.7	+0.68	+0.64	+1.29	+6.96	+24.5
	Rest of the world	+0.17	+0.18	+0.18	-0.03	-0.06	-0.12	+0.22	+0.44	+0.81	+0.1	+0.11	+0.11	-0.67	-1.97	-5.35
Germany	Germany	+1.41	+1.36	+1.26	-0.27	-0.56	-1.01	-0.92	-1.85	-3.23	+0.89	+0.86	+0.8	+1.9	+7.71	+24.1
	Rest of the eurozone	+1.07	+1.04	+0.98	-0.33	-0.68	-1.23	-1.19	-2.38	-4.18	+0.64	+0.63	+0.59	+0.6	+5.55	+22.1
	Rest of the world	+0.16	+0.17	+0.18	-0.03	-0.06	-0.12	+0.2	+0.42	+0.76	+0.1	+0.11	+0.11	-0.64	-1.9	-5.14
Spain	Spain	+1.39	+1.35	+1.26	-0.52	-1.08	-1.97	-0.92	-1.88	-3.33	+0.85	+0.83	+0.78	-0.74	+2.05	+14.1
	Rest of the eurozone	+1.13	+1.1	+1.03	-0.28	-0.59	-1.07	-1.25	-2.48	-4.34	+0.7	+0.68	+0.64	+1.16	+6.63	+23.7
	Rest of the world	+0.18	+0.19	+0.19	-0.03	-0.06	-0.13	+0.23	+0.47	+0.86	+0.11	+0.12	+0.12	-0.71	-2.08	-5.64
Greece	Greece	+1.25	+1.2	+1.12	-0.45	-0.93	-1.68	-0.96	-1.92	-3.33	+0.84	+0.8	+0.75	-1.6	+1.15	+14.7
	Rest of the eurozone	+1.08	+1.05	+0.99	-0.3	-0.61	-1.11	-1.26	-2.51	-4.39	+0.66	+0.65	+0.62	+1.03	+6.38	+23.4
	Rest of the world	+0.19	+0.2	+0.2	-0.03	-0.07	-0.13	+0.24	+0.49	+0.88	+0.11	+0.12	+0.12	-0.75	-2.21	-5.94
Italy	Italy	+1.4	+1.35	+1.26	-0.36	-0.75	-1.36	-0.82	-1.68	-2.97	+0.89	+0.86	+0.8	-1.6	+0.31	+11.2
	Rest of the eurozone	+1.11	+1.08	+1.02	-0.31	-0.64	-1.16	-1.26	-2.5	-4.36	+0.69	+0.67	+0.63	+1.28	+6.81	+23.8
	Rest of the world	+0.17	+0.19	+0.19	-0.03	-0.06	-0.12	+0.23	+0.46	+0.84	+0.11	+0.11	+0.12	-0.7	-2.05	-5.55
Netherlands	Netherlands	+1.39	+1.34	+1.25	-0.26	-0.53	-0.95	-1.05	-2.05	-3.48	+0.94	+0.9	+0.84	+2.43	+8.84	+26.1
	Rest of the eurozone	+1.09	+1.06	+1	-0.31	-0.65	-1.18	-1.22	-2.44	-4.29	+0.66	+0.64	+0.61	+0.99	+6.36	+23.6
	Rest of the world	+0.18	+0.19	+0.2	-0.03	-0.06	-0.13	+0.23	+0.47	+0.85	+0.11	+0.12	+0.12	-0.72	-2.11	-5.7
Portugal	Portugal	+1.31	+1.28	+1.21	-0.3	-0.63	-1.15	-1	-2.03	-3.61	+0.88	+0.86	+0.82	-0.16	+3.95	+19.1
	Rest of the eurozone	+1.12	+1.09	+1.02	-0.31	-0.64	-1.17	-1.26	-2.5	-4.37	+0.69	+0.67	+0.63	+1.1	+6.53	+23.6
	Rest of the world	+0.19	+0.2	+0.2	-0.03	-0.07	-0.13	+0.24	+0.49	+0.89	+0.11	+0.12	+0.12	-0.74	-2.17	-5.87