Is the Role of the Home Changing?

Some Real Estate Implications

BY ALAN WINGER

EVERYBODY AGREES THAT THE CHANGES UNDERWAY in the economy are impacting the nation's real estate market and what's happening now is probably only the beginning of what's to come. Most discussions about such matters focus on what our rapidly changing information technologies are expected to do to the business use of real estate. The concern in this article is with possible long-term impacts on the residential real estate choices of households.

While speculations about the long-term future of activity in particular markets are just that—speculations—there are developments underway that suggest the home will, in time, become a more important center of our activities in ways that have implications both for our residential and nonresidential real estate markets. The argument here is worth making because it points to things that should be watched as the future unfolds. Before getting to it, however, I want to review briefly some recent developments in the residential market that suggest this process may be underway.

THE HOUSING MARKET IN THE NEW MILLENNIUM

The housing market has, of course, exploded recently with the sharp increase in the level of single-family home activity both in the new and existing unit markets. While more than a few have expressed concern about a price bubble in these markets, that possibility is not my concern. Rather, my concern is with certain facts that hint at some early housing market impacts of the recent advances in our digital technologies.

The facts of interest are those that show an increase in the size the new units coming on to the market between 1995 and 2003. In 1995, 28% of the units completed and added to the housing stock had floor space of 2,400 square feet or more. By 2003, that figure had risen to 39%. Over this same period there are facts that show a slight decline in the average size of families. The increase in the size of units coming on to the market apparently can't be explained by demographic factors as it has in the past.

WHAT THEN IS THE EXPLANATION?

There are economic models that offer an explanation in terms of what happened to incomes which increased during this period and financing costs that declined sharply. Any self-respecting economist would point to income and financing cost elasticities as factors that could explain the growing demand for more housing space.

These elasticities, helpful though they may be in our interpretation of market developments, are based on calculations that average the relevant experience of the past. While this is an acceptable procedure during periods of relative economic stability, one has to feel a little less comfortable with it during periods of significant economic change. To be sure, we no longer hear much talk about the new economy, but no one doubts that we are living in a period in which our advancing information technologies are generating tons of changes in how the business world

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Exhibit 1—Selected Statistics: 1995 and 2003

	1995	2003
New One Family Homes Completed- % with FloorSpace Greater Than 2400 Square Feet	28%	39%
Average Family Size	3.19	3.13
Median Family Income (In 2002 Dollars)	$47,588	$51,407*
Mortgage Rates (Conventional Mortgages)	7.87%	5.80%

Sources: U. S. Census Bureau, Department of Housing and Urban Development and Federal Reserve.
* Income figure is for the year 2002

operates and, to a lesser extent, in how we live our lives away from our jobs. That this is so has to mean that there are things going on that could be altering our demand for housing space irrespective of what's happening to our incomes or those financing costs.

What things?

THE HOME IN A DIGITAL AGE: THE SOCIAL SIDE
The home has long been at the core of the social life of urban families in the United States. Early on in our history that life for most was largely limited to what were strong cohesive connections with nearby neighbors. This began to change with the coming of the automobile and the sub-urbanization it brought about. Life in the suburbs, with its mall shopping, TVs, VCRs and neighbors who were not quite so close led to much less contact with those nearby. The social contacts of most suburbanites began to spread over more territory in relationships that, by and large, were weak compared with those of the earlier era. Robert Putnam's *Bowling Alone* provided us with one view of some of the social consequences of these developments.[1]

Enter now into the world of the Internet, the World Wide Web and mobile phones, a world that provides the basis for significant expansion in both the number and reach of our social connections. Those who have become active in this part of the world participate in a social network that allows them to easily increase the number of contacts, some of which are with people located in faraway places. And all of this can be done at different locations.

Some early speculations about the outcome of technologies expected to open up such possibilities had people moving into a more nomadic lifestyle.[2] While some—perhaps even a lot—of our social life would shift into cyber-space, many of the relationships developed in this world, it was argued, would lead to the pursuit of face-to-face contacts giving rise to nomadic movements. Such movement would lead to the need for living space in more than one place, but less space in any one place. With this view of the world, the housing market would become both more dispersed and more concentrated. A nomadic lifestyle would lead to dispersion. Rather than living in just one place, people would have a number of places of residence. But more than one place, given the family budget for most, would mean units with less living space. And the scale economies realized in building such units would lead to geographic concentrations of them wherever those nomads chose to hang their hats. The result would be smaller units clustered in more densely populated areas, units that could be rented or owned in some kind of condominium or time-share arrangement.

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Of course, there'd be nothing new in this. Prior to the Internet there were high-density transient residential communities with rental, condominium, and time-share units found in largely in locations where there was warm climate, water, and/or mountains. These were largely the outgrowth of an economy that generated the income and wealth that enabled some people to cover the cost of such space as well as a transportation network that made it economically feasible. What the Internet—and whatever followed—was supposed to do was to greatly expand what the nation's more affluent citizens along with a growing number of less affluent seniors were already doing. The assumption was that increasingly more of the nation's population would have both the wherewithal and mobility to become more nomadic, the result being many more people with more than one place to live—albeit smaller

places. This implied a home life that would continue to recede as a center of activity. While the demand for living space in such a world would continue to be influenced by the demographic and economic circumstances of the household, that demand in particular locations would be diminished by the lifestyle changes that digitization would bring about.

In fact, there haven't been many signs of any such change to date. The Internet is clearly having impact on family social connections in the sense of expanding both their number and reach. When these connections occur in cyberspace, this generates activity that can take place in the home. Whether it does or not, however, is by no means clear for with the growing sophistication of mobile telephony these connections can result in activity outside of the home.

What we do know is that to date most of our important electronic social contacts have been with people who are not too far away—within the same metropolitan area— and that face-to-face contact remains an important part of these relationships. What is different about these activities today is that people are better able to customize what they do. Social life is no longer a matter of choosing to participate in some structured activity like a golf league or Elks meetings. The Internet provides a basis for finding activities that are closer to one's interests or making it much easier to organize an activity by oneself.

Not only does the Internet open up the rest of the world through easy access to global information, it strengthens local contacts and relationships in a way that increases social activity in the home. When those contacts are numerous and involved, as they frequently are, Internet connections via home-based personal computers serve us best given today's technology. As all this has worked out thus far, our social lives in a digitizing world have not really moved us out of the home, but have been pushed back into it a bit.[3] Whether this will remain so as the technology is further developed is, of course, another question. But the technology required to make those wires into the home obsolete will be sometime in coming.

THE HOME IN A DIGITAL AGE: THE BUSINESS SIDE
Work in the home is, of course, something that goes way back. Prior to the industrial revolution, much of what we now call cottage industry activity was housed in the home. The industrial revolution changed all that, moving work

into factories, office buildings, warehouses and retail establishments. As we entered the second half of the 20th century, the American home was, by and large, a place for family life and all that entailed.

As we got half way through that second half, speculations about the renewal of the home as a place of work began to surface. Soothsayers began picking up on the expected technological advances in communication at a time when suburbanization was transforming our cities and commuting costs were beginning to balloon. The time became ripe for the notion of telecommuting to work its way into speculations about the future.[4]

Working at home and communicating with others electronically on an as-needed basis was an idea that had a good deal of surface appeal to workers, employers and the communities in which the telecommuting was to take place. For the worker, it meant the removal of what was a growing source of irritation and expense— commuting. It also means more flexibility in accomplishing the work to be done. Such flexibility was of some importance to the two-income family, a family arrangement that was rapidly increasing in number as women began to enter the workforce in large numbers.

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To the employer, telecommuting had positive cost implications. Workers spared the inconvenience and cost of commuting could be hired at a lower cost. And if the flexibility the arrangement provided to employees worked to their benefit, there could be productivity gains.

To the community in which all this took place, the benefits were reduced traffic flows which lowered the cost of providing and maintaining the needed streets and highways. Less automobile traffic also reduced the dimensions of its pollution problems.

What seemed so promising back in the late 1970s and early 1980s, however, did not materialize in any significant way and didn't initially for a very good reason. The electronic communication gear necessary to create the linkages needed to get most jobs done when workers were

physically separated was not there. Until the development of the Internet, the available means of electronic communication did not really facilitate the kind of interaction between workers and workers and bosses required. And as the technology began to develop, small scale uses of it were expensive, making it unfeasible for much home use. That cost in fact gave rise to the development of a number of places close to where workers lived—teleport centers—places that housed enough activity that made acquisition of the available equipment worthwhile.

The Internet represented, potentially at least, a big step forward. Yet, to this point its potential that has yet to be realized in any significant degree.

The available facts about telecommuting come from surveys, the results of which are wide ranging. Those that come from a trade association (the International Telework Association and Council) suggest there are now more that 40 million teleworkers accounting for close to one third of the nation's workforce.[5] A 2001 survey made by the Census Bureau, on the other hand, indicates that number to be about 20 million.[6] In both instances the reported number includes people who are wage and salary workers taking work home on an unpaid basis, those who were self-employed as well as those who had a formal arrangement with employers to work at home. In the Census Survey, about half of the number of telecommuters were identified as unpaid workers, more than a third were self employed and the remainder (about 15%) were those expressly paid to work at home.

The conclusion to be drawn from the Census data and survey data collected in a number of European countries[7] is that telecommuting in the sense most often used by

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those who saw it as the wave of the future is still a very small part of the workforce—just a little over 2%. This obviously raises the question of just what is the problem given the potential benefits of such activity.

WHY SO LITTLE TELECOMMUTING?

There are several reasons why telecommuting has not caught on as much as some believed it would a couple of decades ago. One of these has to do with the technology. The telephone technologies that dominated electronic communication until the coming of the Internet and the World Wide Web were limited in what could be communicated between home and the office. While Internet connections, as they have developed thus far, have removed some of these limitations, electronic communication is still in a very rudimentary stage compared with what we can do when we are face-to-face.[8] While disadvantages will diminish as the technology is further developed, there is reason to argue that being face-to-face in business will retain its current importance because of what's happening in the economy.

We are living in an economic world in which there is ever increasing complexity and specialization in the tasks we must perform. This movement into what some characterize as the knowledge economy has given rise to the need for extensive and often very subtle communication among those who are a part of the teams involved in those tasks. The economic world in developed countries has become infused with knowledge-based operations and what needs to be known changes constantly. From science as it has evolved over the past 50 to 100 years or so has come a knowledge base that provides the foundation for much innovation in the economy. And the growing world dominance of markets as the mechanism for economic activity and the globalization of these markets have intensified the competitive pressures on firms to innovate to a degree that competitive advantage in most industries is now achieved through innovative operations.[9]

Innovation, of course, is activity that requires thought that generates something new. In today's world, many of the ideas that give rise to such activity are plucked from the complex subject matter of some science. To innovate today requires high-level competencies and draws upon knowledge not to be found in textbooks. With teams of people involved in interactive ways in much current innovation, there is need for a lot of conversation, discussion and debate. The creativity in this kind of activity is built to

a considerable extent on tacit knowledge—that which is in the mind of the people involved—activity that is now generally believed is most effectively carried out on a face-to-face basis. The emergence of such high-tech centers as Silicon Valley and the Research Triangle in North Carolina is almost always offered as testimony to this point. What this implies is activity that doesn't lend itself to telecommuting. That it has been growing rapidly in importance in the operations of a great many businesses is one of the reasons why telecommuting has not taken off as speculated earlier.

Then there is the matter of how it is that people actually behave. While survival in today's competitive markets requires creative thinking, translating the ideas coming out of bursts of creativity into successful business operations requires rational calculations and choices. It requires the kind of thinking, some of the output of which could be communicated electronically. Yet those who communicate such information are not economic automatons. Those who make those rational calculations and choices bring along emotion when doing so.

No one disputes the fact that our feelings influence the role we play in the economic process. Nor can it be denied that these feelings often create problems that must be dealt with when they occur. Dealing with such problems requires both recognition and understanding. While the feelings we have about something can obviously be made known through language, many in business believe that non-verbal means of communication—body movements, facial gestures, touching, etc.—are more effective. "Going eyeball-to-eyeball" is the typical business characterization of how best to find out what someone really has in mind in communication with others. This, of course, is what we can't do as a telecommuter given the technologies we have today. It is what we can do when we are face-to-face with our colleagues.[10]

WILL IT BE THIS WAY FOREVER?
Some who speculate about the future put forth scenarios that feature technical developments that greatly facilitate substituting electronic communication for much of what we now do face-to-face.[11] If markets in these worlds were to retain their current importance and the globalization process continued, there would be plenty of incentive for businesses to make such substitutions.

But will this really happen? Will those who communicate respond in ways that make any such changes cost effective?

There is good reason to raise this kind of question. Recent research into human behavior has provided insights that suggest communicating on a face-to-face communication might be wired into our behavior. Research in genetics, neuroscience and evolutionary psychology, among other fields suggest the presence of "biological wiring" that reinforces the importance of being face-to-face when connecting with others. The argument, simply stated, is that as a result of the tens of thousands of years communicating on a face-to-face basis in our many activities, we have effectively optimized our biological apparatus to communicate in this way.

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Precisely how important this wiring is remains a question to be answered. The issue here can be framed as one of nature versus nurture.[12] What the recent studies have done is to elevate the importance of nature. While nobody believes that environment—for example the kind of communication tools we have to work with—is unimportant in how we communicate with one another, what seems clear now is that, given the technologies we have and are likely to have for some time into the future, being face-to-face will remain important. This will be especially so in business settings in which there is need for subtle communication as there is when dealing with complicated matters that have uncertain outcomes—innovation. What this implies is that, over the next decade or two, a great deal of what we do in business will remain detached from any effort to move work to the home to reap the benefits of telecommuting.

Having said this, there are reasons for believing that sometime in the future the importance of being face-to-face in business situations will be reduced—possibly by a good deal. If we assume the technology evolves in ways that allows us to communicate electronically much as we now do when face-to-face, things will be happening that could make people more amenable to its use.

The first of these is the continued growth in the proportion of the population who will feel fully at ease in dealing with the technology and hence more willing to use it if it lives up to its promise. This will not only result from the

aging of the young people now being brought up with it, but will reflect continued success in our efforts to make the technology user friendly.

Second, the nature of work is changing in ways that could, in time, reduce the importance of being face-to-face in business. The boundaries of firms in industries that are on the cutting edge of those rapidly changing technologies are being altered and substantial chunks of the hierarchies of these firms are disappearing. In some of these industries, there are firms that have a core activity, around which there are many independent suppliers providing much of what is needed to carry out successfully what is now being labeled as a business process. There are entrepreneurs coming forth with ideas, organizing a process that encompasses the work of a great many outside contractors—e-lancers as they are sometimes called—and coordinating all these activities with the aid of the tools being provided by our rapidly developing information technologies. Some visualize this process evolving into an operation of talented people getting together on a loosely knit basis, doing their jobs and then disbanding—the so called e-lance economy.[13] Of course, there's nothing new about this. It's a process that now characterizes much of the cinematic product coming out of Hollywood and a number other places. What some of today's soothsayers believe is that it will spread to a great many of our other activities.

While all of this kind of activity can be concentrated in one place with face-to-face conversation dominating the communication of which it is a part—as in what happens in places like Silicon Valley—our information technologies, as they are further developed, will inevitably bring about connections between e-lancers who are more spread out. What this implies is work that is less geographically concentrated. While we will by no means be celebrating the "death of distance," people will have more freedom as to where they carry out their roles in the business process. If there are advantages to being at home in what they do, those e-lancers may well choose to do so.

While e-lancing is currently only a relatively small part of the way in which labor services are provided in business, it's going to grow as our information technologies are further developed. And as this kind of work arrangement becomes more common, there is reason to argue that there will be added incentive to move some of that work back into the home. Some of this will come from com-

muting costs that will be increasing in part as a consequence of our efforts to deal with our energy problems. These efforts, no matter what they turn out to be, will add to the cost of movement, which means higher commuting costs. These costs will also be rising if we continue to fail to deal with the ever growing problem of congestion in our highways.[14]

HOW WILL WE RESPOND TO SUCH COST INCREASES?
We could, of course, choose move to closer to where we work—back to the city or an edge city—and some will do this.[15] But, in my view, there is good reason to believe that America's love affair with the automobile and the mobility it provides will not disappear. Nor is it likely for many that their desire for a lot of living space will diminish. Yet, moving away from crowded locations as the means of maintaining that mobility and acquiring the needed space will create budget problems, especially if commuting costs are rising. These are problems that could be avoided, however, if we telecommute. If the additions to commuting costs are high enough, more of those who want mobility and space could, technology permitting, decide to work at home or at some teleport near where they live.

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The economic world is not going to morph into a great mass of cottage industries in which everybody works out of their home connected in a business process, the components of which are linked together through one great big web-like electronic infrastructure. Work out of the home is never likely to become the dominant way labor inputted into a business process if only because of that biological wiring. But its importance is going to increase if competitive markets continue to dominate what goes on in the world economy. In such a setting, businesses will be under constant pressure to look for ways of doing things that result in new products, enhanced productivity, and lower costs. Telecommuting has the potential to contribute to

this search if the technology is there to provide for the kind of communication that is required.

BUT WILL WORKERS RESPOND TO WHAT BUSINESSES WANT TO DO?

History suggest that they will if the benefits from doing so are significant and easily recognized, as they seem to be for telecommuting.[16] We should not expect dramatic increases. Nor will these increases be quick in coming. But there is clearly reason to expect more work at home in the future which is going to impact, at a minimum, the size of the dwellings in which we choose to reside.

THE HOME IN A DIGITAL AGE: EDUCATION

Home-based education of our children in grades 1 through 12 goes way back to our early history. Up until the early 1900s, many children were educated in the home. All that stopped with the passage of compulsory attendance laws that effectively made such schooling illegal. Until the 1960s virtually all of the formal education of our children was done in institutions—both public and private—separate from the home. While there was "home" work, the formal education process was carried out in school buildings staffed with professional educators.

Beginning in the 1960s, growing dissatisfaction with what our schools were doing gave rise to actions that ultimately resulted in the legalization of homeschooling in all 50 states. The movement back home in the sense of acquiring an education at home under the tutelage of a parent or some other member of the family started slowly. From an estimated 13,000 school age students in the early 1980s, the homeschool population rose to a total estimated to be anywhere from 1.1 million up to 2.1 million by 2003.[17] As with those telework surveys, the conservative estimate here comes from a government survey; the more optimistic one comes from a trade association. No matter which number we choose, however, it's clear that the number of children being homeschooled rose sharply during the last two decades of the 20th century. While that growth seems to have leveled off, trade association numbers still show increases during the first several years of the 21st century.

WHO ARE THE HOMESCHOOLERS?

The estimated demographic composition of students include children from larger than average families in married couple homes. These are families with incomes close to the median for the American family. The typical parent has attended or graduated from college. The majority regularly attend a church and have a racial/ethnic background that is predominantly white/nonhispanic.[18]

WHY ARE THESE CHILDREN BEING HOMESCHOOLED?

Surveys indicate three primary reasons, the most important of which is a parent belief that they can do a better job than what is being done in the current school system. Second is a belief that the school curriculum should incorporate certain aspects of their religion aimed at providing instruction in the values they believe to be important. And third, many parents of homeschoolers express great concern about what they see as a poor environment for learning that exists in our institutional school system, e.g. lack of discipline.[19]

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These were the concerns. The question remains: are homeschooling parents doing a better job? Are they accomplishing what they set out to do?

There are certainly significant advantages accruing to those who do it themselves. The pupil/teacher ratio is one of these. Another is the flexibility that can be built into a home school curriculum, one aspect of which is the greater possibility for more meaningful hands-on experiences in the learning process. The big disadvantage is the probable lack of knowledge and experience of the parent as an educator.

Apparently the advantages outweigh the disadvantages in the case of academic performance studies show that homeschoolers score well on standardized tests which is probably the major reason why most college admission officials now look upon homeschoolers as potential students who will do as well if not better than the traditional high school graduate.[20]

The record in addressing the matter of socialization is less clear. There are a few studies that suggest the homeschooler develops as well and often better than those who attend institutional school.[21] The evidence here, however, is less persuasive. While there is no reason to believe that homeschoolers are socially deprived, they clearly have less exposure to situations believed to enhance social development.

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WHAT CAN WE CONCLUDE FROM ALL THIS?

Homeschoolers, despite the recent growth in their numbers, are still a very small part of the total school population. That growth was largely the result of parent dissatisfaction with the nation's public education system. Those with the financial wherewithal had the option to move their children to private schools, and many of them did. It is the dissatisfied families of more modest means with a non-working spouse that took advantage of the option of homeschooling. That interest seems to be holding up probably because the academic part of the outcome is being judged a success.

Is there any reason to believe that homeschooling will make further in-roads into the traditional way we have educated our children?

There are several things that will have bearing on what happens to the homeschool population. One of these is the effort underway aimed at fixing our institutional school problems, including not only public policies but private sector efforts as well. These problems, of course, are nothing new and the results of past efforts to deal with them have not been particularly encouraging. What is new in the current effort is information technologies coming into use that could conceivably bring about changes that result in some real progress in upgrading the learning process in the traditional school system. But improvements in learning tools only touch upon a part of the problem that has given rise to the homeschool movement. Moreover, that technology could provide the impetus for a sizable increase in the homeschooled population if what is forthcoming turns out to be a virtual education program that is both effective and easy to administer.

A second element to consider is the family itself. Homeschooled students are, for the most part, from married couple households with a non-working spouse. A successful outcome apparently requires a major commitment of time and effort by one spouse. It doesn't work out well when both spouses work, as is the case in so many modest income families. That we have so many households with children headed by a single person, along with a great many households with married couples in which both spouses work, puts a cap on the number of potential households who could homeschool their kids if they choose to do so.

That said, there is still room for increases in the number of families homeschooling their children and the development of virtual education, if it works out as some believe,

has the potential to lure many of them into the fold. The constraint that will keep this number from ballooning is, as I see it, the social side of the educational experience. The biological wiring that leads us to favor being face-to-face in our communications with others is present in children as well as in adults. Socialization through a group experience provided in an institutional setting is apparently what most kids and their parents want. Whether it, along with the academic experience, is best provided through a public or private institution is how most parents view the issue. The cost of the private school option is a large part of what has and will continue to drive some parents to homeschooling. That cost along with further development of the tools of a virtual education will lead to further increases in the homeschool population of grade 1 through 12, but the probability is that these increases will be much more gradual than they have been the recent past. Yet learning in the home may increase significantly for other reasons.

One of these reasons is what could be happening to the way in which young adults of college age are being educated. The path through virtual education could widen considerably for these people. There has already been some growth in online college education offerings as well as some notable successes.[22] As those inevitable improvements in online offering come in the face of what seems to be never-ending increases in the costs of a college education, more of it could be done in the home.

Then there is the prospect of a work world in which there will be lifetime learning. When innovation is the instrument for achieving competitive advantage and science provides the foundation for innovative effort, there will be a continuous need to keep up with what's going on. While upgrading the human capital we bring to the job has long been a part of what work is all about, it is likely to become much more so in tomorrow's world. And in the competitive market conditions likely to prevail, getting this kind of education through periodic trips to "seminars" at fancy locations will not be as viable an option as it has been, especially if progress is made meeting these educational need through virtual means. This could very easily become work activity best carried out in the home.

WHAT DOES IT ALL MEAN?

There is clearly reason to believe that what we do in the home is changing as a consequence of the information technology revolution. It's not clear at this point exactly

how this technology, as it develops further, will ultimately impact our social life. But right now it's adding to the things we do at home. There are also indications of some shifting of work back to the home as well as some educating of our children. While what has happened to date falls short of what some had forecasted earlier, there has been movement and there is very good reason to expect it to continue and maybe even accelerate a bit. The overall conclusion, in other words, is that there are going to be changes in what we do in the home that impact our housing choices. Those hedonic prices that give us some sense of the importance of the many different characteristics of the home are very likely to change.

We are, of course, not without forecasts of what the information technology revolution is going to do to the home. While forecasting the economic and social consequences of anticipated technological changes is a fool's game, it is one that must be played when the concern is with an item that is as durable and costly to change as is the home. The primary point in this paper is that we have reached a point in the information technology revolution where people in the real estate industry should begin to pay careful attention to those unfolding developments that have a high probability of impacting the kind of homes that people want. I have brought under the microscope several of these that are likely to lead to increases in the demand for more living space. Obviously, the surface here has just been scratched. But it's a start. ∎

ENDNOTES

1. Putnam, R. (2000) *Bowling Alone*. New York: Simon & Shuster.

2. See for example Makimoto, T. and Manners, D (1997) *The Digital Nomad*. New York; John Wiley and Sons.

3. For a much more detailed and broader discussion of aspects of our social lives that appear to be emerging in our digitizing world see Wellman, B. (2001) "Physical Place and Cyberplace: The Rise of Personalized Networking" in *International Journal of Urban and Regional Research* Vol. 25, 227-251.

4. One set of thoughts about work at home in the future are to be found in Toffler, A. (1980) *The Third Wave*. New York: William Morrow and Company Inc. (see especially Chapter 16).

5. International Telework Association and Council. (2004) ITAC Press Release, "Work at Home Grows in the Past Year by 7.5%." www.telecommuteorg/news/pr090204.htm

6. Bureau of Labor Statistics (2002) Bls Press Release "Work at Home In 2001." www.bls,gov/pub/news.release/homey.nr0.htm.

7. Ilegems, V. and Verbeke, A. (2003) *Moving Towards the Virtual Workplace: Managerial and Societal Perspectives on Telework,* Northampton, MA: Edward Elgar Publishing Inc.

8. For a discussion of a major problem that has to be confronted (and is slowly being confronted) before any significant progress can be made along these lines see Pliskin, N. (1998) "Explaining the Paradox of Telecommuting" in *Business Horizons*, Vol.41, 73-78.

9. See Best, M. H. (2001) *The New Competitive Advantage: The Renewal of American Industry*. Oxford: Oxford University Press.

10. See Winger A. (2005) "Face-to-Face Communication: Is It Really Necessary in a Digitizing World" in *Business Horizons*, Vol. 48, 247-253.

11. See for example Tiffin, J. and Terashima, N. (2000) *Hyperreality: Paradigm for the Third Millennium*. London: Routledge.

12. Actually, as the issue is considered now by some, it is more a matter of nature via nurture, expressed this way to emphasize that both play a role in our behavior What we don't know is all of the details about the interactions of these two. See Ridley, M. (2003) *Nature Via Nurture*. New York: HarperCollins Publishers

13. See Malone, T. W. (2004) *The Future of Work: How the New order of Business Will Shape Your Management Style and Your Life*. Boston: Harvard Business School Press (See especially pages 74-79).

14. See *The Economist* (2005) "America's Great Headache," June 4, 28-29.

15. Richard Florida has put together a compelling argument along with some statistical evidence that would have those many "creative" workers in tomorrow's world living in densely populated urban areas. See Florida, R. (2005) *Cities and the Creative Class*. New York: Routledge.

16. Workers certainly responded to what the automobile offered them back in the middle part of the 20th century.

17. See National Center for Education Statistics (2004) "1.1 Million Homeschooled Students in the United States in 2003." http://nces.ed.gov/pubs2004/2004155.pdf. and National Home Education Research Institute (2005) "Facts on Home Schooling." www.nheri.org/modules.php?name=content&pa=showpage&pid=21.

18. See National Center for Education Statistics: Statistical Analysis Report (2001) Home Schooling in the United States: 1999. Washington: U. S. Department of Education.

19. Ibid.

20. See Jones, p. (2004) "A Study of Admission Officers perceptions of and Attitudes Toward Homeschooled Students," *Journal of College Admissions*, No. 185, 12-21.

21. Ibid.

22. The University of Phoenix is reputed to be one of the more notable of the success stories.