



# EU Growth Prospects for the next 10 years

*Federal Planning Bureau  
Brussels, 1 February 2013*

1

## Structure of Presentation

1. Short overview of new European Governance
2. Methodology used for EU growth projections
3. What is the outlook for the EU & Belgium over the next 10 years
4. Key Drivers
  - a) Financial Crisis
  - b) Pre-Crisis TFP trends
  - c) Demographics
5. Concluding Remarks

2

**1.  
Short overview of new European  
Governance**

3

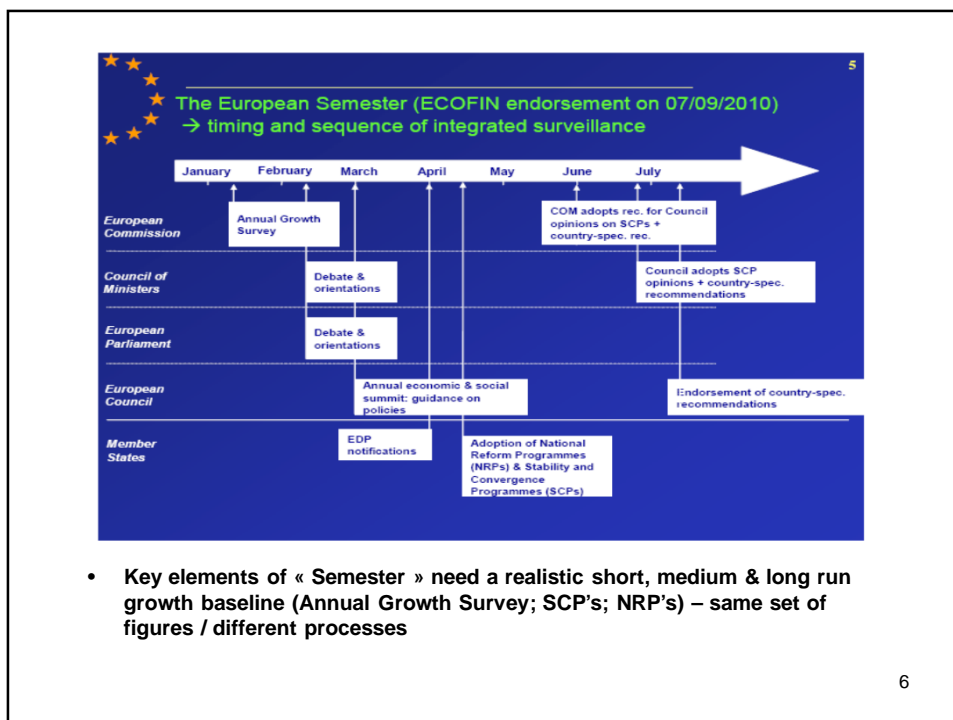
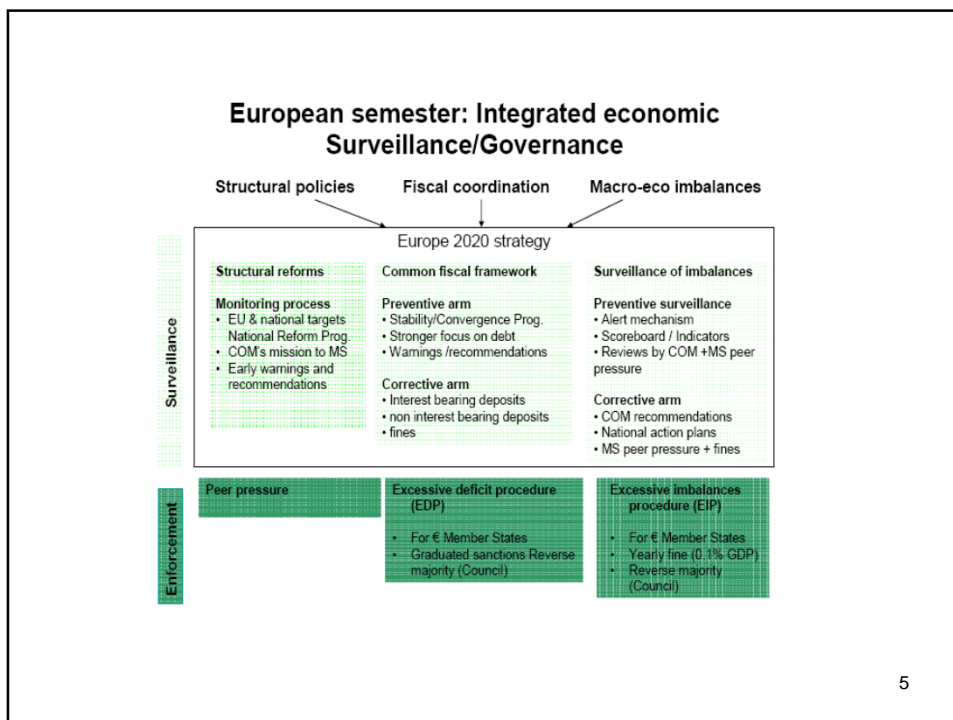
**European Semester – Integrated  
Surveillance Processes**

**1, Economic crisis raised governance & coordination issues  
(different processes with no clear synergies or linkages)**

**2, Commission proposals (May / June 2010) led to adoption of  
the new governance architecture (European Semester) by the  
Member States in Sept 2010**

**3, Main Features of Semester**

4



## **2. Methodology used for EU growth projections**

7

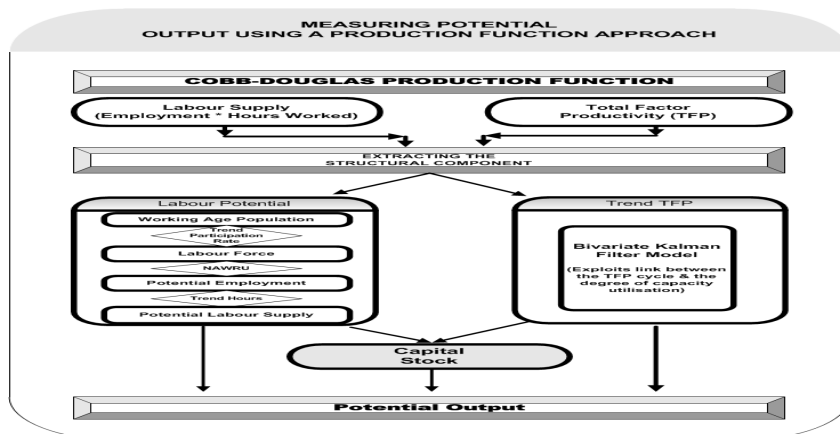
### **Large Number of Possible Methodologies**

- 1, Estimated semi / endogenous growth models (fluctuations in R&D investments + demand & supply)
- 2, Growth regressions (augmented Solow growth model – physical + human capital – predict conditional convergence)
- 3, Variants of the production function approach (model based; no demand side)

8

## A Targetted Re-Design of Existing PF Methodology

(More information on the structural drivers of growth)



9

## NAWRU

- 1, No change to T+5 method
- 2, More structural approach for T+6 to T+10 period – 4 indicators guide the T+10 forecast for the NAWRU anchor
  - Labour tax wedge
  - Generosity of unemployment benefits
  - Support provided by ALMP measures
  - Power of unions (proxied by level of union density)
 Choice of indicators supported by literature + econometric analyses
- 3, Speed of convergence to anchor driven by simple convergence rule
- 4, Prudent rule (Invoked if high degree of uncertainty surrounds anchor)
- 5, New approach improves the forecasting framework
  - Structural reforms in labour markets
  - Permits decomposition of the NAWRU
  - NAWRU moves back towards the structural rate in T+10
- 6, 2013 Work : Convergence speeds; T-1 policy changes; Country specificities

10

## TFP

1, No change to T+5 method

2, The merits of three broad TFP approaches were assessed :

- a) Structural approach : Range of policy / structural variables (Rejected)
- b) Convergence to the world technology frontier (Rejected)
- c) Bivariate Kalman Filter (KF) method

3, Settled on KF method - Currently used for T+5 projections  
 -Internally consistent trend TFP projections  
 -Additional benefit of parsimony

4, 2013 Work – Structural information in the KF estimation model

11

## Participation Rate

1, AWG's Cohort method

2, T+10 method to be applied for 2013

- Up to T+5
- From T+6 : Annual % change from CSM
- 16 Nov EPC : Pension reform effects up to T+5

3, 2013 Work

- a) Decision taken to switch to 15-74 age cohort
- b) Further work needed by OGWG on following issues:
  - Starting date : T+3 versus T+6
  - Smoothing the break in participation rates
  - Enacted pension reforms
- c) Bilateral discussions with AWG

12

## Capital Formation

### 1, Initial OGWG Discussion

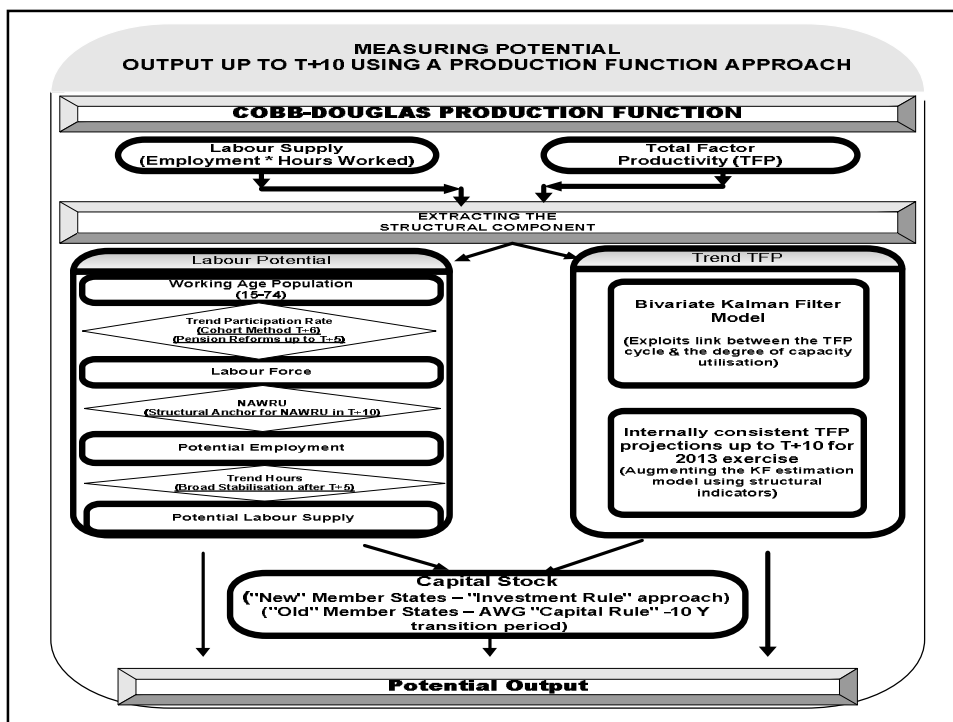
- Structural model V linearly interpolating to AWG's T+10 CD forecasts
- AWG's "Capital Rule"
- AWG approach amounts to a structural model of Investment

### 2, Problems in applying "Capital Rule" over the T+10 horizon

- "New" Member States – "Investment Rule" approach
- "Old" Member States – AWG "Capital Rule" (10 Y transition period)
- Some country exceptions

### 3, 2013 Work : Slow convergence to AWG's "Capital Rule" - "New" EU Members

13



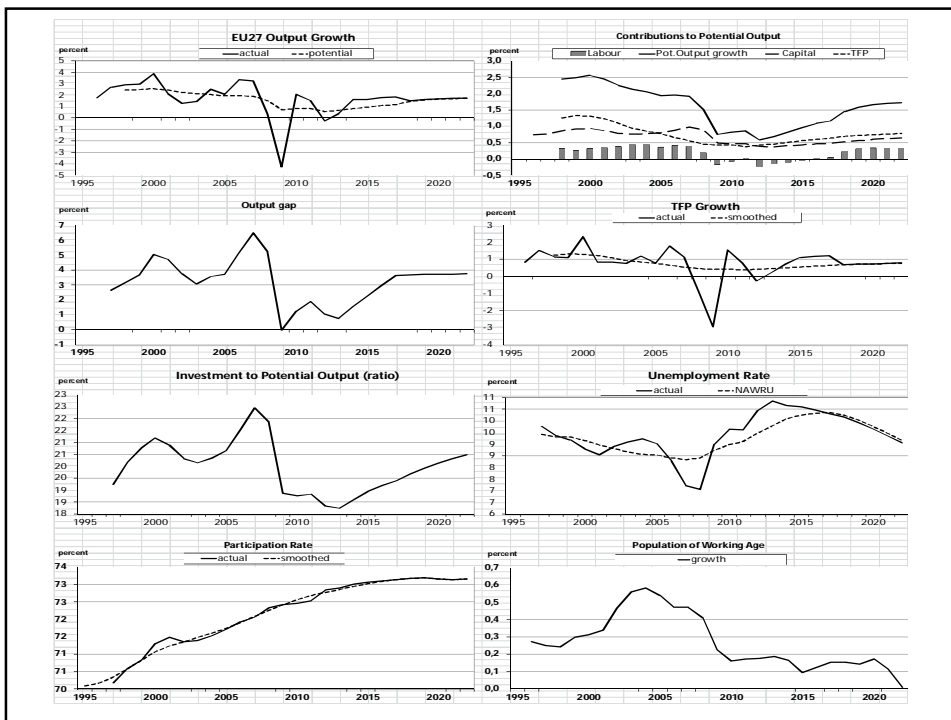
### 3. What is the outlook for the EU & Belgium over the next 10 years ?

15

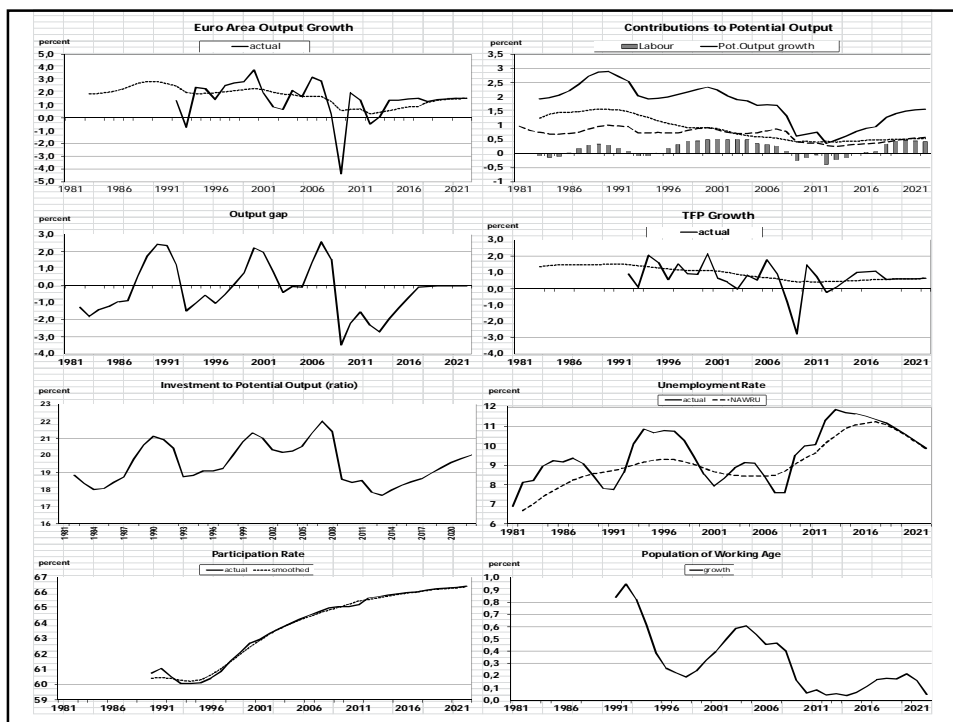
EU-27	Actual Output Growth (annual % change)	Potential Growth (annual % change)		Contributions to Potential Growth*					Determinants of Labour Potential and Capital Accumulation			
		Ypot per capita (PopWA 15-74)	PF Potential Growth	Total Labour (Hours) Contribution	Labour (persons) Contribution	Changes in Hours (per Emp) Contribution	Capital Accumulation Contribution	TFP Contribution	Growth of Working Age Population (annual % change)	Trend Participation Rate (% of Working Age Population)	NAWRU (% of Labour Force)	Investment Ratio (% of Potential Output)
1998	2.9	2.2	2.4	0.3	(0.6)	(-0.3)	0.9	1.3	0.2	70.6	9.3	20.2
1999	3.0	2.2	2.5	0.3	(0.6)	(-0.3)	0.9	1.3	0.3	70.8	9.3	20.8
2000	3.9	2.2	2.6	0.3	(0.7)	(-0.3)	0.9	1.3	0.3	71.1	9.2	21.2
2001	2.1	2.1	2.4	0.3	(0.7)	(-0.3)	0.9	1.2	0.3	71.2	9.0	20.1
2002	1.3	1.8	2.3	0.4	(0.7)	(-0.3)	0.8	1.1	0.5	71.3	8.8	20.3
2003	1.5	1.6	2.1	0.4	(0.7)	(-0.3)	0.8	0.9	0.6	71.5	8.7	20.2
2004	2.5	1.5	2.1	0.4	(0.7)	(-0.2)	0.8	0.8	0.6	71.6	8.6	20.3
2005	2.1	1.4	1.9	0.4	(0.6)	(-0.2)	0.8	0.8	0.5	71.7	8.5	20.7
2006	3.3	1.5	2.0	0.4	(0.6)	(-0.2)	0.9	0.7	0.5	71.9	8.4	21.5
2007	3.2	1.4	1.9	0.4	(0.6)	(-0.2)	1.0	0.6	0.5	72.1	8.3	22.5
2008	0.3	1.1	1.5	0.2	(0.4)	(-0.2)	0.9	0.5	0.4	72.3	8.4	21.9
2009	-4.3	0.5	0.7	-0.2	(0.1)	(-0.2)	0.5	0.4	0.2	72.4	8.7	18.9
2010	2.1	0.7	0.8	-0.1	(0.1)	(-0.2)	0.5	0.4	0.2	72.6	9.0	18.8
2011	1.5	0.7	0.9	0.0	(0.2)	(-0.1)	0.5	0.4	0.2	72.7	9.1	18.8
2012	-0.3	0.4	0.6	-0.2	(-0.1)	(-0.1)	0.4	0.4	0.2	72.8	9.5	18.3
2013	0.4	0.5	0.7	-0.1	(-0.0)	(-0.1)	0.4	0.5	0.2	72.9	9.8	18.2
2014	1.6	0.7	0.8	-0.1	(-0.0)	(-0.1)	0.4	0.5	0.2	73.0	10.1	18.6
2015	0.9	0.9	1.0	0.0	(0.0)	(-0.1)	0.4	0.6	0.1	73.0	10.2	18.9
2016	1.0	1.1	1.1	0.0	(0.1)	(-0.1)	0.5	0.6	0.1	73.1	10.3	19.2
2017	1.0	1.2	1.2	0.0	(0.1)	(-0.1)	0.5	0.6	0.2	73.1	10.4	19.4
2018	1.3	1.5	1.5	0.2	(0.3)	(-0.0)	0.5	0.7	0.2	73.2	10.3	19.7
2019	1.4	1.6	1.6	0.3	(0.3)	(0.0)	0.6	0.7	0.1	73.2	10.0	19.9
2020	1.5	1.7	1.7	0.3	(0.3)	(0.0)	0.6	0.7	0.2	73.2	9.8	20.1
2021	1.6	1.7	1.7	0.3	(0.3)	(0.0)	0.6	0.8	0.1	73.1	9.5	20.3
2022	1.7	1.7	1.7	0.3	(0.3)	(0.0)	0.6	0.8	0.0	73.2	9.2	20.5
<b>Periods</b>												
1998-2007		1.8	2.2	0.4	0.6	-0.3	0.9	1.0	0.4	71.4	8.8	20.9
2013-2022		1.2	1.3	0.1	0.2	0.0	0.5	0.6	0.1	73.1	10.0	19.5

16

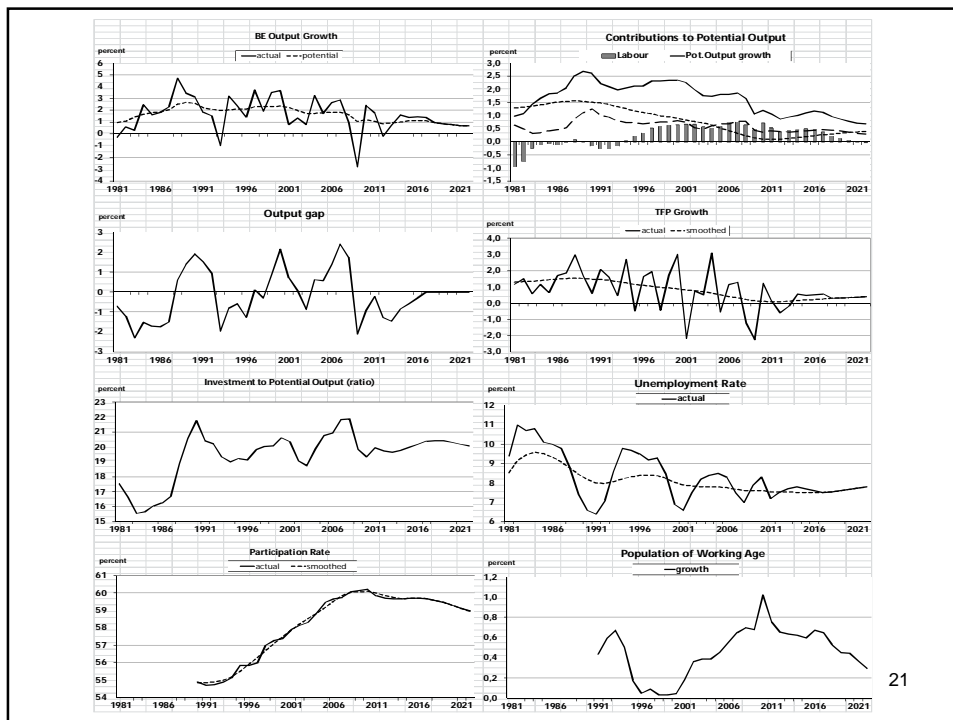




Euro Area	Actual Output Growth (annual % change)	Potential Growth (annual % change)		Contributions to Potential Growth*					Determinants of Labour Potential and Capital Accumulation			
		Ypot per capita (PopWA 15-74)	PF Potential Growth	Total Labour (Hours)	Labour (persons) Contribution	Changes in Hours (per Emp) Contribution	Capital Accumulation Contribution	TFP Contribution	Growth of Working Age Population (annual % change)	Trend Participation Rate (% of Working Age Population)	NAWRU (% of Labour Force)	Investment Ratio (% of Potential Output)
1998	2.8	2.0	2.2	0.4	(0.7)	(-0.3)	0.8	0.9	0.2	61.5	9.2	20.0
1999	2.9	2.0	2.3	0.4	(0.8)	(-0.3)	0.9	0.9	0.2	62.0	9.1	20.8
2000	3.8	2.0	2.4	0.5	(0.8)	(-0.4)	0.9	0.9	0.3	62.5	8.9	21.3
2001	2.0	1.8	2.3	0.5	(0.9)	(-0.4)	0.9	0.9	0.4	62.9	8.7	21.0
2002	0.9	1.5	2.1	0.5	(0.9)	(-0.3)	0.8	0.8	0.5	63.3	8.6	20.3
2003	0.7	1.3	1.9	0.5	(0.8)	(-0.3)	0.7	0.7	0.6	63.7	8.5	20.2
2004	2.2	1.2	1.9	0.5	(0.7)	(-0.2)	0.7	0.6	0.6	64.0	8.4	20.3
2005	1.7	1.2	1.7	0.4	(0.6)	(-0.2)	0.7	0.6	0.5	64.2	8.5	20.5
2006	3.2	1.3	1.7	0.3	(0.6)	(-0.2)	0.8	0.6	0.5	64.5	8.4	21.3
2007	2.9	1.2	1.7	0.3	(0.5)	(-0.2)	0.9	0.6	0.5	64.7	8.5	22.0
2008	0.3	0.9	1.3	0.1	(0.3)	(-0.2)	0.8	0.5	0.4	64.9	8.7	21.4
2009	-4.4	0.5	0.6	-0.2	(-0.0)	(-0.2)	0.4	0.4	0.2	65.1	9.1	18.6
2010	2.0	0.6	0.7	-0.1	(0.0)	(-0.2)	0.4	0.4	0.1	65.3	9.4	18.4
2011	1.4	0.7	0.8	-0.1	(0.1)	(-0.1)	0.4	0.4	0.1	65.5	9.6	18.6
2012	-0.5	0.3	0.4	-0.4	(-0.3)	(-0.1)	0.3	0.4	0.0	65.6	10.1	17.9
2013	0.1	0.4	0.5	-0.2	(-0.1)	(-0.1)	0.3	0.4	0.1	65.7	10.5	17.7
2014	1.4	0.6	0.6	-0.1	(-0.1)	(-0.1)	0.3	0.5	0.0	65.8	10.9	18.0
2015	0.7	0.8	0.8	0.0	(0.0)	(-0.0)	0.3	0.5	0.1	65.9	11.1	18.3
2016	0.8	0.9	0.9	0.1	(0.1)	(-0.0)	0.4	0.5	0.1	66.0	11.2	18.5
2017	0.8	1.0	1.0	0.1	(0.1)	(-0.0)	0.4	0.5	0.2	66.1	11.3	18.6
2018	1.1	1.3	1.3	0.3	(0.3)	(0.0)	0.4	0.5	0.2	66.2	11.1	19.0
2019	1.2	1.4	1.4	0.4	(0.4)	(0.0)	0.5	0.5	0.2	66.3	10.9	19.3
2020	1.3	1.5	1.5	0.5	(0.4)	(0.1)	0.5	0.5	0.2	66.3	10.5	19.6
2021	1.4	1.5	1.5	0.4	(0.4)	(0.1)	0.6	0.5	0.2	66.3	10.2	19.8
2022	1.5	1.6	1.6	0.4	(0.4)	(0.1)	0.6	0.6	0.0	66.4	9.9	20.0
Periods												
1998-2007		1,6	2,0	0,4	0,7	-0,3	0,8	0,8	0,4	63,3	8,7	20,8
2013-2022		1,0	1,1	0,2	0,2	0,0	0,4	0,5	0,1	66,1	10,8	18,9

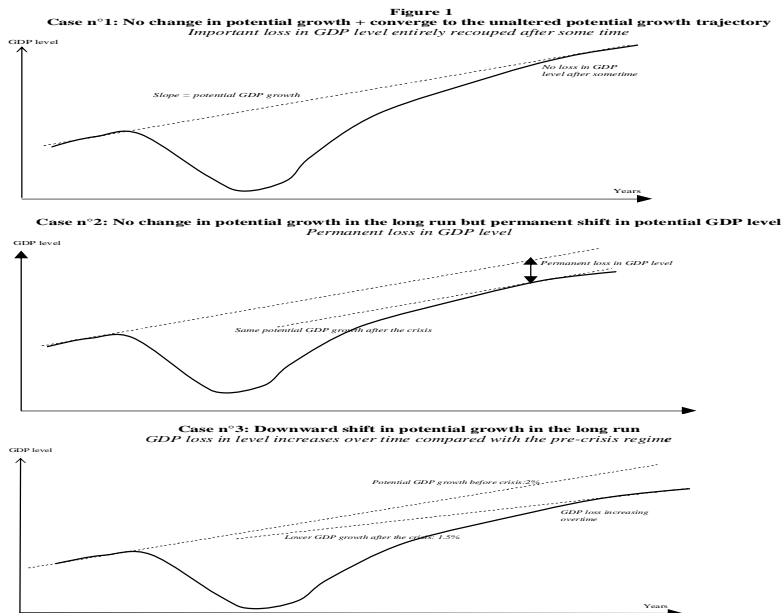


BE	Actual Output Growth (annual % change)	Potential Growth (annual % change)		Contributions to Potential Growth*					Determinants of Labour Potential and Capital Accumulation			
		Ypot per capita (PopWA 15-74)	PF Potential Growth	Total Labour (Hours) Contribution	Labour (persons) Contribution	Changes in Hours (per Emp) Contribution	Capital Accumulation Contribution	TFP Contribution	Growth of Working Age Population (annual % change)	Trend Participation Rate (% of Working Age Population)	NAWRU (% of Labour Force)	Investment Ratio (% of Potential Output)
1998	1.9	2.3	2.3	0.6	(0.5)	(0.1)	0.8	1.0	0.0	56.7	8.4	20.0
1999	3.5	2.3	2.3	0.6	(0.6)	(0.1)	0.7	1.0	0.0	57.1	8.3	20.1
2000	3.7	2.3	2.4	0.6	(0.6)	(0.0)	0.8	0.9	0.0	57.5	8.0	20.6
2001	0.8	2.1	2.3	0.7	(0.6)	(0.0)	0.8	0.8	0.2	57.9	7.9	20.4
2002	1.4	1.6	2.0	0.7	(0.7)	(0.0)	0.5	0.8	0.4	58.2	7.9	19.1
2003	0.8	1.4	1.8	0.6	(0.6)	(-0.1)	0.5	0.7	0.4	58.5	7.8	18.8
2004	3.3	1.4	1.7	0.5	(0.6)	(-0.1)	0.6	0.6	0.4	58.8	7.8	19.9
2005	1.8	1.3	1.8	0.6	(0.7)	(-0.1)	0.7	0.5	0.5	59.2	7.8	20.8
2006	2.7	1.3	1.8	0.7	(0.8)	(-0.1)	0.7	0.4	0.6	59.5	7.8	20.9
2007	2.9	1.2	1.9	0.8	(0.8)	(-0.1)	0.8	0.3	0.6	59.9	7.7	21.8
2008	1.0	0.9	1.6	0.6	(0.7)	(-0.1)	0.8	0.2	0.7	60.0	7.6	21.9
2009	-2.8	0.4	1.1	0.5	(0.5)	(-0.0)	0.5	0.2	0.7	60.1	7.6	19.9
2010	2.4	0.2	1.2	0.7	(0.7)	(0.0)	0.4	0.1	1.0	60.1	7.6	19.4
2011	1.8	0.3	1.1	0.5	(0.4)	(0.1)	0.4	0.1	0.8	60.0	7.5	19.9
2012	-0.2	0.2	0.9	0.4	(0.3)	(0.1)	0.4	0.1	0.7	59.8	7.5	19.8
2013	0.7	0.3	0.9	0.4	(0.3)	(0.1)	0.4	0.1	0.6	59.7	7.5	19.7
2014	1.6	0.4	1.0	0.5	(0.3)	(0.1)	0.4	0.2	0.6	59.7	7.5	19.8
2015		0.5	1.1	0.5	(0.4)	(0.1)	0.4	0.2	0.6	59.7	7.5	20.0
2016		0.5	1.2	0.5	(0.5)	(0.0)	0.4	0.2	0.7	59.7	7.5	20.2
2017		0.5	1.1	0.4	(0.4)	(0.0)	0.5	0.3	0.6	59.7	7.5	20.4
2018		0.4	1.0	0.2	(0.2)	(0.0)	0.5	0.3	0.5	59.6	7.6	20.5
2019		0.4	0.9	0.1	(0.1)	(0.0)	0.4	0.3	0.5	59.4	7.6	20.4
2020		0.3	0.8	0.1	(0.1)	(0.0)	0.4	0.4	0.4	59.3	7.7	20.3
2021		0.3	0.7	0.0	(0.0)	(0.0)	0.3	0.4	0.4	59.1	7.7	20.2
2022		0.4	0.7	0.0	(-0.0)	(0.0)	0.3	0.4	0.3	59.0	7.8	20.1
Periods												
1998-2007		1.7	2.0	0.6	0.7	0.0	0.7	0.7	0.3	58.3	7.9	20.2
2013-2022		0.4	0.9	0.3	0.2	0.0	0.4	0.3	0.5	59.5	7.6	20.1



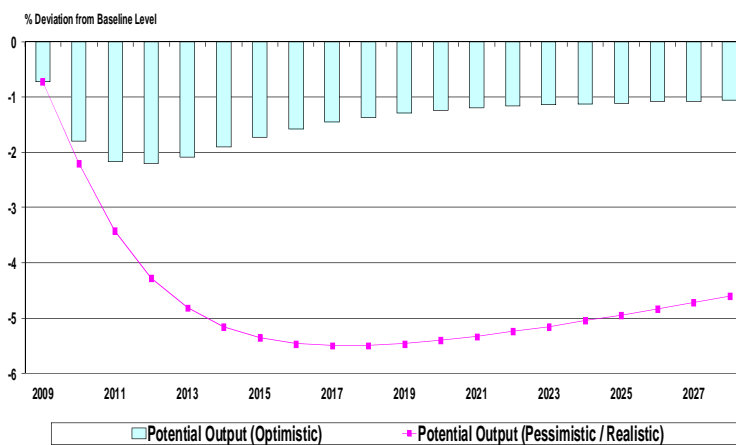
## 4. Key Drivers

## Impact of Financial Crisis : 3 Scenarios



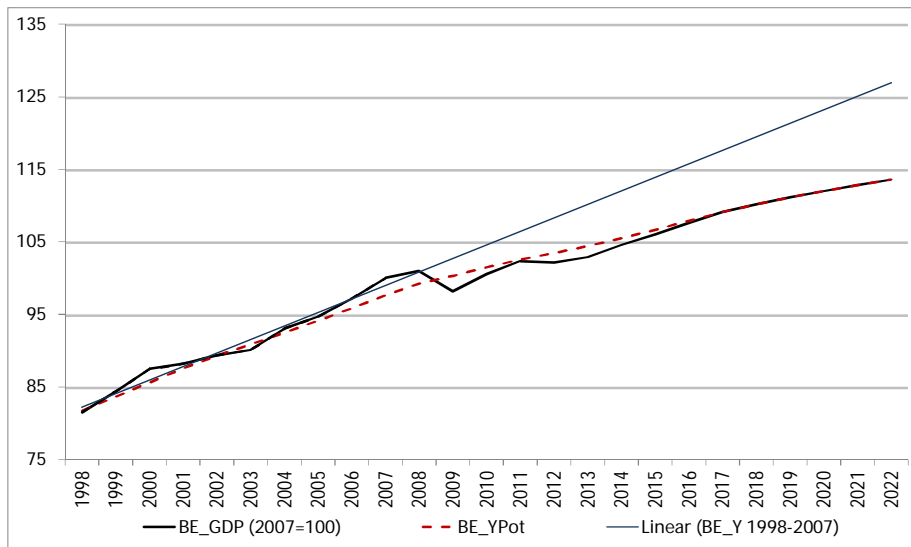
23

## Impact of Financial Crisis on EU Potential Output



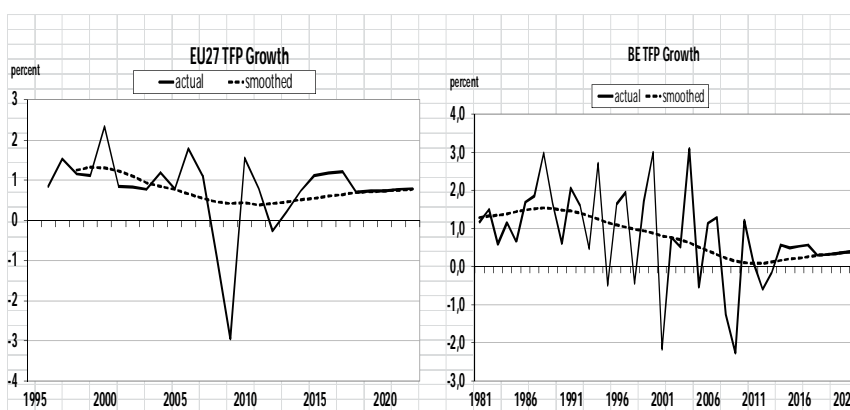
24

## Impact of Financial Crisis on Belgium



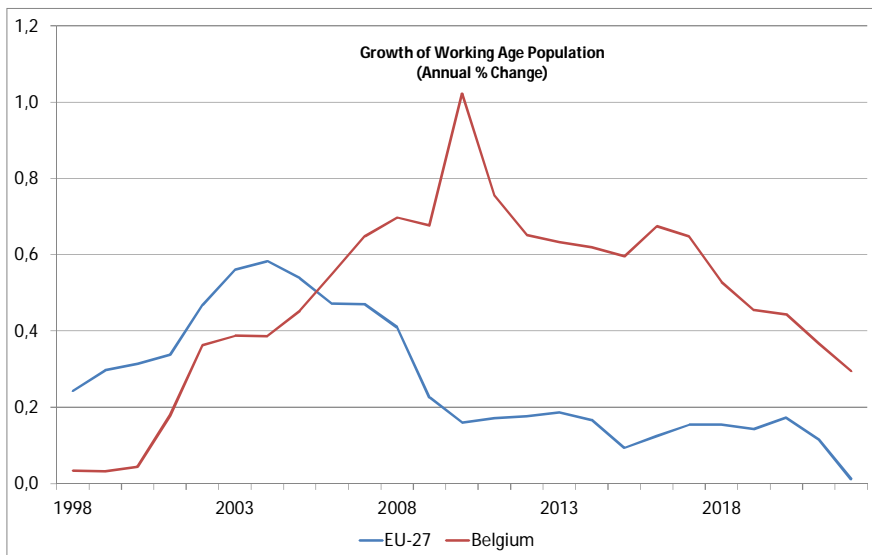
25

## Pre-Crisis TFP Trends



26

## Demographics



## Concluding Remarks

**1, New Governance framework (EU Semester) led to demands for a commonly agreed T+10 forecasting framework**

**2, EPC approved a new T+10 Methodology in Nov 2012 (2013 Semester)**

- Labour market & pension reforms
- More work is needed

**3, Sharp deterioration in growth prospects compared with pre-crisis period**

- T+10 projections for EU27 (2 ¼% to 1 ¼%)
- T+10 projections for Belgium (2% to less than 1%)

**4, Key Drivers of growth slowdown (financial crisis; pre-crisis TFP trends; demographics in EU27)**