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84th Euroconstruct Conference: European Construction Market Outlook Until 2019 – Austria's Construction Market on a Robust Growth Path

Country Report Austria

Michael Klien, Michael Weingärtler

November 2017

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ÖSTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG
AUSTRIAN INSTITUTE OF ECONOMIC RESEARCH

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Abstract

Austria's overall economic performance was much stronger than expected half year ago leading to a GDP growth of 2.8 percent in real terms compared to the previous year. The 84th Euroconstruct conference showed that the dynamic economic upswing also influenced the construction sector positively, leading to a growth pattern similar to the overall economy. Industry surveys from the WIFO-Konjunkturtest confirm this positive picture: since spring 2017, the assessments of Austrian construction firms about the future business situation are on a extraordinarily high level. Such optimistic expectations were last recorded in the 1990s. Additionally over 80 percent of the construction companies stated to have an at least sufficient stock of orders. All construction segments are currently exhibiting positive growth trends, with the strongest increases in non-residential construction and civil engineering. Construction growth will continue in the upcoming years, but speed will slow down towards 2020.

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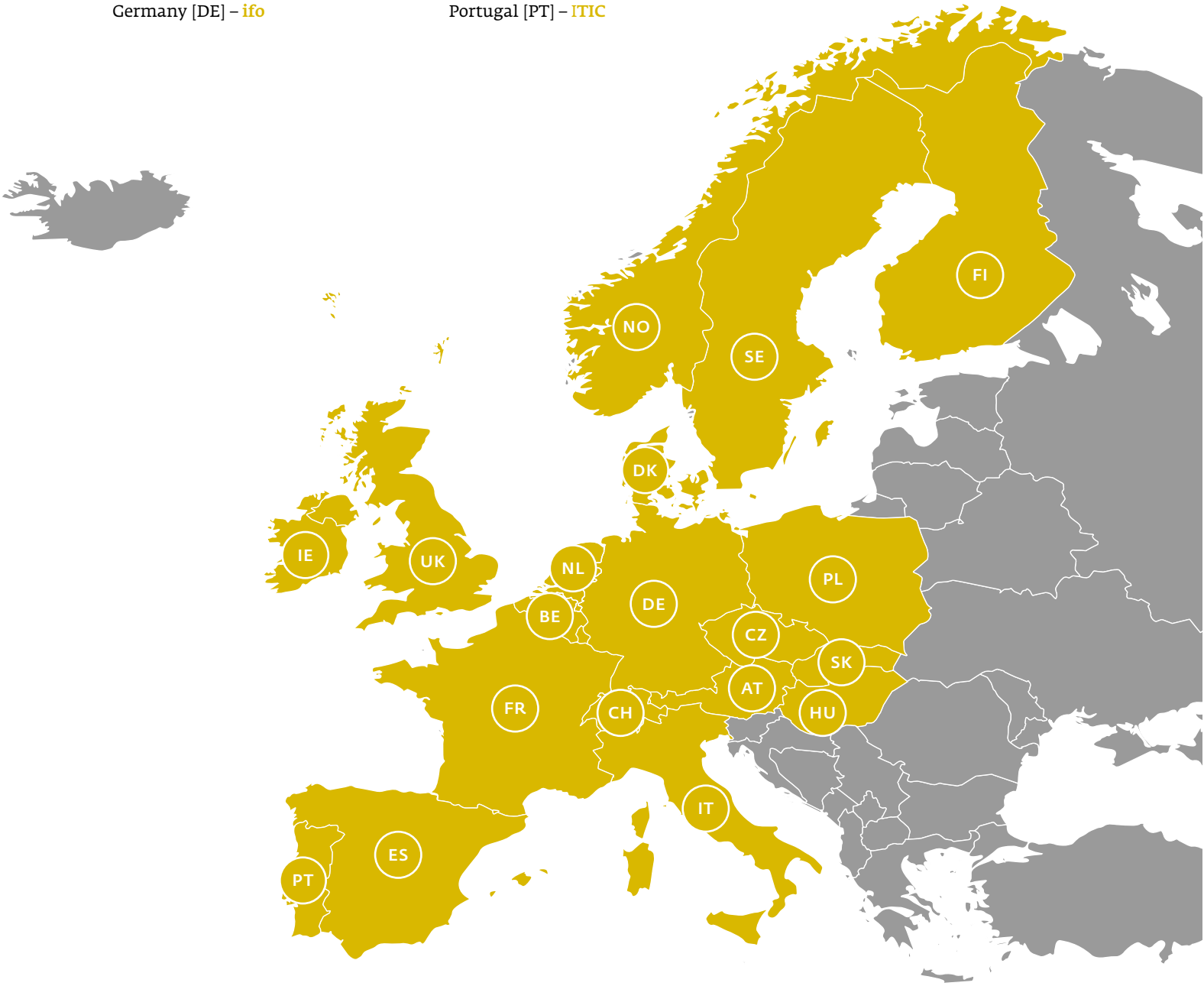

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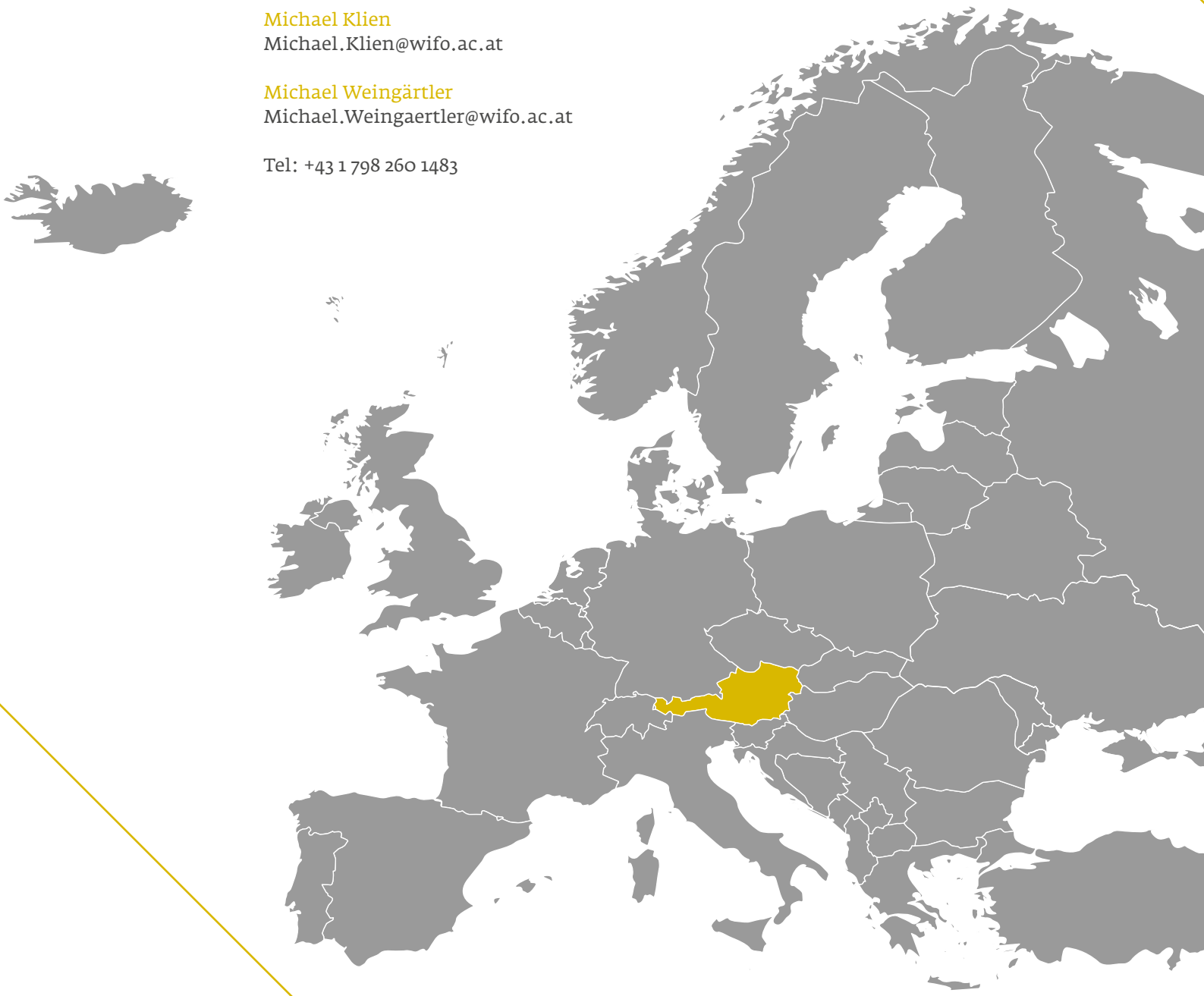


1. Summary and Conclusions

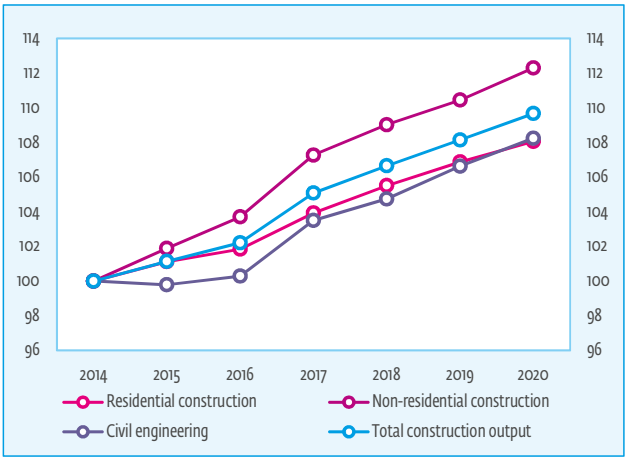
Austria is in the middle of an economic upswing. While this is true for most European countries, the current growth rates of the Austrian economy are well above the European average. According to WIFO short term forecasts the economy will grow by 2.8% in 2017 and 2018. The upswing is based on a broad basis, with growth contributions from virtually all sectors of the economy. On the demand side, both investment but more than in the past also consumption is driving the current recovery. As typical for a small open economy, favourable developments in the area of foreign trade complete the broad growth pattern that currently pushes the Austrian economy.

Residential construction is predicted to experience the highest growth rate after the financial crisis. With 2.9% real housing investment growth in the first 6 months of 2017, there is little doubt that growth in the segment will be above 2.0% this year. While growth next year, and also in the medium run until 2020, will return to lower rates, the forecasts of a stable output growth allow for a generally positive outlook. Due to very stable conditions and few risk factors, there are also no indications that the segment will return to negative growth rates in the next years.

Non-residential construction benefits considerably from the current sound performance of Austria's economy. Total non-residential construction is expected to grow by 3.4% in 2017. Especially new industrial construction (+4.3%) can take advantage from higher investments of the manufacturing sector also because of its increasing foreign trade and higher domestic demand. Furthermore new office construction is expected to record a strong recovery (+5.8%) in 2017 which is stimulating the market mainly in the capital Vienna. Growth in new commercial building construction (+1.9%) will be below these rates in 2017 since this sector already started to recover in the previous year. Beside private investment also public construction works will drive non-residential construction in 2017 i.e. educational buildings (+3.6%) and buildings for health (4.7%). The outlook to 2020 is still positive but growth will slow down to around 1.5% per annum.

Total Construction Output by Sector from 2014 to 2020

index 2014=100



Source: EUROCONSTRUCT (84th Conference)

Civil engineering performance was revaluated which led to a downward adjustment in 2016 compared to the previous publications. Recent data indicates only a minor sectoral growth of 0.5% in 2016 in real terms. Especially construction in transport infrastructure performed weaker because of a decline in road works. This had two reasons: First, investments in the highway network were reduced and secondly municipal expenditures also declined significantly. According to the public infrastructure framework plans growth will be more dynamic in 2017 and mainly in the area of road construction (+8.1%). In 2018 railway investments (+5.3%) are a major driving force for civil engineering. Nevertheless growth in total civil engineering will be much lower in 2018 (+1.2%). Stimulus is missing from road and other transport sector as well as from water works. Additional risk arises from the new government which has to be formed after the elections in October 2017. One of the risks arises from the currently discussed debt break which should be put to constitutional level and so it could put pressure on public investments in the near future.

Total construction output is expected to grow significantly in 2017 because of the vivid economic performance which is driving non-residential construction and gives a financial leeway for infrastructure investments. The general positive development will hold to 2020 but at a lower pace because of the expected slow-down in housing in combination with minor economic growth.

2. Macro-economic Outlook

After 2014 and 2015 when the Austrian economy grew at low rates compared to other European countries, economic activity gained momentum throughout 2016, and the gap to peer countries was almost completely closed by the end of 2016. Given growth forecasts of 2.8% in both 2017 and 2018, Austria is projected to outpace the Euro area and the EU average in the next years.

Foreign trade. The current recovery in foreign trade is set on a broad foundation. According to WIFO

quarterly national accounts, Austrian exports (real terms) grew by almost 5% in the first half 2017. Not only the machinery and equipment goods benefited, but also sales by automotive suppliers. At the same time, import demand increased at a high pace (+4.7%), reducing the contributions by net exports to GDP to a certain extent. To some extent the appreciation of the Euro (compared to US-Dollar) curbed a possibly stronger export growth.

Real effective exchange rates, as a prime indicator of competitiveness, remain almost unchanged and overall WIFO forecasts assume constant market shares for Austrian exporters. This positive outlook is only slightly clouded by data for the first half of 2017, suggesting a small loss in world market shares for Austria (-3.7% in nominal terms), which are largely due to extra-EU developments. In contrast, Austrian exporters experienced a gain of 1.1% in market shares within the Euro area, but also benefits from the strong developments in MOEL.

Recent WIFO forecasts imply high growth contributions from the euro area, in particular from Germany and Italy. Moreover, continued impulses for higher growth in foreign trade also stem from CEEC countries as well as emerging markets. While the catching-up process of CEEC countries virtually came to a halt after the crisis, it exhibits a continued recovery path since 2014, further aiding to the upswing in foreign trade. With a forecast of 4.3%, the CEEC countries are expected to growth by 2 percentage points faster than the EU average. Particularly capital good suppliers in Austria should benefit from this upswing, starting already 2017 but reaching its full potential in 2018.

Industrial production. Given its highly cyclical behaviour, industrial production is at the core of the current upswing. Business surveys confirm an overwhelmingly positive sentiment – which reached historical heights in September 2017 – with respect to virtually all indicators and across subsectors. Particularly optimistic are sentiments in the areas of intermediate products as well as consumer goods. In comparison, investment goods have a slightly less favourable outlook. The sectoral pattern that the upswing is focused on intermediate product and consumer goods is also confirmed by production statistics. Considering the rest of the year, the expectations from economic sentiment indicators but also data on order received suggest a continued expansion in the coming months. Given the positive outlook for foreign trade, industrial production is forecasted to grow at a considerable pace in the years until 2019. The growth rates should be expected to decelerate after peaking in 2018.

Labour market. In 2017 Austria experienced the largest increase in employment growth and the most pronounced reduction in unemployment since 2008. In the first 7 months of 2017 the number of employed persons increased by 66,700 compared to the previous year. At the same time the number of unemployed decreased by 12,800 persons. This is development is both an indication of the strong economic situation in Austria, as well as the continued inflow of workers to the Austrian labour market.

The decrease in unemployment is focused on Austrian citizens whereas the reduction in unemployment for foreign nationals has been only a small contributor to the overall pattern. Moreover, the number of elderly unemployed continues to increase whereas youth unemployment is reduced more clearly.

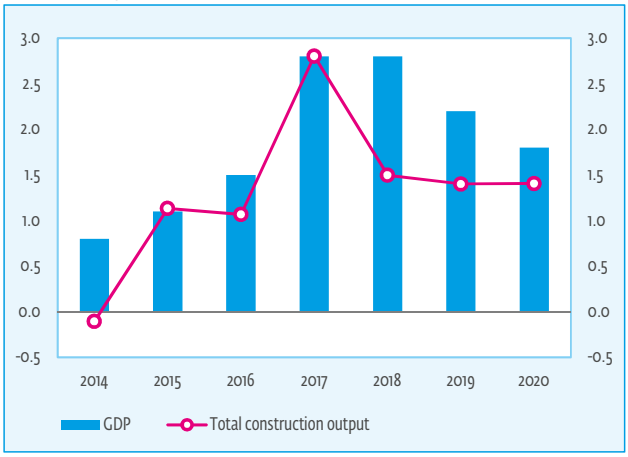
The forecasts for the years until 2020 suggest a further increase in employment and a prolonged reduction in unemployment. However, compared to pre-crisis levels the unemployment rate is predicted to remain on relatively high levels for Austrian standards (2017: 8.5%; 2018: 8.1% according to the Austrian method of calculation).

Two prominent policies launched in 2017 – 'Beschäftigungsbonus' and 'Aktion 20000' – are expected to have only little effect on the labour market. The former measure is mainly a subsidy to reduce non-wage labour cost, and the latter is a public employment program for elderly persons on the secondary labour market. Overall the combined effect of the two measures will generate slightly above 10,000 jobs in 2018. The 'Beschäftigungsbonus' is forseen to run until 2020 whereas 'Aktion 20000' ends in 2018.

Consumer demand. Consumer demand is forecasted to grow by 1.5% (in real terms) in 2017, and therefore only slightly weaker than in 2016. While private consumption in 2016 still benefited from the income tax reform in 2015, the continued growth in 2017 is testimony to the strong economic stance of the Austrian economy. A main driver of this development is the increase in disposable income due to growing employment and wages. Reduced unemployment also improves consumer sentiment and spending propensity among households. Overall the savings rate is predicted to decrease and therefore private consumption strengthens the demand side of the economy. A potential further impulse might originate from the 'Ökoprämie' for car owners switching to low emission vehicles. Depending on the design of this scheme, durables might benefit stronger than anticipated.

Prices and monetary policy. After two years of inflation below 1%, prices will increase only slightly below the 2% target (1.9%). Similarly for 2018, the current WIFO forecast expects an increase by 1.8% in 2018. However, the latest data on price developments in the second half 2017 might lead to an upward revision of inflation in 2017 and 2018. From a sectoral perspective, the same sectors which exhibited high price increases over the last years are also driving the current inflation. Among the main drivers are tourism and related services, hospitality services, but also housing. The areas 'Restaurants and hotels', 'leisure and culture' and 'Housing, water and energy' account for roughly one percentage point of the overall inflation. With an average price of 39 Euro to 45 Euro, oil prices are currently of less importance for inflation.

GDP and Total Construction Output from 2014 to 2020
year to year change in %



Source: EUROCONSTRUCT (84th Conference)

Despite the fact that inflation is approaching the 2% target in the Euro area, the monetary policy of the ECB has not changed. While WIFO forecasts predict a turnaround in interest rates for 2018, the interest rates will remain on a low level.

Fiscal policy. Albeit Austria's economy is growing at a relatively high pace in 2017 and 2018, Austria's government expects to run a deficit in these years. On the revenue side, both income tax but even more strongly corporation tax increased in the first half of 2017. Along with the dynamic evolution of capital gains tax, the cyclical upswing appears to materialize most strongly in firm profits. On the expenditure side, the economic expansion has too little effect to outweigh a number of discretionary measures (e.g. 'Beschäftigungsbonus', 'Aktion 20000', 'Investitionszuwachsprämie KMU' und 'GU' etc.). As a consequence, while deficit forecasts are revised downwards for the coming years, the (structural) budget balance is still expected to be negative.

Forecast uncertainties. As in previous reports, the exit of Great Britain from the European Union still looms large over the current economic recovery. In addition, the risk of a military conflict between the US and North Korea, but also an end to the peace pact between the US and Iran, present important risks to the currently benign economic conditions. As a significant portion of the economic upswing in Austria builds on foreign trade and its related industries, an appreciation of the Euro also poses a risk. Already in 2017, the appreciation of the Euro towards the US-Dollar curbed foreign trade growth to some extent. Related to this, changes in monetary policy through increasing interest rates might also affect real exchange rates. Although a rapid turnaround in monetary policy from the ECB is not expected, is poses a risk due to more expensive firm borrowing and higher financing cost for investments. Overall, monetary policy does not present a big risk in the current situation.

Specifically regarding the US, it enters the late stage of one of the longest growth phases in its history, which increases the risk of a downturn in the next years. Despite the large share of intra-EU trade, a downturn in the US could also hamper the currently projected economic improvements.

Another considerable uncertainty for Austria is related to the recent elections and the future government. Either the implementation or cancelation of policies from the past government but also the implementation of new policies, which are built on promises from the election campaigns, have the potential to significantly alter Austria's fiscal stance. Depending on the specific policies, this can lead to additional or reduced tax and expenditures, and hence represents an upward and downward risk at the same time.

Key Macroeconomic Indicators in Austria 2016 to 2020
annual percentage change, real terms

	2016	2017	2018	2019	2020
Gross domestic product	1.5	2.8	2.8	2.2	1.8
Private consumption	1.5	1.5	1.7	1.6	1.5
Public consumption	2.1	1.1	0.9	1.2	1.1
Investment (GFCF)	3.7	4.2	3.0	2.4	1.9
Inflation	0.9	1.9	1.8	1.9	1.9
Unemployment	6.0	5.6	5.4	5.4	5.4

Source: Statistics Austria. WIFO-forecasts September 2017.

3. Housing Market

Since 2014 (at that time declining by 0.7%) housing construction showed clear signs of recovery in 2015 (+1.1%) and 2016 (+0.7%). Two years of slow but consistent expansion are a sign of the overall stable housing construction in Austria. In line with the current economic upswing, however, also housing construction has picked up pace in 2017 and is predicted to increase much stronger than in previous years. While not as cyclical as non-residential construction, growth rates around or even above 2.0% seem likely for the current year. In the first half of 2017, housing investment already grew by 2.9%. While the second half cannot be expected to be as dynamic, there is little doubt about a forceful expansion this year.

In 2018, housing construction is also forecasted to grow, albeit at a slower rate around 1.5%. Again while not being very dynamic, housing construction in Austria is characterized by a very stable output. This is also featured in the medium term forecasts, which predict a further decrease but still positive growth rates slightly above 1%.

3.1 New residential construction

Interest rates and financing conditions. The low interest rate situation is still prevailing in Austria and Europe, with a rough stagnation in interest rates for housing since 2015. In Mid 2017, average interest rates for new housing mortgages were slightly below 2%. Unlike the past, the share of fixed interest has been strongly increasing in Austria since 2015. While at that time 90% of new mortgages loans were taken out with variable interest, this share has fallen to 50% in early 2017. The gap to the Euro area, where fixed interest was much more common has therefore been decreasing strongly since 2015, but is still large (Euro area: 15% variable interest; see OENB). This shift should also help to shield Austrian households from a potential reversal in monetary policy and increasing interest rates. However, given that the ECB has not yet decided to change their policy of high liquidity and low interest rates – the WIFO forecasts until 2020 predicts only a modest increase by 0.8% and 1.8% for short and long-term rates – financing is not expected to be a constraint for housing construction in the next years.

Building permits. As one of the main indicators of residential construction, building permits have conveyed a very vivid picture of the Austrian residential construction market. Considerable and repeated increases since 2010 leading to historic heights with figures of more than 50,000 units in new residential buildings in the year 2015 have suggested that the dynamic population growth had a strong and direct impact on demand. Even more, the latest figures from Statistics Austria suggest as many as 53,800 units in 2016, a further increase by almost 6%. Unfortunately, however, the evolution of housing permits is only partially reflected in production and national accounts data. Although the reasons for this disconnect are not entirely clear, the link between building permits and construction, even if a lag between building and construction is taken into consideration, does not appear as clear as expected. A regional analysis further suggests that in contrast to production data – which were positive in virtually all Austrian regions – the permit increases are very unevenly divided. In 2016, Vienna, Styria and Upper Austria recorded two-digit increases in building permits, whereas permits dropped by more than 10% in Burgenland, Tirol and Lower Austria. The question remains whether this signals a very heterogeneous evolution in residential construction for the coming years.

The published data for the first two quarters of 2017 suggest another expansion in the current year. After a weak first quarter (-1.2%) due to a slump in permits for 1 and 2 family homes, the second quarter experienced an overall increase by more than 5,6%. Again, permits for multi-storey buildings were the key driver of this development. WIFO forecasts for 2017 suggest an increase by 2.5% with stagnation in the segment for 1 and 2 family homes and a continued dynamic growth path in the multi-storey segment. Given the historically high level of permits coupled with projections of decelerating population and household growth, in 2018 the forecasts predict a decrease in the overall level of permits.

Regional Building Permits in New Residential Buildings
number, ,000

	2011	2012	2013	2014	2015	2016
Burgenland	2.174	1.120	1.574	2.024	1.737	1.351
Carinthia	2.792	2.716	2.425	2.690	2.983	2.432
Lower Austria	6.954	7.281	8.098	8.750	8.564	7.691
Upper Austria	7.860	7.322	7.203	8.921	7.179	9.125
Salzburg	3.536	2.862	3.749	3.107	3.197	2.627
Styria	6.662	5.845	7.194	7.695	7.018	9.579
Tyrol	5.031	4.000	4.026	4.352	5.204	4.033
Vorarlberg	2.074	2.702	2.283	2.559	2.707	2.746
Vienna	8.828	6.910	9.812	9.888	12.203	14.224
Austria	**45.911**	**4.0758**	**46.364**	**49.986**	**50.792**	**53.808**

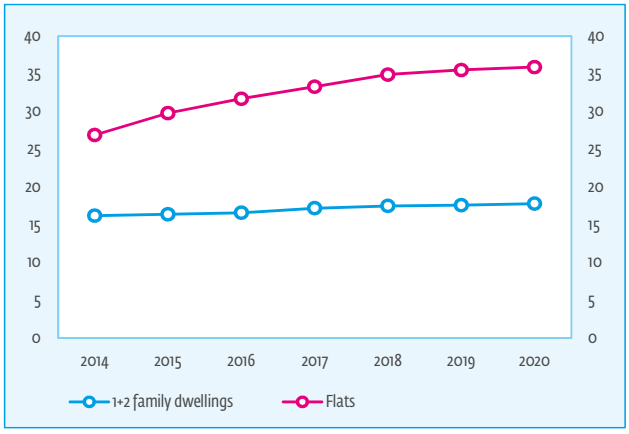
Source: Statistics Austria

House prices and real estate. Somewhat similar to building permits, high house prices would indicate that demand exceeds supply and that housing construction becomes more profitable. While house prices have increased considerably in Austria as a whole and in urban areas such as Vienna in particular, it does not appear to materialize into very strong additional housing construction. A partial explanation for this is that residential construction, in contrast to non-residential construction, never really faced a slump during the economic crisis of 08/09. The level of housing construction has consistently been at on or above the pre-crisis levels. Moreover, house price changes were heavily concentrated on some areas, and therefore also new construction might simply have shifted to the high demand areas, leaving overall volumes relatively unchanged.

Another possible explanation is the limited availability of land in high density areas. This is also consistent with the most recent data on house prices, which suggests a catching up of suburbs and more remote areas simply due to higher affordability. In the first half of 2017, the Austrian National Bank reports that housing prices in Vienna stagnated in the first quarter and increased by 2.4% in the second quarter. Conversely, the overall housing price index excluding Vienna increased by 3.5% and 4.2% in the first and second quarter 2017. This shift in the evolution of prices, which was the opposite in the years immediately after the crisis, is also interesting with respect to warnings of a bubble in Vienna and other cities. Lower disparities between regions are an indication that the risk of a bubble is somewhat diminished.

Related to house prices, also the number of transactions is currently stabilizing. After three years with extraordinarily strong growth rates, the data for the first half of 2017 (+1.4%) suggests that the strong dynamic of the previous years has come to a halt. This is another indication that the strong price increases of the past are not likely to be repeated in 2017 or 2018.

Housing Completions from 2014 to 2020
in thousands



Source: EUROCONSTRUCT (84th Conference)

House Prices
Year-on-year change, %

		2011	2012	2013	2014	2015	2016
Austria	Total	4.2	12.4	4.7	3.5	4.1	7.3
Vienna	Total	8.5	15.7	8.7	4.2	2.2	4.2
	1+2 Family Houses	1.4	3.5	2.9	-3.3	2.6	-1.8
	Flats	9.1	16.7	9.1	4.7	2.2	4.2
	New flats	9.8	7.0	3.7	1.0	4.7	10.3
	Used flats	9.0	18.2	9.8	5.2	1.9	3.4
Austria without Vienna	Total	2.3	10.8	2.7	3.1	5.1	9.1
	1+2 Family Houses	-3.4	8.7	1.1	6.4	6.8	7.7
	Flats	4.6	11.6	3.3	1.9	4.5	9.7
	New flats	-3.5	2.2	2.2	-11.2	0.4	8.0
	Used flats	5.9	12.9	3.4	3.5	4.9	9.8

Source: OeNB. Prof. Wolfgang Feilmayr. Department for spatial planning. TU Vienna.

Real estate transactions
number in '000, volume in bn Euro

		2013	2014	2015	2016
Austria	number	81.447	96.197	112.124	121.436
Vienna	number	12.484	15.189	18.052	19.490
Austria	volume	16.0	19.5	23.5	26.9
Vienna	volume	4.9	6.0	7.2	8.2

Annual average percentage change

		2013	2014	2015	2016
Austria	number	-12.5	+ 18.1	+ 16.6	+ 8.3
Vienna	number	-11.2	+ 18.1	+ 18.8	+ 8.0
Austria	volume	-8.3	+ 21.9	+ 20.4	+14.2
Vienna	volume	-5.5	+ 23,4	+ 19.7	+ 14.6

Source: RE/MAX (IMMOunited calculations). – Based on the official land register which covers new and existing buildings. Transactions cover all types of buildings (residential and non-residential) and land.

Public sector. The public sector has traditionally a strong influence, both directly and indirectly, on residential housing construction in Austria. Apart from the continuous construction subsidy schemes of each regional government (see table public housing support), also the central government has recently launched various discretionary initiatives.

Regarding the former, table public housing support shows that after a pronounced increase in 2014, total housing construction subsidies (including

rent subsidies of roughly 400 mn Euro) decreased by a considerable portion (roughly 20%) between 2014 and 2016. The decline from 2.9 billion to 2.4 billion is a mix of supply and demand side factors. On the supply side, some provinces are under pressure to reduce public spending to fulfil the national stability pact. Since 2017, the debt brake on the sub-national level, as part of the stability pact, requires provinces (and municipalities) to limit their annual deficits to 0.1% of GDP, collectively. On the demand side, the favourable financing conditions make public subsidies, which are frequently coupled to energetic and thermal buildings standards, less appealing. As a result, purely privately financed housing construction is increasing in Austria. The budgetary drafts on the province level do not suggest a significant recovery of housing construction subsidies, suggesting little impulse through this scheme.

In addition to this recurrent subsidy scheme, the national government has initiative a number of additional programs in recent years. Among the most important ones are:

- The 'Wohnbauoffensive' was introduced with the target to dampen the price increase by expanding the housing supply. The goal is to bring 30,000 additional units on the market until 2020 (or 5,000 p.a. on average) with a total investment volume of 6 bn Euro – has been stalled from operation for almost a year. At the time of writing this report, the relevance of the financing scheme for European state-aid regulations has still not been resolved.

In contrast to the standard public housing aid – which could be only taken out by non-profit housing companies – also commercial developers are allowed to apply for WBIB loans. The bank was expected to start financing activities in 2016, but given the still pending decisions from the European counterparts, it is not clear if any impact for residential construction will be felt before 2018. A positive impact of this new housing initiative is expected especially in the first two years after operations start – which is reflected by a slightly stronger growth of new residential construction in the current forecasts.

- More targeted towards owner-occupied housing and home ownership is the BIG investments initiative. Its scope is to build 10,000 units with a total volume of 2 bn Euro until 2020. The initiative will be managed by its subsidiary company ARE (Austria Real Estate) which is in general responsible for office and residential buildings. Investments will be mainly undertaken in the urban areas of Vienna, Graz and Linz. In contrast to the "Wohnbauoffensive" this scheme is up and running since 2016: Since then 641 units were completed and 1.300 units are under construction and further 3.500 units are planned according to ARE. Consequently, major impacts of this initiative for construction activity are also expected from 2016 to 2018.

As previously reported, the fiscal equalization scheme ('Finanzausgleich') agreed upon in 2016, foresaw a number of changes related to housing (harmonization of technical building standards; mandatory regional housing programs). However, there has been little progress on many aspects of the fiscal equalization scheme, not least due to the general elections in October 2017. What has been implemented so far is the fiscal autonomy of the provinces regarding the 'Wohnbauförderbeitrag'. Beginning 2018, provinces are allowed to set the percentage of this wage related contribution (employers and employees) autonomously. Further developments on this area and the overall fiscal equalization scheme can be expected during the next year.

AT

Public Housing Support
volume, mn Euro

	2011	2012	2013	2014	2015	2016
Burgenland	82	96	70	94	79	63
Carinthia	137	149	123	135	124	131
Lower Austria	496	490	470	622	472	434
Upper Austria	253	229	310	339	284	275
Salzburg	298	215	272	262	188	168
Styria	438	430	441	444	451	380
Tyrol	253	265	255	268	270	277
Vorarlberg	177	221	168	146	147	141
Vienna	526	467	563	629	514	510
Austria	**2 659**	**2 562**	**2 672**	**2 939**	**2 528**	**2 378**

Source: BMF.

3.2. Residential renovation

In the recent economic upswing, not only new construction but also residential renovation benefits from increased demand. Nevertheless, housing renovation still lags behind new residential construction and therefore follows the trend of recent years. Part of the explanation remains the limited or even reduced public funding for renovation subsidies, which spiked in the years 2009 and 2010, as part of national and regional efforts to dampen the decline in construction activity and avoid large layoffs during the economic crisis. Since

2010, the regional subsidy schemes – part of the previously mentioned housing construction subsidy scheme – which are the largest component of public renovation initiatives, have almost constantly been in decline: from roughly 850 mn Euro in 2010 to 560 mn Euro in 2015. The subsidy cuts were therefore most pronounced in the area of renovation, and larger than those in areas.

A similar development can be observed for national level subsidies. The so called 'renovation cheque' ('Sanierungsscheck') had a total amount of 100 mn Euro for several years since the crisis. In 2015, the total budget was reduced to 80 mn Euro and further to 43 mn in 2016. In part, the budgetary cuts were motivated by weak demand for these type of subsides. For instance, in summer 2016 nearly half of the whole schemes budget was still available.

The low uptake rate suggests a little interest by households in renovation and energy efficiency measures but also procedural problems. Hence, apart from the weak demand for energy efficient housing renovation it was also criticised that the renovation support scheme was not promoted well enough. The low participation stems also partly from the very warm winters in 2014 and 2015 in combination with low oil prices, both of which reduce the cost of heating. As a result, these factors weakened the case for thermal renovation.

Another national level stimulus, albeit of lower volume, is the so called 'crafts-men bonus' which aims to reduce the black economy and should stimulate renovation works additionally. The bonus was introduced in 2014 for the first time with a volume of 10 mn Euro and 65,000 applications and it will be continued in 2016 and 2017 with double volume (20 mn Euro annually). It targets private persons only, which will receive 20% of the craftsmen's bill up to 600 Euro per housing unit.

Given that only small shares of housing renovations do not receive subsidies in Austria, this evolution is representative for the whole segment. Interestingly, the number of projects co-financed by the subsidy-schemes has decreased even stronger, suggesting that on average the supported renovations have received larger subsidies, indicating slightly larger renovations than in the past. This is in line with efforts to shifting renovation activities towards deep renovations instead of a peace-meal approach.

For the coming years, the housing renovation segment in Austria is not expected to exhibit a fundamentally different evolution. While the overall economic upturn also shows ripple effects on housing renovation, growth figures will tend to lie below the new residential housing construction.

4. Non-residential Market

General framework conditions. Austria's non-residential construction market benefited strongly from the economic upswing in 2016. Beside domestic consumption also investments started to pick-up, which is crucial for a recovery of several non-residential construction segments and it therefore puts growth on a broader basis. Also increasing dynamics in world-trade, especially in intra-EU trade, helped the Austrian companies to expand their export volume and leading in a second step to stronger investments, also in construction.

Additionally, new public discretionary measures were introduced in 2016 and 2017 which will help to improve the competitiveness of Austrian companies. These measures include for example an investment growth premium ('Investitionszuwachsprämie') for small and medium enterprises with a volume of 80 mn Euro in 2017 and further 50 mn Euro in 2018. The company's contribution to the family compensation fund ('Familienausgleichsfond') will be lowered in two steps and will lead to a cost reduction of around 500 mn Euro in 2017 and further 300 mn Euro per annum from 2018 onwards and so more room for investments.

Major data revision. It has to be noted that the Austrian dataset in non-residential was revised significantly compared to the last 83rd publication, both in volume and growth. These changes result on the one hand side from a larger revision of the Austrian National Accounts shifting construction output more towards non-residential construction (and civil engineering). These changes reach back to 2015 and had a strong effect on nearly all non-residential sub-sectors. Additional changes are based on more detailed data available on the production of manufactured goods (PRODCOM). The new Austrian National Accounts caused a major upward revision in 2015 in total non-residential which output increased by 1.9%. On the other hand, this strong growth in 2015 led to a slightly lower increase in 2016 by 1.8%. National Accounts also indicated a higher non-residential construction volume (including civil engineering) which led to an increased level in 2016 compared to the previous publication.

4.1 Current situation and outlook to 2020.

The overall economic upswing gained momentum in the first half year 2017, resulting in substantially higher GDP forecasts by 2.8%. Non-residential construction is one of the sectors which benefits most from this development since business confidence is back and at high levels. Total non-residential construction is therefore expected to grow by 3.4% in 2017 which mainly stems from new

construction (2017: +3.8%). The outlook towards 2020 continues to be favourable with lower growth rates of slightly above 1.5% per annum.

4.2 New non-residential construction by subsectors.

New buildings for education. Investment in schools and universities can be split in three different areas in Austria: 1) municipal level and 2) state ('Bundesländer') level. Additionally investments are undertaken by 3) BIG, the federal real estate company. The largest construction volumes are created by municipalities and by BIG. These two areas showed different investment cycles until 2015. Investments of BIG declined strongly in 2014 and 2015 which was mainly responsible for the negative development in this sector in these years. On the other hand investments of municipalities nearly doubled from 2011 to 2016. This trend was pushed by a higher need for child-care and kindergarden facilities which will continue in the upcoming years.

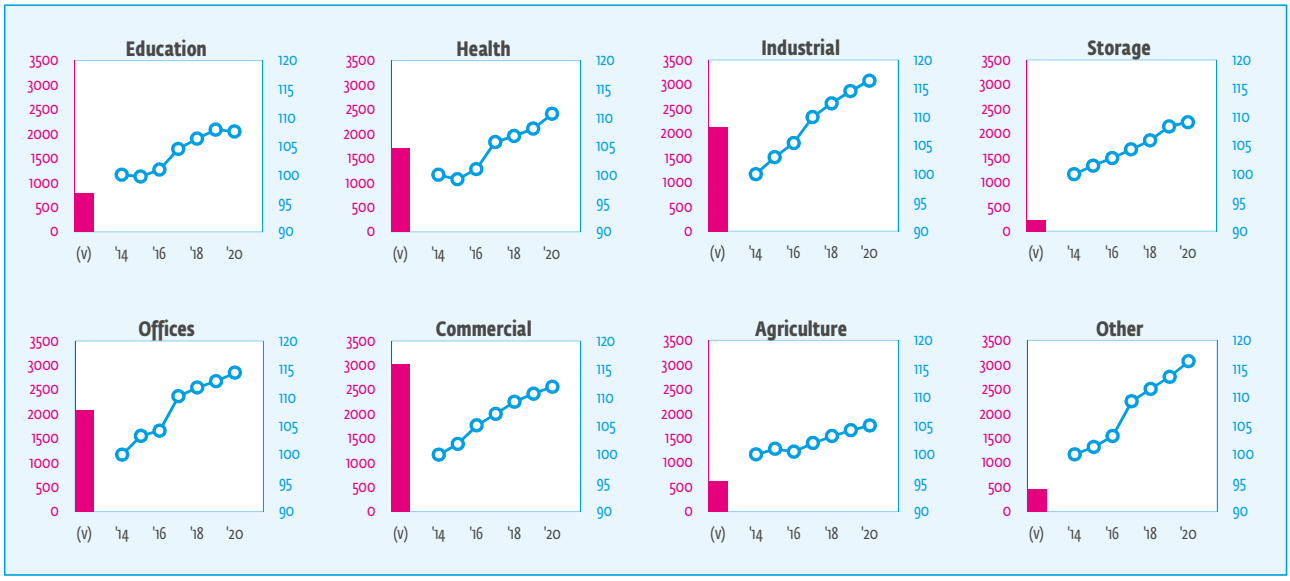
Besides this, also BIG increased their investments in 2016 and this trend will continue 2017 according to federal budgetary drafts, which show a further expansion of investments in 2017. Investments are also channelled into a special building program for 17 universities (initiated in 2014 by the Federal Ministry of Science Research and Economy) with a volume of 200 mn Euro. All projects are scheduled to be finished until 2019. Current big new-built university projects are Med Campus at the University in Graz) with completion in the 3rd quarter 2017, TÜWI at University for Natural Resources and Life Sciences Vienna with completion in the 1st quarter 2018. Ongoing new built school projects are the "Education Quarter Lake City Aspern" with completion in 3rd quarter 2017 and the AHS Wien West with completion in 2nd quarter 2018. New construction in the whole educational sector is forecasted to increase by 3.6% in 2017. After that dynamic increase lower but further growth by 1.7% in 2017 to 1.5% in 2019 is likely with an expected stagnation around 2020 (-0.3%).

New buildings for hospitals. The general conditions in the health sector did not change in the past 6 month. Health construction is still determined by two different trends. On the one hand the demand for health services is steadily increasing. Demographic trends show that the population over 75 years will increase by 140,000 persons in the next 10 years. In the long run the share of this age population will more than double within the period 2010 to 2050 from 4.0% to 8.1%.

At the same time, investment in the health sector developed at a significantly lower speed than overall health expenditure. According to the latest available information health investments even declined in 2015, which can be mainly attributed to lower public expenditure compared to previous years. In contrast private engagement in the health sector rose dynamically in the recent past. The share of private health investments increased by 9 percentage points from 37.0% to 45.7% in 2015. In the long term perspective it nearly doubled since 1990 which can be also attributed to the increasing demand for nursing services. The increase of total health investments rose since 2010 nearly hand in hand with the increase of private and public expenditures for nursing services – with a cumulated growth of approximately 20% in both areas.

Non-residential: breakdown by subsectors

(v) = volume 2016, million €, left scale; (line graph) = index at constant prices, 2014=100, right scale



Source: EUROCONSTRUCT (84th Conference)

The estimations for 2017 were significantly revised upwards to 4.7% because of stronger activities in the elderly care sector and a further delay of big hospital projects. The expansion of this sector will continue but after the strong dynamics in 2017 growth rates will be only slightly above 1% until 2020. The elderly care sector will continue to stimulate the future demand for construction in the health while it is limited in the area of hospitals. The latter is currently in a consolidation phase. Several hospitals are planned to be merged to increase the efficiency in the health sector. The latest OECD 'Health at a Glance 2015' report shows that Austria has the largest number of hospital discharges within the 34 member states, which is 60% above the OECD average. Austria ranks also within the top five nations regarding the number of hospital beds per 1,000 inhabitants (7.7) and the average length of stays in hospitals (70% above OECD average). This clearly restricts the future development of this sector despite an ongoing aging society which will demand more health and nursing services. It is therefore likely that the structure of the construction investment in this segment might be reallocated from new hospital construction to more elderly care facilities. Also the so called 'debt brake' which will apply in 2017 forces the federal state governments to target stricter cost controls which also effects the health sector. As a result of potential budget cuts, there appears little room for large additional new construction projects in the coming years, which is reflected by the growth of around 1% p.a. in new health construction.

New industrial and storage buildings. Along with the robust economic performance of manufacturing, also industrial construction picked up in 2016. Capital goods production (index) increased by 2.0% in 2016 and a more dynamic growth by 3.5% was recorded in the first half-year 2017 (NACE B-C) compared to the same period one year before. According to the WIFO Konjunkturtest, with a value of +17.5 point the economic sentiment index of the capital goods industry is clearly above its long-term average for and has been improving continuously over the last months. Especially the assessment of the current production activity led to this positive result. Also the backlog of orders has remained on a comparatively high level since the second quarter of this year. In August 2017 around 82% of the companies described their stock of orders as at least sufficient, in many cases even better. Industrial production profits also from the higher demand for machinery and from the automotive supplier. According to quarterly National Accounts, the export volume grew by 5.5% in the first two quarters of 2017 (2016: +5.0%) and the export of goods increased by 6.1%. Investments in new industrial buildings are therefore expected to increase by 4.3% in 2017. A gradual slowdown in 2018 from 2.2% towards 1.6% in 2020 is projected.

In the area of storage buildings, still no significant impulses are awaited. Online trade is one of the fastest growing markets with double digit growth rates, but the market is dominated by big market players like Zalando. Amazon is not even directly represented in Austria (it is run via Amazon.de) and so they only operate little storage space in Austria. So far Austrian companies play a minor role in online trade business and most of the goods are shipped from abroad. In contrast to Germany, no major storage hubs are currently under construction and according to Columbus Collier real estate and also no big logistic hubs with international impact are even not in a planning phase. Strong competition led to a cut and optimisation of storage space. Current storage projects are mainly realised on the property of existing headquarters since just-in time delivery is gaining in importance. A stronger trend in this direction is expected with the shift towards industry 4.0.

New office buildings. Office construction had a period of weak performance after the financial crises. Investors were cautious and projects were only initiated if they were fully owner occupied or if they show a high pre-letting ratio. After a decline in 2014 the market recovered significantly in 2015 (+3.3%). According to the latest data this increase is significantly higher than stated in the last forecasts. In 2016, in contrast, it turned out that construction growth slowed down (+0.9%) after the vivid year 2015. This is also supported the analysis EHL and CBRE. According to their market reports office completions declined to around 60,000 square meter in 2016. On the demand side, at least on the rental market, the performance increased dynamically to up to 300,000 square meter. The strong demand for rental offices in combination with low rate of completion led the vacancy decline to a rate of 5.3% in the office sector according to the analysis of CBRE. It was slightly over one percentage point less than compared to 2015 (6.4%).

From the construction side new office volume (in mn Euro) is expected to increase by 5.8% in 2017. The larger and most attractive projects are built around Vienna's main train station, which is also one of the biggest city development areas, where projects like the QBC (Quartier Belvedere Central) or The Icon Vienna are under construction. Other big office projects are located in the 2nd and 3rd district like the Austria Campus and the Orbi Tower. In the years 2018 to 2020 growth in new office construction is forecasted to slow down towards 1.3%.

New commercial buildings. New commercial construction profits from the current economic upswing to a large extent. Private consumption grew by 1.5% in 2016 and a further growth by 1.5% and 1.7% is expected for 2017 and 2018 in real terms.

Durable consumer goods grew by 3.3% in 2016. Demographic development, mainly because of migration, was also a main factor behind higher demand in the recent past. An improving labour market with an increasing dependent labour force (2017: 1.6%; 2018: 1.2%), combined with a declining unemployment rate (2017: 5.6%; 2018: 5.4%) creates additionally a solid basis for new investments in commercial construction. Above that, the tax reform 2015/2016 led to rising private disposable income of households, which improved by 2.6% in 2016. All these factors were driving consumption and commercial construction.

Commercial construction is generally split in 'Shopping Malls', (specialised) retail parks and retailers located on and off shopping malls. In the case of shopping malls most investments were led into the expansion and renovation of existing shopping malls (share 2016: 62%) rather than into new construction (share 2016: 38%) according to the April 2017 CBRE Market Report. The trend towards expansion of existing shopping centres at the expense of new buildings results from strong competition but also from stricter public regulations in several federal states with the target to dampen green field shopping centres.

Commercial construction is additionally supported by the hotel sector. Vivid tourism has generated a steady increase in overnight stays over the past years, mainly in Vienna. The city can take advantage from its safe and culturally rich image. The trend towards more but short holidays in combination with higher quality favours the capital additionally. The Viennese tourism is therefore orientated by the guiding principle 'Global.Smart.Premium'. Until 2020, a turnover of 1 bn Euro in the hotel sector and 18 mn overnight stays are targeted. This should be also achieved by connecting 20 additional metropolitan areas with direct flights.

Also hotel investments got more attractive recently. They reached a peak volume of 711 mn Euro and a share of 26% of the total financial transactions in 2016. This is even more remarkable since the share was only around 1% by the end of 2007. This strong engagement and the amount of new hotel buildings put pressure on the yield which is between 5% and 6% with a slightly declining mid-term trend.

New Commercial construction is therefore expected to grow by 2% given the good framework conditions and a slowdown towards 1.1% is likely until 2020.

New agricultural buildings. Agricultural building construction (including buildings for forestry) showed a weak performance in the recent past. In 2016 investment in buildings in this area were only about 70% of the peak volume in 2009 according to the Agricultural and Forestry National Accounts. Even in the mid-term perspective this is rather low with around 88% of the average performance in the past 15 years. No major impulses are expected in the period until 2020. This is underpinned by the currently strong fluctuating agricultural subsidies which are declining on average since 2000 in real terms. The latest draft federal budget showed also a negative outlook of agriculture subsidies from which a decline by 12% in 2017 can be expected. A restrained development on new agricultural buildings is therefore likely. The outlook for 2018 to 2020 construction in this sub-segment is forecasted to increase by around 1.0% per annum in real terms.

5. Civil Engineering Market

Beside non-residential construction, also civil engineering had to be revised to be in line with new economic picture given by the revision of the National Accounts. According to the latest data available, in 2016 the sector performed slightly weaker than previously forecasted. Civil engineering output grew only by 0.5% (83rd EC forecasts: +1.2%) mainly because of the weaker performance in transport infrastructure which originated in a decline in road sector construction (-1.8%). This was caused by reduced investments in the area of highways, but also on the municipal level strong budget cuts could be derived from the municipal accounts. Nevertheless, the downward trend in civil engineering stopped in 2016 as reported in the last publication. A more favourable economic development and the recent budgetary plans indicate a stronger total civil engineering growth in 2017 by around 3.2% and further, even if slightly less strong expansion is also expected for 2018 to 2020.

Structural data changes. New subsector information necessitated a reassessment of the civil engineering market size and structure. The result was an upward revision of Austria's total civil engineering market to 7.8 bn Euro in 2016. Major changes took place in the sectors railways, telecommunications and energy works from where the higher volumes originated. Within the EUROCONSTRUCT systematic, only the sector water works had to be adjusted downwards.

5.1 Civil engineering by sectors

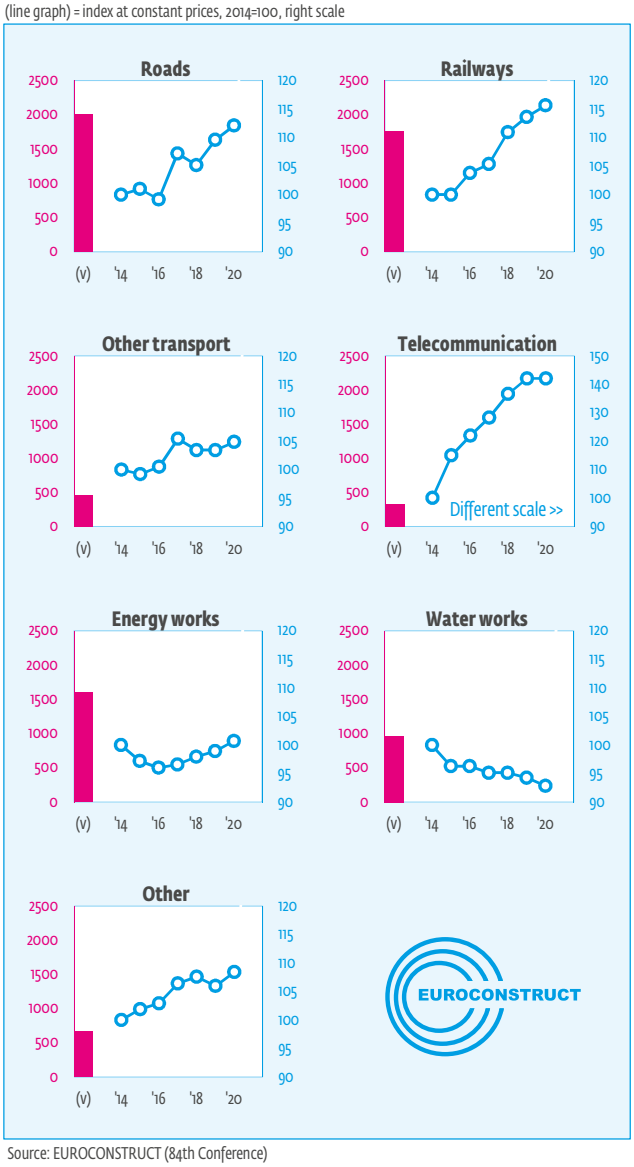
Austrian civil engineering is dominated by investments in transport infrastructure with a volume close to 4.2 bn Euro (54%), followed by energy (1.6 bn Euro) and water works (1 bn Euro) with a share of 21% and 12% respectively. Telecommunication works only play a minor role with a volume of 320 mn Euro (4% share). Investments in the **transport**

sector are used to maintain the existing road network but the majority is led into new projects to handle the increasing traffic development.

Investments in **transport infrastructure** increased by 0.8% in 2016 and turned out to be lower than originally forecasted. This investment gap also created scope for stronger growth in 2017. The public infrastructure investment program presented in February 2017 targets investments in the road and rail network with a volume of 24.2 bn Euro until 2022. It underpins the ongoing priority of investments in the railway network with a share of close to 70% of the total public infrastructure investment. Transport traffic infrastructure is expected to grow strongly in 2017 with a projected increase by 5.0% compared to the previous year. The outlook for the upcoming years is also positive, but it will strongly depend on the next government (which is not formed yet). From this point of view it cannot be taken as granted that the prioritization of the railway will continue in the infrastructure action plan which would be one of the main construction drivers for 2018 in transport infrastructure. An additional risk stems from a strengthening of the debt break which could be put to the constitutional level.

Civil engineering: breakdown by subsectors

(v) = volume 2016, million €, left scale;
(line graph) = index at constant prices, 2014=100, right scale



Source: EUROCONSTRUCT (84th Conference)

Road works. In 2016, nearly 2.1 bn Euro were invested in the extension and renovation of the Austrian road network. Close to 50% of the total volume is led into the extension and renovation of the highway network and about 35% are invested on municipal and 25% on federal level.

ASFINAG, Austria's highway financing agency, plays an important role in building and maintaining highway infrastructure which accounts for about 50% of the total road investments in Austria. About 1.2 bn Euro will be invested in highways and express ways in 2017. Thereof 530 mn Euro are funneled into new construction projects and additional tunnel tubes (44% of the total volume), 470 mn Euro in renovation works of the existing network and further 200 mn Euro for the establishment of a new toll charge system for heavy vehicles.

New major road project starts in 2017:

- S7 Riegersdorf-Dobersdorf: Start in autumn 2017, project volume of 485 mn Euro, completion in 2022.
- S36 St. Georgen-Judenburg: Start in March 2017, project volume of 158 mn Euro, completion in 2020.
- S3 Hollabrunn-Guntersdorf: Start in summer 2017, project volume of 132 mn Euro, completion in 2019/2020.

Major completions in 2017 are the A10 (Zederhaus) and A5 (Schrick-Poysbrunn). These in combination with ongoing tunnel projects with a volume of about 150 mn Euro and renovation works will lead to a strong growth in road investments by 8.1% in 2017. The investment plans and budget forecasts suggest a volatile development in the upcoming years. From today's point of view a decline in 2018 by -1.9% is likely, followed by a further (stronger) growth by 4.2% in 2019 and by 2.3% in 2020.

Railway works. The railway sector is expected to increase by 1.5% in 2017. According to the current budgetary plans, a significantly stronger uptake is expected for 2018 (+5.3%). Over the medium run, growth in railway construction is expected to slow down towards +1.8% to 2020.

The most important railway projects which determines the investment cycle are:

- The "Brenner Basis Tunnel", currently the largest railway project with a volume of 5 bn Euro (without financing costs). Within the period 2017-2019 investments of about 990 mn Euro are budgeted.

The project is at the beginning – 10% of the total volume was spent at early 2017. The annual investments are expected to increase in course of the construction process from 160 mn Euro to 500 mn Euro in 2019. The total volume of the project is 8.7 bn Euro and the route is planned to be finished in 2025.

- Southern route ("Südbahnstrecke"). The main project is the "Semmering Basis Tunnel", connecting Gloggnitz and Mürzzuschlag with a volume of about 3.3 bn Euro. In the period 2017-2019 around 780 mn Euro are budgeted. The largest investments will take place in 2018 (322 mn Euro). The project is scheduled to be completed in 2026.
- The "Koralmbahn", connection Graz-Klagenfurt has a project volume of 4.2 bn Euro. In the period 2017-2019 construction works will amount to 1 bn Euro which is nearly evenly distributed over this three year period. Completion is targeted in 2023.

Note: Beside the current political risks, investments in the rail sector are highly influenced by the progress of these big (tunnel) projects which can lead to significant changes in growth. Additionally big new construction projects also renovation works plays an important role in the railway sector. (Re-)investments are made into measures which guarantee a technological state of the art of older tracks and maintenance work will secure the quality and availability. Additionally a fund for financing railways crossings with volume of 125 mn Euro was established under the financial compensation 2017.

Aviation. Investments in aviation are dominated by the Airport Vienna, Austria's largest airport which accounts for 84% of Austria's passenger volume. According to the latest decision of the Federal Administrative Court from February 2017 the construction of a third runway was stopped. However, the Austrian Supreme Court (Verfassungsgericht) has repealed the decision banning the third runway. The project has a volume of 1.8 bn Euro and it was an essential part to meet the forecasted growth of passengers from around 23 mn to 30 mn in 2020 (which will be not achieved according to this decision). Due to the still high uncertainty, this project was not included in the forecasts so the outlook remains unchanged in this area. Nevertheless investments are expected to be significantly lower in this area if the third runway is effectively cancelled.

The largest civil engineering investments at the Vienna airports were led into renovation works of the runways with a volume of about 26 mn Euro in 2016. Beside this about 400 mn Euro will be invested in the modernization of the terminal building in the period 2016 to 2023 and further investments are let into the air cargo centre which will be expanded by 15,000 square meter (project volume 16 mn Euro). Please note that these investments are included in non-residential construction sector (and not in civil engineering).

Telecommunication works. Austria's telecommunication providers are investing significantly less in broad band and high speed internet connections than other industrial countries. This is the result of a recent WIFO paper showing that investments in telecommunication (IT and construction) only take a share of 0.23% on GDP – the lowest rate within the (observed) OECD countries (leading by Switzerland: 0.43% and Denmark 0.42%). Missing strategic decisions and the current hybrid model between public and private dominated initiatives are bearing risks for all players and lead to delays of the telecom network expansion. To reduce the digital gap, a public broadband support program with a volume of 1 bn Euro was introduced. The target is to provide a nationwide broadband network with a transmission rate of at least 100 megabyte per second. The digital roadmap for Austria, introduced early 2017, also plans the contracting of the 5G frequencies which are considered as an essential part of Austria's digitalisation to meet the future needs especially in area like autonomous driving, eMobility or Industry 4.0. New updated estimations for Austria show a construction relevant volume of about 320 mn Euro in 2016 in the telecommunication sector. Investments will be high also in the next years since so far only 200 mn Euro were granted (early 2017) from the so called broadband billion program.

Energy works. Construction activity in the energy sector is expected to be stable in 2017 (+0.6%). The scenario described in the previous report remains unchanged. Low energy prices are still one of the main hindering factors which make several power plant projects unprofitable. Prices for electricity declined both for the private and business sector and are well below the EU-28 average.

Energy prices for households with an annual consumption between 2.5 MWh and 5 MWh sank in 2016 to 0.123 Euro per kilowatt hour (without taxes and levies). The drop in prices slowed down from -5.7% in 2014 to -1.4% in 2016. Household prices for electricity in Austria were around 6% lower than in the EU-28. The energy price for businesses with an annual consumption between 500 MWh and 2000 MWh is on average about 0.069 Euro per kilowatt hour and so even 14% lower than in the EU-28 according to EUROSTAT.

Austria's power production is currently sufficient to satisfy electricity demand according to the energy regulator E-Control. In order to meet the international climate target, however, the expansion of hydro-power plants and further investments in renewable are necessary. The share of renewable

energy according to the EU directive 2009/28/EG amounted to 32.8% (EU-28: 16%). The largest shares within this area takes water power (37%), followed by solid biomass (29%). Wind, solar, biogas, geothermal and photovoltaic have all together only a share of about 10% of the renewable energy but the latter shows also the strongest growth in the recent past.

Beside the production of electrical power, investments are channelled into the extension of the electricity network with a volume of 700 mn Euro over the next three years.

Note: The impact of the planned German separation from Austria's electricity market is not taken into account in the current projections. Germany plans to introduce a congestion management on the boarder to Austria which would lead to different prices in Germany and Austria (instead of the current same price) when capacity limits are reached. This measure was suggested to secure Germany energy infrastructure. But on the other hand Austria this will lead to increasing prices in Austria by around 10% according to first estimations if this plan is turned into reality.

Water works. Austria's fiscal equalization scheme from 2017 to 2021 between the federal government and federal states, decided in November 2016, brought a 300 mn Euro per year higher budget for the federal states (ie. for structural weak areas). Along with these negotiations municipalities received 80 mn Euro for water works over the whole period to 2021. This has only a marginal impact on the forecasts which remain still cautious. On 1 January 2016 new public subsidization guidelines for urban water management came into force. Subsidies on the federal level amount to a volume of 100 mn Euro in 2016 and are expected to generate investments of 400 mn Euro. Investment in drinking water supply will be subsidized by a rate between 10% and 25%, waste water projects between 10% and 40% of the eligible costs. The funding rate depends on the level of existing investments and the income situation of the municipality. It is expected that the new guidelines will only have a minor impact on the future development which is mainly characterized by a shrinking demand for water works. After stagnation in 2016 a further decline is expected in 2017 by around 2.0%. The previously mentioned decline of new waste water projects could be compensated, at least partly, by slightly increasing investments in new fresh water network investments. Market stagnation is likely in 2018 and slight decreases in investments are expected in 2019 and 2020.

APPENDIX – DEFINITIONS

Data from the national accounts represents an integral part of the reported construction forecasts. Not only the forecasts are updated in each report, but also the previously published data from the national accounts are revised regularly. The revisions affected almost without exception all economic areas according to official publications by the national statistics agency Statistics Austria. The revision calendar is as follows: The first data for year t are available in year autumn t+1, e.g. the first official data from the national accounts on growth or the construction industry for 2015 is available in autumn 2016. The main data sources for these figures are WIFO's economic forecasts as well as the monthly business surveys and other auxiliary data. In year t+2, information from structural business statistics is incorporated and the data revised if necessary. In year t+3, the compilation of input-output tables through the supply-use tables can lead to an additional revision of the official data.

Table 1

- **Population:** Statistics Austria, main scenario, on 1st January.
- **Households:** Statistics Austria, on 1st January.
- **Unemployed:** Austrian Public Employment Service (AMS), WIFO forecasts.
- **Unemployment rate:** Labor Force Survey, EUROSTAT, WIFO forecasts.
- Economic forecasts are based on the September 2017 WIFO forecasts (2017 to 2018) and on the autumn 2017 WIFO mid-term forecasts (2020). All national account data (historic and forecasts) are based on ESA 2010 system.

Table 2

- **Construction output** includes own production (do-it-yourself), black economy and exports. Non-intensive private repair and maintenance measures were estimated by WIFO. The forecasts of growth rates reflect the WIFO September 2017 forecasts based on ESA 2010 (correspondently also Tables 4a and 4b).
- Data for cement consumption is derived from the information of the cement industry which level is remarkably stable over time.

Table 3

- Permits, starts and completions refer to new dwellings in new residential buildings.
- Permitted dwellings until 2016 are based on the official figures (October 2017) from Statistics Austria.
- **1+2 family houses**: Buildings with one or two dwellings (in previous reports buildings with one dwelling only).
- Flats: Buildings with three and more dwellings (in previous reports they referred to buildings with two and more dwellings).
- Building starts: No official statistics are available for Austria. The provided number is based on estimates considering a delay and drop out between permits and housing starts.
- Building completions: The results reported in this publication differ from official statistics from Statistics Austria. The reason for this deviation lies in the incomplete and delayed reporting to and from municipalities, which severely affects data quality. Data included in this report are based on housing permits and historical rates of completions.
- **Housing stock:** Annual average. The housing stock is a forward projection of the register based census 2011. Significant methodological changes in the 2011 census resulted in a higher housing stock.
- **Second homes. Vacancies:** WIFO forecasts based on Statistics Austria.
- **Home ownership rate:** WIFO forecasts based on Statistics Austria; share of dwellings owned by the occupier/relatives of the occupier.

Table 4a

- **Offices**: They include also other buildings for administration.
- **Miscellaneous:** e.g. buildings for sports and leisure time.

Table 4b

- **Other transport** includes mostly airport infrastructure as well as public transport (mainly underground transportation).
- **Energy works** includes construction of distribution lines for electricity as well as integral parts (e.g. related buildings such as power plants).
- **Water works** includes the construction of distribution lines for transportation of fluids (e.g. water utility lines. sewage) and related buildings (pumping stations), water well drilling and also the construction of river works, dams, etc.

Table 5

- Information is based on the September 2017 WIFO forecasts (2017 to 2018) and the autumn 2017 WIFO mid-term forecasts (2019). Data stems from the national accounts based on ESA 2010 system.
- Volumes of each GDP component are at market prices. VAT included.
- The sum of the individual GDP components is not exactly equivalent to total GDP because of the so-called statistical difference. It represents a residual component which can be attributed to current account imbalances due to international trade and capital flows.

Country/Pays/Land: Austria — Table 1

MAIN DEMOGRAPHIC AND ECONOMIC INDICATORS
PRINCIPAUX INDICATEURS DÉMOGRAPHIQUES ET ÉCONOMIQUES
WICHTIGE DEMOGRAPHISCHE UND ÖKONOMISCHE INDIKATOREN

				Est.	Forecast		Outlook
	2014	2015	2016	2017	2018	2019	2020
Population ('0000s) **Population** **Bevölkerung**	8 508	8 585	8 700	8 778	8 850	8 918	8 981
Households ('0000s) **Ménages** **Haushalte**	3 731	3 777	3 826	3 872	3 914	3 952	3 989
Unemployed ('0000s) **Chômeurs** **Arbeitslose**	319	354	357	341	326	328	338
Unemployment rate (%) **Taux de chômage** **Arbeitslosenquote**	5.6	5.7	6.0	5.6	5.4	5.4	5.4
Change of GDP **Variation du PIB** **Veränderung des BIP** **(% change in real terms)**	0.8	1.1	1.5	2.8	2.8	2.2	1.8
Consumer prices (% change) **Prix à la consommation** **Verbraucherpreise**	1.7	0.9	0.9	1.9	1.8	1.9	1.9
Construction prices (% change) [1] **Prix de la construction** **Baupreise**	1.3	1.5	0.6	1.0	1.2	1.4	1.5
Short term interest rate [2] **Taux d' intérêt à court terme** **Kurzfristiger Zinssatz**	0.2	0.0	-0.3	-0.3	-0.1	0.3	0.8
Long term interest rate [3] **Taux d' intérêt à long terme** **Langfristiger Zinssatz**	1.5	0.7	0.4	0.7	1.0	1.5	1.8

1) Refers to new construction only.
2) 3-month interbank rate (or equivalent).
3) 10-year government bonds (or equivalent).

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Country/Pays/Land: Austria — Table 2

CONSTRUCTION BY TYPE
PAR TYPE D'OUVRAGE
BAUPRODUKTION NACH BAUARTEN

		Volume mill. euro[1]	% change in real terms (volume)						
						Est.	Forecast		Outlook
		2016	2014	2015	2016	2017	2018	2019	2020
Residential construction **Logement** **Wohnungsbau**	New	11 278	0.0	1.5	1.3	2.2	1.4	1.2	0.8
	Renovation	4 968	-2.3	0.3	-0.6	1.7	1.8	1.5	1.8
	Total	**16 246**	**-0.7**	**1.1**	**0.7**	**2.0**	**1.5**	**1.3**	**1.1**
Non-residential construction **Bâtiments non résidentiels** **übriger Hochbau**	New	11 019	-1.2	1.7	1.9	3.8	1.7	1.4	1.4
	Renovation	3 468	0.3	2.5	1.4	2.3	1.4	1.0	2.6
	Total	**14 486**	**-0.8**	**1.9**	**1.8**	**3.4**	**1.6**	**1.3**	**1.7**
Building **Bâtiment** **Hochbau**	New	22 296	-0.6	1.6	1.6	3.0	1.5	1.3	1.1
	Renovation	8 436	-1.3	1.2	0.2	1.9	1.6	1.3	2.1
	Total	**30 732**	**-0.8**	**1.5**	**1.2**	**2.7**	**1.6**	**1.3**	**1.4**
Civil engineering **Génie civil** **Tiefbau**	New	6 239	2.4	-0.6	0.3	3.5	1.3	2.1	1.8
	Renovation	1 560	3.4	1.4	1.3	2.0	0.8	0.6	0.3
	Total	**7 798**	**2.6**	**-0.2**	**0.5**	**3.2**	**1.2**	**1.8**	**1.5**
TOTAL CONSTRUCTION OUTPUT		**38 530**	**-0.1**	**1.1**	**1.1**	**2.8**	**1.5**	**1.4**	**1.4**

	2016				Est.	Forecasts		Outlook
	Volume mill. tons	2014	2015	2016	2017	2018	2019	2020
Domestic cement consumption **Consommation intérieure de ciment** **Inländischer Zementverbrauch**	4.66	1.1	3.8	0.9	2.4	0.8	0.5	0.4

Renovation covers repair and maintenance, refurbishment and reconstruction.
1) At 2016 prices, excluding taxes.

Country/Pays/Land: Austria — Table 3

RESIDENTIAL CONSTRUCTION
CONSTRUCTION DE LOGEMENTS
WOHNUNGSBAU

Thousands dwellings

					Est.	Forecast		Outlook
		2014	2015	2016	2017	2018	2019	2020
Building permits **Logements autorisés** **Baugenehmigungen**	1+2 family dwellings Individuels 1+2-Familienhäuser	16.5	16.8	18.1	18.1	17.8	18.1	18.1
	Flats Collectifs Mehrfamilienhäuser	33.5	34.0	35.7	37.2	36.4	36.7	35.5
	Total	**50.0**	**50.8**	**53.8**	**55.3**	**54.1**	**54.8**	**53.6**
Housing starts **Logements commencés** **Baubeginne**	1+2 family dwellings Individuels 1+2-Familienhäuser	15.2	15.8	16.6	17.2	17.0	17.1	17.2
	Flats Collectifs Mehrfamilienhäuser	30.5	32.1	33.1	34.7	34.9	34.7	34.3
	Total	**45.8**	**47.9**	**49.7**	**51.8**	**52.0**	**51.8**	**51.5**
Housing completions **Logements terminés** **Baufertigstellungen**	1+2 family dwellings Individuels 1+2-Familienhäuser	16.2	16.4	16.6	17.2	17.5	17.6	17.8
	Flats Collectifs Mehrfamilienhäuser	26.9	29.8	31.7	33.3	34.9	35.5	35.9
	Total	**43.2**	**46.2**	**48.3**	**50.4**	**52.4**	**53.1**	**53.7**
Housing stock **Logements existants** **Wohnungsbestand**	**Total**	**4 562**	**4 606**	**4 653**	**4 701**	**4 752**	**4 803**	**4 855**
	thereof second homes dont résid. secondaires davon Zweitwohnungen	262	264	267	270	273	276	279
	thereof vacancies dont inoccupés davon leerstehend	228	230	233	235	238	240	243
	share of family dwellings (%) part des maisons individuelles Anteil 1+2-Familienhäuser	47.5	47.3	47.1	46.8	46.6	46.4	46.1
Home ownership rate [1] **Taux de propriétaires occupants** **Wohneigentumsquote**		55.4	54.8	54.2	53.8	53.5	53.4	53.1

1) Cf. Appendix to the individual country report.

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Country/Pays/Land: Austria — Table 4a

NEW NON-RESIDENTIAL CONSTRUCTION (PUBLIC AND PRIVATE)
CONSTRUCTION NEUVE NON RÉSIDENTIELLE (PUBLIQUE ET PRIVÉE)
NEUER NICHTWOHNHOCHBAU (ÖFFENTLICH UND PRIVAT)

	Volume mill. euro[1)]	m2 x 1000	% change in real terms (volume)						
						Est.	Forecast		Outlook
	2016	2016	2014	2015	2016	2017	2018	2019	2020
Buildings for education **Bâtiments de l'éducation et de la recherche** **Gebäude des Bildungswesens**	779		-2.3	-0.3	1.2	3.6	1.7	1.5	-0.3
Buildings for health **Bâtiments de santé** **Gebäude des Gesundheitswesens**	1 701		0.3	-0.8	1.8	4.7	1.0	1.2	2.4
Industrial buildings **Bâtiments industriels** **Industriegebäude**	2 138		-2.1	3.0	2.4	4.3	2.2	1.9	1.6
Storage buildings **Bâtiments de stockage** **Lagergebäude**	224		-1.4	1.5	1.3	1.5	1.5	2.3	0.7
Office buildings **Bureaux** **Bürogebäude**	2 085		-1.1	3.3	0.9	5.8	1.4	1.0	1.3
Commercial buildings **Commerces** **Geschäftsgebäude**	3 021		-0.5	1.9	3.2	1.9	2.0	1.3	1.1
Agricultural buildings **Bâtiments agricoles** **Landwirtschaftsgebäude**	619		-2.3	1.0	-0.5	1.5	1.2	1.0	0.8
Miscellaneous **Autres** **Sonstiges**	451		-2.8	1.3	1.9	5.9	2.0	1.9	2.4
TOTAL	**11 019**		**-1.2**	**1.7**	**1.9**	**3.8**	**1.7**	**1.4**	**1.4**

1) At 2016 prices, excluding taxes.

Country/Pays/Land: Austria — Table 4b

TOTAL CIVIL ENGINEERING
ENSEMBLE DU GÉNIE CIVIL
TIEFBAU INSGESAMT

		Volume mill. euro[1]	% change in real terms (volume)						
						Est.	Forecast		Outlook
		2016	2014	2015	2016	2017	2018	2019	2020
Transport infrastructure **Infrastructures de transport** **Verkehrsinfrastruktur**	Roads Réseau routier Straßen	2 017	3.9	1.0	-1.8	8.1	-1.9	4.2	2.3
	Railways Voies ferrées Bahnanlagen	1 767	1.4	0.0	3.8	1.5	5.3	2.4	1.8
	Other transport Autres réseaux Übrige Verkehrsinfrastruktur	460	3.6	-0.8	1.3	4.9	-1.9	0.0	1.4
	Total	**4 244**	**2.8**	**0.4**	**0.8**	**5.0**	**1.0**	**3.0**	**2.0**
Telecommunications **Télécommunications** **Telekommunikation**		320	1.3	15.0	6.0	5.2	6.5	4.0	0.0
Energy works **Réseaux d'énergie** **Energieversorgung**		1 601	2.1	-2.8	-1.2	0.6	1.4	1.0	1.8
Water works **Réseaux d'eau** **Wasserversorgung**		968	1.9	-3.7	0.0	-1.2	0.0	-0.9	-1.5
Other **Autres** **Sonstiges**		665	3.9	1.9	1.0	3.4	1.1	-1.5	2.3
TOTAL		**7 798**	**2.6**	**-0.2**	**0.5**	**3.2**	**1.2**	**1.8**	**1.5**

1) At 2016 prices, excluding taxes.

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Country/Pays/Land: Austria — Table 5

GROSS DOMESTIC PRODUCT
PRODUIT INTÉRIEUR BRUT
BRUTTOINLANDSPRODUKT

	Volume bill. euro[1]	% change in real terms (volume)						
					Est.	Forecast		Outlook
	2016	2014	2015	2016	2017	2018	2019	2020
Private consumption[2] **Consommation privée** **Privater Verbrauch**	186.2	0.3	0.5	1.5	1.5	1.7	1.6	1.5
Public consumption **Consommation publique** **Staatsverbrauch**	70.6	0.8	1.5	2.1	1.1	0.9	1.2	1.1
Gross fixed capital formation **Formation brute de capital fixe** **Bruttoanlageinvestitionen**								
Total	81.5	-0.7	1.2	3.7	4.2	3.0	2.4	1.9
of which construction	38.0	-0.1	1.1	1.1	2.8	1.5	1.4	1.4
Stocks (contribution as % of GDP)[3] **Variations de stocks** **Vorratsveränderungen**	3.7	0.4	0.1	-0.1	0.4	0.4	0.3	0.2
Exports **Exportations** **Exporte**	184.6	3.0	3.1	1.9	5.5	4.8	3.9	3.4
Imports **Importations** **Importe**	172.8	2.9	3.1	3.1	5.1	3.9	3.6	3.4
GDP **PIB** **BIP**	**353.3**	**0.8**	**1.1**	**1.5**	**2.8**	**2.8**	**2.2**	**1.8**

Standard National Accounts, gross figures.
1) At 2016 prices.
2) Including final consumption expenditure of NPISH's, ISBLM inclus, einschließlich POoE.
3) Including net aquisitions of valuables, net aquisitions d'objets de valeur inclus, inkl. Nettozugang an Wertsachen.

Notes

84th EUROCONSTRUCT Conference ○ 23–24 November 2017, Munich, Germany

GENERAL DEFINITIONS

The following notes describe which are the most common definitions of the concepts of the Euroconstruct report among the different countries. These definitions do not apply literally to each of the 19 countries, so readers are encouraged to check the specific methodological notes of each country in order to identify the possible deviations from these standards that may apply to that particular market.

Macroeconomic

- **Population and households:** as of January 1st.
- **Unemployed:** figures based on labour force surveys that also include jobseekers that do not register at the employment offices.
- **Unemployment rate:** as percent of total labour force.
- **Construction prices:** annual change rate of sales prices, not construction costs.

Construction Output

Production is calculated according to branch definition, including not just works done by construction firms, but also works done by all firms that execute construction work regardless of the industry group they belong to. It also includes:

- Services provided by public bodies in the case that fees are involved.
- The builders' own effort, like do-it-yourself works.
- Works done by unregistered firms (black economy) should be included.

VAT or any other sales tax are not included.

Production value of a **building** project, residential and non-residential, includes:

- Project development.
- Planning and engineering works, architects.
- Plot work up.
- Construction work on the building including all intermediate products (building materials, transport cost, energy, use of machinery and equipment etc.)
- Installations work (electrical, plumbing, glazing, paintings and wallpaper, lifts etc.)
- Public fees (for building permits etc.)
- Financial costs, like interest and fees on construction loans (external funding)
- Fees to estate agents
- Transaction costs, if any
- Advertisement costs, if any

Production of **civil engineering** in general follows the same rules, so the value of investments (and maintenance) in civil engineering includes all intermediate products and not only the civil engineering part.

Residential

This category includes:

- Permanent residences
- Second homes or holiday homes owned by households.
- Building objects considered as auxiliary of the main residential object, such as garages, outhouses or other annexes.

The **1+2 family dwellings** category includes:

- Detached or semi-detached houses that contain one or two dwellings (for example, a main dwelling plus one bed-sit, basement flat etc.)
- Farmhouses that contain one or two dwellings.

The **flats** category is for residential buildings that contain three or more dwellings, including the following cases:

- Row houses, linked houses and terraced houses.
- Multi-dwelling buildings of more than one storey, free-standing or linked.
- Residences and service residences for the elderly and other social groups, when the health care aspect is not dominant (otherwise they are categorised as nursing homes and accounted as non-residential)
- Student homes.
- Other residential buildings for communities.
- Dwellings in non-residential buildings.

A **second home** is defined as any dwelling of the residential categories (1+2 families or flats), that is only in use temporarily as a holiday or leisure residence. Second homes also include cottages, huts, shacks, chalets, etc.

When second homes are a market product that is different from permanent homes (design, size...) and that market is big enough to be noticeable, and statistics allow them to be distinguished from permanent homes, they may be excluded from the figures for permits, starts or completed dwellings. However, they still are included in stock figures. Investments in second homes are also included in residential construction.

A residential building is considered **completed** when either a temporary permission to use the building is given by the competent authority, or when a certificate for completion is issued by the competent authority. This certificate should be given when final documentation about the building and a declaration from the builder that the building is completed is available.

Non-residential

This category includes every other building that is not considered residential. The following cases are also treated as non-residential:

- Buildings for temporary residential use that have a commercial purpose, for instance hotels, hostels, motels and holiday homes for rent by businesses/public bodies.
- Homes for the elderly with manned facilities and nursing services.

Non-residential surface is measured as utility floor space, which is the floor area measured within the outer walls.

The category of **buildings for education** includes the facilities (also playgrounds) for:
- Pre-school, kindergartens.
- Primary and secondary education.
- Higher education, including laboratories and research facilities.

The category of **buildings for health** includes:
- Hospitals.
- Clinics, doctor's offices, medical centres, emergency clinics.
- Health and social services centres, health stations.
- Nursing homes.
- Residence and home with nursing and medical care.
- Buildings for rehabilitation, sanatoriums
- Other long-stay hospitals and primary health buildings.

The category of **industrial buildings** includes:
- Factory buildings.
- Workshops.
- Treatment plants, pumping stations, transformer stations that can be considered buildings.

The category of **storage buildings** includes:
- Warehouses.
- Cold storage warehouses.
- Silo buildings and other specialised storage.

The category of **office buildings** includes:
- Buildings for bureaucratic purposes, town halls.
- Banks.
- Post offices.
- Buildings for the media.

The category of **commercial buildings** includes:
- Shopping centres, department stores.
- Detached shops.
- Service stations.
- Other wholesale and retail trade buildings.
- Hotels, hostels, motels, pensions.
- Holiday camps, tourist chalets, apartment lodging buildings, camping huts, holiday bungalows.
- Restaurant buildings and derivatives: food kiosks, cafés, canteens, etc.
- Parking garages.
- Fair and congress buildings.
- Buildings related to transport infrastructures such as railway stations and underground stations, airport terminals, air traffic control towers, telecommunication buildings, etc.

The category of **agricultural buildings** includes:
- Buildings for animals, granaries, fruit and vegetable storage, agricultural silos, buildings for hay/grain drying
- Greenhouses.
- Works buildings used for fishery and hunting, including fish farms, fishery boat-houses and sheds.

The category of **miscellaneous buildings** includes:
- Non-residential space in residential buildings.
- Buildings for entertainment: cinemas, theatres, concert halls, opera houses, discotheques.
- Museums and art galleries.
- Libraries.
- Zoological and botanical gardens.
- Sports halls, ice arenas, indoor swimming pools, fitness centres and Buildings for other sports.
- Community centres, local meeting halls not for bureaucratic uses.
- Buildings for religious use: churches, chapels, houses of worship, parish houses, crematoriums, cemetery chapels, chapels of repose, convents, monasteries.
- Monuments.
- Prison buildings.
- Police stations.
- Fire stations, ambulance stations.
- Building for emergency preparedness: air-raid shelters, bunkers.
- Lighthouse buildings, pilot stations, radar facilities.
- Public toilets.

Renovation with change of use

Sometimes building renovation is related to a change of end use: from residential to non-residential buildings and vice versa. When a non-residential building is transformed to a residential building, the value of this production is included in residential renovation. And vice versa.

Civil Engineering

The category of **transport infrastructure** includes:
- Construction of roads and streets, including bridges and tunnels.
- Railways include also tramways and undergrounds, also with bridges and tunnels.
- "Other" collects airports and airfields, harbours, ports, breakwaters and moles, canals, etc.

The category of **energy** includes infrastructures for:
- Generating energy: power plants and power stations that can not be considered buildings, dams

for hydroelectric power production, wind farms, wave farms.
- Delivering energy: power transmission lines, gas supply lines.

The category of **water works** includes infrastructures for water supply, sewer and waste water transport and treatment; either for drinking water, irrigation, industrial water or river flow maintenance.

The category of **other civil engineering** includes infrastructures for agriculture, forestry and fishery, civil engineering facilities for the industry **that can not be considered buildings**, outdoor sports and leisure facilities (for example, amusement parks).

Gross Domestic Product

To be comparable to the rest of the figures in Table 5, gross fixed capital formation in construction is measured at market prices, in contrast to the measure used in Tables 2, 4a and 4b that considers output at production prices, that is, without sales taxes (or sales subsidies).