



COMMENTARY

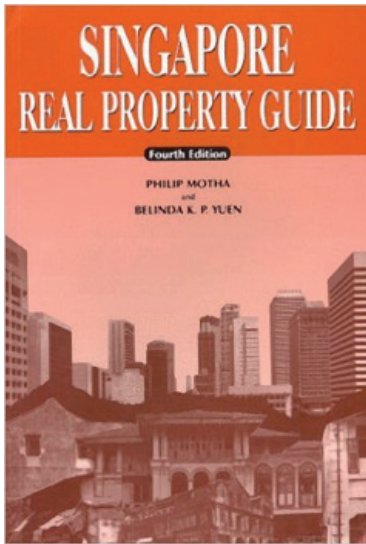
Determining the value of leasehold land: A closer look at “Bala’s Table”

IN THIS EDITION

What is the value of the remaining lease on a leasehold property? SLA’s Leasehold Table (or Bala’s Table) compares values across different tenures and land valuation. It also computes the differential premium for change of use or increase in intensity, and land premium for upgrading of lease tenure. In this paper, CLC researchers Kwek Sian Choo and Dionne Hoh attempt to trace the Table’s logic and construction, and suggest that its author may have used a discount rate of 3.5% to peg the leasehold values as a percentage of freehold value for leasehold term ranging from 1 to 99 years.

When the Clifford Pier site at Collyer Quay was sold in 2006, developers could choose to tender for either a 30 year or 60 year lease. This facilitated the redevelopment of the old Clifford Pier and its adjacent former Customs Harbour Branch Building into a hotel and retail, leisure and entertainment centre.

Image credit: William Cho @ <https://flic.kr/p/dnMqpn>



Singapore Real Property Guide — the first book to document leasehold values as a percentage of freehold value.

Values matter

In Singapore, land is a scarce and critical resource, and its proper pricing and valuation is of great importance to the Government, private sector, and households.

Land leases are classified either as freehold or leasehold. The owner of freehold land has a perpetual, non-expiring right of ownership to the land, whereas leasehold titles give the purchaser the temporary right of ownership. With some exceptions, residential leasehold titles usually run for 99 years, while most industrial leases run for either 60 or 30 years (in some cases, 20). Upon the expiry of the lease term, the ownership of the land returns to the state.

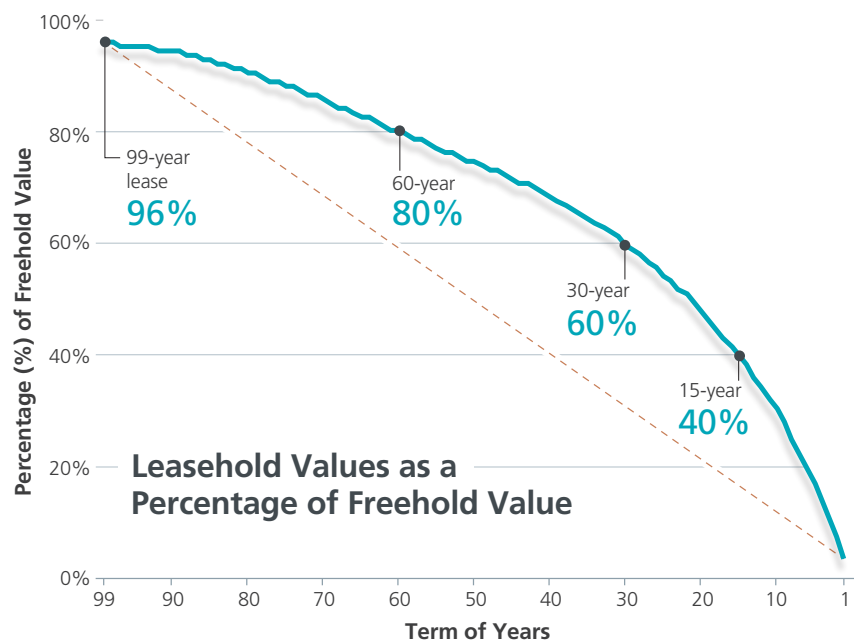
A vibrant secondary market exists for the sale and resale of leasehold and freehold land and real estate. Because leases can be bought, sold, extended or reduced, it is often necessary for the Government, as well as property developers, buyers and sellers, to know the value of the remaining lease on a piece of leasehold land. This allows the Government to calculate the land premium (or fee payable) for the alienation¹ of state land, for changes in land use or intensity, or extension of land leases.

What is “Bala’s Table”?

To do this, the Singapore Land Authority (SLA) refers to a discounted values table (Appendix 1) showing the value of a parcel of land with different lease terms remaining, as a percentage of its value assuming it were freehold.

This Leasehold Table was first adopted by the Land Office when Singapore was still a British colony. It is widely believed that the table was prepared by a Land Office employee by the name of Bala, and the table has become known as “Bala’s Table” in the real estate industry.

The exact time and basis for the adoption of Bala’s Table are not known. However, Philip Motha and Belinda Yuen in their book “Singapore Real Property



¹ Alienation broadly refers to the transfer of the ownership of land to another party for a fee (land premium), typically for a period of 10 years or longer.

Graph of leasehold values of land as a percentage of its freehold value, based on SLA’s Leasehold Table (‘Bala’s Table’). *Image credit: Juan Velasco, Centre for Liveable Cities*

By publishing the Leasehold Table online ...SLA's move encouraged the optimisation of land use, and facilitated the overall pace of redevelopment in Singapore.

Guide" (1999, 4th ed.) stated that after 1948, leasehold land was alienated based on the following calculations:

- (i) 99-year lease: 96% of freehold value
- (ii) 60-year lease: 80% of freehold value
- (iii) 30-year lease: 60% of freehold value

As these three percentages of freehold value tally with the respective entries in Bala's Table, we can infer that the table was adopted sometime around 1948. This could have been linked to the official proclamation under the Crown Land Rules (1947) that 99-year leases would be issued in all instances, instead of freehold title.

Enhancing transparency and encouraging better land use

Bala's Table was originally an internal document, used by the Land Office for the alienation of State land. It was leaked to the private sector at some point, after which it was used by property players as an informal guide to valuation estimates. However, there was no certainty as to how the Government determined the premium payable for the removal of state title restrictions on leasehold land.

From 31 July 2000, the SLA improved the transparency of the system by publishing the Leasehold Table online. SLA's move encouraged the optimisation of land use, and to facilitated the overall pace of redevelopment in Singapore. This gave the public access to the table used by SLA, and provided greater certainty to landowners and industry players, who could now calculate the premium they would have to pay beforehand. They could do this by referring to the Development Charge (DC) Table rates payable for the change of use or increase in intensity of land, and adjusting the DC rate according to the residual tenure of the land as a percentage of freehold value shown in the Leasehold Table.

Understanding the Leasehold Table

Generally, the value of a piece of land varies with its tenure. The land value will be higher if the remaining lease is longer. However, the value of land does not fall at a constant annual rate as its lease period falls, for instance from 99 years to zero.

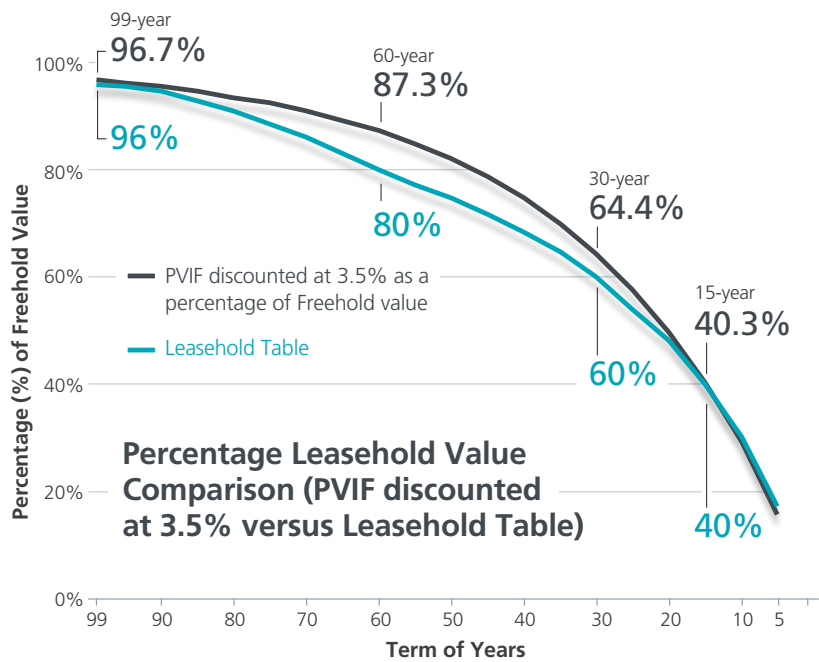
When a person purchases a piece of land, he is actually paying for the right to use the land, or the right to receive a stream of future rental income. To illustrate: assuming that the rental income from a piece of 99-year leasehold land is \$1 per square foot (psf) per year, the owner of the land would hence receive a payment of \$1 psf every year, for 99 years. But \$1 today would not be worth the same 99 years later due to the "time value of money". For this reason, the total land rent received in the first 10 years, for example, would have a much higher present value than the total land rent in the last 10 years of this lease.

To get the present value of the land rent in one lump sum, the future rental payments of \$1 psf per year must be discounted at a rate close to the opportunity cost of the money. This future stream of rental income is discounted to a single multiplier, generally known as the Present Value Interest Factor (PVIF)² in finance, or the Gross Income Multiplier as it is called in the USA or the Years Purchase (YP) in the UK. The PVIF is then calculated for different lease durations, and compared with PVIF for freehold land. This would give us the leasehold value as a percentage of freehold value, as shown in Appendix 2.

As the graph comparing percentage leasehold value shows, assuming a discount rate of 3.5%, the leasehold PVIFs as a percentage of freehold PVIF are

2

The formula for the PVIF is $[1 - 1/(1+i)^n]/i$, where i =interest rate and n = number of years.



A comparison between the Leasehold Table and PVIF discounted at 3.5% as a percentage of freehold value. *Image credit: Juan Velasco, Centre for Liveable Cities*

The slope and shape of the curve are also not trivial, as they affect... premiums collected by the state for upgrading a lease.

quite close to the SLA's Leasehold Table rates. This is especially so for leases up to 30 years and between 75 to 99 years.

It may also be observed that there is a greater variance between the two curves between leases of 35 to 70 years. One unverified possibility is that the original author of the table had adopted a rate close to 3.5% as the discount rate, and adjusted the table rates to whole numbers for leases of 10, 15, 20, 30, 60 and 99 years, for convenience. The rates for other leasehold years could have then been interpolated in between. Thus, the most likely discount rate adopted in Bala's Table is around 3.5%.

The slope and shape of the curve are also not trivial, as they affect the rate at which leasehold valuations fall, and hence the premiums collected by the state for upgrading a leasehold to its full 99 years.

Is 3.5 Percent A Suitable Discount Rate?

Is a discount rate of about 3.5% a reasonable choice for SLA's Leasehold Table?

Land is a scarce resource and produces regular income over the years, whether in the primary form in terms of land rent, or the secondary form in terms of rental of completed developments. The income is quite stable and of a lower risk, hence a lower discount rate of 3.5% is justifiable.

In comparison, Singapore's inflation rate averaged 2.68% from 1962 until 2016, while in June 2013 the Monetary Authority of Singapore (MAS) instructed financial institutions to adopt a 3.5% "stress test" interest rate in processing housing loans under the Total Debt Servicing Ratio framework. Moreover, the Government's cost of capital averaged 3.4% for the past 12 years (2005 to 2016). These rates are broadly in line with the Leasehold Table's implicit discount rate. Furthermore, the Leasehold Table has gained wide acceptance since it was published on SLA's website in 2000.

HDB's Lease Buyback Scheme

Under the Lease Buyback Scheme (LBS), eligible seniors can choose to retain part of their Housing and Development Board (HDB) flat's lease, and sell the remainder back to HDB to improve their financial adequacy during retirement.



Bugis+ (formerly Iluma) is the outcome of a government land sale at Victoria Street in 2005, where developers could tender for either a 30 year or 60 year lease. *Image credit: Choo Yut Shing @ <https://flic.kr/p/chUAUu>*

Bala's Table... is not an exact science. But it has served several government agencies, and the real estate industry in Singapore, for decades. There is value in consistency and stability in the calculation of leasehold values...

During a Parliament session on 8 September 2014, one MP asked why, even when the duration of the lease sold to HDB is equal to the duration of the lease retained by the owners, the sales proceeds to owners are lower.

Then Minister for National Development Mr Khaw Boon Wan responded that the value was not a straight line due to the time value of money and because properties with very short outstanding leases tended to depreciate faster.

Mr Khaw explained that "the Lease Buyback Scheme proceeds is the market value of the flat with its full remaining lease, less the value of the first "X" years of lease retained by the household and any outstanding housing loan", but that adjustments were made to reflect "restrictions placed on the LBS flat, namely no subletting of the whole flat and no resale". Because of these adjustments, the LBS proceeds were higher than they otherwise would be.

It would appear that HDB has adopted the principle that the value of the flat of the initial years (for the seniors' immediate use and occupation) is higher than the value in the remaining tail-end years, similar to the working assumption of the SLA's Leasehold Table. However, it is noted that HDB further adjusts these values to take account of the restrictions imposed on LBS flats, to derive higher LBS proceeds.

Other Uses of the Leasehold Table

Temporary Development Levy

From 2003, URA introduced the Temporary Development Levy (TDL) scheme to provide greater flexibility to businesses. The TDL is a time-based levy, and is payable for temporary permission granted for a change of land use, or addition and alteration proposals related to business use, for periods up to 10 years.

The TDL reduces start-up costs for businesses, since they do not have to pay the full development charge for temporary enhancements of land value beyond the development baseline.

The amount of levy payable is calculated using the Leasehold Table rates for the first 10 years, and ranges from 3.8% for temporary written permission up to 1 year, to 30% for up to 10 years.³

3

The percentage of temporary development levy is in the Schedule attached to the Planning (Temporary Development Levy) Rules under Planning Act (Chapter 232, Section 40D).



The Hillford at Jalan Jurong Kechil is Singapore’s first retirement village. Developers had the option of a 30, 45 or 60 year lease when bidding for this site in 2012. Image credit: Lucky Agus Kurniawan Kosasih @ <https://goo.gl/maps/fVQxjcCXQoK2>

Government land sales programme — sites with options for different tenures

For some Government Land Sales sites, developers were given the option to choose and bid for different land tenures, to better control their development cost and project viability.

For example, in the sale of an urban entertainment centre site at Victoria Street in 2005 and a commercial site at Collyer Quay in 2006, developers could choose to tender for either a 30-or 60-year lease.

In 2012, developers were given the option of a 30, 45 or 60 year lease for a retirement housing site at Jalan Jurong Kechil.

For transparency and clarity, the evaluation method to compare tenders across different lease tenures was clearly spelt out under the Conditions of Tender. For the Victoria Street site, all tenders for 60 year leases were adjusted to be comparable with tenders for 30 year leases using the following formula:

$$\frac{\text{Tendered sale price for the 60 years lease} \times 0.6}{0.8}$$

These conversion figures 0.6 (for a 30 years lease) and 0.8 (for a 60 years lease) were equal to the corresponding years in the SLA’s Leasehold Table.

Conclusion

The SLA Leasehold Table, known to many as Bala’s Table, is transparent, easy to use, and provides certainty for the computation of premiums and the comparison of land values across different lease periods. The Table, and its choice of implicit discount rate, is not an exact science. But it has served several government agencies, and the real estate industry in Singapore, for decades.

There is value in consistency and stability in the calculation of leasehold values, and hence Bala’s Table continues to play a useful role.

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Appendix 1

Table Showing Leasehold Values as a Percentage of Freehold Value

Term of Years	Percentage (%) of Freehold Value	Term of Years	Percentage (%) of Freehold Value	Term of Years	Percentage (%) of Freehold Value
1	3.8	37	66.2	73	87.5
2	7.5	38	67.0	74	88.0
3	10.9	39	67.7	75	88.5
4	14.1	40	68.5	76	89.0
5	17.1	41	69.2	77	89.5
6	19.9	42	69.8	78	90.0
7	22.7	43	70.5	79	90.5
8	25.2	44	71.2	80	91.0
9	27.7	45	71.8	81	91.4
10	30.0	46	72.4	82	91.8
11	32.2	47	73.0	83	92.2
12	34.3	48	73.6	84	92.6
13	36.3	49	74.1	85	92.9
14	38.2	50	74.7	86	93.3
15	40.0	51	75.2	87	93.6
16	41.8	52	75.7	88	94.0
17	43.4	53	76.2	89	94.3
18	45.0	54	76.7	90	94.6
19	46.6	55	77.3	91	94.8
20	48.0	56	77.9	92	95.0
21	49.5	57	78.5	93	95.2
22	50.8	58	79.0	94	95.4
23	52.1	59	79.5	95	95.6
24	53.4	60	80.0	96	95.7
25	54.6	61	80.6	97	95.8
26	55.8	62	81.2	98	95.9
27	56.9	63	81.8	99	96.0
28	58.0	64	82.4		
29	59.0	65	83.0		
30	60.0	66	83.6		
31	61.0	67	84.2		
32	61.9	68	84.5		
33	62.8	69	85.4		
34	63.7	70	86.0		
35	64.6	71	86.5		
36	65.4	72	87.0		

Appendix 2

Leasehold values as a percentage of Freehold value construction

Leasehold year	Interest rate	Present Value Interest Factor (PVIF)	Leasehold PVIF as a percentage of freehold PVIF	SLA's Leasehold Table percentage	Variance
(1)	(2)	(3)	(4)	(5)	(4) - (5)
5	3.5%	4.51505	15.8%	17.1%	-1.3%
10	3.5%	8.31661	29.1%	30.0%	-0.9%
15	3.5%	11.51741	40.3%	40.0%	0.3%
20	3.5%	14.21240	49.7%	48.0%	1.7%
25	3.5%	16.48151	57.7%	54.0%	3.7%
30	3.5%	18.39205	64.4%	60.0%	4.4%
35	3.5%	20.00066	70.0%	64.6%	5.4%
40	3.5%	21.35507	74.7%	68.5%	6.2%
45	3.5%	22.49545	78.7%	71.8%	6.9%
50	3.5%	23.45562	82.1%	74.7%	7.4%
55	3.5%	24.26405	84.9%	77.3%	7.6%
60	3.5%	24.94473	87.3%	80.0%	7.3%
65	3.5%	25.51785	89.3%	83.0%	6.3%
70	3.5%	26.00040	91.0%	86.0%	5.0%
75	3.5%	26.40669	92.4%	88.5%	3.9%
80	3.5%	26.74878	93.6%	91.0%	2.6%
85	3.5%	27.03680	94.6%	92.9%	1.7%
90	3.5%	27.27932	95.5%	94.6%	0.9%
95	3.5%	27.48350	96.2%	95.6%	0.6%
99	3.5%	27.62337	96.7%	96.0%	0.7%
Freehold	3.5%	28.57143	100.0%		

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