

Long-term Economic Growth Panel

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Key ideas

- There are no magic bullets
- Workforce development
- Business Incentives
- Creating a new competitive advantage

Workforce development

K-12 education is the key

- K-12 sets up students for success in higher education and for employer training
- Having good K-12 serves as an inducement for entrepreneurs to locate businesses in NM
 - A more effective way of attracting businesses than incentives

New Mexico isn't doing well

- Our performance in the area of K-12 education is not good
 - We underperform in all measures of achievement at 4th and 8th grades
 - 51st for 4th grade math
 - 48th for 8th grade math
 - 51st for 4th grade reading
 - 48th for 8th grade reading
 - 40th for 8th grade science (2011)
 - High school performance is just as dismal
 - 48th for graduation rate at 70%
 - 44th for college enrollment (18 to 24 year olds)




Systematically underestimation of the importance of personnel

- A teacher one standard deviation above the mean effectiveness, as measured by achievement tests, *annually* generates marginal gains of over \$400,000 per twenty-student class in present value of student future earnings*
- So the secret is to train, hire, and then retain above average teachers

*Source: Eric A. Hanushek, The economic value of higher teacher quality, *NBER Working Paper No. 16606*, December 2010.

Training Good Teachers

- Restrict the number of students admitted to upper divisions courses in state colleges of education in New Mexico
- Require available seats to be allocated based on lower division GPA
 - This will incentivize potential teachers to work hard to gain admittance
 - It will weed out those who either lack talent or desire to be teachers



Hiring and Retaining Good Teachers

- Increase pay especially for entry level teachers
- Improve working conditions
 - Smaller classes; more preparation time
- Hire and retain good principals
 - Studies show that good principals are expert at retaining good teachers
- Targeted pecuniary incentives might help

Business incentives are not the answer

Business Incentives

- NM has 46 different incentive programs*
 - 21 Tax Credits
 - 12 Tax Deductions
 - 4 Tax Exemptions
 - 3 Loan Programs
 - 3 Tax Abatements
 - 4 Other

*Source: Council for Community and Economic Research (<http://www.stateincentives.org/>)

Business Incentives

- There is very little evidence that business incentives promote long term growth
- Any short-term benefits are offset by decreased government services, which reduce growth of incumbent firms
- A better approach is a consistent low tax rate that both benefits incumbent firms while encouraging new firm formation
- There is also the risk of crony capitalism
 - Incentiv are designed to benefit the politically connected



The Tesla Gigaplant 1

- In 2014, Tesla triggered a bidding war among several states, including New Mexico, regarding the location of its proposed Gigaplant, a lithium battery manufacturing facility
- Nevada won the plant with a \$1.25 billion dollar package
 - The plant is expected to generate \$100 billion in economic benefit over 10 years

The Tesla Gigaplant 1

- A success story for the smart use of business incentives....
.... Or is it?
- From the start, experts believed Nevada to have a natural advantage
 - Nevada is home to the nations only lithium mine
 - Reno is a straight shot to the existing Tesla Fremont assembly plant
- Commenters in the Wall Street Journal went so far as to say that the five state “bake-off” conducted by Tesla was designed to extract concessions from Nevada; that Tesla had no intentions of locating anywhere by Nevada
 - Especially the later addition of California to the bake off was thought designed to put pressure on Nevada



The Tesla Gigaplant 1

- Nevada paid \$1.25 billion to obtain a factory that was destined for Nevada from the beginning
 - BTW, the payout put the equivalent of \$337 million dollars into Billionaire Eon Musk's wallet, as he owns 27% of Tesla
- Outside observers believe New Mexico was never a serious contender
 - It was not plausible that Tesla would ship lithium to east to New Mexico then batteries back west to California
 - Yet state resources were used in attempting to put together a package

Developing a new competitive advantage



Developing a new competitive advantage

- New Mexico's traditional competitive advantage has been in federally funded research programs
 - Sandia National Laboratories
 - Los Alamos National Laboratories
 - White Sands Missile Range
 - Add to the above the Military
- While these programs aren't going away, there is likely to be little growth over the next decade

Developing a new competitive advantage

- The strategy NM has been following is to try to lure businesses from other states using costly incentives
- Another strategy is to develop new industries in which we start out of a competitive advantage
 - This is the strategy adopted by North Carolina in the 1980s when it moved into integrated circuit production
 - Now North Carolina is a major supplier of micro chips
 - This is the strategy adopted by Taiwan when it moved into computer monitors
 - Taiwan and Taiwanese companies are now the major producer of LCD TVs



Developing a new competitive advantage

- The first step is to identify emerging technologies that are likely to come to prominence in the next decade
 - This will require working with experts
 - North Carolina used a blue ribbon committee that included Nobel laureates
 - The goal is to get in on the ground floor of the emerging technology so as to gain a competitive advantage
 - There is considerable risk of a mistake



Developing a new competitive advantage

- The next step is to invest in research and development in the emerging technology
 - Hire the best faculty working on the technologies
 - It is important to develop a critical mass of talent to allow cross pollination of ideas
 - These faculty will help in attracting the best students which can then be trained up into the new industry
 - Pay top salaries to hire the best graduate assistants and post docs
 - These are the future entrepreneurs who will build the industry
 - You want to cause them to be place bound to New Mexico

Developing a new competitive advantage

- The final step is continued ongoing commitment to support the new technology as it moves to market
 - For this to work will require at least a decade long commitment, or perhaps longer
 - Follow through is critical
- Incentives to encourage scientist/entrepreneurs to remain in New Mexico may be necessary
 - There may come a time when NM will need to reopen the business incentive tool kit

Developing a new competitive advantage

- While not cheap, the cost of such a program is on the order of the cost of current incentive programs
- There is high risk of picking the wrong technology, although good smart people, with good support, can pivot if needed
 - Picking several different technologies will reduce risk
 - Concentrating on one technology will reduce cost

Questions

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