GLOBAL HOUSING STRATEGIES
consulting & investment services

# UNDERSTANDING HOUSING AFFORDABILITY THROUGH EXAMPLES

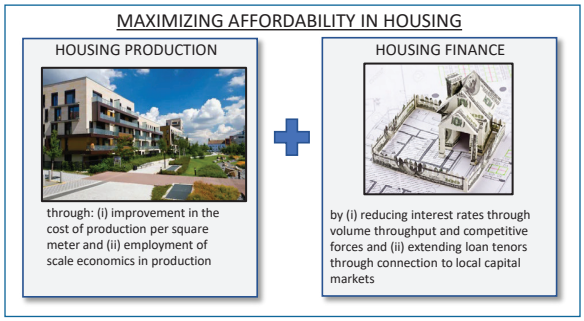
The drive to "affordability" has become fashionable in many circles. Too often this comes to imply that "cheaper" is preferred. Thus, the drive to reduce the cost of production to bare minimal levels has taken over the discourse. In our view, this is faulty and even dangerous.

In reality, "housing affordability" in emerging markets is achieved through a combination of effective project management, good urban design and use of modern building technologies on the production side of housing, while addressing – and solving – the common dysfunctionalities in primary market mortgage lending on the financing side of housing. These are our oft-touted "twin pillars." Not one or another, but both pillars must be addressed. The part of achieving "affordability" that is illusion becomes obvious when emphasis is placed on reducing production cost per square meter to unrealistically low levels such that the housing that is produced is not climate-resilient or wear-resilient. Nor is it "bankable."

## COMPARATIVE EXAMPLES ARE INSTRUCTIVE

The adjacent spreadsheet model illustrates the importance of key variables in housing production (cost per sqm and size of dwelling) and housing finance (mortgage interest rate and loan tenor), and in their combined contribution to maximize housing affordability.

- Columns B & C compare affordability for the same wager-earner who can afford a more bankable and climate resilient home due to longer loan tenor and lower interest rate of the financing mortgage.
- Columns B & D highlight differences in house-hold income by keeping the terms of the financing mortgage the same. Column D example shows that more households can be enfranchised in homeownership through a modest reduction in house size and in developer profit margin.




- Columns D & E are for the low-earner households who are nonetheless bankable and underwrite-able for a home mortgage. The comparison again highlights the folly of producing housing with low cost materials and workmanship, as is the situation of columns (C) and (E). As we have pointed out in previous one-pagers, extreme efforts to achieve savings in production typically result in housing that cannot hold its value in the long term. This naturally works to the detriment of the homeowner, the mortgage lender, and the ultimate investor in the mortgage paper.

These "what-if" comparisons are enlightening and instructive. They show the trade offs that are sustainable for all players – reductions in house size and developer profit margin as well as smaller spreads and longer tenors on the mortgage side. Likewise, they reveal the trade offs that are not sustainable – reductions in quality of the hard asset which only offer short term gain for long term pain.

**WORKFORCE MORTGAGE UNDERWRITING MODEL**

| | | | (A) | (B) | [C] | (D) | [E] |
|---|---|---|---|---|---|---|---|
| | | | | Affordabiliy Comparison | | Low Earner, Underwritable | |
| | | | Solid Middle Class Example | Affordable Financing Model | Low Cost Construction | Affordable Low Estimate | Low Cost Construction |
| Mortgage Underwriting Process | 1 | Gross Annual Earnings, Average Household | 41,000.00 | 20,500.00 | 20,500.00 | 15,250.00 | 15,250.00 |
| | 2 | Deductions from Gross, Average Household | 28.0% | 28.0% | 28.0% | 28.0% | 28.0% |
| | 3 | Net Annual Earnings, Average Household | 29,520.00 | 14,760.00 | 14,760.00 | 10,980.00 | 10,980.00 |
| | 4 | Average Mortgage Term to Maturity (years) | 25 | 25 | 15 | 25 | 15 |
| | 5 | Average Mortgage Interest Rate (variable rate) | 13.250% | 13.250% | 17.000% | 13.250% | 17.000% |
| | 6 | Max LTV | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| | 7 | Max DTI | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% |
| | 8 | Max P&I Payment | 615.00 | 307.50 | 307.50 | 228.75 | 228.75 |
| | 9 | Gross Up Factor for T&I, PMI, etc | 10% | 10% | 10% | 10% | 10% |
| | 10 | Estimated Total Monthly Payment | 676.50 | 338.25 | 338.25 | 251.63 | 251.63 |
| | 11 | Average Loan Amount Possible | $53,632.14 | $26,816.07 | $19,980.45 | $19,948.54 | $14,863.51 |
| | 12 | Average Home Value Possible | $67,040.18 | $33,520.09 | $24,975.56 | $24,935.68 | $18,579.38 |
| | 13 | Down Payment Required | $13,408.04 | $6,704.02 | $4,995.11 | $4,987.14 | $3,715.88 |
| | 14 | Ratio of Net Annual Earnings to Home Value | 2.3 | 2.3 | 1.7 | 2.3 | 1.7 |
| | 15 | Net Monthly Income for all purposes | 2,460.00 | 1,230.00 | 1,230.00 | 915.00 | 915.00 |
| | 16 | Effective DTI Using Grossed Up Monthly House Payments | 27.5% | 27.5% | 27.5% | 27.5% | 27.5% |
| House Production & Pricing Process | 17 | Example: Home Square Meters | 120 | 65 | 65 | 50 | 50 |
| | 18 | Indicated Sales Price per Sqm | $558.67 | $515.69 | $384.24 | $498.71 | $371.59 |
| | 19 | Indicated Land Value to Sales Price of Home | 2.74% | 2.97% | 3.98% | 3.07% | 4.12% |
| | 20 | **Production Cost of Home per SQM** | $ 414.00 | $ 380.00 | $ 285.00 | $ 380.00 | $ 285.00 |
| | 21 | Profit Margin for Developer | 35.00% | 35.00% | 35.00% | 31.00% | 30.50% |
| | 22 | Sales Price per SQM to Consumer | $558.90 | $513.00 | $384.75 | $497.80 | $371.93 |

Green colored cells are input assumptions, blue colored cells the result of calculations. Yellow cells are important intermediate calculations.