

QUANTITY SURVEYORS WITHOUT BORDERS

PROVIDING COST ADVICE IN A GLOBAL
CONSTRUCTION MARKET

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Predicting cost to build

- A notoriously difficult task – the end or out-turn costs for building projects regularly exceed our predictions
- When we are trying to predict the cost to build in another country, or even in a regional location in our own country, the uncertainty is increased.

Three key issues

- Availability and reliability of cost information
- Accounting for differences in design and specification between countries
- Conversion of costs in different currencies to a common base so direct comparisons can be made.

Cost information

- International building cost data is readily available for some countries but less easy to find for many others.
- Different sources give different information.

Source	Location		
	Sydney	Singapore	London
	AUD	SGD	GBP
Rawlinsons	575	1500	675
RLB	785	1350	675
T&T	750	2200	800
Aecom	675	2250	930

Warehouse/factory

Cost information

Source	Location		
	Sydney	Singapore	London
	AUD	SGD	GBP
Rawlinsons	3800	2450	1900
RLB	2975	3600	1805
T&T	2400	3315	1950
Aecom	3000	4050	1540

3 star hotel

Cost information

Country	GFA (m2)	Variance
UK	2585	-
Switzerland	2875	11%
Holland	3007	16%
France	3412	32%
Finland	2758	7%
Denmark/ Spain	1800	-30%

*The CEEC Code of Measurement for Cost Planning
(Council of European Construction Economists).*

Design/specification differences

- What is a 'typical' building?
- The OECD-Eurostat PPP Program prices six different styles of house in different countries:
- European, Nordic, Portuguese, North American, Australasian and Japanese single-family houses.
- Pricing a typical Japanese house in Norway would mean little

Design/specification differences

- Most building types vary in their design in different locations
- Available cost data tends to be for buildings typical in each location – and thus they may be quite different designs although they serve similar functions
- Example: is a typical primary (junior/elementary) school in, say, Sweden, reasonably similar to one in Australia or Hong Kong?

Design/specification differences

- Perhaps it isn't important because we probably wouldn't build (for example) an English design in Singapore or a Japanese design in Melbourne but we need to be mindful of the differences
- And design work of all sorts is now often carried out by firms from countries other than the one where the project is actually being built.

Design/specification differences

- The Lynton study (1993)
- Cost to build an office building in UK compared to US
- Identical buildings: cost about the same
- UK design adjusted to reflect local codes and practice while retaining design intent: -8% (cf. UK)
- UK design further adjusted to reflect US clients' expectations/requirements: -32%

Design/specification differences

- The moral of the story:

“Make sure you are comparing apples with apples.”

INTERNATIONAL COST COMPARISONS

**Bill and Bob
on vacation**

Look! We can have a really cheap holiday in Klajistan - the locals live on the equivalent of \$2 a day!

How do they do it?



Purchasing power v. exchange rates

- The method depends on the purpose – if spending home currency elsewhere then exchange rates are meaningful (as they are for Bill and Bob)
- If it happens that the exchange rate is favourable it may indeed mean that they have to spend very little of their national currency to live in Klajistan
- But if a Klajistani only earns the equivalent of \$4 a day then life is a struggle

Single currency conversions

- How we convert costs in one currency to another depends on the purpose – if sending home currency elsewhere then exchange rates make sense
- If comparing value then price level differences have to be considered
- Purchasing power parity eliminates price level differences and avoids fluctuating exchange rates

Key point

- To compare construction costs in different currencies we first have to bring/convert them to a single currency
- Money market exchange rates are seldom a good way to do it because they fluctuate in response to a lot of external factors
- Rates can move quite quickly while construction costs usually move slowly

Key point

- If a client is looking to spend money sourced in their home country in another country then exchange rates conversion is the natural approach
- It's a snapshot at a certain point in time
- And things can change quite rapidly

An example

- In the year from Sep 2014 to Sep 2015 one Australian dollar slipped from buying around USD0.94 to buying just under USD0.70 – a drop of 24 cents – that's about 25%
- In the same period it is unlikely that construction costs will have varied much in either country
- In January 2013 AUD1.00 was buying USD1.05

Comparing construction costs

- Is it cheaper to build in A or B?
- How much construction do you get for your money?
- Volumes of construction - can only be meaningfully measured in \$ terms
- PPPs are the tool that is used to derive volumes that can be compared

‘Landmark research to be released today finds that, compared with the US, airports are 90 per cent more expensive to deliver, hospitals 62 per cent, shopping centres 43 per cent and schools 26 per cent.’

THE AUSTRALIAN, JUNE 2012

METHOD

- Published data for \$/m² to construct the various building types in Australia and US used for building costs
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- AUD costs converted to USD using annual average exchange rate to allow direct cost comparison

THE RESULTS

	US cost/m2 (USD)	Aus cost/m2 (AUD)	Aus cost/m2 (USD)	Difference
Airport terminal	3550	6565	6757	+90%
Shopping centre	1560	2172	2235	+43%
Hospital	3300	5185	5337	+62%
School	1570	1919	1975	+26%

2011: Turner&Townsend data, annual average exchange rate (0.97AUD=1USD)

SOME OTHER COMPARISONS

	US cost/m2 (USD)	Aus cost/m2 (AUD)	Aus cost/m2 (USD)	Difference
Airport terminal	3550	6565	4208	+19%
Shopping centre	1560	2172	1392	-11%
Hospital	3300	5185	3323	negligible
School	1570	1919	1230	-22%

2011 Turner & Townsend data,
GDP PPP (1.56 AUD = 1 USD)

SOME OTHER COMPARISONS

	US cost/m2 (USD)	Aus cost/m2 (AUD)	Aus cost/m2 (USD)	Difference
Shopping centre	1580	2200	1876	+19%
Hospital	3000	5500	4691	+56%
School	1450	1985	1693	+17%

2008: Turner&Townsend data, annual
average exchange rate (1.17AUD=1USD)

Note: “airports” ignored – too variable in design, size etc

SOME OTHER COMPARISONS

	US cost/m2 (USD)	Aus cost/m2 (AUD)	Aus cost/m2 (USD)	Difference
Shopping centre	1580	2200	1477	-7%
Hospital	3000	5500	3691	+23%
School	1450	1985	1332	-8%

2008: Turner&Townsend data, GDP PPP
(1.49AUD=1USD)

SOME OTHER COMPARISONS

	US cost/m2 (USD)	Aus cost/m2 (AUD)	Aus cost/m2 (USD)	Difference
Shopping centre	3033	2353	2424	-20%
Hotel (three star)	2183	3036	3127	+43%
School	3267	1600	1648	-50%
Hospital	7033	3771	3864	-45%
Light duty factory	1267	637	657	-48%

2011: Davis Langdon data, annual average exchange rate (0.97AUD=1USD)

SOME OTHER COMPARISONS

	US cost/m2 (USD)	Aus cost/m2 (AUD)	Aus cost/m2 (USD)	Difference
Shopping centre	3033	2353	1508	-50%
Hotel (three star)	2183	3036	1946	-11%
School	3267	1600	1026	-69%
Hospital	7033	3771	2417	-66%
Light duty factory	1267	637	408	-68%

2011: Davis Langdon data, GDP PPP
(1.56AUD=1USD)

SOME OTHER COMPARISONS

	US cost/m2 (USD)	Aus cost/m2 (AUD)	Aus cost/m2 (USD)	Difference
Airport terminal	4750	5000	4032	-15%
Shopping centre	2750	2640	2129	-23%
Hospital	3255	5800	4678	+44%
School	2130	2000	1613	-24%

Turner&Townsend data, annual average
exchange rate (1.24AUD=1USD)

The final message

Be careful

