

Paul A. Samuelson, R.I.P.

It's sadly emblematic of our current economic travail that Paul Samuelson, the first American to win the Nobel Prize in Economics, died this month at the age of 94. There have been — and will be — plenty of simple tributes to Samuelson. It is sufficient to note that when the Swedish Royal Academy made its award, they stated that he "...has done more than any other contemporary economist to raise the level of scientific analysis in economic theory." I would also note that his seminal text, *Economics: An Introductory Analysis*, is currently in its 19th edition, having sold more than 4 million copies since it was first published in 1948. Thus, if you studied "intro to econ" in undergraduate school, there's a strong likelihood you studied Samuelson.

By the way, Samuelson's other "big" legacy is his nephew, Dr. Larry Summers, who is Pres. Obama's chief economic advisor. By the way, one of Dr. Summers OTHER uncles was the Nobel Laureate, Dr. Kenneth Arrow. Small world, eh? Samuelson's brother (and Larry's dad), Robert, "Americanized" his name to Summers. Arrow was the brother of Larry Summer's mom. Thus, Samuelson's influence on current economic thinking cannot be overstated.

With that in mind, and particularly given where we are "economically" today, it's helpful to reflect on Samuelson's contributions to the field. In fact, real estate analysts and appraisers owe a particular debt to Samuelson, as I will explain. On the other hand, it is clearly a mistake to view everything Samuelson wrote as the Gospel, and indeed, Samuelson held many controversial ideas about collectivism, the role of government, and the role of free markets.

Econometrics and Mathematical Analysis

Perhaps Samuelson's most important contribution (other than the simple volume of his work) was applying mathematical analysis tools to economic problems. As a student at Harvard, he was mentored by the famed mathematician Edwin Bidwell Wilson (author of the mathematics text, *Vector Analysis*, as well, as intriguingly enough, a 1920 text on aerodynamics). Wilson, in turn, had been mentored by the great Yale chemist, Willard Gibbs, who was the father of chemical thermodynamics. Notably, Gibbs also mentored one of the other famous American 20th century economists, Irvin Fisher.

Without sounding too parochial, it is intriguing to track the field of economics as its center of gravity moved from England (e.g. — John Maynard Keynes) to America (Samuelson, Fisher, etc.). As important as Keynes was, his work was decidedly non-mathematical in nature. Dr. Paul Krugman, in his widely-read blog (<http://krugman.blogs.nytimes.com/2009/12/13/paul-samuelson-rip/>) says that Samuelson was the man who "truly brought Keynesian economics to America". Samuelson, as a major conduit for that center-of-gravity shift, was to an extent a man caught in the middle. On one hand, he believed in big government and Keynesianism as the solution to society's ills — his Nobel Prize acceptance address lays to rest any thoughts that he might prefer free market solutions. On the other hand, his contributions as an analytical economist really set the stage for a generation of economists who could look at the world in a different way.

What Exactly Does Samuelson Say?

While Samuelson is best known for his eponymous textbook, perhaps his greatest contributions come from his 1947 *Foundations of Economic Analysis*. In it, he applies the mathematics of thermodynamics (the contribution from Gibbs) to study economic problems. He proposes that there are two hypotheses which are sufficient to analyze the economy:

1. Agents endeavor to maximize their benefit (consumers maximize their utility and businesses maximize their profits); and
2. Both the market and the overall economy are in stable equilibrium.

Given those two conditions, Samuelson introduces us to what is called comparative statics, which measures the way the economy changes with a change in any of the parameters.

(Continued on page 2)

(Continued from page 1)

There is a lot of other powerful stuff in Samuelson's work. He gives us what is commonly known as the Bergeson-Samuelson Social Welfare Function, which seeks to find an overall welfare maximizing state of being. This way of looking at things is often contrasted with Pareto Optimality, which only assumes that it is possible to find a state of being from which no improvement is possible. Thus, Samuelson posits a world with a single "best" solution, instead of a world with multiple "optimal" solutions. In that same vein, he popularized the Lindahl-Bowen-Samuelson conditions, which is a measure of the optimum level of public goods, and thus establishes criteria for determining if an action will improve public welfare.

From our perspective as real estate analysts, however, Samuelson gives us Revealed Preference Theory (RPT), as a part of Consumer Theory, which holds that we can discern a consumer's utility function by observing the consumer's behavior. In short, the price that a consumer pays for something indicates the way a consumer values that something.

A big chunk of real estate appraisal is based on RPT. In practice, all valuation models are derived from two complimentary models: RPT and its cousin, Stated Preferences. Both of these came out of the 1940's. In his review of Samuelson's RPT, Hal Varian notes that revealed preference "...must count as one of the most influential ideas in economics."

Certainly, real estate appraisers and analysts had been valuing property using revealed preference models for generations, these sales comparison-type models (of which, hedonic models are a subset) had little in the way of theoretical underpinning linking them to utility theory. In short, before Samuelson, appraisal techniques worked in practice, but not necessarily in theory!

Revealed Preference versus Stated Preference

Among others, Stanley Wong posits significant criticism of RPT. He notes that in Samuelson's theoretical world, if a person is offered both an apple and an orange, and chooses an orange, then that person would never choose an apple. Why? Because the exercise of choosing an orange "reveals" a static utility function in which oranges are monotonically preferred to apples.

In Wong's view, this theoretical construct is regularly violated in the real world. A person may prefer an apple to an orange, and later prefer an orange to an apple. Getting away from this trivial example, Samuelson's model — as robust as it is — does not account for the more complex optimization which goes on among economic agents. Indeed, given Samuelson's preference for a welfare economics solution (a single "best" solution) over Pareto optimality (multiple optimal solutions), it is clear why RPT would have real world problems. Real estate appraisers solve this problem with "judgment" and reconciliation, but as is being seen in the current economic melt-down, revealed-preference appraisals which assume an equilibrium economy (one of Samuelson's sufficient conditions) seem to have had significant problems in the past two years. More on this on page 4.

Does stated preference answer the question any better? Perhaps, but the elegance of RPT is its efficiency with limited data. Stated preference models typically require larger data sets to be statistically efficient, whereas appraisers are able to use non-parametric models and smaller data sets to solve pricing/valuation problems.

Where Does That Leave Samuelson?

Samuelson's world-view would inexorably lead to a perspective that favors central planning (perhaps the reason Krugman heaps so much praise on him, notwithstanding the fact that Krugman and Samuelson used to share an office at MIT.)

(Continued on page 3)

(Continued from page 2)

Peter Robinson, a research fellow at the Hoover Institute, writing in *Forbes* back in February 2009, notes that in the 13th edition of *Economics*, written immediately before the fall of the Soviet Union, Samuelson states, “The Soviet economy is proof that, contrary to what many skeptics had earlier believed, a socialist command economy can function and thrive.” The same year this was published, the Berlin Wall fell, and two years later the Soviet Union went with it.

So, this is the uncle of the guy who currently advises Obama on the economy. Notwithstanding all the things I have in common with Larry Summers (e.g. — we both drink seemingly endless amounts of Diet Coke), I have to be concerned.

A Summary — Sort of...

One might read this as critical of the late, great Dr. Samuelson. That would be an over-simplification. I have extraordinary respect for his contributions, particularly comparative statics. However, I also have great admiration for the late Dr. Milton Friedman, who's own Nobel Prize followed Samuelson by six years, and with whom Samuelson stared across a vast chasm of disagreement for their entire professional lives. In his last years, Samuelson suggested that the real-world empirics of the current economic crisis would refute Friedman's theories and underpin his own. Unfortunately, Samuelson seems to forget that little of what has been done in the U.S. economy in the past two decades would meet Friedman's approval.

Forbes this month notes that in the past two years, the aggregate privately-held wealth in the U.S. has shrunk from about \$65 Trillion to about \$53 Trillion — a drop of over 18%. A significant proportion of this drop was in the value of single family homes, meaning that the wealth-contraction has been extremely widespread. As we re-craft the economy, and rebuild our nation's economic core, we're naturally focused on the income side of the ledger — primarily unemployment and job growth. However, unless and until the wealth-growth curve turns positive, no economic solution will be sustainable.

Samuelson gives some powerful tools for analyzing the economy, and it would difficult, if not impossible, to understand how it works — and how to fix it — without his insights. However, Samuelson's particular world-views, particularly with respect to collectivism and the relationship between the government and the private sector, leaves much to be desired.

“...the Shadow knows...”

OK, I'll admit you have to be PRETTY old to get that reference... but it's a handy way to think about a report that just came out from the web site ForeclosureRadar.com, and cited in the Wall Street Journal and on their [blog](#). Focusing just on California, the study notes that there were 90,365 foreclosed homes owned by banks (REO) in the Golden State as of the end of September, down from 155,269 a year earlier. Indeed, some realtors are crying about the shortage of foreclosed inventory on the market.

On the surface, that looks great, but the “shadow inventory” problem may come back to haunt us. As it happens, the government has been working night-and-day to stave off foreclosure, and banks have a vested interest in keeping people in their homes (and thus, keeping those homes out of the REO portfolios). In the end, though, many of these borrowers are still underwater, financially, and while the lifelines will save many of them, the report suggests that many of these prospective work-outs will eventually land on their backs. For example, 37,417 notices of default were sent to borrowers in California in September, more than double the 16,746 sent in September 2008. This suggests a significant back-log in problem loans waiting in the wings. In addition, the number of homes scheduled for foreclosure sale in California stood at 140,382 in September, up from 59,266 a year earlier. At present, bidders in that state are receiving a discount of about 17.9% from market value, or about 48.5% below loan amounts.

Updates to USPAP

The Uniform Standards of Professional Appraisal Practice (USPAP) has been adopted as a matter of law and/or regulation in all 50 states, and is widely recognized by the courts as governing the practice of appraisal. It is currently updated every two years, and the 2010-2012 issue goes into effect on January 1. The latest issue makes substantive changes and updates in three key areas: the Ethics Rule, the Competency Rule, and Standards Rule 3 (Appraisal Review). (There are also minor changes to some other rules, particularly Jurisdictional Exception).

The more intriguing questions, which few scholars are addressing, is how appraisal methodology should be dealing with the current market disequilibrium. My colleague here at Greenfield, Dr. Max Kummerow, and I are currently working on a paper roughly titled "Can We Trust the Numbers?" which summarizes some of the theoretical and empirical problems faced with valuing real estate when the sales comparison methods fail us. Jonathan Miller, CEO of Miller Samuel, writing in the November issue of *Foreclosure News Report*, raises more practical concerns in his article, "Appraisers & Foreclosure Sales Bring Havoc to Housing Markets." In short, as housing prices begin to trend downward, use of past sales, particularly distress or non-equilibrium sales, to forecast current values stimulates a downward spiral in housing values.

These are the real issues which the appraisal profession should be addressing. Everything else is rearranging deck chairs on the Titanic.

The China Syndrome

Well, at least THIS reference only dates to the 1980's.

The current issue of *Forbes* has some intriguing comments about the Chinese economy. On the surface, it seems like collectivism is working nicely, which would underpin Samuelson and serve to silence his critics. On the other hand, *Forbes* notes that in many ways, China currently resembles Japan before it's financial meltdown, with too much credit being forced on businesses in order to keep the growth rate numbers artificially high. Time will tell....

Some News from Greenfield

A few new faces (and one new title) here at Camp Greenfield! First, Dr. Max Kummerow has been designated a Senior Research Analyst, and will spend a fair amount of his time as a spokesperson for Greenfield, fielding the numerous requests for a public speaker that come in the door.

We also welcome Linda Tayntor and David Riffe to our team. Linda joins us as a research analyst, and is a former New York real estate appraiser and broker. David is a Senior Business Development Manager, and will focus his attention on Greenfield Capital projects.

Finally, we welcome Dr. Cliff Lipscomb to the team. He is currently on the economics faculty at Valdosta State University in Georgia, and has actually been "with us" as a semi-regular consultant on projects. Dr. Lipscomb now joins us as a regular "part-timer", and will be on our full-time team later in 2010.

As always, if you have an interest in someone from Greenfield speaking at a gathering or making a presentation on the real estate side of the economy, please contact our Client Relations Manager, John Casker, either by phone (206.972.9793, toll free 800-755-0966), or via e-mail (jcasker@greenfieldadvisors.com).

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