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German Construction Industry: New Residential Construction at Cyclical Peak—Public Construction Gaining Ground

By Martin Gornig and Claus Michelsen

The construction industry remains a key pillar of the German economy. According to the latest construction volume calculations by DIW Berlin, the value of construction in 2014 and 2015 is forecast to grow far more rapidly than the economy as a whole: by a price-adjusted 3.3 percent and 2.1 percent in 2014 and 2015, respectively. Currently, new residential construction is an important engine for growth with the construction volume in this sector estimated to increase by almost 12 percent in 2014, in nominal terms. However, 2014 will also mark significant growth in construction on existing buildings. In addition to gains in residential construction, more positive developments are also currently being observed in commercial and public construction, following declines in these sectors in recent years.

However, although residential construction is stable, the high growth rates observed in 2014 are unlikely to continue into 2015. Fears that construction price increases would be (too) strong, precisely in this sector, are not supported by the national average. However, the dynamic growth of new construction is expected to tail off appreciably. Moreover, largely as a result of the gloomy economic outlook, the commercial construction sector is also likely to record only moderate growth in construction volume. The highest increases for 2015 are expected in the public construction sector—although the investment program announced by the government is in fact likely to have very little impact, even if further relevant measures are implemented throughout the year.

As well as documenting construction volume calculations for previous years, DIW Berlin also forecasts the equivalent values for the present and coming year (see Box 1). It has not been possible to date, however, to produce a forecast that breaks down the construction volume into new construction and construction work on existing buildings for each year. To gain a more accurate insight into current trends and to increase forecast quality, DIW Berlin has developed an indicator that allows for such disaggregation (see Box 2). The present report outlines the results of the indicator for the very first time. The 2014 and 2015 calculations are based on DIW Berlin’s economic forecasts as well as the findings and estimates from the most recent Joint Economic Forecast compiled in the fall by Germany’s economic research institutes under the guidance of DIW Berlin.

After stagnating at around €182 billion euros for the past two years, the volume of construction on existing buildings increased significantly in 2014 (see Figure 1). DIW Berlin is forecasting 2.6-percent growth which is largely the result of the exceptional start to the year.

Residential construction has provided the strongest impetus with the volume of construction on existing buildings in this sector on a major upward trend for some years now. As there were no restrictions due to weather conditions last winter, construction companies were able to continue working throughout the entire year. In addition to this one-off effect, however, the general conditions for residential construction investment also remain extremely favorable. Although the economic outlook has recently deteriorated slightly, the labor market situation is still likely to remain just as stable as income growth. Interest on construction loans will also continue to remain at historically low levels in future—this is indicated by the expected returns on mortgage bonds which have been steadily declining since the start of 2014. The improved financing conditions are also like-
To estimate the volume of construction on existing buildings, data from DIW Berlin’s construction volume calculations are combined with data from official statistics. Statistics referring to the number of employees subject to social insurance contributions are used in conjunction with construction industry statistics. Both sets of statistics are published with around a six-month delay, are available on a quarterly basis, and are also broken down into economic sectors. The official statistics provide six different time series per economic sector, which, when combined, describe the economic activity in that particular sector: the number of people employed in the sector, number of hours worked, number of companies, and company turnover.

Since it is not possible to know in advance what economic variables within the sector are particularly suited to approximating the volume of construction on existing buildings, a principle components analysis is conducted to bundle the information about the activities in the relevant economic sectors. This contributes to the robustness of the regressor since one-off effects which only relate to a specific variable but not economic activity per se, such as wage increases, for example, are filtered out. Further, the length of the time series used is also insufficient to include a larger number of variables simultaneously as regressors. The principal component analysis circumvents this problem. The missing data for the last two quarters of the current year are extrapolated using the seasonal pattern. As a result, the volume of construction on existing buildings is estimated for the current year. The volume of new construction is calculated as the difference between construction on existing buildings and total construction volume.

The rent cap adopted by the German cabinet, however, is likely to have been a source of irritation for investors, at the very least. For example, the distinction between “deep” and “simple” modernization measures is unclear. In the latter, the rent cap will be applied following modernization; in the former, it will not. The extent to which landlords can pass on the costs of refurbishment onto new tenants in the long term is also uncertain. It is possible that this will reduce the volume of investment in construction on existing buildings from 2015, at least temporarily.

Overall, a significant increase in investment in existing residential buildings was expected in 2014 against the previous year—a forecasted rise of 2.8 percent to almost 131.4 billion euros (see Table 1). However, the dynamic growth recorded during the first half of 2014 is not sustainable: there was subsequently a visible downward trend in the number of orders (see Figure 2).

In commercial construction, a considerable increase in the volume of work in terms of financial value on existing buildings was forecast. After a strong start to the year, a negative economic outlook had a dampening effect on companies’ investment propensity during the remain-

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**Box 2**

**Projection of Construction Volume on Existing Buildings**

To estimate the volume of construction on existing buildings, which is often less profitable than investment in new construction.

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The value of construction work on existing buildings is expected to increase by over two percent.
CONSTRUCTION VOLUME CALCULATION

Table 1

Structural Engineering Construction Volume

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In billion euros at the respective year’s prices</td>
<td>Change on the previous year in percent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New construction volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential construction</td>
<td>32.90</td>
<td>40.98</td>
<td>44.30</td>
<td>47.07</td>
<td>52.51</td>
<td>24.6</td>
<td>8.1</td>
<td>6.3</td>
<td>11.6</td>
<td></td>
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<tr>
<td>Non-residential construction</td>
<td>27.31</td>
<td>30.24</td>
<td>30.03</td>
<td>31.94</td>
<td>33.70</td>
<td>10.7</td>
<td>-0.7</td>
<td>6.3</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>60.21</td>
<td>71.22</td>
<td>74.33</td>
<td>78.91</td>
<td>86.21</td>
<td>18.3</td>
<td>4.4</td>
<td>6.3</td>
<td>9.1</td>
<td></td>
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<tr>
<td>Construction on existing buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Residential construction</td>
<td>118.87</td>
<td>123.86</td>
<td>126.98</td>
<td>127.83</td>
<td>131.40</td>
<td>4.2</td>
<td>2.5</td>
<td>0.7</td>
<td>2.8</td>
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<tr>
<td>Non-residential construction</td>
<td>55.59</td>
<td>57.86</td>
<td>55.55</td>
<td>54.09</td>
<td>55.33</td>
<td>4.1</td>
<td>-4.0</td>
<td>-2.6</td>
<td>2.3</td>
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<tr>
<td>Total</td>
<td>174.46</td>
<td>181.72</td>
<td>182.53</td>
<td>181.92</td>
<td>186.73</td>
<td>4.2</td>
<td>0.4</td>
<td>-0.3</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Total construction volume</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Residential construction</td>
<td>151.77</td>
<td>164.84</td>
<td>171.28</td>
<td>174.90</td>
<td>183.91</td>
<td>8.6</td>
<td>3.9</td>
<td>2.1</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>Non-residential construction</td>
<td>82.90</td>
<td>88.10</td>
<td>85.58</td>
<td>86.03</td>
<td>89.03</td>
<td>6.3</td>
<td>-2.9</td>
<td>0.5</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>234.67</td>
<td>252.94</td>
<td>256.86</td>
<td>260.93</td>
<td>272.94</td>
<td>7.8</td>
<td>1.5</td>
<td>1.6</td>
<td>4.6</td>
<td></td>
</tr>
</tbody>
</table>

Source: Construction volume calculations by DIW Berlin.

After two years of stagnation, construction on existing buildings is also profiting from the favorable construction economy.

In contrast to residential and commercial construction, public construction in 2014 had a much more subdued start to the year. However, the volume of construction on existing buildings will also increase in this sector due to the improved financial situation, particularly at municipal level. The municipalities are, therefore, expected to at least start reducing the backlog of investment in construction on existing buildings that has accrued in recent years. Construction measures following the flood damage during the summer of 2013 should have added momentum in the second half of that year.

The bottom line is that the volume of construction on existing non-residential buildings — i.e., in commercial and public construction — was predicted to increase by 2.3 percent to around 55.3 billion euros in 2014.

New Residential Construction Benefits from Favorable External Conditions

In the new construction sector, residential construction is currently profiting the most from the favorable external conditions: as well as the advantageous interest rate environment, another important contributory factor is that Germany has positive net migration, i.e., more immigrants are entering the country than emigrants leaving. This increases the demand for living space, particularly in metropolitan areas and induces increasing rents, which in turn is also an incentive for new construction activity. Furthermore, alternative investments continue to earn low levels of interest. However, the growing shortage of construction land in premium urban locations is increasingly subduing new construction. Nonetheless, after a good six-percent rise in 2013, new residential construction volumes were predicted to grow by over 11.6 percent to a total of around 52.5 billion euros in 2014 (see Figure 3).

The Phasing out of the economic stimulus programs in 2012 had a major dampening effect, particularly in public construction but, since 2013, the volume of non-residential new construction has been recovering. How-
ever, the volume of new construction approved for 2013 is unlikely to be equaled in 2014. The uncertainty among companies due to the state of economy has had an impact on commercial construction specifically. Consequently, previously approved investment to expand production capacity may have temporarily been deferred. The commitment to providing childcare places, in particular, is also likely to have boosted new construction in the public sector. Overall, in 2014, the volume of new non-residential construction is likely to have increased by approximately 5.5 percent to 33.7 billion euros.

**Moderate Growth of Residential Construction Costs**

After the turn of the millennium, the German real estate market stagnated. However, the last five years have seen significant growth in property prices in many regions of the country (see Figure 4). This is frequently due to increasing demand—in the metropolitan areas, in particular, there has been considerable population growth. This is reflected in noticeable rent increases, which has made property market policy a popular election campaign issue. A cap on rents has since been endorsed by the German cabinet, with a view to curbing rent growth in overheated property markets.\(^\text{10}\) In order
to examine the causes of the housing shortage more closely, the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) established a committee of experts, the Alliance for Affordable Housing and Building. Another committee specifically created for this purpose will also analyze the development of construction costs and establish measures to ensure new construction, particularly in the low- and medium-quality segments. The German government’s coalition agreement sees the role of the committee primarily as reviewing “(...) inflationary and excessive standards and cost of materials and processes, particularly in energy-efficient refurbishment.”

However, lately, the development of construction costs has, for the most part, been unremarkable. Both material and labor costs have risen but only in keeping with the general price level (see Figure 5). Only recently, due to a significant increase in demand for construction services, costs rose more rapidly than general consumer prices. To cite this as the reason for creating a commission to slow down price inflation is therefore somewhat surprising — particularly because cost increases during an economic upswing, as was the case for residential construction in the last few years, are far from unusual.

One possible reason for this being the subject of political debate could be a selective perception of the cost development of certain construction services.

There are actually substantial differences: for example, the cost of specialized construction services has increased much more dramatically, particularly in the fields of metal and glass work, plumbing services, fire prevention, and technical installations. In these fields, average annual cost increases have been significantly above the two-percent mark since the year 2000 — and growth has recently accelerated (see Figure 6). Increases in construction material prices might help explain this. The price of metals, cement, and glass in particular increased sharply until 2010 (see Figure 7). On the other hand, the cost of traditional forms of construction has only increased moderately. The prices of earth moving, structural, masonry and concrete work, carpentry and timber work, as well as finishing work in general have seen only negligible rises since the turn of the millennium with an annual average rate of one to 1.5 percent, which is below inflation (see Figure 8).

**Trend Toward High-Quality Construction**

Another factor affecting costs is the change in demand for certain locations and construction quality levels. Recently, estimated construction costs per square meter, in particular, increased much more sharply than the construction cost index for residential buildings. This suggests that investors are focusing on higher quality, especially when it comes to multi-family houses. Urban centers in particular have seen a rise in demand for living space — here, it is typically the small single-person households that dominate the real estate market with their growing demand for high-quality housing in cen-
CONSTRUCTION VOLUME CALCULATION

2015 Outlook: Strong Increase in Construction Volume

For 2014, DIW Berlin has forecast a sharp rise in nominal construction volume of almost five percent to around 328.7 billion euros, compared with 2013 (see Table 2). For 2015, the expected growth is forecast to be slightly weaker than 2014 but still substantial at almost four percent, rising to around 341.3 billion euros. Moderate development of building prices is anticipated; in 2014, a 1.5-percent increase was expected and growth in 2015 is unlikely to be any stronger — forecast at less than two percent. The real construction volume — i.e., adjusted for price increases — is therefore expected to increase by 3.3 percent in 2014 and 2.1 percent in 2015. This signifies a slowdown in real growth which nonetheless remains at a comparatively high level.

This trend is further substantiated by the development of the order backlog in the core construction industry which remains high in all construction segments, leading us to assume a continued high level of construction output until the end of 2014. However, there are early indications that incoming orders will follow a downward trend in the long term. The number of building permits issued also signals that con-

dential locations. This has also forced land prices up. In the larger towns and cities in particular, the price of construction land has increased considerably over the past five years (see Figure 9). Construction cost indices do not take account of this factor despite its importance for the total cost of an investment.

The cost of specialist construction services has increased significantly. The demand situation is incisively summarized by the BBSR in a report by R. Müller and M. Waltersbacher, "Wohnungsgespräche in Ballungsgebieten," (Bonn: 2014).

Abbildung 8

Price Indices of Selected Construction Services
2010 index = 100

Sources: Federal Statistical Office; calculations by DIW Berlin.

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The price of construction and raw materials has increased sharply since the turn of the millennium.

Abbildung 8

Price Indices of Selected Construction Services
2010 index = 100

Sources: Federal Statistical Office; calculations by DIW Berlin.

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There has only been a moderate increase in the price of many traditional construction services.
Construction activity is likely to lose momentum in 2015 (see Figures 10 and 11). While, as a result of its high starting point at the end of 2014, residential construction is expected to maintain strong growth into 2015 (2.2 percent in real terms), the prospects for commercial construction are much more pessimistic. After recording a decline in construction volume in 2012 and 2013, the segment experienced a 2.7-percent uptick in 2014. However, this upturn is likely to be short-lived; the growth forecast for 2015 is only 0.7 percent. Given the currently less favorable economic outlook, we can expect companies not to remain reluctant to invest until the end of 2015 as a result of the slightly improved export prospects.

Real growth in the value of construction volume in the public construction sector will be more than four percent in 2014. As a result of the additional funds the German government has earmarked for infrastructure, civil engineering, already in a strong position, is also likely to exhibit robust development in 2015. There will also be additional resources from the fund established to address the flood damage which occurred in summer 2013. The recent announcement by the German finance minister that an additional ten billion euros would be provided for investment will have no impact, however, since this has only been approved for 2016 to 2018.\(^\text{(13)}\) Even if specific measures were to be adopted in 2015, they would initially be unlikely to have a positive impact on output. This is evidenced by experience of economic stimulus pack-

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\(^{13}\) “Wegen schwacher Konjunktur: Schäuble will zehn Milliarden Euro investieren,” Frankfurter Allgemeine Zeitung, November 6, 2014,
However, there is expected to be a marked increase in the volume of public construction in 2015: real growth of at least 4.6 percent is forecast. The various construction segments are likely to benefit in equal measure from the forecasted developments in construction volume. The recovery of construction on existing buildings along with the continued stability of new residential construction figures in particular are evidence of this. In 2014, there is likely to be only one tenth of a percentage point difference between growth rates for the core construction industry and the finishing trades (at a level of over three percent) and in 2015 two-tenths of a percentage point (at a level of over two percent). For other construction services, weaker growth is anticipated as a result of the downward trend in building permits.

The volume of recently approved residential buildings is currently stable.

The core construction industry and the finishing trades (at a level of over three percent) and in 2015 two-tenths of a percentage point (at a level of over two percent). For other construction services, weaker growth is anticipated as a result of the downward trend in building permits.