



GERMANY

SELECTED ISSUES

June 2016

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June 9, 2016

Approved By
European Department

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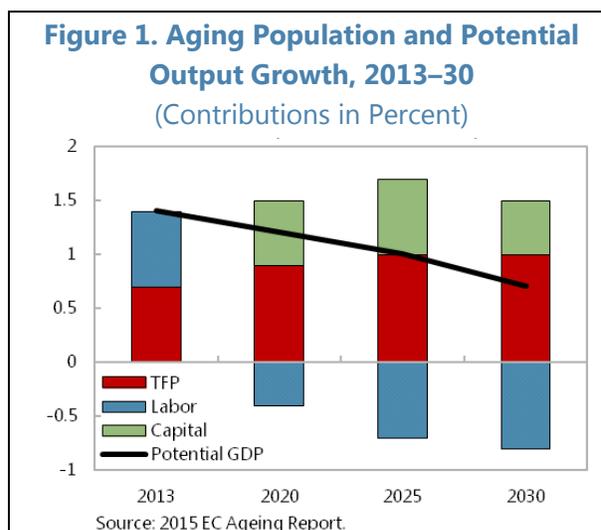
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MACROECONOMIC EFFECTS OF LABOR SUPPLY POLICIES¹

A. Introduction

1. Germany's population is getting older and potential growth is set to decline.

Demographic projections suggest that the labor force will start declining around 2020, and will drop at an accelerating pace once immigration flows normalize. In addition, as in other advanced countries, TFP growth has declined relative to previous decades, and is expected to remain subdued. Potential output growth is therefore expected to decline, creating a long-term challenge for the sustainability of the social security system and public finances in general. On the other hand, there is scope to offset these adverse trends by expanding labor supply by women and older workers, and by upgrading the skills of immigrants (including refugees).



2. This paper analyzes the macroeconomic impact of targeted labor market reforms aimed at boosting employment and labor productivity. A large scale multi-country DSGE model (the Global Integrated Monetary and Fiscal model, GIMF) is used to simulate the implication of policies that aim to i) enhance women's participation in the labor force through the provision of full-time childcare and after-school programs; ii) promote longer working lives through indexing the retirement age to life-expectancy; and iii) improve the labor market integration of low-skilled immigrants through increased training. On top of durably increasing employment and output, these policies also help shore-up public pensions and reduce old-age poverty while providing positive (if small) spillovers to the rest of the euro area.

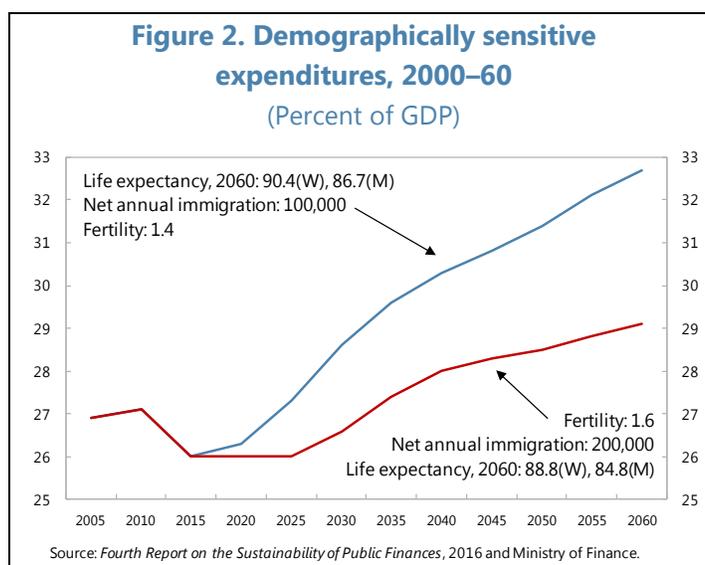
3. The analysis also shows that the reforms have short-term positive effects on domestic demand. Because agents are forward-looking they front-load part of the expected long-term income gains from the reforms, raising current consumption and investment even though the reforms are budget-neutral by construction. This last point is important as it relates to the recent

¹ Prepared by Jean-Marc Natal and Joana Pereira (all EUR). The authors would like to thank Dirk Muir (RES) for precious help with model simulations, and Benjamin Carton (RES) for very useful discussions. The chapter also benefitted from valuable comments by seminar participants at the Bundesbank.

debate on the potential adverse short-term effects of some structural reforms.² To the extent that the policies considered are credible, the paper shows that they have both short-term and long-term positive effects. Furthermore, the short-term expansionary demand effect lowers the current account surplus, supporting external rebalancing; in the case of the pension reform, the reduction of the current account surplus is permanent, as the reform reduces household savings also in the long-run.

B. Population Aging and its Fiscal Effects

4. **Germany's population is aging fast.** Demographic projections point to a sharp decline in working age population starting around 2020, which optimistic assumptions on immigration flows can only slow down, not reverse. The associated decline in the labor force is expected to weigh heavily on potential output. For instance, the European Commission estimates the negative contribution of aging to potential output growth at about -0.7pp per year from 2025 to 2035; see Figure 1). On the fiscal front, projections by the Federal Ministry of Finance³ point to an increase in age-related spending between 3.1 and 6.7 percent of GDP by 2060 under current rules (Figure 2), with a correspondent sustainability gap—the measure of the necessary average improvement in primary balances to meet all increase in spending—of 1.2 to 3.8 percent of GDP.



C. The Policy Levers

5. **What measures should be considered to mitigate the effect of aging on potential output and the public finances?** Drawing on recommendations from past consultations as well as ongoing discussions at the national level, we identified three areas where reforms could help alleviate the upcoming pressure on public finances and growth. Because these measures boost the long-term potential of the economy, they also improve agents' perceptions of long-term wealth. If credible, these policies encourage households to frontload part of the long-term gains into current consumption, and firms to invest in future productive capacities. To isolate their macroeconomic effects, the policy experiments are designed to be budget-neutral.

² For a more in depth analysis of structural reforms, see Chapter 3 of the April 2016 WEO, "Time for a Supply Boost, Macroeconomic Effects of Labor and Product Market Reforms in Advanced Economies".

³ See "Fourth Sustainability Report on the Sustainability of Public Finances", 2016.

6. **First, women’s participation in the labor market could be enhanced.** While women’s participation rate is relatively high in Germany (73 percent in 2014), women tend to work fewer hours than men (30.5 hours per week on average, or 9 hours less than men). The labor supply gap is thus mostly along the intensive margin. While cultural preferences are likely to play an important role, this gap can also be explained by the high effective marginal tax wedge on the second earner in a household.⁴ Moreover, in spite of increased efforts to expand the provision of affordable and high quality full time child care, demand still exceeds supply (only one third of 0–3 year old children are currently enrolled) and after-school programs are still insufficient. Relieving these barriers is expected to increase women’s labor supply.⁵

7. **Second, retirement age could be extended beyond the current goal of 67 years in 2029.** Labor force participation is still relatively low in Germany for the 64+ wage group, and the effective retirement age, estimated by the OECD at 62.7 years in 2014, is below that of several other OECD countries. Longer working lives can be incentivized either by indexing statutory retirement ages to life expectancy and/or by removing existing disincentives to remain in the labor force beyond pensionable age.⁶ In Germany, the sustainability of the public pension system is ensured by a combination of adjustments to the contribution rate and the replacement rate. But, this strategy has important limitations going forward as social security contributions are already very high (contributing to the high labor tax wedge) and the replacement rate in the first pillar is low. The authorities have tried to overcome the limitation of the first pillar by introducing the second and third pillar pensions—occupational pensions and private pension schemes (including the subsidized Riester pensions)—but so far these schemes have limited population coverage. Moreover, all three pillars are challenged as potential growth, the real interest rate, and more generally the returns on assets are low due to aging.

8. **Third, investing in the training of (the current and future waves of) immigrants is key to improve their integration into the labor market.** More training would allow immigrants to contribute further to the country’s production capacities. While Germany has played a key role in hosting and integrating successive waves of immigrant populations, which have in turn improved Germany’s demographic outlook, survey evidence shows that migrants have lower labor market participation, higher unemployment rates, and earn lower wages than natives with similar characteristics. These gaps narrow but are not eliminated even many years after arrival (see Beyer, 2016), though immigrants with German writing skills and/or a German degree usually perform better.

⁴ See OECD, 2016 and Christiansen and others (2016a).

⁵ See Christiansen and others (2016a) and Pereira (2015).

⁶ A recent cabinet agreement was reached to remove disincentives to remain in employment after retirement age, in particular the deduction of earnings from pensions for those who can retire at age 63 but choose to work longer, and the ineligibility to further pension increases from further pension contributions.

D. Why GIMF?

9. **GIMF is a global (6 regions) dynamic stochastic general equilibrium model widely used inside and outside the IMF** to analyze a vast range of policies and their implications for growth, inflation, and the public and external accounts. Its multi-country structure (Germany, euro area ex-Germany, the U.S., Japan, rest of Asia, and remaining countries) allows a general equilibrium analysis of global interdependences and spillover effects of alternative policies, including through financial spillovers associated with the effect of debt on global interest rates.

10. **Due to its non-Ricardian features, GIMF is particularly well suited to analyze the kind of labor market reforms described above and their fiscal implications.** GIMF's underlying overlapping generations and finite horizons structure captures important life-cycle income patterns. Moreover, the presence of liquidity-constrained households (LIQ) allows realistic responses of private consumption to temporary changes in labor income and taxation.

E. The Simulations

11. **To better isolate the effects of the labor market reforms from those of the fiscal costs of the reforms, we analyze the policy experiments under the condition of budget neutrality.** Any discretionary fiscal cost (gain) implied by the reform is counter-balanced by a reduction (increase) in lump-sum, untargeted, transfers that keeps the structural balance unchanged. This allows us to disentangle the pure effect of the reform from the associated fiscal policy impulse. Note that in the short run automatic stabilizers are allowed to operate and the fiscal balance is affected by the cycle, though variations are very small.

12. **In all experiments we assume that monetary policy remains accommodative.** The policy rate lifts off only after 3 years and even then only gradually, reverting back to the model's inflation targeting rule by the fifth year. This is to better capture the current macroeconomic environment in which euro area inflation is expected to remain below target for a number of years.

- **Policy #1: Expanding the availability of childcare services.** The government currently spends about $\frac{1}{2}$ percent of GDP in the provision of childcare services, against the OECD average of $\frac{3}{4}$ percent of GDP. The simulated experiment assumes that German spending on childcare services increases permanently by $\frac{1}{4}$ percent of GDP, to the OECD average in year 1. Relying on elasticities estimated in Christiansen and others (2016b), such a change is expected to lead to a 5 percent increase in female labor supply⁷ (2 $\frac{1}{2}$ percent increase in total labor supply), which we assume materializes gradually over ten years.
- The simulation shows that increasing women's labor supply has sizable effects on economic activity in the short-term, as the expected long-term increase in income leads households and

⁷ GIMF does not differentiate between extensive and intensive margins in labor supply.

firms to frontload consumption and investment (Figure 3). Real GDP climbs by $\frac{3}{4}$ percent in the short run and by $2\frac{1}{2}$ percent in the long run. Real wages increase in the short-term as labor demand increases by more than labor supply. Inflation and inflation expectations increase and the real interest rate falls further, stimulating consumption and investment. Households draw down their savings and the trade and current account balances deteriorate during the transition to the new steady-state. As labor supply gradually increases, real wages revert back down, and so do the trade balance and the current account. In the very long-term, real wages decline with respect to the baseline to accommodate the higher labor share in production.

- **Policy #2: Increasing working lives.** We consider the effect of lengthening individuals' working lives by 1 year, phased in over 25 years. This is a relative modest change, considering the sizable gaps between the average retirement age in Germany and in some other OECD countries.⁸ For simplicity we assume that the participation rate in the extra year of work is the same as in the earlier years.⁹
- In the model, this translates both into an expansion of labor supply and a lengthening of individual agents' labor income profile. Because labor supply increases and agents need lower savings to finance old-age consumption, consumption and investment rise in the short run and the long run (see Policy #1), and the current account balance deteriorates permanently. Real GDP rises slowly to a level that is $1\frac{3}{4}$ percent above the baseline by year 25 (when the labor supply expansion is fully phased in). Note that, since the model's fiscal rule stabilizes the debt-to-GDP ratio, general transfers rise to offset additional tax revenues from higher employment and lifetime income. Alternatively, the additional revenues could be used to reduce social security contribution rates, which would provide a further boost to output by reducing the labor tax wedge and encouraging labor supply.
- **Policy #3: Better integration of low-skill immigrants into the labor market.** Lastly, we look at the effects of government provision of specialized education and job training to low-skill immigrants. The initial skill gap between immigrants and natives is assumed to be 30 percent, in line with the wage gap estimated by Beyer (2016). Low-skilled immigrants are assumed to represent 2 percent of the labor force (about 820 thousand individuals). Thus, the yearly additional fiscal cost of the additional training would amount to about EUR 5.5 thousand per person, close to the per pupil public spending on vocational (post-secondary non-tertiary) education in 2013 (Eurostat). The cost is assumed to amount to 0.15 percent of GDP annually over 5 years and training is assumed to gradually (but permanently) boost immigrants'

⁸ For instance, the average effective retirement age was estimated at 66.1 in Switzerland vs. 62.7 in Germany in 2014, while life expectancy is only 2 years higher in Switzerland.

⁹ Alternatively, the reader may interpret the experiment as mimicking an increase in the statutory retirement age of more than one year, but with reduced participation in the additional years, so that the effective retirement age rises by 1 year.

productivity (concentrated in the non-tradable sector) such that the skill gap with natives is cut by half.

- As expected, the policy has positive effects on output, real wages, consumption, and investment in the short-run and long-run. Higher labor productivity induces an increase in domestic investment and a deterioration in the current account balance in the transition to the new steady-state. Compared with the two previous policies, the effect of this policy on GDP is small, but persistent (real GDP is estimated to permanently increase by 0.17 percent of GDP by year 10). The calibration may, however, underestimate the full impact since the model does not have a mechanism to capture how better skill matching in the labor market might reduce the unemployment rate of immigrants.¹⁰

13. **Spillovers to the rest of the euro area.** All three policies boost consumption, investment, output and therefore imports in the short and long run. Spillovers to the rest of the world are positive but small, commensurate to the demand effect of each of the policies and the importance of trade linkages. In particular, for the rest of the Euro Area, the short-term net trade spillover both from extended childcare provision and training of refugees is roughly 5 percent of the impact on Germany's real GDP. For the prospective increase in retirement age, it rises to 7.5–10 percent (in years 1 and 2). Spillovers to other economies are also positive but smaller, reflecting weaker trade linkages. Combining the different policies would magnify the effect of each individual policy. Likewise, for policies #1 and #3, spillovers would be larger if the fiscal cost of the policy was financed through a widening of the deficit.

F. Conclusions

14. **Targeted policies to expand the labor supply of women, older workers, and immigrants can boost potential output, shore up social security and stimulate consumption and investment in the short run.** These reforms would also entail positive (though small) spillovers to the rest of the world, in particular the rest of the euro area, and contribute to external rebalancing by reducing the current account surplus. Because the reforms have complementary effects on labor supply, permanent income, inflation expectations and the real interest rate, there is an added value to implementing them together to reap the benefit from positive feedback loops.

¹⁰ Beyer (2016) estimates that unemployment among immigrants falls by up to 2½ percentage points (versus an initial gap with natives of 7 percentage points) as a result of language skills acquisition and other education.

**Figure 3. Macroeconomic Effects of Policy #1
(Expanding the Provision of Childcare Services)**

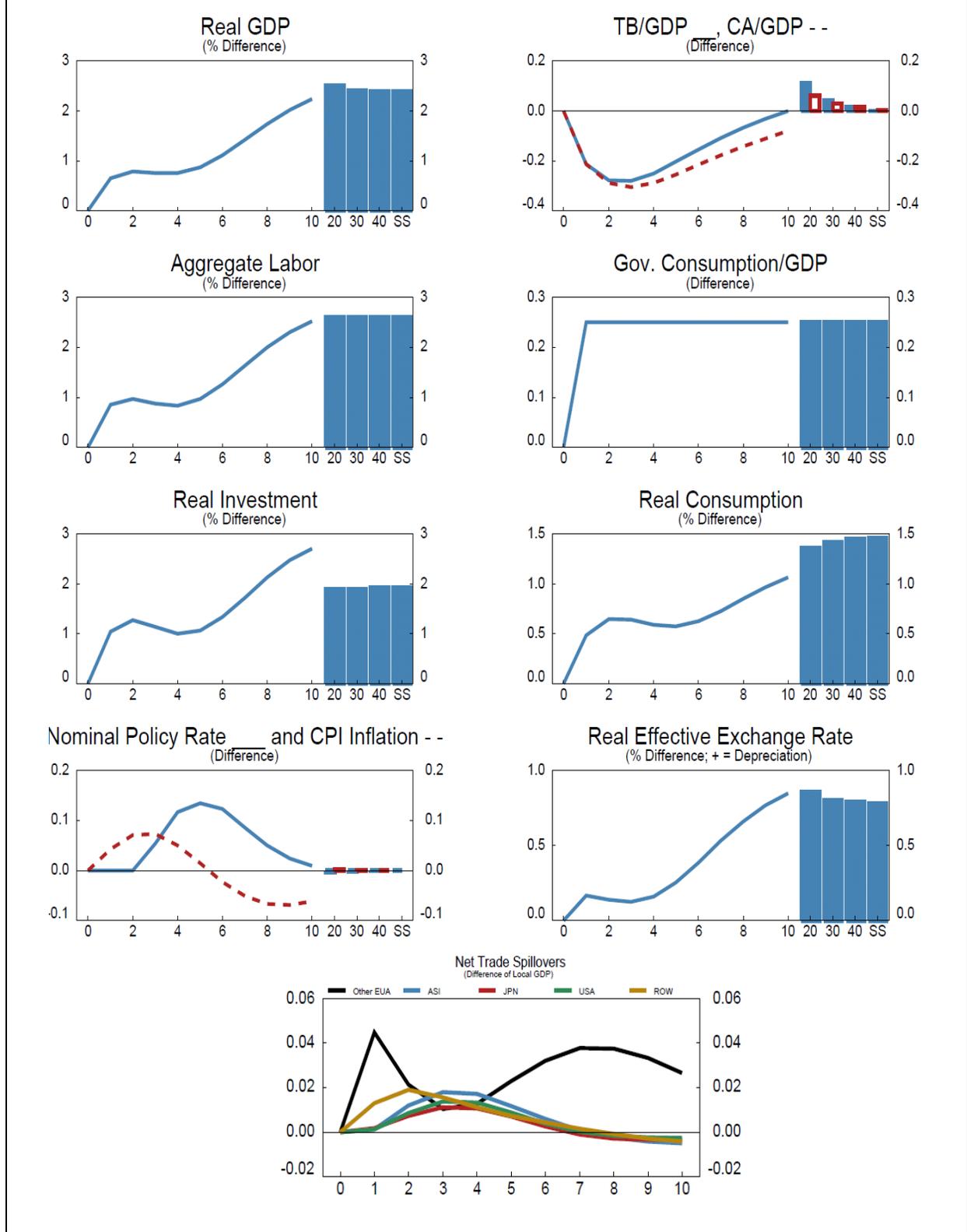
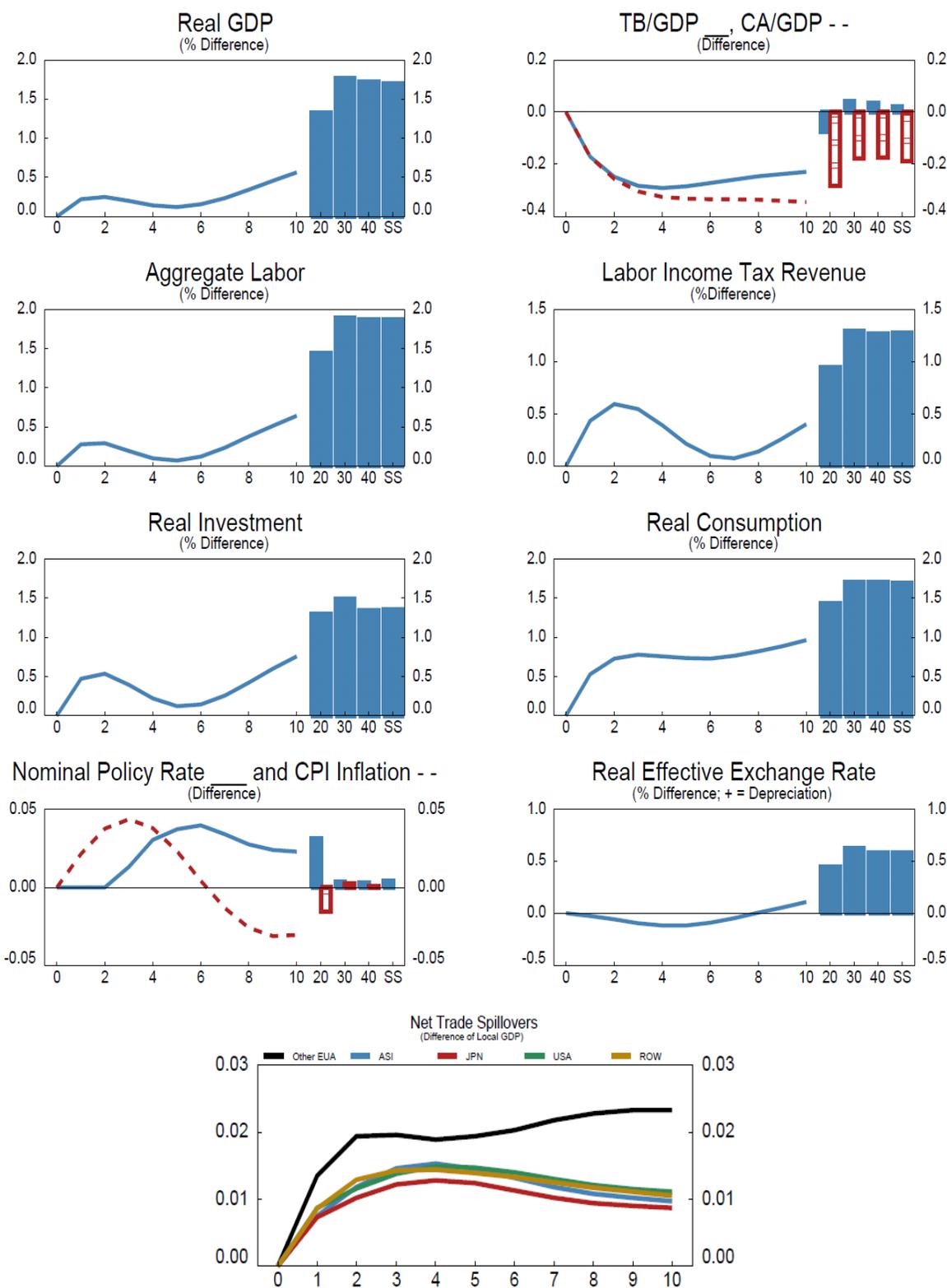
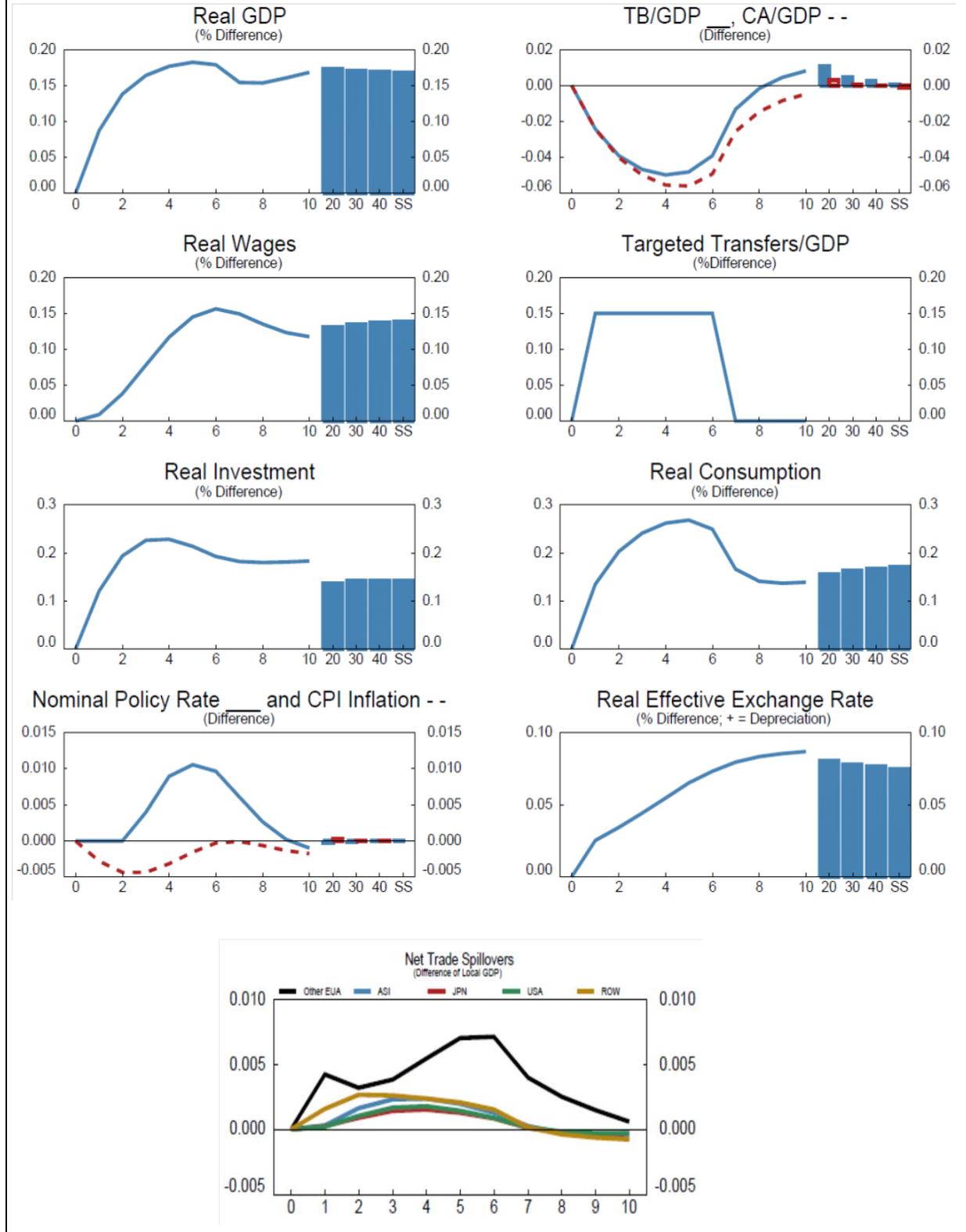


Figure 4. Macroeconomic Effects of Policy #2 (Increasing the Effective Retirement Age)



**Figure 5. Macroeconomic Effects of Policy #3
(Better Integration of Low-Skill Immigrants in the Labor Market)**



References

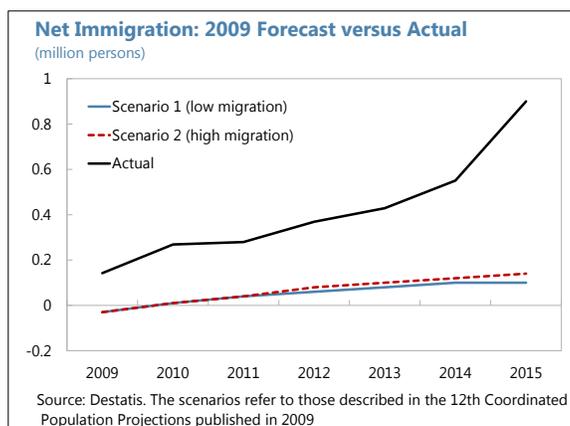
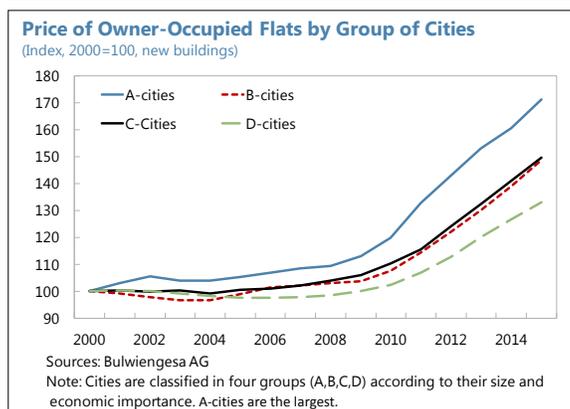
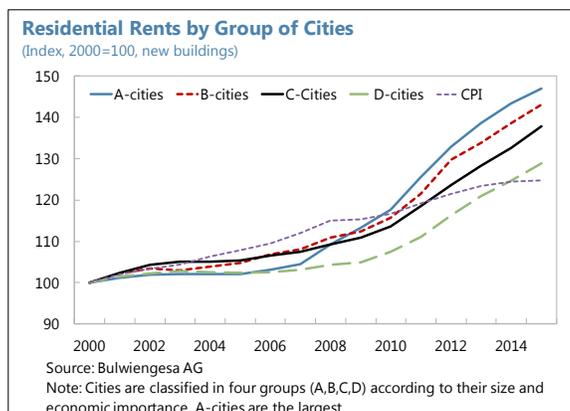
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THE PRICE RESPONSIVENESS OF GERMAN RESIDENTIAL INVESTMENT¹

A. Introduction

1. **After years of stagnation, German housing prices and new residential rents have increased more steeply since 2009, especially in large cities.** Rents in new rental contracts have increased much faster than the consumer price index over the past five years. This represents a visible change in trend relative to the years before the global financial crisis, when new rents were sluggish. This acceleration has been the strongest in the largest cities, and has mirrored the change in dynamics of housing prices, which have recently risen by about 7 percent per year in the new owner-occupied apartments segment.

2. **These developments in both prices and rents reflect in large part an unexpected surge in housing demand related to stronger-than-expected net immigration over the past several years.**² The twelfth population projection for Germany published in 2009 anticipated a slow rebound from near zero net immigration in 2008 to about 100,000 persons in 2014. It turned out that net immigration to Germany started taking off in 2009 and reached 550,000 persons in 2014, in a context of a strong domestic labor market, high unemployment rates in several euro area countries, and the opening of the German labor market to citizens of new EU member states. The cumulative surplus over 2009–14 relative to the high migration scenario projected in 2009 amounts to more than 2 percent of the German population. Furthermore preliminary



¹ Prepared by Jérôme Vandenbussche (EUR). The chapter benefitted from valuable comments by seminar participants at the Bundesbank.

² As discussed in the 2016 Staff Report and the 2014 Selected Issues Paper “Recent Housing Market Developments”, demand for housing has also been stimulated in recent years by increasing disposable income, a strong labor market, declining interest rates, and greater interest of international investors, while mortgage lending standards have remained stable.

estimates for 2015 indicate that the refugee surge and persistently strong economic immigration last year exceeded by far projections made in the thirteenth population projections published in April last year. Changes in migration patterns within Germany because of a greater perceived attractiveness of large urban areas, where job creation has been strong in the services sector, has likely also contributed to the surge in demand for living in German cities. The fall in housing prices and the growth in the inventory of vacant homes in many rural areas of the country at the same time have been an important corollary of these developments.

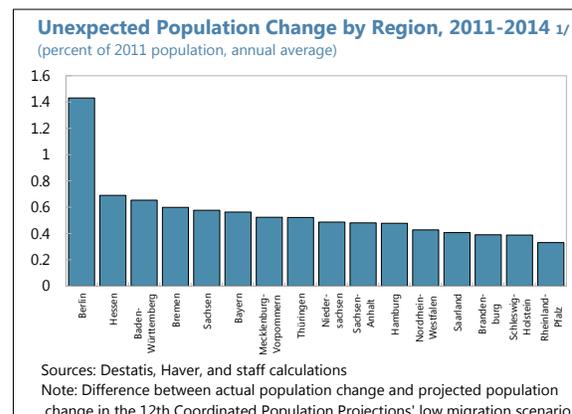
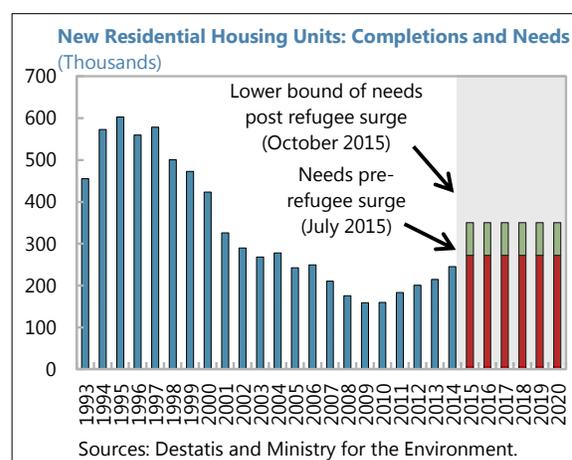
3. **New supply of residential housing has been struggling to catch up with this surge in demand.**

Based on very granular projections of the number and types of households by district, assumptions on the evolution of the demand for living space and of home ownership rates, the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) recently calculated annual needs for new dwelling over the next fifteen years (BBSR, July 2015). It estimated the gap at end-2014 to be 100,000 dwellings, and the annual needs of new construction during

2015–20 to be 272,000 units, against completions of 245,000 units in 2014. According to this analysis, the seven largest cities represented 16 percent of total needs, one third of which was concentrated in Berlin, where demographics has been particularly strong in recent years, and housing market tensions have received a large echo in the media. Since the BBSR study was published, needs for 2015–20 have been revised significantly up to take into account the refugee surge in the second half of 2015. The Federal Ministry for the Environment estimates annual needs to be at least 350,000 units,

while various private sector experts assess these needs at 400,000 units or above. The gap between recent new supply and needs appears to be more acute in the so-called affordable segment for low- and middle-income households (Pestel Institut, 2015) whereas demand in the high-end market appears to have been well addressed by developers.

4. **Against this background, this paper provides econometric evidence that the supply response to changes in housing prices has declined over the past several years and discusses how various housing policies can foster this response looking forward.** The analysis helps put the recent government’s 10-point action plan for affordable housing into context, and helps explain how past policies may have hindered a stronger supply response.



B. Estimating the Price Elasticity of Residential Investment

5. **We model residential investment in a simple Tobin's Q framework (Tobin, 1969).** The model posits that the ratio of investment to the capital stock is an increasing function of the ratio of the market price of capital to its replacement cost. It captures the intuition that investors and developers will produce more new housing when the margin between the price of a completed housing unit and its production costs is greater. In other words:

$$\left(\frac{I}{K}\right)_t = \beta_1 \left(\frac{p}{rc}\right)_t$$

where I is residential investment,³ K is the residential construction fixed assets, p is the market price of housing, rc is replacement costs, β_1 is a positive scalar, and t is the time period. We further postulate that rc is an increasing function of the price of building land (l), construction costs (cc), and the long-term lending rate r :

$$rc_t = l_{t-1}^\alpha [(1 + \theta r)cc_t]^{1-\alpha}$$

where α and θ are scalars between 0 and 1. The price of building land is lagged by one period to reflect the fact that construction can begin only after certain regulatory procedures (e.g. obtaining a permit to build on the land recently acquired) have been fulfilled.⁴ The positive scalar θ captures the fact that investors / developers borrow a fraction of the construction costs to implement new projects. Other costs, including planning or legal fees, are not included in the specification as they represent a very small share of total costs and no corresponding times series data are available. Relevant taxes and subsidy schemes are also excluded from the formulation for lack of sufficient data (see Section C below for elements of discussion).

6. **Taking logs of the two equations above, we obtain our econometric specification:**

$$\log\left(\frac{I}{K}\right)_t = \beta_0 + \beta_1 \log\left(\frac{p}{cc}\right)_t + \beta_2 \log\left(\frac{cc_t}{l_{t-1}}\right) + \beta_3 r_t + \varepsilon_t$$

where β_0 is a constant, $\beta_2 = \alpha \beta_1$, $\beta_3 = -(1-\alpha)\theta$, and ε is an i.i.d. error term. The coefficients β_1 , β_2 are expected to be positive while β_3 is expected to be negative. Our sample covers the period 2000:Q1–2015:Q4. Because data on the residential construction fixed assets is only available at an annual frequency and the series has a break, we use quarterly GDP instead of residential

³ Residential investment captures investment not only in new buildings but also in existing buildings (e.g. renovations, or extensions). Investment in existing buildings should also follow the logic of Tobin's Q. Data on residential investment in new dwellings is only available at the annual frequency, so we can't analyze separately the two types of residential investment in our econometric framework.

⁴ According to the World Bank's Doing Business database, it takes 96 days to obtain a building permit in Germany. This time has been constant over the past 10 years.

construction fixed assets in our baseline empirical implementation, and check later that the main finding is robust to using the series of residential construction fixed assets interpolated to the quarterly frequency. Data series (housing price index, building land price index, construction cost index, GDP, residential investment, residential construction fixed assets, nominal lending rate, GDP deflator) are sourced from the German Federal Statistical Office.⁵

7. **The estimation over the full sample confirms the existence of a positive and significant long-run (LR) price elasticity of residential investment.** All variables in the equation are integrated or order one, and co-integration tests indicate the existence of one co-integrating vector. In Table 1, we present full sample regression results using three estimators: Dynamic OLS (DOLS) with one-lead and one-lag (column a), DOLS with 2 leads and 2 lags (column b), and a Vector auto-correction model (VECM, column c). All coefficients have the expected sign and provide an estimate of the long-run price elasticity of supply that are somewhat larger than those obtained by other authors using different specifications and data sources (Gattini and Ganoulis, 2012; Caldera and Johansson, 2013). The VECM regression provides an estimate of the parameter α outside of the (0,1) interval, while the two DOLS estimators provide a much more reasonable, albeit a little high, estimate between 0.7 and 0.8. The short-run equation in first differences (not reported) obtained through the VECM estimation suggests a significant error correction mechanism is at play but also indicates that the short-run price elasticity of residential investment is econometrically insignificant.

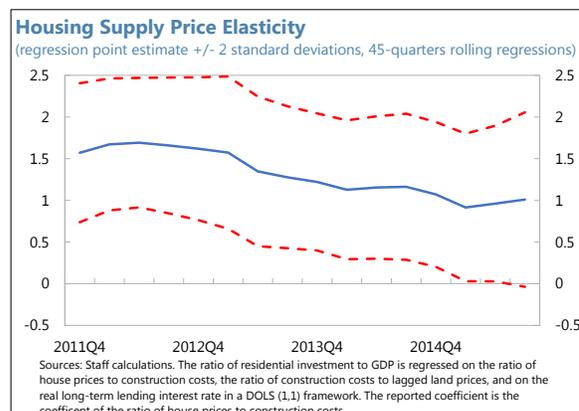
Table 1. Full Sample Regression Results

Variables	Specifications		
	(a)	(b)	(c)
Housing prices/construction costs	1.64*** (0.327)	1.87*** (0.356)	2.7*** (0.350)
Construction costs/land prices	1.14** (0.519)	1.48*** (0.544)	2.99*** (0.538)
Real lending rate	-0.0322*** (0.0102)	-0.0514*** (0.0134)	-0.066*** (0.0098)
Constant	-2.87*** (0.028)	-2.82*** (0.0349)	-2.78*** (0.0289)
Estimator	DOLS (1,1)	DOLS (2,2)	VECM

Notes: Estimation period is 2001q1-2015q2. All variables, except the real lending rate (expressed in percent) are in logs. Standard errors in parentheses. *** (resp **, *) indicate significance at the 1 (resp. 5, 10) percent level.

⁵ The nominal long-term lending rate series starts in 2003q1. We extend it backward by assuming a constant spread between the lending rate and the 10-year nominal Bund yield, which we source from the OECD.

8. **However, rolling regressions show that the LR price elasticity of residential investment has declined significantly over the past several years.** To examine the evolution over time of the LR price elasticity, we run rolling regressions over periods of 45 quarters. Given the documented superiority of the Dynamic OLS (DOLS) estimator in small samples (Stock and Watson, 1993, and Montalvo, 1995), and the greater plausibility of the parameter estimates obtained in the full sample regression with DOLS, we use this estimator in our



baseline. We choose to use the option with one lead and 1 lag (versus 2 leads/lags) to preserve degrees of freedom and because the two options essentially yielded the same result in the full sample regressions. The baseline regression results, reported in Row [1] of Table 2 shows that the LR elasticity has declined by over 35 percent over the past four years.⁶ Robustness checks using a VECM framework (Row [2]), or using the ratio of residential investment to (interpolated) residential construction fixed assets (Row [3]) suggest an even greater decline. In Row [4], we present regression results when the building land price variable, for which data may not be of suitable quality (see Bundesbank, 2003, for a discussion), is excluded (i.e. imposing $\alpha=0$). These results suggest that the LR elasticity has halved over the past four years.

Table 2. Time-Varying Estimates of the Long-Run Elasticity of Housing Supply

Number	Variant Description	LR elasticity estimate		
		Rolling regression end quarter		
		2011q4	2014q4	2015q3
1	DOLS 1,1	1.57***		1.01*
2	VECM (1 lag)	3.47***		1.97**
3	Dep. variable = Inv./residential capital stock; DOLS	1.77***	0.78	
4	Land price excluded; DOLS (1,1)	0.99***		0.47**

Note: The table reports the coefficient of the ratio of housing prices to construction costs obtained in 45-quarter rolling regressions. Standard errors in parentheses. *** (resp **, *) indicate significance at the 1 (resp. 5, 10) percent level.

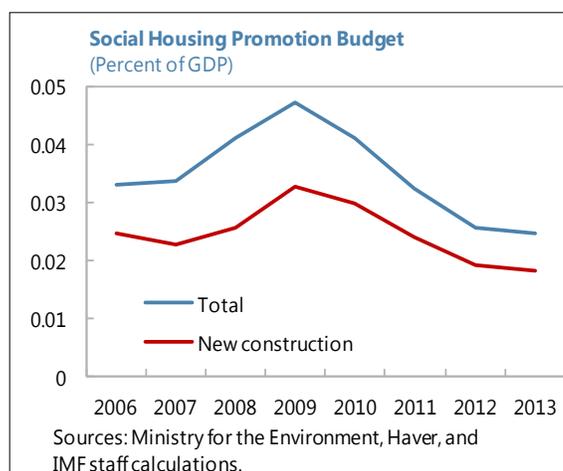
⁶ The decline of the LR elasticity is monotonic. Therefore the fact that data for two large German states are included in the housing price index series from 2015 only cannot cast a doubt on our main result.

C. Policies to Boost the Supply Response

9. **The German federal government has recently launched a 10-point action program to stimulate residential construction, especially in the affordable segment.** The federal government coalition partners were already aware of a growing gap between new supply and needs, especially in the affordable housing segment, in late 2013 when they negotiated a coalition agreement. Indeed the coalition agreement envisaged the creation of an Alliance for Affordable Housing and Building that should lead to an action program for revitalizing construction and the stimulating the energy-efficiency-related modernization of buildings. This Alliance, comprised of various public sector and private sector stakeholders, was formed in mid-2014 and delivered a set of recommendations in late 2015. Based on the core set of recommendations, the federal government has recently announced measures in ten areas. Because housing policy is very decentralized, the success of the plan will depend on the continued cooperation of all levels of government, including Länder and municipalities.

The ten action points are the following:

- **Making building land available, selling publicly owned property at lower rates and tying property sales to planning quality.** A key constraint to a greater dynamism of residential construction, especially in areas of high demand, is the availability of land. The Institute for Federal Real Estate (which manages the real estate portfolio owned by the federal government) has already been providing municipalities and municipal companies with plots of land and properties at significantly reduced rates (reductions of up to 80 percent), for public tasks such as housing refugees and asylum seekers, and providing social housing. The federal government called on the Länder and municipalities to swiftly provide building land at lower rates and to take planning quality into account in the selection of purchasers.
- **Promoting infill development in residential areas; developing unused sites and closing gap.** The inclusion of a new building-area category, "urban area", in the Federal Building Act (BauGB and the Federal Land Utilization Ordinance (BauNVO) is expected to facilitate infill development and mixed land uses especially in inner-city locations. The federal government called on the Länder to give special consideration, in their spatial plans and relevant support programmes, to measures for infill development, for building extensions and for addition of stories to structures. It also urged cities to take similar actions via their zoning plans.
- **Strengthening support for social housing and cooperative housing.** The social housing promotion budget had been low and plummeting in recent years. The compensation allocated by the German government to the Länder for intensifying the construction of social housing will be nearly



doubled during 2016–19, and support procedures of the Länder will be made more efficient and target-oriented. The Federal Government is currently reviewing options for facilitating the establishment of small cooperatives.

- **Creating targeted tax incentives for the construction of more affordable housing.** The federal cabinet has adopted the draft law introducing tax incentives for the construction of new rental housing units. A time-limited, degressive special write-off is to be introduced, with the aim of providing tax incentives for the construction of new rental units at lower and medium price levels in designated areas where pressures have emerged. This law is currently under discussion in Parliament.
- **Harmonizing building codes across Länder.** The German government has recommended that the Länder orient their individual building regulations more closely to the so-called Model Building Regulation, and, where the latter provides several options, agree on uniform provisions. The federal government will launch an expert review of the model building code. Following consultation with the competent Länder bodies, the Länder will decide on implementation of the recommendations of the expert review. The Länder have already agreed to review their building law with a view to finding options for simplifying and accelerating building processes.
- **Reviewing norms, standards and legal requirements in the building sector.** The Alliance identified technical regulations in the building sector as a cost-driver for construction. Various committees and working groups are expected to make proposals to keep regulatory costs under control.
- **Promoting modular building in the interest of obtaining affordable, attractive housing.** The Länder have agreed to critically review their state building orders with a view to speeding up processes and reducing the volume of standards for modular buildings. Also, the federal government will shortly launch an architectural competition for the purpose of promoting acceptance of modular construction.
- **Providing greater flexibility in parking spaces regulation.** Länder and municipalities have been encouraged to review their parking space regulations, as building costs can be reduced especially in areas with lower rates of automobile ownership—where reduced parking-space requirements can eliminate the need for underground car parks.
- **Restructuring the Energy Conservation Act, the Energy Saving Ordinance, and the Renewable Energies Heat Act.** The provisions of these pieces of regulation are now to be combined within a new act, and a coordinated system of energy-efficiency regulations for new buildings and existing buildings, and for use of renewable energies for heating, is to be created. This is expected to make efforts toward energy-efficiency and climate-protection objectives, and toward the long-term goal of making the building stock nearly climate-neutral by 2050, more cost-effective and systematic.

- **Joint efforts to promote the acceptance of new construction projects.** The aims of such efforts are to raise awareness of the need for new housing and to promote positive perspectives on inner urban development and infill development.

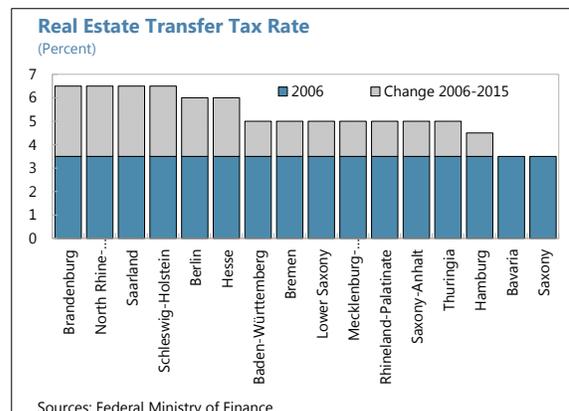
10. **A number of supporting measures related to cost control and affordability are also being enacted.** These include: the introduction in the legislation and regulations of mandatory impact assessments with regard to housing costs, the launch of a transparency initiative aimed at addressing increases in cost-driving requirements in a wide range of legal areas, an initiative for optimization of planning and building processes in coordination with various professions, senior-friendly and accessibility-oriented conversions of residential buildings with financial support from public bank KfW, and improved funding for energy-efficient new buildings and energy-efficiency-oriented refurbishments.

11. **Beyond the areas targeted by the government's action plan, several other factors, including stricter rent regulation and higher taxation of real estate transactions, are likely to have played a role in the recent decline of the price elasticity of residential investment.⁷**

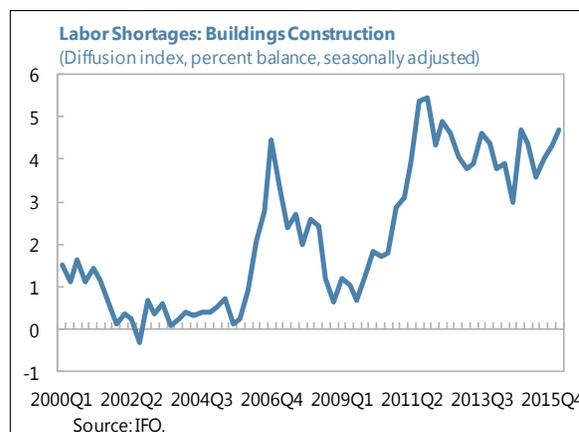
- **Two tightening rent control measures were taken in recent years.** Kholodilin (2015) provides a comprehensive review and quantification of the strength of housing market regulations in Germany and their evolution over time. A capping limit (which caps rent increases within a rental contract) was first introduced in 1982 and tightened in 1993, when the cap was reduced from 30 percent over three years to 20 percent over three years. In 2013, the Länder were given the authority to determine areas where the supply of rental dwellings under reasonable terms was at risk, and to lower the cap to 15 percent over three years. As of November 2015, 11 out of 16 Länder had exercised this new authority and identified municipalities where the stricter cap was to be implemented. In addition, a "rental brake" (which caps rent increases between contracts) entered into force in 2015. It restricts rents in new rental contracts in areas of high demand (as determined by each Land for a period of at most five years) to within 10 percent of the reference rent per square meter customary in the locality. This price, which formerly acted solely as a non-mandatory guideline, is determined according to data collected through a survey every other year. The Federal Ministry of Justice has proposed to further tighten the rental brake by making the reference rent customary in each locality more backward looking. Although the rental brake does not apply to the first tenant of homes that have been extensively renovated, it does apply to subsequent tenants. The brake also does not apply to new buildings completed after October 1, 2014, but this exclusion for new homes was not certain until the law was finally passed. It may be that these two new restrictions on the freedom to set residential rents and/or the perception of future regulatory uncertainty, have deterred some potential investors in new housing.

⁷ See also Hug and Möbert (2016) for a comprehensive discussion.

- The real estate transfer tax rate has been continuously creeping up since 2006.** The authority to set the real estate transfer tax was transferred from the federal state to the Länder in 2006. This authority and design features of the Länder fiscal equalization scheme have created incentives to increase the tax rate over time. In some Länder, the rate has been increased by 3 percentage points over the past decade. This additional burden is multiplied in the case of new construction when the ultimate owner does not own the land in the first place. To reduce this burden, which disincentivizes new construction, and to make the tax less distortionary, Voigtländer and Hentze (2015) have proposed to introduce a deduction of the land transfer tax from the real estate transfer tax (through a VAT-like system) for new buildings built by developers and later sold to households.



- Other factors likely include inadequate staffing at planning and building authorities, and growing shortages of skilled worker in the finishing trade.** The former may have led to new building land being made available only at a sluggish pace, and to insufficient coordination between housing policy measures and infrastructure investment at the local level. The latter is documented in surveys by the Ifo Institute of Economic Research and is confirmed by data of the Federal Employment Agency on vacancies.



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