The Euro Area's Long-Term Growth Prospects: With and Without Structural Reforms

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Introduction

- A few years ago, coverage of the euro area was relentlessly negative with focus the “euro crisis”.
- But the euro area economic has grown about 2 percent per year since 2014 and the unemployment rate has fallen from 12% to 8%.
- Can this relatively positive period of growth continue or is this just a temporary recovery period?

The Importance of Growth for Europe

- If the current period of growth cannot be sustained, it suggests problems for a wide rage of areas:
  - Fiscal sustainability (some very high debt\GDP ratios e.g. Italy)
  - Public pension systems
  - Banking system stability (non-performing loans, capital levels)
  - The future of the euro: Sluggish growth and frequent recessions will bring back the tensions exposed during 2010-12.

This Paper

- Just published as a chapter in *The Political Economy of Structural Reforms in Europe* (Oxford University Press, edited by Campos, De Grauwe and Ji).
  - Examines the composition of growth in the euro area.
  - Provides a longer-term baseline projection.
  - Discusses the potential impact of structural reforms.
- Focus on euro area 12 countries, both aggregate and country-by-country.

Simple Growth Accounting Framework

- Cobb-Douglas production function

$$Y_t = A_t K_t^{\alpha} L_t^{1-\alpha}$$

- Implying growth accounting equation

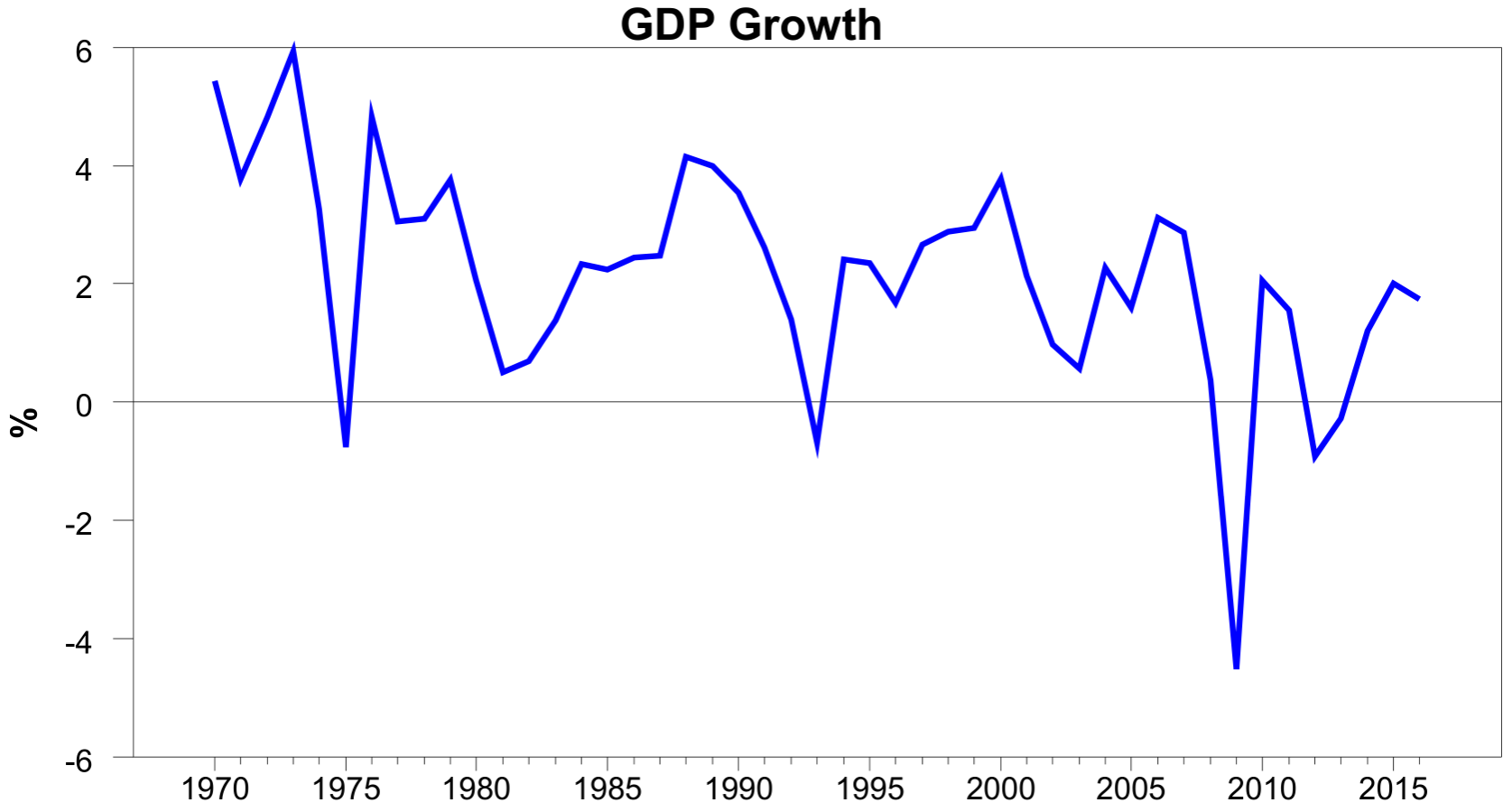
$$\frac{\dot{Y}_t}{Y_t} = \frac{\dot{A}_t}{A_t} + \alpha \frac{\dot{K}_t}{K_t} + (1-\alpha)\frac{\dot{L}_t}{L_t}$$

- We set alpha equal to one-third and construct a capital stock with a depreciation rate of six percent.

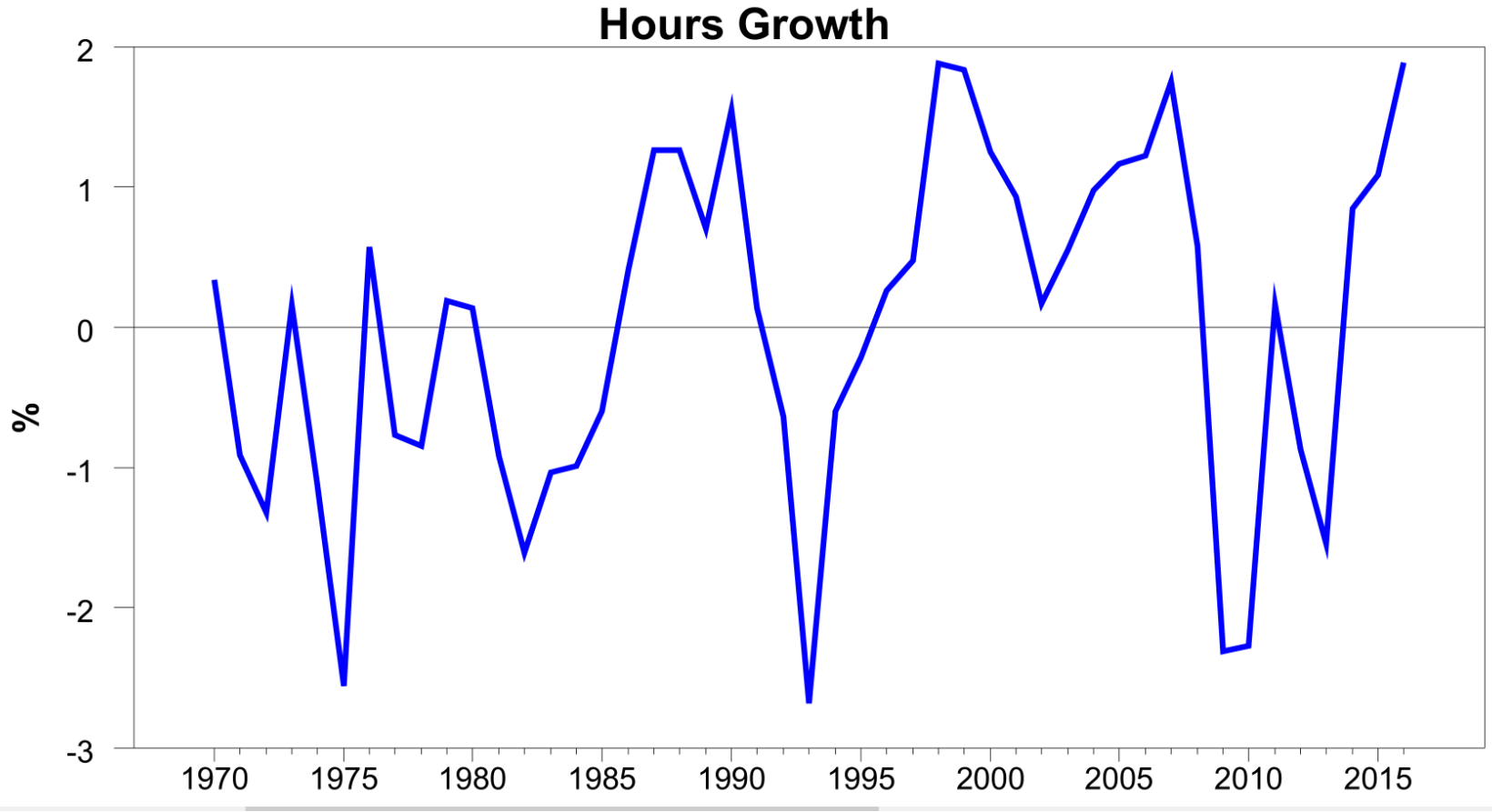
Growth Accounting Results

Period	Euro Area				United States			
	$\triangle y$	$\triangle a$	$\triangle k$	$\triangle l$	$\triangle y$	$\triangle a$	$\triangle k$	$\triangle l$
1970-1976	3.6	2.7	1.5	-0.6	3.1	0.9	1.2	1.0
1977-1986	2.1	1.6	0.8	-0.4	3.1	0.7	1.2	1.2
1987-1996	2.3	1.5	0.8	0.0	2.9	0.9	1.1	0.9
1997-2006	2.2	0.7	0.8	0.7	3.1	0.9	1.6	0.7
2007-2016	0.3	0.1	0.5	-0.2	1.3	0.4	0.7	0.2
2000-2016	1.0	0.2	0.6	0.2	1.8	0.5	1.0	0.3
2010-2016	0.9	0.4	0.3	0.2	2.0	0.4	0.6	1.0
2014-2016	1.9	0.6	0.3	1.0	2.1	0.3	0.7	1.1
2014-2016 (excl Irl)	1.6	0.3	0.3	1.0	2.1	0.3	0.7	1.1

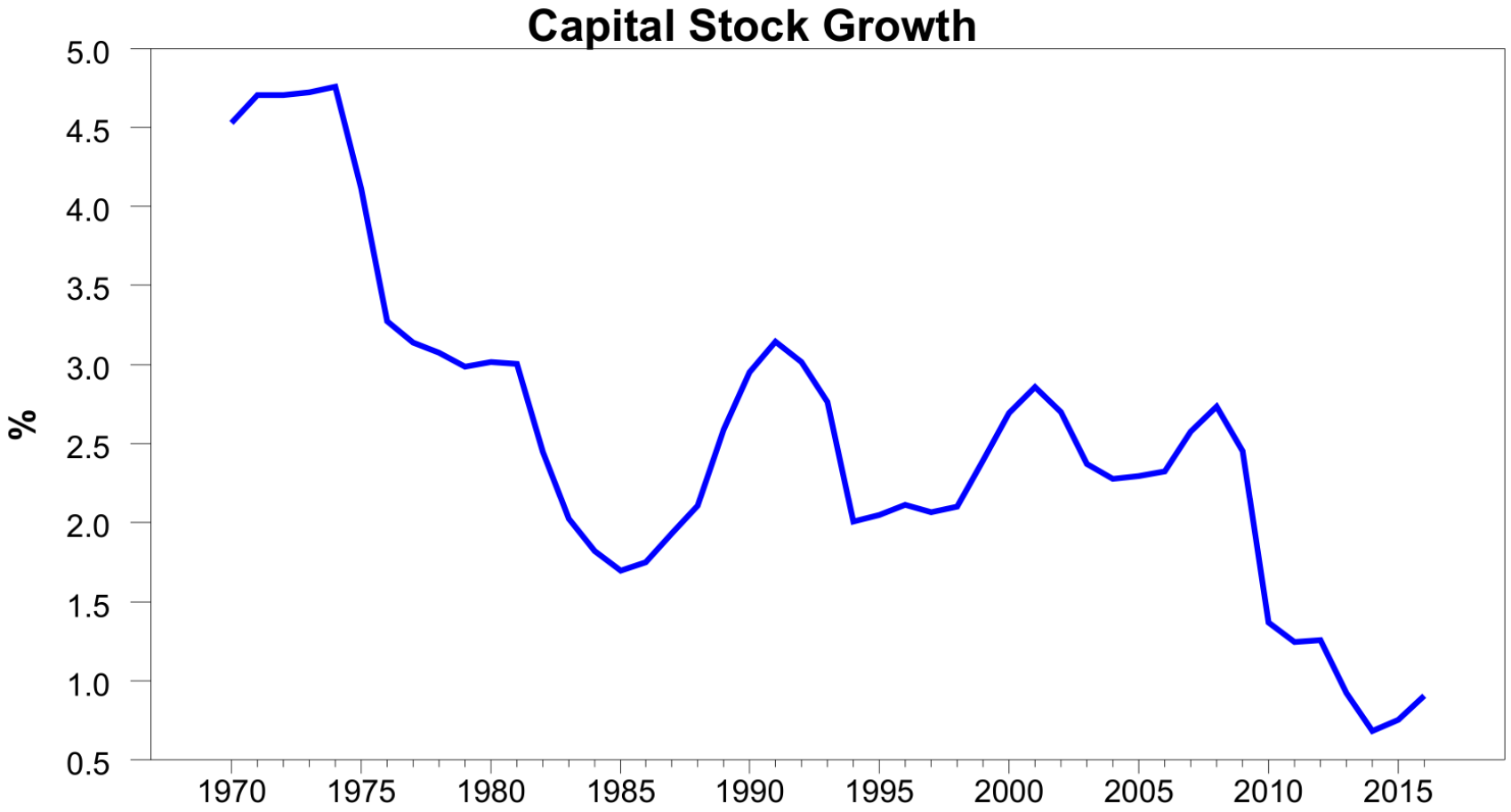
Euro Area GDP Growth



Components of Euro Area GDP Growth



Components of Euro Area GDP Growth



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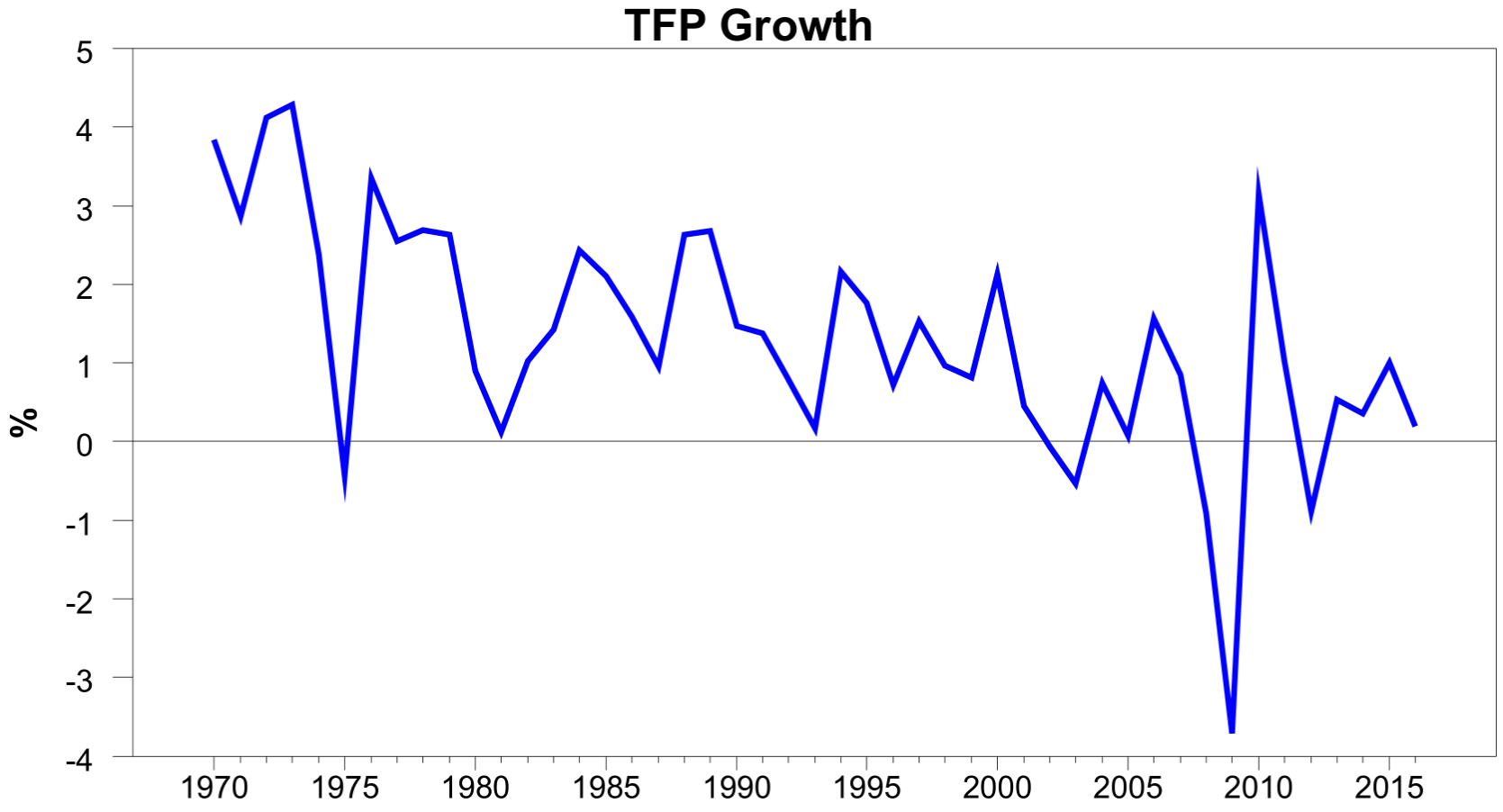


TFP Versus Capital Deepening: Some Analytics

- Consider a Solow growth model with

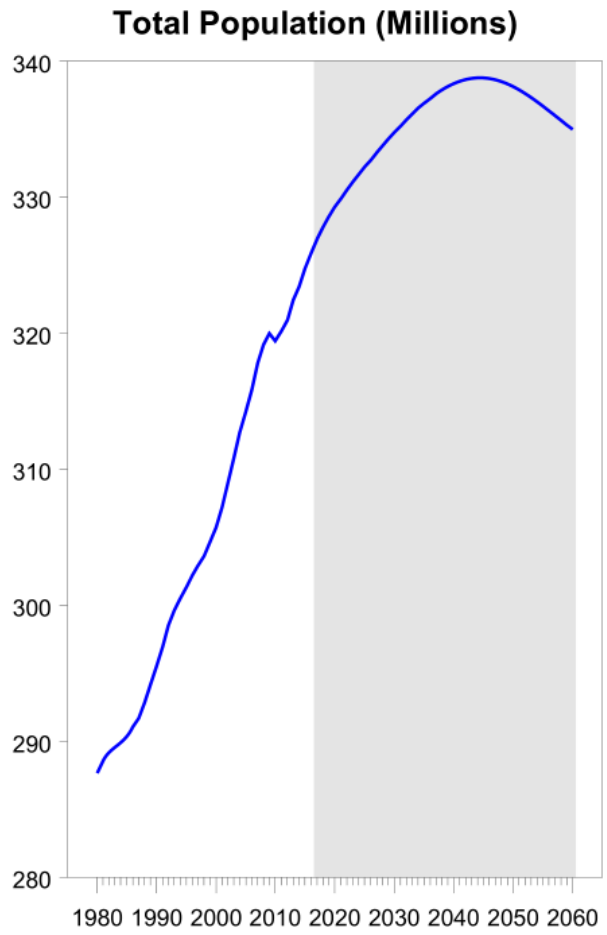
$$Y_t = A_t K_t^{\alpha} L_t^{1-\alpha}$$

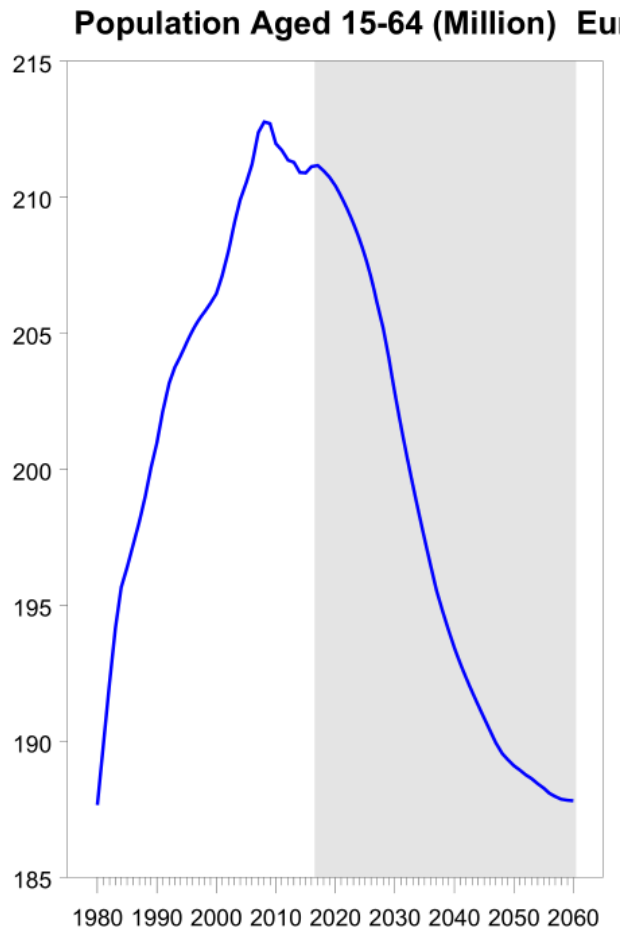
- Along a steady growth path with $\Delta \log A_t = g$ the steady-state growth rate of output per worker is $\frac{g}{1-\alpha}$ with g coming from TFP growth and the rest coming from capital deepening.
- With $\alpha = \frac{1}{3}$, TFP should account for two-thirds of productivity growth along a steady growth path.

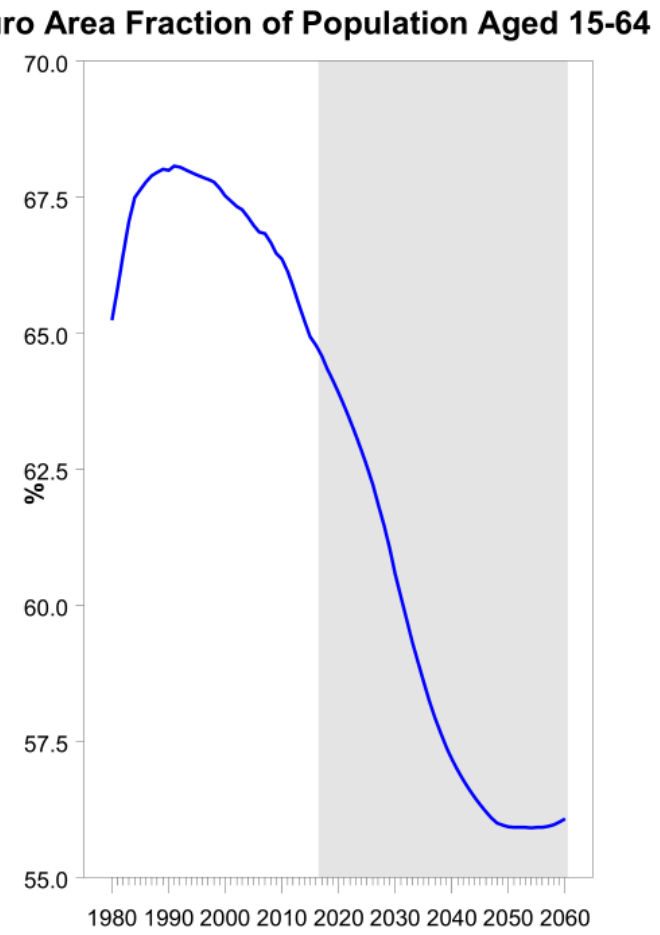
TFP Versus Capital Deepening

Period	Euro Area		
	$(\triangle y - \triangle l)$	$\triangle a$	$(\triangle k - \triangle l)$
1970-1976	4.5	2.7	1.7
1977-1986	2.6	1.6	1.0
1987-1996	2.4	1.5	0.9
1997-2006	1.1	0.7	0.4
2007-2016	0.6	0.1	0.5
2000-2016	0.8	0.2	0.5
2010-2016	0.6	0.4	0.2
2014-2016	0.4	0.6	-0.2
2014-2016 (excl Irl)	0.1	0.3	-0.2

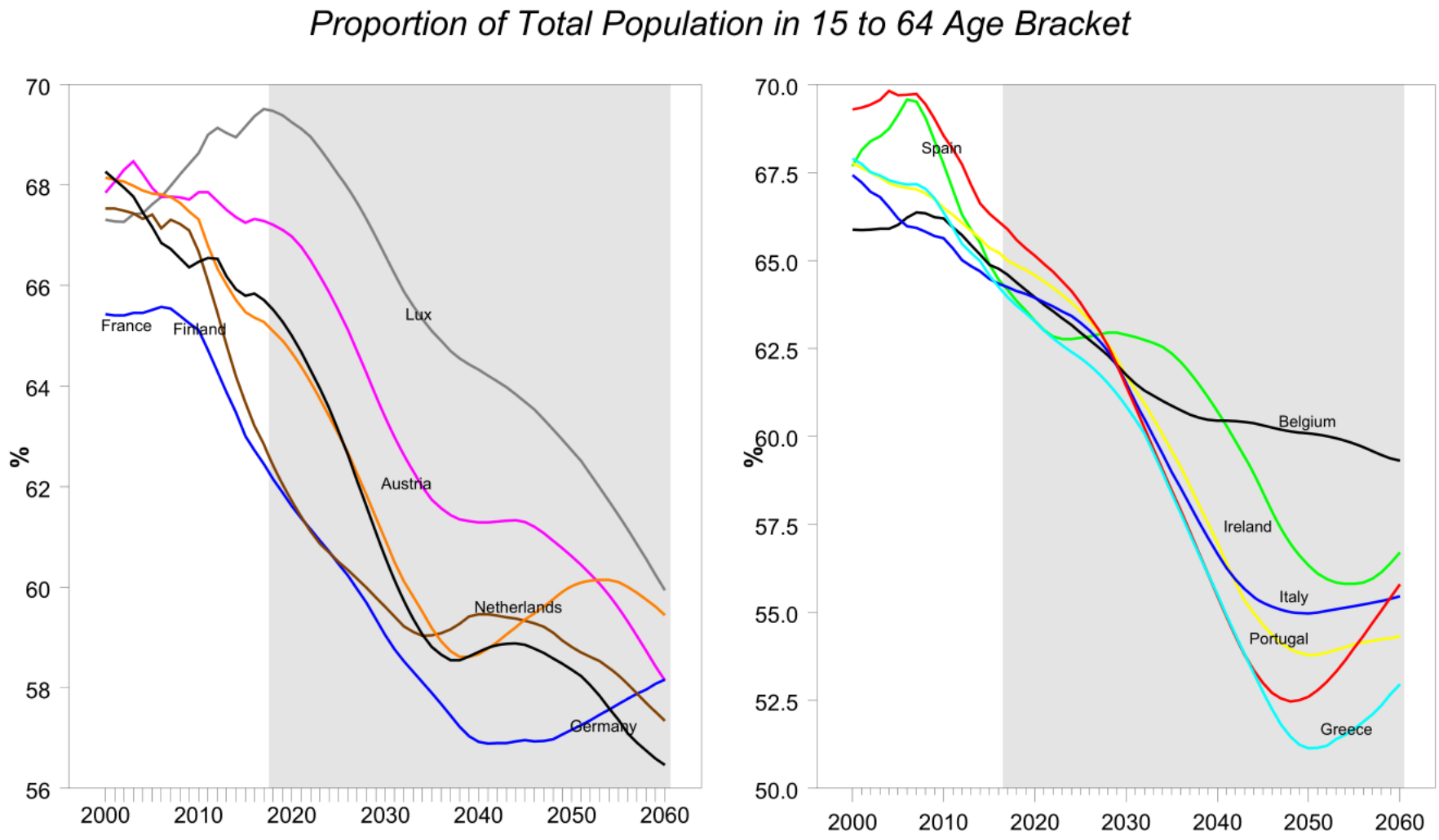
Big Demographic Changes On the Way: Eurostat Projections







Ageing Happening All Across Europe



A Long-Term Simulation

- We build a simple simulation model of the euro area economy, going from 2017 to 2060, using the Cobb-Douglas production function from the growth accounting framework.

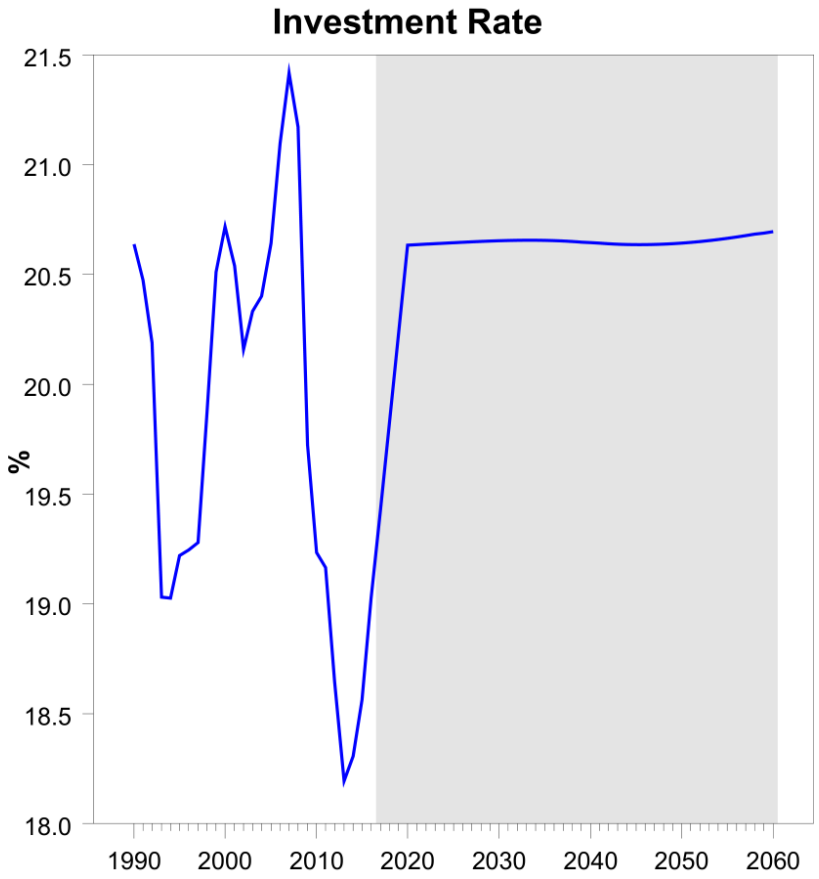
$$
\begin{aligned}
Y_t &= A_t K_t^{\alpha} L_t^{1-\alpha} \\
K_t &= (1-\delta) K_{t-1} + I_{t-1} \\
L_t &= (1-u_t)(p_t \times Pop_t) \times H_t \\
I_t &= s_t Y_t \\
\Delta \log A_t &= g
\end{aligned}
$$

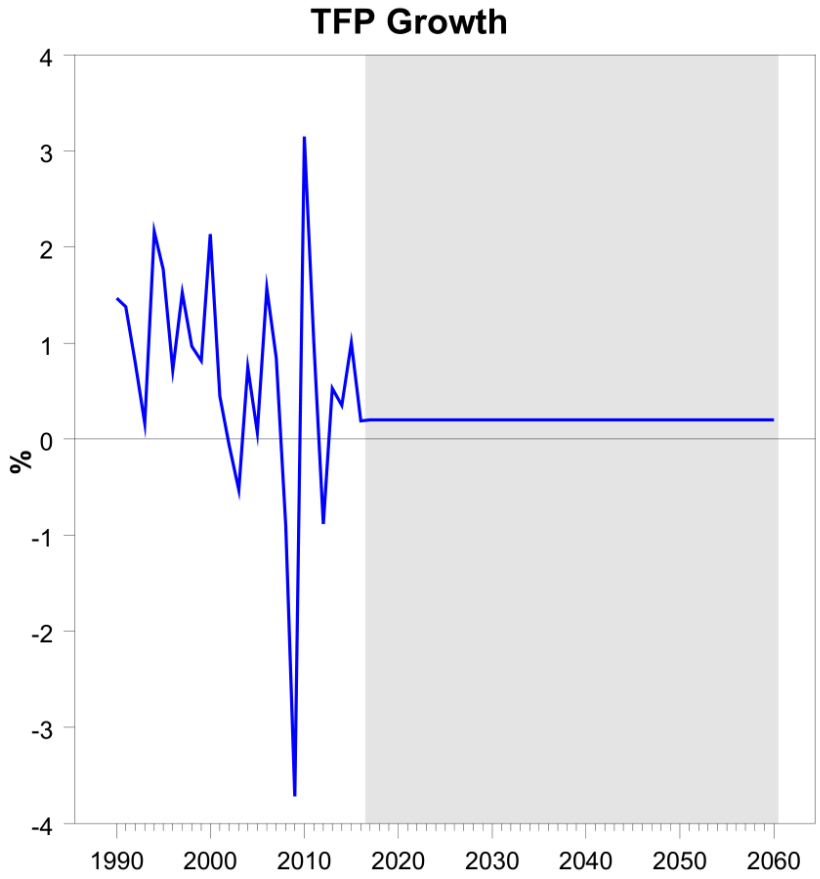
- It is a “bottom-up” simulation with specific assumptions for each country

Baseline Simulation Assumptions

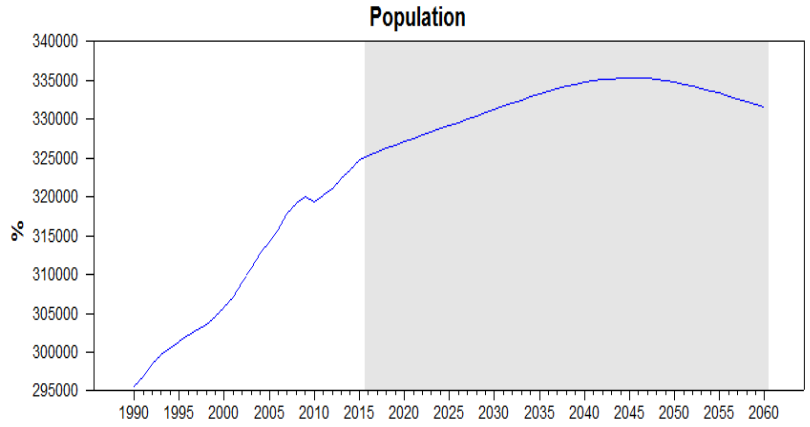
- TFP grows at its 2000-2016 average of 0.2 percent.
- Ratios of investment to GDP are projected to recover by 2020 to their 1998-2007 averages and be constant thereafter.
- Unemployment rates fall to their 1998-2007 averages by 2020 and are constant thereafter. (Exceptions: Germany and Finland, where the rate stays constant from 2016.)
- Work-age populations follow the Eurostat projection.
- Participation rates of the work-age population within five-year age cohorts flattens out at their current levels.
- Average workweeks stays at 2016 level.

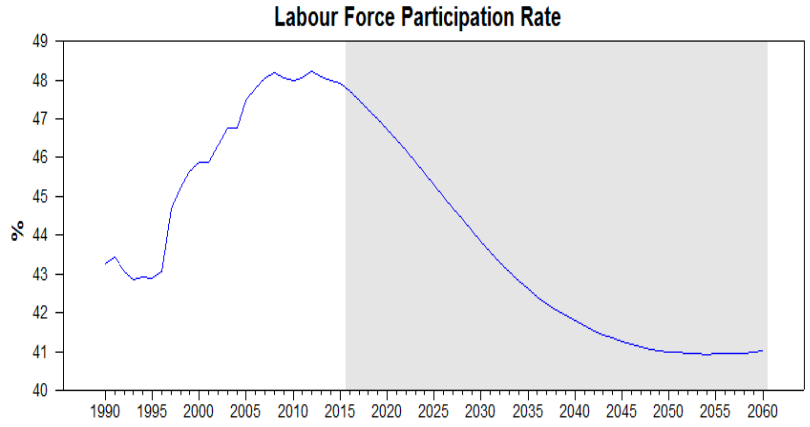
Assumptions

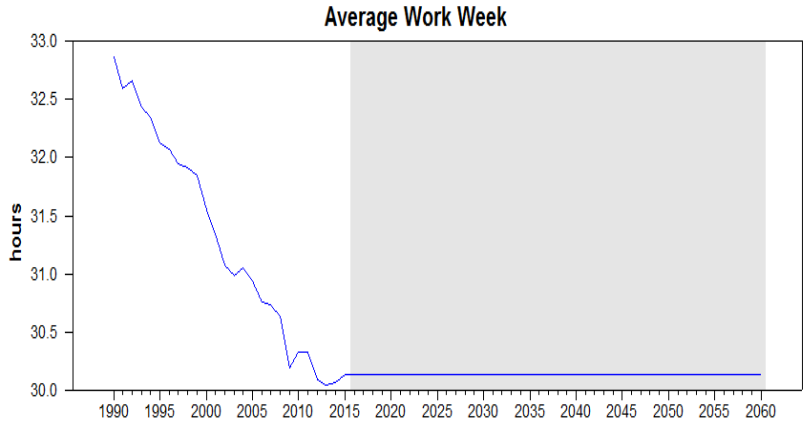




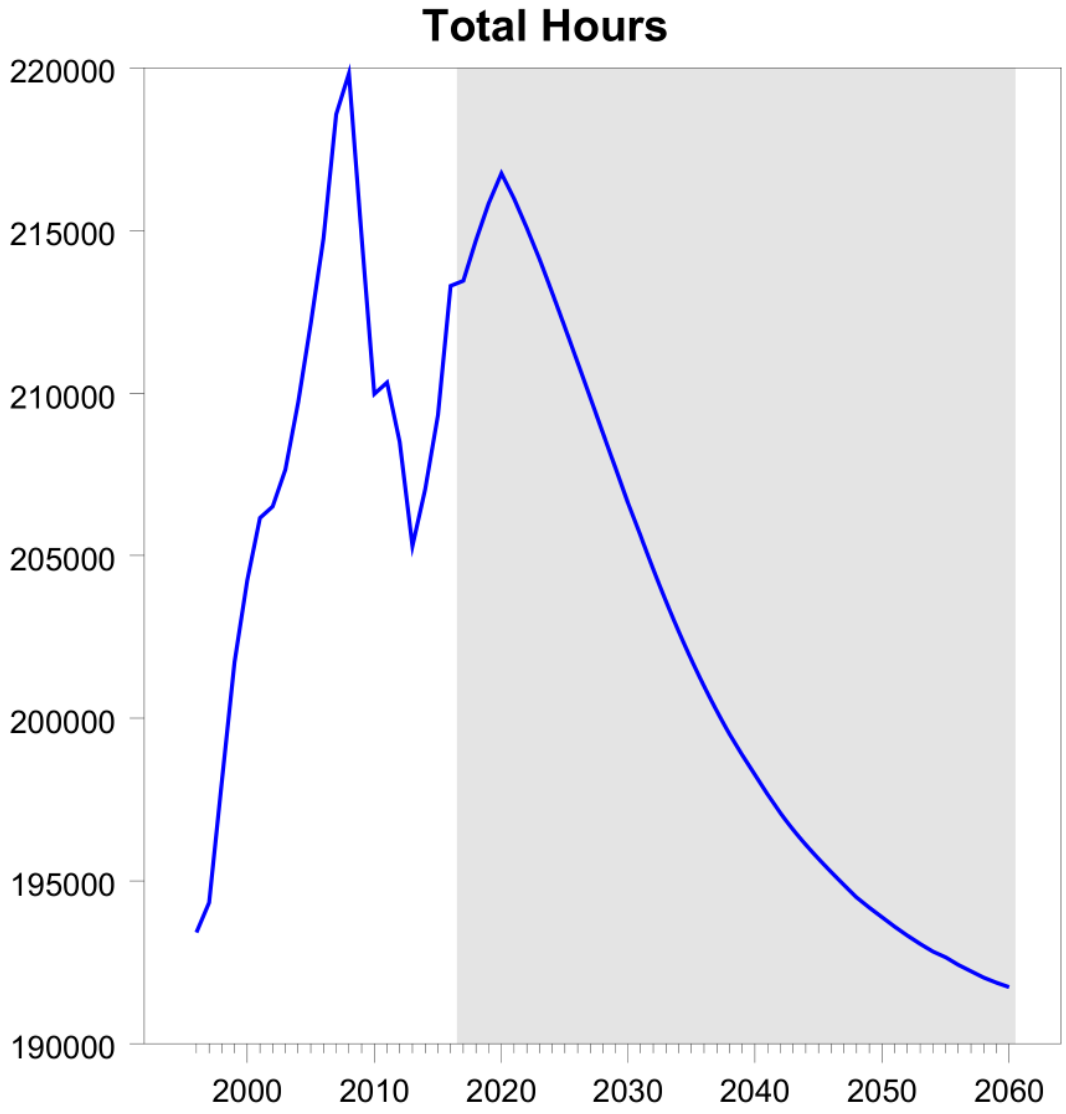
Assumptions



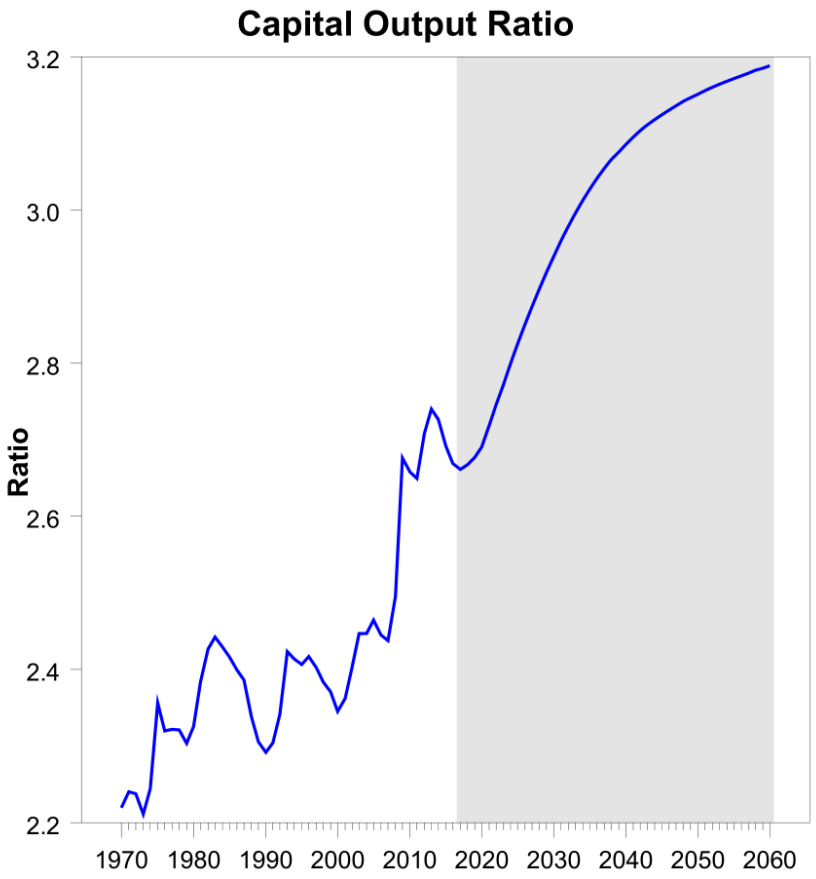


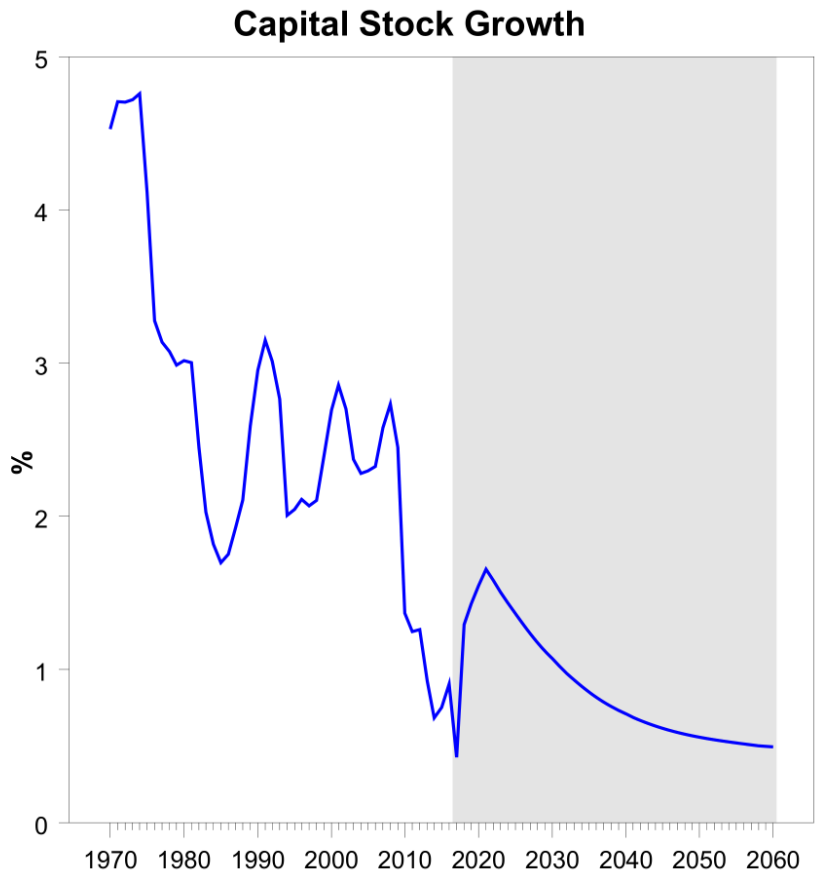


Total Hours Worked

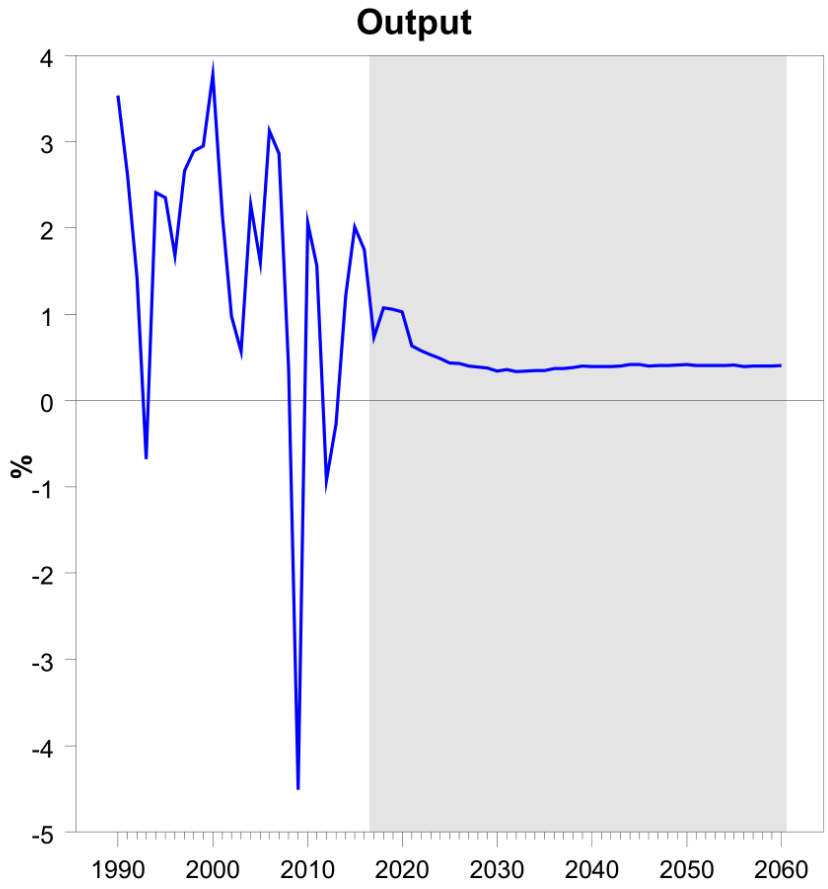


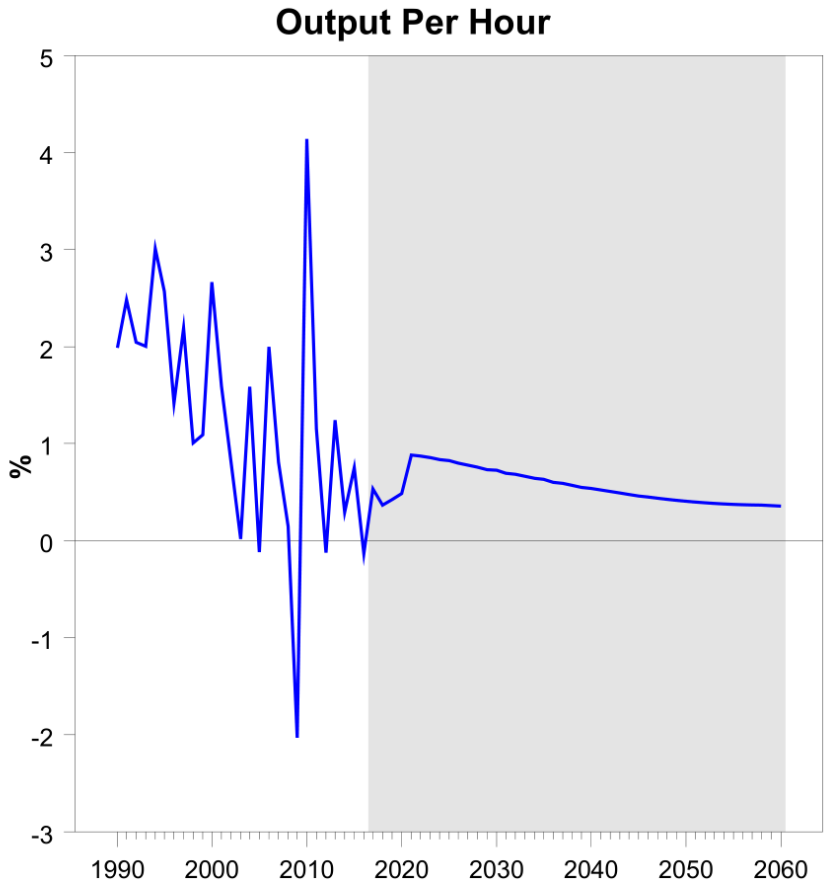
Transition Dynamics for Capital





Growth in GDP and GDP Per Hour





Baseline: Average Growth Rates

	GDP Per Hour	Hours	GDP
2017-2026	0.73	-0.19	0.54
2027-2036	0.71	-0.48	0.23
2037-2046	0.53	-0.27	0.26
2017-2046	0.66	-0.32	0.34

Structural Reform Scenarios

- Constant discussion in European political circles about the need for “structural reform”.
- But what exactly are structural reforms and what can they achieve?
- We consider three scenarios in which structural reforms are successful and achieve a highly desirable outcome:
  - A labour market reform that reduces unemployment.
  - A pension system reform that increases labour force participation.
  - Product and labour market deregulation that boosts TFP.

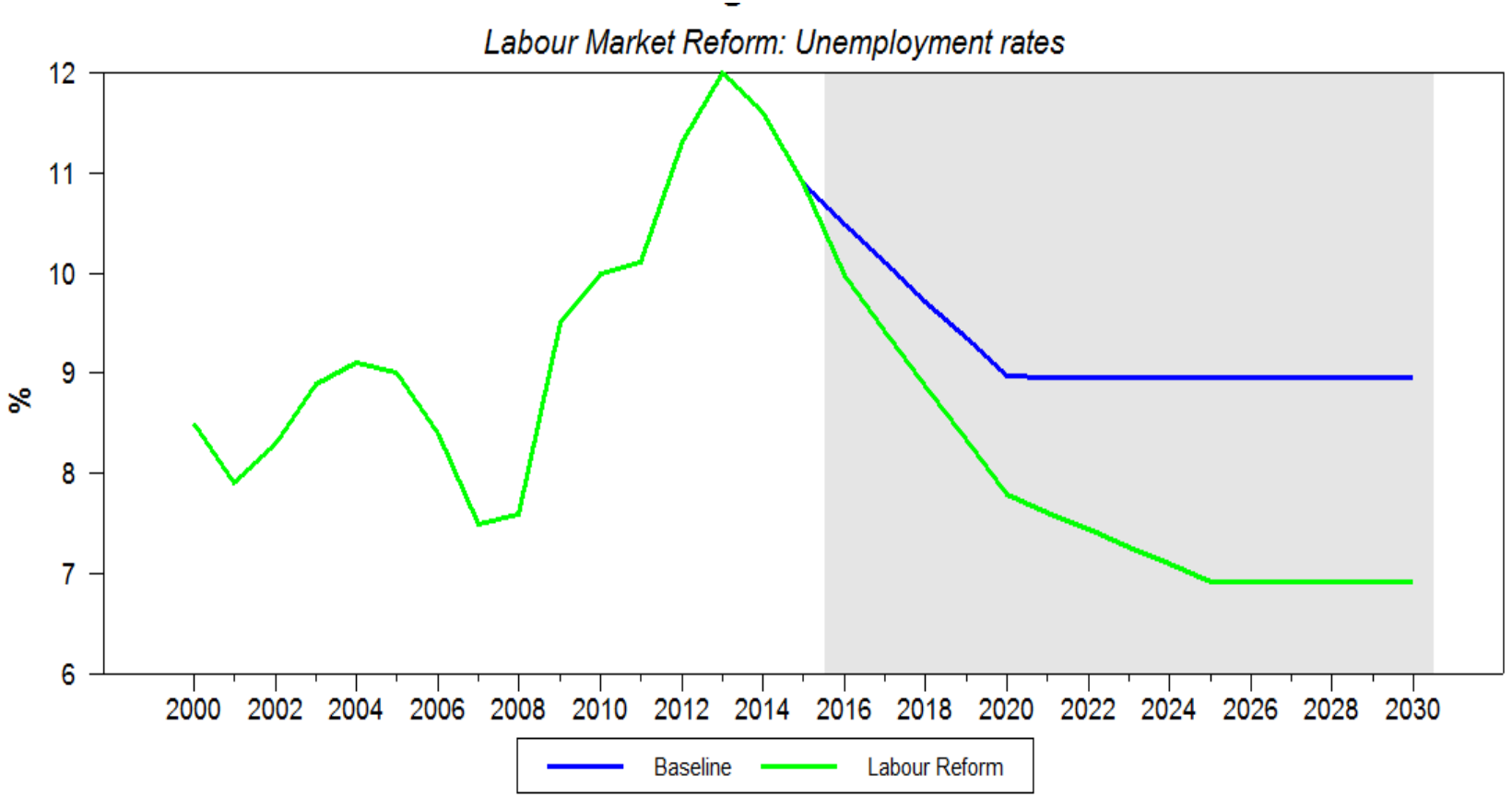
Labour Market Reform Scenario

- 7 countries implement reforms that reduce their unemployment rate to 6% by 2028 i.e. the reforms take 12 years to have full impact.
- 5 countries who converge to unemployment rates below 6% in baseline do not reform (Germany, Austria, Netherlands, Luxembourg, Ireland).
- Total euro area unemployment rate settles at 5.6% instead of 7.7% in baseline.

What Kind of Reform Might This Be?

- Johansson et al (2013) consider case where
  - The replacement rate of unemployment benefits is reduced by 10 percentage points.
  - The tax wedge is cut by 4 percentage points and
  - OECD's measure of the volume of active labour market policies is increased by one standard deviation.
- They estimate this would, over 10 years, reduce unemployment in Spain and France by 3 percentage points.
- Our reform scenario envisages a similar-sized reduction in French unemployment rates and a larger reduction for Spain.
- Replacement rate for one-earner couple with two children is 68 percent in France, 72 percent in Spain, 48 percent in the UK and 43 percent in the US.

Labour Market Reform Scenario: Euro Area



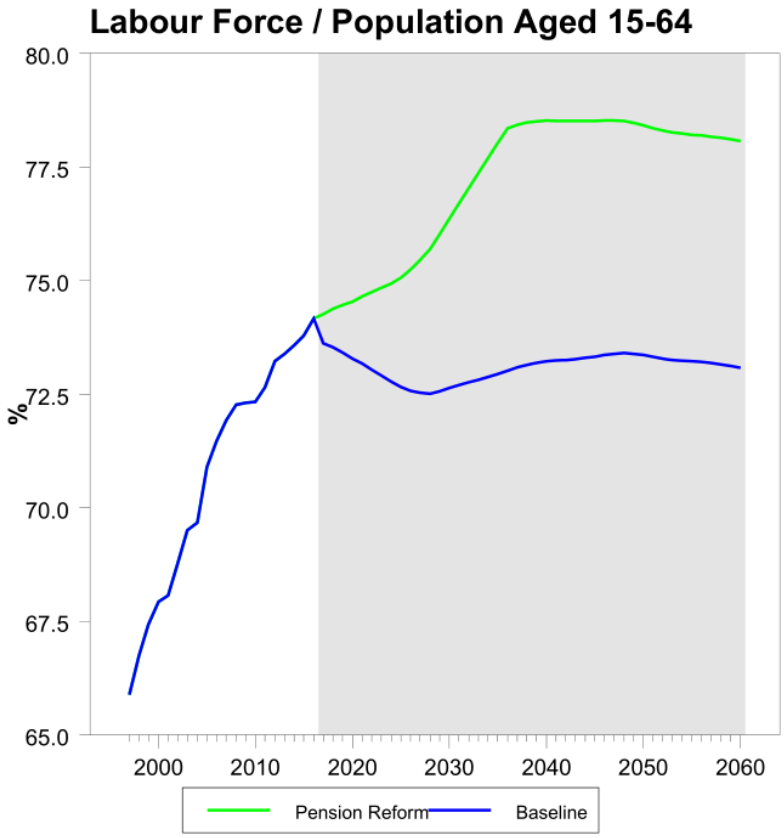
Impact of Labour Reform on GDP Growth Rates

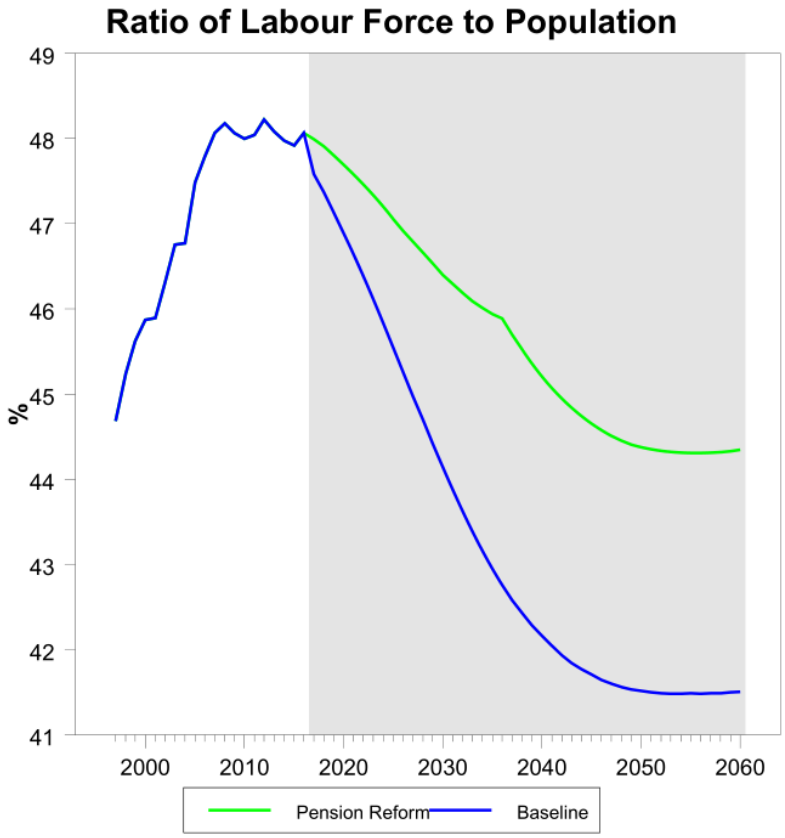
	2017-2026	2027-2036
Euro Area		
Baseline	0.54	0.23
Labour Reform	0.66	0.27

Pension System Reform Scenario

- Ability to retire early has a major impact on labour supply in Europe.
- We consider two sets of reforms:
  - Eurostat calculations of predicted effect of reforms that have already been legislated but which generally kick in far in the future.
  - A reform scenario that sees a transition over 20 years such that workers aged 50-54 have the same probability of working at 55-59, 60-64 etc. as Swiss workers. OECD points to Switzerland as having particularly high activity rates among older workers.

Impact of Pension Reform on Participation





Impact of Pension Reform on GDP Growth 2017-46

Table 9: Change in Annual Growth Rates due to Pension Reforms: 2017-2046 (%)

	Legislated Reforms		Swiss Reform	
	Output	Output Per Hour	Output	Output Per Hour
Euro Area	0.23	-0.06	0.21	-0.04
Belgium	0.16	-0.02	0.28	-0.04
Germany	0.15	-0.02	0.13	-0.02
France	0.17	-0.02	0.27	-0.04
Greece	0.64	-0.1	0.38	-0.06
Ireland	0.11	-0.02	0.1	-0.01
Italy	0.36	-0.04	0.33	-0.05
Spain	0.53	-0.06	0.28	-0.04
Finland	0.05	-0.02	0.15	-0.02
Lux	0.21	-0.04	0.34	-0.05
Portugal	0.19	-0.09	0.05	-0.03
Austria	0.14	-0.06	0.2	-0.1
Netherlands	0.13	-0.06	0.06	-0.03

Broader Regulatory Reform

- There are many restrictions on how various product and labour markets operate in euro area countries.
- Many sources for information on these restrictions
  - World Bank Doing Business indices.
  - OECD product regulation indices.
- Linking these with productivity is difficult but there is some empirical evidence (e.g. my favourite, Gillanders and Whelan, 2014).

OECD Product Market Reform Score

	Product Market Reform Score
Netherlands	0.92
Austria	1.19
Italy	1.26
Finland	1.29
Germany	1.29
Portugal	1.29
Belgium	1.39
Spain	1.44
Ireland	1.45
Luxembourg	1.46
France	1.47
Greece	1.74

Broader Reform Scenario

- Measure TFP levels using Penn World Tables most recent calculations.
- Simulate a scenario where euro area states reform product markets so that TFP converges on our “leader”, the Netherlands, by 2046.
- Leader still has TFP growth of 0.2 percent per year.
- Some countries have their growth rates boosted significantly over 2017-2046:
  - Greece boosted by 1.75 percentage points per year
  - Italy by 0.75 percentage points per year.
- But overall, Euro area growth boost of 0.29 percentage point per year is more modest than you might expect

Regulatory (TFP) Reform

	Output			
	2017-2026	2027-2036	2037-2046	2017-2046
Euro Area	0.33	0.33	0.22	0.29
Belgium	0.34	0.34	0.24	0.31
Germany	0.09	0.09	0.06	0.08
France	0.01	0.01	0.01	0.01
Greece	1.94	1.94	1.36	1.75
Ireland	0.00	0.00	0.00	0.00
Italy	0.83	0.83	0.58	0.75
Spain	0.55	0.55	0.38	0.49
Finland	0.74	0.74	0.52	0.67
Lux	0.43	0.43	0.3	0.38
Portugal	1.25	1.25	0.88	1.13
Austria	0.53	0.53	0.37	0.48
Netherlands	0.00	0.00	0.00	0.00

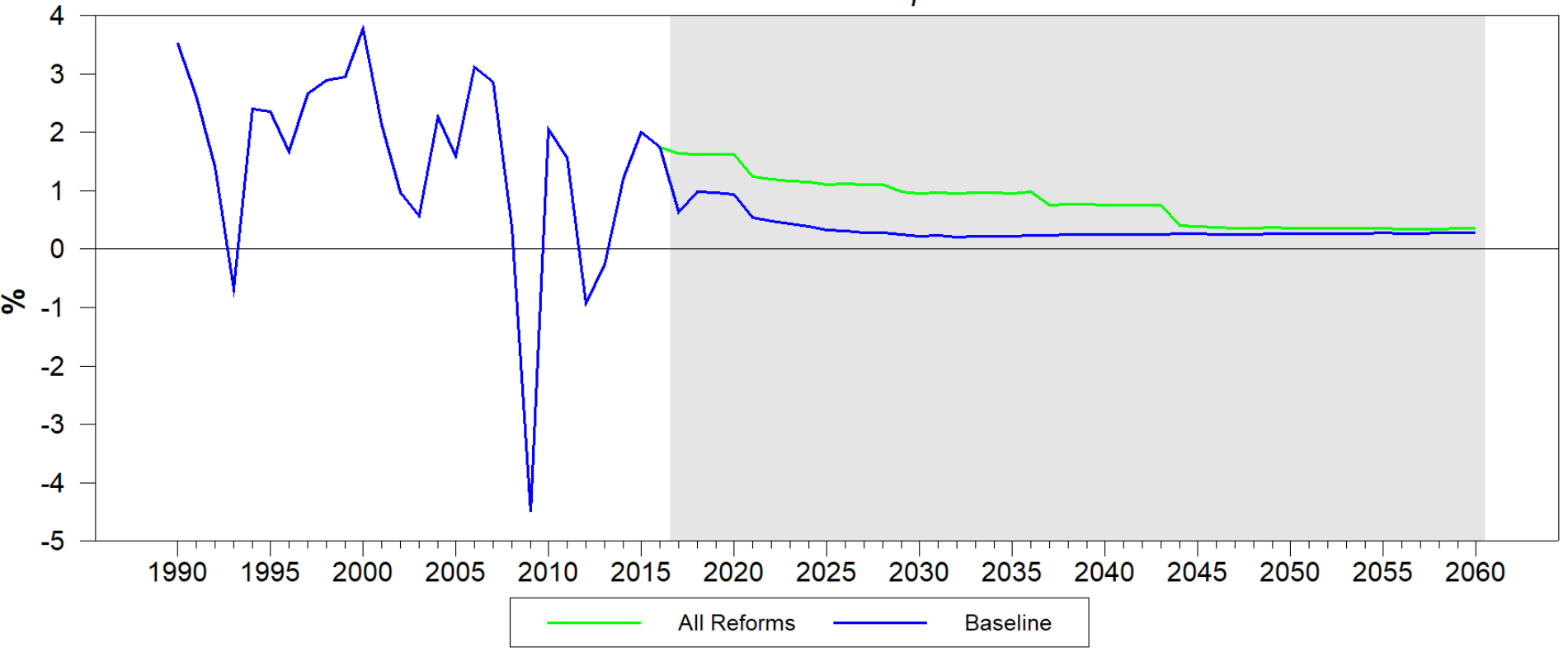
Putting All the Reforms Together

	Output			
	2017-2026	2027-2036	2037-2046	2017-2046
Euro Area	0.81	0.76	0.39	0.65
Belgium	0.85	0.85	0.45	0.73
Germany	0.31	0.27	0.12	0.23
France	0.59	0.47	0.07	0.38
Greece	2.91	3.09	2.15	2.72
Ireland	0.22	0.07	0.02	0.1
Italy	1.62	1.51	0.91	1.35
Spain	1.31	1.25	0.67	1.08
Finland	1.22	1.16	0.84	1.07
Lux	0.86	1	0.62	0.83
Portugal	1.56	1.64	1.13	1.44
Austria	0.9	0.89	0.54	0.78
Netherlands	0.11	0.09	-0.01	0.06

Impact of All Reform on Euro Area Growth

Figure 19

Effect of All Reforms on Output Growth



Lots of Caveats

Mainly towards arguing the true effects of reform programmes are probably smaller.

- Marginally attached workers induced by pension reform may work part-time, reducing workweek.
- Extra workers from labour and pension reforms may be less productive, so may reduce productivity by more than we calculate.
- Links between regulatory reform and TFP growth are not at all precise.
- Huge pressure from vested interests against reforms so their implementation is likely to be partial.

A Large Research Agenda

This research is ultimately speculative. A large research agenda is required to fill in the gaps.

- Which specific measures (tax wedges, minimum wages, employment protection, active labour market policies) reduce structural unemployment rates?
- Which elements of pension systems determine retirement decisions?
- Impact of pension reform on average workweeks.
- Effects of demographic composition on productivity.
- Impact on productivity of reduced unemployment rates.
- Costs and benefits of other policies to raise participation.
- Relationships between product market reforms and productivity.

Concluding Thoughts

- Product, pension and labour market reforms can have important beneficial effects on growth, particularly for some countries.
- But they are probably not a “silver bullet” to re-ignite fast growth, particularly given the underlying low growth rate of TFP and demographic projections.
- Immigration on a much larger scale than over the past decade is likely to be necessary to keep the euro area economy growing at the rates of the past few decades.