Providing Affordable and Adequate Housing Options for the Poor

Housing Policy Matters!

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UN-HABITAT
FOR A BETTER URBAN FUTURE

United Nations Human Settlements Programme
Programme des Nations Unies pour les établissements humains - Programa de las Naciones Unidas para los Asentamientos Humanos
Session 3

Housing Markets and the Affordability Challenge.
Understanding Supply and Demand.
Policy Interventions.
Delivering Diversity and Affordable Options.
10. Understanding Housing Markets

The supply and demand and the behaviour of sellers, buyers, producers, consumers and government policies will determine prices.
Multiple Actors and Specific Motivations

- Housing Producers
- Central Governments
- Housing Consumers
- Local Governments
- Housing Financiers
What are these actors’ motivations?

- Consumers
- Producers
- Financiers
- Local Governments
- Central Governments

Based on World Bank, 1993.
The Context of Housing Policy

Market

SUPPLY

HOUSING AFFORDABILITY

"Prices"

DEMAND

OUTCOMES

Affected by availability of:
- land
- Infrastructure
- Building Materials - BM
- Organisation Building Industry
- Skilled & Productive Labour
- Self-reliance BM production
- Urban Planning

Affected by:
- Demographic conditions
- Rate of urbanisation
- New household formation
- Property rights regime
- Housing Finance
- Fiscal Policies
- Subsidies
- Macro-economic conditions

OUTCOMES OF HOUSING POLICIES

Affordable Housing Opportunities

Scaled-up

Variety of Options

Diversity in Size, Location, Quality, Standard, Price

Freedom of choice

A Healthy Rental Sector is an integral part of a well-functioning housing system.
OUTCOMES

DESIRABLE OUTCOMES OF HOUSING POLICIES

Affordable Housing Options
Housing Opportunities
brought to scale

Serviced Land at scale
Affordable Housing Finance
Building Materials Loans
Support to Technology Development
Urban Renewal & Regeneration

Improvement & Refurbishment of Existing Housing
Ready Made Housing
Sites without Services
Assisted self-help housing
Slum Upgrading & Regularisation
1. Prices are high, thus we must build some understanding about what are the expected price norms in a well-functioning housing market.

2. We must build an understanding about the conditions that are responsible for bringing and maintain high housing prices.
The Context of Housing Policy

Market

SUPPLY

HOUSING AFFORDABILITY
"Prices"

DEMAND

affected by regulatory, institutional & policy frameworks

OUTCOMES

The Importance of Housing Markets
Soly Angel, 2000

1. Housing markets has a critical role in the provision of housing
2. Individual market transactions are also - by their very nature - relatively silent
3. There is no a priori reason to believe that the housing market is always alive and well. It rarely is.
4. The housing market is a sensitive, complex, and largely unknowable entity, subject to fits and starts, unpredictable, merciless, unstable, and almost totally dependent on forces outside itself.
5. Still, housing markets is a valuable and irreplaceable social construct, one that needs to be handled with care, especially since it is the now the repository of vast personal wealth.
What Makes Housing Costs and the Price of Housing?
What Makes Housing Costs?

Size
- Size, standard, age, floor plan, interior features, utilities.

Location
- Land, property registration, regulations

Building materials, durability & Finance
- Wear & tear Maintenance
- Capital costs, loan service

Infrastructure
- Different networks, labour, access fees.

Administration, Management, Fees

Housing Cost Bundle

Implications for Affordability

LAND: Best and Highest Use

In other words:

In a reasonably competitive, free, etc. market, land will be priced at the highest maximum possible among the existing/known alternatives.

Source: Martim Smolka, 2005
Derived Demand

Source: Martim Smolka, 2005

- The demand for land is derived from the demand for housing.
- There is no demand for land – the demand is for the use that can be made of the land.
- Use (possible/expected) determines the price of the land.
- Because the price of housing is high, the price of land is high, and not the reverse!
**Derived Demand – land price:**

Demand for housing:

\[ 15 = 100 - (42 + 17 + 16 + 10) \]

Value of sale of the building (homes):

\[ 100 \]

Construction costs:

\[ 42 + 17 + 16 + 10 \]

**Administrative, marketing, financial costs**:

**“Average” profit**:

\[ 16 + 10 \]

Taxes, levies, cost of development, etc.:

\[ 15 \]

Price of the land:

\[ 85 \]

Source: Martim Smolka, 2005
Cost of Land Components

- Cost of building
- Average profit from building investment
- Cost of urbanization
- Average profit from urbanization
- Land tax
- Land price increment from expectation
- Current use price

price as manifested in the market

From: Carlos Morales-Schechinger, LILP 2004
Impact on Land & Housing Prices

Government Policies:

- Zoning & Planning Ordinances, Inclusionary Housing
- building technologies to decrease construction costs,
- lower standards,
- tax reduction,
- eviction policies,
- housing subsidies

residue becomes the land price
Price of Land in Main City Center (m2)

<table>
<thead>
<tr>
<th>Country</th>
<th>Price (m2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>$22,814</td>
</tr>
<tr>
<td>Singapore</td>
<td>$15,251</td>
</tr>
<tr>
<td>India</td>
<td>$11,455</td>
</tr>
<tr>
<td>Japan</td>
<td>$10,784</td>
</tr>
<tr>
<td>Taiwan</td>
<td>$7,112</td>
</tr>
<tr>
<td>China</td>
<td>$6,932</td>
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<tr>
<td>Thailand</td>
<td>$3,952</td>
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<tr>
<td>Philippines</td>
<td>$3,084</td>
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<tr>
<td>Cambodia</td>
<td>$2,913</td>
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<tr>
<td>Indonesia</td>
<td>$2,766</td>
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<tr>
<td>Malaysia</td>
<td>$2,616</td>
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</tbody>
</table>

Source: Global Property Guide
http://www.globalpropertyguide.com/
The municipality of Singapore has recorded superavit since 1968 based on constant urban renovation.

Source: Singapore Centre for Livable Cities
Singapore: Price of Land in Main City Center

Property Price Index of Residential Property

Source: Singapore Centre for Livable Cities
Getting the Connection of Housing with the Economy Right

- Include Backward and forward linkages in policy
- Set up housing monitoring: indicators to monitor housing-economic activity nexus
- Put in place the right set of incentives
- Consolidate and strengthen institutions and mechanisms to enable private sector participation
- Build a good understanding supply and demand and include this into policies and strategies.
Backwards & Forward Linkages of the Housing with other parts of the economy

**INPUTS**
- Building Materials & labour-intensive building techniques
- LAND: required for building the needed housing
- FINANCE required to fund housing needed to cope with growth
- INFRASTRUCTURE required to serve present & future needed housing

**PLANNING**
- Supply of New Housing Opportunities per 1000 inhabitants per annum
- Improvement of existing Housing Stock, renovation & replacement

**OUTPUTS**
- Number of Jobs creates in backwards linkages
- Total amount of jobs created in building
- Total amount of jobs in improving the existing housing stock
- Jobs created in financial sector
- A large number of jobs in forward linkages: household consumers’ goods, etc
Understanding the basics of supply and demand to support housing policy
Sellers:

people who sell

If you offer me zero I sell you nothing.

If price is low, those who sell tend Not to sell much: SUPPLY

Buyers:

people who consume

If price is low, the buyers will tend to buy a lot.

If price is high, buyers tend Not to buy a lot: DEMAND
The Market Equilibrium

The amount that BUYERS want to buy is just equal to the amount that SELLERS want to sell.
EQUILIBRIUM: There is no reason for price to rise or fall as long as other things remain unchanged.

At a price at which QUANTITY demanded = QUANTITY supplied

Also known as market clearing price
The Market Equilibrium

When the elements underlying **Demand** and **Supply** change, this leads to shifts in demand or supply and changes in the market **EQUILIBRIUM** of **Prices** and **Quantity**.
X1: how much a poor family can decide to buy housing if prices (rent) are low.

Market
PRICE

PRICE

Market

Q

Quality / Quantity

Total Aggregate Social Demand

market equilibrium

X1: how much a poor family can decide to buy housing if prices (rent) are low.
For this high price, a poor will be able to buy NO housing.

For a zero price, a poor will buy that much of Housing.

For these prices, only rich people get housing.

This is the result of poor & rich together DEMAND for rich & poor together.

Quantity of Housing in the Market.
SHORTAGE: quantity demanded greater than quantity supplied

The demand exceeds the supply

Example: price Ceiling

Price at equilibrium \( P_E \), shortage at \( Q_s \), equilibrium quantity \( Q_E \), and demand quantity \( Q_D \).
SURPLUS: quantity supplied greater than quantity demanded.

Example: price Floor
RENT CONTROL

Unregulated market rent = $1,000.00 / month.
Rent control law sets rent = $500.00/month

Figure shows that at rent controlled prices, not all consumers can find rent-controlled apartments.

1. Shortages develop because quantity demanded \( Q_D \) is greater than quantity supplied \( Q_S \).

2. People obtain units by luck, persistence or prior arrangements.

3. Black markets can also emerge: units that typically go for $1,000.00/month are now only $500.00/month. Black market might offer that unit for $800.00, both seller and buyer would be money ahead.

4. Owners may have little incentive to maintain units, quality of controlled units may deteriorate.
Enabling the Housing Market to Work

Understanding the supply and demand sides of the housing markets is the first step to design policies.
Enabling Housing Markets to Work: How to translate that into a strategy?

Those who advocate this, divide the Housing Problem in 2 Parts.

- **A** Poverty
- **B** Markets do not work well

Can only be solved with government assistance / subsidies.
Different types of policies are needed to influence market outcomes, guide its development & enable access to adequate housing.
GOVERNMENT & POLICY INTERVENTIONS

SUPPLY

- HOUSING PRODUCTION COST
- DWELLING PRICE
- MONTHLY HOUSING AMORTIZATION OR RENT

Housing Policy Interventions

DEMAND

- FAMILY INCOME
- FAMILY PURCHASING CAPACITY
- MONTHLY HOUSING REPAYMENT OR RENT

AFFORDABILITY

(Adapted from Lundqvist)
POSSIBLE GOVERNMENT INTERVENTIONS

(Adapted from Lundqvist)

SUPPLY
- LAND COST
- LABOR COST
- MATERIALS SUBSIDIES

HOUSING PRODUCTION COST
- CAPITAL COST
- FINANCING
- INFRASTRUCTURE COST
- SALES PRICE REGULATIONS
- LOCAL FEES

DWELLING PRICE
- FINANCIAL SYSTEM
- RENT REGULATIONS
- MANAGEMENT/REPAIR/MAINTENANCE

MONTHLY HOUSING AMORTIZATION OR RENT

AFFORDABILITY

DEMAND
- FAMILY INCOME
- INCOME TRANSFERS
- COMPULSORY SAVINGS

FAMILY PURCHASING CAPACITY
- HOUSING GRANTS
- INCOME TAXATION
- SALES TAXATION

MONTHLY HOUSING REPAYMENT OR RENT
- HOUSING ALLOWANCES
- TAX RELIEF TO HOMEOWNERS
- SUBSIDIZED INTEREST
Data & Reliable Information Required

Policy Intervention

SUPPLY

Policy Intervention

HOUSING AFFORDABILITY

"Prices"

DEMAND

Policy Intervention

Data & Reliable Information Required

Action Research
Housing Profiles
Public Consultations
Housing Indicators
Market Survey

Data & Reliable Information Required

Policy Intervention

Policy Intervention

Data & Reliable Information Required

Policy Intervention
Public Actions affect Housing Supply & Demand

DEMAND:
1. Tenure security
2. Property rights
3. Housing subsidies (rent control)
4. Taxes
5. Availability of Mortgage Finance

SUPPLY:
1. Regulatory framework
2. Land use
3. Building regulations
4. Cost of inputs: land, labour, building materials
5. Efficiency of housing development process
6. Provision of infrastructure

BUT.. When supply is competitive, the long-run price of housing will be determined primarily by production costs rather than demand; increases in demand will be translated into increases in housing output and not into price increases. World Bank, 1993.
Meeting Housing Gap

**Demand for Housing**
- Lack of long term funds
- Credit Risk
- Informality/low incomes
- High interest rates
- Foreclosure system
- Lack of affordable housing
- Financial literacy

**Supply of Housing**
- Availability of Developer finance (debt and equity)
- Planning and building regulations
- Cost of infrastructure
- Access to Land
- Titling/Registration system

Finance Housing Demand

...expanding access to housing finance down-market and increasing the effective demand for housing

**RESULTS & OUTCOMES**

- Freedom of Choice e.g. rent, buy
- More residential mobility
- Social welfare
- Development processes

- Accessible prices in the market
- Improvement in Housing
- General improvement in districts
- Urban productivity
- Labour productivity
RESULTS & OUTCOMES

Impacts

well-functioning Housing Sector

HOUSING POLICY
Housing Policy Matters,
Solly Angel, 2000

1. How it matters?
2. Why it matters?
3. When it matters?
4. How can we be sure it matters?
5. How much it matters?
HOUSING is not the responsibility of governments alone!

1. Smart housing policies to enable others to play a role in improving the housing and living conditions of society

2. Different roles and responsibilities in production, planning, financing, construction, allocation, delivery and maintenance

3. Different modes of partnership needed to face the scale, scope and dimension of needs and demand

4. Government assistance to those in difficulties to find housing solutions on their own

5. Enabling environment with laws, covenants, institutional framework and planning instruments for different actors to play a role e.g. cooperative, NGO’s, private sector companies, etc.
KEY CONCLUSIONS part 1

1. Housing has a complex institutional and regulatory frameworks that require smart government intervention for housing to maximise its role in economic development & poverty reduction.

2. Governments have a fundamental role to play in making adequate housing accessible by all segments of the population.

3. Housing Policy matters and can influence housing markets outcomes and the overall performance of the housing sector.

4. Availability of information is critical for policy decisions as well as for monitoring housing markets, policy outcomes and the overall performance of the housing sector as a whole.

5. Housing indicators are important tools to help governments and all housing stakeholders in their decisions.

6. Enabling the active participation of other housing stakeholders in housing production is necessary to cope with the demand.
The Global Affordability Crisis:

The lack of affordable housing compels people to resort to informal housing solutions which propels informal urbanisation and slum formation and generates more exclusion & segregation.
HOUSING AFFORDABILITY

INCOME

PRICE

Indicator: house price-to-income ratio
HOUSING AFFORDABILITY

• How much housing can a household buy with its basic income?

in other words

• How many months/years a household - earning a mean household income - should save in order to be able to purchase a standard adequate housing at present market prices?

or

• What is the co-relation between household income and the price of a standard/minimum/adequate housing being sold in the market?

Indicator: house price-to-income ratio
## HOUSING INDICATORS

<table>
<thead>
<tr>
<th>TYPE OF INDICATOR</th>
<th>KEY HOUSING INDICATOR</th>
<th>MEANING</th>
<th>LOW</th>
<th>MEDIAn</th>
<th>HIGH</th>
<th>INTERPRETATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRICE INDICATORS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>The house-price-to-income ratio</td>
<td>Ratio of the median free market price of a dwelling unit and the median annual household income.</td>
<td>0.9 0.03</td>
<td>5.0 0.18</td>
<td>14.8 0.38</td>
<td>It measures housing affordability. If high, system is restricted. If low, insecurity of tenure. Also a key to check housing affordability. If low, rent control measures. If high, rental housing failing to meet demand.</td>
</tr>
<tr>
<td>2.</td>
<td>The rent-price-to-income ratio</td>
<td>Ratio of the median annual rent of dwelling unit and the median annual household income of renters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QUANTITY INDICATORS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Housing production</td>
<td>Total number of housing units (formal &amp; informal) produced last year per 1000 population.</td>
<td>2.0 0.009</td>
<td>6.8 0.04</td>
<td>14 0.088</td>
<td>Measures the importance of housing sector to broader economy. Ability of the delivery systems. Reflects quantities produced and prices. A given value may reflect either high unit costs and low volumes or low costs and high volumes of production.</td>
</tr>
<tr>
<td>4.</td>
<td>Housing Investment</td>
<td>Total investment in housing (formal &amp; informal), as percentage of gross city product.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QUALITY INDICATORS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Floor Area per person</td>
<td>The median usable living space per person (m²) last year.</td>
<td>4 0.43</td>
<td>33 0.90</td>
<td>69 1.0</td>
<td>Low value is sign of overcrowding.</td>
</tr>
<tr>
<td>6.</td>
<td>Permanent structures</td>
<td>The percentage of housing units located in structures built of permanent materials.</td>
<td>0.0 0.0</td>
<td>0.24 0.78</td>
<td>1.0 0.90</td>
<td>Measures quality of housing, durability. Primitive measure of housing adequacy.</td>
</tr>
<tr>
<td>7.</td>
<td>Unauthorized Housing</td>
<td>Percentage of the total housing stock that is not compliance with current regulations.</td>
<td></td>
<td></td>
<td></td>
<td>Unauthorized housing decreases sharply with economic development.</td>
</tr>
</tbody>
</table>
Indicators & Empirical Information

1. Availability of raw materials
2. Production costs
3. Technology & total production

1. Availability
2. Size & volume of loans and mortgages;
3. Price in relation to income and affordability
4. Subsidies

1. Property rights
2. Time & cost of accessibility
3. Price

1. Jobs created
2. Size & capacity
3. Cost
4. Vocational Training
5. Labour market

1. Expenditure on infrastructure
2. Land development multiplier
3. Availability and cost

1. Land
2. Finance
3. Labour
4. Infrastructure
5. Building Materials
UN-Habitat has created a **Global Sample of Cities** made of 200 cities that statistically represent this Universe of Cities. A cooperation between UN-Habitat, University of New York and the Lincoln Institute of Land Policy.
Rent Expressed as Share of Household Income

Cities

City Monthly Rent-to-Household Income Ratio

- 25% Standard for Rent Affordability
- Median Rent Occupant Affordability in the UN Sample of Cities

City A, Affordable 17%
City B, Affordability Standard 25%
City C, Median Rent Affordability 30%
City D, Unaffordable 58%
RENTAL HOUSING IS ALSO LARGELY UNAFFORDABLE

MEDIAN AFFORDABILITY

- The Median Monthly Rent (30%) is above the optimal threshold of 25% of the monthly household rent in the majority of metropolitan areas.

- Only 31% of cities of the UN Global Sample are below the 25% threshold of affordability.
CONCLUSION 1: housing is unaffordable in the Global Sample of Cities

A housing unit in any city regardless of GDP is UNAFFORDABLE (more than a ratio of 3.0)
CONCLUSION 2: housing is unaffordable in the Global Sample of Cities

Rental housing in any city regardless of GDP is UNAFFORDABLE (more than 25% threshold)
The Lack of Affordable Housing is one of the deep-rooted causes of informal urbanization and the Growth of Slums:

It is a global phenomenon that manifests itself physically and spatially on the urban landscape of cities, propelled by a dynamic informal land and housing markets that responds to people’s needs and demands in various cities of the world.
A blueprint for addressing the global affordable housing challenge
McKinsey: A Blueprint for Addressing the World’s Affordable Housing Challenge

- Comparing income available for housing and home prices for standard units in more than 2,400 cities.
- Provides detailed strategies for address affordable

**Global Cities of the Future Interactive Map:**

*Explore the cities that will drive dramatic growth, demographic changes, and consumption over the next generation.*

Global Affordability Challenge According to MGI

The challenge today …

96 million urban households are financially overstretched

235 million urban households live in substandard housing

… and by 2025

106 million additional low-income households will face the affordability housing challenge

… affecting 1.6 billion people or one-third of urban population

We have sized the affordability gap for approximately 2,400 cities.

Global Affordability Challenge According to MGI

Affordable housing is defined by three parameters, which cities need to tailor to their local contexts:

- **Affordability threshold**: 30–40% of income on housing
- **Standard unit**: 60–70% of income on food, health care, and other expenses
- **Income threshold**: 80% area median income

*Th e global target is to provide affordable housing for all by 2025*
FINDINGS

a. 330 million households are affected around the world.
b. Under current trends, by 2025 the number of households that occupy unsafe and inadequate housing or are financially stretched by housing costs could reach 440 million—or 1.6 billion people.
c. The housing affordability gap is equivalent to $650 billion per year, or 1 percent of global GDP.
d. In some of the least affordable cities, the gap exceeds 10 percent of local GDP.
e. To replace today’s substandard housing and build additional units needed by 2025 would require an investment of $9 trillion to $11 trillion for construction;
f. with land, the total cost could be $16 trillion.
g. Of this, $1 trillion to $3 trillion may have to come from public funding.
13th Annual Demographia International Housing Affordability Survey: 2017
Rating Middle-Income Housing Affordability

Australia • Canada • China (Hong Kong) • Ireland
Japan • New Zealand • Singapore
United Kingdom • United States

With comparisons to External Indexes for China and Malaysia

Introduction by
Oliver Hartwich
The New Zealand Initiative

Data for 3rd Quarter 2016

Performance Urban Planning
Demographia International Housing Affordability Survey

Rating Middle-Income Housing Affordability

Australia
Canada
Ireland
China (Hong Kong)
Japan
New Zealand
Singapore
United Kingdom
United States
### Table ES-1

**Demographia International Housing Affordability Survey**

<table>
<thead>
<tr>
<th>Housing Affordability Rating</th>
<th>Median Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>3.0 &amp; Under</td>
</tr>
<tr>
<td>Moderately Unaffordable</td>
<td>3.1 to 4.0</td>
</tr>
<tr>
<td>Seriously Unaffordable</td>
<td>4.1 to 5.0</td>
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<tr>
<td>Severely Unaffordable</td>
<td>5.1 &amp; Over</td>
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</tbody>
</table>

Median multiple: Median house price divided by median household income
The 13th Annual Demographia International Housing Affordability Survey - 2017

INDICATOR: house price-to-income ratio

- 406 metropolitan housing markets (metropolitan areas) in 9 countries (Australia, Canada, China, Ireland, Japan, New Zealand, Singapore, the United Kingdom and the United States) for the third quarter of 2016.
- 92 major metropolitan markets (housing markets) --- with more than 1,000,000 population are included
- 5 megacities are included (Tokyo-Yokohama, New York, Osaka-Kobe-Kyoto, Los Angeles, and London).
<table>
<thead>
<tr>
<th>Rating</th>
<th>Median Multiple</th>
<th>Major Markets (Number)</th>
<th>All Markets (Number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>3.0 or Less</td>
<td>11</td>
<td>99</td>
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<td>Moderately Unaffordable</td>
<td>3.1 to 4.0</td>
<td>26</td>
<td>116</td>
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<tr>
<td>Seriously Unaffordable</td>
<td>4.1 to 5.0</td>
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<td>97</td>
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<tr>
<td>Severely Unaffordable</td>
<td>5.1 &amp; Over</td>
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<td>94</td>
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<tr>
<td>TOTAL</td>
<td></td>
<td>92</td>
<td>406</td>
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</table>
Demographia 2017 Survey
Housing Affordability Ratings by Nation

<table>
<thead>
<tr>
<th>Nation</th>
<th>Affordable (3.0 &amp; Under)</th>
<th>Moderately Unaffordable (3.1-4.0)</th>
<th>Seriously Unaffordable (4.1-5.0)</th>
<th>Severely Unaffordable (5.1 &amp; Over)</th>
<th>Total</th>
<th>Median Market</th>
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<td>3</td>
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<td>21</td>
<td>4.5</td>
</tr>
<tr>
<td>United States</td>
<td>11</td>
<td>22</td>
<td>8</td>
<td>13</td>
<td>54</td>
<td>3.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>11</strong></td>
<td><strong>26</strong></td>
<td><strong>26</strong></td>
<td><strong>29</strong></td>
<td><strong>92</strong></td>
<td><strong>4.2</strong></td>
</tr>
</tbody>
</table>
## Demographia 2017 Survey
### Housing Affordability Ratings by Nation

#### Table ES-3

<table>
<thead>
<tr>
<th>Nation</th>
<th>Affordable (3.0 &amp; Under)</th>
<th>Moderately Unaffordable (3.1-4.0)</th>
<th>Seriously Unaffordable (4.1-5.0)</th>
<th>Severely Unaffordable (5.1 &amp; Over)</th>
<th>Total</th>
<th>Median Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>4</td>
<td>3</td>
<td>14</td>
<td>33</td>
<td>54</td>
<td>5.5</td>
</tr>
<tr>
<td>Canada</td>
<td>10</td>
<td>13</td>
<td>10</td>
<td>7</td>
<td>40</td>
<td>3.9</td>
</tr>
<tr>
<td>China (Hong Kong)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>18.1</td>
</tr>
<tr>
<td>Ireland</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>3.4</td>
</tr>
<tr>
<td>Japan</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>4.1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>5.9</td>
</tr>
<tr>
<td>Singapore</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4.8</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0</td>
<td>4</td>
<td>18</td>
<td>11</td>
<td>33</td>
<td>4.6</td>
</tr>
<tr>
<td>United States</td>
<td>82</td>
<td>94</td>
<td>50</td>
<td>36</td>
<td>262</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>99</strong></td>
<td><strong>116</strong></td>
<td><strong>97</strong></td>
<td><strong>94</strong></td>
<td><strong>406</strong></td>
<td><strong>4.0</strong></td>
</tr>
</tbody>
</table>
House Price to Income Ratios
FROM 1987

Adapted from Reserve Bank of Australia; Courtesy Frontier Centre for Public Policy

Figure 1

* Various combinations of median and mean measures of house prices and incomes uses depending on availability.

Sources: ABS; BIS; Bureau of Economic Analysis; Central Statistics Office Ireland; Communications and Local Government (UK); National Statistics website; OECD; REIA; Reserve Bank of New
Urban Containment & Land Values
VERSUS LIBERAL REGULATION (NO URBAN CONTAINMENT)

With Urban Containment Boundary
Without Urban Containment Boundary

→ Distance from City Center →

Adapted from Lincoln Institute of Land Use Policy

Figure 2
The cost of the global affordable housing gap is about $650 billion, or about 1 percent of global GDP.

Affordability gap by region, 2012

<table>
<thead>
<tr>
<th>Region</th>
<th>$ billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>179</td>
</tr>
<tr>
<td>Latin America</td>
<td>110</td>
</tr>
<tr>
<td>United States and Canada</td>
<td>81</td>
</tr>
<tr>
<td>Western Europe</td>
<td>50</td>
</tr>
<tr>
<td>Northeast Asia</td>
<td>37</td>
</tr>
<tr>
<td>Rest of Asia Pacific</td>
<td>48</td>
</tr>
<tr>
<td>Africa and Middle East</td>
<td>51</td>
</tr>
<tr>
<td>Eastern Europe and Central Asia</td>
<td>42</td>
</tr>
<tr>
<td>South Asia</td>
<td>30</td>
</tr>
<tr>
<td>World total</td>
<td>~640</td>
</tr>
</tbody>
</table>

Share of GDP, 2012

<table>
<thead>
<tr>
<th>Region</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2.0</td>
</tr>
<tr>
<td>Latin America</td>
<td>2.0</td>
</tr>
<tr>
<td>United States and Canada</td>
<td>0.4</td>
</tr>
<tr>
<td>Western Europe</td>
<td>0.4</td>
</tr>
<tr>
<td>Northeast Asia</td>
<td>0.8</td>
</tr>
<tr>
<td>Rest of Asia Pacific</td>
<td>1.2</td>
</tr>
<tr>
<td>Africa and Middle East</td>
<td>1.1</td>
</tr>
<tr>
<td>Eastern Europe and Central Asia</td>
<td>0.9</td>
</tr>
<tr>
<td>South Asia</td>
<td>1.3</td>
</tr>
<tr>
<td>World total</td>
<td>0.9</td>
</tr>
</tbody>
</table>

1 Cost of bridging the gap is the amount of money needed to bring the annual income available for housing of all the low-income households to the market annualized cost of a standard unit. Assumptions: mortgage rates by country where available otherwise regional averages assumed, 30-year tenure of mortgage with 20% down payment.

SOURCE: World Bank; UBS Prices and Earnings Report 2012; Numbeo; CEIC; Deposits.org; Global Banking Pool; Royal Bank of Scotland; Zillow; Metroscoobios; Exame; Notaires 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 is concentrated in 10 nations

Substandard housing units in urban areas

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>62</td>
</tr>
<tr>
<td>India</td>
<td>28</td>
</tr>
<tr>
<td>Nigeria</td>
<td>11</td>
</tr>
<tr>
<td>Brazil</td>
<td>11</td>
</tr>
<tr>
<td>Indonesia</td>
<td>7</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>6</td>
</tr>
<tr>
<td>Russia</td>
<td>5</td>
</tr>
<tr>
<td>Pakistan</td>
<td>4</td>
</tr>
<tr>
<td>Philippines</td>
<td>4</td>
</tr>
<tr>
<td>Iran</td>
<td>4</td>
</tr>
</tbody>
</table>

Share of total urban households in each nation

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>29</td>
</tr>
<tr>
<td>India</td>
<td>33</td>
</tr>
<tr>
<td>Nigeria</td>
<td>63</td>
</tr>
<tr>
<td>Brazil</td>
<td>27</td>
</tr>
<tr>
<td>Indonesia</td>
<td>23</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>62</td>
</tr>
<tr>
<td>Russia</td>
<td>12</td>
</tr>
<tr>
<td>Pakistan</td>
<td>47</td>
</tr>
<tr>
<td>Philippines</td>
<td>41</td>
</tr>
<tr>
<td>Iran</td>
<td>30</td>
</tr>
</tbody>
</table>

1 Based on 2009 data (latest available).
2 Based on 2012 data.

SOURCE: United Nations Millennium Development Goal Indicators; Census India; Rosstat; McKinsey Global Institute analysis
CONCLUSIONS: Demographia 2017 Housing Affordability Survey

• Without exception, severely unaffordable markets have severe land use restrictions (usually "urban containment policies")

• Historically, the Median Multiple has been remarkably similar … with median house prices from 2.0 to 3.0 times median household incomes.

• For the fourth year in a row, the United States has the most affordable housing among major housing markets, with a moderately unaffordable Median Multiple of 3.9. Japan has an Average Multiple of 4.1, the United Kingdom (4.5), Canada (4.7) Ireland (4.7), and Singapore (4.8) have seriously unaffordable housing.

• Three national markets are severely unaffordable, with Median Multiples of 5.1 or above. These included China-Hong Kong (18.1), New Zealand (10.1) and Australia (6.6). Ireland, Japan and Singapore are the only geographies with no severely unaffordable major housing markets.

• The affordable markets are generally characterized by more liberal land use regulation, which is associated with greater housing affordability.
13. Policies and Approaches to address the Global Affordability Crisis and high housing costs.

Combining strategies to lower prices, increase ability to pay, and boost scaled-up diversity of housing options.
12. Policy Options to Address Housing Affordability:

A combination of measures focusing on income (demand), finance (supply), regulations (governance)
<table>
<thead>
<tr>
<th>Cost Reduction Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAND COSTS:</strong></td>
</tr>
<tr>
<td>Inclusionary zoning, legal and policy approaches</td>
</tr>
<tr>
<td><strong>DEVELOPMENT COSTS:</strong></td>
</tr>
<tr>
<td>Ease development process</td>
</tr>
<tr>
<td>Reduce standards</td>
</tr>
<tr>
<td><strong>BUILDING COSTS:</strong></td>
</tr>
<tr>
<td>More rationalization in construction systems and techniques</td>
</tr>
<tr>
<td>Vocational training and capacity building for better skilled labor force</td>
</tr>
<tr>
<td><strong>FINANCE COSTS:</strong></td>
</tr>
<tr>
<td>Decrease borrowing costs.</td>
</tr>
<tr>
<td>Diversity of financial services</td>
</tr>
<tr>
<td>Incremental loan</td>
</tr>
<tr>
<td>Micro-financing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enabling Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABILITY TO PAY:</strong></td>
</tr>
<tr>
<td>Target subsidies, bonus and housing vouchers</td>
</tr>
<tr>
<td>Housing Funds</td>
</tr>
<tr>
<td>Guarantee Funds</td>
</tr>
<tr>
<td>Promote savings – credit schemes</td>
</tr>
<tr>
<td>Micro-financing</td>
</tr>
<tr>
<td><strong>POLICY ENVIRONMENT:</strong></td>
</tr>
<tr>
<td>Inclusionary Housing Programmes</td>
</tr>
<tr>
<td>Diverse Housing Programs</td>
</tr>
<tr>
<td>Pro-poor Strategies</td>
</tr>
<tr>
<td><strong>PLANNING INSTRUMENTS</strong></td>
</tr>
<tr>
<td>Land value capture</td>
</tr>
<tr>
<td>Differentiated property tax regime</td>
</tr>
<tr>
<td>Anticipate Land Supply for urbanization</td>
</tr>
<tr>
<td>Land Readjustment</td>
</tr>
</tbody>
</table>
Affordable housing can be addressed systematically: setting targets, employing cost-reduction levers, and strengthening local delivery

Aspiration and targets
- Define income and affordability thresholds
- Set standard unit sizes along the housing ladder
- Set targets for volumes and gaps to bridge

Cost-reduction levers
Land
Unlock land for affordable housing through measures such as transit-oriented development, idle-land policies, release of public land, and inclusionary zoning

Development
- Improve capital productivity via lean construction, value engineering, procurement excellence, and industrial construction

Operations and maintenance
- Improve energy efficiency, gain scale in maintenance, and set standards to avoid dilapidation

Financing
- Reduce borrowing costs to buyers; assist in developer financing

Housing delivery platform
- Community engagement
  - Manage stakeholders and rigorously qualify beneficiaries
- Funding
  - Create mechanisms to pursue all possible funding options
- Delivery model
  - Choose a combination of delivery models that fit the local context
- Governance
  - Build local governance with dedicated delivery units, streamlined processes, and performance management

SOURCE: McKinsey Global Institute analysis
Three main policy themes for improving access to home financing for buyers of affordable housing

<table>
<thead>
<tr>
<th>Themes</th>
<th>Tactics</th>
<th>Relevant for countries with Emerging primary markets</th>
<th>Relevant for countries with Strong primary markets¹</th>
<th>Select country examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce loan origination costs</td>
<td>Improve assessment methods to qualify borrowers</td>
<td></td>
<td>□</td>
<td>India, South Africa</td>
</tr>
<tr>
<td></td>
<td>Introduce standardized property valuation methods</td>
<td></td>
<td>□</td>
<td>Poland, Romania, South Africa</td>
</tr>
<tr>
<td></td>
<td>Initiate mortgage-guarantee schemes</td>
<td>□</td>
<td>□</td>
<td>United States, India</td>
</tr>
<tr>
<td>Reduce cost of funding mortgages</td>
<td>Establish liquidity facilities</td>
<td>□</td>
<td></td>
<td>Colombia, Malaysia, Jordan</td>
</tr>
<tr>
<td></td>
<td>Expand capital market funding (with covered mortgage bonds or mortgage-backed securities)</td>
<td>□</td>
<td>□</td>
<td>Denmark, Germany, Spain</td>
</tr>
<tr>
<td></td>
<td>Increase use of core deposits</td>
<td>□</td>
<td>□</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Leverage collective savings to reduce rates</td>
<td>Launch housing provident fund</td>
<td>□</td>
<td></td>
<td>Singapore, Mexico</td>
</tr>
<tr>
<td></td>
<td>Offer contractual savings schemes</td>
<td>□</td>
<td>□</td>
<td>France, Germany, Kenya</td>
</tr>
</tbody>
</table>

¹ In the primary mortgage market, lenders originate loans directly with borrowers.

SOURCE: McKinsey Global Institute analysis
THE END

Thank you.