

spotlight

No. 398 – September 7, 2010

LOTTERIES AND ECONOMIC INCENTIVES

Governments need better tools to evaluate tax breaks

KEY FACTS: • **Business incentives are like lottery tickets, providing big rewards for governments if you don't count the costs.**

• **Government officials decry the perceived need to give incentives to companies.**

• **Rarely do they examine the full costs and benefits of incentive packages.**

• **Iredell County modeled the financial costs and benefits of an incentive offered in 2009 and showed a positive net present value for the incentives.**

• **Any model should factor in**

1. the opportunity cost of forgoing the next best use for the funds

2. the likelihood the investment would have happened without an incentive

• **The Iredell model did neither of those.**

• **Factoring in opportunity cost would have reduced the benefit but left the incentive with a positive net present value.**

• **Factoring in the likelihood of investment without the incentive would have turned the incentive to a money-losing proposition.**

• **More incentives should be measured that way.**

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While government officials proclaim their desire to stop offering economic incentives to attract or keep businesses, they also view incentives as an important way to generate economic activity. Tax breaks and grants to chosen companies do not actually produce anything but simply transfer money from one group to another that is politically connected. Some of those from whom resources are transferred may even be competitors of the business receiving incentives. All taxpayers whose resources are transferred by government lose the opportunity to use their money as they would have preferred. This is the fundamental problem with economic incentives.

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Until governments decide to stop offering incentives or are told to stop, they should at least examine the full cost and benefit to the government of incentives with an appropriate financial model. This paper offers a comparison to the PowerBall lottery to illustrate the concepts in such a model. It then examines and offers improvements to a model used in Iredell County.

PowerBall

A ticket for the PowerBall lottery costs just \$1 with a chance to win no less than \$20 million over 29 years. Most people recognize, however, that it is not as simple as \$1 gets you \$20 million. For starters, the odds of winning the jackpot are just 1 in 195,249,054.

In addition, it is much better to have a dollar today than in 29 years, when the final jackpot payment would arrive. This is not just about inflation. There are a number of reasons a person might not be able to collect that final payment. A person can find a number of other uses for the money; such as a house, college tuition, or simply paying off debt. Stores also prefer to take payment for goods with currency instead of promised payments in the future.

PowerBall offers winners the option to take a single payment immediately instead of 29 annual installments. The single payment is usually about half the advertised jackpot. With no taxes and just one jackpot winner, the expected value of a ticket does not equal the \$1 cost to purchase one until the jackpot reaches \$322 million, assuming just one winner.² Federal and state taxes would reduce the take by roughly 43 percent in North Carolina, meaning the pre-tax jackpot would actually have to be \$570 million.³ The largest ever PowerBall jackpot was \$365 million, which means nobody who ever bought a ticket made a wise investment, though a few people truly have gotten lucky.

Of course, nobody buys a PowerBall ticket solely as an investment. Like all gambling, playing the lottery can be fun. Between purchasing the ticket and seeing whether a ticket won, there is the anticipation. Playing PowerBall also gives people the chance to talk about what they or their friends would do with the money.

Few government incentive deals face the scrutiny of a financial analysis. Government officials generally look at the benefits of an incentive without weighing the full cost to government beyond the incentive itself.

A first attempt

Iredell County Finance Manager Susan Blumenstein put together a financial analysis for tax breaks the county offered to BestSweet Inc., a confectioner with headquarters and an existing plant in Iredell County. Blumenstein included the additional sales and property tax revenue the county could expect and the new costs to provide services. The model also took into account that future dollars are not worth as much as those in hand today, for the reasons described above. The combined value of all future tax payments to the county and from the county directly to the busi-

What is a discount rate?

When making any long-term investment, we first need to establish a common standard to compare the money going out with the money coming in over time. To do this, financial models put all dollars in terms of their present value, what the dollars would be worth if you had them today. Future dollars are worth less because of inflation, the risk of not receiving future payments, and the opportunity cost of giving up the next best way the money could be put to use. Models use a discount rate to adjust those future dollars to their present value. If there is no risk, the discount rate would simply account for inflation and opportunity cost. As a practical measure, that usually means the Treasury bond rate for the specified length of time. On August 12, 2010, a ten-year Treasury bond had a yield of 2.74 percent.¹ In the end, setting a discount rate is as much art as science, which is one reason why this paper looks at a range. For a government, the alternative is not what it would cost to borrow money for a project, but what else could be done with the money, including the option of leaving it with other businesses and individual taxpayers in the county.

Figure 3. Certainty of Investments Without Incentives Lower the Likely Return

	Baseline						
Likelihood of Investment without Incentives	No Incentives	100%	90%	80%	70%	60%	50%
Present Value of Investment	\$95,585	(\$81,388)	(\$63,691)	(\$45,993)	(\$28,296)	(\$10,599)	\$7,099
Present Value of Employment	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)
Present Value of 10yr Return on Incentives	\$57,764	(\$119,209)	(\$101,512)	(\$83,814)	(\$66,117)	(\$48,420)	(\$30,722)

	Baseline						
Likelihood of Investment without Incentives	No Incentives	40%	33%	30%	20%	10%	0%
Present Value of Investment	\$95,585	\$24,796	\$37,821	\$42,493	\$60,191	\$77,888	\$95,585
Present Value of Employment	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)
Present Value of 10yr Return on Incentives	\$57,764	(\$13,025)	\$0	\$4,672	\$22,370	\$40,067	\$57,764

Figure 4. Higher Discount Rates Reduce the Value of Future Cashflows

	Baseline						
Likelihood of Investment without Incentives	No Incentives	0%	0%	0%	0%	29%	100%
Discount Rates		2%	5%	7%	10%	7.25%	7.25%
Present Value of Investment	\$95,585	\$95,585	\$78,688	\$69,529	\$58,247	\$28,411	(\$70,537)
Present Value of Employment	(\$37,821)	(\$37,821)	(\$31,980)	(\$28,778)	(\$24,786)	(\$28,411)	(\$28,411)
Present Value of 10yr Return on Incentives	\$57,764	\$57,764	\$46,708	\$40,751	\$33,461	\$0	(\$98,948)

tives, then Iredell just breaks even (Figure 3).

If the incentives had less than a 67 percent influence on BestSweet’s decision, the deal is a money loser. Russell Rogerson, executive director of the Mooresville-South Iredell Economic Development Corporation, acknowledged that BestSweet would “most likely” expand its facility even without the incentive.⁴ After the fact, county commissioners said BestSweet was certain to go forward with its expansion in Iredell County without incentives.⁵ In that case, the county gave up money for no reason, and the project will cost taxpayers \$119,209 if Bestsweet qualifies for all the incentives (Figure 3).

What else could have been done with the money?

The second assumption was the discount rate, or the rate at which future dollars decline in value. Blumenstein used the interest rate at which Iredell could borrow money, two percent. At such a low interest rate, future dollars are worth nearly as much as today’s dollars. The proper discount rate, however, is the cost of giving up the next best use of the funds, not the cost to borrow money. Increasing the discount rate would make the project less valuable but would not, on its own, cause the incentive to lose money (Figure 4).

A discount rate of 7.25 percent, what the state pension fund assumes for its annual return, would raise the break-even target for the project. At a 2.0 percent discount rate, there can be only a 29 percent likelihood that BestSweet would expand in Iredell County for the incentives to break even, instead of the 33 percent likelihood at the lower discount rate.

Room for improvement

More governments need to run the numbers on financial incentives before making a decision. The “clawback” provisions in some incentive deals, which require recipients to return a portion of their benefits if the firm fails to meet its employment or investment targets, can be helpful when a company is less successful. But those provisions do nothing to reverse the bad bet a government makes from the start. Ironically, depending on the way incentives are structured, it is possible that a city or county could do better with clawbacks if a company fails to meet targets than it would if the company actually met all of its obligations and stayed.

More governments need to examine the financials of their incentive offers. By focusing on the discount rate and probability of investment, the decision can be made on the real costs and benefits of the incentive rather than rhetorical points about who wants jobs and how best to recruit jobs to an area. Iredell County’s model, as revised for this paper, offers a good starting point for other governments throughout North Carolina. Before making a decision on incentives, governments should provide citizens a summary sheet that shows what effects the government expects and what assumptions it uses for jobs, expenditures, revenues, discount rate, and the incentive’s contribution to the firm’s decision (Appendix). The summary would provide a starting point for public comment.

No model that looks at government costs and revenues would be complete unless it also weighed the cost of substituting government decisions for the individual decisions of taxpayers. As a second-best solution, however, a solid financial model is a better place to start than a decision that looks at incentives as a switch that governments must flip to attract business.

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End Notes

1. PowerBall, http://www.powerball.com/powerball/pb_prizes.asp.
2. Actual amount: \$322.274 million.
3. Assuming a top marginal federal income tax rate of 35 percent and a top marginal federal income tax rate of 7.75 percent plus 3.0 percent surcharge.
4. Iredell County Commission minutes, August 4, 2009.
5. Iredell County Commission planning session, February 26, 2010.

Appendix: Example Summary Sheet for Incentive Analysis

Capital Investment		Employment	
Machinery/Equipment	\$2,300,000	Local	11
Facility	\$3,000,000	Outside	4
Land	\$0		
Property Tax		Salary	
Tax Rate	\$0.445 / \$100	New employees	\$42,744
Incentive Tax Rate	\$0.365 / \$100	Local average	\$35,620
Years of Incentive	5 years	Ratio	1.2
Baseline Cashflow Assumptions		Employment Effects	
Incentive effect on location	100%	Taxable Property	\$366,460
Discount Rate	2%	Taxable Sales	\$104,510
		Government spending	\$4,816

Net Present Value	\$57,764
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Breakeven incentive effect	67%
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Scenario Testing

	Baseline			
Incentive Effect on Location Decision	0%	33%	67%	100%
Present Value of Investment	(\$81,388)	(\$22,987)	\$37,821	\$95,585
Present Value of Employment	(\$37,821)	(\$37,821)	(\$37,821)	(\$37,821)
Present Value of 10yr Return on Incentives	(\$119,209)	(\$60,808)	\$0	\$57,764

Notes on assumptions and data sources

Annual salary is 20% above Average County Wage (as stated at Public Hearing on 8/4/09)
 Historic data indicates 76% of citizens work within the County which would be 11.40 of 15 jobs. This schedule rounds down to 11.
 Employees living in Iredell County are already paying County sales taxes. No new sales taxes calculated for current residents.
 4 employees living outside of Iredell County will pay sales taxes on purchases made here calculated at 20% of avg. residential spending escalating at 2% a year.
 Assumes 1 employee constructs a home valued at \$122,140; Assumes 1 employee is part of a two-earner home and constructs \$244,285 house.
 Assumes 2 new households of 2.42 each * \$995 (\$153,488,000 / 154,170) per capita spending increased 5% a year.