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## Replacement Cost and the Marginalist Revolution

There were a surprisingly large number of real estate investors and analysts who argued that REIT valuations at their height in late 2006 / 2007 were still cheap when looking at their replacement cost.

Living in Australia with current house pricing running rampant despite increasing interest rates and a world economy still reeling from the GFC, this metric of valuation still holds a surprisingly prominent place in the minds of the investing public.

In 1871 an Austrian by the name of Carl Menger founded what is today the Austrian School of Economics with his publication of “The Principles of Economics”, and he did this by tackling the paradox of value that plagued the Classical School of Adam Smith.

**Biographical sketches of Significant Economists (gleaned mostly from the [History of Economic Thought \(HET\)](#) website):**

PRE-CLASSICALS	CLASSICALS	NEOCLASSICALS	AUSTRIANS	KEYNESIANS	MODERNS
<a href="#">William Petty</a> <a href="#">Richard Cantillon</a> <a href="#">Jaques Turgot</a> <a href="#">Francois Quesnay</a> <a href="#">David Hume</a>	<a href="#">Adam Smith</a> <a href="#">Excerpts from <i>W of N</i></a> <a href="#">David Ricardo</a> <a href="#">Thomas Malthus</a> <a href="#">Karl Marx</a> <a href="#">John Stuart Mill</a> <a href="#">Jeremy Bentham</a> <a href="#">Jean-Baptiste Say</a>	<a href="#">Augustin Cournot</a> <a href="#">Jules E. Dupuit</a> <a href="#">William Stanley Jevons</a> <a href="#">Leon Walras</a> <a href="#">Alfred Marshall</a> <a href="#">Knut Wicksell</a> <a href="#">Gustav Cassel</a>	<a href="#">Carl Menger</a> <a href="#">Eugen von Bohm-Bawerk</a> <a href="#">Frank Fetter</a> <a href="#">Ludwig von Mises</a> <a href="#">Friedrich A. Hayek</a> <a href="#">Murray N. Rothbard</a>	<a href="#">John Mavnard Keynes</a> <a href="#">Abba Lerner</a>	<a href="#">Milton Friedman</a> <a href="#">John K. Galbraith</a> <a href="#">Robert Heilbroner</a> <a href="#">Robert E. Lucas</a>

The Classical School through Adam Smith came up with a theory of value as a cost of production or a labour theory. Therefore they believed the value of a good was determined by the cost of producing or reproducing the good. With this theory revolutionizing the mercantile world they remained unable to explain how the value of a diamond could exceed the value of a loaf of bread or water or air. In order to address this paradox and hold onto their theory of value they separated value into 2 parts, namely *use* and *exchange* value. Use Value was separated and treated as an anomaly (how convenient) and the focus became Exchange Value which they believed their theory could explain.

Another problem with their approach of value was their dealing with demand and supply as a collective, the belief that goods and services had intrinsic value and their focus of value at the business level without any consideration for the consumer.

The 1870's brought a whole new approach to the concept of value with 3 economists separately originating the concept of marginal utility, thus the period became known as the “marginalist revolution”. Through William Stanley Jevons and Leon Walras the Neoclassical School was to become the dominant force with their mathematical approach to marginal utility. They applied units of utility or preference – *util*, to a calculus derived indifference curve which in turn constructed the demand curve.

Menger was only interested in a theory grounded in reality. He believed it was nonsense to group value as a collective and state that value had any objective intrinsic value that was mathematically calculable. Each person had different needs and wants, every person had a different attitude to goods and services, therefore to establish value one needed to break value down to each participant in the valuation process.

For Menger the only valid approach to value would be to measure the marginal utility of a good on an ordinal basis rather than a cardinal approach. In other words he believed X can be worth more than Y to Mr Smith; however, it is impossible to say that the true value of X is 20 and Y is 15 based on a calculation of marginal utility. Menger accepted that X may in fact trade at 20 or Y at 15 but the process of derivation is not intrinsic but rather a process of individuals ordinal rankings which he called "*methodological individualism*", the implications may seem subtle but believe me they are enormous.

Coming back to our original paradox of value, we can now explain the value of water or air or bread relative to scarce goods like diamonds as the marginal utility we get from another measurement of diamonds, water, air or bread. Clearly the value individuals attribute to another litre of water or breathe of air or loaf of bread differs with the value they attribute with another diamond. This concept is known as diminishing marginal utility, so just like eating an ice cream is usually enjoyable, the chances are that after eating a 5<sup>th</sup> ice cream the marginal utility you attribute to each new ice cream is clearly diminished and worth less to you. The same can be said for water, after a couple of glasses and a bath your demand for water clearly diminishes. However, a valuable diamond does not diminish its marginal utility quite as fast; after giving your wife a beautiful diamond ring, you may decide to sell the additional diamonds for money as a means of exchange to purchase other material possessions.

Through this process of marginal utility calculation Menger was able to introduce the causal process of want satisfaction whereby he explained that in order for a good to exchange and a price to result both parties need to feel like they are gaining from the transaction.

The concept of marginal utility is at the centre of how we (the real world) derive value and only once we have grasped the correct approach to value on a micro basis can we embark on a journey of exploring broader macroeconomic issues which I hope to delve into in future letters.

So let us get back to the point on replacement cost and ask ourselves if there is any relevance to establishing the value of a building or even an entire REIT on the basis of replacement cost. If this is your belief, then you are living in a framework more than a 130 years old and attributing value without taking the subjective demand side of the balance sheet into account. Just like some people are happy to remain with the status quo so there are others willing to join the revolution.

Michael Berman, Ph.D.