

Back to fiscal consolidation in Europe and its dual tradeoff: now or later, through spending cuts or tax hikes

Christophe Blot (OFCE)

Jérôme Creel (OFCE & ESCP Europe)

Bruno Ducoudré (OFCE)

Xavier Timbeau (OFCE)

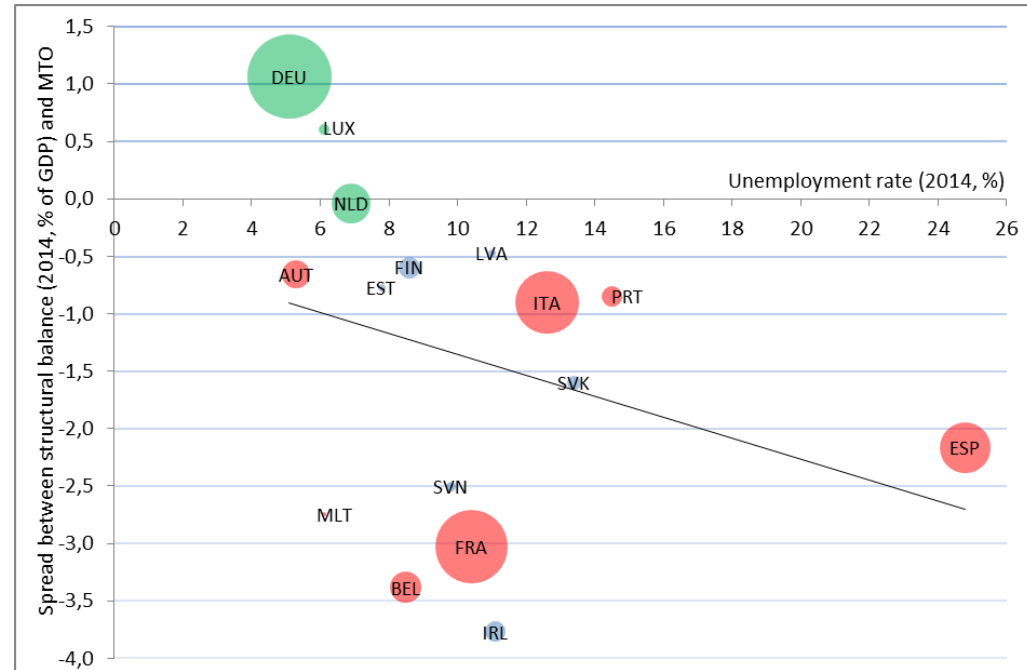
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- The benefits and costs of fiscal consolidation have been discussed at length recently
 - Many papers endorsed the new consensus on time-varying possibly strong fiscal multipliers
- But discussions about composition effects and the interactions between instruments have been scarcer to our knowledge,
- Even more so in a multi-country setting which would also depart from large-scale untractable DSGE-type model (which developed before the GFC without saying much about it)
- In a reduced-form tractable model, we ask 4 questions:
 - Does the current EZ fiscal stance fulfil debt sustainability?
 - Does composition matter?
 - Do endogenous risk premia matter?
 - Does front-loading matter?

■ European countries face 2 interconnected problems

- Public debt has risen to record levels and fiscal deficits have soared
- Growth has been severely impaired by the crisis / Unemployment at record levels
- There is (at least in the short run) a tradeoff between reducing debt/deficits and enhancing growth/reducing unemployment.
- Bad trade-off may fuel cases of self-defeating consolidation



Sources: European Commission, DBP's, OFCE calculations.

Note : In green , countries which have a fiscal space. In blue, countries which are compliant or broadly compliant with the SGP provisions. In red, countries which pose a risk of non-compliance.

- **Recent literature has emphasized 3 main features**
 - Fiscal multipliers vary according to several factors (e.g. Auerbach & Gorodnichenko, 2012; Corsetti, Meier & Müller, 2012)
monetary policy (ZLB)/financial stress/unemployment/business cycles
⇒ The higher the multiplier, the costlier the consolidation !
 - Spending multipliers are higher than tax multipliers (e.g. OECD, 2009; Gechert and Rannenberg, 2014), hence a composition effect
 - Hysteresis effect / New insights on *stalling effect* (Ho & Yetman, 2013):
the more output is depressed in the short run, the more it risks to be lowered in the long run
- **It raises the issues of the optimal timing and strength of consolidation because of endogenous risk premia (Blanchard & Leigh, 2013)**
 - More now - Less later (the case for frontloading)
 - Less now – More later (the case for backloading)

- **Drawing on these features of the macro literature, the aim of the paper is to provide scenarios for sustainable public debt and to gauge the benefits/costs of consolidation**
 - It involves defining sustainability of public debt
 - It involves identifying the benefits/costs of consolidation

- **We consider a small-scale generic model**
 - Being able to embrace easily the alternative insights of the literature (time-varying multipliers, hysteresis effects)
 - Remaining tractable for a large set of countries
 - Being able to make a large set of sensitivity analyses, giving rise to different scenarios
 - Without leaving aside long term objectives (like public debt to GDP ratio)

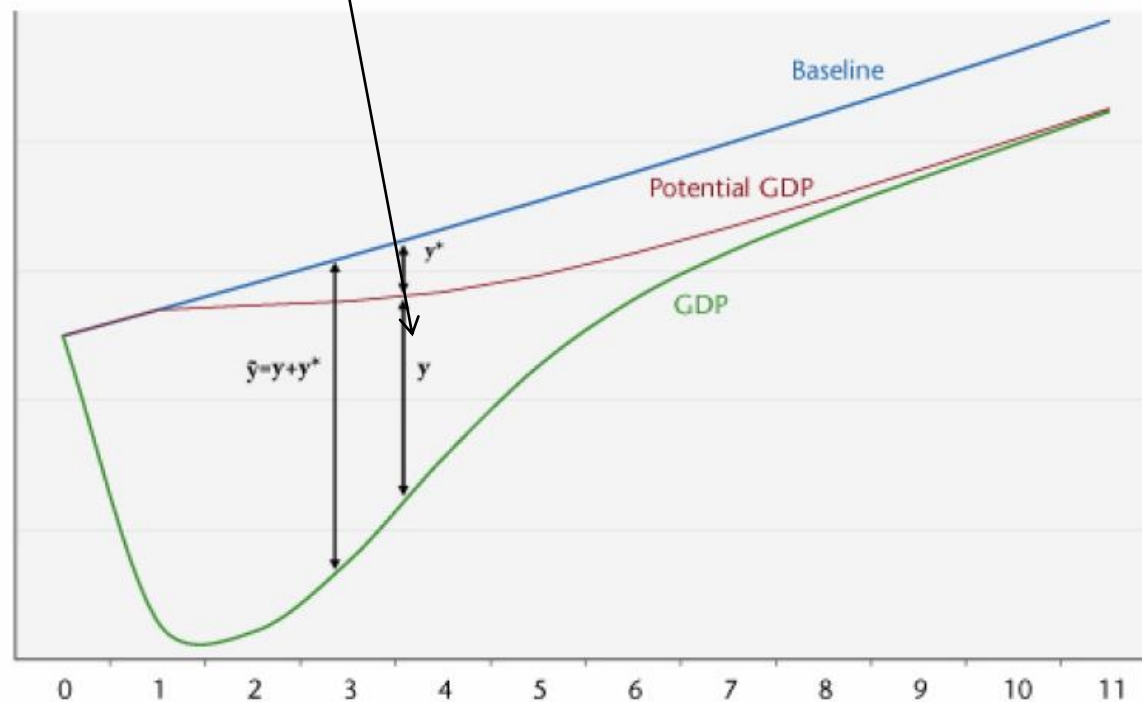
■ Reduced-form model

- Multi-country model (currently 11 EZ members)
- Interdependencies are captured by external (intra)trade and by common monetary policy
- Prices are represented by a Phillips curve
- A Taylor rule defines the stance of monetary policy
- Attention is paid to the representation of fiscal policy: cyclical/cyclically-adjusted; tax/spending-oriented
- Expectations for long term interest rates are forward looking (terms structure of interest rates) / expected inflations are anchored (though they may be forward or backward looking),

Quick description of the model

- We consider \bar{Y} as the baseline path for output. It comes that \tilde{Y} is defined as the gap between the log of real GDP and this baseline. Y^* is the gap between potential output and baseline. Then output gap Y is the difference between \tilde{Y} and Y^* .

Figure 1. Example: GDP path and potential GDP path with hysteresis



$$y = EFI^G + EFI^T + \delta_l \cdot (R^{pri} - \bar{R}^{pri}) + \beta_l \cdot ad$$

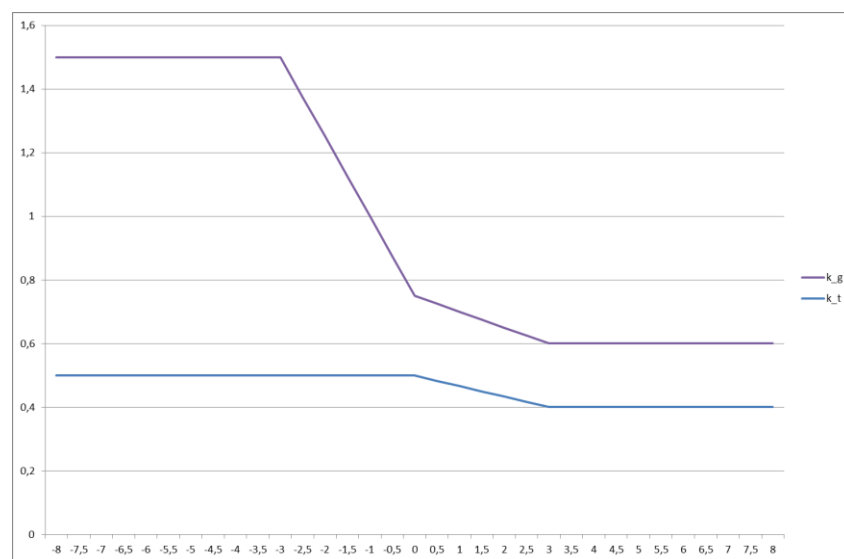
Quick description of the model

□ The fiscal block

$$\begin{aligned}FS_t &= SPS_t + CS_t - GIP_t \\SPS_t &= SPS_{t-1} - FI_t^G - FI_t^T + \Phi \cdot \Delta y_t^* \\CS_t &= \Phi \cdot y_t \\GIP_t &= \bar{i}_t^B \cdot B_{t-1} / (1 + \Delta Q_t) \\ \bar{i}_t^B &= 1/MAT \cdot R_t^{pub} \\ &\quad + (1 - 1/MAT) \cdot \bar{i}_{t-1}^B \\ B_t &= B_{t-1} / (1 + \Delta Q_t) - FS_t + SFL_t\end{aligned}$$

□ Time-varying multipliers

Figure 2. Example of the value of the multiplier for public spending and taxes according to the output gap



Note: $\mu_{max}^G = 1.5$, $\mu_{min}^G = 0.6$, $\mu_o^G = 0.75$, $\mu_{max}^T = 0.5$, $\mu_{min}^T = 0.4$, $\mu_o^T = 0.5$. $y_{inf} = -3\%$, and $y_{sup} = 3\%$. Values are supposed to be identical across countries.

Source: OFCE.

Quick description of the model

□ The monetary/financial block

$$i_t^{Taylor} = r^* + \pi_t^{EA} + \Psi_1 \cdot (\pi_t^{EA} - \pi^*) + \Psi_2 \cdot y_t^{EA}$$

$$i_t^{ECB} = \max(i_{min}; i_t^{Taylor})$$

$$I_t^{EA} = \tau \cdot I_{t+1}^{EA} + (1 - \tau) \cdot i_t^{ECB}$$

$$I_t^{pub} = I_t^{EA} + \varepsilon_t^{I_{pub}}$$

$$I_t^{pri} = I_t^{pub} + \varepsilon_t^{I_{pri}}$$

$$R_t^{pri} = I_t^{pri} - \pi_t^{e,lr}$$

$$\varepsilon_t^{I_{pub}} = \kappa B_t \text{ if } B_{t-1} > 60\% \text{ and if } SPS_t < \overline{SPS}_t$$

First question: does the current fiscal stance fulfil debt criteria?

■ Baseline scenario

Table 2. Main hypotheses for 2010

in %

	Public debt	Fiscal balance	output gap	potential growth
Source	Eurostat	Eurostat	OECD	OFCE
Germany	82.5	-4.2	-3.7	1.0
France	82.8	-6.8	-3.3	1.4
Italy	115.3	-4.5	-4.4	0.2
Spain	61.7	-9.4	-6.5	1.4
Netherlands	63.4	-5.1	-2.4	1.3
Belgium	96.6	-3.8	-3.8	1.5
Portugal	94.0	-11.2	-2.3	1.0
Ireland	91.2	-9.1	-11.7	1.8
Greece	148.3	-10.9	-7.3	1.5
Finland	48.8	-2.5	-6.0	1.6
Austria	72.5	-4.5	-2.5	1.4

First question: does the current fiscal stance fulfil debt criteria?

■ Baseline scenario (cont'd)

Table 3. Fiscal impulses – 2011-2016

% of GDP

	2011 – 2014		2015-2016	
	Expenditures	Taxes	Expenditures	Taxes
Germany	-1.5	-0.7	0.1	0.3
France	-3.9	1.1	0.4	-0.1
Italy	-2.2	-0.5	0.5	0.2
Spain	-1.9	-4.1	-0.1	0.4
Netherlands	-1.7	-1.3	0.5	0.2
Belgium	-2.9	1.4	0.6	-0.3
Portugal	-3.9	-4.4	0.3	0.6
Ireland	-1.3	-4.8	1.7	-1.9
Greece	-7.0	-5.5	1.3	0.1
Finland	-3.9	4.0	-0.4	0.6
Austria	-1.6	0.0	-0.2	0.0

Sources: OECD, Eurostat and AMECO.

First question: does the current fiscal stance fulfil debt criteria?

■ Baseline scenario (cont'd): results

Table 1. Public finance and output performances under the baseline scenario

	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse 2011-2016*	GDP growth rate (%)		Sovereign Spread to Germany 2012-2018
	2020	2034	2020	2034		2011-2014	2015-2034	
Germany	51	6	1,9	3,0	-1.8	1,5	1,1	0,0
France	93	99	-3,1	-3,9	-2.5	0,8	1,6	0,4
Italy	112	57	1,1	2,9	-2.1	-0,8	0,5	1,5
Spain	92	71	-1,4	-1,0	-5.7	-0,4	1,7	1,4
Netherlands	71	66	-1,6	-1,8	-2.3	0,0	1,5	0,2
Belgium	86	52	-0,3	0,5	-1.1	0,8	1,7	0,5
Portugal	115	83	-1,0	-0,2	-7.4	-1,4	1,4	1,3
Ireland	82	8	2,4	4,6	-6.3	1,5	2,2	0,9
Greece	148	58	1,7	4,9	-11.1	-4,8	1,7	1,5
Finland	65	74	-2,3	-3,3	-1.8	0,1	1,9	0,2
Austria	69	56	-1,1	-1,0	0.3	1,3	1,5	0,2
Euro area	82	54	-0,3	0,2	-2.8	0,4	1,3	0,7

Source: iAGS model

2nd question: does composition matter?

■ Expenditure-based adjustment

Table 4a. +/- 0.5 adjustment - the case of expenditure-based adjustment

	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse	GDP growth rate (%)	
	2020	2034	2020	2034		2011-2034	2011-2014
Germany	70	60	-1,1	-1,1	1,2	2,2	1,0
France	95	60	-1,1	0,8	-6,8	1,4	1,4
Italy	122	60	1,1	3,4	-3,1	-0,7	0,4
Spain	127	100	-3,6	2,0	-11,5	0,1	1,4
Netherlands	85	60	-0,6	-0,3	-5,0	0,1	1,4
Belgium	87	60	-1,0	-0,2	0,0	1,7	1,6
Portugal	160	150	-4,6	0,1	-11,5	-0,1	0,9
Ireland	122	60	-0,8	2,4	-7,0	1,9	1,9
Greece	163	110	-2,2	4,4	-11,5	-0,9	1,0
Finland	58	60	-1,8	-2,4	0,9	1,3	1,7
Austria	74	60	-1,4	-1,2	-2,1	1,1	1,5
Euro area	96	67	-1,1	0,5	-3,8	1,0	1,1

Source: iAGS model

■ Tax-based adjustment

Table 4b. +/- 0.5 adjustment - the case of tax-based adjustment

	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse	GDP growth rate (%)	
	2020	2034	2020	2034		2011-2034	2011-2014
Germany	72	61	-1,1	-1,1	1,0	2,1	1,0
France	84	60	-0,9	-0,5	-4,2	1,8	1,4
Italy	114	60	0,7	2,8	-1,7	-0,2	0,4
Spain	111	60	-2,4	2,8	-9,2	0,6	1,6
Netherlands	72	60	-1,3	-1,2	-2,6	0,6	1,4
Belgium	88	63	-1,1	-0,5	0,2	1,7	1,6
Portugal	142	92	-3,2	3,8	-11,5	0,4	1,0
Ireland	105	60	-0,6	0,7	-3,8	2,6	2,0
Greece	139	60	-0,4	4,6	-7,6	-0,2	1,1
Finland	59	61	-1,8	-2,4	0,7	1,1	1,8
Austria	71	60	-1,4	-1,3	-1,5	1,5	1,4
Euro area	89	61	-1,0	0,3	-2,6	1,2	1,2

Source: iAGS model

2nd question: does composition matter?

■ Expenditure-based expansion and tax-based consolidation

Table 4c. + / - 0.5 adjustment - the case of mix-adjustment (expenditure-based expansion and fiscal-based consolidation)

	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse 2011-2034	GDP growth rate (%)	
	2020	2034	2020	2034		2011-2015	2016-2034
Germany	70	60	-1,1	-1,1	1,2	2,2	1,0
France	84	60	-0,9	-0,5	-4,2	1,8	1,4
Italy	114	60	0,7	2,8	-1,7	-0,2	0,4
Spain	111	60	-2,4	2,8	-9,2	0,6	1,6
Netherlands	72	60	-1,3	-1,2	-2,6	0,6	1,4
Belgium	87	62	-1,1	-0,4	0,2	1,8	1,6
Portugal	142	92	-3,2	3,8	-11,5	0,4	1,0
Ireland	105	60	-0,6	0,7	-3,8	2,6	2,0
Greece	139	60	-0,4	4,6	-7,6	-0,2	1,1
Finland	58	61	-1,8	-2,5	1,0	1,3	1,7
Austria	71	60	-1,4	-1,3	-1,5	1,5	1,4
Euro area	89	61	-1,0	0,3	-2,5	1,3	1,2

Source: iAGS model

3rd question: do risk premia matter?

■ Expenditure-based adj.

■ Tax-based adj.

Table 5a. +/- 0.5 fiscal impulses - endogenous risk-premium - the case of expenditure-based adjustment (can be compared to 2a)

Table 5b. +/- 0.5 fiscal impulses - endogenous risk-premium - the case of tax-based adjustment (can be compared to 2b)

	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse 2011-2034	GDP growth rate (%)		Sovereign Spread to Germany 2012-2018	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse 2011-2034	GDP growth rate (%)		Sovereign Spread to Germany 2012-2018	
	2020	2034	2020	2034		2011-2014	2015-2034		2020	2034	2020	2034		2011-2014	2015-2034		
Germany	72	60	-1,2	-1,0	1,3	2,2	1,0	0,0	Germany	73	63	-1,3	-1,1	1,2	2,1	1,0	0,0
France	101	61	-2,1	4,0	-11,5	1,5	1,2	0,5	France	87	60	-0,9	-0,2	-4,8	1,8	1,4	0,5
Italy	127	60	1,2	3,8	-4,0	-0,9	0,4	1,4	Italy	114	60	0,7	2,8	-1,9	-0,3	0,4	1,4
Spain	134	132	-5,0	0,1	-11,5	0,0	1,3	1,9	Spain	117	67	-3,5	4,5	-11,5	0,5	1,5	2,0
Netherlands	87	60	-0,8	0,1	-5,3	0,0	1,4	0,5	Netherlands	72	60	-1,4	-1,2	-2,4	0,6	1,4	0,2
Belgium	86	60	-1,0	-0,3	0,5	1,8	1,6	0,3	Belgium	87	59	-1,0	-0,2	0,2	1,7	1,6	0,4
Portugal	173	252	-7,0	-9,6	-11,5	-0,2	0,7	1,4	Portugal	152	134	-5,2	1,4	-11,5	0,2	1,0	1,4
Ireland	124	60	-1,0	2,7	-7,4	2,0	1,9	0,7	Ireland	106	60	-0,7	0,7	-3,8	2,6	2,0	0,6
Greece	163	108	-2,3	4,6	-11,5	-0,9	1,0	0,9	Greece	139	60	-0,6	4,6	-7,7	-0,2	1,2	0,9
Finland	58	60	-1,9	-2,4	1,0	1,4	1,7	0,0	Finland	59	61	-1,8	-2,5	0,7	1,1	1,8	0,0
Austria	74	60	-1,5	-1,1	-1,7	1,1	1,5	0,1	Austria	72	60	-1,5	-1,3	-1,2	1,5	1,5	0,1
Euro area	99	72	-1,6	1,0	-4,9	0,9	1,1		Euro area	91	63	-1,2	0,5	-2,9	1,2	1,2	

Source: iAGS model

Source: iAGS model

4th question: does front-loading matter?

■ Expenditure-based adj.

■ Tax-based adj.

Table 6a. +/- 1 fiscal impulses - endogenous risk-premium - the case of expenditure-based adjustment (to compare to Table 3a) Table 6b. +/- 1 fiscal impulses - endogenous risk-premium - the case of tax-based adjustment (to compare to Table 3b)

	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse 2011-2034	GDP growth rate (%)		Sovereign Spread to Germany 2012-2018	Public debt (% of GDP)		Structural balance (% of GDP)		Cumulated fiscal impulse 2011-2034	GDP growth rate (%)		Sovereign Spread to Germany 2012-2018
	2020	2034	2020	2034		2011-2016	2017-2034		2020	2034	2020	2034		2011-2016	2017-2034	
Germany	71	60	-1,2	-1,0	1,3	2,2	1,0	0,0 Germany	73	63	-1,3	-1,1	1,2	2,1	1,0	0,0
France	90	60	-0,8	-0,1	-6,1	0,7	1,5	-0,1 France	77	60	-1,2	-1,0	-3,8	1,7	1,5	-0,2
Italy	120	60	0,9	3,2	-3,1	-1,2	0,5	1,3 Italy	113	60	0,6	2,7	-1,8	-0,3	0,4	1,4
Spain	130	60	-0,7	4,0	-13,4	-0,8	1,5	1,8 Spain	96	60	-0,8	0,4	-6,5	0,2	1,7	1,4
Netherlands	77	60	-1,3	-0,8	-3,7	-0,5	1,5	0, Netherlands	69	60	-1,4	-1,3	-2,3	0,6	1,4	0,0
Belgium	86	60	-1,0	-0,3	0,5	1,8	1,6	0,3 Belgium	87	59	-1,0	-0,2	0,2	1,7	1,6	0,4
Portugal	183	84	0,2	16,9	-34,5	-1,8	0,2	1,4 Portugal	125	60	0,8	2,8	-9,4	0,0	1,1	0,8
Ireland	117	60	-0,4	1,5	-6,0	1,0	2,1	0,5 Ireland	101	60	-0,8	0,4	-3,5	2,4	2,1	0,6
Greece	181	87	0,1	12,4	-23,0	-1,9	0,6	0,9 Greece	126	60	0,5	3,0	-5,9	-0,5	1,2	0,9
Finland	58	60	-1,9	-2,3	0,9	1,4	1,7	0,0 Finland	59	61	-1,8	-2,5	0,7	1,1	1,8	0,0
Austria	73	60	-1,4	-1,1	-1,7	1,1	1,5	0,1 Austria	71	60	-1,5	-1,3	-1,2	1,5	1,5	0,1
Euro area	94	61	-0,7	0,7	-4,1	0,5	1,2	Euro area	85	61	-0,8	-0,2	-2,0	1,1	1,2	

Source: iAGS model

Source: iAGS model

Shortcomings and possible extensions

- ❑ Extending the model to non EZ-countries
- ❑ Taking into account credit supply effects
- ❑ Introducing current account dynamics and private debt
- ❑ A full representation of the wage-price dynamics (only price dynamics here)
- ❑ Endogenizing the long term growth rate

Conclusion and economic policy guidelines

- Fiscal consolidation has been costly
- Achieving debt sustainability and limiting the real costs of fiscal consolidation is a very difficult issue...
- ...which requires to choose the best instrument (taxes)...
- ... and to leave the other (spending) free to counterbalance in countries where margins to maneuver do exist
- Simulations however show that net effects for the EZ are relatively small, though they exist