European Commission

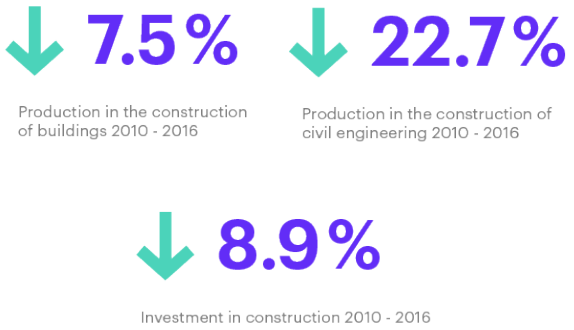
European Construction Sector Observatory

Country profile Czech Republic

March 2018

In a nutshell

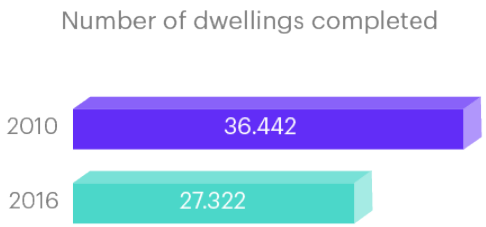
The Czech construction sector started recovering in 2014 after several years of recession. However, 2016 saw another period of decline, as EU-funded projects came to completion. Namely, **production** in construction dropped by 12.7% over 2010-2016, with production in construction of buildings and civil engineering falling by 7.5% and 22.7%, respectively. Similarly, **investment in construction** declined by 8.9% over 2010-2016, with investment in non-residential construction and civil engineering experiencing the hardest hit (-17.7%).

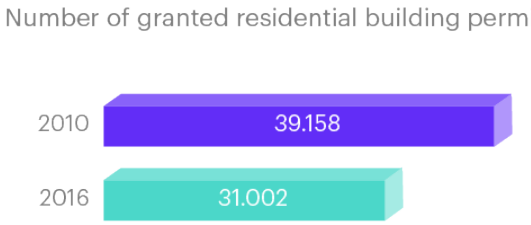


To offset the declining investments and improve the underdeveloped transport infrastructure, the Czech government put in place the Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050. It foresees an annual amount of CZK 43 billion (EUR 1.6 billion) in investment to be used both for construction of new transport infrastructure (particularly TEN-T) as well as for maintenance. Moreover, the State Fund for Transport Infrastructure (SFDI), with a budget of CZK 52 billion (EUR 2 billion) for 2017, is also a key instrument. European Structural and Investment Funds (ESIF) also contribute to the development of **road and rail infrastructure** through an allocation of EUR 7.4 billion for network infrastructures in transport and energy over 2014-2020.

The **housing market** is characterised by an increase in demand, fuelled by record-low mortgage rates and rising household incomes. However, supply is lagging behind, partly due to slow administrative procedures for obtaining construction permits, resulting in a 12.5% increase in the house price index over 2010-2016. The number of dwellings completed fell from 36,442 to 27,322 over 2010-2016 (-25%) and the number of granted residential building permits declined from 39,158 to 31,002 (-20.8%). In this context, the State Housing Development Fund (SHDF) provides various financing programmes to support housing policy, particularly the regeneration of the existing housing stock, the reduction of its energy consumption and the construction and reconstruction of dwellings and residential buildings, including rental social housing. The **Housing Support Programme 2016-2020** also supports the development and diversification of housing and construction activities through several financing sub-programmes.

The housing market is characterised by an increase in demand, fuelled by record-low mortgage rates and rising household incomes. However, supply is lagging behind, partly due to slow administrative procedures for obtaining construction permits, resulting in a 12.5% increase in the house price index over 2010-2016.





The outlook for the coming years is encouraging, with growth predicted at 4.9% in 2018 and 8.3% in 2019, driven by an overall strong economic outlook and positive developments in transport infrastructure. However, the construction sector is still hampered by restrictive building regulations, low absorption of EU funds and a critical shortage of qualified workers, including masons, plumbers and engineers.

> With regard to sustainable construction and energy efficiency, the SHDF offers the PANEL 2013+ programme, providing low-interest loans for energy efficiency renovation and modernisation of residential buildings, as well as the New Green Savings Programme 2014-2021. Furthermore, the government recently approved the Concept of the Implementation of BIM, containing a schedule for the phasing-in of BIM in the years 2018-2027 and stating the planned enforcement of BIM in public procurement contracts by 2022.

1
Key Figures

The **number of enterprises** in the broad construction sector of the Czech Republic totalled 285,610 in 2016[1], with the construction sub-sector accounting for 58.9% of the total (Figure 1). Overall, the number of enterprises in the broad construction sector increased slightly between 2010 and 2016 (+0.4%), with real estate activities reporting the largest increment (+10.3%), while the number of companies in narrow construction declined by 3.3%. **Production** in construction dropped by 16.8% over 2010-2013, subsequently recovering until 2015. However, it fell again in 2016, following the exhaustion of EU funds in 2015, being 12.7% lower than 2010 (Figure 2). Specifically, production in construction of buildings declined by 7.5% over 2010-2016, while production in civil engineering declined by 22.7% over the same period.

In 2016[2], the total **added value** of the broad construction sector was EUR 13.2 billion (Figure 3). The narrow construction sub-sector contributed to 46.7% of the total, followed by real estate activities, manufacturing and architectural and engineering activities. The share of gross value added[3] of the broad construction sector in the GDP reached 15.3% in 2013[4], slightly below the EU28 average of 16.9%, with real estate having the largest share (Figure 4).

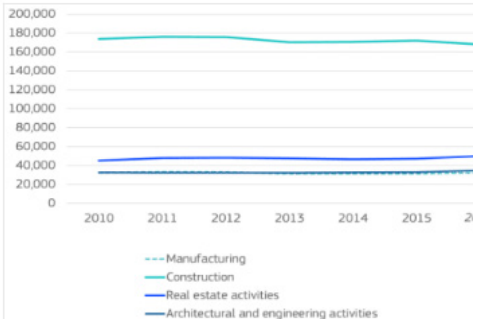
↑ **0.4%**

Number of enterprises in the broad construction sector, 2010-2016

↓ **22.7%**

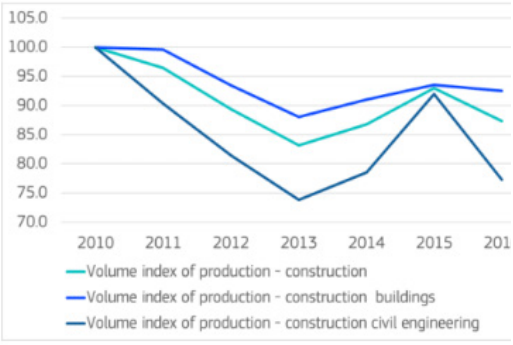
Production in the construction of civil engineering 2010 - 2016

Figure 1: Number of enterprises in the Czech construction sector between 2010-2016



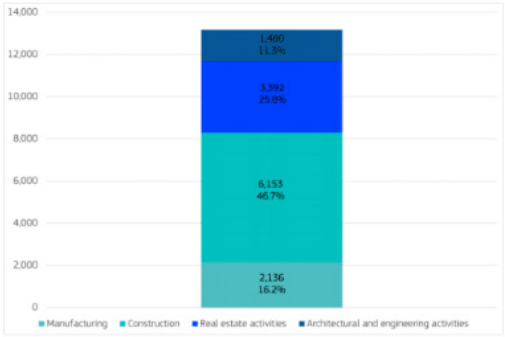
Source: Eurostat, 2017.

Figure 2: Volume index of production in construction sector of the Czech Republic, 2010-2016 (2010=100)



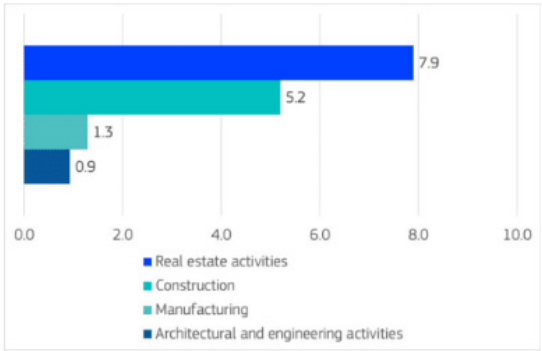
Source: Eurostat, 2017.

Figure 3: Value added in the construction Czech sector in 2016 (EUR m)



Source: Eurostat, 2017.

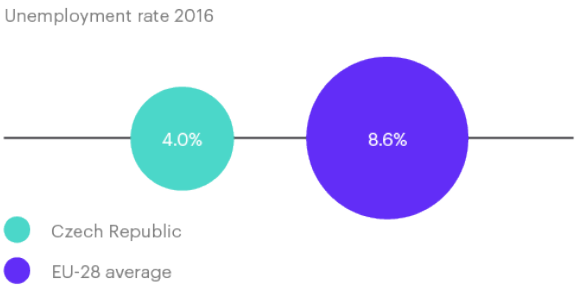
Figure 4: Gross value added as a share of GDP in the Czech construction sector in 2013 (%)

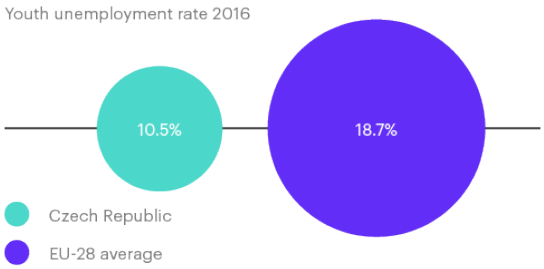


Source: Eurostat, 2017.

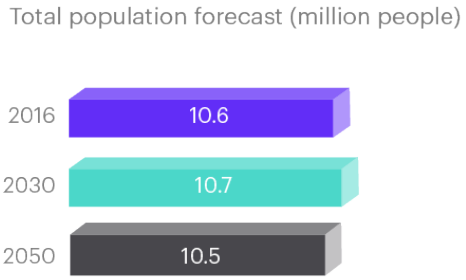
2
Macroeconomic Indicators

The Czech economy has been on the recovery path since 2014, with its **GDP** amounting to CZK 4,379 billion (EUR 169.2 billion) in 2016, driven by growing domestic consumption and rising household income. In 2016, the potential GDP was CZK 4,369 billion (EUR 168.8 billion). The resulting output gap was therefore positive, at 0.2% (compared to the EU28 average of -0.75%). The **inflation rate** has been declining since 2013, due to the drop in energy prices, reaching 0.6% in 2016[5]. Employment has been growing steadily over the past few years, and is expected to slow down in the future, while unemployment has been falling. The **unemployment rate** dropped to 4.0% in 2016, well below the EU-28 average of 8.6% and the lowest since before 2000. Similarly, youth unemployment (below the age of 25) declined to 10.5% in 2016, lower than the EU-28 average of 18.7%[6].





In terms of demographics, the **total population** of the Czech Republic reached 10.6 million people in 2016. It is projected to increase to 10.7 million by 2030 (+1.3%) but subsequently decline to 10.5 million by 2050 (-0.7%). In parallel, net migration has generally been positive, with 15,977 people entering the country in 2015. The country's **working age population**, which made up 66.3% of the total in 2016, will have shrunk to 55.9% by 2050, while people aged 65 or older will make up 29% of the total. Age-related spending for healthcare and pensions therefore constitutes a risk for long-term fiscal sustainability.



In 2016, **general government expenditure** in the Czech Republic accounted for 39.9% of GDP, the lowest since the early 2000s. The same year, general **government deficit** stood at +0.6% of GDP, being positive for the first time since 2000. This is due to better tax collection and weaker public investment at the start of the new programming period for EU funds[7]. General **government gross debt** accounted for 37.2% of GDP, a continuous decline since 2013 (44.9%). Due to expected budgetary surpluses and healthy economic growth, gross debt is predicted to keep declining, reaching 35.6% of GDP in 2018[8].

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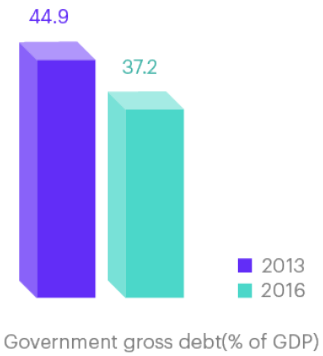


> According to the 2017-2018 Global Competitiveness Report, the Czech Republic ranks 23rd out of 137 economies in terms of financial market development, although access to finance is considered to be one of the most problematic factors for doing business.

Though affordability and availability of financial services score comparably well (23rd and 28th, respectively) and access to loans is relatively easy (32nd), venture capital availability scores 36th and financing through the local equity market 63rd[9]. This points towards a relatively underdeveloped market for non-bank sources of financing. Indeed, equity financing is less relevant for Czech companies compared to the EU average (2% compared to 9%) and private equity investment is weak even compared to other central and eastern European countries. Venture capital also plays a marginal role in firms' total funding, with total venture capital accounting for a mere 0.001% of GDP in 2015, relative to the EU average of 0.024%[10].

The Czech Republic performs in line with the EU average in terms of entrepreneurship, with above average scores for entrepreneurial intentions and the role of school education in fostering an entrepreneurial attitude. Nevertheless, there is a generally negative perception of entrepreneurs in the Czech Republic, dating back to massive privatisations in the 1990s[11]. The country therefore scores particularly poorly in terms of the high status given to successful entrepreneurs[12]. Finally, the Czech Republic ranks 81st out of 190 economies in terms of **starting a business**, requiring 8 procedures to register a firm and taking 9 days to complete, for a cost representing 5.7% of income per capita[13].

3

Key economic drivers of the construction sector

Productivity

The **labour productivity** in the broad construction sector declined slightly, from EUR 20,302 in 2009[14] to EUR 19,904 in 2014[15] (-2.0%), being well below the EU28 average of EUR 50,220 (Figure 5). Labour productivity in architectural and engineering activities decreased from EUR 24,300 in 2010 to EUR 23,215 in 2016[16] (-4.5%). Conversely, productivity in real estate activities increased from EUR 47,400 in 2010 to EUR 52,321 in 2016 (+10.4%), the highest among the sub-sectors, while narrow construction reported the lowest productivity (EUR 16,997 in 2016).

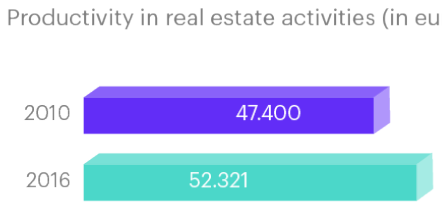
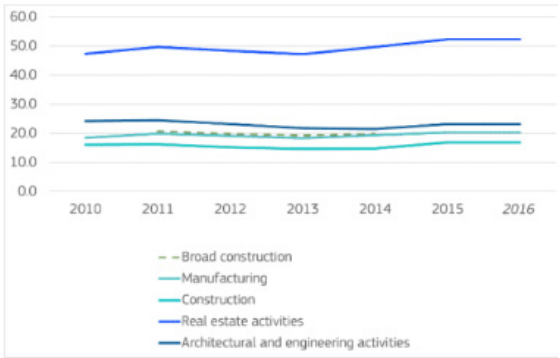


Figure 5: Labour productivity in the Czech construction sector over 2010-2016 (EUR k)



Source: Eurostat, 2017.

Profitability

The total **turnover** of the broad construction industry amounted to EUR 46.6 billion in 2016[17], a 1.2% increase compared to the previous year but 9.9% lower than the 2010 levels (EUR 51.7 billion). The construction sub-sector accounted for 57.9% of the total turnover, followed by manufacturing (16.4%), real estate (15.6%) and architectural and engineering activities (10.1%). The gross operating surplus of the broad construction sector amounted to EUR 6.4 billion in 2014, comparable to the 2010 level (EUR 6.5 billion). The gross operating rate of the broad construction sector[18], which gives an indication of the sector's profitability, was 14.8% in 2014, higher than the 13.6% reported in 2009[19], but below the EU28 average of 17.9%. This comes despite the increasing construction costs, with the construction cost index increasing by 3.4% over 2010-2016, mainly driven by the 6.6% rise in labour costs (Figure 6).

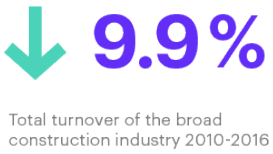
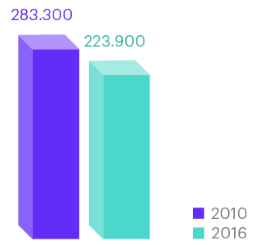


Figure 6: Construction cost index over 2010-2016 (2010=100)

Source: Eurostat, 2017.

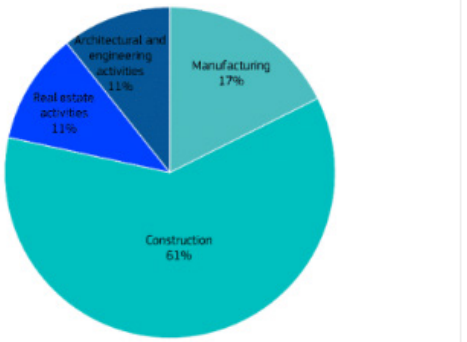
Employment

The **number of people** employed in the broad construction sector amounted to 595,460 in 2016[20], having declined by 5.7% since 2010. Narrow construction, which employed 60.8% of the total, experienced the greatest decline in its workforce (-11.8%) (Figure 7). As for **employment by specific occupation**, the number of craft and related trade workers in the construction sub-sector fell from 283,300 in 2010 to 223,900 in 2016 (-21%), though being the largest occupation, while the number of plant and machine operators declined from 37,000 to 31,300 (-15.4%). Similarly, technicians and associate professionals in real estate activities decreased from 24,700 to 17,700 (-28.3%).



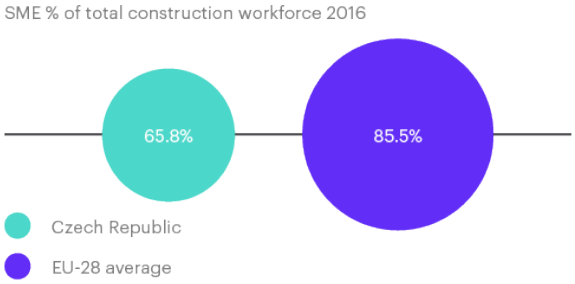
Number of craft and related trade workers in the construction sub-sector

Figure 7: Percentage of people employed by construction sub-sector in the Czech Republic in 2016



Source: Eurostat, 2017.

The number of **self-employed workers** in the construction sub-sector declined from 179,300 in 2010 to 151,200 in 2016 (-15.7%), representing 18.7% of the self-employed in the general economy, above the EU28 average of 12.9%. Conversely, self-employed workers in real estate activities grew from 14,400 to 15,600 over the same period (+8.3%), representing 1.9% of the self-employed in the total economy, slightly above the EU28 average of 1.2%. Finally, SMEs employ 65.8% of the total workforce in the broad construction sector, well below the EU28 average of 85.8%.



Business confidence

Business confidence in the economy has generally been improving over the last years. The **consumer confidence indicator** turned positive in 2015, reaching 3.7 in 2016, considerably better than its bottom low in 2012 (-27.7), the best value since the early 2000s and significantly better than the EU-28 average of -6.3. Similarly, the **industry confidence indicator** was at 3.8 in 2016, being better than the EU-28 average of -2.5. The **construction confidence indicator** has been in deep negative territory since 2010, although it has been improving since the lowest of -49.2 in 2013, reaching -23.6 in 2016. It is however worse than the EU-28 average of -13.9. In parallel, the **investment ratio** has declined slightly from 27.0% in 2010 to 25.3% in 2016, though above the EU28 average of 19.8%. Conversely, **investment per worker** has been increasing since 2010, from EUR 38,580 to EUR 43,666 in 2014.

According to the Association of Building Entrepreneurs (*Svaz podnikatelů ve stavebnictví – SPS*), the expected government action in terms of investment policy and building legislation is not materialising, and little is being done to support areas such as transport infrastructure and housing construction, therefore resulting in scepticism in the industry[21].

Domestic sales

The ranking of the **most domestically sold construction products** in the Czech Republic has remained constant since 2010. The value of their domestic sales has generally declined, with the exception of 'Other structures, etc.', which saw a 60.2% increase in domestic sale value over 2010-2015. The top 5 most domestically sold construction products are presented in Table 1, including a comparison with the top sellers in the EU-28. These represented 55.2% of total domestic construction product sales in 2015.

Table 1: 5 most domestically sold construction products in Czech Republic and in the EU in 2015

Czech Republic			EU-28
Product	Value (EUR m)	Share in construction product domestic sales (%)	Product
Other structures (group 251123)	436.6	16.5	Other structures (group 251123)
Ready-mixed concrete (group 236310)	315.0	11.9	Doors, windows, etc. (group 251210)
Prefabricated buildings of metal (group 251110)	278.0	10.5	Ready-mixed concrete (group 236310)
Portland cement, aluminous cement, etc. (group 235112)	242.7	9.2	Prefabricated buildings of metal (group 251110)
Tiles, flagstones, bricks, etc. (group 236111)	188.6	7.1	Prefabricated structural components for building, etc. (group 236112)

Source: PRODCOM, 2017.

Export of construction-related products and services

The ranking of the **most exported construction products** has remained stable since 2010. The value of their exports have seen an increase since 2010, with 'Prefabricated buildings of metal' seeing the largest increment over 2010-2015 (+65.3%). Conversely, 'Other structures, etc.' experienced a 40.7% decline. The top 5 most exported construction products in the Czech Republic and in the EU-28 are summarised in Table 2. Together, these made up 55.0% of all construction products exports in 2015.

Table 2: 5 most exported construction products in Czech Republic and in the EU in 2015

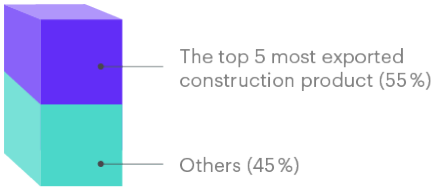
Czech Republic			EU-28
Product	Value (EUR m)	Share in construction product domestic sales (%)	Product
Other structures (group 251123)	421.1	19.6	Ceramic tiles and flags (group 233110)
Prefabricated buildings of metal (group 251110) Particle boards and similar (group 162113)	253.6	11.8	Other structures (group 251123)
Particle boards and similar (group 162113)	244.7	11.4	Fibreboard of wood or other ligneous materials (group 162114)
Pallets, box pallets and other (group 162411)	136.8	6.4	Marble, travertine, etc. (group 237011)
Ceramic tiles and flags (group 233110)	123.7	5.8	Doors, windows, etc. (group 251210)

Source: PRODCOM, 2017.

In terms of **cross-border provision of construction services**, the Czech Republic **exported** EUR 335.5 million worldwide in 2016, of which EUR 243.6 million to the EU28 (i.e. 72.6%, well above the EU28 average of 56.7%). In parallel, it **imported** a total of EUR 176.6 million in construction services in 2016, with EUR 143.9 million from the EU28 (i.e. 81.5% of the total, above the EU28 average of 71%). The Czech Republic therefore achieved a **trade surplus** of EUR 158.9 million.

> In parallel, it imported a total of EUR 176.6 million in construction services in 2016, with EUR 143.9 million from the EU-28.

Exported construction products in the Czech Republic



Access to finance in the construction sector

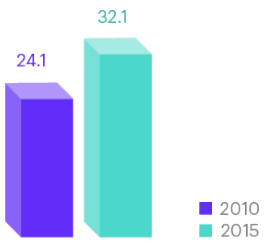
In the Czech Republic, the NPL ratio in the construction sector (amount of non-performing loans over total loans) has more than tripled between 2009 and 2015, from about 7% to over 25% in 2015. Despite improving slightly to over 20% in 2016 and 2017, it remains particularly high due to the low investments in 2016, with its outlook being negative[22]. This makes lending to the Czech construction sector riskier than in e.g. agriculture, manufacturing, mining and quarrying, electricity, gas and water, as well as the real estate sector. The Czech National Bank explains that, despite the improvements, the elevated level of credit risk in construction arises since the industry is historically strongly pro-cyclical. This implies that credit risk rises comparably sharply during recessions and that risk falls more slowly during expansion than it rises during contraction[23].

Access to housing

> The share of total population living in cities and greater cities in the Czech Republic was at 30.2% in 2015, and has remained relatively constant since 2010 (30.5%). In recent years, the housing market in the Czech Republic experienced an increase in demand, while supply has been lagging behind. These trends arise due to a number of developments in the market.

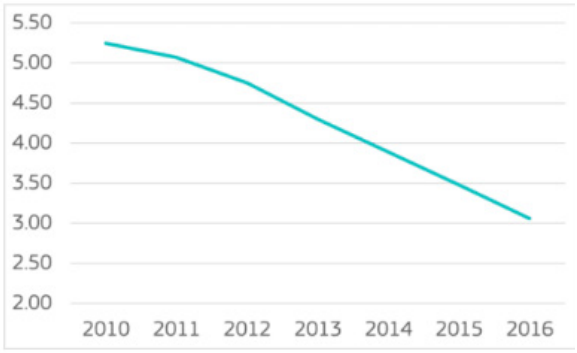
First, the **mortgage rates** in the Czech Republic have been declining continuously since 2010, reaching a historical low of 3.1% in 2016 (Figure 8). Second, the mean equivalised net income increased from CZK 210,984 (EUR 8,111.7) in 2010 to CZK 229,785 (EUR 8,834.5) in 2015. Third, the **number of households** increased from 4,423 in 2010 to 4,692 in 2016 (+6.1%).

Finally, access to mortgage loans has improved over the past years, with total **outstanding residential loans** growing from EUR 24.1 billion in 2010 to EUR 32.1 billion in 2015 (+33%). These factors are reviving the demand for dwellings, as indicated by the rising house prices. Indeed, the **house price index** for total dwellings has been picking up since 2013, being 12.5% above the 2010 levels by 2016 (Figure 9).



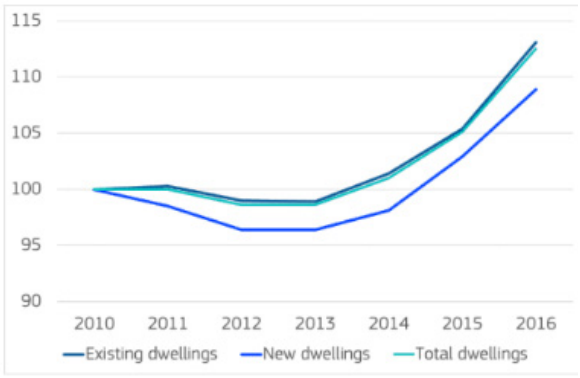
Outstanding residential loans (in billion euros)

Figure 8: Mortgage rates for loans for over 5 years original maturity (%)



Source: ECB MFI Interest Rate Statistics, 2017.

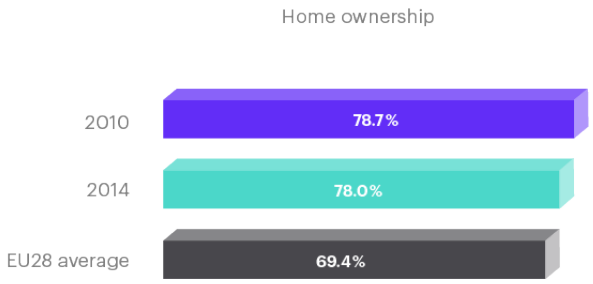
Figure 9: House price index in the Czech Republic between 2010-2016 (2010=100)



Source: Eurostat, 2017.

The restricted supply of residential properties resulting from the slowdown in residential construction is also contributing to pushing prices up. Indeed, the number of dwellings started declined from 28,135 in 2010 to 27,224 in 2016 (-3.2%). Although higher than the previous year (26,378 in 2015), this figure is 37.8% below the pre-crisis peak of 43,796 in 2007[24]. Similarly, the number of dwellings completed fell from 36,442 to 27,322 over 2010-2016 (-25%), despite increasing since 2015 (25,095). Again, this is well below the 2007 peak of 41,649 (-34.4%)[25]. Likewise, the number of granted residential building permits declined from 39,158 in 2010 to 31,002 in 2016 (-20.8%), the majority of which (16,212) was issued for renovation of existing buildings, rather than new construction[26].

Although restrictive building permit regulations are currently constraining the supply of new dwellings entering the market, and therefore increasing house prices, this may in the longer run protect the market from over-construction in reaction to speculative demand, thus keeping household indebtedness at bay and preventing a potential housing bubble[27].



Finally, **home ownership** in the Czech Republic reached 78.0% in 2015, slightly lower than 2010 (78.7%), but well above the EU28 average of 69.4%. Home ownership increases to 80.9% for the population earning over 60% of the median equivalised income, but falls to 51.6% for those earning below this threshold. Moreover, the **housing cost overburden rate**[28] was at 10.4% in 2015, below the EU-28 average of 11.3%[29]. Conversely, the **overcrowding rate**[30] was at 18.7% in 2015, higher than the EU-28 average of 16.7%[31], while the **severe housing deprivation rate**[32] reached 3.3% in 2015, lower than the EU-28 average of 4.9%[33].

Infrastructure

The Czech Republic ranks 49th out of 137 economies in the Global Competitiveness Report 2017-2018[34] in terms of its **infrastructure**. It performs especially well with respect to the quality of its railroad infrastructure (26th), followed by air transport infrastructure (35th). Conversely, the quality of roads (74th) ranks comparably worse. (see TO 1 - Investment conditions and volumes). In this context, the government has set aside up to CZK 3 billion for the upgrade of regional roads specifically, supported by the State Fund for Transport Infrastructure[35] (see TO 1 - Investment conditions and volumes). However, delays in the implementation of some EU-funded transport infrastructure projects due to noncompliant environmental impact assessments, as well as suboptimal investments in the sector, are persisting issues[36].

It performs especially well with respect to the quality of its railroad infrastructure (26th), followed by air transport infrastructure (35th). Conversely, the quality of roads (74th) ranks comparably worse.

4

Key issues and barriers in the construction sector

Company failure

The business demography of the broad construction sector has generally experienced a decline in **company births** and an increase in company deaths across all sub-sectors. The number of company births in narrow construction decreased from 16,423 to 13,817 over 2010-2014 (-15.9%), whereas the number of **company deaths** increased from 14,301 to 19,829 over the same period (+38.7%). Similarly, company births in real estate activities dropped from 6,869 to 3,573 over 2010-2014 (-48%), while company deaths grew from 4,180 to 4,754 (+13.7%). Company births in architectural and engineering activities declined more moderately, from 2,365 to 2,302 (-2.7%), while company deaths increased from 2,257 to 2,502 (+10.9%).

Trade credit

An average of 43% of B2B sales was transacted on credit terms in the Czech Republic in 2017, lower than the previous year (44.3%) and a continuous decline since the peak of 66% in 2013. Therefore, though the country is more open to trade credit compared to the average for Eastern European countries (40.3%), there seems to be a declining preference for this type of practice[37]. In addition, trade credit is well developed in both domestic and foreign B2B transactions, accounting for 42.7% of the former and 43.2% of the latter.

> Compared to other Eastern European countries, the Czech Republic is more open to the use of trade credit on foreign transactions, possibly reflecting the openness of the Czech economy.

Late payment

Late payments are a common practice that affects Central and Eastern European countries in a significant manner, as indicated in the 2017 European Payment Report. Payment practices in the Czech Republic have worsened in 2017 compared to 2016. Thus, the average time taken for customers to settle their invoices in B2B transactions increased from 24 days in 2016 to 32 days in 2017, which exceeds the payment terms allowed on average by the companies (i.e. 27 days in 2017). Similarly, the public sector takes an average of 26 days to pay the invoices, compared to the 22-day payment terms allowed by the companies on the average. Indeed, 88% of the Czech companies surveyed in the study have been asked to accept longer payment terms than they could comfortably sustain, much higher than the EU average (61%), while 82% declared having accepted such delayed payment terms (compared to 58% in the EU)[38].

> This issue is particularly pronounced in the construction sector, where only 40.5% of invoices are settled by due date, the lowest compared to other sectors in the economy. Namely, 50.9% of invoices are paid with a delay of up to 30 days, 7.7% are settled with a delay of 30-90 days and 0.9% with delays of up to 120 days[39].

Time and cost of obtaining building permits and licenses

According to the World Bank's Doing Business report, the Czech Republic ranks 130th in terms of "dealing with construction permits", performing worse than the previous year (126th)[40]. This is due to the large number of procedures required to build a warehouse (21) compared to the OECD average (12.1) (Table 3). Moreover, 247 days are needed, on average, to build a warehouse, significantly above the average for the OECD countries (152.1 days). However, the majority of these procedures are free of charge, and therefore the cost of obtaining these construction permits is 5 times lower than the average for the OECD (0.3% of the warehouse value compared to 1.6%).

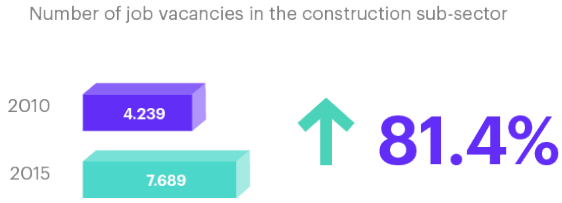
> Czech Republic has a large number of procedures required to build a warehouse (21) compared to the OECD average (12.1).

Table 3: Construction procedures timing and costs

Procedure	Time to complete	Associated costs
Hold a preliminary meeting with the Environmental Department	1 day	no charge
Obtain project clearance from Hygienic Authority	30 days	no charge
Obtain project clearance from local provider of water and sewerage services	30 days	no charge
Obtain project clearance from local electricity provider	20 days	no charge
Obtain consent of the project from the Environmental Department of the Municipality	30 days	no charge
Obtain project clearance from Road Management Agency	20 days	CZK 500 (EUR 18)
Obtain project clearance from Fire Department	10 days	no charge
Obtain zoning permit	60 days	CZK 20,000 (EUR 740)
Obtain technical conditions from Hygiene Authority	30 days	no charge
Obtain technical conditions from Road Management Agency	30 days	no charge
Obtain technical conditions from local provider of water and sewerage services of the local service provider	30 days	no charge
Obtain technical conditions from Fire Department	20 days	no charge
Obtain technical conditions from local electricity provider	20 days	no charge
Obtain building permit	37 days	CZK 10,000 (EUR 370)
Request private geodesist to survey the land after building is constructed	30 days	CZK 15,000 (EUR 555)
Request final inspection and occupancy permit	1 day	no charge
Receive final inspection from the Special Commission of the District Authority	1 day	no charge
Receive occupancy permit	15 days	no charge
Request and obtain evidence number of the building from Municipality	7 days	no charge
Register the building with the Real Estate Registry	30 days	no charge
Request and receive water and sewerage connection	30 days	CZK 5,500 (EUR 204)

Source: Doing Business overview for Czech Republic, Word Bank, 2017.

Skills shortage



The number of **job vacancies** in the construction sub-sector grew from 4,239 in 2010 to 7,689 in 2015 (+81.4%). Similarly, the number of vacancies in real estate activities increased from 1,571 to 2,520 (+60.4%) over the same period. **Adult participation in education and training** in the construction sub-sector has been fluctuating, peaking at 10.5% in 2011 but subsequently declining to 6.7% in 2016, which is however slightly above the 2010 level (6.4%) but below the EU28 average of 9.2%. Similarly, adult participation in education and training in real estate activities peaked at 17.9% in 2011, but then declined to 11.9% in 2016, above the 2010 level of 9.6% but well below the EU28 average of 15.8%. **Tertiary students** in engineering, manufacturing and construction, and specifically in architecture and building, have been have been increasing from 3,891 in 2010 to 4,962 in 2015 (-27.5%).

> The Czech construction sector is facing a critical shortage of qualified workers and craftsmen, but also managerial profiles, with the situation starting to become unsustainable and a threat to the growth of the industry.

The Czech construction sector is facing a critical shortage of qualified workers and craftsmen, but also managerial profiles, with the situation starting to become unsustainable and a threat to the growth of the industry, according to the Association of Small and Medium-Sized Enterprises and Crafts (Asociace malých a středních podniků a živnostníků – AMSP). Indeed, the number of trained masons and flooring installers dropped by 40% between 2005 and 2015, whereas plumbers and heating engineers by 30% and roofers by 70%[41]. Companies are particularly looking for skilled craft professionals such as bricklayers,

welders, building machine operators, locksmiths and roofers, but also university graduates in construction engineering, construction managers and designers. Real estate activities are also experiencing a shortage of professionals, namely real estate brokers[42]. AMSP is therefore active in supporting various professional events aiming to attract young people to the sector (see TO 2 – Skills).

Sector & sub-sector specific issues

Material efficiency and waste management

In 2015, the Czech Republic recorded the production of 11.3 million tonnes of **construction waste**, compared to 9.4 million in 2010, the highest value since 2010[43]. This increase can be ascribed to the intense construction activity observed in 2015, when production peaked due to the need to exhaust EU funds.

Waste management, including C&D waste, is governed by the Waste Management Plan for the period 2015-2024[44], which defines the qualitative and quantitative objectives regarding waste management, as well as the implementation measures, the targets and the annual revision of the achievements[45].

> Thus, the recovery target for construction and demolition waste is set at 70%, which includes recycling, re-use and other types of material recovery, including backfilling. This target is reinforced by the 'Methodological Guide of the Waste Department for the management and treatment of the construction and demolition waste'[46].

Furthermore, the Czech government approved an Action Plan in July 2015 for the promotion of the Czech Republic's self-sufficiency in raw material resources, by substituting primary sources with secondary raw materials[47], and is intended to result in increased resource efficiency and a greater use of secondary resources, such as metals, plastic or building materials.

Climate and energy

Emissions of greenhouse gases (carbon monoxide and dioxide, methane and nitrous oxides) from activities related to construction and real estate in the Czech Republic amounted to a total of 2.5 and 1.5 million tonnes, respectively. Emissions in the construction sub-sector have declined by 16% since 2010 (2.9 million tonnes), whereas the real estate sub-sector has experienced an 3.2% increase since 2010 (1.4 million tonnes).

5

Innovation in the construction sector

Innovation performance

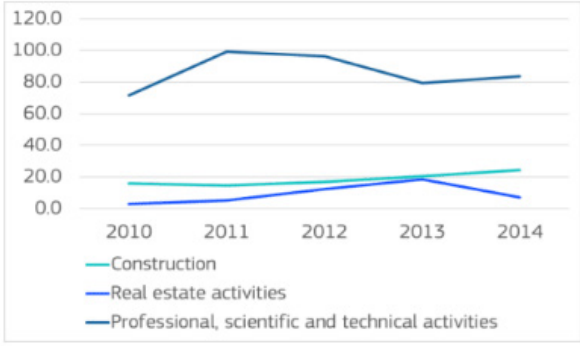
According to the European Innovation Scoreboard 2017, the Czech Republic is classified as a **Moderate innovator**. Its overall performance in terms of innovation and R&D has declined by 3.5% over 2010-2016, being below that of the EU. Relative strengths of the Czech innovation system include Firm investments, Employment impacts and Sales impacts. Conversely, relative weaknesses are in Intellectual assets, Linkages and Innovators[48].

↑ 61.8%

R&D personnel in the broad construction

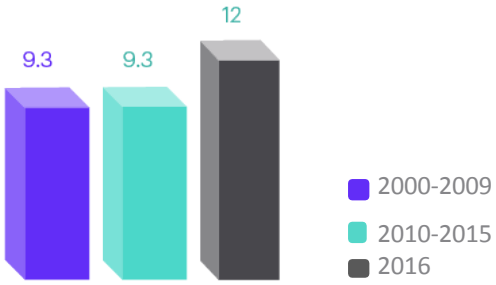
Nevertheless, **business enterprise R&D expenditure (BERD)** in the broad construction sector has shown a generally increasing trend, although from a low base (Figure 10). Indeed, BERD in the construction sub-sector increased from EUR 16 million in 2010 to EUR 24.5 million in 2014 (+52.7%). Similarly, BERD in professional and scientific activities increased from EUR 71.6 million to EUR 83.8 million (+17%), and is the highest across the sub-sectors. Despite having the lowest BERD, real estate activities displayed the most significant growth, from EUR 3 million in 2010 to EUR 7.2 million in 2014 (+138.8%), although this is considerably lower than the 2013 peak of EUR18.5 million.

Figure 10: Business enterprise R&D expenditure (BERD) per construction sub-sector in the Czech Republic 2010-2014 (EUR m)



Source: Eurostat, 2017.

In parallel, the total **R&D personnel** (full-time equivalents – FTE[49]) in the broad construction sector experienced an increasing trend, in line with the positive trend in BERD. Total FTE in the construction sub-sector amounted to 537 in 2014, a 61.8% increment compared to 2010 (332 FTE). Similarly, the professional, scientific and technical activities sub-sector recorded a 21% increase in FTE since 2010, reaching 2,327 in 2014, the highest among all sub-sectors. Real estate activities reported the lowest FTE, although this grew from 36 in 2010 to 69 in 2014 (91.7%).



number of construction related patents (average per year)

Moreover, there has been an increase in the average number of **construction related patent applications**, from 4.6 in the period 2000-2009, to 9.3 over 2010-2016, with peaks of 15 and 12 applications in 2012 and 2016, respectively. Nevertheless, no Czech construction-related firm ranks within the top 1,000 EU companies by R&D (industrial sector ICB-3D), according to the 2016 EU R&D Scoreboard[50].

No Czech construction-related firm ranks within the top 1,000 EU companies by R&D (industrial sector ICB-3D), according to the 2016 EU R&D Scoreboard.

Eco-innovation and digitalisation

Over the past 10 years, regional and national bodies have devoted their efforts in reforming the research system, promoting innovative collaboration between SMEs or developing international scientific publications. One of the key elements is the **National Innovation Strategy (NIS)**, which is part of the Czech Republic International Competitiveness Strategy[51]. It aims to promote innovative projects to move the Czech Republic into the top twenty most competitive and innovative countries in the world by 2020. Similarly, the Roadmap of Large Infrastructures for Research, Experimental Development and Innovation of the Czech Republic for the years 2016–2022 highlights the pipeline of projects for the construction of new research and innovation facilities[52].

> The Czech government has recognised the importance of adopting technologies such as Building Information Modelling (BIM) in the construction process for the sector and the country to retain their competitiveness at the international level. To this end, the Ministry of Industry and Trade set up an interdepartmental BIM expert group in 2015, comprising representatives from various stakeholders (ministries, universities, construction companies, design and pricing structures, etc.), so as to bring about the implementation of BIM in the construction practice[53].

Indeed, in September 2017, the government approved the **Concept of the Implementation of BIM in the Czech Republic**, developed by the Ministry of Industry and Trade. The concept outlines the state of implementation of BIM in Europe and in the Czech Republic, lists the key BIM issues that need to be addressed and contains a schedule for the phasing-in of BIM in the years 2018-2027, including recommended measures to use this technique in a routine and efficient manner. In particular, the document states that it is planned to make the use of BIM mandatory for public procurement and public works contracts (including during the preparation and project documentation phase) by 2022[54].

6

National & Regional Policy & Regulatory Framework

Policy schemes

The Ministry of Regional Development is in charge of building up the needed legal, institutional and fiscal framework required for the development of the housing market. Housing policy relies on the 2011 **Housing Policy Concept of the Czech Republic Till 2020**[56], a key policy document that tasks the Ministry to submit to the central government a full report on the achievements and implementation of the housing policies measures every calendar year. The Housing Policy Concept was revised in July 2016 and outlines the three priorities of the Czech housing policy: affordability of adequate housing; stability of the housing market; quality of housing.

> Moreover, the new Social Housing Concept of Czech Republic 2015 – 2025 was approved in October 2015. It aims to identify the most pressing issues in social housing and define the measures to be implemented up until 2025 in order to solve them and improve access to affordable housing for vulnerable groups. The Concept foresees the preparation of a new social housing Act that was initially expected to be enforced in early 2017.

However, due to delays, the Act will be effective as of October 2017, while the decisions regarding the eligibility of beneficiaries to social housing should be issued starting from November 2018[57]. The Concept also defined three tiers of social housing, namely "housing in crisis/ asylum", "social flat", and "affordable flat"[58]. However, the distinction between social and affordable has been removed[59].

One of the main tools used by this Ministry to tackle housing issues is the **State Housing Development Fund** (Státní fond rozvoje bydlení - SFRB). It focuses particularly on the regeneration of the existing housing stock, the reduction of its energy consumption and the construction and reconstruction of dwellings and residential buildings. To this end, it offers several support programmes:

Programme 150: Loan programme for young people under 36 for the reconstruction and modernisation of their dwelling. The loan amounts to up to CZK 150,000 (EUR 5,805), with a maturity of 10 years and a yearly interest rate of 2%, and can be used for connection to public networks (water, gas, sewerage, etc.), construction of an additional room/bathroom, repairing/replacing doors, floors, central heating, etc. In 2016, 141 applications were received for more than CZK 20.6 million (EUR 797,500), with 125 contracts being concluded for CZK 18.5 million (716,266). The budget for 2017 amounts to CZK 50 million (EUR 1.9 million)[60].

Programme 600: Loan scheme for the purchase or construction of dwellings for young people up to 36 years and with a child under 6 years of age. The loan amount ranges from CZK 50,000 to CZK 600,000 (EUR 1,936 - 23,237), covering up to 50% of the costs incurred. In 2016, 45 applications were received for more than CZK 25.9 million (EUR 1 million), with 17 contracts being concluded for CZK 9.7 million (EUR 375,672). The budget for 2017 is CZK 50 million (EUR 1.9 million)[61].

Rental housing development programme: Loans to support the construction or reconstruction of rental housing for defined population groups, i.e. seniors (over 65), disabled or limited income citizens, victims of natural disaster or young people under 30 years. Applicants may be municipalities, legal and natural persons. The loan covers up to 90% of the eligible costs. In 2016, 13 applications were received for over CZK 546.9 million (EUR 21.2 million), with 5 contracts being concluded for CZK 113.6 million (EUR 4.4 million). The budget for 2017 amounts to CZK 320 million (EUR 12.4 million)[62].

Guarantees programme for rental apartment development: Guarantees are issued for the repayment of investment loans for the construction of rental housing and associated infrastructure. The Fund guarantees up to 70% of the unpaid principal sum of the credit, with a maturity period of up to 40 years. For 2017, SFRB envisages the possibility to provide guarantees up to a maximum of CZK 500 million (EUR 19.4 million)[63].

Programme for municipalities: Loan programme to cover the costs associated with repairs and modernisation of apartments. Municipalities can use the loan for connection to public networks, replacement of windows/roofs, repair of the outer shell and common areas, etc. The budget for 2017 is CZK 20 million (EUR 774,816)[64].

Element Programme: Loan programme for renovation and reconstruction of dwellings affected by natural disaster. Loans can range between CZK 30,000 and CZK 300,000 per dwelling for repair; up to CZK 2.5 million per dwelling for the construction of a new dwelling; and up to CZK 1.5 million per dwelling for the purchase of a new dwelling. The budget for 2017 is CZK 10 million[65].

Building Retrofit Subsidies: PANEL 2013+ programme: the programme provides low-interest loans for renovation of multi-dwelling buildings[66] (see TO 3 - Resource efficiency / Sustainable construction).

State Housing Development Fund (Státní fond rozvoje bydlení – SFRB) focuses on the regeneration of the existing housing stock, the reduction of its energy consumption and the construction and reconstruction of dwellings and residential buildings.

In addition to the SFRB, the Ministry of Regional Development also supports the development and diversification of housing and construction activities through the current **Housing Support Programme 2016-2020** (Program podpora bydlení 2016-2020)[67]. The programme consists of four sub-programmes, namely:

Regeneration of housing estates: subsidies for the regeneration of existing housing estates, for the construction of transport and technical infrastructure walkways, public spaces, landscaping/greening of public areas, etc. The budget for 2017 amounts to CZK 40 million (EUR 1.6 million).

Residential apartments without barriers: the programme aims to improve the housing stock by removing barriers to access for beneficiaries with reduced mobility. The budget for 2017 amounts to CZK 45 million (EUR 1.7 million).

Support to construction/acquisition of social housing: this includes support to accessing carer homes, for beneficiaries of advanced age, entry-level dwellings, for people with low incomes, and senior community homes, for people over the age of 60. The budget for 2017 is CZK 320 million (EUR 12.4 million).

Leaden house distribution systems: a grant of up to CZK 20,000 (EUR 775) per dwelling to replace the lead wiring in the water distribution system and thus reduce the amount of lead in drinking water in multi-dwelling buildings and family houses. The total budget for 2017 amount to CZK 6 million (EUR 232,370).

The budget for 2017 for **regeneration of housing estates** amounts to CZK 40 million (EUR 1.6 million).

In addition to the national funding, financial support from European funds towards the **Integrated Regional Operational Programme (IROP)** for the Czech Republic has also been allocated to ensure the regeneration and revitalisation of buildings and residential environments[68]. Two calls under IROP will be launched at the end of 2017 to support the construction and modernisation of social housing. The 'Social Housing II' and 'Social housing (LLP II)' will see the allocation of CZK 600 million and CZK 1,400 million from the European Regional Development Fund (ERDF), respectively. Beneficiaries will include municipalities, non-governmental non-profit organisations and religious organisations[69].

In total, from 1998 to 2016, through national investment support, some 22,084 housing units were earmarked for social housing purposes for eligible households (e.g. low income, seniors and persons with disabilities)[70].

Insurance and liability related regulations

General construction law in the Czech Republic is divided into several main bodies of law. These include civil, administrative, environmental and criminal law, as well as other subordinate legislation, such as orders, ministerial, etc. Contractual liabilities among parties are defined in the **Civil Code**, as stipulated in art. 106, 651, 645 and 646. However, provisions related to duties of parties developing a business activity under various types of contractual engagements are defined in the **Commercial Code**, and therefore the Civil Code is only applied when at least one of the contractual parties is not a business entity[71].

Specifically, art. 106 of Civil Code stipulates that for construction services injured parties can seek compensation for two years from the identification of the damages, but only three years after their occurrence.

For intentional damages, on the other hand, there is a liability period of up to 10 years. Furthermore, a statutory warranty period of three years is defined for building defects, while the warranty lasts 18 months for repair works (art. 646)[72]. Under the Commercial Code, the limitation period lasts five years from the moment the injured party learned about the damage, but maximum 10 years from their occurrence[73].

Importantly, there are no mandatory insurance requirements for construction service providers in the country.

Importantly, there are no mandatory insurance requirements for construction service providers in the country[74]. Instead, insurance is mandatory for architects, consulting engineers and technical surveyors, which are required to have a "third party professional insurance policy"[75]. Although not compulsory, a construction contract may require that the contractor is insured for the following: equipment and employment; insurance against liability for damage caused by third parties; insurance covering construction risks related to natural disaster[76]. Indeed, a contractor's All Risk insurance is widely used and may be required by the client (often in the case of public procurement contracts)[77].

Building regulations

The **Building Act** (Act No. 183/2006 Coll. on Spatial Planning and Building Regulations) is the main legal regulation in con struction in the Czech Republic. It deals with the duties and responsibilities of the participants in the construction process, territorial planning, construction permits or other necessary rules and actions needed for the realisation of construction works[78].

The amended Building Act was adopted in July 2017, after a year of revisions and discussions, and will be effective as of January 2018[79]. The purpose of the amendment presented by the Ministry for Regional Development is to accelerate the procedure for issuing building permits. This will be particularly the case for the construction of dwellings, since in some cases it is no longer necessary to apply for a building permit while in other cases simply announcing the building to the local Building Authority will be sufficient. However, whether amendments such as the integration of the environmental impact assessment (EIA) within the permit procedure will truly foster simplification is still under debate[80].

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7

Current Status & National Strategy to meet Construction 2020 Objectives

TO 1 - Investment conditions and volumes

Total **investment by the broad construction sector**[81] has shown different trends since 2010 (Figure 11). Investment by narrow construction decreased from EUR 1.6 million in 2010 to EUR 1.1 million in 2015 (-32.7%). Conversely, investment by real estate activities increased from EUR 8.3 million to EUR 8.6 million over the same period (+3.2%). In terms of investment in intangible assets, the construction sub-sector invested EUR 53.6 million in intellectual property products in 2015, whereas the real estate sub-sector invested EUR 44.5 million.

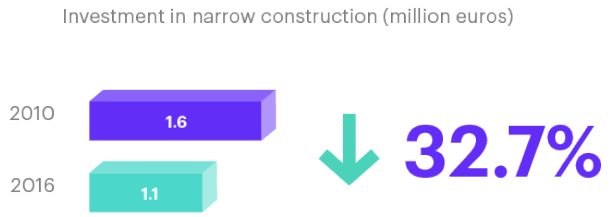
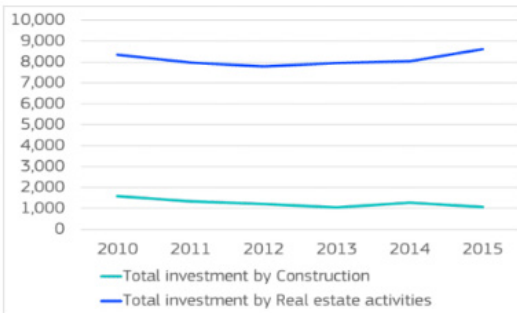


Figure 11: Investment by the Czech broad construction industry between 2010-2015 (EUR m)



Source: Eurostat, 2017.

Total **investment in construction**[82] declined by 11.5% between 2010 and 2013, subsequently starting to recover in 2014 and peaking in 2015, due to the need to exhaust EU funds from the previous programming period. However, it declined again in 2016, due to the consumption of EU funds, being 8.9% lower than 2010 (Figure 12). Namely, investment in non-residential construction and civil engineering decreased by 17.7% over 2010-2016. Conversely, investment in real estate has been recovering since 2013, exceeding the 2010 level by 11.7% in 2016. In absolute terms, investment in construction amounted to EUR 17.9 billion in 2015, of which EUR 5.6 billion invested in dwellings and EUR 12.3 billion in non-residential and civil engineering[83].

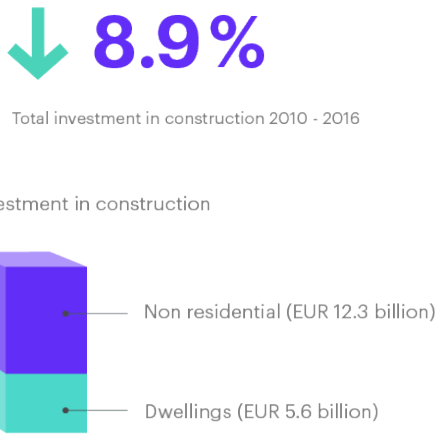
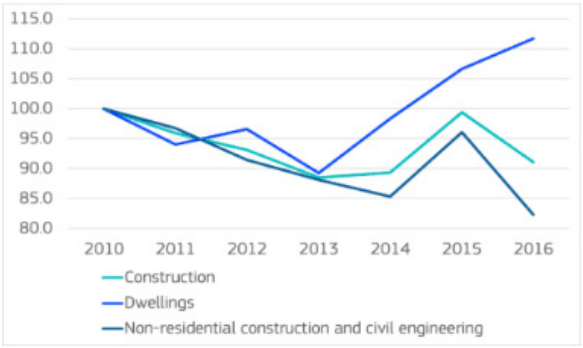


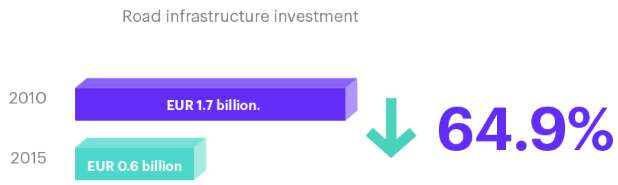
Figure 12: Investment in the Czech construction sector between 2010-2016 (2010=100)



Source: AMECO, 2017.

Total **inland infrastructure investment** as a share of GDP has plummeted since 2010, from 1.5% to 0.7% in 2014. Investment in rail infrastructure declined from EUR 563.4 million in 2010 to EUR 454.2 million in 2015 (-19.4%). Similarly, investment in road infrastructure fell from EUR 1.7 billion to EUR 604 million (-64.9%). Investment in road infrastruc-

ture maintenance also dropped from EUR 670.1 million to EUR 587.1 million (-12.4%), underscoring the poor quality of the road network. Conversely, investment in rail infrastructure maintenance increased from EUR 359.2 million to EUR 423.6 million over 2010-2014 (+17.9%).



To offset the declining investments and improve the underdeveloped infrastructure, the Czech authorities put in place an ambitious plan in 2013 to enhance the transport network, the **Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050.**

To offset the declining investments and improve the underdeveloped infrastructure, the Czech authorities put in place an ambitious plan in 2013 to enhance the transport network, the **Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050**[84]. In particular, the motorway network is one of the priority areas, given that it presents one of the lowest densities per 1,000 inhabitants (73.80)[85]. The Transport Policy foresees an annual amount of CZK 43 billion (EUR 1.6 billion) in terms of overall required expenditure, with CZK 29 billion (EUR 1.1 billion) annually considered necessary to maintain and repair the transport infrastructure. The policy stresses the need to maintain stable financial flows for the financing of infrastructure projects and sets aside annual budget for the purposes of project preparation (CZK 3.8 billion, EUR 141 million)[86].

In terms of European Structural and Investment Funds (ESIF), EUR 7.4 billion is allocated specifically to network infrastructures in transport and energy for the 2014-2020 period[89]. ESIF will contribute to addressing issues in transport infrastructure by improving accessibility through 1,010 km of newly built and modernised roads and 1,040 km of railway lines to be upgraded and made safer[90].

Furthermore, by end of 2016, the Czech Republic had signed agreements for EUR 842 million for projects under the Connecting Europe Facility[91]. Yet, the Czech Republic still faces bottlenecks and shortages in administrative capacity that may limit the absorption of EU Funds. Indeed, civil engineering investments are largely dependent on public procurement markets and thus closely linked to the proper functioning of the latter.

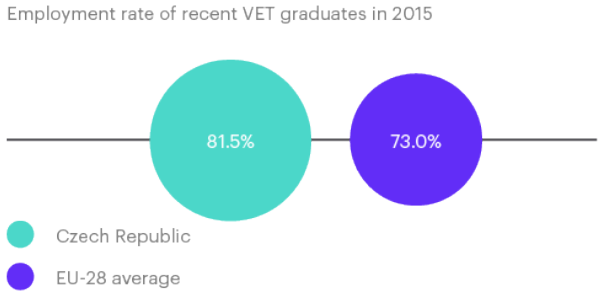
The State Fund for Transport Infrastructure (Státní fond dopravní infrastruktury - SFDI) is a key instrument for the development, construction, maintenance and modernisation of roads, motorways, railways and inland waterways. The budget of the Fund amounts to CZK 52 billion (EUR 2 billion) for 2017, CZK 49 billion (EUR 1.9 billion) for 2018 and CZK 50 billion (EUR 1.9 billion) for 2019[87]. For 2017, the government allocated CZK 3 billion (EUR 116.1 million) for the upgrade of regional roads specifically, of which CZK 2.5 billion from the SFDI and the remaining CZK 500 million from the government's budget reserve[88].

Furthermore, by end of 2016, the Czech Republic had signed agreements for EUR 842 million for projects under the Connecting Europe Facility.

Finally, the EIB is also an important investor in the Czech Republic. Indeed, it committed EUR 526 million in 2016, 21% of which was devoted to the country's infrastructure and while loans for environmental projects accounted for 6% of the lending total. Over 2012-2016, the EIB has invested EUR 3.6 billion in the Czech Republic[92].

TO 2 – Skills

Participation in the vocational education and training (VET) system in the Czech Republic is relatively high, standing at 73.4% in 2014, though slightly lower than the previous year (73.8%)[93]. The employment rate of recent VET graduates was well above the EU average in 2015 (81.5%, compared to the EU average of 73.0%) although adult participation in learning remains below the EU average (8.5% in 2015 versus 10.7% in the EU). Despite the high employment rate, employers complain about skills mismatches and misalignments with the requirements of the labour market. Nevertheless, there is still no coherent system for forecasting labour market needs in the country.



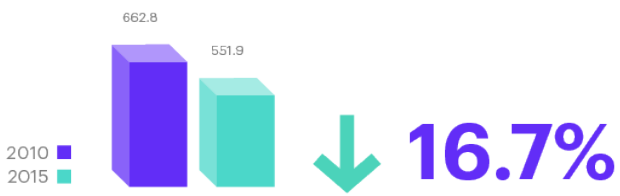
> Specific initiatives were introduced to upgrade the skills needed in the construction industry. A prominent example was the launch of the National Plan for Education in the construction industry towards buildings with almost zero energy consumption[94].

The Plan was devised in 2013 as part of the BUILD UP Skills Project and led by the Ministry of Industry and Trade, in cooperation with several industry stakeholders[95]. Similarly, the **Year of Crafts 2016** (Rok řemesel 2016) and the **"We're Rooting for Crafts!"** campaigns aim to present crafts to the public through a series of events, improving the image of these activities and raising the interest of the young population[96].

Initiatives are not only carried out at national or EU level. For instance, the Association of Building Entrepreneurs (SPS) considers the revitalisation of VET one of its main activities and is very active in this domain. Notably, it has developed a **Strategy of further measures for building trades** and is cooperating with business for delivering internships in construction[97].

TO 3 - Resource efficiency / Sustainable construction

Household renovation spending has seen a decreasing trend since 2010, falling from EUR 662.8 million to EUR 551.9 million in 2015 (-16.7%). Moreover, it accounted for 0.6% of household disposable income in 2015, lower than the 0.8% registered in 2010, and below the EU28 average of 0.8%.



Household renovation spending (million EUR)

The third **National Energy Efficiency Action Plan (NEEAP)**, launched in 2014 as per the requirements of Directive 2012/27/EU on energy efficiency, details the energy saving targets in final energy consumption (47.78 petajoule - PJ) to be reached by 2020, as well as policy measures to achieve them[98]. An update of the NEEAP was subsequently carried out and approved in 2016, raising the target to 50.67 PJ and including additional measures in areas such as residential construction, industry and transport to ensure the fulfilment of the target[99]. Instances of the schemes adopted to specifically improve the energy efficiency of buildings include:

PANEL 2013+: under the programme, a continuation of the previous PANEL and New PANEL schemes, the State Housing Development Fund (SHDF) provides low-interest loans for energy efficiency renovation and modernisation of residential buildings, covering up to 90% of the eligible costs. A budget of CZK 550 million (EUR 21.3 million) has been allocated for 2017. Eligible interventions include insulation/rehabilitation of building envelope, replacement of doors and windows, insulation of roofs and modernisation of heating systems (e.g. through renewable energy sources). In 2016, 54 applications were received for a value of over CZK 218.2 million (EUR 8.4 million)[100].

New Green Savings Programme 2014-2021: an extension of the previous Green Savings and New Green Savings 2013 schemes, the grant programme is administrated by the SHDF and has a total allocation of CZK 27 billion (EUR 999 million). Specifically, CZK 4.7 billion (EUR 181.7 million) is allocated annually between 2017 and 2021. Grants under the scheme cover up to 50% of the eligible costs. Eligible areas of intervention include the improvement of the energy performance of existing residential buildings, construction of residential buildings with very low energy consumption, and efficient use of energy sources (e.g. replacement of heat sources and vent fillings, installation of thermic solar systems, insulation, etc.)[101].

EFEKT Programme 2017-2021: the state scheme aims to contribute to increasing energy savings, reduction of energy consumption and utilisation of renewable and secondary energy sources. The budget for the 2017-2021 period amounts to CZK 750 million (EUR 29 million). Aside from supporting investments, the programme also entails support for energy consulting, implementation of energy management and preparation of energy efficiency projects, among others[102].

Furthermore, financial instruments are also in place in the Czech Republic to foster the renovation of the building stock. For instance, Building Society Saving Schemes entail a saving phase by households, followed by the opportunity to obtain affordable loans with low interest rates (between 3% and 6%) to invest in housing, often specifically for the reconstruction, renovation and energy-saving measures of residential buildings[103].

In addition, under priority axis 5 of the Operational Programme Environment, the reduction of energy consumption and the use of renewable sources in **public buildings** is supported through an allocation of EUR 529.6 million. Indeed, a call to support the construction of nearly-zero energy public buildings was launched in April 2017 under the OP Environment. It provides subsidies covering up to 40% of the additional costs incurred for achieving a passive energy standard when building new buildings. Eligible applicants include NGOs, local governments, research institutions, etc. The budget of the call amounts to CZK 200 million (EUR 7.7 million)[104].

A call to support the construction of nearly-zero energy public buildings was launched in April 2017 under the OP Environment. It provides subsidies covering up to 40% of the additional costs incurred for achieving a passive energy standard when building new buildings.

TO 4 - Single Market

The Czech Republic scores in line with the EU average with respect to the metrics of the EU Single Market Scoreboard, with Internal market Information System reporting the best performance. Moreover, the country's trade integration in the single market for services is above the EU average, while it reports the second highest trade integration for goods. However, Transposition of law and Public Procurement score poorly, with below-average scores in the one-bidder indicator (i.e. the proportion of contracts awarded where there was just one bidder) and no calls for bids (i.e. the proportion of procurement procedures negotiated without a call for tender) indicators, with a high proportion of procedures awarded only on the lowest price criterion[105].

Similarly, the Czech construction sector suffers from public procurement transparency, corruption and competition issues. Public contracts in the Czech Republic are often subject to abuse of EU funds, bribery and manipulation, particularly in sectors such as healthcare and construction[106]. A recent analysis showed that nearly half of the Czech construction companies are involved in corrupt practices and bribery. This share is higher for large firms, with eight out of ten contractors engaging in bribery[107].

Moreover, it was estimated that around 20% of public contracts in 2014 were designed to avoid the need for tenders[108]. Road construction is especially problematic in this respect, with many projects exceeding the initial budget specified in the tender, experiencing significant delays in completion and being of questionable quality and safety. Indeed, deadline extensions for motorway and other infrastructural projects often reach up to seven years, and projects are often changed after being signed so as to include additional works, thus resulting in considerable extra costs[109].

With regard to competition, the Office for the Protection of Competition (Úřad pro ochranu hospodářské soutěžea – UOHS) recently imposed a CZK 1.7 billion fine on several national and international construction companies for their involvement in a **construction cartel**. These had manipulated their bids in the tendering procedures for major road infrastructure projects, thus restricting market participation and breaching the Act on Protection of Competition[110]. However, the Regional Court in Brno cancelled the fine in May 2017 and reopened the case, citing unlawful procedures by the Office when obtaining information[111].

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Regulatory restrictiveness remains high for certain professions, including architects and civil engineers, for which barriers to entry are higher than the EU average. The business churn rate (turnover) for architectural activities is also lower than the averages for both the Czech economy and the EU, suggesting a relatively low dynamism and low competition in this sector. However, the churn rate in the real estate profession is higher than in the EU, and the regulatory restrictiveness for real estate agents is lower than the average[112]. The Czech government prepared an action plan defining measures to improve access to regulated professions through planned legislative changes and reductions of the conditions for the performance of the regulated activities[113].

Nevertheless, with regard to the provision of construction services by cross-border service providers, the Czech Republic has not established horizontal authorisation schemes. These are therefore not a major obstacle to foreign construction service providers, and the country thus complies well with the Services Directive. However, health and safety regulations for construction works are more complicated to deal with compared to other Member States, thus creating a more burdensome regulatory environment for the provision of cross-border services. The fire inspection regime is considered to be particularly burdensome to cross-border service providers[114]. Moreover, according to the Association of Building Entrepreneurs, the single market is not benefiting Czech companies exporting building materials. Indeed, countries such as Germany, Austria, France and Switzerland have a well-developed and complex certification system for construction materials, which deters imports and acts as a barrier to export for Czech companies[115].

In terms of Points of Single Contact, the Ministry of Industry and Trade operates the Product Contact Point for Construction (PCPC), according to Regulation EU 305/2011 on the marketing of construction products. The PCPC provides the accessibility of national technical rules related to construction products in the Czech Republic, and informs and advises on provisions aiming to fulfil basic requirements for construction works applicable for the intended use of construction product. Information is provided free of charge within 15 days, and ensures that businesses, particularly SMEs, are aware of the legislation in the Member State of interest for the marketing of their construction products[116].

Finally, regarding the implementation of **Eurocodes**, all Parts are published as National Standards, and National Annexes are published to all Parts and translated in English. There are no other national standards used in parallel. Indeed, Eurocodes are compulsory in structural design, and their use is enforced in public procurement through Law 137/2006 on Public Procurement[117].

TO 5 - International competitiveness

The Czech Republic ranks 31st out of 137 economies in the 2017-2018 Global Competitiveness Index[118]. It performs well below the EU average in terms of the internationalisation of its SMEs, with a low share of SMEs with extra-EU imports and exports of goods. However, the time and cost to export for documentary compliance are below the EU average. Namely, documentary compliance to export takes 1 hour, compared to the EU average of 1.4, and its cost is negligible, compared to the EU average of USD 16.4 (EUR 13.9)[119].

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Exports are supported by national organisations such as **CzechTrade**, a trade promotion agency founded by the Ministry of Industry and Trade with the aim of fostering the internationalisation of Czech companies by facilitating their cooperation with entrepreneurs from foreign countries[120]. CzechTrade provides a range of business support and networking services, such as participation in trade fairs abroad and the **Czech Exporters Directory**. The latter is an online database of Czech companies focusing on penetrating foreign markets and their products, across many areas including construction, building materials and components, as well as steel constructions[121].

In order to increase the international competitiveness of Czech companies, the Ministry of Industry and Trade launched the Export Strategy of the Czech Republic for 2012-2020. The strategy aims to support Czech companies, especially SMEs, when expanding to foreign markets and achieve territorial diversification of exports. It is built around three main pillars, namely intelligence, export development and promotion of business development opportunities. Aside from the EU, the strategy identifies 12 additional priority countries, including Argentina, Australia, Egypt, Ethiopia, Japan, Singapore, UAE, and Thailand[122].

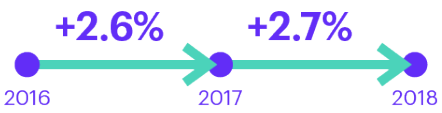
Typically, some of the most favourable export markets include Norway, Poland, Russia and Iceland.

The construction sector faces specific obstacles when it comes to exports and internationalisation, including complex logistics and the heavy weight of some building components. However, according to the Association of Building Entrepreneurs, exports in the sector have been increasing over the years, with Czech construction companies being involved in the construction of transport infrastructure abroad, and specifically in the construction of tunnels, roads and motorways, but also in industrial and residential buildings. Typically, some of the most favourable export markets include Norway, Poland, Russia and Iceland. New opportunities can also open up in the Gulf countries, particularly in the context of the Expo 2020 in Dubai, which will give Czech construction companies the chance to apply for contracts awarded in greenfield construction and associated development projects. According to the Association, having knowledge of the export markets' local legislation is a key success factor, as well as establishing personal contacts and acquiring the relevant language skills[123].

8
Outlook

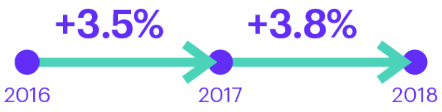
After a five-year period of decline, the Czech construction sector bounced back in 2014 and, despite a subsequent drop in 2016, is expected to experience positive developments over the next years. Indeed, the decline of the industry is forecast to come to a halt in 2017, which will mark the start of a stabilisation, while growth is predicted at 4.9% in 2018 and 8.3% in 2019[124]. These developments are in line with the overall projections for economic growth in the country, with **GDP** growth predicted at 2.6% in 2017 and 2.7% in 2018.

GDP Growth



At the same time, the workforce **employed** in the broad construction sector is forecast to increase by 3.5% in 2017 compared to 2016 levels, reaching 616,411 people, and by an additional 3.8% in 2018, to 639,703 people. A positive evolution is also expected for the number of companies in the broad construction sector, which is projected to increase by 3.8% in 2017 (from 2016 levels), reaching 296,515 firms, and by a further 4.1% in 2018, to 308,602. In line with the above, turnover is expected to grow by 3.5% in 2017, compared to 2016, reaching EUR 48.2 billion, and by a further 3.7% in 2018, to EUR 50 billion. Finally, the value added of the broad construction sector is set to grow by 3.7% in 2017 compared to 2016, and by an extra 4% in 2018, reaching EUR 14.2 billion.

Workforce employed in the broad construction sector



The **civil engineering sector**, and particularly transport infrastructure, is expected to be one of the main drivers of the recovery of the construction sector. Indeed, transport infrastructure, and particularly rail and road, is benefiting from EU-driven investment and is therefore set to grow substantially by 6.5% in 2017 alone. Growth in transport infrastructure will also be sustained until 2020 by EU funding, with a 6.9% annual growth rate over the 2017-2020 period[125].

The Czech **residential** and **non-residential construction sectors** will grow moderately up until 2026. This is mainly due to growth in the non-residential sector as a result of the increase in office space and industrial real estate.

> The Czech Republic is considered an attractive location for industrial premises, with demand growing from e-commerce businesses. Indeed, 44% of construction in the industrial segment is conducted on a speculative basis reflecting the positive expectations in the market[126].

In parallel, domestic economic growth and increasing household disposable income are driving demand for housing. Therefore, the residential and non-residential sector is expected to grow at an average of 3.8% yearly between 2017 and 2026[127]. As for luxury real estate, this already strong market segment is set to keep its strong growth, with the prices of high-end apartments in Prague predicted to increase by about 12% to 15% per year until 2018[128].

Despite the positive outlook, investment in construction is still hampered by the Czech Republic's weaknesses in administrative capacity and its low absorption of EU Funds[129]. Thus, strengthening the business environment through simplification of building permit procedures will be crucial in unlocking the investment potential for the construction industry.

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1 Please note that this 2016 data is a nowcast - please refer to the methodology notes for further details.

2 Please note that this 2016 data is a nowcast - please refer to the methodology notes for further details.

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17 Please note that this 2016 data is a nowcast - please refer to the methodology notes for further details.

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