Why the Emerging Economy Will Mean More Systemic Risk in Real Estate Lending

by Alan R. Winger

Despite the recession—albeit a very weak one so far—along with the recent jump in security concerns, the economic world continues to evolve into something that, in time, will differ substantially in certain important respects from what it was. As these changes filter down to local real estate markets, lenders and borrowers will be confronted with increased systemic risk, and that, given the recent changes in our real estate finance market, is likely to put upward pressure on the cost to finance a real estate transaction. What's involved here and how it will to come into play in real estate finance markets is the subject of what is to follow.

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SYSTEMIC RISKS IN REAL ESTATE LENDING

Risk, of course, refers to potential volatility, which in the case of a real estate loan means volatility in the returns that flow from interest payments and return of principal. If there is uncertainty about these returns, the lender is exposed to risk.[1] The rational thing to do in this circumstance is to charge a higher rate of interest to cover the cost of the risk. One key to successful real estate lending then is an accurate assessment of risk exposure, which means making reasonable estimates of the probabilities of the likely possible outcomes of a loan's performance.

The problem here is that risk assessment is difficult, which is why, despite all of the sophisticated research on the subject, in real world financial decisions it is often treated in a way that incorporates a large subjective element. This is especially so in real estate, largely because of the heterogeneity of the product and the complexities that often arise in financing its acquisition.

In real estate, much of the lender's concern is with credit or default risk. The focus is on the question of whether the borrower will live up to the interest and repayment provisions of the loan agreement. As real estate loan originators look at this, the answer is to be found in things that are specific to the borrower and the real estate being acquired. What about the borrower's ability to pay? Are his income or profit prospects good? What about the property? Is the proposed acquisition price reasonable relative to its location and state of repair? And what are the probabilities with respect to the answers to all such questions?

All of the above is very important at the level of loan origination. But to those who ultimately provide the funds,[2] these are risks that can be diversified away. Even so, risks that come from more general economic forces remain. Such risks are often dubbed systemic—so named, because they have a presence in all loans.

Consider, by way of example, the risk exposure created by the business cycle. Cyclical movements in the economy affect the performance of real estate loans. Downturns lead to more problem loans; upswings lead to fewer such loans. These are possibilities with probabilities (our measure of risk exposure) because of the uncertainty there is about the timing and amplitude of such cyclical movements. We know they're coming. We just don't know exactly when or how severe the movements will be.

Because this cycle has impact on most, if not all local economies, the lending risks it generates are spread throughout all local real estate markets. This means we are dealing with risks that, because they are everywhere, cannot be diversified away. But, like any other set of risks, they have a cost that must be recouped. Students of finance tell us that premiums for such risk are incorporated into loan rates through the operation of markets, which gets done properly if those markets are efficient.

All of this is standard stuff in finance. It's also something that has become increasingly relevant in the real estate finance market. This is a market that has become more competitive largely because of the growing use of derivative instruments to finance real estate transactions, *e.g.*, mortgage-backed securities. Twenty-five years ago, most real estate loans were originated by and went into the loan portfolios of savings institutions, commercial banks, and insurance companies. In 1980, for example, more than two-thirds of the nation's mortgage loans were in the portfolios of these lenders, loans that, for the most part, they had originated. Secondary market activity back then consisted primarily of loans originated by mortgage bankers that went into the portfolios of three federal agencies—Fannie Mae, Freddie Mac, and Ginnie Mae. What's more likely to happen today is that loan originations, mostly made by mortgage banks, savings institutions, and commercial banks, will be put into pools on the basis of which securities will be issued that work their way into the portfolios of a much broader base of lenders/investors.

The magnitude of this change in how funds get from the nation's pool of savings to real estate borrowers is well reflected in a couple of statistics. One is the mortgage loan holdings of thrifts, banks and insurance companies, which by year-2000 had fallen to just a little more the one-third of total mortgage debt. The other is in the growing importance of the mortgage-backed security through which long-term funds flow to the real estate borrower. These securities, which take more than a few forms,[3] now constitute close to 50 percent of the total mortgage debt outstanding, compared with almost nothing back in 1980.[4] While the major issuers of this debt have been and continue to be Fannie Mae, Freddie Mac, and Ginnie Mae, private issuers have been growing in number and in volume of operations in recent years.

That derivative instruments have come to dominate real estate finance has greatly strengthened the links between this market and the nation's money and capital market—indeed the world's money and capital markets. One result has been more efficiency in the way in which funds are allocated to real estate borrowers, the net effect of which has been a decline in mortgage rates relative to other long-term capital rates.[5] More important to the subject of this manuscript is the increased sensitivity of mortgage rates to financial market developments brought about by this tighter link to the broader markets, the significance of which is that risks, including systemic risks, are now more likely to be properly reflected in real estate finance loans.

What then about the systemic risk in real estate lending?

Obviously the business cycle was and remains an important source of such risk. This seems to be well recognized. What doesn't seem to be recognized is the systemic risk beginning to flow out of the dynamics of our emerging economy. There are roots taking hold here that are and will continue to generate systemic risk in real estate finance, a development and outcome that needs to be worked into the mind-set of both real estate lenders and borrowers.

THE EMERGING ECONOMY

While it's easy to exaggerate the degree of current change in the nation's economy, there can be no doubting the fact that we are in a period of significant economic change. Whether what's happening now will in time be taken as a revolution in the sense that we experienced during the industrial revolution remains to be seen. What we do know is that the ingredients for change in how we do things and what we do in the economy have been put in place. And there is much more to come. Our information/communication technologies, our biotechnologies, our materials and new fuel technologies, and something we call nanotechnology, promise us an economic world that could be absent a good deal of what we had as we entered the second half of the 20th century.[6]

As the transformation has taken place to date, we now have an economic world that, compared to just a short while ago, is much less regulated by government and filled with markets that are more global part in part because of the "digital" revolution. It is also a world with production processes where information is fast becoming a critical input.[7] And what we do with information increasingly involves putting the knowledge we get from it into what we produce and how we produce it.[8]

How all this works out will be played out in markets that have become both much more competitive and connected. They are arenas filled with intense pressures that increasingly take the form of non-price competition. Product innovation is fast becoming the primary means of competing, the aim of which is to bring new and better products to market more quickly than competitors. But doing so in today's world often complicates the production process, giving rise to the need for smarter inputs. Hence the growing importance of knowledge as an input to a successful operation.

Knowledge, intense competition and innovation; these are the key parts of the new economy story.

Not only must there be the skills to deal with any of the activities that might become a part of the core of a successful business operation, but there is the matter of choosing what activity this might be. This is a difficult matter that requires vision and a willingness to take risks—sometimes, big risks.

But there is more to the story as it is continues to unfold. Firms currently on the cutting-edge of today's technology frequently operate on the basis of destinations that are more uncertain than the traditional firm. They often do not know, in terms of particulars, where some of their activities are headed. There is a lot of haze that has to be worked through, giving rise to many cloudy linkages in what is often characterized as a web of activities. Furthermore, these activities often involve more than one firm, which adds to the complexity of the process and uncertainty of the outcome.[9]

Success in such business situations is not easy. Not only must there be the skills to deal with any of the activities that might become a part of the core of a successful business operation, but there is the matter of choosing what activity this might be. This is a difficult matter that requires vision and a willingness to take risks—sometimes, big risks.

It almost goes without saying that success in putting these kinds of elements together requires organizations that are flexible and agile. Hierarchical structures are becoming increasingly less relevant. What we need are organizations with teams of skilled operatives who have the authority and ability to act decisively when the need arises, folks who must be brought together in a way that reflects a sensible understanding of the big picture—the vision, the willingness, and even the eagerness to take risks. The overall outcome is, more likely than not, to be one in which there are substantive and substantial changes in the relationships between firms, employees, suppliers, and customers.[10]

This is the kind of economic world that appears to be emerging. But it is not yet the world in which most of us currently live and work. Life has changed for those who do not live in the Silicon Valley or those other islands of high tech fervor and excitement, but it is by no stretch of the imagination radically

different from what it was a decade or two ago. Most of us still have bosses and follow prescribed procedures in some if not in much of what we do. And we work in businesses that locate many of their operations near their customers or where there is the specialized labor or services they need—the traditional reasons for the location of their activities.

Still, even in firms that appear to be operating in much the same way as they have in the past, there have been changes. The recent successes of most "traditional" firms stem in part from adjustments they have made to the reality of operating in more dynamic and competitive markets. Almost all firms are now more focused on making innovative product improvements and cost reductions with effort that is concentrated largely around innovations coming out of our information technologies. Many are trying to take advantage of the opportunities for change in such information-centered activities as accounting, inventory management, legal affairs, R&D, purchasing, and marketing. Thus, even though many firms seem to continue to operate in traditional ways, the successful ones do not do it exactly as they have in the past.

That we have only begun to scratch the surface of what's possible in most areas of business (and government) seems, paradoxically, apparent in the recent problems of those dotcom firms. Much of what was promised through such firms during the go-go years of the late 1990s failed to materialize. This was not so much because the promises were empty ones, but rather the result of investment made on the basis of technologies that had yet to be developed enough to deliver what was promised. The changes that will move us toward that digital vision of our economic activities continue, albeit at a much slower pace. And they are currently concentrated in the activities of existing brick and mortar firms.[11]

There is still a high probability that the economy, in time, will evolve into something that will differ significantly in many ways from what it was throughout most of the second half of the twentieth century. What it will look like in 40 to 50 years from now is a matter of speculation, however, it is predicted that more significant changes will be forthcoming. And what this implies is a period of more than the usual amount of uncertainty in the outcomes of the upcoming competitive market struggles that bring the change about. There will be winners and losers and identifying those that will come out on top will be more difficult to do in a setting where so much of the activity is driven by innovation. How all this might impact the systemic risk in real estate lending is a matter to which we now turn.

MORE SYSTEMIC RISK IN REAL ESTATE LENDING?

The systemic risk that comes from cyclical movements in the economy remains a risk element in real estate lending. While there may have been a time in the late 1990s when some believed the business cycle was a dead issue, this is not the case now. Business cycle concerns remain a source of systemic risk to the real estate lender. But it is also something that will be supplemented with added uncertainty coming from structural change in the nation's economy. Such change, especially when it results from a technical revolution, comes into fruition in a setting of uncertainty. The outcome of innovative activities aimed at translating new technical possibilities into operational realities is never certain. Spurts of such activity, as we are now experiencing, thus mean an increase in the uncertainty surrounding the operations of the firms involved. This in turn filters down to real estate finance transactions through events that occur in local economies.

There are two aspects to this filtration process. First there is the innovative activity itself which generates business opportunities that could add significantly to the growth of the local economies in which the innovative activity flourishes. But given the uncertainties surrounding the outcome of such activity, it might not.

Then there is the other side of these opportunities to consider. They represent threats to the existence of firms that fail to take advantage of them, which, in turn, can threaten the economic health of the communities that are the locus of these firms. But then again, it might not.

Since we don't know exactly who the winners and losers will be, outcomes for particular communities are shrouded with more than the usual amount of uncertainty. And when the innovations giving rise to such activity are pervasive in their impact, (as they are and will continue to be with innovations in our information / communication technologies and a number of others), this uncertainty works its way down to most all local economies. What it means at this level is more uncertainty with respect to elements in the local economy that have such important bearing on the ability of real estate borrowers to meet the obligations of their loan agreements—jobs, income, and profits. This implies more systemic risk exposure for real estate lenders.

Innovative behavior in American enterprise is, of course, nothing new. Innovation that both provides significant new opportunities and threats to business has been a part of the American business experience off and on throughout the course of our history. What's different now is the magnitude and pervasiveness of the current level of innovation, which is considerably greater than it was throughout much of the 20th century.[12] What's also different is the fact that the potential impact of any added uncertainty, as it shows up in the macro performance of local economies, is likely to be greater. If the added innovative effort of local firms to compete doesn't work out now, the impact on the local economy will be more severe. Or if it does work out, the growth spurt could dwarf any of those realized in the past.

This is because we are operating in an economic world that has fast become more global, increasingly powered more by digitized transmission networks, and more infused with knowledge as a critical input in what we do and how we do it. One consequence of all this is that businesses are less constrained in the decisions they make with respect to where they carry out their activities. Knowledge, for example, is something that is much easier and less costly to take elsewhere than were the materials that dominated production processes in the industrial era. Thus, what is rapidly becoming the dominant element in much of what we now do in the economy is embedded in activity that no longer needs to be as closely tied to a specific location. It's activity that can be more easily moved away to other places.

While there is nothing new in the movement of business operations elsewhere, the possibilities are greater and the costs of doing so are less. Furthermore, globalization has greatly increased the number of locations that might be suitable points of operation or market entry even though they may be great distances away. What needs to be recognized is that this is something occurring in physical settings—local economies—that are simultaneously experiencing more uncertain macroeconomic performances. The net result is and will continue to be an increase in the probability of more extreme results in macroeconomic outcomes. This means greater variance in those outcomes, which implies more systemic risk of real estate loans.

SOME OBVIOUS QUALIFICATIONS

The impact of innovative firm behavior on the macro performance of a local economy is, of course, not a completely random outcome. The very nature of the process, as it has evolved in recent years, has given rise to flexible organizations that are staffed with entrepreneurial leaders who have vision and a willingness to take risks. They are also staffed with a large contingent of very smart people possessed with the knowledge needed to solve what often turn out to be very complicated problems. As these organizations take shape, they operate in web-like networks often found concentrated in particular places. The Silicon Valley in northern California is the most cited example of such a concentration. These are places that exist because of the economies that flourish in such agglomerations when certain sets of circumstances and behaviors are present.[13]

Dealing with risk in real life decisions in real estate finance still remains more of an art than a science. It is also an art that has become more important in its application as competitiveness in the real estate finance market has intensified. While imperfections remain, we are now dealing with a market that is more responsive to economic change at a time when the pace of that change has accelerated.

That innovators are attracted to such places implies positive macroeconomic growth consequences. Clearly, this happens. But given the magnitude and pervasiveness of the current and expected levels of innovation, the explosive economic growth of those Silicon Valleys will by no means account for the lion's share of the innovation-induced growth that flourishes in the nation. Moreover, traditional constraints on local growth, such as rising housing costs and congestion, will moderate that growth in such places.

There is every reason to believe that a good deal of the uncertainty underlying the innovation process is and will continue to be reflected in the macroeconomic performances of most if not all local economies. While we may have a pretty good notion as to how it will affect some local economies, there is a substantial element of uncertainty about what the outcome will be in most places. In periods of rapid and pervasive technological change, the crystal balls that tell us something about a community's future economic growth cloud up more than they do during periods of relative stability in our technologies.

Since there is much more uncertainty in such periods, there will be more systemic risk in real estate lending.

DO WE REALLY HAVE TO WORRY ABOUT ALL THIS?

This question needs to be raised because of history. Business innovation has, historically, been wave-like, rising rapidly during certain periods and then declining to lower levels.[14] The bursts of activity have been concentrated around radical innovations such as those that developed around the steam engine and electricity. One might argue that what's happening now is simply another burst that will, in time, dissipate as we fully exploit the technologies that are now significantly improving the way we are able to communicate with one another. On the other hand, one could just as easily argue that there is much more to come out of those emerging information / communication technologies. And innovation is expected to flourish in a number of other areas. There are developments in biotechnology, for example, that promise a lot of innovative activity in a wide range of businesses operating in this area. There are also things going on in materials and new fuel technologies that could lead to much more innovative behavior in a lot of businesses. And there are ideas being developed in an area called nanotechnology—materials miniaturization—that are trumpeted as notions that could underpin innovation of a magnitude unseen to date. Not surprisingly then, there are more than a few who argue that what's currently in the invention pipeline and what seems likely to get there shortly will keep innovative activity at least at its recent high level well into the future.[15]

Of course, predicting technological change is a fool's game. The activity itself is complicated and involved and the models we have to guide us through the task are incredibly naive. In the past, the outcome of efforts to predict our technological future have turned out to be far off the mark much more often than not.[16] Still, it's hard not to be impressed with the scope of certain scientific developments as they are currently working their way into our technologies. It's hard not to be pushed toward the conclusion that if everything works out as it could, our future research and development efforts should keep innovation at least at those recent high levels for as far as the eye can see.[17] While this may not happen, it certainly could. It's not unreasonable to suggest to real estate lenders and borrowers that they should begin to pay more attention to this source of systemic risk if they have not already begun to do so. The level of such risk in real estate lending is increasing, which should raise the cost of such lending.

Suppose it does. Is this something real estate borrowers and lenders should worry about? Is it something that will require a good deal of time and effort to deal with effectively?

The answer here depends in part on the kind of market through which funds will flow from real estate lenders to borrowers.

THE REAL ESTATE FINANCE MARKET: HOW EFFICIENT IS IT?

Were the real estate finance market efficient in the textbook sense, this impending increase in systemic risk and its impact on financing costs would just happen. Down at the level of loan origination, lenders would continue to be concerned with risks that arise from elements specific to the loans being made. These loans would then work their way into portfolios of the funds' providers, a process that would diversify away much of the specific risk. What would remain is systemic risk. If the real estate finance market were efficient in the textbook sense—that is, it was a perfectly competitive market—this risk would be properly priced as a consequence of the operation of the market. Those who provided the funds, having full knowledge of market circumstances, would require a higher rate that compensated them for any added risk being assumed. If they didn't get it, they'd move their funds elsewhere, going after the best rate from among what would be many borrowers competing for their business in a highly competitive market.

IT WILL PROBABLY NOT HAPPEN THIS WAY

While the real estate finance market is more competitive than it was, it is by no means efficient in the textbook sense of the word.[18] To most real world lenders in any segment of the real estate market, but especially in the commercial market, risk management is not now or is it likely ever to be a passive activity. Market participants, despite knowing more than they did, don't have all the information they need. Questions arise for which there are no simple answers. While there are sophisticated risk assessment models and measures used today in real world decisions, a great deal of the work still incorporates subjective evaluations of the risk involved. This should come as no surprise in real estate—particularly in income property. The product underlying a financial transaction in this market is heterogeneous and

complicated, which means a market with little breadth and depth. The problem of figuring the probabilities of the return possibilities of such a variegated item that is exchanged in a thin market is not an easy one. Moreover, with real estate, we are dealing with something that, because of its durability, is very sensitive to changes in the economy of which it is a part. This means market dynamics that further complicate efforts to assess the risk in this market.

Dealing with risk in real life decisions in real estate finance still remains more of an art than a science. It is also an art that has become more important in its application as competitiveness in the real estate finance market has intensified. While imperfections remain, we are now dealing with a market that is more responsive to economic change at a time when the pace of that change has accelerated.

There is now good reason for lenders and borrowers in the real estate finance market to be aware of and consciously concerned with systemic risk. Whatever science we have in the form of models that seem appropriate to the task of evaluating such risk should, of course, be used. It is likely, however, that what will turn out to be the most effective way of dealing with it will involve a good deal of subjective analysis. And a key element in such an analysis will be an understanding of how the economy is evolving and what this implies with respect to the probabilities that have bearing on loan performance. Such understanding should give rise to sensible subjective assessments that in the decisions they underpin should translate into reasonable risk premiums. This, of course, implies upward pressure on loan rates in this market. While it may not turn out exactly as it is portrayed in the textbook presentations of operation of efficient financial markets, the direction of change should be much the same.

SUMMING UP

The dynamics of the economy have always spilled over into real estate finance. They will continue to do so in the future, probably at an accelerated pace. Much of this spillover in the future will come to focus in risk exposure arising out of the upcoming structural changes in the economy. Ignoring the risk consequences of the dynamics of an economy that is developing technologies that could radically change what we do and how we do it could lead to some unpleasant financing surprises. Being aware of and having some understanding of these dynamics, as it is reflected in the character and pace of business innovation, could help minimize such surprises. REI

NOTES

1. Lenders are said to be exposed to risk in a setting of uncertainty when they can assign probabilities to the likely possible outcomes of the decisions they make.
2. Secondary market transactions or transactions that involve the sale of loans originated by one party to another who, in effect, provides the long-term funds to finance a real estate transaction have long been an important part of the real estate finance market. That importance, however, increased significantly with the securitization of much real estate debt.
3. The variety in these instruments is documented and discussed in Frank J. Fabozzie (ed,) *The Handbook of Mortgage-Backed Securities* (5th ed.) (New York: McGraw-Hill 2001).
4. While most of this increase in securities activity has been concentrated in the residential sector, the securitization of nonresidential debt has increased rapidly over the past few years now accounting for about 15 percent of the mortgage debt in this sector.
5. Studies of the effects of the securitization of mortgage debt on mortgage yields show these yields have been reduced. See Patric Hendershott and James Shilling, "The Impact of Agencies on Conventional Fixed Rate Mortgage Yields," *Journal of real Estate Finance and Economics*, (1989) Vol. 2, pp.101-115 and James Kolari, Donald Fraser and Ali Anari, "Effects of Securitization on Mortgage market Yields: A Cointegration Analysis," *Real Estate Economics* (1998) Vol. 26, pp.677-693. A rough and simple comparison of the average spread between home mortgage rates and 30-year governments between 1980s and the 1990s show a reduction in that spread of about 30 basis points.
6. For a succinct yet comprehensive discussion of what seems to lie ahead with respect to our technologies see R. G. Lipsey, "Sources of Continued Long Run Dynamism in the 21st Century" in *The Future of the Global Economy: Towards a Long Boom?* (Paris: Organization for Economic Cooperation and Development 1999).
7. This growing importance of information, of course, has roots that go back well into our past. Information handling, which at the turn of the 20th century accounted for about 20 percent of all economic activity, grew to close to 50 percent by 1980. The recent acceleration in its importance and its expected continued growth is reflected in estimates that have this figure up to 80 percent by year 2020.
8. While absent any comprehensive measures of knowledge as an input in our production processes that tell us precisely how important it is and how that importance is changing, there are more than a few books that provide insights into what's going on. Two of the better of these are Alan Burton-Jones, *Knowledge Capitalism* (Oxford: Oxford University Press 2001) and David J. Teece, *Managing Intellectual Capital* (Oxford: Oxford University Press 2000.
9. An earlier characterization of the nature of economic activity in such a cutting edge setting that still seems to be on target is in B. Arthur, "Increasing Returns and the New World of Business," *Harvard Business Review*, pp.100-109 (July/August 1996).
10. A more detailed discussion of the kind of operations likely to be found in such a setting, see C. Lee, W. F. Miller, M. G. Hancock and J. S Rowen, *The Silicon Valley Edge*, (Stanford: Stanford University Press 2000).
11. The Economist in a recent issue discusses some of the reasons why the greatest impact of the web is now being concentrated in brick and mortar firms. *The Economist*. "Older, Wiser and Webbier," June 30, 2001, p.10.
12. See *Economic Report of the President (January 2001)*, (Washington: U.S. Government Printing Office), Chapters 1 through 5.
13. The notion of agglomeration economies is not a new concept.

It has been offered for years as an explanation of why certain businesses locate close to one another. Recent discussions of it emphasize those economies that arise from "knowledge spillovers" of the kind to be found in places like the Silicon Valley. For a recent discussion of these economies and what gives rise to them see J. S. Brown and P. Duguid, "Mysteries of the Region: Knowledge Dynamics in Silicon Valley" in *The Silicon Valley Edge*, op. cit., pp.16-39.

14. For one view of this phenomenon see R.U. Ayers, *Technological Transformations and Long Waves: Parts I and II*, p.36. "Technological Forecasting & Social Change," pp.1-37 and pp.111-137 (1990).
15. Of course, the current worldwide slow down in economic growth has reduced current levels of innovative activity. If we assume such a slow down is temporary, business innovation should so be at least back up its earlier level if this view of underlying conditions is correct.
16. Arthur Clark once commented that those who make such predictions tend to be over-optimistic in the short run and under-optimistic in the long run. He argued that they do this because they can only extrapolate linearly and progress is always an exponential curve. S. Griffiths (Ed.), *Predictions*, (Oxford: Oxford University Press 1999, pp.35-46).
17. There are more than a few prognosticators who subscribe to the notion that we are in the midst of a long boom that has it roots in innovation. One set of these include P. Schwartz, P. Leyden and J. Hyatt, who have written the book *The Long Boom*, (Reading, Mass.: Perseus Books, 1999).
18. Financial markets in general, while more competitive than most nonfinancial markets, by no means measure up to the textbook version of a market than generates efficient results. That this is so is reflected in the controversy that still swirls around the beta coefficient, a measure that was offered as a way of measuring systemic risk in the portfolio of the investor. It is also reflected in the pragmatic approaches that are found in books concerned with financial risk management. M. Crouch, R. Mark and D. Galai, *Risk Management*, (New York: McGraw-Hill Publishing 2000) and A.R. Winger, *Risk*, (Chicago: International Publishing Company 1995).