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Understanding The Relationship Between Construction Costs and Selling Prices With Specific Reference To Housing Projects In The Klang Valley

by

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Introduction

- On-going debates on the continuous and upward increase in the prices of houses in Malaysia continue unabated
- The common discussions are on the constant and high increase in house prices in the country (iProperty,2013; Ong, 2013a; 2013b; Shah Rizal, 2013; NST, 2012a; 2012b; Zainal, 2010).
- Very little has been said about construction costs of houses
- Are trends in the construction costs of houses moving upward in similar patterns too?

Introduction (Cont'd)

- Construction cost
  - expenses incurred by a contractor for labour, raw material, equipment, financing from a bank and the services involved in building the house (Ong, 2013a).
- Price of houses
  - the amount charged for the work carried out by the housing developers and when received it becomes their income (Ashworth, 1999).
- Cost relates largely to manufacture.
- Price relates to selling.
- The difference between the two is profit (Ashworth, 1999).

Background

- One way to examine such trends is through studying the tender price index of housing projects and comparing it with the index of selling price .
- Tender Price Index (TPI)
  - based on what the client (housing developer) is prepared to pay for the construction and completion of the houses - construction costs, market conditions, profit and probably fluctuation (Ashworth, 1999, p115).
- House Price Index (HPI)
  - a series that tracks the changes in the price of property relative to the price it had at a reference period in time. Changes in the series represent increases and decreases in house prices (ONS, 2013). The house price index aims to measure the change in the average house price.

Background (cont'd)

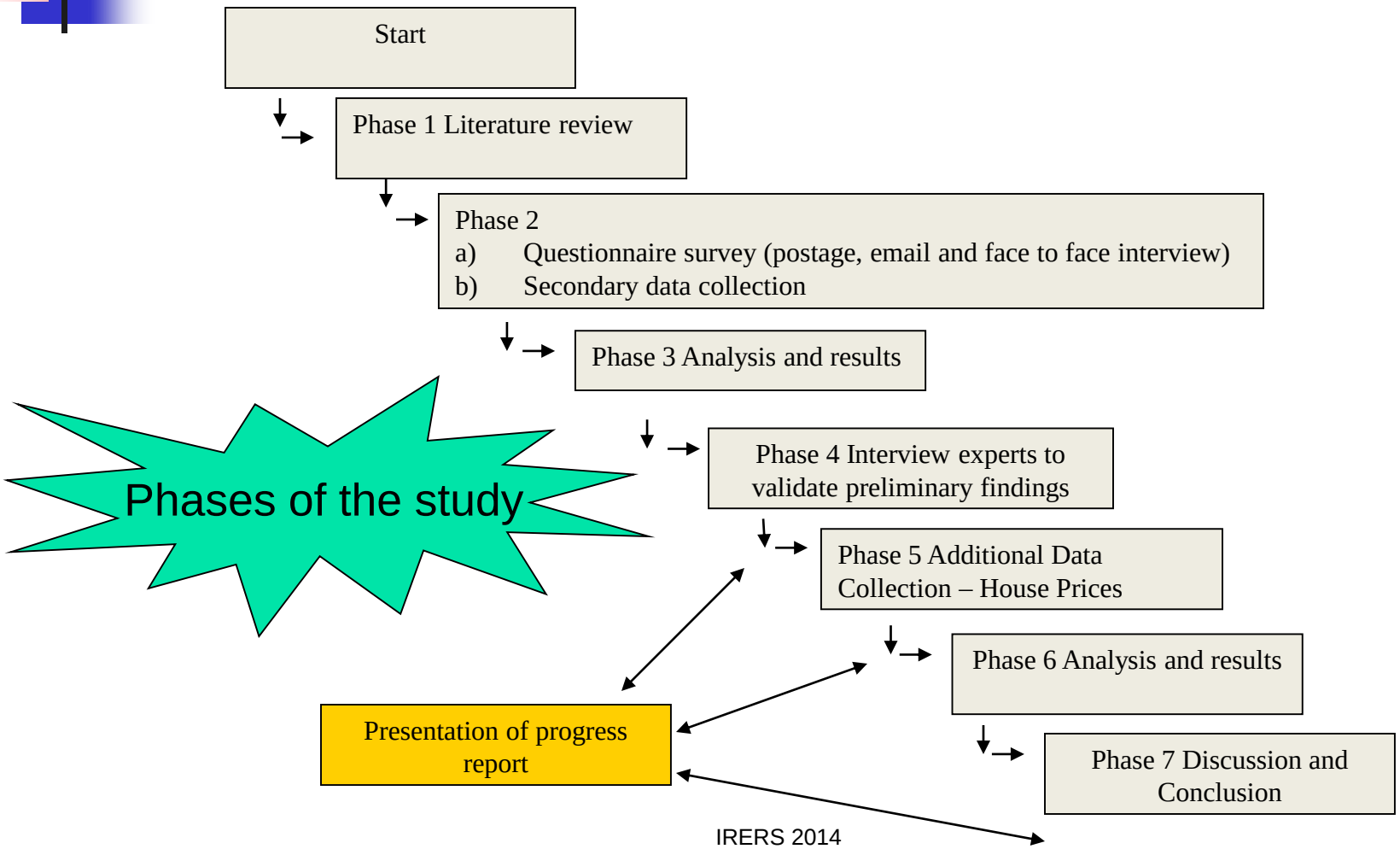
- Tender price index representing the cost of construction
- House price index representing the price of newly built houses
- Important to understand and having such indices in studying the trend of movements of the cost and prices of newly built houses:
  - Helps the government to curb the uncontrolled rising price of houses by ensuring that key players such as the contractors and developers to provide the supply of housing properties in the market at a reasonable and affordable price.
  - Also useful to investors and buyers in making housing investment decisions.

Aim

- This paper reports on a study into historic cost and price movements of housing projects focusing on newly built houses in the Klang Valley

- The study endeavors to seek answers to the following key questions:
  - Is the construction costs of houses moves in similar pattern with the movement of house prices; and
  - Is construction costs of houses moves in similar pattern with the movement in the economy?

Methodology



Analysis & Result

- Trends in tender prices of construction projects
  - Data compiled by the Public Works Department (PWD) and JUBM-Langdon & Seah on building tender price index

$$I = \frac{P_1}{P_0} \times 100 \qquad (1)$$

(Source: Fleming and Tysoe, 1991, Pg. 3)

Where I = Index to be constructed

P_1 = Index for consecutive year

P_0 = Index in the year 2005

Analysis & Result

Table 1 The PWD's tender price index and JUBM-Langdon & Seah's Building works composite tender price index (2005- 2012, modified with 2005 = 100)

Year	PWD	BWCTPI
2005	100.0	100.0
2006	132.21	104.1
2007	136.54	116.3
2008	147	131.4
2008	127.19	117.1
2009	127.72	119.7
2010	130.89	127.0
2012	n/a	130.3

Analysis & Result

- Calculation of housing tender price index

$$\text{House Tender Price Index} = \frac{P_1}{P_0} \times 100 \qquad (2)$$

(Source: Fleming and Tysoe, 1991, Pg. 3)

Where :

P_1 = Cost per M^2 GFA of building work for consecutive year

P_0 = Cost per M^2 GFA of building work (for the base year, 2005)

Analysis & Result

Table 2 Responses to questionnaire surveys and interview

No. of questionnaires sent out (snail and email)		No. of Questionnaire returned (postal and email)	No. of interviews	Total
Quantity Surveying firms	220	13	10	23
Contracting firms (CIDB G7)	318	3	1	4
TOTAL	538	16 (2.97%)	11 (2.04%)	27 (5.01%)

Analysis & Result

Table 3 Types of housing projects (n=90)

State	Terrace	Detached	Semi-D	High Rise (Low)	High rise (Med)	Condo	Town house	Total
Kuala Lumpur	5	4	0	0	4	2	3	18
Selangor	43	7	10	2	7	1	2	72
TOTAL	48 (53%)	11 (12%)	10 (11%)	2 (2%)	11 (12%)	3 (3%)	5 (6%)	90 (100%)

Analysis & Result

Table 4 Mean cost (RM) per meter square (by types of house), 2005-2011

Types of houses	Mean cost (construction, M^2)						
	2005	2006	2007	2008	2009	2010	2011
Terrace	858	866	757	936	1097	972	1097
Detached	n/a	720	2427	n/a	2380	2523	4366
Semi-D	664	n/a	n/a	642	732	1092	1532
High Rise (low)	488	505	n/a	n/a	n/a	n/a	n/a
High Rise (med)	824	1168	1653	934	1556	2087	n/a
Condo	n/a	n/a	n/a	n/a	2274	1536	3296
Town House	1198	n/a	1011	2162	2073	n/a	n/a

Analysis & Result

Table 5 House Tender Price Indices, 2005 - 2011 (2005 = 100)

Type / Year	2005	2006	2007	2008	2009	2010	2011
Terrace	100	101	88	109	128	113	128
Detached	100	n/a	337	n/a	331	350	606
Semi-D	100	n/a	n/a	97	110	164	231
High Rise (low)	100	103	n/a	n/a	n/a	n/a	n/a
High Rise (med)	100	142	201	113	189	253	n/a
Average	100	108	152	157	172	193	249

Analysis & Result

- Calculation of housing price index (NAPIC)
  - Data published by NAPIC for Selangor and Kuala Lumpur

$$I = \frac{P_1}{P_0} \times 100 \qquad (1)$$

(Source: Fleming and Tysoe, 1991, Pg. 3)

Where I = Index to be constructed

P_1 = Index for consecutive year

P_0 = Index in the year 2005

Analysis & Result

Table 6 House Price Index (NAPIC), 2005 - 2011 (mean for Klang Valley, 2005 = 100)

Type	2005	2006	2007	2008	2009	2010	2011
Terrace	100	102.8	107.6	113.8	110.6	121	139.8
High Rise	100	106	111.6	112.6	110.5	125.5	130.8
Detached	100	106.8	118	134.2	124	140.6	142.2
Semi Detached	100	96.5	110.2	110.3	112.3	121.7	134.9
AVERAGE	100	103	112	118	114	127	137

Analysis & Result

- Calculation of house price index based on collected data

$$\text{House Price Index} = \frac{P_1}{P_0} \times 100 \qquad (2)$$

(Source: Fleming and Tysoe, 1991, Pg. 3)

Where :

P_1 = Cost per M^2 GFA of building work for consecutive year

P_0 = Cost per M^2 GFA of building work (for the base year, 2005)

Analysis & Result

Table 7 Types of house, 2010-2013

Types of Properties \Year	Total Properties				Total
	2010	***2011***	***2012***	***2013***	
Terrace	30	27	20	30	107
Semi Detached	15	17	25	30	87
Detached	12	15	12	21	60
High rise	21	16	30	30	97
TOTAL	78	75	87	111	351

Analysis & Result

Table 8 Mean price (RM) per meter square (by types of house), 2010-2013

Types of houses	Mean price (M2)			
	2010	2011	2012	2013
Terrace	2,644	3,797	3,280	3,752
Semi-detached	2,254	4,063	4,579	4,993
Detached	5,029	7,524	4,916	6,777
High rise	7,379	5,696	8,747	7,008
Average	4,326	5,270	5,380	5,632

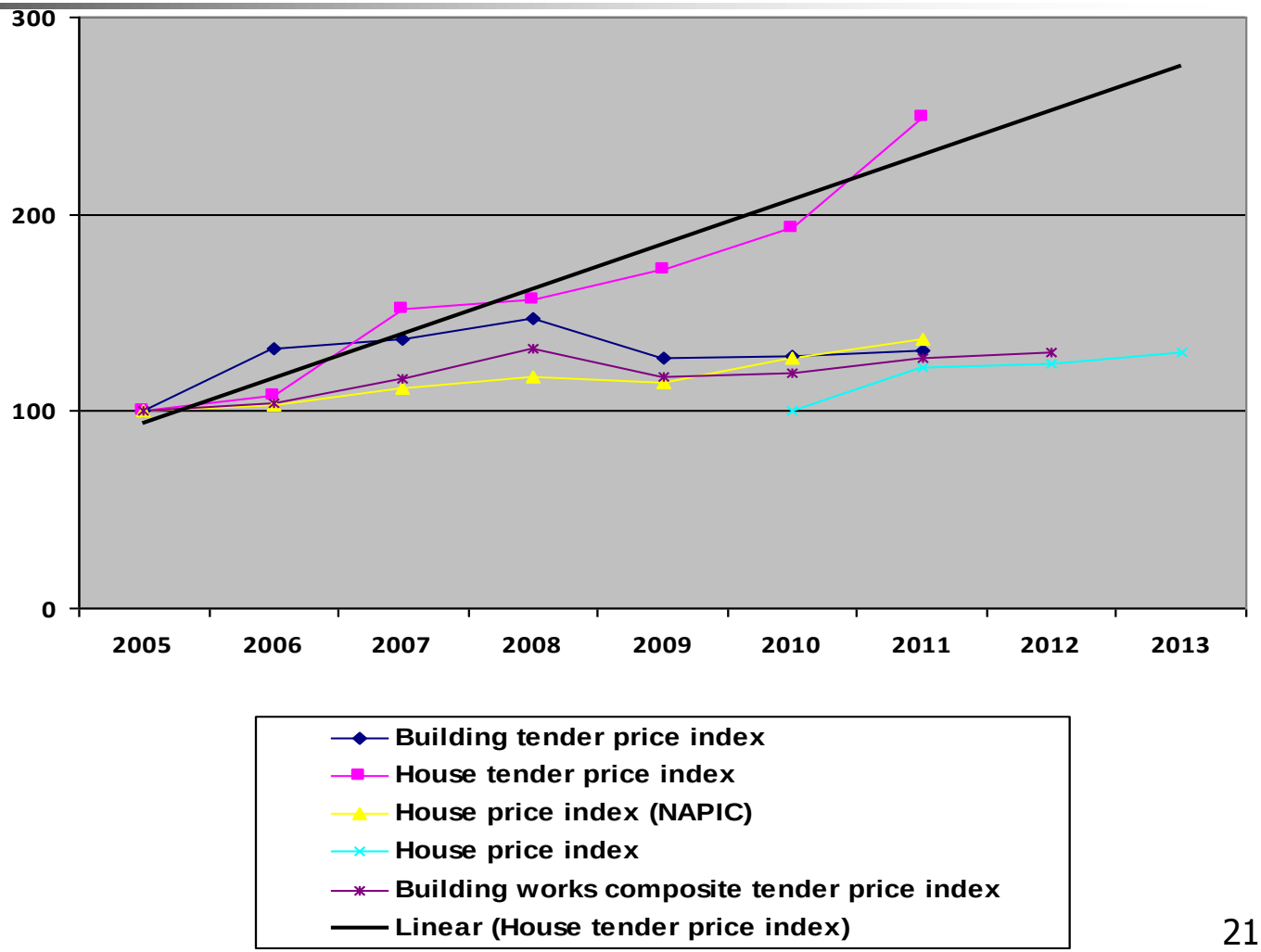
Analysis & Result

Table 9 House Price Index, 2010 - 2013 (mean for Klang Valley, 2010 = 100)

Type/Year	**2010**	**2011**	**2012**	**2013**
Terrace	100	144	124	142
Semi-detached	100	180	203	222
Detached	100	150	98	135
High rise	100	77	119	95
Average	100	122	124	130

Analysis & Result

House tender price index, house price index and building tender price index (2005-2013)



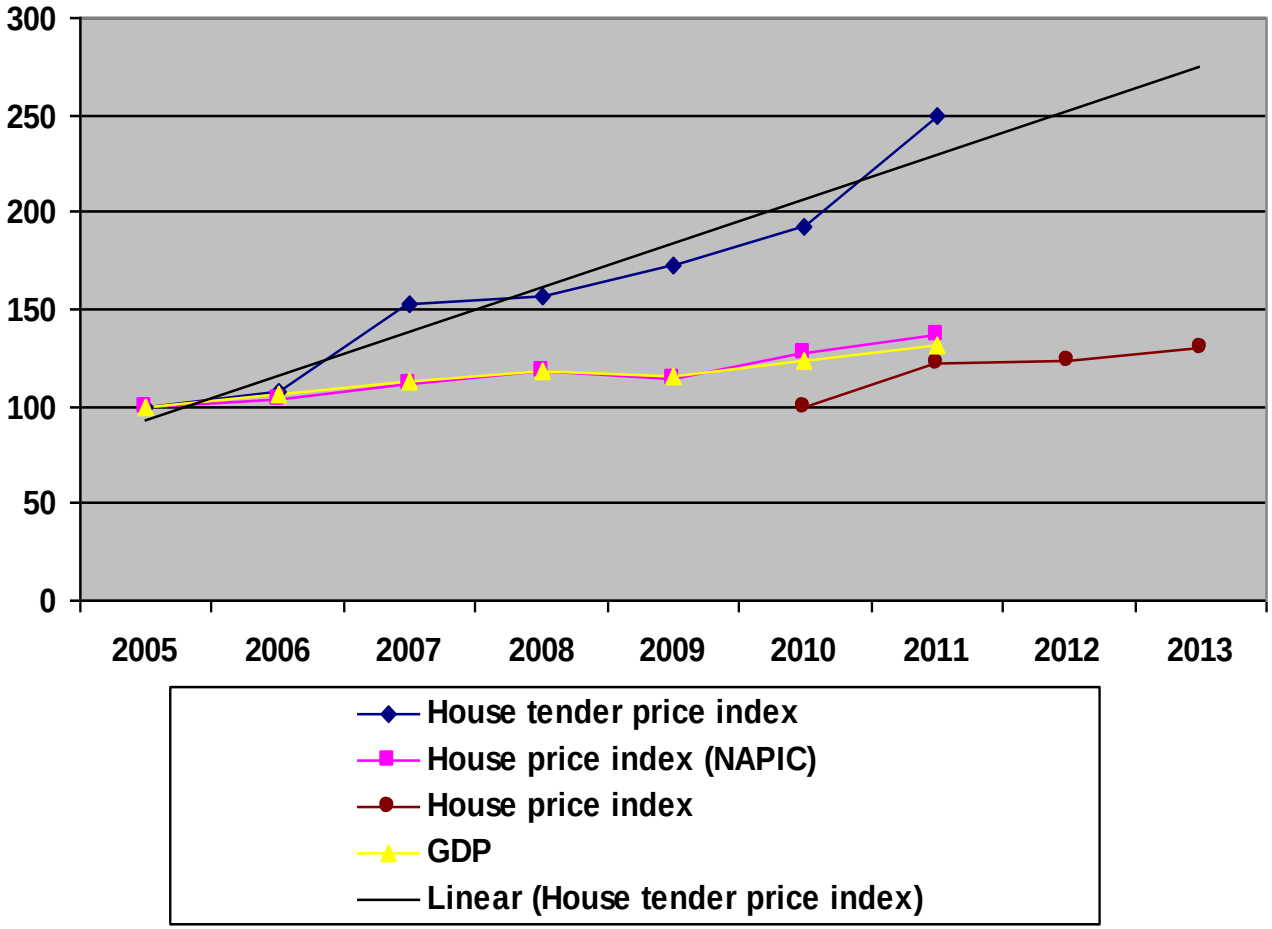
Analysis & Result

Table 10 Movements in house tender price index, house price index and GDP, 2005-2013 (% year on year)

Indices/ Year	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***
House tender price index	100	108 (8%)	152 (41%)	157 (3%)	172 (10%)	193 (12%)	249 (29%)		
House price index (NAPIC)	100	103 (3%)	112 (8.6%)	118 (5.2%)	114 (-2.8%)	127 (11.2%)	137 (7.6%)		
House price index (based on collected data)	-	-	-	-	-	100	122 (22%)	124 (2%)	130 (5%)
GDP	100	106 (5.8%)	113 (6.6%)	118 (4.70%)	116 (-1.7%)	124 (7%)	131 (5.5%)		

Analysis & Result

Movements in house tender price index, house price index and GDP, 2005-2013



Findings & Discussion

- Tender prices for building works tapering down since 2008 and the movement is closely related to the general movements in the economy
- Data from 27 responding firms – average increase in house tender prices (2005-2011) is 17% (cost of constructing houses – excludes prelims, ext. works, land, etc.)
- NAPIC and collected data from published advertisements suggest upward trend in the prices of newly built houses of all types
- NAPIC : about 5% (2005-2011)
- Data from published advertisements : 9% (2010-2013)

Findings & Discussion

- The movements in the house price index and GDP appear to be quite consistent
- Consistent upward movement in house tender price index although when economy is negative rate of growth
- Movement of house price is consistent with the economy, upward trend when economy is positive rate of growth and downward movements when economy is negative rate of growth

Conclusion

- The paper report on a study into historic cost and price movements of housing projects focusing on newly built houses in the Klang Valley
- The study endeavors to seek answers to the following key questions:
  - (i) is the construction costs of houses moves in similar pattern with the movement of house prices; and
  - (ii) is construction costs of houses moves in similar pattern with the movement in the economy?

Conclusion

- To answer the above questions, the paper concludes that:
  - In terms of the relationship between construction costs and selling prices of houses, the indices suggested that construction costs moves upwards along similar pattern with that of the selling prices but the upward movement in costs is relatively much higher than that of prices,
  - In terms of the relationship between construction costs of houses and the economy (GDP) the indices suggested that construction costs moves upwards along similar pattern with that of the economy but the upward movement in costs is relatively higher than that of the economy. Furthermore, the indices suggested that selling prices of houses moves in tandem with the economy.

Conclusion

- The paper concludes that there is positive relationship in terms of upward movements between construction costs, selling prices and the economy during periods of economic growth.

Limitations

- The reluctant of key stakeholders to share data
- The availability of reasonably experienced assistants to assist in the collecting of data and its analysis
- Published data on construction costs especially those related to the private sector are either not widely available or accessible

Recommendation

- Index on cost is vital as to understand the actual cost of construction and prices of houses to enable the policy makers to better monitor the supply and demand of housing properties in the market. It is also to ensure the supply of affordable houses and help the buyers and investors in making investment decisions.
- Data collection of this nature requires the effort to be institutionalized for better results.