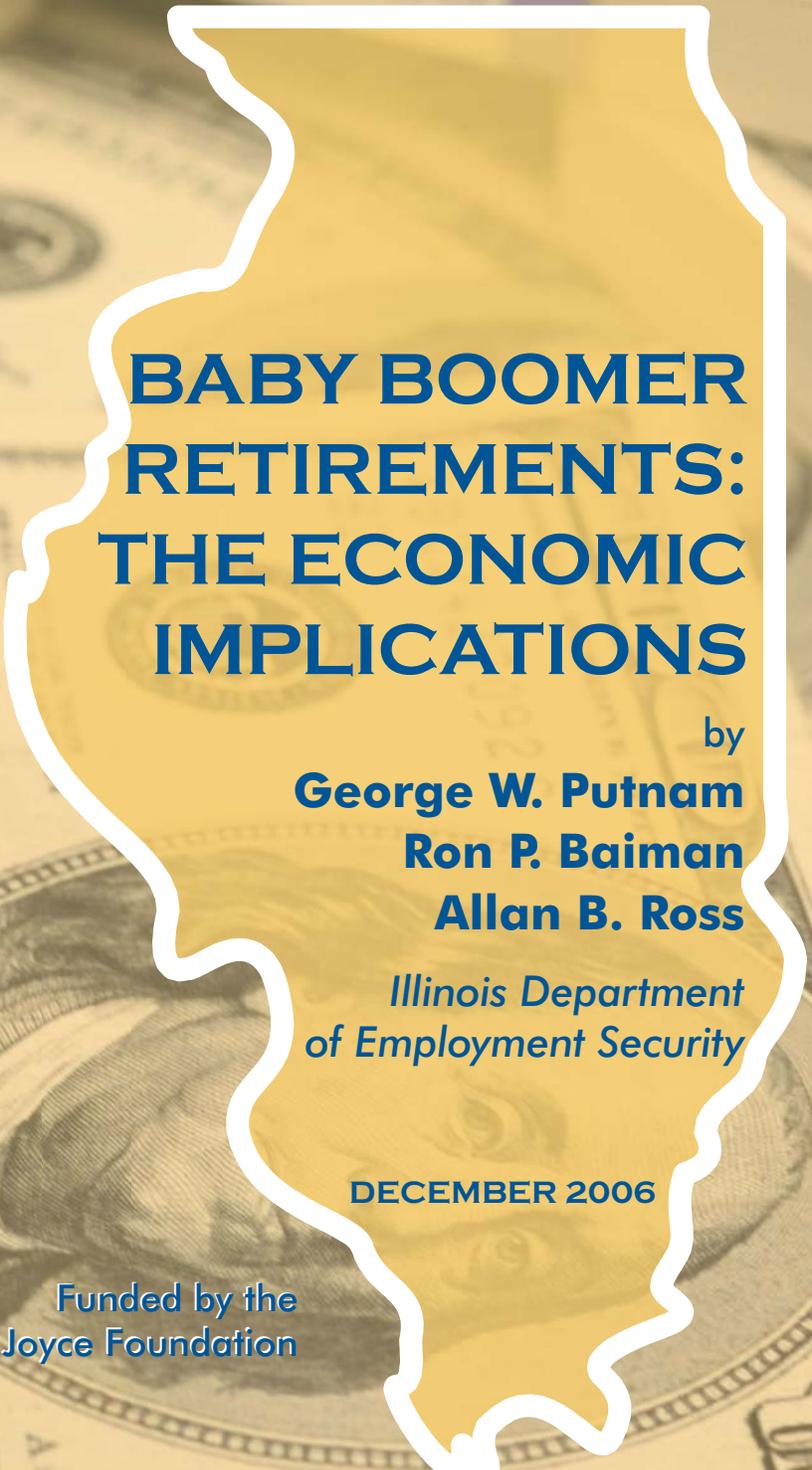


STATE OF WORKING ILLINOIS

POLICY BRIEF



BABY BOOMER RETIREMENTS: THE ECONOMIC IMPLICATIONS

by

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BABY BOOMER RETIREMENTS: THE ECONOMIC IMPLICATIONS

Due to its disproportionate size, the Baby Boom generation has had enormous impact throughout its life cycle on trends in popular culture, consumer spending, demand for services, and product development, among other things. The significance of the generation born between 1946 and 1964 is no less important and economically determinative now that it is on the verge of retirement eligibility. And that is just as true in Illinois as it is nationally.

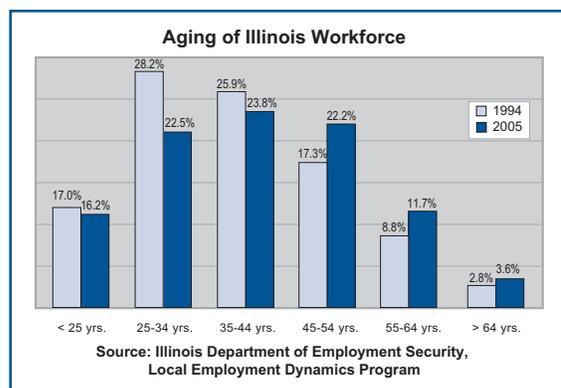
An earlier policy brief looked at the ramifications of the impending retirement of Illinois Baby Boomers on the industries that employ them. That analysis also underscored the tasks confronting human resource professionals as they seek replacements for these retirees. The analysis here again highlights the concentration of these workers by industry and the role of these industries in the Illinois economy. It asks to what extent are industries most vulnerable to the retirement of the Baby Boomers critical to employment and income growth in the state's economy. Again, the analysis draws attention to the imperative need to tackle the replacement issue.

The analysis here begins with a view of some demographic characteristics of Illinois Baby Boomers. Next, we distinguish the industries in which they are concentrated (Risk) from other industries (Non-Risk). And, finally, we explore measures of economic impact, determining whether these overlap with concentrations of Baby Boomers.

BABY BOOMER DEMOGRAPHICS

The Illinois workforce has aged considerably over the past decade or so. In 1994, 71.1% of the state's private-sector workers were under 45 years of age, while only slightly more than a quarter (28.9%) was older than that. By 2005, however, the under-45 group had declined to 62.5%, and workers over 45 years of age made up 37.5% of the total. Most importantly, for our immediate purposes, the 55-to-64 year-old group – the pre-retirement cohort – comprised 11.7% of the workforce in 2005, a sizeable increase from only 8.8% in 1994. It is this pre-retirement cohort, the Baby Boom generation, that is the focus of our analysis here.

Its sheer size has always been the hallmark of the Baby Boom generation. As of 2005, Illinois had 522,592 private-sector employees in the 55-to-64 year-old cohort. To give some perspective to this number, note that in 1994 the same age and employee grouping held 197,243 fewer persons. This means that the pre-retirement cohort of 2005 was 60.6% larger than its 1994 counterpart.

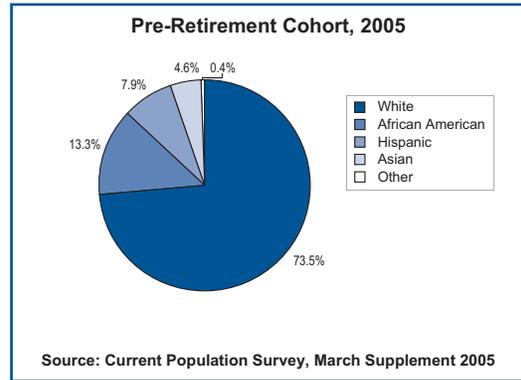
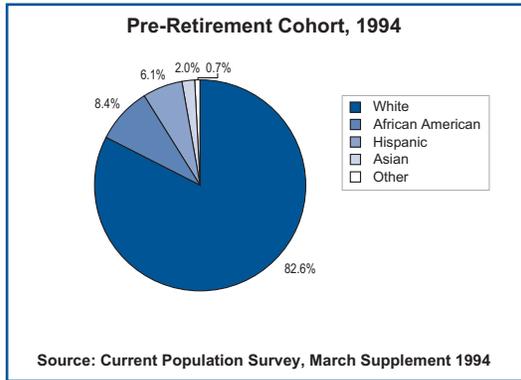


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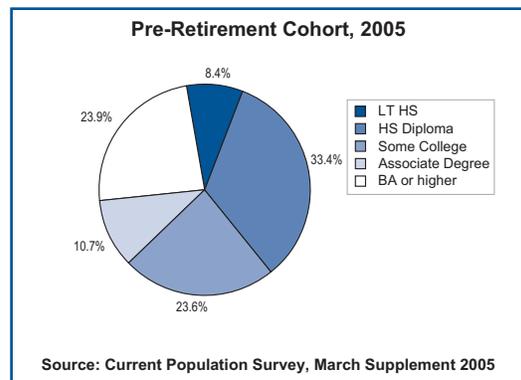
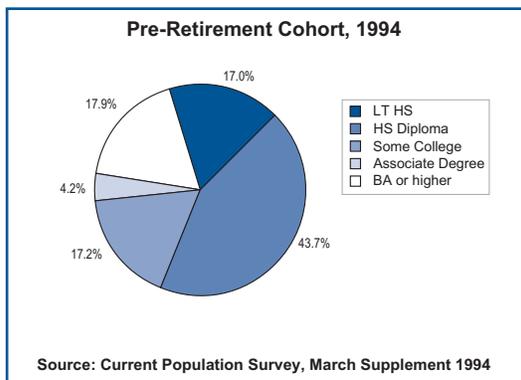
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Who are these pre-retirement workers? Most (53.7%) were males. And most (73.5%) were Whites, although that proportion was much lower than it had been in 1994 (82.6%). In fact, as the accompanying figures show, the Baby Boom cohort is considerably more diverse than the pre-retirement group a decade earlier.



It is also not surprising to notice that the Baby Boom generation reflected higher levels of educational attainment than its earlier counterpart. The growth in the education infrastructure to meet the needs of this generation was unprecedented. Moreover, the percentage of the population attending post-secondary institutions rose dramatically as the Boomer generation matriculated from high school.

As a result, only 41.8% of the Baby Boom generation had a high-school diploma or less, while 58.2% had college experience. Contrast that with the 1994 pre-retirement cohort, in which 60.7% were at the bottom of the educational ladder and 39.3% had any college experience. Clearly, replacing the Baby Boom generation in the labor force will require both larger numbers of workers and recruits with higher levels of educational attainment than was the case with replacing earlier retirement cohorts.



RISK AND NON-RISK INDUSTRIES

We turn now to identifying those industries with high concentrations of older workers, i.e., those 55 to 64 years of age.¹ This is the cohort most likely either to exit the labor force entirely, or to reduce their working commitment, e.g., part-time. Industries with large concentrations of workers from this age cohort will be faced either with the loss or reduction in service of a large portion of their workforce and the consequent need to replace their skill competencies.

The categorization of detailed industries into Risk and non-Risk groupings is based entirely on the percentage of older workers in the industry.² On average, older workers constitute 11.5% of industry employment. However, the percentage of older workers varies considerably across industries, from a low of 5.3% to a high of 21.5%. Since our immediate concern is with the above-average occurrence of older workers in an industry, we define Risk industries as those in the top quartile of this distribution. More specifically, a Risk industry is one in which more than 14.3% of its workforce is between the ages of 55 and 64. Industries whose employment falls below that older-worker threshold, we designate as Non-Risk industries.

Of the 27 industries in the top quartile of the proportionate distribution of older workers, 10 (or 37.0%) are in the Manufacturing sector and reflect a mixture of durable and non-durable goods production.³ The Health Care and Education sectors each contribute four industries to the top quartile, and together these comprise another 29.6% of that quartile. Two-thirds of all the Risk industries can be found in these three sectors. Among the top 10 industries with the highest percentage of older workers, five are in the Manufacturing sector and two are in Education. Overall, the Risk industries employ only 18.0% of all workers but 25.2% of older workers (see Tables 1 and 2).

Table 1. Worker Composition of Risk Industries

Sector	Detailed Industries	Employment		Percent
		All Workers	55-64 Workers	55-64 Workers
Education	4	91,583	16,263	17.8%
Manufacturing	10	369,937	60,641	16.4%
Mining	1	7,178	1,163	16.2%
Other Services	2	82,345	13,342	16.2%
Transportation/Warehousing	2	89,772	14,562	16.2%
Health Care/Social Assistance	4	144,920	22,508	15.5%
Finance	1	3,483	520	14.9%
Administrative and Support	2	34,352	5,112	14.9%
Real Estate	1	55,202	8,043	14.6%
Total	27	878,771	142,118	16.2%

Source: Illinois Department of Employment Security, Local Employment Dynamics Program

¹ The identification of Risk and Non-Risk industries is based on data from the Local Employment Dynamics (LED) program, a partnership between states and the U.S. Bureau of Census (see <http://lehd.dsd.census.gov/led/>). The LED data in this section are calculated to represent the year ending in the second quarter of 2005. That is, the data are a four-quarter rolling average ending in 2005:Q2. This approach averts the possible confounding effects of seasonal fluctuations on labor market activity.

² In developing this categorization, we aimed at avoiding the potential bias caused by small industries. Thus, we included only those industries that met two criteria: More than 2,000 total workers and at least 200 older workers. These criteria eliminate eleven industries, representing 0.2% of the state's 5 million private-sector workers. The complete listing of the eliminated industries is at: www.stateofworkingillinois.niu.edu.

³ The detailed industries that comprise the sector composition of Risk and Non-Industries can be viewed at www.stateofworkingillinois.niu.edu. The subsequent analysis utilizes weighted averages for Risk and Non-Risk industries based on the relevant employment count for each labor market measure.

Table 2. Worker Composition of Non-Risk Industries

Sector	Detailed Industries	Employment		Percent
		All Workers	55-64 Workers	55-64 Workers
Manufacturing	10	327,892	42,741	13.0%
Wholesale Trade	3	302,195	39,014	12.9%
Health Care and Social Assistance	9	475,185	61,191	12.9%
Management of Companies	1	87,147	10,642	12.2%
Mining	2	27,216	3,223	11.8%
Agriculture	3	15,273	1,808	11.8%
Finance	3	309,594	35,019	11.3%
Education	3	18,036	1,892	10.5%
Professional Services	9	337,151	35,345	10.5%
Transportation/Warehousing	4	122,415	12,549	10.3%
Retail Trade	12	628,463	64,321	10.2%
Other Services	2	111,532	11,141	10.0%
Information	6	118,155	11,601	9.8%
Construction	3	251,073	24,128	9.6%
Administrative and Support	7	357,255	33,163	9.3%
Leisure	3	79,541	7,080	8.9%
Real Estate	1	26,518	2,314	8.8%
Hospitality	2	417,989	24,273	5.8%
Total	83	4,012,628	421,471	10.5%

Source: Illinois Department of Employment Security, Local Employment Dynamics Program

ECONOMIC CHARACTERISTICS OF RISK AND NON-RISK INDUSTRIES

Granted that concentration of pre-retirement workers is considerably heavier in some industries than in others. We next focus on whether the loss of this workforce to retirement will have sizeable consequences for the broader economy's growth or decline. More specifically, are employment impacts, value-added (income) impacts, and export-related activity greater in Risk than in Non-Risk industries?⁴

Employment and Value-Added Multipliers

The impact of changes in employment and value-added income is captured by multiplier measures that share a similar logic. That is, these measures gauge the multiplicative effect on an economy of a direct stimulus to employment or to value-added income in a particular industry.

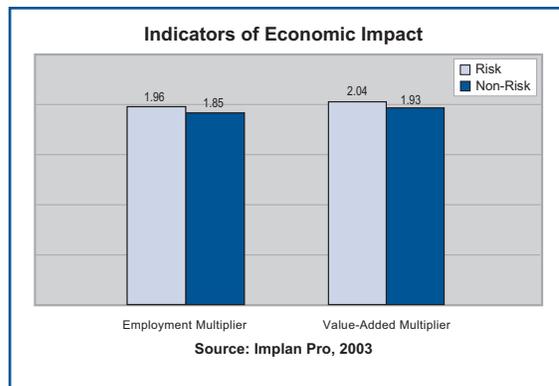
The employment multiplier assesses the subsequent workforce impact of an initial change in hiring/layoff activity.⁵ A high multiplier associated with an industry indicates that the industry contributes more to overall job growth in the larger economy than an industry with a low multiplier. Similarly, given an identical increase in income for two industries, one with a high value-added multiplier and the other with a low value-added multiplier, the industry with the high value-added multiplier produces a more robust income stream for the overall economy.⁶ Industries with high employment and value-added multipliers are often targeted as cost-efficient priorities for economic development efforts.

⁴ In this section, we report findings based on data derived from IMPLAN Professional 2003, a regional economic modeling software produced by Minnesota IMPLAN Group, Inc. This study uses the Social Accounting Matrix (SAM) input-output coefficients that measure flows from industries, households, taxes and transfer payments, institutional savings, and commuting. The detailed IMPLAN industries used in the subsequent analysis, with their match to the detailed Risk and Non-Risk industries, can be found at www.stateofworkingillinois.niu.edu.

⁵ For example, an industry hires more workers to boost production. The employment multiplier measures the additional hiring activity in downstream industries, i.e., providers of inputs to production, and additional hiring in industries supplying consumer goods and services to these new employees.

⁶ The value-added multiplier is comprehensive of employee compensation, self-employed income and property income.

The figure titled Indicators of Economic Impact reports a weighted average employment multiplier of 1.96 for Risk industries and 1.85 for Non-Risk industries. In other words, a direct increase of 100 new jobs in the Risk industry group will indirectly generate an additional 96 jobs throughout the whole economy. But in the Non-Risk group, a direct stimulus of 100 new jobs produces only 85 additional jobs in the economy. Therefore, while it is clear that new hiring has a multiplier effect in both the Risk and Non-Risk groups, the gain to the economy is 5.9% greater when it occurs in Risk industries.⁷



A similar conclusion emerges when we look at the value-added multiplier for employment compensation and other income. As the figure above shows, Risk industries have a value-added multiplier of 2.04. This compares to a 1.93 value-added multiplier for Non-Risk industries and represents a 5.7% advantage for the Risk industries.⁸ This means that a direct infusion of one million dollars of value-added income in Risk industries generates an additional 1.04 million dollars in the overall economy. An identical infusion in Non-Risk industries produces only 930 thousand dollars of value-added income.

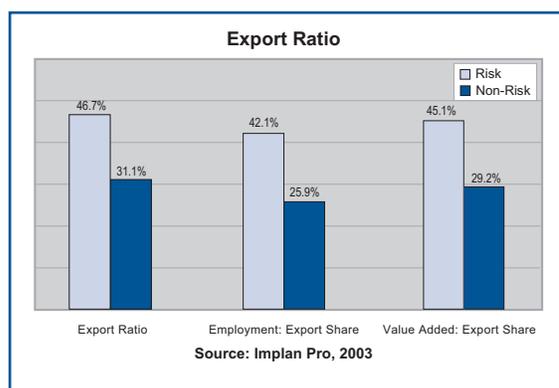
Export Ratio

The growth of an economy that is overly dependent on output dedicated to local consumption and investment is constrained by the vitality of local demand. The diversification of output among local and export-based markets yields a potentially more robust growth dynamic. Since competition is generally greater in national and global markets, export production is often an important driver of innovation and productivity for the local economy.

The export ratio measures the amount of goods and services sold in out-of-state markets (both domestic and foreign) as a percentage of total industry output. A high export ratio indicates that an industry produces more of its output for the export market, thereby exploiting an externally based revenue stream and facilitating growth independent of in-state demand.

In Illinois the export ratio is substantially higher among those industries with a concentration of workers in the pre-retirement cohort. The figure titled Export Ratio shows, 46.7% of industry output (i.e., total production) in Risk industries is exported to other states and counties. In contrast, the export ratio for Non-Risk industries is considerably lower, 31.1%.

The ten Risk industries with the largest export ratio exceed the maximum for non-Risk industries, and seven of these ten industries are in manufacturing. The top four of these Risk manufacturing industries have export ratios in excess of eighty percent. More than four-fifths of the production in primary metals, paper, electrical and electronic equipment, and fabricated metals generates an export-based revenue stream for the state's economy.



⁷ $\left(\left(\frac{1.96}{1.85}\right) - 1\right) * 100 = 5.9\%$.

⁸ $\left(\left(\frac{2.04}{1.93}\right) - 1\right) * 100 = 5.7\%$.

In summary, changes in employment and employee compensation in Risk industries have a greater multiplier effect for the Illinois economy than is the case for Non-Risk industries. Moreover, Risk industries are significantly more integrated into the larger export market. But beyond looking at these indicators individually, it is useful to combine them into a single measure to estimate the share of employment and value-added income generated by export-based sales in Risk and Non-Risk industries.⁹

The Export Ratio figure above shows that the export-based share of the employment multiplier is 42.1% in Risk industries, but only 25.9% in Non-Risk industries. In the earlier employment multiplier example, we explained that a direct increase of 100 new jobs in Risk industries produced, on average, 96 additional jobs in the larger economy. Since we know the export-share of the employment multiplier, we can estimate that 42.1% of the 196 total new jobs in this industry group would be linked to export activity. Thus, in this example, 83 of the 196 new jobs in the Risk industry group would be associated with the export of goods or services to other states or countries.

On the other hand, the employment multiplier for Non-Risk industries is only 1.85, meaning that a direct increase of 100 new jobs in this industry group creates, on average, an additional 85 jobs throughout the economy. The export-based share of the employment multiplier for Non-Risk industries is 25.9%, so only 48 of the 185 total new jobs would be related to export activity. This means that the number of export-based new jobs in Risk industries would be 72.9% higher than in the Non-Risk group.¹⁰

The combination of the value-added income multiplier and the export ratio reveals another important distinction between Risk and Non-Risk industries. The value-added multiplier in Risk industries is 2.04, meaning that a one million dollar direct increase in value-added income generates a total of \$2.04 million dollars in total income. Approximately 45.1% of this total income, or \$920,000, is a consequence of export-based activity (see Export Ratio figure).

In Non-Risk industries the multiplier is 1.93, and the export share of the multiplier is only 29.2%. In this industry group, a one million dollar infusion would lead to a total income stream of \$1.92 million, of which only \$560,000 (or 29.2%) would be due to export activity. This means that the value-added income based on exports would be 64.3% greater in Risk than in Non-Risk industries.¹¹

Risk and Non-Risk industries exhibit systematic differences in economic characteristics. The former have higher weighted-average multipliers, both for employment and value-added income, and substantially greater export shares. Combining the multipliers with the export ratios and estimating measures of new job creation and value-added creation resulting from export activity shows other significant differences. Risk industries have a greater share of employment and income generated from export activity (42.1% and 45.1%, respectively) than Non-risk industries (25.9% and 29.2%, respectively). Thus, by implication, Non-Risk industries are more dependent on local markets and, consequently, their employment and income growth are constrained by in-state demand for goods and services.

⁹ The comparison of Risk and Non-Risk industries, using the combined indicators of the employment multiplier with export share and the value-added multiplier with export share, posits two assumptions: 1. the amount of labor per dollar of output is comparable for export and local markets; and, 2. the multiplier effects of production for export and domestic use are similar.

¹⁰ In the context of the example given: $((83-48)/48)*100 = 72.9\%$.

¹¹ In the context of the example given: $((\$920,000 - \$560,000)/\$560,000)*100 = 64.3\%$.

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