Comparing Prague with selected European cities from the perspective of land use, housing and management
Introduction

This document presents a wealth of information gathered in selected cities in Europe – Berlin, Munich, Stuttgart, Vienna, Zurich and Copenhagen – relating to housing and financing, and compares this information with Prague, thereby providing an outline of the Capital City’s standing in terms of its social and economical development. On occasion, when comparing certain sets of data, the number of cities may be lower as the entire set of relevant data for all above mentioned cities may not be always available. Detailed methodological notes for these comparisons are provided, where necessary, at the start of each respective section.

In case of housing, this document considers the structure and use of city-owned land, various housing policies and developments in apartment prices in these selected cities. Section describing financing matters focuses on management of Prague’s finances and on structure of municipal fees and taxes in the mentioned cities.

The cities selected for this project represent a group having various properties, be it with respect to their size, area, number of inhabitants and their population density. These factors are influenced not only by their social, demographic or economic developments, but also by differences in how these cities are administratively defined: broadly administratively defined cities such as Prague, Stuttgart or Berlin may have lower population density in comparison with, for instance, Copenhagen, whose administrative demarcation is very narrow, and whose suburbs exist as independent municipalities, and which in addition incorporates a 100 thousand-strong town of Frederiksberg taking up 871 ha within its territory, and which therefore shows a higher population density.

Data required for putting together this document were taken primarily from 1) official statistical data, 2) official statistics and other sources of information gathered by individual cities or their organizations, 3) data received upon a direct request from cities being compared and 4) statistics compiled by renowned agencies involved in market surveys, or organizations involved in real estate markets. In all sections hereof, the data we use were usually compiled from a number of sources that may be difficult to access, and which may result in diversity of calculations involving various indicators as well as their placement in time, as well as somewhat varied terminology; the numbers were usually rounded up to whole numbers prior to using them here, and the data are updated with varying regularity etc.

In case of city land structure and housing policies, the indicators were gathered for individual years, and in case of apartment prices developments we strived to collect data covering the longest possible periods, obviously selecting the most up-to-date data. In case of budgetary indicators we have focused on the period 2009–2013.

This document provides a well-arranged presentation of the so far gathered data in the form of tables, graphs and comments, and provides its readers with a general idea of Prague’s standing among the selected cities. Given the fact that this data were taken from several sources, which means that methodological conformity of their collection cannot be guaranteed, and the same goes for the subsequent calculations using these indicators, we had to refrain from conducting a deeper analysis of this data. Readers are thus advised to keep these potential methodological inaccuracies in mind.

Table 1: Size-related indicators for selected cities in 2014

<table>
<thead>
<tr>
<th>City</th>
<th>Area in ha</th>
<th>Population as of 1 January</th>
<th>Population density per 1 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>49 613</td>
<td>1 243 201</td>
<td>25.1</td>
</tr>
<tr>
<td>Berlin</td>
<td>89 168</td>
<td>3 421 829</td>
<td>38.4</td>
</tr>
<tr>
<td>Munich</td>
<td>31 074</td>
<td>1 407 836</td>
<td>45.3</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>20 735</td>
<td>604 297</td>
<td>29.1</td>
</tr>
<tr>
<td>Vienna</td>
<td>41 487</td>
<td>1 765 575</td>
<td>42.6</td>
</tr>
<tr>
<td>Zurich</td>
<td>9 188</td>
<td>384 786</td>
<td>41.9</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>9 064</td>
<td>569 557</td>
<td>62.8</td>
</tr>
</tbody>
</table>

Sources: Eurostat, Statistik Schweiz, Danmarks Statistik, Københavns Kommune
Figure 1: Area, population and population density in selected cities in 2014

Sources: Eurostat, Statistik Schweiz, Danmarks Statistik, Københavns Kommune
Note: Circle size denotes population density.
1. Housing

1.1 Land owned by the city and its use

Land owned by the city and its share on the total size / area of the city depends to a large degree on varying social and economical developments in selected cities, as well as on the actual physical geography (Prague plateau is cut across by the deep Vltava River valley and its tributaries, the flat surface of Munich, the sea-side city of Copenhagen or Zurich situated by the lake in the Alps’ foothills).

In order to gather information on the structure of land owned by the City of Prague we have used the Prague Spatial Analytical Documentation 2014, compiled by the Prague Institute of Planning and Development (IPR Prague) and the ESRI ArcMap software, which calculated area of land owned directly by the Capital City of Prague and its individual districts, as well as the basic use thereof. Other selected cities were asked to provide similar data on 27 July 2015, and IPR Prague received all relevant information from selected cities, except for Stuttgart by 25 September 2015.

In Prague, the city owns a total of 14 776 ha (representing about 30 % of its total area), of which 26 % are communications (roads, land used for transport) and 24 % vegetation or bodies of water. Other notable areas include 1 411 ha, i.e. 10 % of land owned by the city or its individual districts, in the form of areas stylized as parks and this category includes large open areas within the large Prague housing estate projects. The remaining areas represent large development areas in the outlying parts of the city and areas relating to technical management / facilities within the city (metro and tram depot sidings and yards, bus garage lay-bys, central waste water treatment plant areas etc.).

Figure 2: Land owned by the Capital City of Prague and its districts in 2014

Source: IPR Prague
Table 2: Land use structure for land owned by the selected cities

<table>
<thead>
<tr>
<th>City</th>
<th>Year</th>
<th>Total area in ha</th>
<th>Area owned by the city in ha</th>
<th>Breakdown by category</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>2014</td>
<td>49 613</td>
<td>14 776</td>
<td>380</td>
<td>3 893</td>
<td>3 578</td>
<td>6 925</td>
</tr>
<tr>
<td>Berlin</td>
<td>2014</td>
<td>89 168</td>
<td>54 771</td>
<td>4 903</td>
<td>9 964</td>
<td>38 858</td>
<td>1 046</td>
</tr>
<tr>
<td>Munich</td>
<td>2013</td>
<td>31 074</td>
<td>9 100</td>
<td>595</td>
<td>3 603</td>
<td>3 212</td>
<td>1 690</td>
</tr>
<tr>
<td>Vienna</td>
<td>2014</td>
<td>41 487</td>
<td>20 479</td>
<td>2 437</td>
<td>4 135</td>
<td>11 893</td>
<td>2 014</td>
</tr>
<tr>
<td>Zurich</td>
<td>2014</td>
<td>9 188</td>
<td>4 107</td>
<td>160</td>
<td>918</td>
<td>2 182</td>
<td>848</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>2015</td>
<td>9 064</td>
<td>2 860</td>
<td>127</td>
<td>893</td>
<td>1 243</td>
<td>597</td>
</tr>
</tbody>
</table>

Sources: IPR Prague, Senatsverwaltung für Finanzen Berlin, Landeshauptstadt München Kommunalreferat, Landeshauptstadt München Baureferat, Magistrat der Stadt Wien, Statistik Stadt Zürich, Københavns Kommune

Note: For Prague, the category ‘other’ land includes areas stylised as parks owned by the city or its individual districts, having the total area of 1 411 ha in 2014.

Prague has a similar share of land in the city’s ownership as some other cities, most notably Munich (29 %) and Copenhagen (32 %). The largest portions of land owned directly by the city can be found in Berlin (61 %), Vienna (49 %) and Zurich (45 %). On one hand Prague owns, in comparison with other selected cities, a higher portion of land in the ‘other land’ category (47 % of land owned by the city or its individual districts) and, on the other hand, a lower share of transport-dedicated areas and vegetation (including bodies of water). Comparing this use with other similarly-sized cities, Prague owns, in absolute terms more land used for transport and vegetation than Munich, but less than Vienna. There is less built-up land owned by the City of Prague or its individual districts (2.6 % of land owned by the city) than in Vienna (12 %), Berlin (9 %) or Munich (6.5 %).

Figure 3: Share of land owned by selected cities

Sources: IPR Prague, Senatsverwaltung für Finanzen Berlin, Landeshauptstadt München Kommunalreferat, Landeshauptstadt München Baureferat, Magistrat der Stadt Wien, Statistik Stadt Zürich, Københavns Kommune

Note: For the total area of land owned by the city, the number represents the percentual share of areas owned by the city on the total area.

1 Vegetation includes forests, forest parks, parks and cemeteries.
2 Land owned by the Capital City of Prague or its individual districts according to the 2014 Spatial Analytical Documentation.
3 In case of vegetation or bodies of water please note that Vienna included in this category also agricultural land it owns within the city.
Figure 4: Land use structure owned by the city in selected cities

Sources: IPR Prague, Senatsverwaltung für Finanzen Berlin, Landeshauptstadt München Kommunalreferat, Landeshauptstadt München Baureferat, Magistrat der Stadt Wien, Statistik Stadt Zürich, Københavns Kommune
1.2 Housing policy

Data on total numbers of apartments are based on information published on websites, and this applies to German cities (respectively information provided by competent administrative departments), while in cases of Prague, Vienna, Zurich and Copenhagen this data is provided by national statistical offices. Information on the number of apartments owned by the cities, respectively numbers of social housing units were provided by the respective departments managing these in the selected cities.

Information gathered by the Eurostat in its Urban Audit survey could not be used in this document. In the selected cities the data in question represent merely a cross-section, and do not represent a uniform time series, and when they do, the data end in 2011 or 2012, and in cases of German cities or for Copenhagen these are mere estimates. For these reasons we chose to make a direct inquiry to the cities to provide data on the numbers of apartments they own and on social housing.

In evaluating these indicators for individual cities, we had to respect the various arrangements relating to ownership of city apartments, as in Copenhagen and Zurich these apartments are owned by cooperatives that are then administered / managed by the city. Without this information, the data on the number of apartments directly in the city’s ownership would be in these two cities misleading. As far as the German cities are concerned, the number of city-owned apartments include also apartments that were subsidized from city budgets (for instance in the form of reduced rent or reduced purchase price, which imposes certain obligations on its tenants / owners); this is most prominent in Stuttgart.

The numbers of apartments in selected cities correspond to their population sizes. The largest number of apartments can be found in Berlin (1.9 million in 2013) and the least in Zurich (215 thousand in 2014). In terms of apartments owned by cities directly, the same rule applies only in limited extent. The largest number of city-owned apartments is in Berlin (285 thousand in 2013) followed by Vienna (216 thousand in 2011), and the smallest number is in Stuttgart (18 thousand in 2013). Prague recorded, during census in 2011, a total number of 588 thousand apartments of which almost 66 thousand apartments are owned by the state, city or district.

Table 3: Number of apartments in selected cities

<table>
<thead>
<tr>
<th>City</th>
<th>Year</th>
<th>Number of all apartments – total</th>
<th>Number of apartments in city ownership</th>
<th>Number of social apartments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>2011</td>
<td>587 832</td>
<td>65 720</td>
<td>.</td>
</tr>
<tr>
<td>Berlin</td>
<td>2013</td>
<td>1 883 161</td>
<td>285 000</td>
<td>153 449</td>
</tr>
<tr>
<td>Munich</td>
<td>2013</td>
<td>768 686</td>
<td>51 927</td>
<td>22 200</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>2014</td>
<td>306 544</td>
<td>18 485</td>
<td>7 318</td>
</tr>
<tr>
<td>Vienna</td>
<td>2011</td>
<td>837 617</td>
<td>216 173</td>
<td>138 706</td>
</tr>
<tr>
<td>Zurich</td>
<td>2014</td>
<td>215 477</td>
<td>52 382</td>
<td>4 375</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>2015</td>
<td>307 297</td>
<td>65 540</td>
<td>2 631</td>
</tr>
</tbody>
</table>


A closer analysis would need to reflect various specifics of individual cities relating to recording numbers of apartments in their public ownership. In Stuttgart, this number represents a number of apartments which received housing support in 2014. In Prague, this number includes apartments owned by the state and by the individual city districts. In Vienna there are additional 200 thousand apartments owned by the non-profit sector. Number of apartments owned by the City of Zurich include 13 728 apartments that are directly owned by the city and additional 38 654 apartments owned by cooperatives administered by the city (in 2014). Similar situation exists in Copenhagen where there were 4 440 apartments directly owned by the city and additional 61 100 owned by cooperatives administered by the city in 2015.

These departments included departments managing construction, apartment development, restoration of the city and social housing, social matters departments or financial department managing city assets.
Table 4: Number of inhabitants per 1 apartment in selected cities and the share of city-owned apartments

<table>
<thead>
<tr>
<th>City</th>
<th>Year</th>
<th>Number of inhabitants per 1 apartment</th>
<th>Number of inhabitants per 1 apartment owned by the city</th>
<th>Share of city-owned apartments on the total number of apartments in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>2011</td>
<td>2.16</td>
<td>19.31</td>
<td>11.2</td>
</tr>
<tr>
<td>Berlin</td>
<td>2013</td>
<td>1.79</td>
<td>11.84</td>
<td>15.1</td>
</tr>
<tr>
<td>Munich</td>
<td>2013</td>
<td>1.81</td>
<td>26.74</td>
<td>6.8</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>2014</td>
<td>1.97</td>
<td>32.69</td>
<td>6.0</td>
</tr>
<tr>
<td>Vienna</td>
<td>2011</td>
<td>2.05</td>
<td>7.93</td>
<td>25.8</td>
</tr>
<tr>
<td>Zurich</td>
<td>2014</td>
<td>1.79</td>
<td>7.35</td>
<td>24.3</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>2015</td>
<td>1.89</td>
<td>8.85</td>
<td>21.3</td>
</tr>
</tbody>
</table>


Note: In case of Stuttgart this number represents a number of apartments which received housing support in 2014. In Prague, this number includes also apartments owned by the state and by the individual city districts. Number of inhabitants related to a number of apartments reflects situation as of 1 January of the respective year, in case of Prague and Vienna it corresponds to censuses (i.e. 26 March 2011 for Prague and 31 October 2011 for Vienna).

If we correlate the number of inhabitants to 1 apartment, the highest value is reached in Prague in 2011, with 2.2 inhabitants to one apartment, followed by Vienna and Stuttgart with 2 inhabitants per 1 apartment in 2011, respectively in 2014. In other cities undergoing this comparison, the median value was about 1.8 persons per apartment. More significant differences between selected cities become apparent when correlating number of persons per 1 apartment in the city’s ownership. The highest values were reached in Stuttgart and Munich, where there were 33 people (in 2014), respectively 27 people (in 2013) per 1 apartment in the city’s ownership. The smallest number of persons per 1 apartment in the city’s ownership was in Zurich (7 persons in 2014) and Vienna (8 persons in 2011). Both these cities also own the largest share of apartments in their own ownership, with 26 % in Vienna and 24 % in Zurich, which corresponds to their tradition of providing social and supported housing by the city. Vienna and Zurich both mention the importance of supported housing in their strategic plans5. In Prague, this value – inhabitants per 1 city-owned apartment – reached 19 persons in 2011.

These selected European cities implement a number of measures focused on supporting housing for low-to-medium income inhabitants. Economic growth in these cities is closely related to population growth and this puts pressure on the ever increasing housing costs, causing these groups to lose financial ability to acquire their own properties, which further disadvantages them. These measures include the following:

- Development of city-owned rental apartments providing housing at advantageous rates (while also regulating rent growth, along with the commitment for the tenant to rent the apartment for long-term) or their acquisitions in the existing buildings.
- Development of apartments dedicated to personal purchases for an advantageous price (giving preferences to families, couples or individuals living in the city or its suburbs wishing to purchase their own property before financial investors merely placing their available capital and introducing set periods of time for buyers of these apartments, for which they are committed to live in such apartment),
- Concluding contracts with real estate developers where the land is provided by the city and the developer commits to build a certain number of affordable housing in exchange, and potentially simultaneously receiving loans at better terms from the city (which subsequently regulates the time period during which rents are not allowed to be raised and for which the owner is committed to not selling on these properties),

• Sales of plots owned by the city for affordable prices according to the income of the buyer and potential loans from the city at better terms for construction of one's own property (including regulating the period for which the buyers need to maintain such property in their ownership),
• Regulation of gentrification in existing buildings in order to limit the outflow of the current number of low-to-medium income inhabitants,
• Second apartment tax (whether owned or rented), which is not used by the owner or tenant for commerce or rentals,
• Consulting provided by the city to landlords or owners considering renting their apartments or commercial premises, and consulting for owners of commercial premises in connection with their adaptation to housing, where the city offers a guarantee to landlords and assumes risk, which would otherwise be borne by the landlord.

In implementing these measures the cities usually prefer, in order to maintain social mix within the city, to develop the existing well-functioning locations with working community life and good social infrastructure. These measures also include supervision by competent administrative bodies involved in social sphere and participations of tenants in the building administration / management and in community life (which include, among other, decisions being made directly by tenants on use of areas surrounding their buildings and related maintenance, maintenance of common areas, observation of house rules or setting up house committees).

The selected cities quantified their objectives in terms of housing policies; their outline is provided in the Table below.

Table 5: Housing policy objectives

<table>
<thead>
<tr>
<th>City (or programme name)</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin</td>
<td>1 000 new subsidized apartments annually</td>
</tr>
<tr>
<td>Munich (Wohnen in München V)</td>
<td>1 800 new subsidized apartments annually</td>
</tr>
<tr>
<td>Stuttgart (Leerstand vermeiden – Wohnraum schaffen)</td>
<td>600 subsidized apartments annually</td>
</tr>
<tr>
<td>Zürich</td>
<td>Increase the share of city-owned or cooperative-owned apartments administered by the city from 25 % to 33 % by 2035.</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>20% of city-owned or cooperative-owned apartments administered by the city must be maintained.</td>
</tr>
</tbody>
</table>


6 Strategien Zürich 2035, Stadt Zürich Stadtrat, Zürich, 2015
7 www.stadt-zuerich.ch/portal/de/index/politik_u_recht/stadtrat/strategien2035/broschuere.html
8 kp11.kk.dk/indhold/kommuneplan-2011
1.3 Development of apartment prices in selected cities

We have also reviewed, in selected cities, the prices for which apartments are offered for purchase into one’s own private ownership. The compared time periods may vary due to data availability. Price developments are in most cases monitored bi-annually, only in Prague and Zurich these data represent annual averages. Data are taken from individual real estate servers and for this reasons any evaluation of apartment price developments in selected cities need to reflect the diverse methods of price calculations used by these portals as well as the varying timeframes. In Prague, the chief data source was the Czech Statistical Office until 2013 (inclusive), for 2014 we have used data compiled in the Prague Spatial Analytical Documents. All prices are given in EUR for 1 m², national currencies have been converted to EUR using exchange rates as of 30 June and 31 December of each year.

The most expensive city in terms of offered prices was Zurich, with 9 100 EUR per 1 m² (in 2014), followed by Munich with 6 100 EUR per 1 m² in June 2015. The lowest prices were reached in Prague in March 2014, with 1 800 EUR per 1 m² in an apartment (i.e. 50.5 thousand CZK) and Berlin (3 500 EUR per m² in June 2015).

Figure 5: Development of apartment prices for purchase into personal ownership in selected cities in EUR/m²

The fastest growth in apartment prices on the market was recorded in Stuttgart, with a 76 % rise between June 2012 and June 2015, and in Berlin with a 39 % rise during the same period. In absolute terms, the largest rise in apartment prices was reached in Stuttgart (by 1 800 EUR per m² between June 2012 and June 2015), Zurich (by 1 700 EUR per m² between 2010 and 2014) and Munich (by 1 200 EUR per m² between June 2012 and June 2015). Prague recorded a slight fall in apartment prices (by 200 EUR per m² according to the latest available data for 2010–2013), however since 2014 we expect, based on indexes of actual prices of new and older apartments, their gradual rise.

Sources: Czech Statistical Office, Prague Spatial Analytical Documents 2014, Immowelt.de, Immopreise.at, Comparis.ch, Association of Danish Mortgage Banks

* uap.iprpraha.cz
* www.czso.cz/csu/czso/ceny-nemovitosti
* www.immowelt.de/immobilienpreise/index.aspx
* www.immopreise.at/Wien/Wohnung/Eigentum
* www.comparis.ch/immobilien/preikontwicklung
* Index of actual prices of older apartments in the first quarter of 2015 reached in Prague 105 % of Q1 2014. Index of actual prices for new apartments in Q1 2015 reached 102 % of Q1 2014 in Prague.
These market apartment prices (in EUR per m²) may be correlated to income\textsuperscript{16}, in order to obtain an approximate idea how many average annual gross salaries it takes to purchase a standard apartment (for the purposes of this document 'standard' means 70 m²) in selected cities into one's personal ownership. This information provides a better understanding, in contrast with apartment prices on the market, of income and price levels in these selected cities. We compare data for 2013, as the data for this year provides, except for Prague and Zurich, at the time of publication hereof, the last year in which data on average income in cities were available for all cities (in Zurich including the entire canton\textsuperscript{17}, and in Copenhagen encompassing the entire Hovedstaden region). When evaluating this data, readers are advised to consider (as with the preceding figure) that between 2013 and 2015 there had been, especially in Stuttgart, Munich and Berlin, further rises in apartment prices, which we have been unable to reflect in Table 6 below.

Figure 6: The average annual gross salary and market price per 1 m² in an apartment in selected cities in 2013 (circle size expresses the number of average annual gross salaries which would buy a 70 m² apartment into personal ownership)

Sources: Czech Statistical Office, Gehalt.de, Statistik Austria, Statistik Schweiz, Danmarks Statistik, Immowelt.de, Immopreise.at, Comparis.ch, Association of Danish Mortgage Banks, own calculations

Note: For Zurich this data are for 2012. Average salary data include for Zurich the entire canton, in case of Copenhagen the entire Hovedstaden region.

In 2013, in the selected cities, the smallest number of average annual gross salaries necessary to purchase a 70 m² apartment was in Stuttgart (4), followed by Berlin (4.9). In contrast, the highest number of annual salaries was required in Vienna (9.5) and Zurich (9.2). In Prague, one would need 7.6 average annual gross salaries to purchase a 70 m² apartment in 2013, similar to Munich (7.8), which is more than in Copenhagen (6.2 average annual gross salaries).

Table 6: Comparing average annual gross salaries and market prices per 1 m² in selected cities in 2013

<table>
<thead>
<tr>
<th>City</th>
<th>Average annual gross salary in EUR</th>
<th>Average offered price per m² of apartment in EUR for purchase into personal ownership</th>
<th>Number of m² in an apartment that can be purchased for 1 average annual gross salary</th>
<th>Number of average annual gross salaries required to purchase a 70 m² apartment into personal ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>14 376</td>
<td>1 559</td>
<td>9.2</td>
<td>7.6</td>
</tr>
</tbody>
</table>

\textsuperscript{16} Average annual gross salaries in national currencies were converted to EUR using FX rate as of 31 December 2013.

\textsuperscript{17} The Swiss statistical office provides data on salaries and income using the NUTS 2 regions, and region Zurich is identical with the Zurich canton.
<table>
<thead>
<tr>
<th>City</th>
<th>Average annual gross salary in EUR</th>
<th>Average offered price per m² of apartment in EUR for purchase into personal ownership</th>
<th>Number of m² in an apartment that can be purchased for 1 average annual gross salary</th>
<th>Number of average annual gross salaries required to purchase a 70 m² apartment into personal ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin</td>
<td>41 781</td>
<td>2 917</td>
<td>14.3</td>
<td>4.9</td>
</tr>
<tr>
<td>Munich</td>
<td>50 596</td>
<td>5 653</td>
<td>9.0</td>
<td>7.8</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>49 274</td>
<td>2 848</td>
<td>17.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Vienna</td>
<td>31 330</td>
<td>4 260</td>
<td>7.4</td>
<td>9.5</td>
</tr>
<tr>
<td>Zurich</td>
<td>68 542</td>
<td>8 974</td>
<td>7.6</td>
<td>9.2</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>43 359</td>
<td>3 825</td>
<td>11.3</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Sources: Czech Statistical Office, Gehalt.de, Statistik Austria, Statistik Schweiz, Danmarks Statistik, Immowelt.de, Immopreise.at, Comparis.ch, Association of Danish Mortgage Banks, own calculations

Note: Zurich data are for 2012. Average salary data include for Zurich the entire canton, in case of Copenhagen the entire Hovedstaden region.
1.4 Summary

The potential to influence behaviour of population and organizations active in the city by its administration rests, among other, on ownership of real estate and primarily on ownership of land. Among the cities subject to this comparison – in this case Prague, Munich, Vienna, Zurich and Copenhagen – there do not exist, with the exception of Zurich and Vienna, principal differences in the city’s share in land ownership, which is around 30 % (Vienna 49 %, Zurich 44 %). However, there are more significant differences in terms of the land ownership structure. While about half of land owned by the city of Prague is classified as the so-called ‘other land’, in the other selected cities, this category does not exceed one fifth. In case of vegetation, the land portfolio in Prague contains only a quarter of thus classified land, while elsewhere this category takes up to a third or almost half of the land owned by the city (and in case of Berlin almost three quarters of its land). Land used for transportation takes up a quarter of the city-owned land in Prague, whereas elsewhere this figure ranges between one to two fifths of the city-owned land. This data indicates that while the Prague’s share of land ownership in the city does not fundamentally differ from the compared cities, its structure in terms of land use shows significant differences.

Housing policies differ primarily due to the fact that the other cities (and beside the two mentioned above this also concerns Berlin, Stuttgart and Vienna) have defined, in contrast with Prague, clear quantitative objectives, which aim to influence housing and social situation in their cities, using a number of measures that were designed to support low-to-medium income residents. With the exception of a number of inhabitants per one apartment, where Prague clearly records the highest value, the situation is not otherwise fundamentally different where other statistical indicators are concerned. The difference is caused by insufficiently active municipal housing policy, which is not surprising given that the last conceptual document in this area was drafted in 2004.

From the private real estate market perspective, apartments in Prague still remain relatively cheap in comparison with other selected cities. However, when we use the average annual gross salary as the relevant weight, Prague joins Munich, where one would need, in order to purchase a 70-meter square apartment, between 7-8 average annual gross salaries to buy one.
2. Comparison of Prague economic management with selected cities abroad

2.1 Budgetary indicators

This chapter outlines economic management in Prague and in six selected foreign cities; indicators include revenue and spending, budget balances, capital outlays and their share on total spending and debt in the form of long-term liabilities. It also provides basic information on the amount of funding these cities had at their disposal during the periods in question and how they approach deficit financing.

Data describing economic management of cities are relatively easy to obtain, where overall revenues and spending is concerned. More difficult to find and apparent are data on capital outlays and debt; regardless of that we have managed to compare these in the presentation below as well. Some data for some of the cities for certain years are missing. All indicators had been converted to EUR per inhabitant. It still remain important to consider, when comparing presented data, different population numbers in these cities and the varying economic conditions there. In addition, readers should also consider, given the varying methodologies employed in compiling these data in individual cities, potential methodology-based inaccuracies. These may lie for instance in the fact that it is not always apparent whether budgets in these selected cities concern each city by itself or whether they include budgets of individual administrative units within the city or, in cases of debt, whether such debt consist of only long term liabilities. Administrative borders of cities also play an important role, as these define the city as a statistical unit.

2.1.1 Total revenue and spending per inhabitant (in EUR)

Prague is being compared here with cities in the original European Union Member States and in Switzerland, and for that reason the revenues going into the budget may appear low. Readers should however remember the local price levels, the difference in economic performance of various regions, as well as differences in legislation, which define what are revenues and mandatory outlays of cities.

<table>
<thead>
<tr>
<th>City</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>1 473.1</td>
<td>1 643.4</td>
<td>1 630.7</td>
<td>1 632.0</td>
<td>1 574.4</td>
</tr>
<tr>
<td>Berlin</td>
<td>5 700.0</td>
<td>5 875.9</td>
<td>6 315.8</td>
<td>6 740.4</td>
<td>6 692.9</td>
</tr>
<tr>
<td>Munich</td>
<td>4 052.9</td>
<td>4 053.5</td>
<td>4 006.4</td>
<td>3 588.8</td>
<td>3 919.6</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>---</td>
<td>3 625.3</td>
<td>4 249.6</td>
<td>4 463.6</td>
<td>4 255.9</td>
</tr>
<tr>
<td>Vienna</td>
<td>6 718.4</td>
<td>7 007.9</td>
<td>7 072.3</td>
<td>7 135.3</td>
<td>7 111.7</td>
</tr>
<tr>
<td>Zurich</td>
<td>13 736.9</td>
<td>14 504.2</td>
<td>16 341.2</td>
<td>17 473.6</td>
<td>16 772.9</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>9 956.0</td>
<td>10 908.3</td>
<td>11 178.2</td>
<td>11 234.8</td>
<td>11 103.4</td>
</tr>
</tbody>
</table>

Source: Prague City Hall, Amt für Statistik Berlin-Brandenburg, Landeshauptstadt München, Landeshauptstadt Stuttgart, Magistrat der Stadt Wien, Stadt Zürich Präsidialdepartement, Københavns Kommune

<table>
<thead>
<tr>
<th>City</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>1 598.3</td>
<td>1 713.3</td>
<td>1 699.7</td>
<td>1 610.0</td>
<td>1 468.8</td>
</tr>
<tr>
<td>Berlin</td>
<td>6 125.9</td>
<td>6 286.7</td>
<td>6 654.8</td>
<td>6 553.1</td>
<td>6 551.4</td>
</tr>
<tr>
<td>Munich</td>
<td>2 847.8</td>
<td>3 623.7</td>
<td>3 062.2</td>
<td>3 083.1</td>
<td>3 239.7</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>---</td>
<td>3 521.8</td>
<td>3 703.6</td>
<td>3 944.3</td>
<td>4 296.0</td>
</tr>
<tr>
<td>Vienna</td>
<td>6 718.4</td>
<td>7 007.9</td>
<td>7 072.3</td>
<td>7 135.3</td>
<td>7 111.7</td>
</tr>
<tr>
<td>Zurich</td>
<td>13 747.5</td>
<td>14 610.0</td>
<td>16 353.3</td>
<td>17 543.4</td>
<td>16 744.4</td>
</tr>
</tbody>
</table>
2.1.2 Budget balance per 1 inhabitant (in EUR)

Based on obtained data, we were able to observe individual trends in the development of budget balance. In Prague and Berlin, the budget first shows a deficit and subsequently a surplus, which may be attributed to the economic crisis in 2008 and the subsequent economic recovery. The Table below shows that Vienna and in some years in Copenhagen the city administration needs to put together a balanced budget. Munich and Stuttgart budgets usually end in surplus, which are not negligible, which demonstrates prudent management in these cities. On the contrary, Zurich suffers from deficits, even of only relatively low.

Table 9: Budget balance per 1 inhabitant (in EUR)

<table>
<thead>
<tr>
<th>City</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>-125.2</td>
<td>-69.9</td>
<td>-68.9</td>
<td>22.1</td>
<td>105.6</td>
</tr>
<tr>
<td>Berlin</td>
<td>-426.0</td>
<td>-410.8</td>
<td>-339.0</td>
<td>187.3</td>
<td>141.5</td>
</tr>
<tr>
<td>Munich</td>
<td>1205.1</td>
<td>429.7</td>
<td>944.2</td>
<td>505.7</td>
<td>679.9</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>---</td>
<td>103.5</td>
<td>546.0</td>
<td>519.4</td>
<td>-40.0</td>
</tr>
<tr>
<td>Vienna</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Zurich</td>
<td>-10.6</td>
<td>-105.8</td>
<td>-12.1</td>
<td>-69.7</td>
<td>28.4</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>-484.6</td>
<td>124.7</td>
<td>253.9</td>
<td>-56.6</td>
<td>163.2</td>
</tr>
</tbody>
</table>

Source: Prague City Hall, Amt für Statistik Berlin-Brandenburg, Landeshauptstadt München, Landeshauptstadt Stuttgart, Magistrat der Stadt Wien, Stadt Zürich Präsidialdepartement, Københavns Kommune
2.1.3 Capital outlays per 1 inhabitant (in EUR)

Capital outlays include investment into municipal assets, which should generate benefits over a longer timeframe, and for this reason these outlays should not be neglected. For the sake of clarity, we include both the absolute as well as relative amount in the form of their share on the total spending.

All cities subjected to comparison here show disparity, both in absolute numbers and in the share on capital outlays on total spending. Even when we have averaged the obtained data over a five year period, the highest found annual capital outlay spending per inhabitant remains up to 22-times the lowest amount.

In similar fashion, the share of capital outlays on total spending differs considerably, and ranges from 1–2 % up to 20 % and more. Prague is an exception here, thanks to its transport network developments, even if this demonstrates gradually decreasing trend. Berlin is influenced by its high levels of debt. Development in these cities therefore differs and relates to economic situation as well as to current development projects, which these cities finance.

Table 10: Capital outlays per 1 inhabitant (in EUR)

<table>
<thead>
<tr>
<th>City</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>575.5</td>
<td>476.5</td>
<td>510.1</td>
<td>454.8</td>
<td>312.5</td>
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<tr>
<td>Berlin</td>
<td>113.6</td>
<td>123.6</td>
<td>116.3</td>
<td>84.5</td>
<td>81.2</td>
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<tr>
<td>Munich</td>
<td>368.7</td>
<td>403.0</td>
<td>884.6</td>
<td>520.3</td>
<td>559.1</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>---</td>
<td>350.9</td>
<td>405.6</td>
<td>366.3</td>
<td>585.6</td>
</tr>
<tr>
<td>Vienna</td>
<td>1,074.6</td>
<td>1,172.3</td>
<td>973.1</td>
<td>963.6</td>
<td>1,019.2</td>
</tr>
<tr>
<td>Zurich</td>
<td>4,414.1</td>
<td>1,690.3</td>
<td>1,820.5</td>
<td>1,743.6</td>
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<tr>
<td>Copenhagen</td>
<td>600.3</td>
<td>596.2</td>
<td>691.6</td>
<td>874.8</td>
<td>851.5</td>
</tr>
</tbody>
</table>

Source: Prague City Hall, Amt für Statistik Berlin-Brandenburg, Landeshauptstadt München, Landeshauptstadt Stuttgart, Magistrat der Stadt Wien, Stadt Zürich Präsidialdepartement, Københavns Kommune
Figure 9: Capital outlay development in selected cities in 2009–2013 in EUR/resident

Table 11: Share of capital outlay on total spending (in %)

<table>
<thead>
<tr>
<th>City</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>36.0</td>
<td>27.8</td>
<td>30.0</td>
<td>28.2</td>
<td>21.3</td>
</tr>
<tr>
<td>Berlin</td>
<td>1.9</td>
<td>2.0</td>
<td>1.7</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Munich</td>
<td>12.9</td>
<td>11.1</td>
<td>28.9</td>
<td>16.9</td>
<td>17.3</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>---</td>
<td>10.0</td>
<td>11.0</td>
<td>9.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Vienna</td>
<td>16.0</td>
<td>16.7</td>
<td>13.8</td>
<td>13.5</td>
<td>14.3</td>
</tr>
<tr>
<td>Zurich</td>
<td>24.3</td>
<td>10.4</td>
<td>10.0</td>
<td>9.0</td>
<td>10.5</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>5.7</td>
<td>5.5</td>
<td>6.3</td>
<td>7.7</td>
<td>7.8</td>
</tr>
</tbody>
</table>

2.1.4 Indebtedness (long term liabilities) per 1 inhabitant (in EUR)

Long term liabilities in cities usually consist of bank loans or bonds. Their amounts and dynamics remain considerably different in selected cities. While Munich or Stuttgart gradually pay off their debt, in Vienna, Zurich and also in Prague the situation is the exact opposite. In Berlin, where the debt is the highest of all selected cities, its levels do not fluctuate much because Germany applies constitutionally fixed debt brakes, which apply also for other federal states.

When comparing spending to debt levels (both in 2013), we will see that Berlin would need about three annual budgets to settle all its debt, Prague would need less than one, while Copenhagen would need a mere half per cent from one budget to do the same.

Table 6: City’s indebtedness (long term liabilities) per 1 inhabitant (in EUR)

<table>
<thead>
<tr>
<th>City</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prague</td>
<td>763.5</td>
<td>831.9</td>
<td>845.8</td>
<td>971.4</td>
<td>1 034.0</td>
</tr>
<tr>
<td>Berlin</td>
<td>17 432.0</td>
<td>17 381.0</td>
<td>17 647.0</td>
<td>18 206.0</td>
<td>17 793.0</td>
</tr>
<tr>
<td>City</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Munich</td>
<td>1 690.4</td>
<td>1 608.2</td>
<td>1 185.9</td>
<td>945.5</td>
<td>660.8</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>133.2</td>
<td>107.4</td>
<td>80.9</td>
<td>59.7</td>
<td>---</td>
</tr>
<tr>
<td>Vienna</td>
<td>1 112.7</td>
<td>1 810.8</td>
<td>2 357.1</td>
<td>2 518.2</td>
<td>2 643.3</td>
</tr>
<tr>
<td>Zurich</td>
<td>8 505.2</td>
<td>9 622.7</td>
<td>11 056.3</td>
<td>11 760.9</td>
<td>11 846.0</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>1 305.0</td>
<td>1 161.4</td>
<td>1 136.0</td>
<td>750.7</td>
<td>676.7</td>
</tr>
</tbody>
</table>

Source: Prague City Hall, Amt für Statistik Berlin-Brandenburg, Landeshauptstadt München, Landeshauptstadt Stuttgart, Magistrat der Stadt Wien, Stadt Zürich Präsidialdepartement, Københavns Kommune

Figure 10: Debt level development (long term liabilities) in selected cities in 2009–2013 in EUR per inhabitant

Source: Prague City Hall, Amt für Statistik Berlin-Brandenburg, Landeshauptstadt München, Landeshauptstadt Stuttgart, Magistrat der Stadt Wien, Stadt Zürich Präsidialdepartement, Københavns Kommune
2.2 Comparison of municipal taxes and fees in Prague with selected cities abroad

This chapter describes revenues from local municipal taxes (sometimes also called local taxes or fees) in Prague and in six other cities in Europe. Municipal taxes are taxes where the specific taxable subject (what the tax is imposed on) and its amount is determined solely by the municipality. These still must respect certain limitations that may be imposed on them by nationally valid legislation or regional regulation, especially as to the actual specific taxable subjects and the highest applicable tax rates.

Local fees therefore make up only a very small portion of tax revenues for municipal budgets. Specifically in the Czech Republic, revenue generated by these fees ranges between only 5% (for large municipalities) and 13% (for smaller ones) with some large deviations in either direction, especially abroad, where municipal fees consist, thanks to different legislation, of various types of taxes. Tax revenues are in principle the most important sources of revenue into municipal budgets, thanks primarily to the value added tax, income taxation imposed both on natural and legal persons, which are centrally collected by the state, and which are subsequently re-distributed to individual municipalities based on pre-determined coefficients. In the selected cities abroad, this level of influence on municipal tax revenue is generally higher, as these may be further affected and directly influenced by the so-called trade taxes, which make up a significant portion of their revenue, and it can be said that these trade taxes represents an analogy to the sum of personal and corporate income taxes from businesses that are collected in the Czech Republic.

Besides tax revenue, municipal budgets have other sources or income and these may include subsidies, non-taxable, capital and other income etc. and for this reason the local fees generally make up only a single-digit percentage of the total revenue into the municipal budget. Local fees are, same as taxes, an irrevocable public revenue, serving municipal and public needs, they are also non-equivalent (and depending on the nature also periodic) payment, as no direct consideration is provided in return (in exceptional cases, given the nature of a tax, a direct consideration may exist such as for instance in Stuttgart, where fees for sidewalk cleaning are collected as a part of real property tax).

In our outline below we have specified, for each selected city, to what degree these local fees participate on total revenue, and other information, as well as providing a list and description of local fees as may be collected in each individual city.

In the selected cities, except for Copenhagen, one of the chief municipal taxes is real property tax, which applies both to land and buildings, and therefore may be considered a real estate tax in general.

2.2.1 Local taxes and fees in Prague

Total revenues of the Capital City of Prague in 2014 amounted to 70 billion CZK, and local fees amounted to 606.4 million CZK of that, which represent a mere 0.9% of its total revenue. This includes fees which go both to the city and to its individual districts. Comparing these amounts with the applicable legislation (Act No. 565/1990 Coll., on local fees, as amended, which governs collection of these fees in the Czech Republic) shows that Prague makes every effort to collect the highest permissible rates allowed by this law, which is further regulated by decrees which define specific taxation subjects.

The real estate tax, which is the only tax whose rate may be partially influenced by the municipality, made up 787.5 million CZK in revenue in 2014, and represented 1.1% of total revenue. This tax goes toward the individual budgets in city districts.

Dog license fees

This fee amounts to 1 500 CZK for one (first) dog, 2 250 CZK for the second and all additional dogs owned by one owner. Fees for dogs kept in family homes are a lot lower, and divide into two groups depending on where (in what district) the dogs live. In Prague district 1 to 15 and in Prague 17 the annual fee is 600 CZK for one dog, 900 CZK for the second dog and all other dogs of one owner. In other districts the fee is only 300 CZK for one dog and 600 CZK for the second and additional dogs. Detailed regulation is contained in Decree 23/2003 Coll, of the Capital City of Prague, on local fees from dogs, as amended. This decree also defines the amount of the fee for persons in specific life situations and in other circumstances.
**Admission fee**

Local fee levied on admission is collected from all admission fees to cultural, sporting, promotion and sales events. This fee is paid by and managed by the event organizer. The rate is defined as percentage of the total collected admissions fees minus VAT. This rate may range from 5 to 20% depending on event nature. Fees vary in certain districts. Detailed regulation is provided by Decree 10/2011 on local fee levied on admissions, which also specifies what events are exempt from this tax (above and beyond exemption under Act No. 565/1990 Coll., on local fees, as amended).

**Municipal waste fees**

These fees are paid by property owners. The amount levied monthly is determined according to number, size and frequency of collection (from 86 CZK per one 70-liter container removed 1x every 2 weeks up to 5 737 CZK for one 1 100-liter container removed 6x a week). Detailed regulation is provided by generally binding Decree 2/2005, on local municipal waste fees.

**Local fee levied for use of public areas**

Local fee levied for use of public areas is collected for special use of a public area and includes excavation work, location of temporary buildings and equipment serving for the purposes of sales or providing services, location of construction or advertising equipment, circuses, fun-fairs and other attractions, junkyards, permanent parking spaces and use of public space for cultural, sporting and promotional events or for filming or television work. Fees are paid by the natural or legal person using this public space in the special regime. Fees are defined in Decree 5/2011, on local fee for use of public areas, as amended, and ranges, depending on the purpose between 2 and 100 CZK for each m² and each commenced day. Events that are considered charity or publicly beneficial events are exempt from this levy.

**Local fee for spa or recreational stay**

This fee is paid by natural persons – visitors, who stay in the municipality for temporary periods of time for a charge and make use of spa facilities or who stay in touristic areas in order to receive treatment or enjoy recreation, unless these persons demonstrate other purposes for their stay. The fee is collected and paid by the provider of accommodation services. The applicable rate is 15 CZK per person and day with arrival day exempt. Details are regulated by Decree 27/2003, on local fees for spa or recreational stays, as amended.

**Local fee levied against accommodation capacity**

This fee is collected from facilities offering temporary accommodation for a charge. Fee is paid by the operator. Fee amounts to 6 CZK for each used bed and day. Details are regulated by Decree 6/2011 on local fee levied against accommodation capacity, as amended.

**Real estate tax**

Despite the fact that Act No. 565/1990 Coll., on local fees, as amended, does not include the real estate tax among local fees (being subject to Act No. 338/1992 Coll., on real estate taxation, as amended), it represents a tax revenue, which the municipalities may partially influence. This tax is divided in land and building (units) tax.

The applicable tax rate is, for instance for a building lot, house or apartment 2 CZK per 1 m² (in detail please refer to the real estate tax Act). In Prague, this rate is multiplied according to the real estate tax Act by the so-called basic coefficient of 4.5. The Act allows increasing this coefficient above 5.0 and Prague does use this possibility on the basis of its Decree 16/2001. In addition, a local coefficient is applied on top, which the municipalities may define between 1 and 5. Prague defined the local coefficient at 1.
2.2.2 Local taxes and fees in Berlin

Total revenue in Berlin amounted to 22.7 billion EUR in 2013. Because Berlin had been established as a municipality, union of municipalities and federal state at the same time, it enjoys revenue from taxes and fees levied at municipal and state level. Taxes which are subject to collection and administration on state level, but where the legislative authority lies with the federal level (such as inheritance taxes, betting taxes) are not mentioned further in this text. In 2013, the municipal and state taxes, whose rate may be influenced by Berlin administration, amounted to 2.9 billion EUR, i.e. 12.9 % of total revenue. On the municipal level, this amount breaks down among the following taxes and fees:

- **Trade tax (Gewerbesteuer)**
  - Subjects of this tax are businesses and their objective profit potential under the Trade Tax Act (Gewerbesteuergesetz) which applies nationally in Germany. Every business is subject to this tax of operated in Germany, and it applies also to capital companies. Trade tax does not apply to farms and forestry operations as well as some independent forms of professional employment or other independent work. Trading tax in Berlin brought in 1.4 billion EUR and amounted to 46.9 % of its revenues in 2013 which it can influence, respectively 6 % of total revenues collected by the city for the city.

- **Real property tax (Grundsteuer)**
  - This is tax imposed on land ownership and buildings. It is collected under the Real Property Tax Act (Grundsteuergesetz), while evaluation of the tax is undertaken under the Valuation Act (Bewertungsgesetz); both laws apply nationally. Tax is determined and collected by local financial authority where the land is located. Landowner pays this tax.

On the level of state, Berlin may influence these taxes:

- **Entertainment tax (Vergnügungssteuer)**
  - This tax is imposed on operators of slot machines located in special gaming arcades as well as in other types of establishments which are open to public (for instance in restaurants, bars etc.). This tax regulates presence of slot machines within the city.

- **Real property transfer tax (Grunderwerbsteuer)**
  - Real property transfer tax is collected during acquisitions of built-up or empty lots, from building on properties of others (holiday or weekend houses or cabins built on rented lands etc.) under a legislation regulating use of special purpose buildings (apartments in personal ownership, industrial units etc.) and under applicable inheritance-related law governing buildings.

- **Dog tax (Hundesteuer)**

- **Secondary residence tax (Zweitwohnungsteuer)**

2.2.3 Local taxes and fees in Munich

Total revenues in Munich reached 5.7 billion EUR in 2013; of that amount, the local taxes and fees, which Munich is able to influence, made up 2.6 billion EUR, which represents 45 % of its total revenue.

**Trade tax (Gewerbesteuer)**

Trade tax is imposed on each business or trade (in terms used in the Czech Republic we could say it is a tax imposed on each business owner), who conducts its business in Munich, with the exception of businesses in agriculture and forestry, independent professions and real estate administration. Capital corporations are always subject to this tax.

Collection is a two-stage process. Financial authority firstly determines the business owner’s profit and subsequently it determines the base for the trading tax and the obligation of its payer. In the second stage it calculates the amount of the trading tax to be paid according to the pre-determined base.
Trading tax revenues represented in Munich in 2013 2.3 billion EUR, i.e. 87.8 % of all local fees that can be influenced by the city and 39.6% of its total revenues.

**Real property tax (Grundsteuer)**

Munich collects real property tax for all real property (land and buildings) within the borders of the city. This tax divides into land tax A (businesses operating in agriculture and forestry management) and land tax B (all other real estate property). The amount of tax due is determined by the financial authority.

**Dog tax (Hundesteuer)**

The annual dog license fee amounts to 100 EUR for one dog. In cases of fighting dogs this fee rises to 800 EUR for one dog. Fighting dogs are defined by Bavarian regulation as "any dog with heightened belligerence and hazard" and the regulation goes on to define two classes of hazards. The first class defines specific breeds or cross-breeds, which are not allowed in the city and in the second class it places all breeds with "assumed fighting capacity" or their cross-breeds and these may be kept on the basis of an expert assessment, if it finds that such dog is not per se a fighting dog.

**Secondary residence tax (Zweitwohnungsteuer)**

All persons who have registered a second apartment in Munich (secondary apartment) notify the financial authority and submit a relevant tax return. Owners of second apartment, who have not registered such property with the authorities, are still obliged to submit tax return on that apartment in line with applicable legislation. Financial authority determines tax according to various factors such as size, whether it is a family home etc. In general, the average tax amounts to 9 % of the annual "cold" rent for such property.

The reasons giving rise to this tax include the effort to limit speculation with real estate and taxation of its richer residents. This measure should limit disproportionate growth of apartment prices, as there is a general lack of apartments in Munich.

### 2.2.4 Local taxes and fees in Stuttgart

Total revenue collected by the City of Stuttgart in 2013 amounted to 2.6 billion EUR, of which the local fees, whose amount may be influenced by the city amounted to 722.5 million EUR, which represents 28.1 % of its total revenue. The local taxes and fees (Steuern und Abgaben) include the following most important fees:

- **Trade tax (Gewerbesteuer)**
  - Subject of this tax is a trading business and its objective profit potential. Trading tax is imposed on every trading business operating within the Stuttgart city limits. The tax amounts to 3.5 % of the profit as determined by the local financial authority. Capital corporations are considered to constitute trading businesses. Agriculture and forestry are exempt from this tax, as well as certain independent professions and other independent work. For Stuttgart, this tax also represents, with its volume reaching 549 million EUR in 2013, the most important fee and source of revenue, having amounted to 21.4 % of its total revenues and to 76 % of its local fees that may be realistically influenced by the city.

- **Real property tax (Grundsteuer)**
  - Tax is imposed on ownership of land and buildings erected thereon. For built-up land, the tax is a part of its operational costs, in the area of development of social apartments this tax is included in the rent. Stuttgart collects this tax along with other fees relating to land and its use (or generally, real estate property): fee for waste water (Abwassergebühr), fee for municipal waste...

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In Germany the system recognizes two amounts of a rent. The so-called “cold” rent, in German ‘Kaltmiete’, represents only the rent for the space and its use and does not include other related costs, such as heating, energies etc. These related costs are a part of the so-called ‘warm’ rent, in German ‘Warmmiete’, which is equal to the money actually paid in full to the landlord.
and the previously mentioned fee for sidewalk cleaning (Gehwegreinigungsgebühr).

- Dog tax (Hundesteuer)
- Entertainment tax (Vergnügungssteuer)
  - The tax is imposed on operators of slot machine arcades and other such equipment (such as darts, table football etc.) and jukeboxes located in specialized gaming establishments and other establishments open to the general public (restaurants and such); in addition this tax is levied on operators of betting salons, lottery terminals and establishments having an erotic nature.
- Secondary residence tax (Zweitwohnungsteuer)

### 2.2.5 Local taxes and fees in Vienna

Total revenue in Vienna reached 12.3 billion EUR in 2013, and the local taxes and fees amounted to 464 million EUR, which is 3.8% of its total revenue.

The local taxes and fees (Abgaben) include:

- Employer fee (Dienstgeberabgabe)
  - All employers who employ an employee within the city are subject to this tax. This includes all employers, whether natural or legal persons, who employ at least one employee. Local administration is exempt from this fee, but not the enterprises, institutions, foundations or funds that the local administration manages; employees over 55 years of age, handicapped employees and other special cases of employees are exempt from this fee. The fee amounts to 2 EUR per one employee each week.
- Land tax (Grundsteuer)
  - Any land within the borders of Austria is subject to land tax. General regulation is defined by federal legislation, but the coefficient used in calculating this tax is determined by the local municipality. Land tax is paid also on buildings erected on rented land. Certain buildings erected in Vienna may be, under specific conditions, exempt from this tax for a limited period of time.
- Fee for municipal waste according to local Vienna waste management decree (Abgabe nach dem Wiener Abfallwirtschaftsgesetz)
- Fee for discharge of waste water (Abwassergebühr)
- Compensation according to Vienna decree on protection of trees (Ausgleichsabgabe nach dem Wiener Baumschutzgesetz)
- Compensation according to Vienna decree on parking garages (Ausgleichsabgabe nach dem Wiener Garagengesetz)
- Fees for use of public areas (Gebrauchsabgabe)
- Local dog license fees (Hundeabgabe, Hundesteuer)
- Local accommodation capacity fee (Ortstaxe)
- Fee for parking at places with parking meters (Parkometerabgabe)
- Fee constituting contribution to local sport (fee imposed on admissions to sporting events) (Sportförderungsbeitrag)
- Administrative and commissionial fees (Verwaltungsabgaben und Kommissionsgebühren)
- Entertainment tax (Vergnügungssteuer)
- Fee for drawing water and water meter (Wasserbezugs- und Wasserzählergebühr)
2.2.6 Local taxes and fees in Zurich

Total revenues in Zurich reached 8.2 billion CHF (6.7 billion EUR) in 2013, with the local fees constituting 2.5 billion CHF (2 billion EUR), which represents 30.2 % of its total revenues. The most important local tax/fee is the income and property tax which makes up 80 % of the locally collected fees and amounts to 2 billion CHF (1.6 billion EUR).

Zurich itself has, in comparison with other municipalities within the confederation, only a relatively low taxation, and this is also true when comparing it with taxation abroad, which makes it very attractive. Despite this, and same as in all other municipalities within the confederation, the residents are subject to local, canton and federal taxes. This environment creates a situation where municipalities and cantons compete one with another to offer the most advantageous tax regime.

Municipal fees (Gemeindesteuern) include the following:

- Tax on income and tax on property (Einkommens- und Vermögenssteuer)
- Tax levied against employers who employ foreign workers without residence permit or who employ Swiss employees living abroad (Quellensteuer)
- Church tax (only paid by legal persons) (Kirchensteuer)
- Property sales tax (Grundstückgewinnsteuer)

2.2.7 Local taxes and fees in Copenhagen

Total revenue collected in Copenhagen amounted to 47.3 billion DKK (6.3 billion EUR) in 2014, and the locally collected fees amounted to 5.3 billion DKK (711 million EUR), which represents 11.2 % of its total revenues.

Copenhagen budget does not include the local fees into its general tax-based revenues, they are recorded separately.

Local taxes (kommunal skatter) include:

- Local real estate property tax (kommunal ejendomsskat)
  - Copenhagen collects local real estate tax along with fee for deratization, (rottebekæmpelsesgebyr), waste (affaldsgebyr), sidewalk cleaning (renholdelse af fortovsarealer) and chimney cleaning (skorstensfejningsafgifter). Private higher education institutions and youth accommodation facilities are exempt from this tax. For real estate property transactions, the parties need to agree who will pay the transfer tax, and the recommendations is that the new owner should pay this tax.
- Property taxes
  - Property taxes include land tax and tax on business enterprises.
- Parking fees
2.3 Summary

This brief analysis of budgetary parameters in selected cities shows that available funds per resident and year considerably differ within this group of cities. Prague comes last in this comparison, managing only a little less than a tenth of the budget available to Zurich. With regard to balanced budgets, Vienna represents a special case, being subject to a mandatory balanced budget each year. Other cities accrue surpluses and deficits, like Prague, with the one exception and that is Munich, which recorded budget surplus throughout the monitored period. In terms of capital outlays, Prague is in penultimate place before Berlin, which is the last due to its high level of debt. Despite this, Prague’s capital outlays represent more than a fifth of its total spending, which is the highest amount among all selected cities. In terms of debt, Prague is in the group of cities that have relatively low levels of debt along with Stuttgart, Copenhagen and Munich. Berlin and Zurich carry a higher level of debt, with their long term liabilities being 10-15x higher than in Prague.

If a city administration wants to take an active interest in its economic development, it needs to have corresponding tools to influence it. We have focused in our analysis on local fees and tax revenues. While the system in the Czech Republic favours re-distribution of taxes collected on national level on the basis of the so-called budgetary determination of taxes, which employs coefficients to distribute a part of the revenue to municipalities, other countries give its municipal administration a greater flexibility in terms of being able to influence these kinds of revenues. For instance, Germany allows its municipalities to influence the rate of the so-called trading tax, which may make up dozens of per cent of their budgets, and which makes the municipalities directly interested in their performance within their respective territories. There is no such model in the Czech Republic and the municipalities are able to influence their revenues only vicariously. This creates an environment where they focus more on the spending side of their budgets and on public services that are financed by subsidies from the national budget.
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Comparing Prague with selected European cities from the perspective of land use, housing and management

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