THE HONG KONG INSTITUTE OF SURVEYORS
香港測量師學會

General Practice Division

APC Revision Workshop

Issues on *Residual Valuation*

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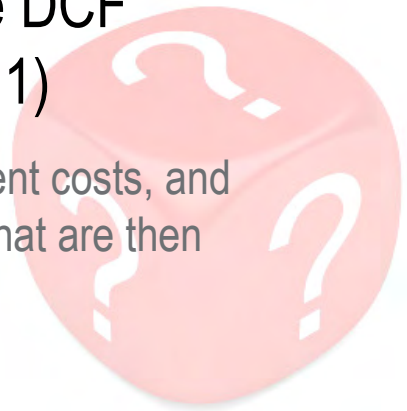
Rationale of Residual Method of Valuation

Modern Methods of Valuation by William Britton, Keith Davies & Tony Johnson (Eighth Edition - 1989) - Chapter 12

> The price which a purchaser can pay for such *property* is the surplus after he has met out of the proceeds from the sale of the finished development his costs of construction, his costs of purchase and sale, the cost of finance, and an allowance for profits required to carry out the project

IVSC Exposure Draft – Technical Information Paper 1: The DCF Method – Real Property and Business Valuations (Jan 2011)

> In the case of development properties, estimates of capital outlays, development costs, and anticipated sales income are estimated to arrive at a series of net cash flows that are then discounted over the projected development and marketing periods.



Discussion on Traditional Residual Model

Two examples of residual valuation

Example 1	
Gross Development Value (GDV)	A
Less	
Marketing Cost on GDV	B
	C
Less	
Construction Cost (CC)	D
Professional Fee on CC	E
	F
Interest on Cost (Half Construction Period)	G
Profit on Cost	H
	I
Residual for Land Value & Associated Costs	J
Less	
Land Acquisition Costs	K
Interest on Land (Whole Construction Period)	L
Profit on Land	M
	N
Residual Land Value	**O**

Example 2		
Gross Development Value (GDV)	A	
Less		
Marketing Cost on GDV	B	
		C
PV for whole Construction Period		D
Less		
Construction Cost (CC)	E	
Professional Fee on CC	F	
		G
Profit on Cost	H	
		I
PV for half Construction Period		J
Residual for Land Value & Associated Costs		K
Less		
Land Acquisition Costs	L	
Profit on Land	M	
		N
Residual Land Value		**O**

Gross Development Value

- Discussion of Development Parameters
  - Government Lease
  - Outline Zoning Plan
  - Building (Planning) Regulations including Class of Site
  - Green Features Policy

- Discussion of Hypothetical Development
  - What are the optimum uses?
  - Form of Development?
  - Comparable development? Justifications?
  - Market study of Demand and Supply
  - Comparables Sales
  - Comparable Rentals and yields

Marketing Costs

- Marketing Costs like Advertising including site hoarding
- Agency Costs for sale
- Show Flats
- A certain percentage of GDV

Interest Cost and Discount Rate

- Financing arrangement of the project – Borrowing of all costs?
- Actual Finance Cost
- Opportunity Cost Concept
- Pre-sale of Units and Deposits
- Spending pattern of Construction Cost
- Interest as a return in the development project

Interest Cost / Discount Rate

Hang Seng's HKD Prime Rate (As at 25-08-2011 10:30)

5.00% p.a.

Last five HKD prime rate change records:

Effective Date	Hang Seng's HKD Prime Rate
10-11-2008	5.00 % p.a.
20-03-2008	5.25 % p.a.
01-02-2008	5.75 % p.a.
24-01-2008	6.00 % p.a.
13-12-2007	6.75 % p.a.

(The above information is for reference only.)

Hang Seng Interbank Offered Rate (As at 25-08-2011 10:30)

Tenor	Interest Rate*
Overnight	0.05000%
1 Week	0.06000%
2 Weeks	0.10000%
1 Month	0.21000%
2 Months	0.25000%
3 Months	0.28000%
6 Months	0.39000%
12 Months	0.69000%

* All rate quotes are "value today"
(The above information is for reference only.)

Construction Cost – uses and floor areas

建筑物种类 Type of Building	香港 Hong Kong HK$	澳门 Macau MOP	北京 Beijing RMB
Office 办公楼			
High Quality 高档次	15,400 - 21,000	12,200 - 17,100	6,5
Medium Quality 中档次	12,800 - 15,500	10,300 - 12,600	5,0
Ordinary Quality 普通档次	11,100 - 13,700	8,300 - 10,800	3,6
Shopping Centre 商场			
High Quality 高档次	21,000 - 25,000	17,000 - 21,200	7,4
Medium Quality 中档次	15,900 - 19,100	N/A	5,8
Residential 住宅			
High Rise; High Quality 高层; 高档次	14,000 - 19,700+	9,100 - 15,200	3,9
High Rise; Better Quality 高层; 中档次	11,400 - 13,600	7,100 - 9,400	3,7
High Rise; Ordinary Quality 高层; 普通档次	10,500 - 11,600	6,200 - 7,400	1,9
House; High Quality 别墅; 高档次	22,900 - 30,000+	N/A	4,2
House; Medium Quality 别墅; 中档次	16,400 - 20,700	N/A	2,7
Clubhouse 会所	23,100 - 38,000+	N/A	

(Cost per Square Metre Construction Floor Area at 1st Quarter 2011 Prices)

Building Type / Region (USD/m² CFA)	Hong Kong	Macau	Shanghai	Beijing
DOMESTIC				
• Average standard apartments, high rise	2,085	1,315	630	499
• Luxury apartments, high rise	2,310	1,877	945	705
• Terraced houses	2,690	N/A	788	470
• Luxury houses	3,590	N/A	1,050	710
OFFICE / SHOPPING CENTRE				
• Average standard offices, high rise	2,085	N/A	945	787
• Prestige offices, high rise	2,565	N/A	1,260	1,120
• Average standard shopping centres	2,210	1,600	998	970
• Prestige shopping centres	2,565	2,500	1,310	1,140

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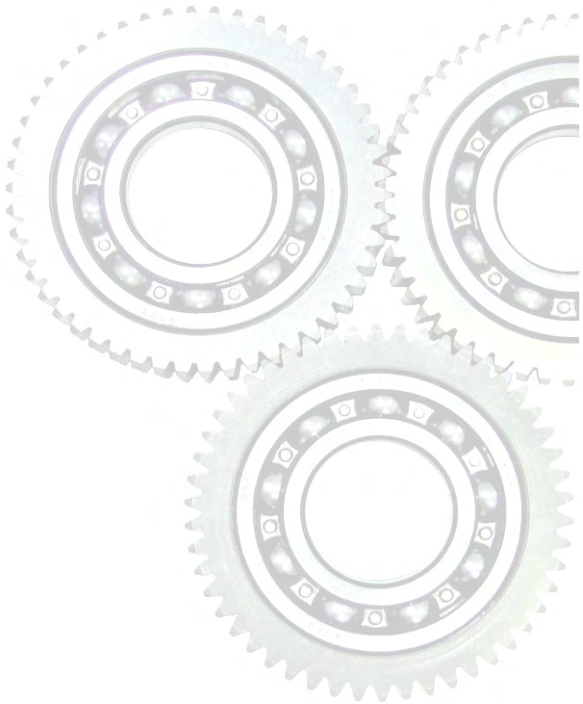
Sources: Websites of RLB & DLS

Profit Allowance

- Risk Profile of Development
  - Market outlook and marketing risk –
  - Time to secure development approval
  - Construction related risks (including site conditions and tender prices)
- Purpose of the Development
  - Speculative investment or with pre-committed tenants
  - Strata - Sale
  - End-user
- Competition in Market
- Developer's administrative costs

Land Acquisition Costs

- Stamp Duty
  - Not for Government Land
- Legal Costs
- Agency Fee



Some Assumptions in Site Valuation

- Physical site conditions – site contamination, site difficulties
- Development Approvals under Buildings Ordinance and Outline Zoning Plan, etc
- Construction Contract and Construction Costs estimates by QS
- Occupation Status – Vacant Possession and termination of tenancies

“Cash Flow Approach” of Residual Valuation

The Income Approach to Property Valuation (Edition 4 – 1997) by Andrew Baum, David Mackmin & Nick Nunnington

Problems of Traditional Method

- Dangers of generalized assumptions
  - Construction cost expenditure pattern varies
  - Final Land Value is very sensitive to small variations in **key variables**
    - Building costs
    - GDV deriving factors : Completed units sale price / Rental Values / Yield etc.

- Weak in handling "Large Phased Developments" scenario

Adoption of the "Cash Flow Approach" to cross-check with Traditional Approach

"Cash Flow Approach" - DCF Method of Residual Valuation

Period	Cash Inflow	Cash Outflow	*Net*	PV factor	Present Value
1	a_1	b_1	$a_1 - b_1$	x_1	$x_1(a_1 - b_1)$
2	a_2	b_2	$a_2 - b_2$	x_2	$x_2(a_2 - b_2)$
3	a_3	b_3	$a_3 - b_3$	x_3	$x_3(a_3 - b_3)$
4	a_4	b_4	$a_4 - b_4$	x_4	$x_4(a_4 - b_4)$
5	a_5	b_5	$a_5 - b_5$	x_5	$x_5(a_5 - b_5)$
…	…	…	…	…	…
				=	**NPV**

Cash Inflow : Revenue from flats sale

Cash Outflow: Building costs

PV Rate: Considering the return of a "risk-free" investment plus a risk premium for the development

- Taking "**Growth" in Development Value** over time into account while traditional model do not

Reference: The Income Approach to Property Valuation (Edition 4 – 1997)

Site Comparables – Cross check with the Direct Comparison Method

- Site comparable lists
- Analysis of the site comparables in unit site values and/or accommodation values
- Comparison of the site comparables with the subject site
- Discussion of adjustments made
- Conclusion

Q&A Session