

Effects of an Illinois Gross Receipts Tax on
State Construction Employment,
Construction Productivity and Housing
Costs by Income Group

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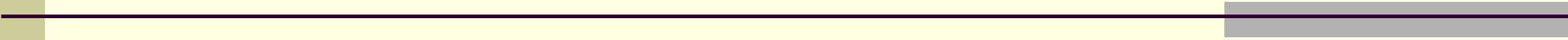
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Executive Summary


- Construction employment in Illinois is expected to be reduced as a result of implementing the GRT due to a slowdown in the state's economic growth rate. A permanent reduction in construction employment of 13,968 jobs is estimated to take place.
- A part of the loss in construction employment will take place in housing construction, where employment is projected to be reduced by 1,708 jobs.
- Labor productivity in businesses subject to the GRT is 59% to 88% greater than in other businesses. Businesses paying the GRT would be put at a disadvantage. More construction work would be done by businesses not subject to the GRT, making the construction industry less efficient.
- The GRT is projected to increase the cost of a house by over \$5,000 even for homeowners in lower income groups.

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 - Total construction employment
 - Housing construction employment
- II. Construction productivity
 - Electrical, roofing, framing, finish carpentry, plumbing, heating and air
- III. Housing costs by income group



I. State Construction Employment



The Projection Method

1. Estimating the increased tax burden on businesses
2. Estimating the reduction in state economic growth and population growth resulting from the burden
3. Estimating the effects of a slower population growth rate on construction employment
 - Total construction employment
 - Housing construction employment

1. Estimating the increased tax burden on businesses

- Ernst & Young's 2006 State and Local Business Tax Burden Study estimates that \$29.1 billion in state and local revenues were collected from businesses in FY 2006.
- The estimated revenues from the GRT would be \$7.6 billion.
- The GRT plan includes the elimination of the corporate income tax of \$2.4 billion and a reduction in business property taxes of \$450 million (based on numbers from the Office of the Governor and Illinois Dept. of Revenue).
- Subtracting the eliminated taxes from the GRT revenues gives a net increase in the tax burden on businesses of \$4.75 billion—or 16.3 percent—over the existing \$29.1 billion burden.

2. Estimating the reduction in state economic growth

- A number of studies have been done estimating the effects of taxation on economic growth. Results have varied, but most have indicated a negative effect on growth.
- Review of literature cited by Timothy Bartik, a leading scholar in this area, suggests that a reasonable average elasticity for the tax responsiveness of economic growth among states is on the order of -0.25, with a range of -0.1 to -0.6.

2. Estimating the reduction in state economic growth (cont'd)

- The tax responsiveness elasticity of -0.25 indicates that the expected 16.3% increase in the business tax burden would result in a 4.08% reduction in the growth rate of state product.
- The elasticity range of -0.1 to -0.6 would give a range of 1.63% to 9.78% reduction in the state growth rate.

3. Estimating effects of slower population growth on construction employment

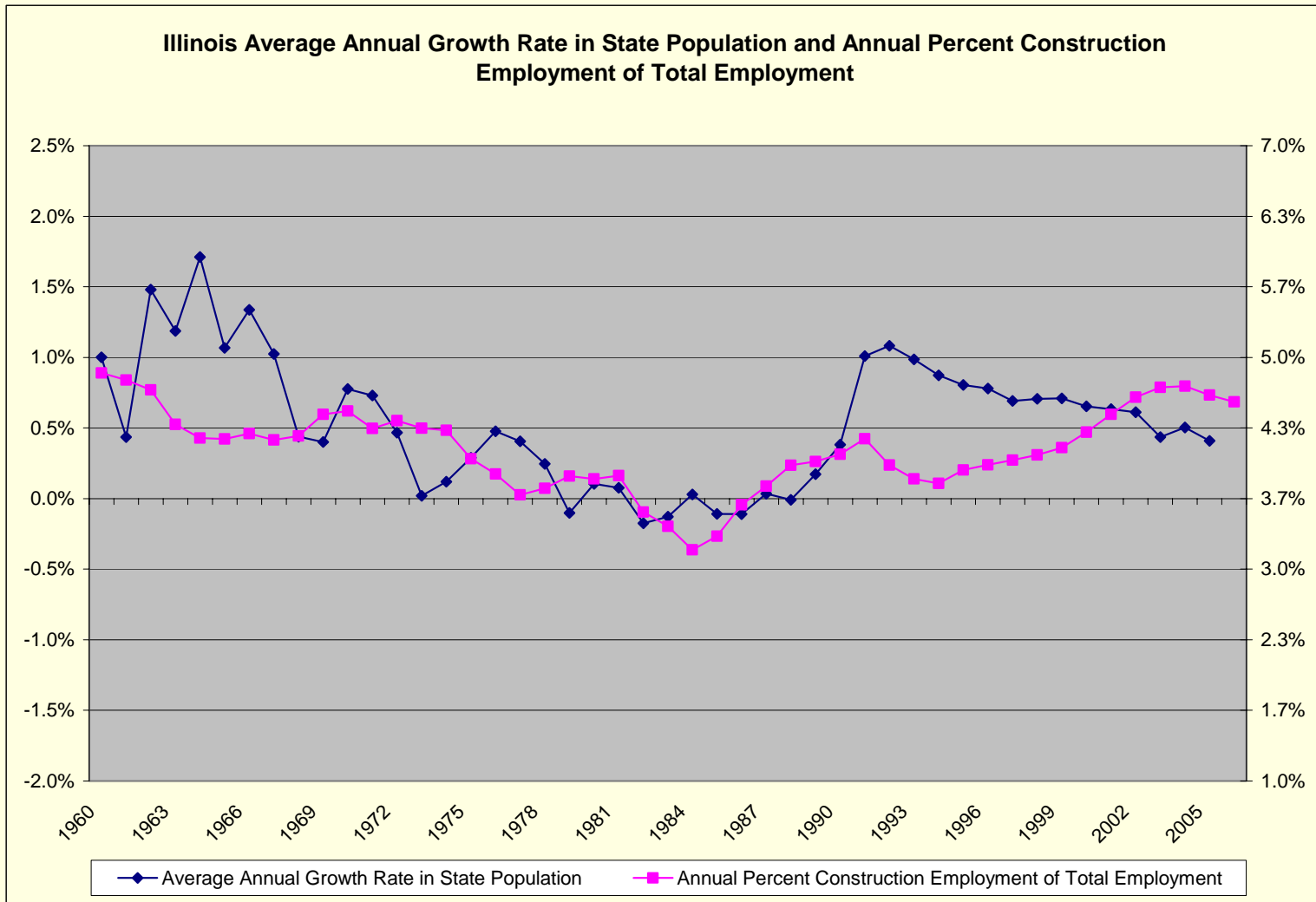
- Changes in state economic growth are expected to affect state population growth proportionately as a slower economy produces fewer job opportunities in Illinois. The net effect of people moving in and out of the state should be to change population by the same percentage as employment. This is reasonable given the observed stability over time of the ratio of employment to population.
- The projected drop in state population growth is therefore 4.08% for the average elasticity, with a range of 1.63% to 9.78%.

3. Estimating effects of slower population growth on construction employment (cont'd)

- Construction is fueled both by the need to replace old buildings and by the need to house new residents, so it can be expected to be sensitive to changes in population growth.
- Figures on the level of construction employment and the growth rate of Illinois population show this to be the case.

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3. Estimating effects of slower population growth on construction employment (cont'd)



3. Estimating effects of slower population growth on construction employment (cont'd)

- The strength of the effect of a change in population growth on the construction industry's share of employment can be estimated using data from the Bureau of Labor Statistics (BLS) and the U.S. Census Bureau:

	State Population (Census)	% Construction Employment of Total Employment (BLS)
	Average Annual Growth Rate	Annual Average
1960-1975	0.76%	4.33%
1975-1990	0.09%	3.76%
1990-2005	0.72%	4.26%

3. Estimating effects of slower population growth on construction employment (cont'd)

The ratio of the change in construction employment share to change in state population growth is 0.85 for the first fifteen year period $[(4.33-3.76)/(0.76-0.09)]$. For the second fifteen year period, the ratio is 0.79 $[(3.76-4.26)/(0.09-0.72)]$. The average estimate is 0.822.

3. Estimating effects of slower population growth on construction employment (cont'd)

- The reduction in construction demand resulting from slower GSP and population growth affects construction firms and also firms that supply them with materials.
- If construction firms incur $\frac{2}{3}$ of their costs from labor and $\frac{1}{3}$ of their costs from material inputs, then the ultimate employment effects in construction will be 50% larger once the effects of the tax on the material inputs providers are considered.

3. Estimating effects of slower population growth on construction employment (cont'd)

Total Construction Employment

- According to BLS figures, construction employment in Illinois in 2002 was 278,000, or 4.72% of the full workforce.
- Using the earlier middle-ground estimate that state population growth falls by 4.08% as a result of the GRT and the estimate that the change in construction share of total employment is 0.822 of this amount, the new construction share is 4.56%, giving a fall in construction share of 0.16%.

3. Estimating effects of slower population growth on construction employment (cont'd)

Total Construction Employment (cont'd)

- Applying the 0.16% change in employment construction share to the total state employment of 5,884,000 and adding 50% more workers to account for material input effects gives a permanent reduction of statewide construction employment of 13,968 jobs.

3. Estimating effects of slower population growth on construction employment (cont'd)

Housing Construction Employment

- Housing construction employment was 12.23% of total construction employment in 2002 according to BLS.
- Applying this percentage to the 13,968 jobs lost due to the total construction changes indicates that 1,708 of these jobs are lost due to the decline in housing construction.



II. Construction Productivity

II. Construction Productivity

- Large firms benefit from economies of scale which allow employees to be more productive.
- The 2002 U.S. economic census gives national business per worker for firms of different sizes in electrical, finish carpentry, framing, roofing and plumbing heating and air conditioning. In each case, business per worker is considerably higher for firms with over \$2 million in receipts, which are the firms subject to the GRT.

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II. Construction Productivity (cont'd)

	Business Type				
	Electrical	Finish Carpentry	Framing	Roofing	Plumbing, Heating & Air Conditioning
Value of business per employee, below \$2,000,000 annual sales	\$84,147	\$94,318	\$69,486	\$81,861	\$94,845
Value of business per employee, above \$2,000,000 annual sales	\$141,251	\$149,520	\$130,355	\$141,515	\$162,291
Ratio, high sales to low sales	1.68	1.59	1.88	1.73	1.71

II. Construction Productivity (cont'd)

- Workers in businesses with receipts of over \$2 million are 59% to 88% more productive.
- Businesses paying the GRT would be put at a disadvantage. More construction work would be done by businesses not subject to the GRT, making the construction industry less efficient. The tax would also encourage some firms to shift to a less efficient size.

III. Housing Costs by Income Group

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- The impact of the GRT on the construction industry can be expected to increase the cost of housing as firms pass on the added cost of the tax.
- Since the tax will be applied at more than one stage in the process of building a house, a cascade effect will occur. For example, if the electrical contractor pays the GRT, that firm will pass the cost to the developer, who then pays the GRT on the entire selling price of the house and passes the cumulative tax on to the consumer. The tax has been paid twice on the value added by the electrician, and that cost has been passed on to the consumer.
- The same phenomenon applies to other contractors and it applies to firms from which the contractors have purchased materials.

III. Housing Costs by Income Group (cont'd)

- RCF's estimate, brought out in earlier work, is that the impact of the GRT on housing costs, taking into account the cascade effect, is a 2.84% cost increase.
- Applying this cost increase to data on house price by income group in Illinois gives the housing cost increase likely to be faced by people of different income groups. The added cost of a house is estimated to be over \$5,000 even for homeowners in lower income groups.

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III. Housing Costs by Income Group (cont'd)

Household Income	Increase in House Price
\$20,000-\$34,999	\$5,339
\$35,000-\$49,999	\$5,910
\$50,000-\$74,999	\$6,913
\$75,000-\$99,999	\$8,298
\$100,000 or more	\$12,261

Sources:

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