

# HIGH INCOME STRATEGIES FOR THE WISCONSIN ECONOMY

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## SUMMARY

In the past three decades, the main challenge facing the Wisconsin economy has been employment and job growth. The number of potential workers was greater than the number of available jobs. By all reasonable measures, Wisconsin has won the job battle. Unemployment in the state is remarkably low. In fact, Wisconsin leads the nation in the percentage of its population which is gainfully employed. The number of jobs now exceeds the number of available workers and labor shortages are becoming more evident as the state's businesses continue to grow with the rest of the US economy.

But having won the job battle, Wisconsin is falling behind in the income war. Per capita income in the state has gradually fallen below the national average over the last twenty years. In the late 1970's, Wisconsin was competitive with respect to per capita income with surrounding states and was slightly below the US average per capita income. Twenty years later, the income of Wisconsin has fallen 5% below the national average and the income growth forecast for the state for the next 25 years, if realized, would send Wisconsin's per capita income figures 17% below the US average. Based upon Wisconsin's current per capita income ranking and the state's current economic strategy, Wisconsin is destined to be in the lower tier of mid-western states with respect to its citizen's income level. Coupled with below average per capita income, the state is also below average in wealth per capita.

Wisconsin must think about three types of economic strategies to reverse the income and wealth trends. First the state must catch-up to other states in venture capital capacity and the proportion of college graduates in its population. Second, the state must keep-up its current competitive advantages particularly the excellence of its educational systems. Finally, the state must support leap frog strategies which might advance the state at a more rapid rate.

What follows is a brief analysis of why the state needs to change economic direction to ensure the prosperity of this and future generations. That is followed by recommended strategies which the state should follow to make Wisconsin a New Economy leader.

## VALUE MIGRATION

**Value Migration** is the title of a best selling book by Harvard professor Adrian J. Slywotsky. The book describes value migration within the US economy as a process through which value (market capitalization of a firm's shares) migrates from outmoded business designs to new business designs that better serve customer needs. This value migration can occur within a corporation, between corporations, and between and among industries. Value migration has three phases which include value inflow, stability and value outflow. During periods of value inflow, corporations or industries with superior economic designs generate rapid increases in value caused by superior business design, technological expertise and rapid and successful new product flow. During periods of stability, corporations and industries continue to gradually accumulate value through moderate business growth. Finally, value outflow occurs when market values of corporations or industries declined due to obsolete business designs as competitors attract or divide existing business.<sup>1</sup>

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<sup>1</sup>Slywotsky, Adrian J., *Value Migration: How to Think Several Moves Ahead of the Competition*,

With respect to the world economy, a number of industries and corporations are clearly in the value inflow stage. Industries such as biotechnology, biochemistry, Internet businesses, telecommunications and pharmaceuticals are dominating value growth in the capital markets. Other industries such as chemicals, paper, and consumer products are arguably in the stability stage. Still other industries such as automobiles, foundries and steel are in the value outflow stage. The recent bankruptcy filing of Wheeling-Pittsburgh Steel is an example of the continuing outflow of value from the steel industry.<sup>2</sup>

To a limited extent, the value migration model can be extended to the economies of states. States which are home to value inflow industries as part of their economy will experience derivative economic benefits including wealth accumulation and higher per capita income levels. States such as California and Massachusetts which have large concentrations of value inflow industries also have relative high levels of per capita income and personal wealth. Correspondingly, states which are dominated by stable or value outflow industries will have lower per capita income and wealth levels. The states of Ohio and Michigan are good examples of states dominated by stable value and value outflow industries.

Using this analysis, I would argue that Wisconsin is dominated by value outflow and stable industries. Further it appears that much of the current economic strategy of the state encourages the increase in the number of those industries especially with respect to manufacturing industries. The result has been and will continue to be relatively high employment levels along with relatively low per capita income levels.

## **VALUE MIGRATION AND THE NEW ECONOMY**

Much debate now surrounds the definition of the “New Economy”. Some define the New Economy in terms of the use of advanced digital technologies citing the Silicon Valley, Boston and Austin as central to the New Economy. Others paint the new economy with a broader brush and define it in terms of the deployment of a variety of technologies including biotechnology. Yet others, perhaps tired of hearing about the New Economy, suggest that there is no definable boundary between the Old and New Economies and that the two are merging as new technology is applied to new and old line businesses.

In my view, the essence of the New Economy is not solely about the creation or application of technology. Rather, drawing on the value migration theory, I would define the New Economy as follows:

The New Economy involves the building of high value added businesses and sectors of businesses that create high income jobs and market value (wealth). These businesses are driven by the application of technology and knowledge in building new products and new business processes.

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(Boston, Mass.: Harvard University Press, 1996)

<sup>2</sup> “Wheeling Files For Chapter 11 Amid Big Debt”, *Wall Street Journal*, November 17, 2000, A4.

Technology is undeniably central to this New Economy because it is the tool that allows quantum leaps in productivity, producing high value added products and services. But the second part of the New Economy, the knowledge or information input, is equally important. Information inputs can include legal, accounting, financial and managerial knowledge. Information and knowledge as a key inputs to manufacturing and service businesses create high added value streams confirming the old adage that information is power. In the case of the New Economy, knowledge is economic power.

### **ANOTHER CUT AT THE WISCONSIN ECONOMY: WISCONSIN VS MINNESOTA**

In many respects, Wisconsin and Minnesota are very similar. Minnesota has a population of about 4.8 million people while Wisconsinites number 5.3 million. Land mass and natural resources of the two states are nearly the same. Each state has a single predominant urban center (Milwaukee and Minneapolis/ St.Paul) and the demographics of each state are fairly similar.

Yet recent headlines indicate a clear contrast in the economic climate of each state. Minnesota entered its biennial fiscal debate in 1999 with a surplus of at least \$2.3 billion dollars. This surplus has been fueled by rapidly rising per capita income. Prospects for continued revenue growth, tax cuts and strategic economic investments appeared exceptionally bright. By contrast, Wisconsin entered its biennial budget debate with a much smaller surplus (about a fifth of the size of Minnesota). Wisconsin's per capita income is rising but remains below the national average and about \$2700 or 10% below the per capita income in Minnesota. More importantly, the gap between the per capita income in Minnesota and that of Wisconsin is growing and there appears to be no reason to think that this condition will change anytime soon.

What explains this dramatic difference in the economic fortunes of neighboring states? There is one clear difference in the demographics of Minnesota and Wisconsin. That is the percentage of the population with a four year (or higher) degree. The correlation between education level is well known and easily demonstrated. In 1998, the American Council on Education published statistics on the average earnings by educational level for high school graduates, holders of four year college degrees and holders of graduate degrees. The data showed an annual earnings gap between high degree holders and those with a four year degree of \$17,856. The gap between high school degree holders and those holding an advanced degree amounted to \$40,960 per year. Minnesota ranks 5th in the nation with 31% of its population holding a four year degree. Further Minnesota has a negligible net migration of college graduates. Finally, Minnesota has relatively high net migration and retention rate for college graduates with a technical degrees.

By contrast, Wisconsin ranks 29th in the nation with 23% of its citizens holding a four year degree and Wisconsin is in the bottom quarter of states in terms of net migration of college graduates. Wisconsin's net migration (loss) of college grads results from a very low (as low as 50th in the nation in recent years) in-migration of college graduates. While the State of

Wisconsin retains a good percentage of its own college grads (ranking as high as 7th in the nation in recent years), it does not attract college grads from other states.

## **THE DILEMMA OF THE OLD ECONOMY**

Through much of the twentieth century, the Wisconsin economy was powered by two economic sectors - agriculture and manufacturing. During the period from about 1940 to 1970, these twin economic drivers fueled the Wisconsin economy and Wisconsin enjoyed a comparatively good level and growth in per capita income. In the early 1970's, global competition in manufacturing and national competition in the dairy industry began to erode the value added of these sectors and thereby eroding the income levels of workers in agriculture and manufacturing. In the 1970's and 1980's, a series of punishing recessions further weakened these two sectors. The general prosperity of the last fifteen years has led to some recovery of the Wisconsin economy. Rising employment levels have resulted in low unemployment rates but there has been a corresponding weakening in the relative per capita income levels of state residents. As long as the Wisconsin work force continues to expand, the effects of lower per capita income are overcome by the increase in aggregate income produced by more workers.

Today, the Wisconsin economy still has relatively high levels of employment in agriculture and manufacturing. About 9% of state workers are employed in agriculture while 24% are employed in manufacturing. This compares to national figures of 5% and 17% respectively.

The general prosperity of the last fifteen years has masked some important factors which pose significant problems for Wisconsin's future prosperity. Nationally, **Business Week (BW)** has observed a growing prosperity gap among the states. **BW** attributes this gap to the growing divergence of states with respect to the level of New Economy employment. In the period 1988-1999, **BW** reports that incomes of New Economy workers have out paced inflation by 11% while the incomes of Old Economy workers have fallen 4.5% short of keeping up with inflation. This net gap of over 15% has widened the per capita income levels among the states with states having high levels of New Economy employment moving significantly ahead of those states with high levels of Old Economy jobs.

Many seem to believe that this income phenomena is a temporary thing and that eventually the economic cycle will come again to favor those who produce and manufacture things. Others believe that if we just get more efficient in the Old Economy businesses, that is if we do things right, we will be able to overcome the New Economy income growth bias.

Certainly it is not inconceivable that Wisconsin's economy could benefit from either or both of these events. But more likely than not, any recovery will be temporary and will soon disappear as the forces of the global economy take hold.

The basic problem facing Wisconsin and other states with large stakes in old economy jobs is the globalization of the manufacturing economy. Early advantages in closeness to raw materials and the skill levels of workers have disappeared as worldwide quality in goods produced has become a reality in the global economy. This phenomena has changed the nature of manufacturing from one in which success was based on product quality and design differentiation to one where

quality products are a commodity and product cost and time to delivery determine success. In the new era, global manufacturers construct a portfolio of global production facilities to take advantage of cost advantages which may be driven by lower labor costs, lower raw material costs, economic subsidies of host countries and fluctuations in currency and monetary exchange rates. A good example of this is the action by US Steel to acquire the Slovakian steel producer, VSQ. The VSQ acquisition marks the first time in US Steel's history that it fully owns a foreign steel operation. The acquisition gives US Steel alternatives to producing steel in the US and puts US Steel in a higher value-added steel market.<sup>3</sup> With multiple global locations, firms like US Steel can fill orders from the lowest cost facility taking advantage of short or long term economic advantages and putting pressure on wage demands at all global locations.

These actions on the part of global manufacturers are in the best interests of shareholders and the ultimate survival of the corporation. But they pose significant challenges to host countries and states and the income levels of their citizens.

## **HIGH INCOME STRATEGIES FOR THE WISCONSIN ECONOMY**

Wisconsin faces some formidable challenges to its future economic prosperity and thereby its ability to provide a high quality of life and services to its citizens. Wisconsin is not without significant assets as it faces the future. It can boast of a high quality of life, a workforce with an unparalleled work ethic, an excellent educational system and excellent schools and universities. But the bottom line remains that Wisconsin's 5.3 million citizens trail the national per capita income by \$1,300. And the current 25 year projection of income growth in the state predicts that Wisconsin's income growth will significantly trail the national growth rates leaving Wisconsin as much as \$8,000, or 17% behind the projected national per capita income figure by 2024.<sup>4</sup>

To change this forecast, Wisconsin must change its thinking from a strategy of continually increasing the number of jobs to a strategy of creating a large number of high income jobs. To change its relative economic position among the states, Wisconsin should employ three broad categories of strategies which are labeled catch-up, keep-up and leap frog strategies. Catch-up strategies involve policies and conditions which other states are successfully employing to build their own New Economies. These areas are vital to building a New Economy and Wisconsin must catch-up to other states in order to bolster its level of future prosperity. Keep-up strategies involve actions to keep the advantage Wisconsin enjoys in many areas, recognizing that other states are working to catch-up to Wisconsin. Finally, catch-up and keeping up alone won't help Wisconsin to rapidly reposition itself. Wisconsin will need to leap frog the competition if it wants to improve the economic fortunes of the state in a meaningful way.

### Catch-up Strategies

**Venture Capital:** By every measure available, Wisconsin is woefully behind many states in

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<sup>3</sup> "US Steel wins VSQ backing for purchase", *Financial Times*", October 13,2000.

<sup>4</sup> Data from "Is Wisconsin and the New Economy", a presentation by David J. Ward, October 2000.

raising and employing venture capital. In 1998, Wisconsin had \$14.30 per capita in venture capital. By comparison, the US average was \$71.79 per person while Minnesota far outpaced both Wisconsin and the US average with a per capita figure of \$137.19, or nine times the Wisconsin figure. In the three quarters of 2000, Minnesota had 84 reported venture capital deals involving \$852 million in venture capital compared to Wisconsin which had 9 deals involving \$105 million in venture capital. The rising per capita income in Minnesota and the widening gap between Minnesota and Wisconsin in per capita income is partially due to this venture capital gap as high paying New Economy businesses, particularly software ventures, populate the Minnesota economy.

*Wisconsin needs to encourage the building of its own venture capital base as a means to growing and keeping New Economy businesses in Wisconsin.* To do that we need to further support the work of the new Wisconsin Entrepreneur and Technology Council which is working to form angel investing networks in the state. We must also create a venture capital network which encourages the formation and expansion of venture capital funds in Wisconsin. Many groups such as the Community Bankers of Wisconsin are seriously looking at creating venture capital pools and they need both the information network and favorable state policies to get the job done.

**Federal Spending:** Economist Dennis Winters points to a one billion dollar federal spending gap as one of the drags on economic growth in the state. The Wisconsin Taxpayers Alliance reports that Wisconsin was 49th out of 50 states in federal per capita spending.<sup>5</sup> Wisconsin has particularly low levels of federal spending in grants (30th), procurement contracts (46th), and direct payments for items such as Medicare (34th).

For many years, Wisconsinites have put their trust in hard work to overcome the small state political disadvantage in getting federal dollars. With an increase in “ear marking” dollars for projects favored by some congressional representatives and with the inherent unfairness of some of the federal reimbursement formulas (milk pricing and Medicare reimbursement levels), Wisconsin must change its strategy. *Wisconsin needs a coordinated federal agenda to increase the flow of federal dollars into the state.*

A coordinated agenda would require the bridging of party gaps among congressional representatives, the help of state and local officials in lobbying a coordinated federal agenda, and the building of a federal information network to increase the flow of information and action to those interested in applying for federal money. The latter item has been an action item of the Wisconsin Department of Administration which is seeking to maximize federal dollar inflows into the state.

**Increase the Number of College Graduates:** Wisconsin ranks below the national average in the proportion of college graduates in its population. The link between education level and earning power is very clear. College graduates earn twice as much as high school graduates and this gap is widening.<sup>6</sup>

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<sup>5</sup> *The Wisconsin Taxpayer*, January 2000, Vol. 68, No. 1.

<sup>6</sup> *The Book of Knowledge*, Merrill Lynch & Co., April 9, 1999.

Data from the Wisconsin Department of Public Instruction on the intentions of high school graduates indicates that in 1996, 70.5% of graduates planned to attend a technical college or university following high school graduation. In 1999, that number had fallen to 68%. In the New Economy with the on-going demand for highly educated workers, we need to increase the proportion of students who pursue post-secondary education.

*Wisconsin needs to increase the number of college graduates in its population by encouraging more of its citizens to seek a post-secondary degree and by making Wisconsin attractive to college graduates from other states who might migrate to Wisconsin.*

**Creating formal and informal information networks:** Many of the papers written for the Wisconsin Economic Summit point to the lack of formal and informal information networks as a serious impediment to the growth of New Economy businesses in the state. New Economy successes reported in the summit papers in places such as the Silicon Valley and San Diego are due in large measure to the building of information networks which allow entrepreneurs and venture capitalists to exchange information and provide an information platform for partnering and investing in new enterprises.

*Wisconsin should implement strategies which build on existing information networks and encourage the formation of new networks for venture capitalists and entrepreneurs. In implementing such a strategy, the state's universities and technical colleges should be central to building information networks.*

### Keep-up Strategies

**The Educational System:** Wisconsin has a recognized advantage in the excellence of its educational system. While no part of that system is without potential for improvement, the overall level of the k-12 schools, the technical colleges and the public and private universities in the state is competitive with any state in the union. Given the projected shortage of workers in the next several decades, steps should be taken to assure the high quality of Wisconsin's teaching resources.

In a New Economy, the educational level of the workforce will drive the overall prosperity and wealth of the state. *Wisconsin must maintain its commitment to funding and improving the educational systems of the state. It must also invest in the professional development of its teachers.*

**Preserving and enhancing existing business value:** Wisconsin has a history of medium and small sized businesses (\$5 million to \$75 million in sales) which are generally conservatively run and financed. Many of these firms are family owned and operated and their location within the state boundaries contributes to the wealth and diversity of the state economy. The conservative nature of these firms often makes them tempting acquisitions for national or global firms who capitalize on relatively high cash flows in comparison to acquisition costs.

The aging of the state population applies to many of the owners of these Wisconsin based

businesses and many are faced with the prospect of no natural family succession as they come to the end of their business careers. Many of these businesses are likely to be sold in the next two decades and unless there is a substantial improvement in venture capital capacity or other in-state alternatives, the businesses are likely to be sold to national and international firms not located in the state thus further eroding the state's corporate job base.

*Wisconsin should devise strategies which maximize the market value of those firms that are sold and should also think about strategies that would result in Wisconsin based ownership of these firms.* The first part of this strategy would lead to maximizing the market price of firms which in turn would hopefully lead to greater wealth accumulation of business owners who stay in the state. The latter part of this strategy would leave many good sized and growing firms based in Wisconsin providing good paying corporate jobs. Such a strategy might call on the state's Small Business Development Centers (SBDC) to create educational resources that business owners might draw on to maximize market value at sale or to devise ways to pass the business on to Wisconsin based owners.

### Leap Frog Strategies

**Biotechnology:** In a recent article in the *Regional Review* published by the Federal Reserve Bank of Boston, Steven Sass recounts how capitalism has always been a game of leap frog. In the last two centuries, economic leadership has leaped from Spain to Amsterdam to France to England and then to the United States. And within the United States, economic leadership has leaped from Atlantic port cities to the manufacturing centers of the Midwest and now to the high tech areas of California, Texas and the east coast.<sup>7</sup> The prospect of leaping over the competition is certainly not a common opportunity but if the forecasts are anywhere near the target, biotechnology would seem to be the best hope for Wisconsin to leap frog other states in economic terms. Papers done for the Wisconsin Economic Summit such as the one written by Dr. John Wiley point to a number of biotech success stories such as Promega and Third Wave Technologies. The presence of a critical mass of research in biotechnology at the University of Wisconsin Madison and the support of state leaders led by Governor Thompson has positioned Wisconsin to move rapidly ahead in the formation of biotech spin-offs and the ability to attract government and private research and development money. All of this activity leads to the formation of high income jobs which hold the promise of raising Wisconsin's per capita income. More importantly, the success of biotech start-ups is attracting the venture capital and is leading to considerable activity in the formation of venture capital and angel investor networks in the state.

*Wisconsin should consider several leap frog strategies including one involving biotechnology as a way of jump starting the growth in per capita income in the state. These strategies should include growing venture capital capacity, investing in the biotechnology research base in the state's universities, and making the formation of new businesses easier.*

**Reverse Investment in R&D Centers:** Currently, Wisconsin is not well positioned to attract corporate headquarters, an excellent source of high income jobs. While the state has recently attracted the corporate headquarters of Rockwell Corporation, for the past twenty years the state

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<sup>7</sup> "Leapfrog and catch-up", *Regional Review*, First quarter, 1998.

has lost corporate headquarters largely as a result of merger and acquisition activity that has resulted in Wisconsin based firms being purchased by firms which are located in other states or countries. At the same time, the state has not had sufficient venture capital activity to lead to the growth of new, growing firms which might provide high income corporate employment.

Until the state becomes attractive as a corporate headquarters location, it might be best to think about what corporate functions or divisions the state might want to get to locate within state boundaries. In a knowledge economy, we might look to attracting research and development (R&D) divisions of domestic and international firms. R&D operations generally employ highly educated, well paid workers. Such facilities often are the source of spin out operations as a firm or its R&D employees commercialize the intellectual property which comes out of the research function. A cluster of such facilities would in turn create partnerships with our research universities and other private research operations. The state currently has a critical mass of research in biotechnology, medical technology, manufacturing technology and several other areas of basic research.

A targeted, aggressive state strategy aimed at firms headquartered in other countries could pay off in a reverse investment in Wisconsin based R&D operations. The corridor between Madison and Milwaukee would seem to be the logical location for such enterprises given the educational and private sector knowledge bases in that part of the state.

*The state should consider a reverse investment R&D strategy as a second part of a leap frog economic development strategy*

## **CONCLUSION**

Wisconsin is in a position to define its future economic prosperity. If the economy of the state remains largely unchanged, Wisconsin will gradually be dominated by stable or value outflow industries. The state will continue to lose corporate headquarters and lag behind in per capita income and wealth. And a culture of low risk taking will discourage the formation of new, dynamic businesses.

On the other hand, the state can choose to become a New Economy leader. It can create the conditions which are favorable to the formation of new and existing value added businesses, businesses which will grow in market value and make Wisconsin a value migration state. To do that, the state culture must allow more risk taking, venture capital capacity must increase, formal and informal information and communication networks must be built, and the workforce of the state must raise its overall educational level.

All these things can be accomplished, but time is short and we must quickly engaged the opportunities at hand for our good and the good of future generations of Wisconsin citizens.

### **Bio for David J Ward**

David J. Ward was born and raised in Green Bay, Wisconsin. He earned a BBA, MBA and Ph.D. in finance from the University of Wisconsin-Madison.

Dr. Ward began a 31 year career as an Assistant Professor at the University of Wisconsin-Green Bay. He later took a position at the University of Wisconsin-Oshkosh in the College of Business Administration. During his 18 year tenure at UW-Oshkosh, he taught finance courses at the graduate and undergraduate level. He also held the following administrative posts: Chairman of the Department of Finance and Business Law; Vice Chancellor and Chief Academic Officer; and Acting Chancellor. In 1994, he took the position of Senior Vice President for Academic Affairs at the University of Wisconsin System. In his post as Senior Vice President, he served as the chief academic and student affairs officer and deputy to the President of the UW System.

During his career as a professor of finance, Professor Ward has been active as a financial and economic consultant and worked for a number of private sector firms including Kimberly Clark, Honeywell and Land's End. He also has worked extensively as a forensic economist testifying in numerous cases in federal and circuit courts.

Following his retirement from the UW, Dr. Ward established NorthStar Economics Inc., a consulting business engage in economic and financial consulting. NorthStar operates out of the MG&E Innovation Center in the UW Research Park in Madison, Wisconsin. A primary focus of NorthStar is economic development services aimed at facilitating New Economy, high income jobs. NorthStar's clients include the Milwaukee Private Industry Council, Infinity Productions of Milwaukee, a group of private investors in LaCrosse, and the UW System.

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