Land Policy Models and Strategies to Make Housing More Affordable

Dr. Frank Friesecke
FIG Working Week 2015, Sofia, Bulgaria

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Dr. Frank Friesecke
Chair of FIG Working Group 8.4
Sofia, May 19, 2015

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© http://luscombelettings.co.uk/housing-costs-risks-rushing-relationships/
Defining Affordable Housing

Introduction

- Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services.


- From London to Lagos, the increasing unaffordability of housing is a growing challenge to cities and nations.
Defining Affordable Housing

- The definition of "affordable housing" varies across economies and cities, but generally it includes a financial component (the share of income devoted to housing).

- In many parts of the world, "affordability" is defined as housing costs that consume no more than 30 to 40 percent of household income.

- The housing affordability gap is equivalent to $650 billion per year, or 1 percent of global GDP.

- 330 million urban households live in substandard housing or are financially stretched by housing costs.

Measuring Affordable Housing

- Affordable housing can be measured by two other parameters:
Defining Affordable Housing

- By 2025, about 440 million households – at least 1.6 billion people – would occupy crowded, inadequate, and unsafe housing or will be financially stretched.

Causes of the Affordable Housing Crisis

- Population growth
- Increased life expectancy
- Rapid urbanization (54 percent of the world’s population residing in urban areas in 2014, 66 percent in 2050)
- Declining number of people per dwelling
- Young adults delaying forming their own household (in advanced economies)
- Mismatch between demand for, and the supply of, housing
- Inefficiencies in urban land markets
Affordable Housing as a Global Challenge

Affordability Gap in approx. 2,400 Cities Worldwide

1. As defined by World Bank.

SOURCE: World Bank, UBS Philly and Earnings Report 2012; Numbeo, CEIC; Deposit.org; Global Banking Pool; Royal Bank of Scotland; Zillow, Metrolincoln; Exane; Metropolis Paris Ile de France; Jones Lang LaSalle; McKinsey Global Institute; Cityscope database, US Census Bureau, national statistics offices, McKinsey Global Institute analysis.
About 60 percent of substandard housing in concentrated in 10 nations

Housing Price Inflation in China


© 2014 RICS
New York City: Affordable Housing Crisis

- Supply and demand among extremely low income and very low income renter households

Data Source: Housing and Vacancy Survey (U.S. Census), 2014.

New York City: Affordable Housing Crisis

- The city has lost more rent regulated units than it has gained

Net Loss of Rent Stabilized Units, 1994 – 2012

Data Source: Rent Guidelines Board Reports, Changes to the Rent Stabilized Housing Stock in NYC in 2012.
New York City

Supply and demand among extremely low income and very low income renter households

Income and Rent Requirements by Income Band

<table>
<thead>
<tr>
<th>Income Band</th>
<th>Percentage of AMI</th>
<th>Monthly Rent Required to Prevent Rent-Burden</th>
<th>Annual Income (for a four-person household)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Low Income</td>
<td>0 - 30%</td>
<td>Up to $929</td>
<td>&lt; $25,150</td>
</tr>
<tr>
<td>Very Low Income</td>
<td>31 - 50%</td>
<td>$630 - $1,049</td>
<td>$23,101 - $41,050</td>
</tr>
<tr>
<td>Low Income</td>
<td>51 - 80%</td>
<td>$1,050 - $1,678</td>
<td>$41,051 - $67,120</td>
</tr>
<tr>
<td>Moderate Income</td>
<td>81 - 120%</td>
<td>$1,679 - $2,517</td>
<td>$67,121 - $100,690</td>
</tr>
<tr>
<td>Middle Income</td>
<td>121 - 165%</td>
<td>$2,518 - $3,461</td>
<td>$100,681 - $138,435</td>
</tr>
</tbody>
</table>

Based on the U.S. Department of Housing and Urban Development's Estimate for Area Median Income (AMI) in 2014 ($45,000 for a four-person household)

Development of Purchasing Prices and Rental Rates in Germany

Year 2007 - 2012

- München: 15.10% purchasing price increase, 39.48% rental rate increase
- Regensburg: 13.70% purchasing price increase, 37.48% rental rate increase
- Hamburg: 22.10% purchasing price increase, 36.10% rental rate increase
- Berlin: 26.30% purchasing price increase, 31.83% rental rate increase
- Freiburg im Breisgau: 14.20% purchasing price increase, 31.11% rental rate increase
- Düsseldorf: 17.70% purchasing price increase, 24.53% rental rate increase
- Oldenburg: 22.90% purchasing price increase, 23.47% rental rate increase
- Kassel: 14.70% purchasing price increase, 23.47% rental rate increase
- Frankfurt am Main: 16.60% purchasing price increase, 22.32% rental rate increase
- Münster: 14.80% purchasing price increase, 22.33% rental rate increase

Source: ilp GmbH, consult.32, immoscout24

- Prices in the south-east will rise 32% over the next five years, with London making gains of 24.4%.
- By 2018, 5.8m households will be in rented accommodation, a million more than today, while the number of home owners will continue to decline.
- Average rents are set to go up by 21% in the next five years and by 26% in London.
- January 2015: Thousands gather in London to protest against lack of affordable housing.

Sources: The Guardian

Supply is not Meeting Demand (London / UK)

- Population and employment growth have outpaced housing supply.
Social Rented Housing in London

- In 2011, 24% of the households lived in social rented housing

© 2014 London Housing Strategy

Affordable Housing Strategies
Affordable Housing Strategies

1. **Analysis and targets:** define income and affordability thresholds, set standard unit sizes along the housing ladder, set targets for volumes and gaps to bridge

2. **Cost-reduction areas:**
   - a. Securing **LAND** for affordable housing at the right location
   - b. **DEVELOPING** and building housing at lower cost
   - c. **OPERATING** and **MAINTAINING** properties more efficiently
   - d. Improving access to **FINANCING** for home purchases, development, and rental assistance

3. **Housing delivery platform:** Manage stakeholders and rigorously qualify beneficiaries; create mechanisms to pursue all possible funding options; build local governance with dedicated delivery units

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**Affordable Housing Strategies**

- Four areas can narrow the affordability gap

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**Impact of levers on cost of standard unit**

<table>
<thead>
<tr>
<th>Levers</th>
<th>Indexed to annualized cost of a standard unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>8-20</td>
</tr>
<tr>
<td>13-50</td>
<td>2</td>
</tr>
<tr>
<td>0-7</td>
<td>52-78</td>
</tr>
</tbody>
</table>

- **Annualized cost to own a standard unit**
- **Land Unskiling land supply**
- **Development** Taking an industrial approach
- **Operations and maintenance** Achieving scale efficiency
- **Financing** Reducing cost, expanding access
- **Optimal cost to own a standard unit**

1. Impact of reduced origination and funding costs is quantified; impact of increased access to financing is not.
2. Transitional use of basic housing (with communal toilets and kitchens, for example) to serve very low-income households.

*NOTE: Numbers may not sum due to rounding.*

*SOURCE: McKinsey/Chinit Institute analysis*
2a. Securing Land for Affordable Housing

- Building on the wrong land: The price of sprawl

Urban expansion of the Mexico City metropolitan areas, 1950–2006

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio of vacant houses over total housing (national) %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>2.4</td>
</tr>
<tr>
<td>1970</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>14.0</td>
</tr>
</tbody>
</table>

© 2014 McKinsey Global Institute

- Hong Kong developed new housing and neighborhoods along railway lines

Built area and railway of Hong Kong metropolis

© 2014 McKinsey Global Institute
2a. Securing Land for Affordable Housing

- Hong Kong: transit-orientated development

*Hong Kong's transit-oriented development unlocked land for new housing*

<table>
<thead>
<tr>
<th>Railway length (kilometers)</th>
<th>1970</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railway expansion unlocked new urban land</td>
<td>54</td>
<td>218</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Urban area (square kilometers)</th>
<th>1970</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area providing 600,000 affordable housing units</td>
<td>60</td>
<td>238</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population (million)</th>
<th>1970</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong Island</td>
<td>2.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Kowloon</td>
<td>0.9</td>
<td>3.9</td>
</tr>
<tr>
<td>New Territories</td>
<td>2.1</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Total Households 7.1

1 Includes Kowloon, North, Shatin, Sai Kung, Tai Po, Tuen Mun, and Yuen Long.


*Public Housing in Hongkong*

© Wikipedia
2a. Ways to make land available

- Nothing has greater impact on the success of affordable housing initiatives than acquiring land in the right place at the right price.

- 6 major policy approaches to develop or unlock land or to increase the density of land to create affordable housing at the right location (MGI 2014):
  
  1. Smart, transit-oriented development (see Hong Kong)
  2. Release public land at the right location for housing (see Turkey)
  3. Unlock vacant serviced land through regulatory measures such as idle-land regulations (see Riyadh)
  4. Start development through land assembly or readjustment (see India)
  5. Unlock land by formalizing informal settlements and registering unregistered land
  6. Reform urban land-use regulations with inclusionary planning elements (see Germany)

### Urban Land Shortages and High Costs

- Many cities have high land costs as a share of total housing unit costs

<table>
<thead>
<tr>
<th>City</th>
<th>Average share of land costs in unit price¹ %</th>
<th>Land costs</th>
<th>Other costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco²</td>
<td>78</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>New York²</td>
<td>68</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Mumbai³</td>
<td>25–98</td>
<td>40–75</td>
<td></td>
</tr>
<tr>
<td>Auckland</td>
<td>42</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>51</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Riyadh</td>
<td>25–90</td>
<td>50–75</td>
<td></td>
</tr>
<tr>
<td>Johannesburg</td>
<td>38</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>

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¹ Includes costs to clear, develop, and service land for housing.
² Including land acquisition costs.
³ Including development costs only.

**Sources:**
Affordable Housing Strategy in Turkey

- TOKI housing agency as land developer

Release of public land at marginal cost can help deliver units at affordable prices

Estimated cost per square meter $1

Affordable housing developed by TOKI

1. Turkey's Mass Housing Administration.
2. Theoretical cost of land reverse engineered calculated by "sales price - construction cost margin."

SOURCE: TOKI website, expert interviews, Real Estate News Turkey, Gardner and Theobald, McKinsey Global Institute analysis

Affordable Housing Strategy in Saudi Arabia

A sampling of land parcels in Riyadh indicates at least 30 to 40 square kilometers of idle, serviced residential land

SOURCE: Google Earth Pro, McKinsey Global Institute analysis
Affordable Housing Strategy in China

China launched an inspection program that identified 97 square kilometers of idle land.


Affordable Housing Strategy in India

Ahmedabad has expanded its built area by 3 percent a year through a town planning scheme. Sequence of town planning schemes in Ahmedabad Development Plan, 1999–2009.

Developed on average –700 hectares, equivalent to 3.2% of built area.

Land-Registration Systems

Five elements of an effective government land assembly program

Integrated land information database
- Land information database describes location, size, rights, uses, and values of all parcels

Verification of existing deeds
- Clear process to identify parcels of land and link them to the land registry

Classification of zoning
- Single authority to enforce zoning requirements and service charges

Institutionalization of indisputable title deeds
- Title deeds are accepted as conclusive proof of ownership; reduced litigation risk

Systemized database management
- Facilitates issuing and recording mortgages, and registering easements, leases, and off-plan sales

Land Policy Models in Germany

The three pillars

Social Aims
- Improvement in Housing Supply by:
  - Quota of Social Housing Promotion: City-wide uniform or differentiated by districts quota for subsidized housing
  - Housing Quota: Quota for portion of housing to create functional mixed neighborhoods

Economic Aims
- Unbuilt land:
  - Reduced price release of land for subsidized housing
- Costs:
  - Planning costs
  - Process and development costs
  - Remediation and Regulation costs
  - Technical Infrastructure
  - Social Infrastructure

Urban Aims
- Building Culture:
  - Urban design competition
  - obligation to build
- Urban Standards:
  - Density values
  - Standards for open space
- Environmental standards
  - Climate adaptation
  - CO2 Emissions
  - Sustainable Building
Land Policy Models in Germany

- **Real property value model**

![Graph showing real property value model](image)

- **Inner urban development model of Stuttgart since 2011**

  - Applied city-wide as far as new planning law is created in favor of a superior use
  - Cost allocation between community and investor
  - 20% of the new buildings have to be used for housing, 20% for social/affordable housing

  - Example: core area with commercial use/Heilbronner Straße
Land Policy Model (Stuttgart/Germany)

- 20 percent of floor-area in any residential development must be reserved for affordable housing
- Mandatory architectural and urban planning competitions
- Building obligation
- High quality and energy standards for building projects

Affordable Housing Strategy in New York City

**Housing New York** is a five-borough, ten-year strategy to address the City’s affordable housing crisis (2014 – 2024).

**Key policies and programs:**

- Fostering diverse, livable neighborhoods
- Preserving the affordability and quality of the existing housing stock
- Building new affordable housing for all New Yorkers
- Promoting homeless, senior, supportive and accessible housing
- Refining City financing tools and expanding funding sources for affordable housing
Affordable Housing Strategy in New York City

Density Bonus

- New York City has created zones in which developers can build 33 percent more space on a given plot of land (by building more floors) if they set aside 20 percent of units as affordable housing.
- Developers essentially get free land for the affordable units and for a share of their market-rate units.


Affordable Housing Strategy in London

- Formally adopted in October 2014
- Delivering more than 42,000 new homes a year
- Investing over £5 billion in building and improving homes in London
- Developing Housing Zones across the capital to drive delivery
- Increasing opportunities for home ownership, by improving the private rented sector and by ensuring working Londoners have priority for affordable homes to rent
Conclusion and Future Directions

- 330 million urban households around the world live in substandard housing or are financially stretched by housing costs.
- The housing affordability gap is equivalent to $650 billion per year, or 1 percent of global GDP.
- Unlock land at the right location is the most important lever.
- Renewal is as important as new building.
- Cities need to think more broadly and creatively about a housing ladder that includes affordable housing but accommodates citizens of all income groups and their changing needs.
- Affordable housing is an overlooked opportunity for developers, investors, and financial institutions.
- Things must change!
The International Perspective

FIG Working Group 8.4
Resilient Urban Development
Chair: Dr. Frank Friesecke (Germany)

Terms of References

- To identify and investigate specific areas where surveyors have the professional expertise to contribute to studies related to resilient urban development,
- To identify how and where surveyors can partner with other global agencies (e.g. FAO, UN-HABITAT, World Bank) in developing sustainable solutions to problems arising from urbanization, housing shortage, and climate change.

Bangladesh, the most vulnerable country in the world to the impact of natural disasters

Thank you very much for your attention!

Dr. Frank Friesecke
die STEG Stadtentwicklung GmbH
Olgastr. 54
D- 70182 Stuttgart/Germany
frank.friesecke@steg.de