

RESEARCHBUZZ

A New Plan for Growing Indiana's Income

BY DR. JOHN A. TATOM

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The primary aim or “vision” of the Indiana Economic Development Corporation’s (IEDC) new economic development plan (April 2006) is to boost the state’s personal income per capita to the national average by 2020. To accomplish this, the IEDC outlines numerous steps to improve capital formation, largely by various and sundry traditional spending and tax incentives, as well as a few more novel programs that take the government into new areas of intervention in economic activity. These include new types of tax abatement and direct investment programs that states recently have begun to use. Another relatively new feature is an emphasis on health as a factor boosting the quality of the workforce. The focus here is on clarifying the importance and achievability of the plan’s goal rather than the specifics of how it might be attempted.

At first glance, an effort to achieve an average national standard in 15 years might seem to be an unusually low aspiration. But the IEDC explains that this may be a more challenging task

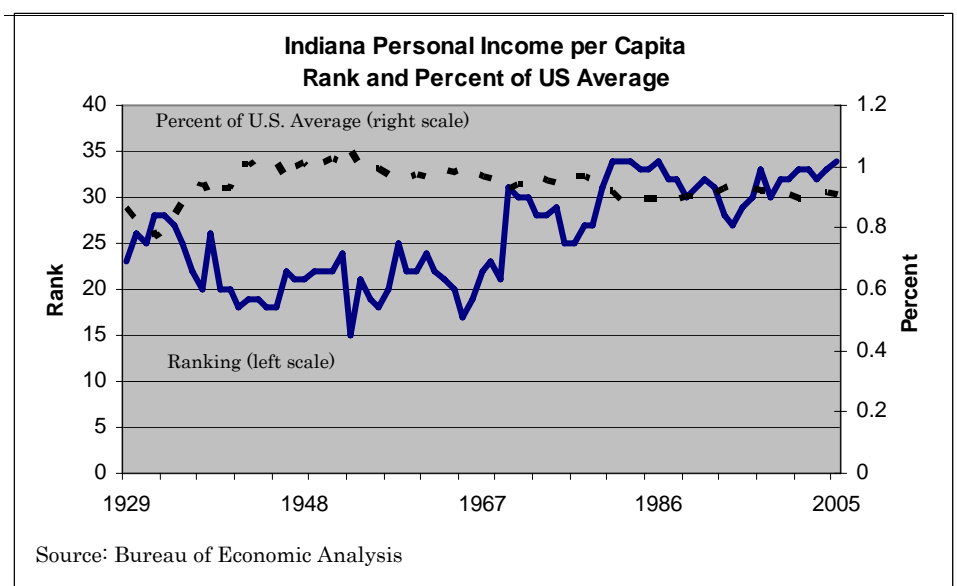
than is obvious. The plan, *Accelerating Growth*, describes many obstacles, but there is another perspective, a purely historical one, that makes achievement of this vision seem especially challenging. Chart 1 shows that, since 1981, Indiana has ranked about 30th to 34th in the nation in per capita personal income.¹ Such income has generally been about 90 percent of the national average since 1981, with few exceptions. To reverse a 25-year-old pattern over the next 15 years suggests a major shift, per-

haps an ambitious objective. In 2005 Indiana per capita personal income was 90.4 percent of the national average (91.4 percent according to the IEDC), reflecting about a 10 percent gap that the IEDC envisions closing over the next 15 years.

The IEDC suggests that the vision is achievable because such growth over the past 15 years was not unusual elsewhere. They claim that 4 states grew more than 20 percent faster per year over the 15-year period ending in 2005, suggesting that a 10 percent gain is simple. However, the facts are that only one state, Wyoming, showed a gain that was at least 20 percent more than the increase in the national average over the 15-year period. Nonetheless, 11 states, or about 22 percent of states, did have more than 10 percent growth over the national average. It should be noted that in order to do this required that they grow annually by only about 0.4 percentage points faster than the nation’s 3.65 percent annual rate. Achieving small differences is actually difficult; for example, Wyoming registered the highest annual growth rate over the period and, at 4.67 percent, it was only one full percentage point faster than the national average growth rate.

From an economic development perspective, however, achieving an average level is not un-

Chat 1: Indiana income per capita has been relatively low for the past 25 years



usual at all. Economic growth theory predicts that income per capita tends to converge to the same level, the average, under fairly simple assumptions. These assumptions include open capital markets, the availability of a common technology and the same saving rate, depreciation rate and population growth. A more modest form of convergence, called conditional income convergence, requires only the availability of common technology and results in the same long-run average growth rates across countries, but not levels. Barro and Sala-i-Martin (1992) explain these differences in more detail, but they are found in most textbook discussions of economic growth theory.

There is ample evidence of convergence in the level of per capita income for states in the US or Western Europe, though the evidence across countries is less uniform. For example, Barro and Sala-i-Martin (1991, 1992) find evidence for convergence for productivity, or output per person, in eight major sectors of the US economy and per capita income in US states, as well as for 73 regions of Western Europe since 1950. Bernat (2001) argues, however, that the convergence process for US states may have ended in 1979. Convergence is often estimated to be quite slow, about 2 per cent per year in many studies. Evans (1997) uses a different statistical approach and finds that convergence occurs and does so somewhat faster, with gaps in income declining about 15.5 percent per year for US states and 5.9 percent per year for countries. Either way, Indiana's near 10 percent gap in per capita income could easily be closed in 15 years without any extraordinary effort, despite its persistence over the past 25 years.

There are other factors that could impede convergence, however. Several are indicated by proponents of conditional convergence, such as Hall and Jones (1999) and Mankiw et al. (1992). Any number of factors that are not easily arbitrated, including immobile factors such as land scarcity or taxation, could lead to difference in the levels of per capita income across areas. For example, the median price of housing, according to the Office of Federal Housing Enterprise Oversight, has risen about 1.6 times as much as the national index since the data series began to be computed in 1975. National Association of Realtors data show

that the national median price house, at \$219,600, was 1.77 times the comparable median price house in Indianapolis in 2005. This difference in the cost of living is likely to result in a large compensating variation in wages and income that could easily account for the 10 percent gap in per capita personal income in Indiana that has persisted for most of the past quarter of a century. If so, there is in fact no gap to close. All of the measured gap could be due to the fact that housing in Indiana is considerably cheaper than in the rest of the nation and competitive labor markets have reflected this in lower wages necessary to attract and hold workers in Indiana. In that case, no closure in the observed gap could be expected, despite the best efforts of the IEDC. The observed difference in the national and Indiana per capita personal incomes could simply and completely represent a lower cost of living for the biggest piece of expenditures in the typical household budget, housing. In this event, conditional convergence would have taken place in measured per capita personal income and, correctly measured, real per capita income in Indiana would have held quite close to the national average for many years.

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¹ In the chart, Alaska and Hawaii are added in 1950 and the District of Columbia, normally number one in the ranking, is included. At least since 1957, the effect is to push Indiana's rank up by three spots in the comparison to the other 47 states.

Additional Reading

Barro, Robert J. and Xavier Sala-i-Martin, "Convergence across States and Regions," *Brookings Papers on Economic Activity*, I:1991, pp. 107-82.

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Evans, Paul, "How Fast Do Economies Converge?" *Review of Economics and Statistics*, (May, 1997), pp. 219-25.

Hall, Robert and Charles I. Jones, "Why Do Some Countries Produce So Much More Output per Worker than Others?" *The Quarterly Journal of Economics*, (February, 1999), pp. 83-116.

Indiana Economic Development Corporation, *Accelerating Growth: Indiana's Strategic Economic Development Plan*, April 2006.

Life science as an industry in the state of Indiana

BY MARTHA H. MCCORMICK

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Statistics provided recently by the Indiana Economic Development Corporation and BioCrossroads (the state's cluster-development initiative) inform Hoosiers about the growth of life science as an industry in the state of Indiana. Ongoing media campaigns in the state cite what bioscience industry promoters consider to be the most attention-getting factoid in Indiana, namely that it provides about 10% of the jobs in the state (a number that is growing) and accounts for 20% of Indiana's tax base. That amounts to about 578,000 jobs in state directly or indirectly tied to health-related industries, \$21 billion in wages, and \$8 billion in federal and state taxes paid.

NFI is interested in the Indiana life sciences industry primarily in its relationship to the financial services sector. At Indiana life science industry events, much discussion revolves around the question of where funding for life sciences business development and growth comes from; life science companies are seeking capital at all different stages, from angel funds and venture capital through more traditional bank financing options. NFI and its graduate fellows developed and launched a survey in late spring 2006, attempting to pinpoint the funding mix and balance in Indiana to develop a more comprehensive picture of the capital lifecycle of Indiana life sciences companies. The Indiana Seed Fund, a \$6 million pre-venture fund, and the Indiana Future Fund, a \$73 million capital pool, are two examples in state that invest in the start-up and growth of life science businesses. Additionally, the state-backed 21st Century Research and Technology fund supports research and technology development in state, including but not limited to life sciences.

Academic/industry collaborations in state are vital to the biosector cluster growth.

With heavy backing from and participation of Indiana colleges and universities, including ISU with its Life Sciences Department and the College of Business with its support for incubators and

small business development, several tech parks, incubators and industry clusters have sprung up; locations include Indianapolis, Terre Haute, Ft. Wayne, Kokomo, Muncie, Bloomington, Anderson, Shelbyville, West Lafayette, Columbus and Evansville. Academic commitments in state total about \$200 million and Indiana's higher education institutions graduate more than 10,000 life science students annually.

From 2001 to 2003, the nation as a whole saw a 2% increase in life sciences employment, while Indiana's life science sector job growth, at 4.5% in the same timeframe, more than doubled that national average. With about \$69 billion of the state's economic output tied to the health industry, Indiana can boast that it has the nation's fifth largest pharmaceutical industry nationally, in terms of sales, shipments, receipts and revenues, and the second highest concentration of biopharmaceutical jobs. Studies issued by Indianapolis Mayor Bart Peterson and the Indianapolis Private Industry Council (IPIC) predict job growth in the state's life science sector by 2012 to account for more than 40,000 additional jobs statewide, taking into account healthcare delivery, medical manufacturing, and bioscience and bioagriculture. However, the IPIC's February 2006 study does caution that more needs to be done in state to develop workforce readiness, specifically in nursing and at the assistant, support and technician levels.

In total, these developments in Indiana's bioscience-related businesses have led Colliers International's Life Sciences group, provider of real estate solutions to research centers and life science companies, to recognize Indiana as a top emerging biocluster location in the US in their annual review, *Alchemy 2005*. As this study points out, "The early work of the life science initiative in Indiana . . . is now bearing significant fruit . . . [and] will position Indiana for exponential growth and long-lasting successes an emerging life science market."

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New NFI supported College of Business research projects in the pipeline for the summer period.

BY OZER ERDEM

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Between June 2005 and May 2006, a total of 77 NFI-supported College of Business projects have been completed totaling \$167,542. Among these projects, \$33,960 was for research-related projects and \$48,000 was for curriculum development projects. At the end of May, there were eight projects in progress, totaling \$37,000.

NFI's support is not only limited to research and curriculum development projects. Last year, \$10,500 was granted to support faculty development efforts. In the same period, 30 grants, totaling \$37,500, were made to support faculty to present their papers at different conferences.

Recently approved financial research projects include Dr. Eurico Ferreira's project titled "Insider and outsider equity private placement wealth sharing". This project looks at the wealth distributions and transfers between new and old investors in equity private placements. In his research, Dr Ferreira will look at equity private placement (EPP) announcements from 1983 through 1996 to examine whether or not the standard abnormal returns (AR) measure provides a biased underestimate of a more accurate and inclusive adjusted AR measure. Some of the factors that will be analyzed include the pre and post private placement share price and the number of shares outstanding after the private placement.

Dr. Mahfuzul Haque's recent proposal deals with the question of whether there is a shift in investor's choices after 9/11. By applying Safety-first using Extreme Value Theory (EVT) to portfolios of U.S. equities and bonds indices and to global indices like Europe, Asia and Latin America during the periods surrounding September 2001, he will look at the direction of capital flows to determine possible shift in investor's choices.

Dr. Newell Chiesl's project mainly deals with the post-retirement phase of female baby boomers, a topic that hasn't been researched in detail. His project, titled "Financial planning for women

baby-boomers during their retirement years," examines how women consumers of investment products will behave when they begin to take out from their nest eggs rather than investing in them. In order to find their priorities in their retirement years, surveys will be mailed to a sample group of women baby boomers.

Dr. Amit Sinha's research investigates the question of whether mutual funds provide higher risk adjusted excess return, by taking on more cokurtosis risk and avoiding coskewness risk. The goal of this project is to investigate whether mutual fund managers trade off moments to provide higher risk premiums per unit of beta risk. In order to support research in security prices and mutual funds, two Center For Security Prices (CRSP) databases have been acquired with a grant from Networks. The CRSP mutual funds database includes information on 31,323 funds through March 31, 2006. Dr. Sinha will analyze the CRSP mutual funds dataset in his research project.

Most of these projects should be completed during the summer session. Look for project results and summaries in the future editions of ResearchBuzz.

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NFI's Financial Forum Series: The Health Care Financing Bomb: Where's the Money (or the Solution)?

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- Why are health care costs so high and rising so fast?
- Could mandatory coverage contribute to the solution?

These and more related questions will be considered at NFI's next Financial Forum.

8:00: AM - 1:00: PM

August 29, 2006, Columbia Club, Indianapolis, Indiana

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- John Goodman (President of National Center for Policy Analysis)
- David Gratzler (Senior fellow at the Manhattan Institute)
- Dr. Thomas R. Saving (Director of the Private Enterprise Research Center at Texas A&M University)

Keynote Speaker:

Douglas J. Holtz-Eakin (Director of the Maurice R. Greenberg Center for Geoeconomic Studies, Council on Foreign Relations.

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