Southwestern Oklahoma State University
Center for Economic & Business Development
Director: Dr. Marvin Hankins

RESEARCH

The Economic Impacts of Weatherford's Growth and its Implications for Exit 82

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City of Weatherford

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SWOSU
Southwestern Oklahoma State University

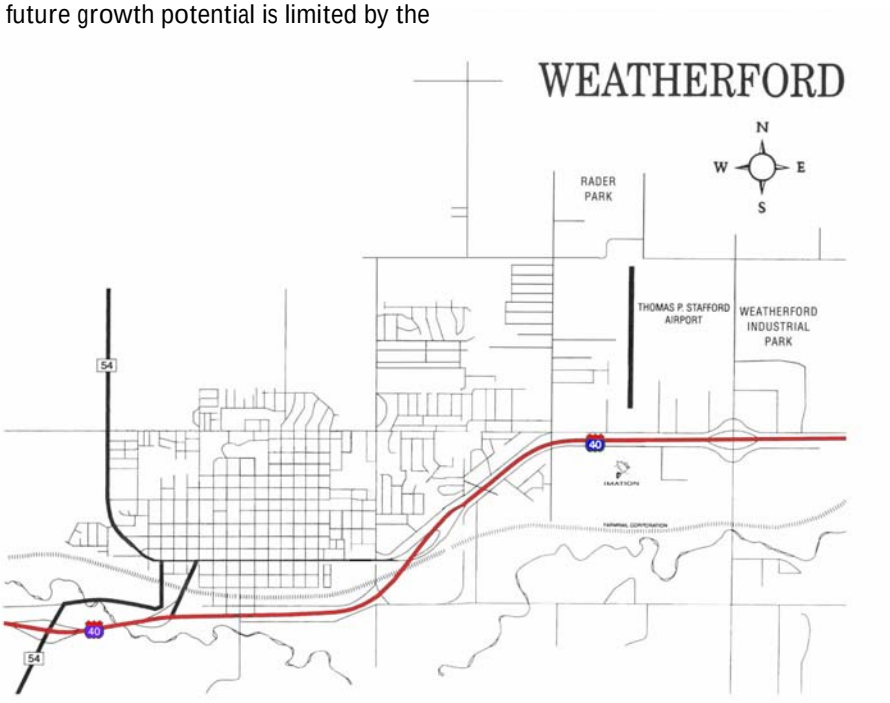
The CEBD serves western Oklahoma by conducting economic research, building strategic alliances, promoting small business growth, and pursuing projects to help strengthen and diversify the economy of the region and Oklahoma. One of the methods by which the CEBD intends to serve the economic research needs of the region and the state of Oklahoma is through the use of economic impact modeling software.

In November 2002, the Center for Economic & Business Development (CEBD) acquired the rights to use the Oklahoma REMI (Regional Economic Models, Inc.) model previously used by the Office of State Finance. The REMI model is a powerful software tool that forecasts economic impacts. The versatility of the model allows these economic impacts to be measured for any one of a number of events including the impacts of a new company upon a region, the impacts of an existing company upon a region, the impacts of a policy change upon the economy, the impacts of tourism, etc. As will be related in the report, the level of detail provided by the REMI model is considerable.

In March 2003, Randle Lee, Weatherford's economic developer, approached the CEBD to model recent economic growth in the city of Weatherford. This economic growth is either currently underway or is projected to begin soon. It should be noted that all of this growth is occurring in the proximity of Exit 82 along Interstate 40 in the city of Weatherford. As will be related in the report, some of the economic impacts of this new growth will place additional demands upon the road and highway infrastructure in the areas of expansion.

The presence of the interstate is a major asset for the Weatherford community. The transportation artery provides easy access to national markets for some of Weatherford's major manufacturing employers, including Imation, Ferrania, and Kodak Polychrome. Additionally, the interstate attracts people travelling long distances along the interstate for overnight stays, which is a boon for the city's hotels, motels, convenience stores and restaurants. Further evidence of the importance of the interstate upon Weatherford is related from the fact that Southwestern Oklahoma State University (SWOSU) markets itself to potential students from Oklahoma City by stating that there is easy access to Oklahoma City. About one in seven students (14.7% or 608 students) currently attending SWOSU is from the Oklahoma City metro area. There is little doubt that Weatherford would not be as large without the presence of the interstate.

However, it is believed that Weatherford's future growth potential is limited by the physical boundary of I-40. As can be seen from the accompanying map, there is very little development south of I-40 in Weatherford. The limited access to the south of the interstate confines most of the city's development to the north of the interstate. In addition to modeling the economic impacts of Weatherford's current and planned growth, the CEBD was requested to model the economic impacts of improving Exit 82. This will be performed in the latter half of the report by presenting the economic impacts of construction improvements to exit 82 as well as the economic impacts that may result from improved access south of the interstate.

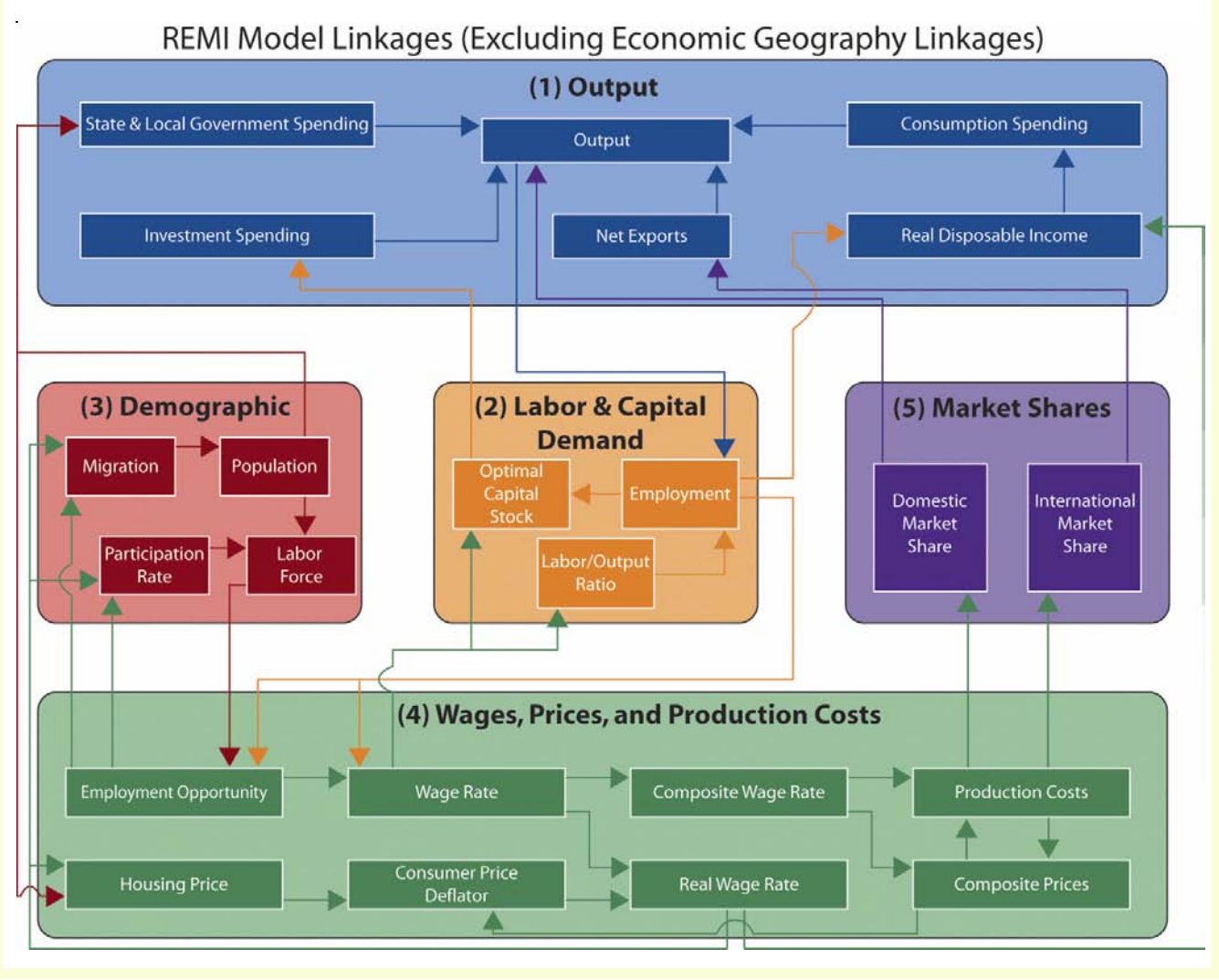


2.1 REMI – ABOUT THE MODEL

Regional Economic Models, Inc. (REMI), based in Amherst, MA, produces economic modeling software that enables users to "answer what if questions" about their respective economies. Each REMI model is tailored for specific geographic regions by using data, including employment, demographic, and industry data, unique to the modeled region. The Center for Economic & Business Development uses the Oklahoma REMI model, which is a six region, 53 sector REMI model, to forecast how a given economic activity or policy change occurring in one region would affect that region, a group of regions, and/or the state.

The REMI simulation model uses hundreds of equations and thousands of variables to forecast the impact that a economic/policy change has upon an economy. Basically, the REMI model measures this economic impact by first forecasting the region's performance as if there were not any changes (the control forecast), and then forecasting the region's/state's performance if the economic activity occurred (the alternative forecast). The difference between the two forecasts represents the economic impact of the economic activity upon the region, group of regions, and/or the state. It is these economic impacts that will be reported in the Economic Impact Analysis section of this report. A basic graphic representation of some of the linkages in the economic modeling software is presented below.

As can be seen, the REMI model contains five "blocks". Each block has its own variables and interactions so that changing any one variable in the model not only affects other variables in its own block, but also variables in other blocks.



For example, if XYZ Corporation expanded its operations in Oklahoma City by hiring an additional 100 new employees, then that initial employment increase would ultimately affect output, population, migration, wage rates, etc. It is through the model's linkages and interactions that employment's (in Block 2) direct effects upon optimal capital stock (Block 2), employment opportunity (Block 4), and real disposable income (Block 1), that the employment gain works its way through the model to affect each of the other variables.

Commenting first on employment's positive effect upon optimal capital stock, this variable will increase from an employment gain because (1) some new employees will demand newly constructed houses, and (2) physical capital will be required to assist the labor to produce output. Optimal capital stock interacts with actual capital stock (not shown) to affect the level of investment (Block 1) in the model which ultimately increases Oklahoma City's output (Block 1). Higher optimal capital stock when compared to actual capital stock spurs investment in the region since the difference represents unfulfilled demand for physical capital. And output (Y) increases since it is equal to the sum of personal consumption (C), state & local government spending (G), investment (I), net exports from the region (X-M) as well as demand for intermediate inputs.

Commenting next upon employment's effect upon employment opportunity, this variable increases because 100 new jobs have been created in the economy. An increased employment opportunity will positively affect wage rates (Block 4) if the region's employment is growing faster than the region's labor force (Block 3). Wage rates interact with the consumer price deflator, which is an adjustment factor accounting for differing inflation rates in various regions, to affect real wage rates (Block 4). Higher real wage rates in one region compared to another region serve as an incentive for people to move between geographic regions; thus real wage rates affect migration (Block 3).

Commenting last upon employment's effect upon real disposable income (Block 1), as jobs are created, income paid to the new employees also increases. The newly employed will save a portion of their income and spend a portion of their income upon consumer goods, the latter of which increases consumption (Block 1). As a component of output, increased personal consumption produces a subsequent rise in output.

Obviously, the previous example is only a simple illustration of a more complex model. For more information about the REMI model and its equations, please read Regional Economic Modeling by George Treyz (Kluwer Academic Publishers, 1993.) [5]

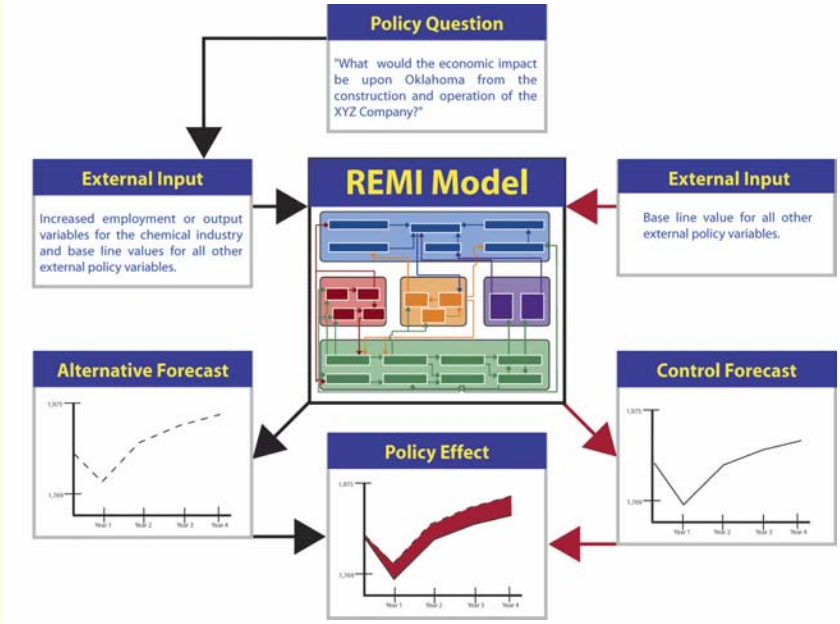
2.2 FORECASTING WITH THE REMI MODEL

Given the previous basic illustration of the REMI model, the process that the REMI model uses to forecast the economic impact of a policy change can be illustrated. The process begins with a policy question and concludes with a comparison between a control forecast and an alternative forecast. The accompanying diagram assists with the illustration.

A control forecast, which uses current data regarding the economy, is generated by the REMI model. The control forecast represents the projection of the economy into the future *ceteris paribus*. This means that future economic growth will follow similar patterns in the future as had been experienced in the past.

The alternative forecast allows the user to input variable changes to occur in future time periods. Only those variables that would be affected by the policy change being measured would be changed in the alternative forecast. The REMI model then forecasts economic performance based upon the policy variable changes.

The difference between the alternative and the control forecasts, measured by the distance between the two forecast lines, represents the ***economic impact*** of the policy change upon the economy. If the alternative forecast is greater than the control forecast, then a positive economic impact results for the economy. A negative economic impact results should the alternative forecast be less than the control forecast.

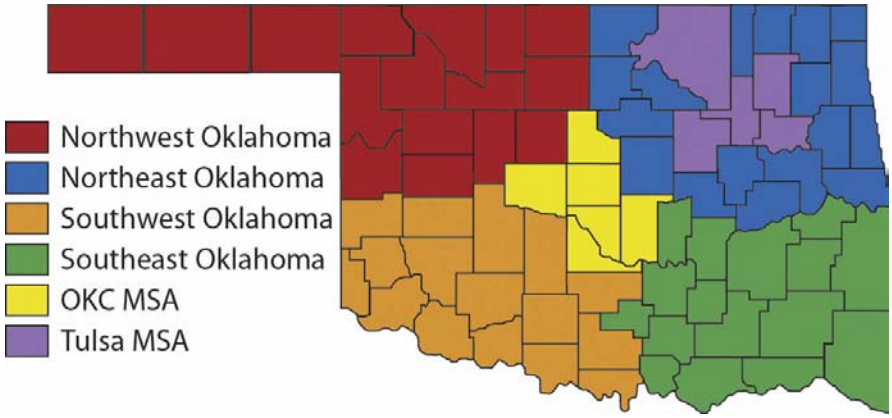


2.3 GEOGRAPHIC REGIONS

As is observable from the accompanying map, the state of Oklahoma is divided into six regions in the REMI model used by the CEBD. They are: Northwest Oklahoma, Northeast Oklahoma, Southwest Oklahoma, Southeast Oklahoma, the Oklahoma City metro area, and the Tulsa metro area. The Oklahoma metro area and the Tulsa metro area correspond to the Metropolitan Statistical Areas (MSAs) defined by the Office of Management & Budget.

The Office of Management & Budget (OMB) defines metropolitan areas in the United States based upon the size of the economies and commuting patterns. The two largest MSAs by population in Oklahoma are Oklahoma City MSA and Tulsa MSA. As defined by the OMB, the Oklahoma City MSA is comprised of six counties (Canadian, Cleveland, Logan, McClain, Oklahoma, and Pottawatomie counties), and the Tulsa MSA is comprised of five counties (Creek, Osage, Rogers, Tulsa, and Wagoner counties).[6]

Additionally, any of the regions may be combined with any combination of the other regions to produce a user-defined region for the purposes of measuring economic impacts. For example, if an economic impact were to be quantified for Eastern Oklahoma, then the three regions of Northeast Oklahoma, Southeast Oklahoma and the Tulsa metro area would be combined to be reported as Eastern Oklahoma.



2.4 LIMITATIONS OF ECONOMIC IMPACT ANALYSIS

It is important to note that while economic impact analysis is a valuable tool for economic development, economic impact analysis does have limitations. Resource Systems Group, Inc. identified some of the limitations of their economic impact analysis tool. Those limiting factors that pertain to REMI-modeled economic impact analysis are:

- Economic impact analysis cannot determine whether a new economic activity/project is economically feasible or profitable. It is possible that projects with very large favorable economic impacts may be unprofitable.[7]

- Economic impact analysis cannot identify the specific individuals or the location of individuals or businesses impacted. For example, the analysis may show that a specific number of jobs will be generated in the trucking industry, but it cannot determine if those jobs will be filled from a specific town.[7]

- Economic impact analysis cannot determine whether the outcomes of an economic activity are socially or environmentally beneficial.

Regarding the first point, the purpose of economic impact analysis is not to determine whether a new economic impact activity is profitable. Rather, the purpose of economic impact analysis is to quantify the impact of the new economic activity upon an economy. Other assessment tools, like market feasibility studies or cost/benefit analyses, can help decision-makers determine whether an economic activity/project is profitable.

Regarding the second point, although the economic impact cannot identify a specific company or city, the REMI model can forecast the region in which the economic impact will occur. With the state divided into six regions, the level of detail is greater in the REMI model than with other economic impact analysis models.

Regarding the final point, Resource Systems Group, Inc. reported that economic impact analysis "can only deal with impacts that are easily quantifiable in dollars or employment. Environmental, health, or social impacts are not normally assessed, even though they may have eco-

nomic implications."[7] While this may be a limitation of IMPLAN-modeled economic impact analysis, this is not a limitation with REMI-modeled economic impact analysis. Admittedly these externalities are not easily quantifiable, but they may still be quantified through the use of well-formed surveys. With a quantifiable amount associated with the externality, its impact may then be modeled through an additional simulation.

There is at least one other limitation when measuring the economic impacts upon a region not mentioned in the Resource Systems Group, Inc. report. That limitation relates to using aggregated industry data to measure economic impacts. Most economic impact tools use historical data to model future events. Some of the historical data is aggregated in order to make the modeling tool more affordable and user-friendly. Using aggregate industry data to model the economic impact of a specific company requires the assumption that the specific company is a good sample of the aggregate of the whole industry.

Lastly, it should be noted that economic impact analysis is not the same tool as a cost-benefit analysis. A cost-benefit analysis quantifies all of the costs, including social and environmental costs, and all of the benefits associated with a project, and if the ratio of benefits to costs is greater than 1.0, then this becomes the basis for approving a project. Economic impact analysis does not have any threshold associated with the tool. Rather, the REMI-modeled economic impact analysis will forecast quantifiable amounts of employment, population, income, etc. over a range of years for any region. These quantifiable forecasts can then be used with other tools, including cost-benefit analysis and feasibility reports to assist in the decision-making process.

2.5 LIMITATIONS OF THE REMI MODEL

Separate from the limitations of economic impact analysis, there are unique limitations to the REMI model. Every economic impact model attempts to simulate real world conditions, and every economic impact model has its own unique weaknesses. The primary weakness of our REMI model is that the geographic regions in the model cannot be disaggregated further. This means that our version of the REMI model cannot forecast the economic impacts upon smaller regions. Specifically, the six regions cannot be broken into the counties comprising their respective region. The reader should bear in mind that every model has its weaknesses, and while it is not the purpose of this report to list the relative strengths and weaknesses of each of the economic impact models, we want to be as transparent as possible regarding the REMI modeling software used by the CEBD.

2.6 STRENGTHS OF THE REMI MODEL

One of the key features differentiating the REMI simulation model from other economic impact measurement tools is the fact that REMI uses several economic impact methodologies to predict impacts upon an economy. Whereas other tools rely upon one methodology to predict economic impacts, REMI combines several economic impact methodologies, which has the effect of minimizing the weaknesses of any one methodology. Methodologies included in the REMI model are input-output, econometric equations, economic-base, and it also includes aspects of computable general equilibrium.

An additional strength of the REMI model involves its dynamic nature. Whereas economic impact models relying solely on input-output are only able to make static one year forecasts, the REMI model is able to forecast the economic impacts over a number of years.

Also differentiating the REMI model from other economic impact models is its ability to report the economic impacts with a myriad of economic and/or demographic variables. This means that not only will traditional economic impact variables (for example, employment, income, gross regional product, etc.) be reported by the REMI model, but the model is also able to report other economic and socioeconomic variables (for example, capital stock, economic migrants, population by age/gender, etc.) as well. By forecasting nontraditional economic and socioeconomic variables, the REMI model provides a more complete picture of the impacts a given scenario would have upon an economy.

3.1 PROJECT ASSUMPTIONS

Before results of the economic impact study are presented, it is necessary to present information unique to this project as this information serves as inputs into the REMI model.

The economic impact analysis that follows will be divided into three segments. The first seegment will report the economic impacts that are projected to occur due to new growth in the Weatherford area. This segment corresponds to Section 5 in this report. Implications of the growth occuring in the first section will be addressed in the second segment (Section 6 in this report). The third segment (Section 7) will report the economic impacts that would occur if the proposed Exit 82 project is undertaken in order to help the city of Weatherford better meet the demands of the growth projected to occur in the first segment.

Weatherford is growing. Three factors serve as evidence for this statement. First, the Imation plant is expanding and its construction is due to be completed in December, 2003. Second, a new museum is planned to open in Weatherford. And third, Walgreen's has begun construction of a new pharmacy location at the corner of Main St. and Washington. All of this increased economic activity is occurring in the proximity of Exit 82 in Weatherford, Oklahoma. Consequently, the construction, employment and tourism variables associated with these activities serve as the model's inputs for the first section.

Regarding the expansion of Imation, the company is a "leading developer and manufacturer of removable data storage products sold in over 60 countries worldwide. Imation's offerings include magnetic and optical products that are a key ingredient in much of the world's technology infrastructure."[8] The current facility in Weatherford is classified as a Computer Storage Equipment (SIC 3572) facility, which is a part of the Industrial Machinery & Equipment (SIC 35) industry.

Variables used as inputs in the REMI model include construction and operation variables obtained from an Imation representative via Weatherford's economic developer. The construction of the expanded facilities will cost $49 million and will occur between 2002 and 2003. For the purpose of the REMI model, construction disbursements total $10 million in 2002 and $39 million in 2003. New Imation employment that will result from the expansion will total 60 new jobs with an annual payroll of $3.3 million. Operations at the expanded facility will increase from 35% of capacity in 2003 to full capacity in 2004.

Regarding the tourism component, construction of the new museum is modeled to begin in 2005. The new museum will cost $1 million and will require a full year of construction. Once the new museum is operational, it will employ about 2 full-time eqivalent jobs and is projected to attract about 68.5 tourists per day, or 25,000 per year, on average. In the REMI model, ninety-five percent (95%) of these tourists will be classified as daytrippers and the remaining five percent (5%) will be classified as hotel/motel visitors. Daytrippers do not have as great an economic impact upon the economy since they do not spend money for an overnight stay. and spend less money for eating & drinking places. Therefore, tourism's economic impacts will be more conservative with a larger percentage of daytrippers than had more of the tourists been classified as hotel/motel visitors.

Regarding the final component of the first section, Walgreen's is a retail pharmacy chain with 3,883 locations in the United States in 2002. During 2003, the company has plans to open an additional 425 stores[9] - one of which will be in Weatherford, Oklahoma. Average store construction values and average employment variables were used for the purposes of the REMI model. The construction will cost $1.3 million with a 2003-2004 time frame, and employment will total 25 new jobs. Additionally, this activity will occur in the rest of retail sector and these jobs will earn more than the aggregate average income assumed by the REMI model. This means that there will be a wage bill adjustment in the REMI model.

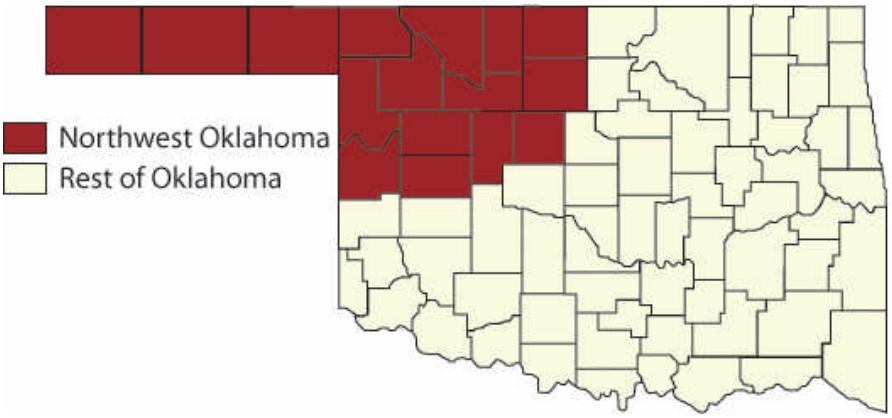
After the implications of Weatherford's growth are discussed in section 6 of this report, the second grouping of economic impacts will be reported. These impacts relate directly to the economic impacts that could occur in Weatherford if and only if the Exit 82 project is undertaken. The economic impacts reported in Section 7 will relate the actual economic impacts of the Exit 82 construction and of new land being available for development.

For the purposes of the model, construction of Exit 82 will occur in the 2005-2006 time frame and will cost $7 million. Construction disbursements will be evenly distributed over the time frame with $3.5 million occurring in each of the years.

In addition to the actual construction, land will become available for development. The Exit 82 project could open land south of I-40 for industrial, retail or residential development. However, to be conservative we will model the economic impacts of three new retail establishments costing $900,000 for construction and employing an average of 10 people per establishment.

3.2 PROJECT AREA

As previously explained, there are six sub-state regions in our version of the REMI model. For the purposes of this study, only economic impacts that occur in northwest Oklahoma will be reported since all of the economic activity being modeled is occurring in the Weatherford area.



4.1 CONVENTION 1 – ECONOMIC IMPACTS

In discussing the economic impacts, it is important for the reader to keep in mind that most of the graphs present the economic impact of Weatherford's new growth as measured by the difference between REMI's alternative forecast and control forecast. The control forecast predicts economic and demographic variables into the future if nothing changes (*ceteris paribus*). The alternative forecast predicts the same variables for the economy given the economic stimulus, which in this case represents the construction & operation of Imation's expansion facilities, the museum, and the new Walgreen's. The difference between the two forecasts represents the economic impact that the stimulus has upon the state and regional economies.

Because the scales are extremely large for many of the economic and socioeconomic variables, only the economic impacts will be graphed. Presenting the information in this format not only allows comparison across geographic regions, but it also focuses on the most relevant information - the economic impacts. However, we will also present, in tabular format, the forecasted 2007 levels of some of the alternative and control forecasts for the first grouping of economic impacts. Doing this will assist in order not only to better inform the reader, but also and to better communicate the economic impacts of Weatherford's new growth.

As an example, REMI forecasts northwestern Oklahoma's population to grow to 205,679 people by 2007 if nothing changes in the economy between now and 2007 (For comparison, northwestern Oklahoma's 2000 population equaled 200,672 people.). If the only changes in the economy are the projects modeling Weatherford's growth, then REMI forecasts northwestern Oklahoma's population will grow to 205,772 people by 2007. Therefore, the economic impact, or the response to economic stimulus of Weatherford's growth, would be 93 more people (205,679 people - 205,772 people) in northwestern Oklahoma by 2007. While it will be the economic impact (93 people) that will be graphed, both the control forecast level and the alternative forecast level will be tabularly presented with the economic impact for the 2007 year to communicate the relative scale.

4.2 CONVENTION 2 - VARIABLE GROUPINGS

We intend to present the combined economic impacts that the Heartland of America Heritage Center, the Walgreen's retail pharmacy, and the Imation expansion would have in northwestern Oklahoma in similar variable groupings, or "blocks", as REMI uses to communicate economic linkages. Therefore, there will be five primary sections corresponding to the five "blocks" identified by REMI (see page 3 for an illustration of the five blocks).

4.3 CONVENTION 3 - VARIABLE DEFINITION

Many of the economic and socioeconomic variable definitions will be presented in boxes. Accompanying these definitions will be both (1) a list of variables that affect the variable being discussed, and (2) a list of variables that will be affected by the variable being discussed. This is intended to help the reader understand some of the linkages in the REMI model.

4.4 CONVENTION 4 - CONSTANT DOLLARS

Also of note, except for the wage, income and income adjusment variables contained in Block 4 (section 5.4), monetary figures will be reported in constant 1996 dollars.

4.5 CONVENTION 5 - NET PRESENT VALUE

All reported net present value figures use the entire 2005-2020 time frame and a 7.5% discount rate.

5.1 ECONOMIC IMPACTS UPON OUTPUT VARIABLES

Some of the major output variables include Gross Regional Product, Regional Output, Consumption Spending, Investment Spending, Government Spending, Net Exports, Intermediate Demand and Real Disposable Income. There are other output variables in the REMI model, but we intend to only report the major economic impacts that the three Weatherford projects.

As will be recalled from the Project Information section (section 3.1), many of the input variables enter the REMI model through either the output block, as increased sales/output, or the labor/capital demand block, as increased employment. The changes made to these variables constitute the initial stimulus in the model. This initial stimulus will work its way through the model to affect each of the model's variables. As will be seen, the economic impacts of a growing Weatherford economy will be reported in this section and following sections.

Before reporting the economic impacts of the projects, there are a few points that should be noted regarding the presentation of the information. Many of the graphs accompanying each of the sections display the economic impacts that the three Weatherford projects are projected to have over the 2002-2020 time frame. Since the magnitude of the Imation impacts are much greater than the impacts of the remaining projects, the Imation graphs will be displayed separately in most of the sections of the report.

Regarding the table accompanying the graphs, it will not only display the alternative & control forecasts but also the economic impacts for 2007. As will be recalled, the difference between the alternative forecast and the control forecast is equal to the economic impact for a given year. The sole purpose of presenting this information in a table is to provide the reader with a basis for comparing the magnitude of a project's economic impact to the magnitudes of the forecasted levels provided by the REMI model. The control forecast will never change between projects since it represents the forecasted economic performance if nothing changes in the regional economy. The alternative forecast, and therefore the economic impact, will be unique to the particular project and represent economic performance if the only economic change are those associated with the project.

Each project, or row heading in the table, should be viewed separately from the other projects. The total impact is displayed in the last row and is simply the combined economic impact that all three projects are forecasted to have upon the regional economy. While the total economic impact is equal to the sum of the economic impacts for the three projects, the forecasted alternative and control levels are not the sum of the previous three projects.

The order of the economic impacts is the last point that should be mentioned. Throughout the report, the Heartland of Americe Heritage Center's, also referred to as tourism's, impacts will be presented first. Walgreen's economic impacts will be presented second followed by the economic impacts of the Imation expansion. Finally, the combined impacts, also referred to as the total impact, will be reported last.

5.1.1 GROSS REGIONAL PRODUCT

As stated earlier, Weatherford is growing. Three developments evidence this statement. First, Imation is expanding its existing operations at its Weatherford plant. Second, Walgreen's will soon open a new retail location in Weatherford. Third, a new museum will be constructed in Weatherford, which is expected to increase tourism spending in the regional economy. The economic impacts that these three developments will have upon the economy can be quantified with the assistance of the REMI model, and the first of the impacts that will be discussed is Gross Regional Product.

Gross Regional Product (GRP) for any regional economy measures the monetary value of all final goods and services produced within the region for a given year. GRP can be reported for any geographic region; however, when reported for the national economy, it is more commonly known as Gross Domestic Product (GDP) and when reported for a state economy, it is known as Gross State Product (GSP). Northwest Oklahoma will be the relevant economic region for the purposes of this report, and section 3.2 displays a map of northwest Oklahoma.

Gross Regional Product

Gross Regional Product (GRP) as a value added concept is analogous to the national concept of Gross Domestic Product. It is equal to output excluding the intermediate inputs. It represents compensation and profits.

Affected By

Consumption, International Exports, Investment, State & Local Govern-ment Spending

Affecting

Commodity Access Index, Change in Local Supply, Employment, Output

The Net Present Value of the Heritage Center's economic impact upon the economy's GRP equals $3.257 million.

Beginning with the Heritage Center (tourism), the museum's construction is not projected to start until 2005 so there will not be any impacts associated with this project until then. In 2005, the economic impact of the museum's construction is projected to increase the region's GRP by $266,000. When the museum begins to attract tourists in 2006, the economic impact grows to $451,000 and continues a steady growth until 2020 when the museum's impact upon GRP equals $485,000. A graphical display of the Heritage Center's impact upon regional GRP is contained in Graph 5.1.1 on the next page.

With monetary impacts, there are two methods to relate the economic impact that a given project will have upon the economy - an unadjusted sum and the Net Present Value (NPV). As would be expected, the unadjusted sum requires simply adding each of the yearly impacts to relate the total impact over the entire time frame. Calculating the NPV figure discounts future monetary amounts by taking into consideration the time value of money. Throughout this section of the report, the NPV calculation uses a 7.5% discount rate and a nineteen year time frame.

The Net Present Value of the Heritage Center's economic impact upon the region's GRP is presented in Table 5.1.1 on page 17 under the "Tourism" heading. As can be seen from the table, the NPV of the museum's economic impact upon GRP is presented along with the net present values of each of the four primary expenditure components comprising GRP. The NPV of the Heritage Center's economic impact upon the economy's GRP equals $3.257 million, and for comparative purposes, the unadjusted sum of the yearly GRP impacts total $7.244 million. Consumption and investment expenditures account for largest proportions of museum's GRP impact at 44.6% and 35.2% respectively.

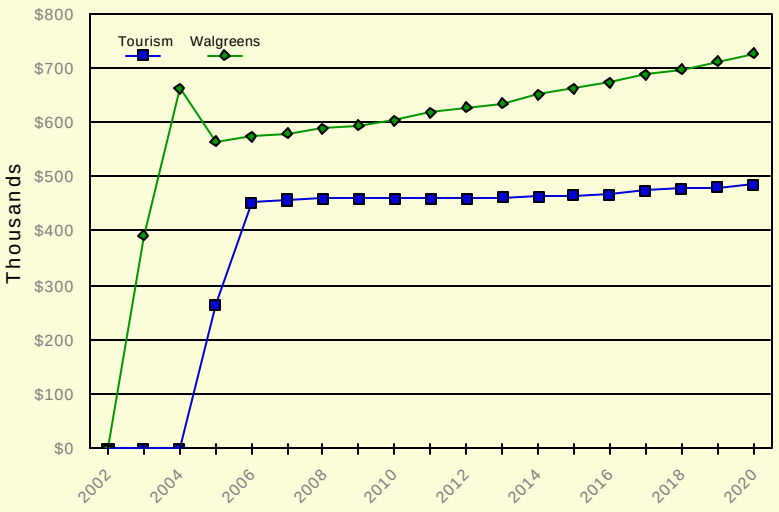
It is important to remember that ninety-five percent of the tourists visiting the Heritage Center were classified as day-trippers and the remaining five percent were classified as hotel-motel tourists. This provides a more conservative impact upon the economy since hotel/motel visitors typically spend more than day-trip visitors. Therefore, if a greater proportion of the tourists were classified as hotel/motel tourists, then the museum's impact would be greater.

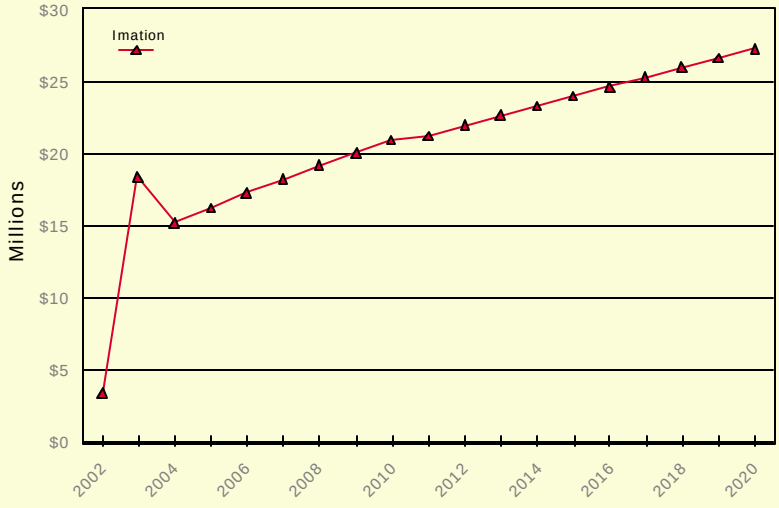
Moving now to Walgreen's economic impact upon the regional economy, Graph 5.1.1 on the next page displays the retail pharmacy's impact over the whole time period. At the beginning of the time period, Walgreen's economic impact upon GRP totals $392,000 when construction begins on the new location. In 2004, Walgreen's economic impact in-

creases to $661,000 with both construction and operations impacts associated with the economic impact. Since construction impacts ending in 2004, Walgreen's economic impact upon GRP decreases to $564,000. The impacts steadily increase after 2005 and by 2020, the economic impact reaches $726,000.

As is observeable from Table 5.1.1 on page 17, the net present value of Walgreen's economic impact upon GRP totals $5.440 million. The unadjusted sum of the yearly impacts equals $11.242 million over the whole time period.

Graph 5.1.1 Gross Regional Product





Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	$8.390 Billion	8.408 Billion	$18.248 Million
Walgreen's	$8.390 Billion	8.391 Billion	$.580 Million
Tourism	$8.390 Billion	8.390 Billion	$.457 Million
Total	$8.390 Billion	8.409 Billion	$19.285 Million

Unlike the other two projects, net exports is projected to be negative, having an absolute value of $1.676 million, with the Walgreen's project, which means that there are projected to be more imports than exports. Over the time frame exports are projected to increase by an average of $423,000/year. Similarly, the annual average import increase is projcted to be $629,000, which means that net exports average $206,000/year.

One contributing factor for projected imports being greater than projected exports is that Walgreen's is a retail pharmacy. As a retail store, Walgreen's would most likely purchase much of its resale goods, including pharmaceutical drugs, from geographic locations outside the boundaries of northwestern Oklahoma, which increases imports into the region.

Moving to the Imation expansion project, the economic impact that the Imation expansion had upon the regional economy's GRP equaled $3.4 million in 2002. All of this impact was attributable to the first year of the construction phase. In 2003, the economic impact is projected to be $18.4 million upon the regional economy's GRP with some of the impact attributable to construction and the remainder attributable to the plant operating at partial capacity. As can be seen from the graph, the impact decreases slightly to $15.2 million in 2004 since the construction phase ends in 2003. By 2007, the economic impacts reach $18.2 million and continue to steadily increase to $27.3 million by 2020. Obviously, the economic impact of the Imation expansion is projected to be the

largest compared to the economic impacts of Walgreen's and the Heritage Center.

The NPV of Imation's economic impact is projected to total $186.662 million over the 2002 to 2020 time frame. Comparatively, the unadjusted sum of the yearly impacts total $391.919 million for the regional economy's GRP. As can be seen from table 5.1.1, almost two-thirds (66.0%) of the GRP impact is accounted for by Net Exports. Which is intuitive given the fact that Imation manufactures products whose markets are largely outside of northwest Oklahoma. Of the remaining expenditure categories, consumption expenditures account for 20.2%, investment expenditures account for 11.7%, and government expenditures account for the remaining 2.1% of the total economic impact upon GRP.

Focusing on the 2007 information presented in the table accompanying the GRP graphs on the previous page, the REMI model projects northwestern Oklahoma's GRP to be $8.390 billion in the 2007 control forecast. Modeling the combined economic impact of the three Weatherford projects produces a 2007 alternative forecast of $8.409 billion for northwestern Oklahoma's GRP. This means that the 2007 economic impact of the three projects would be approximately equal to $19 million ($8.409 billion - $8.390 billion).

The NPV of Imation's economic impact is projected to total $186.662 million over the 2002 to 2020 time frame.

Combined, the three Weatherford projects have a net present value economic impact totaling nearly two hundred million dollars ($195.362 million) in the 2002-2020 time frame. The unadjusted sum of the yearly GRP impacts equals $410.403 million, which means that the annual averge impact of the three projects equals $21.600 million.

Of the four GRP expenditure components, net exports account for the greatest share (62.3%) of total GRP in the combined economic impact scenario. The reason for this being the magnitude of Imation's impact in relation to the magnitude of the remaining two projects is greatly influencing the results of the combined impact. The net present values of the four GRP expenditure components may be viewed in the table below.

Two of the four expenditure components of GRP, consumption spending and investment spending, will be further analyzed in the next two sections. Additionally, net exports will be further analyzed in the Market Shares block of variables, which is located in section 5.5.

Table 5.1.1 Net Present Value of Gross Regional Product

	Imation	Walgreen's	Tourism	Total
Consumption	$37,656,265	$4,785,301	$1,452,112	$43,900,365
Investment	$21,769,283	$1,725,613	$1,147,276	$24,656,850
Government	$4,064,784	$604,191	$430,358	$5,096,403
Net Exports	$123,172,055	($1,675,576)	$227,154	$121,708,263
Total GRP	$186,662,387	$5,439,529	$3,256,900	$195,361,881

(NPV calculations use a 7.5% discount rate and 19 year time period)

5.1.1A CONSUMPTION EXPENDITURES (AN EXPENDITURE COMPONENT OF GRP)

Consumption spending is an important component of GRP. For the state of Oklahoma, consumption expenditures account for approximately sixty percent of the state's GSP. Similarly, consumption expenditures account for approximately fifty-five percent of northwest Oklahoma'sGRP. From Table 5.1.1 on page 17 it can be calculated that consumption expenditures are projected to account for 22.3% of the combined economic impact.

As a component of GRP, it is evident that the consumption variable affects GRP. However, it should not be viewed in isolation. The consumption expenditure variable is changing for a reason. In the REMI model, consumption spending is affected by population (Block 3), real disposable income (Block 1), and consumer prices (Block 4). Logically, when a region's population increases, as will be shown to occur in Section 5.3.2, consumption will increase as more goods and services will be required to maintain the population. Similarly, consumption will increase when real disposable income increases since the region's population has more money to spend on goods and services. Alternatively , consumption will decrease when consumer prices increase since inflation reduces the purchasing power of the region's population.

The NPV of consumption spending in the accompanying table differs slightly, by less than on-tenth of one percent, from the NPV of consumption spending in the previous table but represents the same consumption spending variable. Rounding errors account for this difference.

Observeable from Table 5.1.1A, the REMI model reports thirteen categories of consumption spending. The combined economic impact of the three Weatherford projects will have the greatest impact upon the "Other Services" consumption category with a $10.671 million NPV, a $21.314 million unadjusted sum, and an average annual impact of $1.122 million. The "Other Services" category is an aggregation of twenty-six sub-categories of consumption expenditures, which includes dry cleaning, health insurance, legal services, bank fees, theater & recreation admissions, higher education, investment brokerage charges, and nineteen other services.

After the "Other Services" category, the economic impacts upon "Food & Beverages" (NPV=$6.937 million) consumption and "Computers & Furniture" (NPV=$4.331 million) consumption are the next largest expenditure categories. The Computers and Furniture category is composed of seven sub-categories including household furniture, household appliances, computer hardware, and computer software. As might be expected, the Food & Beverages category is primarily comprised of restaurants, groceries and similar establishments.

Consumption

Expenditure on goods and services out of local real disposable income; a final demand component of Gross Regional Product.

Affected By

Real Disposable Income, Population (Block 3), Consumer Prices (Block 4)

Affecting

GRP, Output

Table 5.1.1A Consumption (2002-2020)

	Unadjusted Sum	Net Present Value
Vehicles and Parts	$5,983,110	$3,026,654
Computers & Furniture	$8,951,300	$4,330,644
Other Durables	$3,513,530	$1,740,233
Food & Beverages	$13,486,100	$6,937,280
Clothing & Shoes	$6,181,670	$3,062,892
Gasoline & Oil	$2,100,600	$1,089,922
Fuel Oil & Coal	$169,155	$89,204
Other Non-Durables	$4,997,490	$2,288,043
Housing	$7,085,180	$3,359,291
Household Operations	$7,382,300	$3,674,962
Transportation	$4,132,430	$2,097,989
Medical Care	$3,348,130	$1,572,579
Other Services	$21,313,900	$10,671,166
Consumption Spending	$88,644,895	$43,940,857

5.1.1B INVESTMENT EXPENDITURES (AN EXPENDITURE COMPONENT OF GRP)

Investment spending, as an economic term, refers to expenditures on fixed assets or inventory in the economy. For example, spending on housing, commercial buildings, durable equipment, and inventory qualifies as investment spending. As a proportion of GRP, investment spending accounts for approximately fourteen percent of Oklahoma's GSP and approximately thirteen percent of northwest Oklahoma's GRP.

Similar to consumption expenditures, investment expenditures directly affect GRP; however, the variables that affect investment spending are not as straightforward as the variables affecting consumption spending. The variables affecting investment spending, actual capital stock (block 2) and optimal capital stock (block 2) , do not directly affect investment, rather there is an interaction between the variables before the level of investment spending changes. Investment spending will increase if optimal capital stock is greater than actual capital stock. When this is the case, the difference between the two variables represents the future level of investment spending required to satisfy current demand for capital stock. As will be seen in the capital stock section of this report, markets do not immediately satisfy demand for capital stock. (For definitions of the optimal capital stock and actual capital stock variables, please see the note below.)

As can be seen from the accompanying table, the NPV (2002-2020) of increased investment spending attributable to the three Weatherford projects totals $23.550 million while the unadjusted sum of the yearly impacts totals $44.019 million. It should be noted that, unlike the investment figure reported in Table 5.1.1, this investment value does not include investment in inventory. Only fixed investment spending occuring in the regional economy as a result of the three Weatherford projects is included in the table.

At 59.1%, investment spending upon producer's durable equipment accounts for the largest proportion of the total impact upon investment spending. Investment spending in this category not only includes spending on equipment used to add value in the manufacturing process, but also equipment used to process information. The combined economic impacts of the three Weatherford projects begin at $274,000 in 2002, peak at $1.606 million in 2003 and steadily decrease to $1.282 million in 2020. The average annual increase over the whole time period equals $1.369 million/year.

At 31.3%, investment spending upon new residential housing structures also accounts for a substantial proportion of the impacts upon total investment spending. Investment spending in this category includes spending upon single family and multifamily housing structures and averages $725,000/year over the modeled time frame. Residential investment impacts begin at $383,000 in 2002, peak at $1.805 million in 2003 and steadily decrease until 2020 to $511,000.

Investment

Investment spending (residential structures, nonresidential structures, and equipment); a final demand component of GRP. Calculated as the difference between the optimal capital stock and the actual capital stock.

Affected By

Optimal vs. Actual Capital Stock (Block 2)

Affecting

GRP, Output

At 9.6%, investment spending upon non-residential structures accounts for the remaining share of total fixed investment spending. With a NPV of $2.339 million and an unadjusted sum of $4.238 million, it should be noted that investment spending in this category is a result of, but does not include, construction of buildings associated with the three Weatherford projects. The average annual impact upon non-residential investment spending equals $223,000/year over the modeled time frame.

Graph 5.1.1B Investment (2002-2020)

	Unadjusted Sum	Net Present Value
Residential	$13,779,400	$7,847,123
Non-Residential	$4,237,750	$2,338,981
Producer Durable Equip	$26,001,900	$13,364,341
Investment Spending	$44,019,050	$23,550,445

Note: While both the optimal capital stock variable and the actual capital stock variable will be discussed in greater detail with the second block of variables (section 5.2.2), for the purposes of this section, actual capital stock is defined as the amount of capital stock presently existing in the economy. Optimal Capital Stock is defined as the amount of capital stock that would have to exist in the economy in order to satisfy current demand for capital stock.

5.1.2 REGIONAL OUTPUT

The primary difference between Gross Regional Product and regional output is the inclusion of intermediate demand in the measurement of regional output. While GRP measures the value of all finished goods and services produced within an economy during the year, regional output includes the value of intermediate goods as well. Intermediate goods are those goods whose value is added in the manufacturing process to produce a finished product.

A common example of an intermediate good is automobile tires. An automobile is not finished until it has tires, and in the process of manufacturing an automobile, the value of the tires would be considered an intermediate good whose value would be included in the price of the finished automobile. The value of the tire would be double-counted in the measurement of GRP if it were included in addition to the value of the finished automobile. However, the production of intermediate goods are an important source of economic activity, so there is merit in reporting regional output.

The Net Present Value of Walgreen's economic impact upon the economy's regional output equals $8.626 million.

Presenting the results, the Heritage Center is projected to impact the region's output by $571,000 in 2005 during the construction phase of the project and rise to $810,000 in 2006 when operations at the museum are modeled to begin. By 2020, the economic impacts decrease slightly to $770,000, but as can be seen from Graph 5.1.2, remain relatively stable in the intervening time frame.

Given the GRP figures presented earlier, intermediate demand can be calculated by subtracting GRP from regional output. In 2005, intermediate demand attributable to the Heritage Center equals $305,000, increases to $350,000 in 2006 and decreases to $290,000 by 2020.

Similar to GRP, regional output can be dissected to reveal additional detail. Table 5.1.2 on page 22 provides this further detail in the form of the net present value of the impacts that the Heritage Center is projected to have upon the major industries in the regional economy over the modeled time frame. As can be seen, the total NPV that tourism is projected to have upon the regional economy is $5.597 million. The unadjusted sum of the yearly impacts equals $12.234 million over the time frame, and the average annual impact equals $644,000/year.

The Heritage Center and the tourism that it is projected to attract would have the greatest economic impact upon the retail trade (NPV=$2.196 million) and service (NPV=$2.105 million) sectors. Together, these impacts account for 76.8% of the regional output economic impacts upon the economy attributable to the Heritage Center.

Moving to Walgreen's economic impacts upon regional output (please see Graph 5.1.2), the retail pharmacy is projected to increase regional output by $818,000 in 2003 and by $1.254 million in 2004. All of the impact in 2003 and a portion of the impact in 2004 is attributable to the construction of the retail location. Since construction ends in 2004, all of the economic impacts for the 2005-2020 time frame are attributable to the normal operating activities of Walgreen's. In 2005, REMI forecasts that the retail pharmacy's impact upon the economy's output will equal $902,000 and is projected to increase to $1.070 million by 2020.

Subtracting GRP fom regional output reveals that intermediate demand attributable to Walgreen's totals $426,000 in 2003, $593,000 in 2004, and $344,000 in 2020.

As can be seen from Table 5.1.2, the net present value of Walgreen's economic impacts upon regional output totals $8.626 million. Associated with this net present value is an unadjusted sum of $17.368 million and average yearly impacts of $914,000.

Regional Output

The amount of production in dollars, including all intermediate goods purchased as well as value-added (compensation and profit). Can also be thought of as sales. Output = Self-Supply + Exports + Intraregional Trade + Exogenous Production.

Affected By

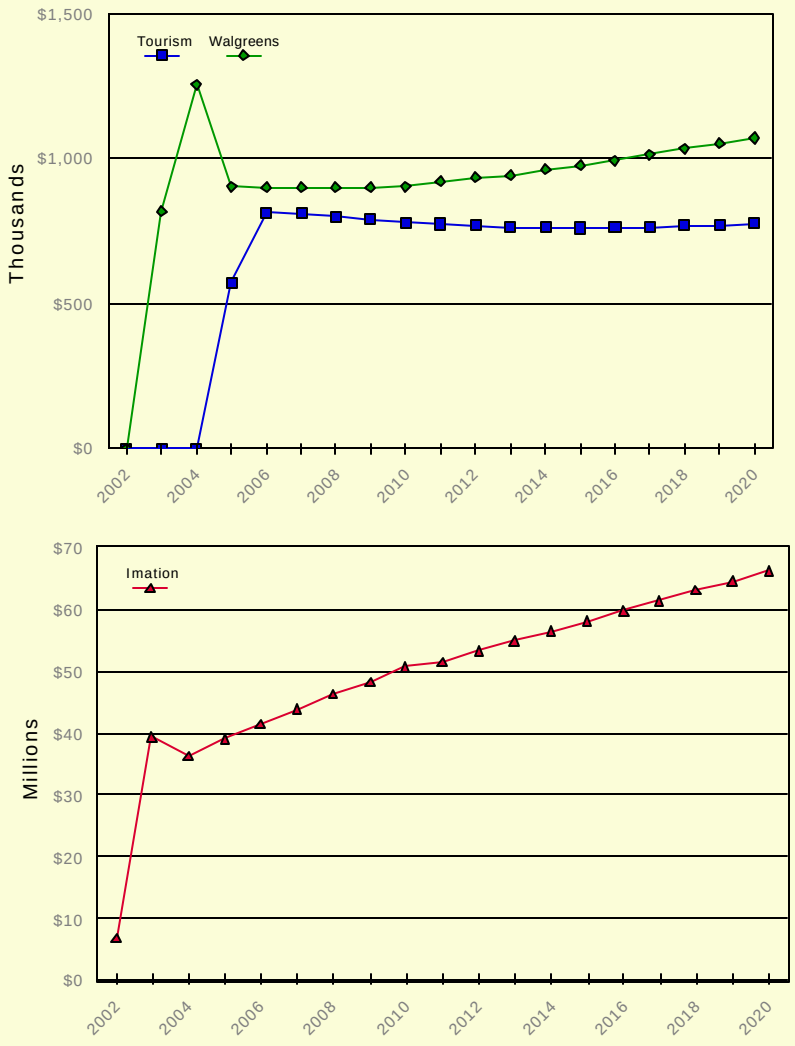
Consumption, International Exports, Investment, State & Local Government Spending, Intermediate Inputs, Share of Domestic Markets

Affecting

Commodity Access Index, Change in Local Supply, Employment, Intermediate Inputs

Accounting for 64.3% of the total NPV, Walgreen's would have the greatest economic impact upon the region's retail trade (NPV=$5.543 million) sector. This impact is readily explainable since Walgreen's is a retail pharmacy. In addition to the retail trade sector, Walgreen's also has a substantial economic impact upon the economy's construction sector (NPV=$1.753 million). Associated with these net present values are unadjusted impacts of $12.068 million for the region's retail trade sector and $2.622 million for the construction sector.

Graph 5.1.2 Regional Output



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	$13.610 Billion	$13.654 Billion	$43.918 Million
Walgreen's	$13.610 Billion	$13.611 Billion	$.901 Million
Tourism	$13.610 Billion	$13.611 Billion	$.810 Million
Total	$13.610 Billion	$13.656 Billion	$45.629 Million

Regarding Imation's economic impacts upon regional output, the Imation expansion is projected to increase regional output by $6.981 million in 2002 during the first year of construction phase of the project. In 2003, with the remaining construction impacts and operations beginning at partial capacity, Imation's impacts total $39.362 million. Imation's economic impacts dip slightly in 2004 to $36.384 million but increase steadily through the remaining time period. By 2020, the economic impacts upon regional output total $66.167 million.

Similar to the previous projects, the impacts upon intermediate demand are substantial. Intermediate demand attributable to the Imation expansion totals $3.546 million in 2002, $17.983 million in 2003, and $38.907 million in 2020.

The economic impact that the Imation expansion is projected to have upon the economy's regional output is impressive. As presented in Table 5.1.2 on the next page, the NPV of Imation's economic impacts are projected to be $445.178 million. The average yearly impact from 2002 to 2020 is projected to be $49.541 million, which means that the sum of these unadjusted impacts total $941.284 million.

As is further evident from Table 5.1.2, the majority (85.5%) of the regional output impacts attributable to the Imation expansion occur within the durable manufacturing sector. After the impacts upon the durable manufacturing sector, Imation's impacts upon the construction

sector (NPV=$28.038 million) account for the next largest sector impacts.

The combined economic impacts of the three Weatherford projects have a net present value of $459.423 million. Summing the yearly impacts produces an unadjusted sum of $970.908 million, nearly one billion dollars, over the modeled time frame. The average yearly impacts equal $51.100 million in the nineteen year time frame.

Of the three Weatherford projects, the economic impacts of the Imation expansion account for the vast majority of the regional output impacts (96.9%). The economic impacts of Walgreen's accounts for 1.9% of the combined economic impacts while the economic impacts of the Heritage Center and the tourism that it draws accounts for 1.2% of the combined economic impacts occurring in the regional economy.

While Imation's economic impacts account for a disproportionate share of the combined impacts, some of the impacts upon individual sectors are more evenly distributed. Within the retail trade sector for example, the Imation expansion is projected to account for about 49.7% of the total retail trade sector impacts - as opposed to the 96.9% of the total output impacts. Walgreen's is projected to account for 36.0% of the impacts upon retail trade while the Heritage Center is projected to account for 14.3% of retail trade impacts.

Summing the yearly impacts produces an unadjusted sum of $970.908 million, nearly one billion dollars, over the modeled time frame.

A noteworthy point is that the unadjusted sum of the yearly retail trade impacts totals $31.493 million over the modeled time frame. This means that every penny in the sales tax rate would generate over $314,000 in sales tax revenue over the whole tme period. If all of retail trade were captured in Weatherford, then the city would generate over $942,000 in sales tax revenue over the modeled time period at the current 3% rate. Similarly, Custer county would generate $157,000 at the current 0.5% county sales tax rate and the state of Oklahoma would generate $1.413 million at the current 4.5% state sales tax rate.

Table 5.1.2 Net Present Value of Regional Output

	Imation	Walgreen's	Tourism	Total
Durables Manuf	$380,788,713	$50,889	$27,545	$380,874,444
Non-Durbls Manuf	$267,341	$18,636	$169,713	$442,856
Mining	-$807,479	-$145,210	-$86,002	-$1,029,113
Construction	$28,038,138	$1,752,834	$652,082	$30,453,603
Trans.&Public Util.	$4,208,097	$221,708	$142,959	$4,582,502
Fin&Ins&Real Est	$4,476,438	$367,639	$170,051	$5,014,293
Retail Trade	$7,648,526	$5,543,142	$2,195,519	$15,386,307
Wholesale Trade	$10,928,935	$164,262	$207,082	$11,300,680
Services	$9,470,973	$637,460	$2,104,689	$12,212,005
Agri&For&Fish Serv	$157,952	$14,385	$12,879	$185,161
Total	$445,177,635	$8,625,745	$5,596,517	$459,422,739

(NPV calculations use a 7.5% discount rate and 19 year time period)

5.1.3 REAL DISPOSABLE INCOME

Real disposable income represents the portion of inflation-adjusted income that is available to be spent, or saved, after taxes, social security and other income adjustments.

The economic impact of the Heritage Center and its associated tourism is projected to increase real disposable income by an average of $203,000/year between 2005 and 2020. The total unadjusted sum of the museum's economic impact equals $3.244 million over the modeled time, while the net present value is equal to $1.376 million.

Regarding the economic impact of Walgreen's upon real disposable income, the retail pharmacy is projected to increase the economy's real disposable income by an average of $514,000/year between 2003 and 2020. While the average impact is over five hundred thousand dollars/year, the accompanying graph shows that the retail pharmacy's impact upon real dsipasable income starts slowly in 2003 ($129,000), but grows considerably by the end of the time period ($660,000 by 2020).

The expansion of Imation increases the economy's real disposable income by an average of $3.489 million/year over the modeled time frame. The unadjusted sum of Imation's yearly impacts equals $66.297 million, while the net present value equals $33.279 million.

Combining the three Weatherford projects produces an average yearly impact equal to $4.150 million upon the economy's real disposable income (NPV=$38.933 million).

Real Disposable Income

Personal income minus taxes & social contributions plus dividends, rents and transfer payments.

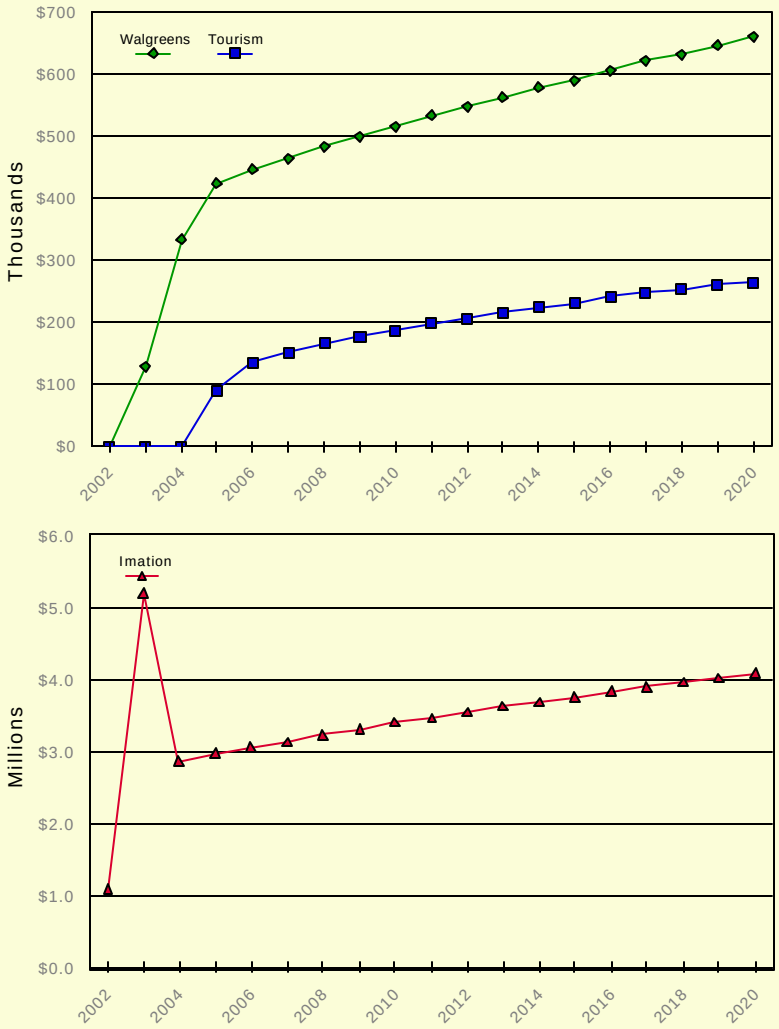
Affected By

Employment (Block 2), Commuter Income or Outflow, Property Income Transfers, Taxes, Social Security Payments, Wage Rate (Block 4), Consumer Prices (Block 4)

Affecting

Consumption, Optimal Residential Capital Stock (Block 2)

Graph 5.1.3 Real Disposable Income



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	$3.960 Billion	$3.963 Billion	$3.146 Million
Walgreen's	$3.960 Billion	$3.960 Billion	$.463 Million
Tourism	$3.960 Billion	$3.960 Billion	$.150 Million
Total	$3.960 Billion	$3.964 Billion	$3.759 Million

5.1.4 SUMMARY OF BLOCK 1 ECONOMIC IMPACTS

In 2007,some of the economic impacts of the combined Weatherford projects were forecasted to:

- Increase GRP by $19.285 million in the area's economy
- Increase regional output by $45.629 million in the area's economy
- Increase real disposable income by $3.759 million in the area's economy

It should be noted that each of the three Weatherford projects are operational in 2007 and that there are not any construction related impacts directly associated with the three projects. While the impacts listed above represent the impacts for a specific year, the economic impacts accumulate over the modeled time period. Over the modeled time period 2002-2020, the combined Weatherford projects were forecasted to:

- Impact the regional economy's GRP by an NPV of $195.362 million
- Impact the regional economy's consumption spending by an NPV of $43.900 million
- Impact the regional economy's investment spending by an NPV of $24.657 million
- Impact the regional economy's government spending by an NPV of $5.096 million
- Impact the regional economy's net exports by an NPV of $121.708 million
- Impact the regional economy's real disposable income by an NPV of $38.933 million

The impacts listed above related only one grouping of impacts associated with future growth expected to occur in the regional economy as a result of the three Weatherford projects. These are not the only economic impacts that the combined Weatherford projects would have upon the regional economy. The integrated nature of the REMI model relates the same projected growth expected to occur with different variables. Relating the many variables is a comparative advantage offered by the REMI model and it allows the users to communicate the projected economic growth of the three Weatherford projects in more detail than would otherwise be available if different economic impact software were used. The Block 1 variables impact:

- Employment in Block 2
- Capital Stock in Bock 2
- Economic Migration in Block 3
- Cost & Price variables in Block 4 (not reported)
- Market shares (to be reported as imports and exports) in Block 5

5.2 ECONOMIC IMPACTS UPON LABOR & CAPITAL DEMAND VARIABLES

The primary labor and capital demand variables are employment and capital stock. Other Block 2 variables contained within the REMI model, but not discussed in this report, include labor productivity, capital intensity and labor access index.

As will be recalled, much of the initial stimulus entered into the model occurred through employment gains associated with the Imation expansion and the Walgreen's retail pharmacy. (The Heritage Center's stimulus was largely modeled from an increase in tourism.) As a result of this initial employment stimulus, the economy's output increases, as was reported in the previous section. The employment impacts will be shown with block 3 variables, the employment stimulus also positively impacts economic migration, population and labor force variables.

It should be noted that the employment impacts reported in this section relate the total impacts that are projected to occur in the economy from not only the initial employment stimulus, but also from indirect economic activity occurring to satisfy intermediate demands.

Additionally, the capital stock variables reported in this section relate how employment, income and population growth occurring in the area's economy translates into increased residential, non-residential and utility capital stock, important sources of property tax revenues for local governments.

5.2.1 EMPLOYMENT

Demand for the labor necessary to increase sales/production is represented by employment growth in Graphs 5.2.1a. It should be noted that the employment growth represented in the graphs do not indicate that employment will grow to the specified amounts in the respective businesses, rather the net impacts that the business has upon the economy.

The economic impacts that the Heritage Center has upon employment will be the first set of employment impacts discussed. Construction of the museum is not projected to begin until 2005, so there would not be any economic impacts associated with the Heritage Center before then. During the construction phase of this project, the REMI model projects the economic impact of the museum to increase total employment by six jobs. By 2006, when operations begin, the economic impact of the museum is projected to increase to 15 jobs and remain relatively stable through the remaining time period. This does not mean that there will be 15 jobs at the Heritage Center, in fact there are projected to be no more than three jobs at the museum. Rather, most of the jobs created as a result of the museum, are the result of the spending impacts of museum tourists.

In 2004, Imation's economic impact totals 106.2 jobs with a net gain of about 57 jobs in the manufactuturing sector.

Analysis of the employment data reveals that much of the museum's employment impacts occur in the retail trade sector, such as restaurants, or in the services sector, such as hotels. The REMI model projects that tourism's impact upon the economy would increase restaurant employment by 5 jobs and increase hotel/motel employment by 1 job in 2006. Even though 95% of the tourists were modeled to be daytrippers, the remaining 5% were modeled to be hotel/motel tourists, and these overnight visitors account for the increase in hotel/motel employment. If a greater percentage of the tourists stayed overnight, then employment would increase more than 1 job in the area's hotel/motel industry. In 2006, retail trade employment in the retail trade sector is projected to increase by 8 jobs with five of those jobs occurring in the restaurnt industry. Similarly, service sector employment is projected to increase by 5 jobs in 2006, which includes the previously mentioned hotel/motel empliyment as well as museum employment.

Regarding Walgreen's economic impacts upon employment, construction of the retail pharmacy is projected to increase the area's employment by about nine jobs in 2003. By 2004 Walgreen's economic impacts upon employment increase to 16 jobs, some of which are attributable to the remaining construction of the retail pharmacy and the remainder to the operations at the retail pharmacy. In 2005, the employment impacts associated with Walgreen's falls to 15 jobs and remains stable through the remaining time period. The explanation for the slight employment decrease is that the construction impacts associated with the project end in 2004.

As mentioned in the Project Assumptions section of the report (section 3.1), employment at Walgreen's was modeled to be the average employment at retail location, which was twenty-five employees. Given the net economic impact of the Walgreen's location is projected to be about fifteen employees, there is a decrease of ten employees from other sectors of the economy.

The economic impact of the Imation expansion increased regional employment by 77.7 jobs in 2002. In 2003, the project's employment impact spikes to have a projected impact of 331.1 jobs. While the employment impacts in the first two years occur during the construction phase, the jobs created were not only construction jobs. Construction sector employment accounted for 71.6% of the total employment impacts in 2002 and is projected to account for 64.0% of the total employment impacts in 2003. Much of the remaining impacts occur in the retail trade, services and manufacturing sectors. In 2004, Imation's economic impact totals 106.2 jobs with a net gain of about 57 jobs in the manufactuturing sector.

Employment

Bureau of Economic Analysis (BEA) concept based on place of work; includes full-time and part-time employees.

Affected By

Labor/Output Ratio, Output (Block1), Labor Productivity

Affecting

Capital Stock, Real Disposable Income (Block 1), Employment Opportunity (Block 4), Wage Rate (Block 4)

The combined economic impacts that the three Weatherford projects have upon employment show that employment opportunity and growth is occurring in Weatherford. Beginning in 2002, all of the employment growth (77.7 jobs) occurs as a result of the construction of the Imation facility. About fifty-five of these jobs were in the construction sector, nine in the services sector, and eight in the retail trade sector.

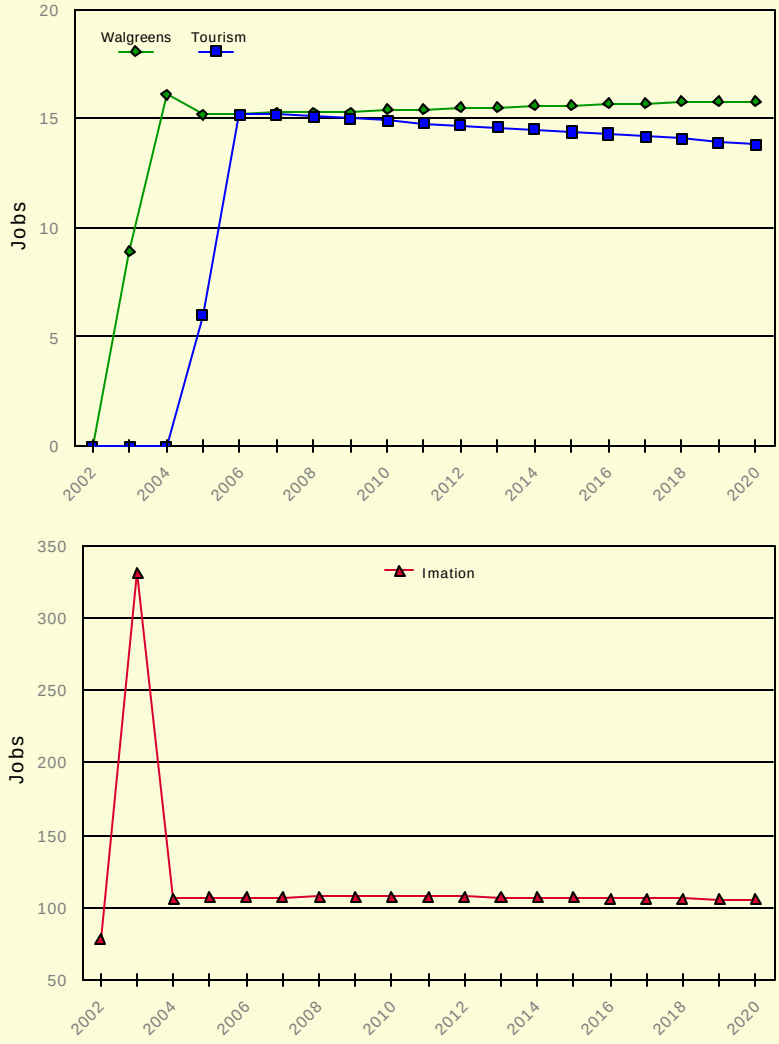
In 2003, the employment growth includes the bulk of the construction associated with the Imation expansion as well as the beginning sof operations at the facility. Additionally, some of the employment impacts occurring in this year are the result of the beginning of the construction of Walgreen's. The number of jobs created as a result of these two projects total 340 jobs. About 64.4% (or 219 jobs) of this total occur in the construction sector. Of the remaining employment growth 39 jobs occur in the services sector, 36 jobs in the retail trade sector, and about 23 jobs in durable goods manufacturing sector.

In 2004, the combined employment impacts total 122.4 jobs. By this year, construction at the Imation facility has ended but there remains some modeled construction with the Walgreen's location. The majority of the employment impacts are the result of operations reaching capacity with both the Imation expansion and the Walgreen's project. The greatest share of the employment increase occurs in the durable goods manufacturing sector with 57 jobs. Other sectors experiencing large employment gains include the construction sector (21.9 jobs), the retail trade sector (20.6 jobs), the services sector (13.1 jobs). State & Local government is also projected to increase about 5.8 jobs by 2004.

In 2005,the employment impacts resulting from the construction at the Heartland of America Heritage Center are introduced to the model. Combined with the operations at both the expanded Imation facility and at Walgreen's, the employment impact total 127.8 jobs for the regional economy.

By 2007, construction-related activities

Graph 5.2.1a Employment



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	138,921 Jobs	139,028 Jobs	107.1 Jobs
Walgreen's	138,921 Jobs	138,936 Jobs	15.3 Jobs
Tourism	138,921 Jobs	138,936 Jobs	15.2 Jobs
Total	138,921 Jobs	139,059 Jobs	137.6 Jobs

at each of the three modeled projects is finished and the impacts are the result of operations for the three sites, which totals 137.6 jobs for the area's economy. Of this amount, 57.4 jobs occur in the manufacturing sector, 34.0 jobs occur in retail trade, and 19.1 jobs occur in the services sector. Additionally, there are projected to be 7.4 jobs in the construction sector; however, these jobs are the result of demand for other residential or non-residential construction demand.

Further detail can be provided regarding the employment impacts, and the pie chart below relates the average composition of the total employment impacts that the three Weatherford projects have

Industry Employment

Employment reported by industry.

Affected By

Labor Productivity, Output (Block 1)

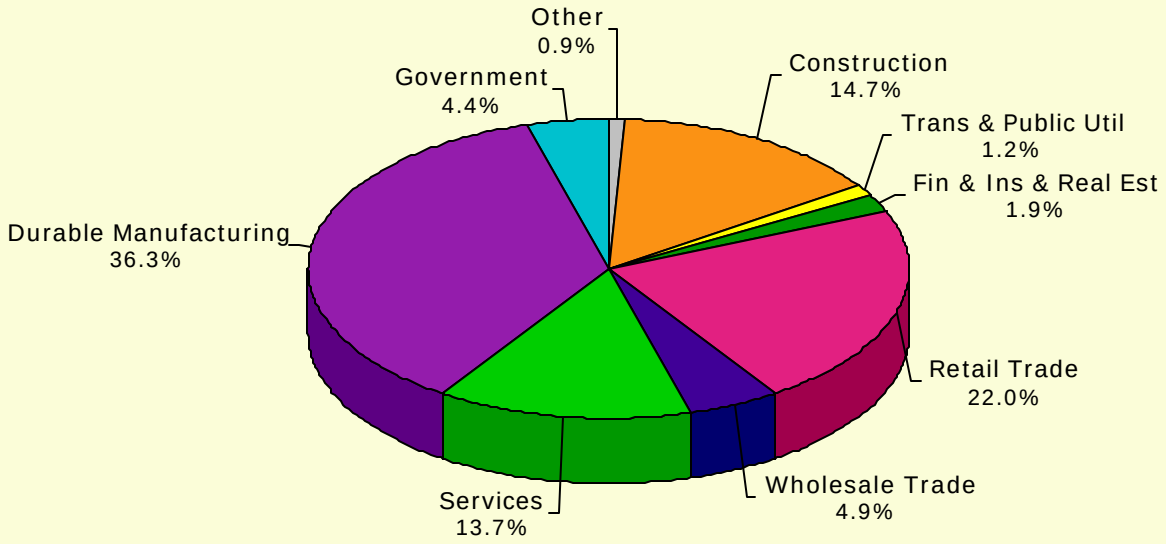
Affecting

Occupation Employment, Optimal Non-Residential Capital Stock, Residentially-Adjusted Employment, Real Disposable Income (Block 1)

upon industry employment over the 2002-2020 time frame. As can be seen, the employnment growth that is projected to occur in Weatherford is fairly well distributed by industrial sector.

Imation directly accounts for the employment impacts in the durable manufacturing sector, which is the greatest share (36.3%) of the total emplyment impacts. The retail trade (22.0%), construction (14.7%), and services (13.7%) sectors also account for large shares of the total employment impacts. The "Other" category is comprised of three sectors - non-durable manufacturing, mining, and agricultural services, forestry & fishing.

Graph 5.2.1b Average Composition of Industry Employment (2002-2020)



5.2.2 CAPITAL STOCK

Capital stock is divided into three components in the REMI model, residential capital stock, nonresidential capital stock and utility capital stock. Residential capital stock includes residential housing in the regional economy, nonresidential capital stock includes commercial & industrial buildings and machinery, and utility capital stock includes fixed assets used by electric and gas utilities like pipelines and power substations.

While actual capital stock refers to the amount of capital stock presently existing in the economy, optimal capital stock refers to the amount of capital stock that would presently need to exist in the economy in order to satisfy current demand for capital stock. The difference between the two variables represents the future level of investment spending required in order to satisfy current demand for capital stock in the economy. And it is this gap between the two variables that provides the stimulus for investment spending (section 5.1.1b) changes.

An important note, the actual capital stock variable is a cumulative impact variable in the model, which means that the reported impact in any given year is equal to the sum of the impacts that occurred in previous years. For example, the 2007 economic impact of the three combined Weatherford projects upon residential capital stock is projected to be $5.322 million for the area's economy. The $5.322 million figure does not mean that there will be $5.322 million worth of residential capital stock being added to western Oklahoma's residential capital stock in 2007. Rather, the $5.322 million figure is the additional residential capital stock that is projected to be added over the 2002-2007 time frame. To calculate the capital stock added to the economy in any given year, the difference must be taken between the current year's figure and the previous year's figure.

Actual Capital Stock

The amount of capital stock exsisting in the economy.

Affected By

Cumulative effects of Investment

Affecting

Gap Between Actual & Optimal Capital Stock, Investment Spending (Block 1)

Optimal Capital Stock

The amount of capital stock that would need to exsist in the economy in order to satisfy current demand for capital stock.

Affected By

Real Disposable Income (Block 1)

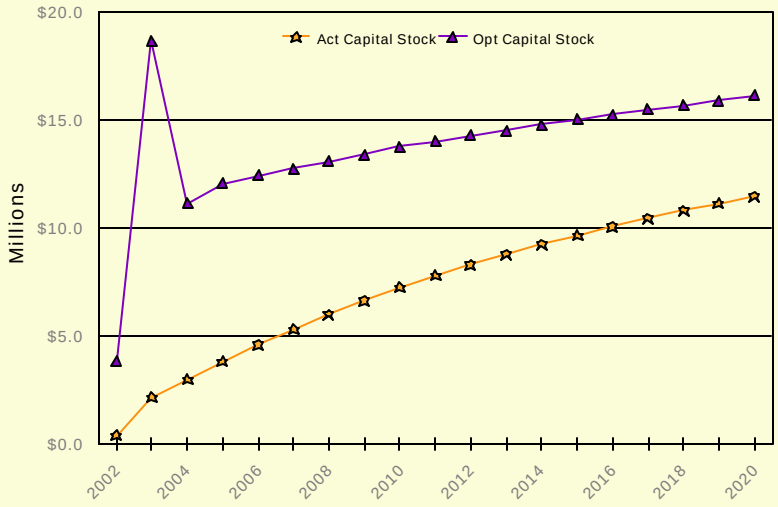
Affecting

Gap Between Actual & Optimal Capital Stock, Investment Spending (Block 1)

By 2020, the REMI model projects that $11.460 million worth of residential capital stock will have been added to the area's economy as a result of the combined impacts of the three Weatherford projects. As can be seen from the table accompanying Graph 5.2.2a, approximately half of the residential capital stock ($5.322 million)to be added by 2020 will have been added by 2007. Assuming average value of homes in these years, the estimated property tax collections would be $55,000 greater in 2007 and be over $119,000 greater in 2020.

Observable from the residential and

Graph 5.2.2a Residential Capital Stock



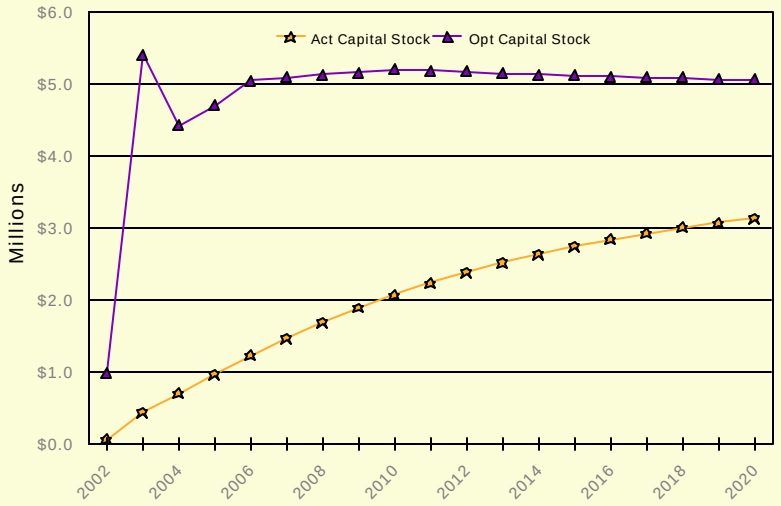
Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Total	$10.141 Billion	$10.150 Billion	$5.322 Million

non-residential line graphs, the optimal capital stock variable fluctuates more than the actual capital stock variable. The reason for this is that optimal capital stock is directly influenced by changes in real disposable income. As real disposable income fluctuates, the demand for capital stock also fluctuates in the economy. However, actual capital stock changes gradually over time since it takes time for the markets to react and add additional capital stock to the economy.

Regarding non-residential capital stock, the REMI model projects that $3.130 million worth of non-residential capital stock will have been added to the area's economy as a result of the combined impacts of the three Weatherford projects over the entire time period. As can be seen from the table accompanying Graph 5.2.2b, $1.468 million worth of non-residential capital stock is projected to be added to the area's economy by 2007.

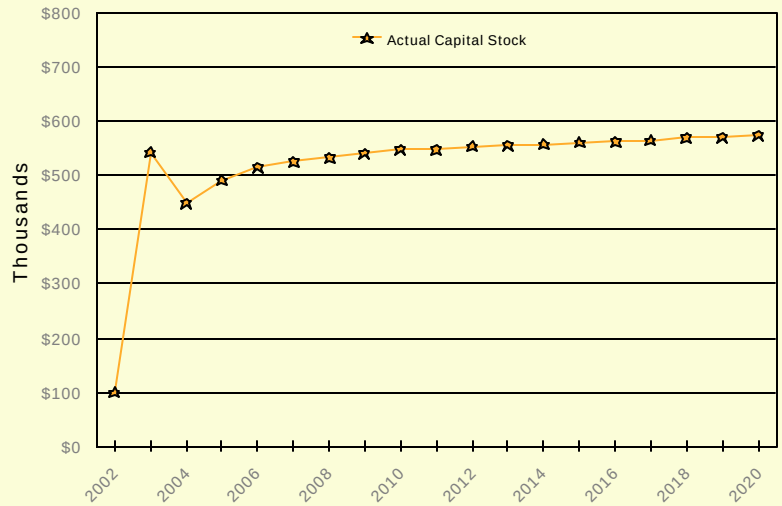
Unlike the residential and non-residential capital stock variables, the REMI model only projects the actual level of utility capital stock. Optimal utility capital stock is not reported since the level of utility capital stock depends upon the other capital stock growth in the economy. In the REMI model, utility capital stock changes due to the changes in residential and non-residential capital stock. By 2020, the REMI model projects that $574,000 worth of utility capital stock will have been added to the area's economy as a result of the combined impacts of the three Weatherford projects. As a cumulative impact variable, Graph 5.2.2c relates that most of this utility capital stock ($525,000 or 91.5% of the total) will have been added to the area's economy by 2007.

Graph 5.2.2b Non-Residential Capital Stock



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Total	$4.121 Billion	$4.123 Billion	$1.468 Million

Graph 5.2.2c Utility Capital Stock



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Total Capital Stock	$1.279 Billion	$1.279 Billion	$.525 Million

5.2.3 SUMMARY OF BLOCK 2 ECONOMIC IMPACTS

In 2007, the economic impacts of the combined Weatherford projects were forecasted to:

- Increase total employment by 137.6 jobs for the area's economy
- Increase residential capital stock by $5.322 million in the area's economy
- Increase non-residential capital stock by $1.468 million in the area's economy
- Increase utility capital stock by $525,000 in the area's economy

Each of the above impacts represent different aspects of the same economic growth that is forecasted to occur as a result of the the economic stimulus provided by the expanded Imation facility, the new Walgreen's retail pharmacy, and the Heartland of America Heritage Center.

Additionally, the above economic impacts should not be viewed in isolation. Meaning, the employment gains reported in this section are not separate from the regional output increases - or for that matter separate from the population increases in the next section. Illustrating this point by focusing solely on the Imation expansion, one of the "shocks" introduced to the economy was an employment increase in the Computer Storage Equipment industry (Imation) in northwestern Oklahoma. In addition to this increased employment, fixed assets (plant & equipment) have increased in the economy. Together these factors of production increase the region's output largely through the intermediate demand and the net export variables discussed with Block 1 variables.

The newly employed workers will earn wages (a Block 4 variable but not discussed in this report) which are ultimately translated into real disposable income (covered in Block 1). The employment gain increases employment opportunity (a block 4 variable but not discussed in this study). And, initially, with a set labor force (Block 3), demand for employment is increasing faster than the supply of labor. So, this imbalance causes wage rates (Block 4) to rise in order to attract labor to the jobs. An increase in the wage rates relative to the wage rates in other regions is the stimulus that attracts economic migrants (Block 3), and with more migrants, the region's population (Block 3) increases.

Because government spending is directly related to population in the REMI model, the increase in population will result in increased government spending, which is an additional variable affecting regional output. So although the initial shock was entered into the model as an employment increase in the Computer Storage Equipment industry, not all of the resulting regional output is attributable to that industry - some of it is output attributable to government spending increases because population increased.

5.3 ECONOMIC IMPACTS UPON POPULATION & LABOR SUPPLY

REMI's block three consists of three variables that affect the region's population and labor supply. They are: economic migration, population, and labor force. As a whole the region's population and labor supply are affected by the commodity access index (block1), employment opportunity (block 4), relative wage rate(block 4), and regionally adjusted employment (block 2). Population and labor supply in turn affect local/sate government spending (block 1), housing prices (block 4), consumption spending (block 1), employment opportunity (block 4), and wage rate (block 4). In the coming sections these relationships will be covered in greater detail, while showing the overall impacts that the Imation expansion, new Walgreen's location, and the new museum would have on the growth of Weatherford.

5.3.1 ECONOMIC MIGRATION

Economic migration is one of many indicators of how great an impact a particular economic activity or event will have upon a region. Economic migration is simply the number of people moving into or out of a region for economic reasons. A more detailed definition can be found below along with the variables that affect and are affected by economic migration. The greatest and the most desirable economic migration impact will be the one with the greatest net positive impact on economic migration.

A net positive impact on a region's economic migration can be achieved by an activity or event if it contributes to one or more of the following: a higher commodity access index (block 1), a higher employment opportunity (block 4), and/or a higher relative wage rate (block 4).

The commodity access index is a quality of life measurement and attempts to quantify how desirable it is to live in a given region. Employment opportunity quanitifies the level of employment opportunity in a region relative to other regions. Relative wage rate is simply how the region's wage rate compares to other region's wage rates. Each of these variables help determine what impact a given scenario will have on the region's economic migration. In turn, economic migration has a direct impact on population, which will be discussed in the next section. The graphs on the next page show the economic migration impacts that should occur as a result of the new museum, the new Walgreens location, and the new Imation expansion.

The total combined net impact on economic migration that the three scenarios will have on the regions from 2002-2020 is 113 migrants.

Economic Migration

Migrants under age 65 (who were part of the civilian population in the US the preceding year) who respond to economic and amenity factors; if value is negative, then more people are moving out of a region than moving in and vice versa; the rate of migration is determined by REO, RWR, and the amenity term.

Affected By

Commodity Access Index (Block 1), Employment Opportunity (Block4), Relative Wage Rate (Block 4)

Affecting

Population

The migration impacts that would result from the construction and operation of the new Walgreen's pharmacy and the new Museum in Weatherford are shown in the first graph. Migration impacts related to the construction of a new museum in Weather ford would not occur until 2005 when construction is scheduled to start. Once construction finishes and the museum's impacts on economic migration would grow to just over 2.5 people in 2006 up from 1 person in 2005. Impacts on economic migration as a result of museum operations decline until the end of the graph in 2020 when it is projected to be just above zero.

Walgreens starts to attract migrants in 2003 with 1.5 migrant expected as construction starts. This figure peaks at just over 2.5 additional economic migrants in 2004 as construction finishes and operations begin. Economic migration as a result of the new Walgreen's pharmacy slowly returns to zero over the course of the period graphed.

Imation started construction on its plant expansion in 2002 and thus the forecast starts off showing an immediate impact of 13.4 migrants on economic migration. This spikes in 2003 at 53 migrants, when construction is slated to finish and operations begin at 35% capacity. As the plant ramps up production to full capacity in 2004, economic migration falls to just under 1 migrant. Migration continues to hover in positive territory ranging as high as 2 migrants until 2016 when it dips into the negative territory. Economic migration stays negative until the end of the graphed period; although, economic migration never drops below -1 migrants.

All three of the projects have positive net economic migration from 2002-2020. The building of a new museum will have a positive net economic migration impact of 16 people. Walgreen's new pharmacy in Weatherford will match this with a projected net economic migration impact of 18 people. Imation the largest of the three projects will have a positive net economic migration impact of 79 people. The total combined net impact on economic migration that the three scenarios will have on the regions from 2002-2020 is 113 migrants.

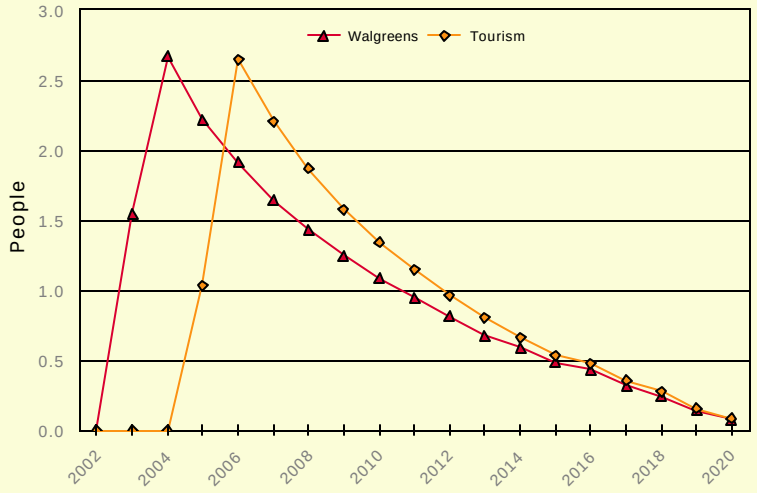
All of the figures that have been reported have been impact figures. An impact figure is caculated by taking a control fore-

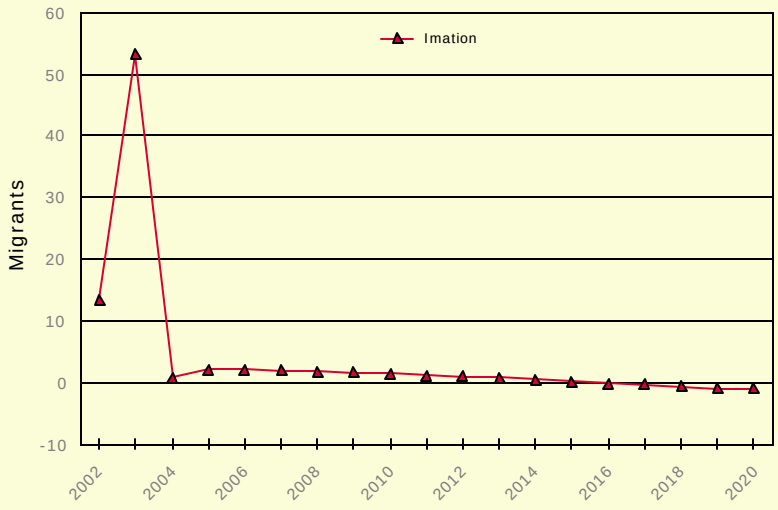
cast level and subtracting it from an alternate forecast level. Figures illustrating how this process works can be found in the table below second graph in Graph 5.3.1.

For example, the Imation scenario, is projected to have an impact on economic migration of 1.9 migrants in 2007. This was caculated by taking the control forecast of 139 migrants and subtracting that from the alternate forecast level's of 141 migrants. The total row shows the combined total levels. With the control forecast there is no change so the total stays at 139 migrants. The alternate forecast level for the simulation of all three scenarios combined totals 145 migrants for 2007. This means that the total impact for 2007 is 5.8 migrants.

The reader will see in the next subsection a correlation between economic migration and population, because economic migration is one of the variables that directly impacts population change.

Graph 5.3.1 Economic Migration





Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	139 Migrants	141 Migrants	1.9 Migrants
Walgreen's	139 Migrants	141 Migrants	1.6 Migrants
Tourism	139 Migrants	141 Migrants	2.2 Migrants
Total	139 Migrants	145 Migrants	5.8 Migrants

5.3.2 POPULATION

Population is the second variable from block three that will be covered in this section and plays a key role in the REMI model by affecting Potential Labor Force, Labor Force, Local and State Government Spending (block 1), Consumption Spending (block 1), and Housing Price (block 4). It is impacted by economic migration discussed in the previous subsection and the difference between the birthrate and deathrate.

Barring extreme circumstances there is very little change in the impacts upon the difference between the birthrate and deathrate, so most changes to the population occur because of net migration. Economic migration is only one of three types of migrantion that affect population. The other two, international and retired migrants, are not included in the economic migration impacts reported earlier. As a result, the population increases could be greater than or less than what is indicated by the economic migration figures in the previous subsection with the difference being attributable to the international migrants, the retired migrants, and the birth and death rates.

Population

Mid-year estimates of population, including survivors from the previous year, births, special populations, and three types of migrants (economic, international, and retired).

Affected By

Economic Migration

Affecting

Potential Labor Force, Labor Force, Local/State Government Spending (Block 1), Consumption Spending (Block 1), Housing Price (Block 4)

Moderate growth continues until 2020 when the Imation expansion will have added 102 people to the regional population.

Population's impact on labor force occurs because the labor force is a subset of population. All other things being equal if the population increases so to will the potential labor force and labor force. Local and state government spending will increase as the population increases because of increased demands placed on public resources. Consumption spending will increase or decrease proportionately with any increase or decrease in the population. The final variable that population directly impacts, housing price, will increase or decrease as the population increases or decreases ceterus paribus. This occurs because an increasing population increases demand for housing.

With these affects in mind, Graph 5.3.2 shows in the top graph the population impacts that the tourism and Walgreens scenarios would have on the region. The new museum would add one person to the region's population in 2005. This jumps to 3.5 people in 2006 and continues to slowly grow until the population impact of the museum reaches 18.8 people in 2020.

The construction and operation of the new Walgreens pharmacy would have a slightly greater impact than the new museum. Starting in 2003 when construction would start this scenario adds 1.5 people to the region's population. As operations ramp up in 2004 this figure rises to 4.1 people. The Walgreens pharmacy would continue to add more than one person to the region's population per year until 2013 when it drops to below one and stays that way until the end of the period graphed in 2020. By 2020 the new pharmacy will have added 22.0 people to the region's population.

Imation, the last scencario and the biggest, adds 13.1 people to the region's population in 2002. This climbs to 64.9 people in the following year as the plant is finished and starts operations. In 2004, when plant production reaches full capacity, the population impact does not increase as dramatically as the previous year only increasing an 67 additional people. Moderate growth continues until 2020 when the Imation expansion will have added 101.9 people to the regional population.

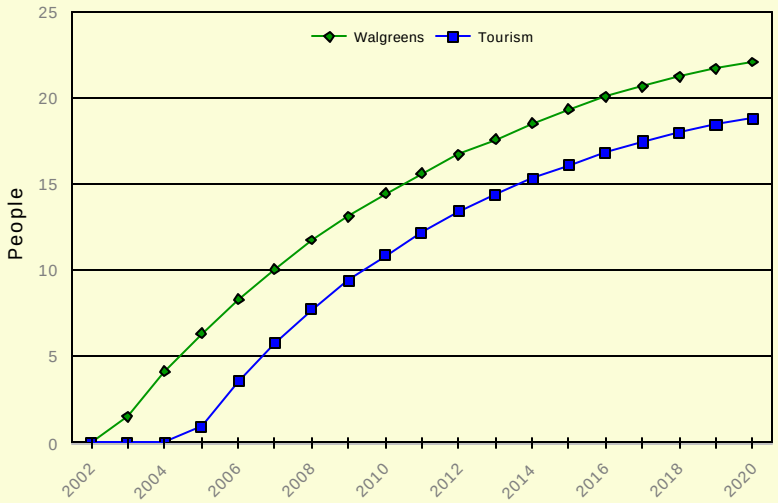
With all of the scenarios combined the population impacts total 71.2 people in 2004. This combined population impact climbs to 93.1 in 2007 and slowly increases each year to reach 142.6 additional people added to the region in 2020 when the graph ends.

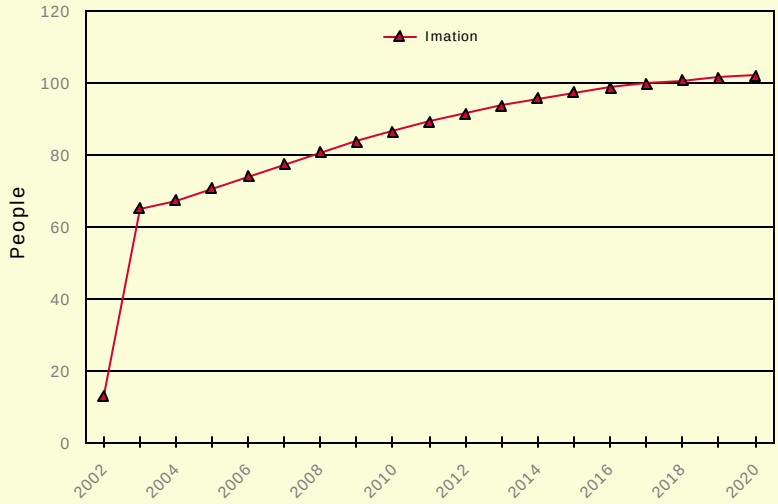
The table accompanying graph 5.3.2 breaks out the figures used to calculate the impacts in the graphs for the 2007 year. For example, the Walgreen's scenario forecasts that northwestern Oklahoma's population will be 205,689 people in 2007. The control forecast predicts a population 205,679 for northwestern Oklahoma in the same year. The difference between the two gives the population impact that the Walgreen's scenario would have on northwestern Oklahoma.

If one looks at the graphs 5.3.2 and 5.3.1 the correlation between populations rate of growth and economic migration becomes evident. For instance, in 2003 Imation's population impact is forecasted at 13.08 people. The corresponding migration impact in 2003 is 13.44 people. In 2004, the trend continues with the population impact being 64.9 people and the economic migration impact being 53.1 people. Adding the previous years population impact results in 66.18 people. This is the figure that would be the population impact if economic migration were the sole variable that impacted population.

In turn, population goes on to affect labor supply which is the subject of the next section.

Graph 5.3.2 Population





Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	205,679 People	205,756 People	77.2 People
Walgreen's	205,679 People	205,689 People	10.0 People
Tourism	205,679 People	205,685 People	5.8 People
Total	205,679 People	205,772 People	93.0People

5.3.3 LABOR FORCE

Labor force is the last variable from block three that will be covered in this section. Labor force is simply the number of people employed or seeking employment. A detailed definition can be found below along with the variables that it affects and the variables that it is affected by. The variables that affect labor force include population and the participation rate.

To calculate labor force, the population is multiplied by participation rates. Labor force can therefore be affected in two distinct ways. If the region's population increases or decreases and participation rates stay the same then the labor force will increase or decrease in proportion to the population change. The second way that the labor force can change is for the particpation rates to increase or decrease causing a greater portion of the exsisting population to join the labor force.

It is important to note that the participation rate is affected by the relative wage rate. The relative wage rate also affects economic migration, so a high relative wage rate will have increased impact as it will bring more people into the region and at the same time provide an incentive for more people from the exsisting population to join the labor force. These relationships are important because of the affect that the labor force has on employment opportunity and wage rates.

Labor Force

The number of people in the labor force, i.e., employed or seeking work; calculated with participation rates by age-gender-racial cohort.

Affected By

Population, Participation Rate

Affecting

Employment Opportunity (Block 4), Wage Rate (Block 4)

Combined the three scenarios would add 67 people to the region's labor force by 2007 and 97.9 people by 2020.

Employment opportunity is affected by the labor force ceterus paribus, all things being equal, because as the labor force grows more people will be competing for the same number of jobs lowering the employment opportunity. Should the labor force decrease with all things being equal the employment opportunity will increase as fewer people are competing for the same number of jobs.

Wage rate is also affected by the size of the labor force. If the labor force grows ceterus paribus wage rates will fall because of increased competition among jobseekers for the existing jobs. Wage rates will rise, with everything else being equal, if the labor force decreases because of increased competition among employers for the existing workers.

On the next page, the graph 5.3.3 shows the impacts of the new museum, Walgreens pharmacy, and Imation plant expansion on the regions labor force.

The first graph of graph 5.3.3 shows the museums and Walgreens impacts, with the new museum increasing the regional labor force by 1 person in 2005 during the construction phase. Once operations start, the Weatherford museums impact climbs to 3.5 people in 2006 and continues to climb reaching an impact of 5 people in 2007. The labor force impacts of the museum do not peak during the time period forecasted for this study, but the rate of growth slows as the forecast nears 2020. The final forecasted impact predicts the addition of 10.7 people to the region's labor force by the year 2020.

In addition to showing the museum's impacts graph 5.3.3 shows the labor force impacts that would occur because of the new Walgreens pharmacy in Weatherford. The impacts start in 2003 as the pharmacy is being built by adding 1.5 people to the labor force. This impact more than doubles in 2004 by increasing the regions labor force by3.8 people as construction finishes and operations start. In the first full year of operations in 2005 the Walgreens pharmacy would add 5.3 people to the regional labor force. The forecasted impacts continue to grow until the final year of the time period graphed where there are 12.4 new people in the labor force.

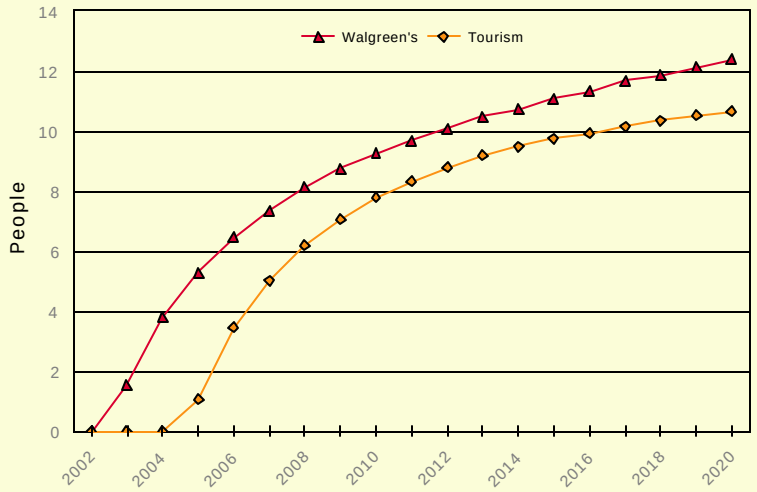
Imation's new plant expansion, the largest of the three scenarios, has its impacts graphed in the last graph in graph 5.3.3. The impacts caused by the Imation expansion start in 2002, when 13.2 people are added to the labor force as a result of the expansion. The impacts continue to expand in 2003 as construction finishes and operations start with the forecasts showing the labor force having 62.9 more people. This impact decreases in 2004 to 54.5 people.

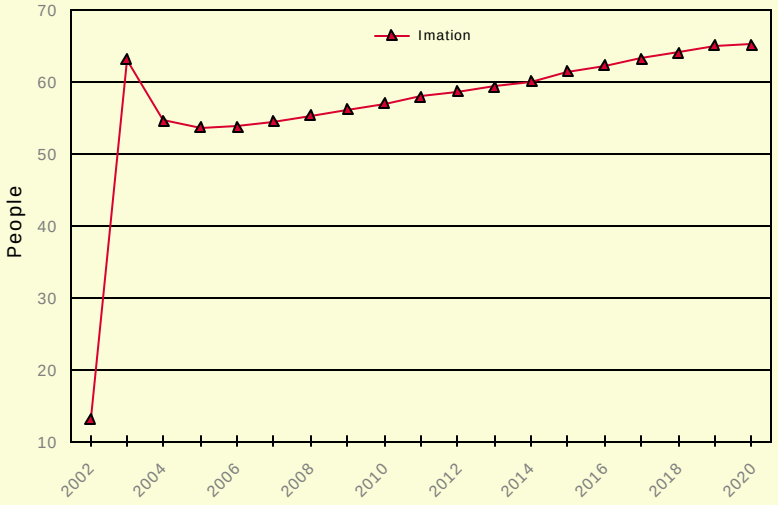
Even though the labor force impact has decreased from 2003 to 2004 the impact is still positive, which means that there are 54.5 more people in the labor force than there would be if the Imation plant expansion did not occur. This decrease is likely because of construction ending, which is labor intensive, resulting in a decrease as the plant transitions. The decline continues in 2005, before starting to increase again in 2006. In 2017, the impacts surpass the previous high of 62.9 by increasing the labor force by 63.1 people. The labor force impacts caused by the Imation expansion reaches 65 people in 2020, the last year of the time period graphed.

As with all the previous sections, the figures reported are net impact figures. That is, the labor force levels from the three scenarios were compared to the labor force levels from a control forecast and the difference between each scenario and the control forecast is the impact that scenario would have on the labor force. An example of this is shown in the table at the foot of graph 5.3.3 for the three scenarios in the year 2007.

Combined the three scenarios would add 67 people to the region's labor force by 2007 and 98 people by 2020.

Graph 5.3.3 Labor Force





Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	105,564 People	105,518 People	54.4 people
Walgreen's	105,564 People	105,471 People	7.3 people
Tourism	105,564 People	105,469 People	5.0 people
Total	105,564 People	105,531 People	66.7 people

5.3.4 SUMMARY OF BLOCK 3 ECONOMIC IMPACTS

In summary, the following effects should be expected to occur as a result of the growth in Weatherford:

- Net economic migration impact of 113 migrants from 2002-2020
- Population impact of 142.6 people by 2020
- Labor force impact of 97.9 people by 2020

The population and labor force impacts affect local and sate government spending (block 1), housing prices (block 4), consumption (block 1), employment opportunity (block 4), and wage rate (block 4).

5.4 ECONOMIC IMPACTS UPON WAGE, PRICE & COST VARIABLES

The fourth block of variables, wage, price and cost variables, provides the market clearing mechanism necessary to balance the supply (Block 3) and demand (Block 2) interactions occurring in order to produce the reported goods & services (Block 1). The variables contained within REMI's fourth block of variables include wage rates, composite input costs, consumer prices, housing prices, production costs, employment opportunity as well as several additional variables.

While there are changes in the economy's wage rates, prices, and costs, these changes are reported for the entire northwest Oklahoma economy. Since these variables are distruibuted over the entire economy, the reportable values are extremely small. For illustrative purposes, 2007 consumer prices are forecasted to be only three cents more expensive for $1,000 worth of consumer goods when the 2007 alternative forecast is compared to the 2007 control forecast. Therefore, instead of graphing the miniscule changes in the region's wages, prices and costs, we will report bridge variables that connect the region's wage rates to the real disposable income figures reported in section 5.1.3.

The first income variable that will be reported in the following section is labor & proprietor's income. This inome variable includes wages and salaries earned by the region's employed workers as well as income earned by sole proprietor's and partnerships. Income adjustments will need to be made to the labor and proprietor's income before arriving at personal income. Dividends, interest, and rental income are examples of income that are usually positive income adjustments. Social insurance contributions include contributions to unemployment insurance and medicare and represent negative income adjustments. However, whenever social insurance contributions increase, it usually means that the economy's employment or income is increasing as well.

After making all of the income adjustments to labor & proprietor's income, the resulting income figure is equal to personal income. Personal income minus income taxes is equal to disposable persoanl income.

5.4.1 PROPRIETOR'S & LABOR INCOME

Proprietor's & labor income is equal to the sum of wage & salary disbursements plus proprietor's income. The definition for each of these two components accompanies this section.

The economic impact upon labor & proprietor's income totals $1.973 million in 2002 - all of which is attributable to the first year's construction of the expanded Imation facility. Of that amount, wage & salary disbursements account for 64.8% (or $1.279 million) of the total, and proprietor's income accounts for the remaining 35.2% (or $0.694 million) of the total.

The economic impacts upon labor & proprietor's income increases dramatically to $9.733 million in 2003 due to the last construction year of the Imation expansion, the beginning of operations at the expanded Imation facility, and the first year of Walgreen's construction. However, as can be seen from the accompanying area graph, most of the Impacts in 2003 are attributable to Imation.

In 2004, the economic impacts upon labor & proprietor's income are expected to decrease since the construction impact end for the expanded Imation facility. The impact upon labor & proprietor's income is projected to be $5.604 million in 2004 with wage & salary disbursements accounting for 86.3% of the total and proprietor's income accounting for the remaining 13.7%. After the construction phase of the Imation project, the share of proprietor's income decreases as a proportion of total labor & proprietor's income.

Between 2005 and 2020 the economic impacts of the three Weatherford projects upon labor & proprietor's income increases from $6.138 million to $10.970 million. As can be seen from the accompanying area graph, Imation's income impacts account for the greatest share of the total income impacts (83.1% of the total in 2007).

Over the entire modeled time frame, 2002-2020, the three Weatherford projects total economic impact has an unadjusted sum of $152.360 million and a net present value of $73.403 million.

Wage & Salary

This is a BEA concept; the monetary remuneration of employees, including the compensation of corporate officers, commissions, tips & bonuses, and receipts-in-kind that represent income to the recipient.

Affected By

Wage Rate, Employment (Block 2)

Affecting

Personal Income

Proprietor's Income

This is a BEA concept; the income, including income in-kind, of sole proprietorships, partnerships and tax exempt cooperatives. It also includes employer contributions to private pension and private welfare funds, including privately administered worker's comp funds.

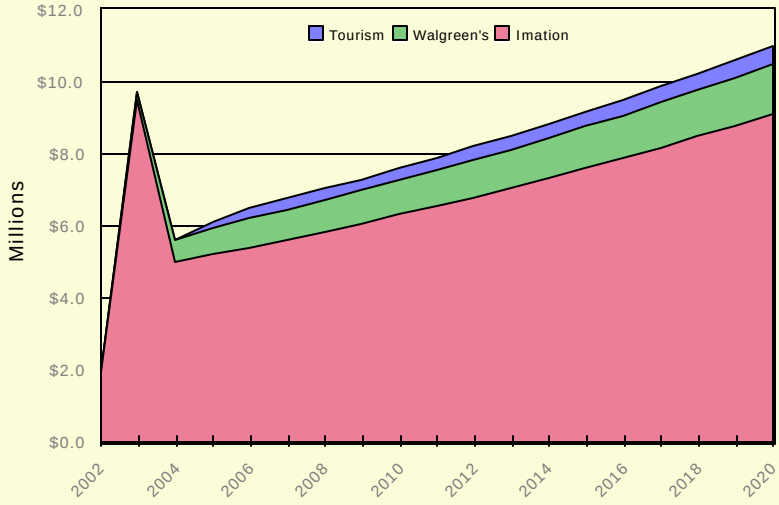
Affected By

Wage Rate, Prices, Costs

Affecting

Personal Income

Graph 5.4.1 Proprietor's & Labor Income



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	$4.381 Billion	$4.386 Billion	$5,614,000
Walgreen's	$4.381 Billion	$4.3818 Billion	$839,700
Tourism	$4.381 Billion	$4.3813 Billion	$301,800
Total	$4.381 Billion	$4.387 Billion	$6,755,500

5.4.2 INCOME TAXES

As will be recalled, income taxes are subtracted from personal income to arrive at disposable personal income. However, personal income is not equal to the labor & proprietor's income impacts reported in the previous section. Calculating personal income requires adding other sources of income, dividends, rent, and interest income for example, and subtracting social insurance contributions.

For information purposes, the net present value of interest, dividends and rental income totals $9.995 million over the entire time frame. These positive adjustments to income are surpassed by income adjustments that must be subtracted from labor & proprietor's income. The net present value of social insurance contributions, net residential adjustments and transfer payments equals $10.750 million.

Beginning in 2002, the economic impact of the first year's construction of the Imation facility increased income tax collections by an estimated $271,000. Income tax impacts are projected to increase to $1.344 million in 2003 with more economic activity and employment occurring in 2003.

The economic impacts upon income tax collections decrease again in 2004 to $778,000 since most of the construction projects have ended. As is evident from the accompanying area graph, the economic impact upon income tax collections are projected to increase steadily through the end of the modeled time frame and are projected to reach $1.556 million in 2020.

Most of the economic impacts upon income tax collections are attributable to the Imation expansion. Evidence of this may be viewed not only by the relative proportions in the area graph, but also with the table accompanying the area graph. In 2007, the REMI model's control forecast for income tax collections equals $781.0 million in the area's economy. This is the amount that is projected to occur if there are no changes in the area's economy. Given the addition of the three Weatherford projects to the area's economy, the REMI model's alternative forecast totals almost $782.0 million. Therefore the economic impact of the three combined Weatherford projects would be almost one million ($943,000) in 2007. Of that amount, the Imation expansion would account for 83.0% (or $783,000) of the increased income tax collections occurring in the area's economy.

Over the modeled time frame, the three Weatherford projects' economic impact upon income taxes have an unadjusted sum of $21.437 million and a net present value of $10.292 million. These economic impacts upon income taxes would not occur if the new growth in Weatherford were not occurring.

Taxes

BEA concept of personal income taxes, which when subtracted from personal income, results in disposable income. Includes federal, state and local income taxes.

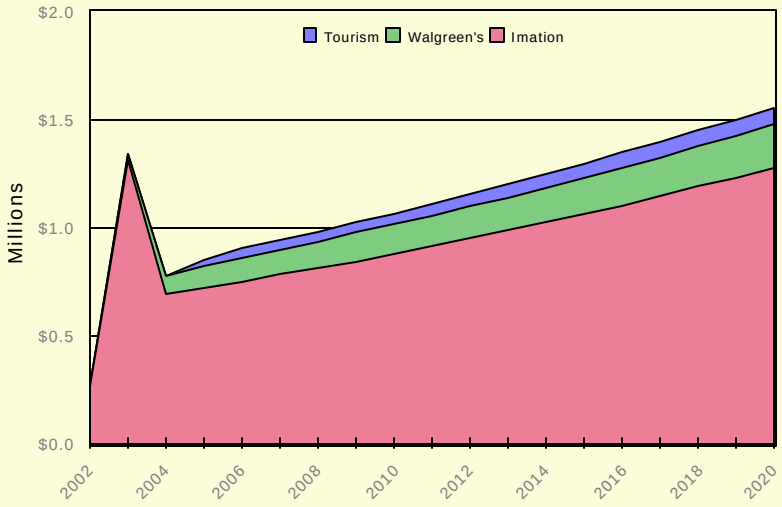
Affected By

Personal Income

Affecting

Real Disposable Income (Block 1)

Graph 5.4.2 Income Taxes



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	$781.0 Million	$781.7 Million	$783,800
Walgreen's	$781.0 Million	$781.1 Million	$115,900
Tourism	$781.0 Million	$781.04 Million	$43,390
Total	$781.0 Million	$782.0 Million	$943,090

5.4.3 DISPOSABLE PERSONAL INCOME

Disposable personal income represents the amount of income received by the area's working population that can be spent or saved. The only difference between the disposable personal income figure reported in this section with the real disposable personal income figure reported in section 5.1.3 would be accounting for the expected effects of inflation over the modeled time frame.

As with many other impacts, the impact upon disposable personal income starts slowly in 2002 ($1.441 million), peaks in 2003 ($7.197 million), dips in 2004 with end of theconstruction impacts ($4.525 million) and gradually increases through the remaining time period. By 2020, the economic impact of the three Weatherford projects is forecasted to grow to $9.854 million.

Each of the three Weatherford projects have been modeled to be operational in 2007, and therefore have no associated construction impacts. The 2007 REMI control forecast equals $5.749 billion for disposable personal income while the 2007 alternative forecast totals $5.755 billion. The 2007 economic impact of the three Weatherford projects upon disposable personal income is projected to be about $5.576 million.

Regarding the 2007 total economic impact upon disposable personal income in the area's economy, the impacts resulting from the Imation expansion are projected to account for 83.7% of the total disposable personal income impacts. Similarly, the impacts resulting from Walgreen's are projected to account for 12.3% of the disposable personal income impact, while the remaining 4.0% of the impacts would result from the tourism associted with the new museum.

The economic impacts of the three Weatherford projects are projected to have an unadjusted sum of $130.170 million over the modeled time frame. Given this unadjusted figure, the average yearly impact of the combined Weatherford projects would be about $6.85 million. Associated with this unadjusted sum, is a net present value of $61.479 million. The additional disposable income created by the combined Weatherford projects benefits local retail and service-oriented businesses by increasing consumption spending (section 5.1.2a).

Disposable Income

Disposable income is equal to personal income minus taxes. Reported as a nominal dollar concept.

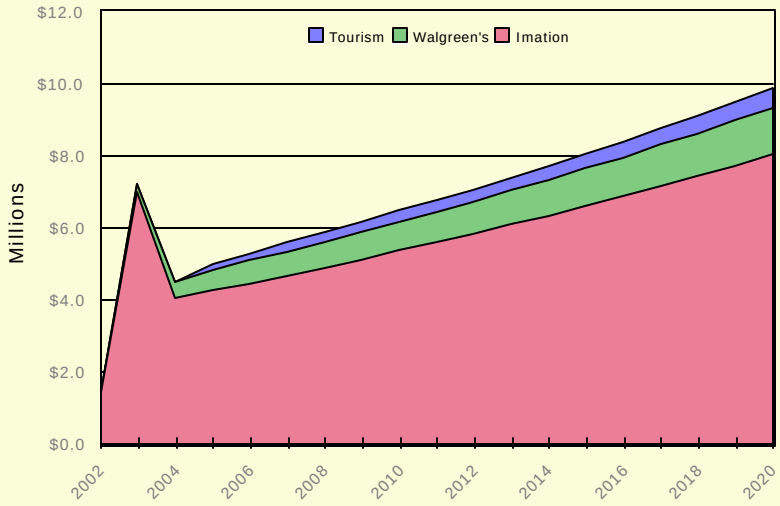
Affected By

Personal Income, Taxes

Affecting

Real Disposable Income (Block 1)

Graph 5.4.3 Disposable Personal Income



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imation	$5.749 Billion	$5.754 Billion	$4,665,000
Walgreen's	$5.749 Billion	$5.750 Billion	$685,200
Tourism	$5.749 Billion	$5.7492 Billion	$225,500
Total	$5.749 Billion	$5.755 Billion	$5,575,700

5.4.4 SUMMARY OF BLOCK 4 ECONOMIC IMPACTS

In 2007, some of the economic impacts of the combined Weatherford projects were forecasted to:

- Increase Labor & Proprietor's Income by $6.756 million in the area's economy
- Increase income tax collections by $0.944 million in the area's economy
- Increase disposable personal income $5.756 million in the area's economy

Similar to other monetary impacts reported in previous sections of this report, the impacts reported in this section accumulate over time. The combined Weatherford projects were forecasted to:

- Impact the regional economy's labor & proprietor's income by an NPV of $73.403 million
- Impact the regional economy's income tax collections by an NPV of $10.292 million
- Impact the regional economy's investment spending by an NPV of $61.479 million

The impacts listed above have been influenced by the employment impacts previously discussed and impact real disposable income and consumption spending.

5.5 ECONOMIC IMPACTS UPON MARKET SHARE VARIABLES

Block 5 in the REMI model is a very small block with only two place-holder variables. These two variables, "share of domestic market" and "share of international market" are market share ratios that affect the study region's "output for domestic market" and "international exports". The market share variables are both affected by the "changes in quantity of supply" variable in block one and "the changes in delivered costs relative to competitor's and other regions delivered prices" variable from block 4. What will be reported in this section are the imports and exports rather than the ratios themselves. Exports is reported because the share of international market variable has a direct relationship with exports. Imports is reported because it is logical to report imports with exports and "share of domestic market" has an indirect relationship with imports.

5.5.1 REGIONAL IMPORTS

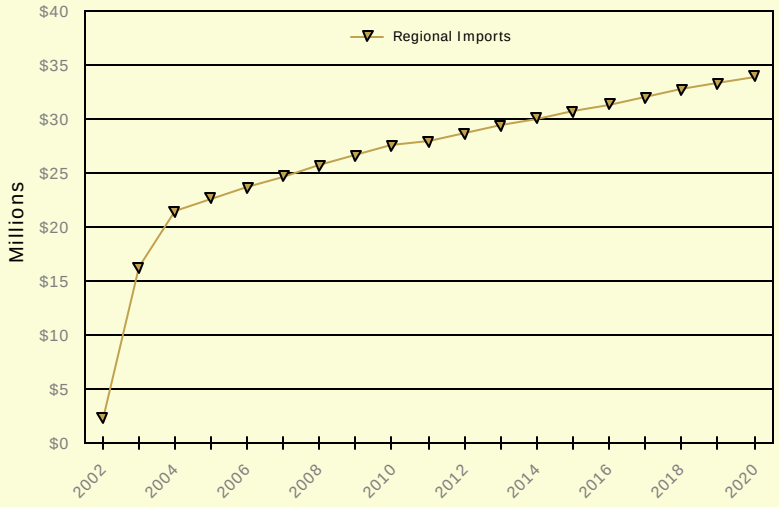
As stated above imports are directly affected by production costs (block 4), and the change in quantity supplied (block 1).

The reason for this is that as the region's production costs increase, all things being equal, imports will increase because the price of local goods will have increased and that makes the imported goods more attractive to the consumer. The opposite occurs if the region's production costs decrease. An increase in the quantity supplied locally would also increase the region's share of its own markets. Again the opposite would occur if the quantity supplied locally decreases. Imports also affect net exports given the fact that net exports equals exports minus imports.

As a result of Weatherford's growth regional imports are forecasted to be impacted as shown in graph 5.5.1. Import impacts start off at $2.26 million in 2002 and then increase rapidly to $16.24 million in 2003. This is to be expected as a majority of the construction activity is scheduled to occur in 2003. In 2004, imports push past $20 million to reach $21.42 million as construction activity slows down. Import impacts continue to grow at a steady pace, averaging growth of $0.78 million per year from 2005-2020. Regional import impacts as a result of Weatherfords growth are forecasted to be $33.92 million at the end of the forecasted period in 2020.

The Net Present Value (NPV) will be used to compare the import impacts to the export impacts. A discount rate of 7.5% will be used in the calculation. The NPV of the import impacts as a result of Weatherford's growth from 2002-2020 is $236.95 million.

Graph 5.5.1 Regional Imports



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Total	$9.233 Billion	$9.258 Billion	$24.7 Million

Imports

The amount of goods and services produced outside the area and consumed locally; a component of demand. A proxy variable for the share of the domestic market captured by a geographic region.

Affected By

Production Costs (Block 4), Change in Quantity Supplied (Block 1)

Affecting

Net Exports (with imports)

5.5.2 EXPORTS TO REST OF OKLAHOMA

Exports are simply the goods and services that are sent out of the local region. For this study, exports include goods and services sent to the rest of Oklahoma, the rest of the nation, and the rest of the world. Exports are affected by the same variables that imports are affected by, production costs (block 4) and change in quantity supllied (block 1).

Lower production costs, with all other things being equal, results in greater exports because the region's goods and services become more competitive. Of course the opposite is also true, higher production costs ceterus paribus, will result in lower exports.

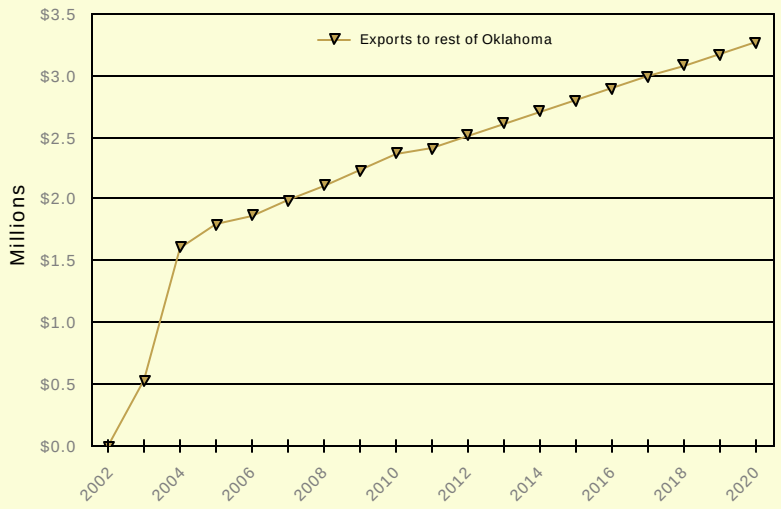
Exports in turn affect net exports and output. Net exports is simply the sum of exports minus the sum of all imports. Higher exports equal greater regional output as well as greater net exports. Given the growth in Weatherford, one would expect export impacts to grow as well.

Graph 5.5.2 shows the impacts that Weatherford's growth would have on the region's exports to the rest of Oklahoma. In 2002, the impact on exports to the rest of Oklahom is negligable; amounting to $0.53 million. The impacts jump in 2004 to $1.60 million as construction ends on the new Walgreens pharmacy and the Imation plant expansion's production reaches full capacity.

After 2004, the impacts on export growth averages $0.1 million a year. Impacts on exports to the rest of Oklahoma are expected to reach $3.26 million in 2020.

As with imports, a net present value was caculated for the value of exports. The NPV of the impacts on exports to the rest of Oklahoma from 2002-2020 was calculated to be $19.41 million using a discount rate of 7.5%. This will be added to the NPVs of the other export categories covered in the following two sections and then compared to the NPV of the import impacts from section 5.5.1.

Graph 5.5.2 Exports to rest of Oklahoma



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Total	$795.0 Million	$797.0 Million	$2.0 Million

Exports

The amount of local production exported out of the local region, i.e. to the rest of the US and the rest of the world. A proxy variable for the share of the international market captured by a geographic region.

Affected By

Production Costs (Block 4), Change in Quantity Supplied (Block 1)

Affecting

Net Exports (with imports), Output

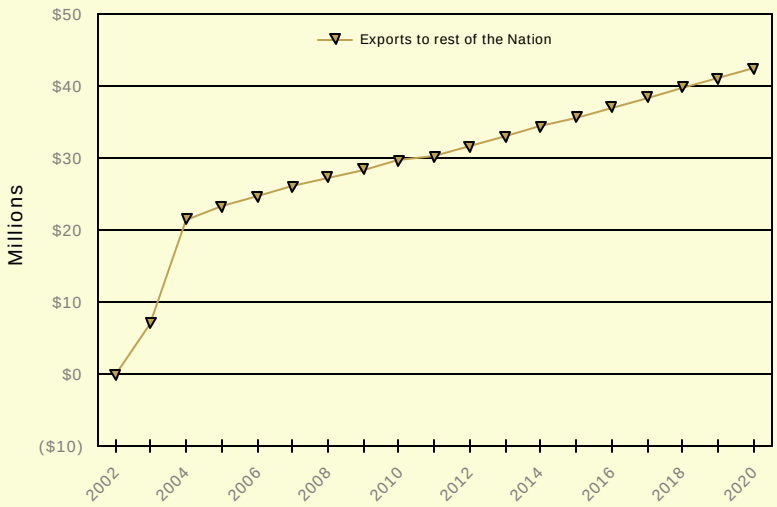
5.5.3 EXPORTS TO REST OF NATION

Exports to rest of nation, the second export category, accounts for a much greater portion of the region's exports. This stands to reason as the rest of the nation is a much larger area than the rest of Oklahoma. Graph 5.5.3 shows the impacts that Weatherford's growth would have on the region's exports to the rest of the nation.

Starting in 2002, the impacts on exports to the rest of the nation are actually negative. Once activity at the Imation plant expansion starts in 2003 the impacts on exports rise to $6.96 million. This jumps even higher in 2004, with the impact reaching $21.39 million. From 2005 to 2020 the average impact growth that the new developments in Weatherford would have on exports is $1.31 million per year. The impact in 2020 is forecasted to be $42.35 million.

The NPV of the impacts on exports to the rest of the nation from 2002-2020 were calculated to be $249.40 million using a discout rate of 7.5% Impacts of exports to the rest of the nation outweigh the impacts from imports. Combined with the impacts of the exports to the rest of Oklahoma and exports to the rest of the world there should be a healthy margin between the impacts of exports and the impacts of imports.

Graph 5.5.3 Exports to rest of Nation



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Total	$7.855 Billion	$7.881 Billion	$26.0 Million

As in the previous sections, all the figures reported here are net impact figures. The control forecast shows that exports to the rest of the nation should be $7.855 billion in 2007 all things being equal. This compares to the $7.881 billion in exports to the rest of the nation projected in the alternative forecast where the new museum, Walgreen's pharmacy, and Imation plant expansion are factored in. The difference between the two is equal to the economic impact of $26.0 million as shown in the table.

5.5.4 EXPORTS TO REST OF WORLD

Exports to the rest of the world are the last category of exports that will be discussed. Graph 5.5.4 shows export impacts from this category starting out in 2002 at $4.99 million. This figure jumps to $22.35 million in export impacts in 2003, before droping $7.42 million in 2004. The Impact on exports to the rest ot the world as a result of Weatherford's growth continue to increase until 2011 when it hits a smaller peak at $10.18 million. It then drops off to $9.16 million in 2020 the last year graphed.

The large spike in 2003 is due to the construction of the Imation expansion. In the REMI model, the construction of the Imation facility was handled by increasing the area's construction sales. The result of this is for the model to increase the local area's sales, but to assume that the actual construction activity to occur elsewhere.

Calculating the NPV of the impacts from 2002-2020 using a discount rate of 7.5% gives a result of $97.88 million.

Graph 5.5.4 Exports to Rest of the World

Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Total	$954.0 Million	$963.0 Million	$8.6 Million

5.5.5 SUMMARY OF BLOCK 5 ECONOMIC IMPACTS

In conclusion, the growth taking place in Weatherford will have a definate impact on net exports for the northwest region of Oklahoma. A summary of the impacts on imports and exports are as follows:

- NPV of $236.95 million in Imports
- NPV of $19.41 million in Exports to the Rest of Oklahoma
- NPV of $249.4 million in Exports to the Rest of the Nation
- NPV of $97.88 million in Exports to the Rest of the World
- Net NPV of $366.69 million for all Exports
- NPV of $129.74 million for Net Exports

6.1 IMPLICATIONS OF THE ECONOMIC DEVELOPMENT

Opportunities exist in analyzing data, and one of the benefits of using the REMI model is the detailed data that it provides. This detailed data could assist state and local officials to plan for the forecasted growth expected to occur as a result of the previously modeled situations. Every variable reported in section 5 relates future, positive economic impacts that are projected to occur as a result of the three Weatherford projects. Isolating some of the impacts can help state and local officials plan for the implications of this forecasted growth. Two examples using the forecasted employment impacts as well as additional derived information of the combined Weatherford projects will be presented in this section.

As a general example of how educators could use the forecasted data, the 2007 employment impacts of the combined Weatherford projects are expected to create an additional 137 jobs in the regional economy. Given this information, and more detailed information provided by the REMI model regarding occupational impacts, the university and vo-tech could plan classes, seminars, and/or continuing eductaion courses to train the labor force. Providing the labor force with the means to obtain the required skills of the new jobs is one method that educators can plan for expected growth.

A more detailed example regarding the increased demands placed upon highway/road infrastructure follows. This example uses the same employment forecasts that were used in the general example above as well as the number of toursists and a derived number of customers.

Each of the three Weatherford projects is located in the proximity of Exit 82 at the intersection of Main St. and Washington in Weatherford. This means that most of the increased economic activity is occurring in a defined area., which also means that there will be additional demands placed on existing infratsructure located in that defined area. State and local transportation officials could use this data to plan for the increased demands placed upon the highway/road infrastructure in the vicinity of the increased economic activity.

Three factors fuel the increased economic activity occurring in the defined area around Exit 82. They are the employment impacts, the tourism resulting from the Heartland of America Heritage Center, and the customers attracted to the Walgreen's retail pharmacy.

The combined employment impacts of the three Weatherford projects are forecasted to increase by 137 jobs in 2007. If the newly employed people use Exit 82 and/or the intersection around Exit 82 for commuting purposes, then the traffic count in the area could increase between 68,500 vehicles/year and 137,000 vehicles/year (assuming 250 work days in the year). This represents increased traffic solely attributable to the increased employment, and does not take into account increased traffic from customers (Walgreen's pharmacy) or tourists (Heartland of America Heritage Center).

The number of tourists/day mentioned in section 3 is a count attributable to Elk City, which reported an average of three buses/day visiting their museum. If three buses/day visit the Heritage Center, then the traffic count attributable solely to the buses could increase the traffic count by 2,100 vehicles/year (assuming 350 days of operation). This assumes that none of the tourists use their own vehicles to visit the Heartland of America Heritage Center, which provides a more conservative estimate regarding traffic count. Obviously, the traffic count attributable to tourists would increase for Exit 82 if there were a mix of family vehicles and bus tours.

Similarly, the traffic count in the vicinity of Exit 82 attributable to Walgreen's customers could be substantial. Walgreen's reports that yearly sales at their average retail location equals $7.1 million. The National Institute for Health Care Management (NIHCM) Foundation reports that the average price of a prescription drug bought at a retail pharmacy equaled $49.84 in 2001. The average daily customer count at the Weatheford Walgreen's could equal 389 people if two assumptions are made regarding average annual sales and the average sale. The first assumption is that the Weatherford Walgreen's will achieve average annual sales of the average Walgreen's location ($7.1 million). The second assumption is that the average sale equals $50, which is roughly equivalent to the average prescription sale. With 389 customers, the traffic count in the proximity of Exit 82 would increase by 283,970 vehicles/year.

Total increased traffic count attributable to the three Weatherford projects (employees, tourists, and retail customers) could be between 354,570 vehicles/year and 423,070 vehicles/year.

As mentioned at the beginning, opportunities exist in data, and a SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) can be performed using not only the economic impact information provided by the REMI model, but also other available information.

Performing a SWOT analysis involves identifying the strengths and weaknesses internal to an organization, or in this case the community of Weatherford, and identifying external opportunities and threats.

As it relates to transportation and economic growth, one of Weatherford's strengths would be that it is growing and is capable of further growth. One possible weakness for the community would be the constraints that it has for growth, primarily growth to the south of I-40. Limited access to the south of I-40 limits the economic growth that the community could experience.

One of the opportunities available to Weatherford to take advantage of would be to facilitate the economic growth projected to occur (in section 5 of this report) by improving the traffic situation in the proximity of Exit 82. This could be accomplished by improving Exit 82 and access south of Weatherford. Not only would this improve access for employees to their job locations, but it would also improve access of tourists to the Heartland of America Heritage Center and improve customer access to Walgreen's. Furthermore, this could also make access south of I-40 easier, which would permit economic development opportunities for the city of Weatherford south of the interstate.

Completeing the SWOT analysis, one possible threat faced by the community could be by doing nothing to improve access south of I-40. Most of the economic growth projected to occur as a result of the three projects will occur in the vicinity of exit 82. This area has shown that it is capable of growth. By not improving access south of I-40, the community's future economic development would be constrained.

Whereas section 5 reported the economic impacts of projects that are occurring or will occur in Weatherford, the next section, section 7, models the impacts of the construction of Exit 82 and of three medium-sized retail establishments locating south of the interstate. These are impacts that would only occur if Exit 82 and access south of the interstate were improved.

Regarding the construction of Exit 82, the assumptions for the REMI model are that it costs $7.5 million, and will be constructed between 2005-2006.

Regarding the three retail establishments, they are assumed to employ 10 people each (30 people total), will cost $300,000 each ($900,000 total) for construction, and will be constructed over the same two years as Exit 82. We believe that the impacts resulting from this development is conservative since the retail sector does not have as great as an impact as other industries.

7.1 GROSS REGIONAL PRODUCT

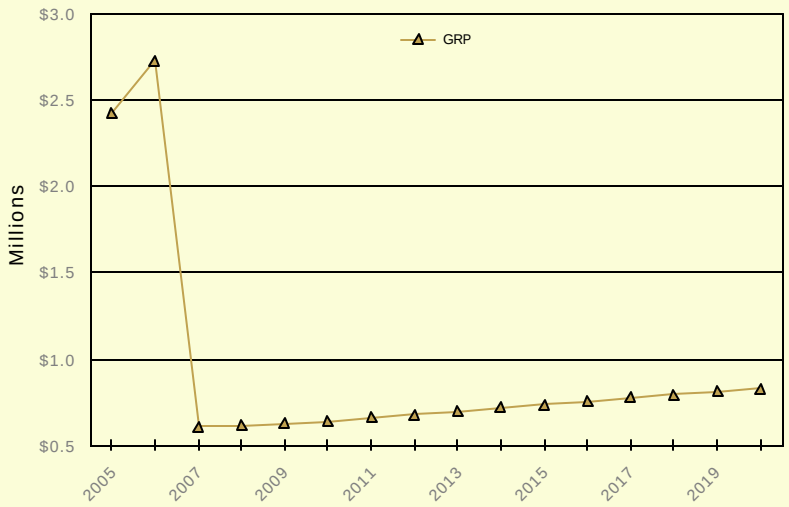
Gross Regional Product (GRP), the regional equivelant of Gross Domestic Product (GDP), is a value measure used to quantify all the final goods and services produced in the region. A more detailed definition and explanation of the method used to calculate GRP is given in section 5.1.1.

Graph 7.1.1 shows the impacts that the Exit 82 project and the new retail stores would have on northwest Oklahoma's GRP. The graph starts in 2005 when construction on exit 82 is expected to begin. The economic impacts on GRP for this first year are forecasted to be $2.42 million. In 2006, the final year of road construction, the economic impacts on GRP are predicted to be $2.73 million.

In 2007, there is a dramatic drop in the region's GRP impacts from $2.73 million to $0.61 million as the retail stores start operations. In the second year of operations in 2008, the impact increases to $0.62 million. The retail stores impact on GRP continues to grow at a slightly increased rate until the end of the graph in 2020 when it reaches $0.83 million.

The unadjusted sum of the impacts is $15.14 million and the average yearly impact is $0.95 million. The Net Present Value (NPV) of the GRP impacts cuased by the exit 82 construction and the new retail stores from 2003-2020 is $8.40 million using a discount rate of 7.5%.

Graph 7.1 Gross Regional Product



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
GRP	$8.409 Billion	$8.410 Billion	$.609 Million

7.2 REGIONAL OUTPUT

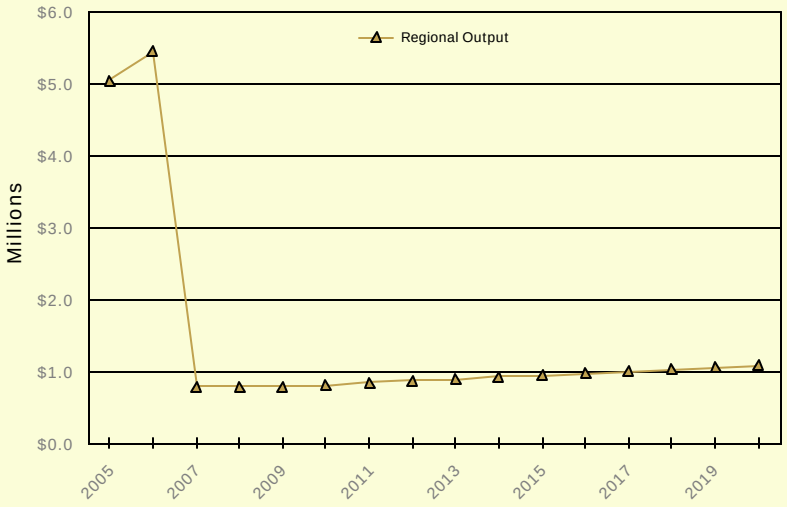
Regional Output, Gross Regional Product plus the value of intemediate goods and services, is an important indicator of the regional economy. A more thorough analysis of what Regional Output is and how it interacts with the other REMI variables is given in section 5.1.2. The reader is encouraged to read section 5.1.2 before reading this section.

Output impacts start out just above $5.04 million in 2005 as construction begins on exit 82 and the new retail stores. This impact rises to $5.44 million in 2006 as construction on both projects finishes. These output impacts are more than double what the GRP impacts were forecasted to be during 2005 and 2006. The difference between regional output and GRP can be attributed to intermediate goods.

In similar fashion to GRP impacts the output impacts fall by over $4 million in 2007, ending up at $0.80 million. After 2007, impacts on output are relatively stable at $0.80 million until 2011 when the impacts start to slowly increase. These increases continue until the end of the graph in 2020 when impacts on output reach $1.08 million.

The unadjusted sum of the forecasted output impacts is $23.36 million. Average regional output impacts were forecasted to be $1.46 million from 2005 to 2020. Perhaps a better way to make a comparison between impacts is to use net present value (NPV). The NPV of the output impacts from 2003 to 2020 is $13.81 million using a discount rate of 7.5%.

Graph 7.2 Regional Output



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Regional Output	$13.656 Billion	$13.656 Billion	$.080 Million

7.3 REAL DISPOSABLE INCOME

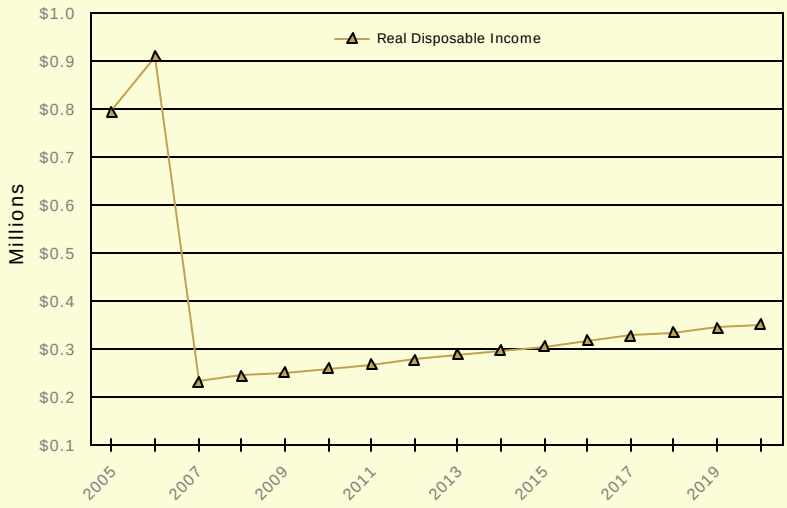
Real Disposable Income is the final output variable that will be covered in this section. Simply defined real disposable income is the amount of income people have leftover after paying taxes, social insurance, and recieving dividends, rents, and transfer payments.

The impacts on real disposable income start out at $0.79 million in 2005 when construction begins on exit 82 and the three new retail stores. As construction continues in 2006, the impacts on real disposable income peak at $0.91 million.

As with all the other output variables, real disposable income declines in 2007 after construction ends and the new retail stores open for business. In this case the impacts drop by just under $0.7million to hit $0.23 million in 2007. Real disposable income then resumes small growth reaching $0.30 million in 2014. This growth continues until the end of the time period graphed when the impacts on the region's real disposable income reaches $0.35 million in 2020.

The un-adjusted sum of the real disposable income impacts is $5.80 million. The average real disposable income impacts from 2005 to 2020 is $0.36 million. The NPV of the impacts from 2003 to 2020 is $3.11 million using a discount rate of 7.5%.

Graph 7.3 Real Disposable Income



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Real Disposable Income	$3.964 Billion	$3.964 Billion	$.232 Million

7.4 SUMMARY OF BLOCK 1 ECONOMIC IMPACTS

The impacts of the proposed exit 82 project and the retail stores are as follows:

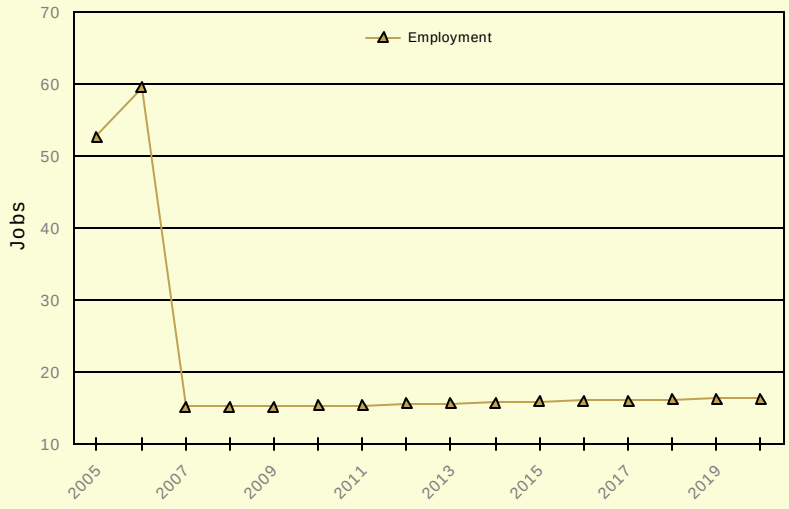
- Average yearly impact on GRP from 2005-2020 of $0.95 million
- NPV of GRP impacts from 2003-2020 equal to $8.40 million
- Average yearly impact on Output from 2005-2020 of $1.46 million
- NPV of Output impacts from 2003-2020 equal to $13.81 million
- Average yearly impact on Real Disposable Income from 2005-2020 of $0.36 million
- NPV of Real Disposable Income impacts from 2003-2020 equal to $3.11 million

7.5 EMPLOYMENT

For a more detailed explanation of employment please see section 5.2. Employment impacts start off above 50 jobs in 2005 with 52.6 more people employed as construction starts for both the exit 82 project and the new retail stores. This increases by roughly 7 people to reach 59.4 jobs in 2006 when construction for both projects finishes.

In 2007, there is a 44.2 job impact decrease as the employment impacts fall to 15.2 jobs. There is little variation between the impacts in 2007 and the last impacts graphed in 2020 when the forecast shows an impact of 16.3 jobs for the region.

Graph 7.5 Employment



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Employment	139,059 Jobs	139,074 Jobs	15.2 Jobs

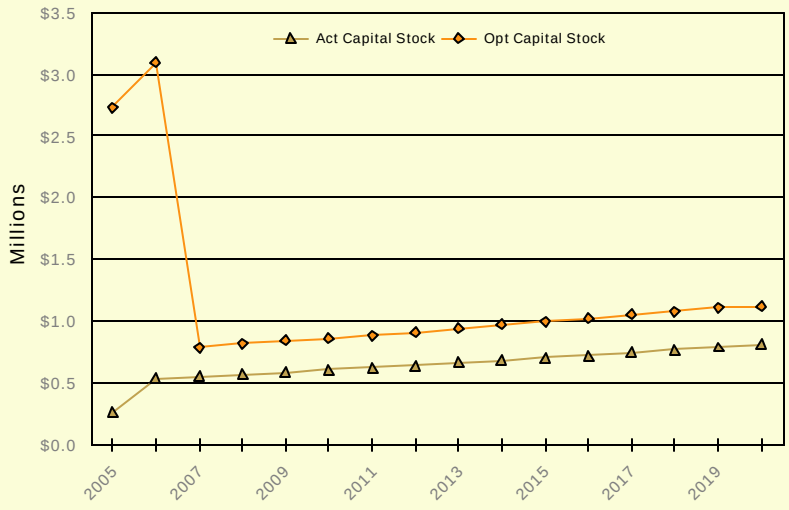
7.6 CAPITAL STOCK

The impacts on capital stock are divided into residential and non-residential capital stock. Graph 5.1.2 shows residential capital stock.

Optimal Capital Stock impacts start at $2.73 million in 2005 as construction starts. In 2006, optimal capital stock jumps above the $3 million mark peaking at $3.10 million as construction on exit 82 and the retail stores finish. Impacts on optimal capital stock then drop to $0.79 million in 2007 as the retail stores open for business. After the one year declines optimal capital stock stabalizes and is forecasted to modest growth until the end of the period graphed when the impacts reach $1.12 million.

Actual capital Stock impacts show gradual growth over the whole period graphed. The impacts start out at $0.27 million in 2005 before jumping to $0.54 million in 2006. After 2006, the growth of the impacts on actual capital stock are minimal, but consistent until the end of the graph in 2020 where the impacts reach $0.81 million.

Graph 7.6 Capital Stock



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Residential Capital Stock	$10.150 Billion	$10.151 Billion	$.787 Million

7.7 SUMMARY OF BLOCK 2 ECONOMIC IMPACTS

Block 2 impacts that are expected to occur as a result of the exit 82 project and the opening of three new retail stores are as follows:

- 16.3 more jobs by 2020
- $0.81 million in increased capital stock by 2020

7.8 ECONOMIC MIGRATION

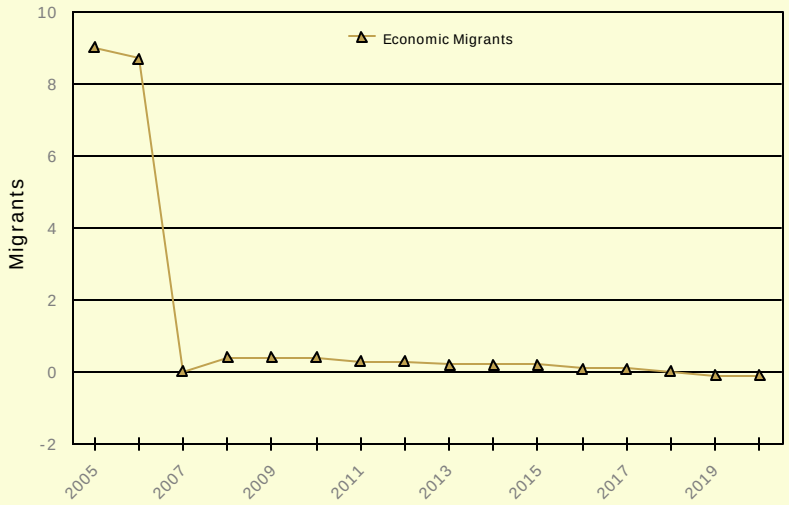
The increased economic activity occurring as a result of the construction of both projects serves to attract economic migrants to the area. These economic migrants will be shown to increase the area's population in the next section.

In 2005, the increased economic activity evidenced with block 1 variables is projected to attract an additional 9 economic migrants to the regional economy. In 2006, the economic impacts upon economic migration subsides slightly decreasing to about 8 economic migrants.

After the construction of Exit 82 and the three medium-sized retail establishments, the net economic impacts upon economic migration become negligible.

The operation of the three medium-sized retail establishments does not serve to attract net additional economic migrants to the area's economy. This is observeable, not only from the accompanying graph, but also from the accompanying table. In 2007, the REMI model projects economic migration to total 145 economic migrants in both the 2007 control forecast and the 2007 alternative forecast. This means that the economic impact of the operations of the three medium-sized retail establishments would not have much of an impact upon economic migration.

Graph 7.8 Economic Migrants



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Economic Migrants	145 Migrants	145 Migrants	0 Migrants

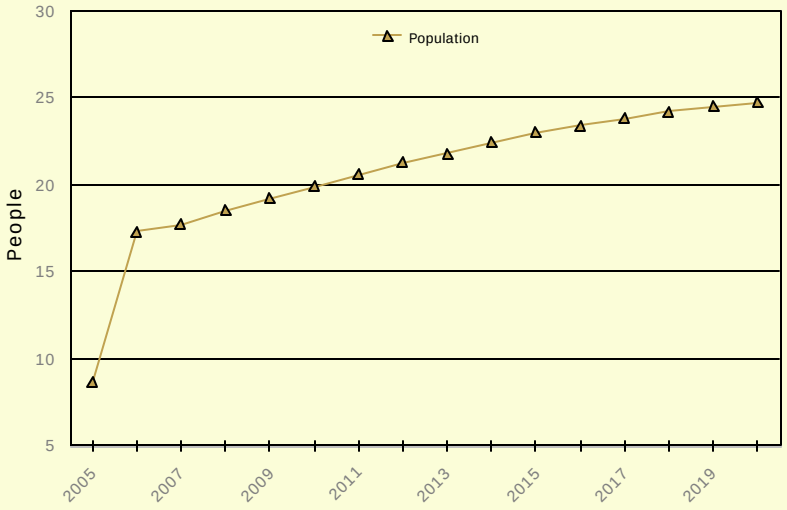
7.9 POPULATION

Most of the population impacts are attributable to increased economic migration to the area.

In 2005, the REMI model projects the economic impact of the construction of Exit 82 and the three medium-sized retail establishments to increase the area's population by nine people, which is the same number of economic migrants attracted to the area. As can be seen from the accompanying graph, the population impacts are projected to increase sharply in 2006, when the total population gain is projected to total 16 people.

The rate of population growth is projected to decrease between 2007 and 2020. By 2020, the economic impacts upon total population are forecasted to increase the area's population by 25 people. Compared to the economic migration variable. the impacts upon population are greater due to an increase in the number of births.

Graph 7.9 Population



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Population	205,772 People	205,790 People	17.7 People

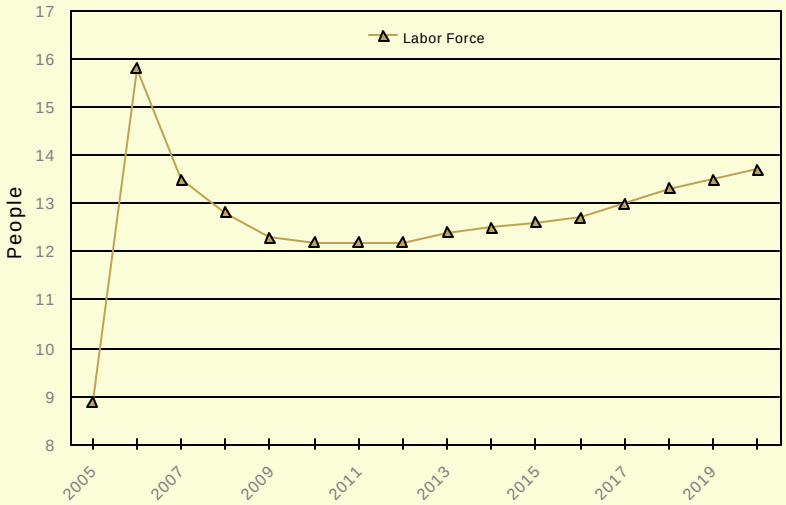
7.10 LABOR FORCE

Economic migrants are attracted to the area's economy for the increased job opportunities it offers relative to other regional economies. When these economic migrants enter the area's economy, they are also increasing the area's labor force.

In 2005, the area's labor force is projected to increase by 9 people as a result of the increased job opportunities to construct Exit 82 and the three medium-sized retail establishments. in 2006, the area's labor force is projected to increase an additional eight people for a total gain of 16 people to the area's labor force.

By 2007, the area's labor force is forecasted to decrease to about 14 people. The decrease is attributable to the end of the construction phase for both projects, and that some of the people either (1) remain in the area but leave the labor force or (2) leave the area for job opportunities elsewhere.

Graph 7.10 Labor Force



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Labor Force	105,531 People	105,545 People	13.5 People

7.11 SUMMARY OF BLOCK 4 ECONOMIC IMPACTS

In summary, the following economic impacts should be expected to occur as a result of the growth in Weatherford:

- A cumulative net economic migration impact of 20 people from 2005-2020
- A net population increase of 25 people by 2020
- A labor force impact of 14 people by 2020

7.12 PROPRIETOR'S & LABOR INCOME

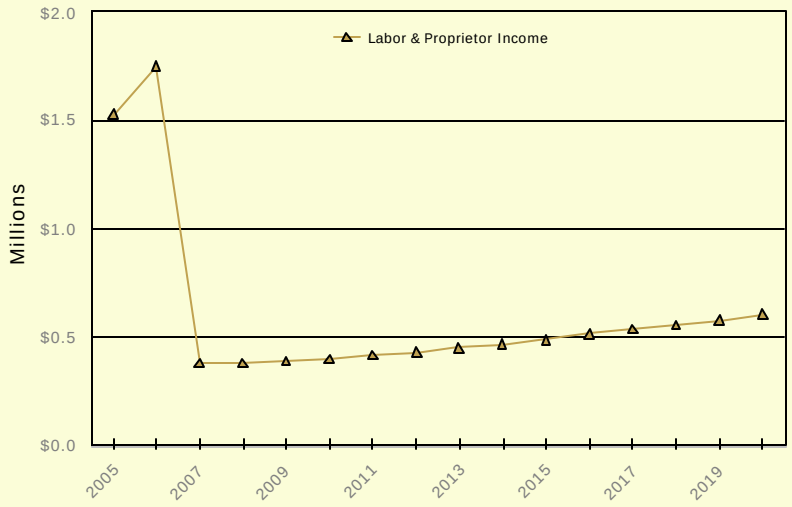
The same bridge variable reported with the first scenario will also be reported with this scenario's bridge 4 variables beginning with proprietor's & labor income.

In 2005, the combined economic impacts of both the construction of Exit 82 and the construction of three medium-sized retail establishments is forecasted to total $1.528 million. In 2006, these impacts are projected to rise to $1.749 million.

After the construction of Exit 82 and the three retail establishments, the economic impacts decline to $375,000 in 2007. All of the economic impacts after 2007 are attributable to the operations of the three mediaum-sized retail establishments. By 2020, the economic impacts upon proprietor's & labor income are projected to increase to $604,000.

The unadjusted sum of these impacts upon proprietor's & labor income totals $9.858 million over the entire time frame. A net present value of $5.395 million is associated with these impacts.

Graph 7.12 Proprietor's & Labor Income



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Labor & Proprietor Income	$4.387 Billion	$4.3874 Billion	$0.375 Million

7.13 INCOME TAXES

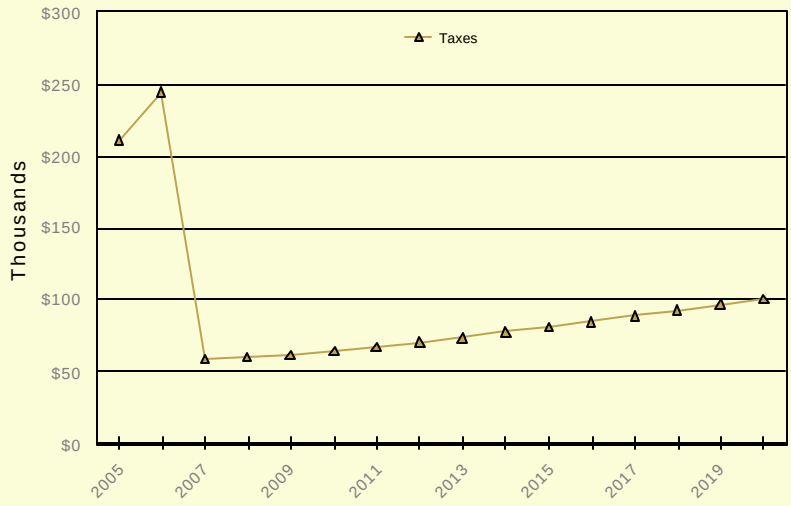
Income taxes collections follow the same pattern as proprietor's & labor income, only on a different scale.

In 2005, increased income tax collections projected to result from the combined economic impacts of both the construction of Exit 82 and the construction of three medium-sized retail establishments is forecasted to total $211,000. In 2006, these impacts are projected to rise to $244,000.

After the construction of Exit 82 and the three retail establishments, the economic impacts upon income tax collections decline to $59,000 in 2007. By 2020, the economic impacts upon income tax collections are projected to increase to $101,000.

The unadjusted sum of these impacts upon income tax collections totals $1.539 million over the entire time frame. A net present value of $948,000 is associated with these impacts upon income tax collections.

Graph 7.13 Income Taxes



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Taxes	$782.000 Million	$782.059 Million	$0.059 Million

7.14 DISPOSABLE PERSONAL INCOME

Disposable personal income is the last bridge variable to be reported with the block 4 variables.

In 2005, disposable personal income projected to result from the combined economic impacts of both the construction of Exit 82 and the construction of three medium-sized retail establishments is forecasted to total $1.114 million. In 2006, these impacts are projected to rise to $1.319 million.

After the construction of Exit 82 and the three retail establishments, the economic impacts upon income tax collections decline to $369,000 in 2007. By 2020, the economic impacts upon income tax collections are projected to increase to $698,000.

The unadjusted sum of these impacts upon income tax collections totals $9.681 million over the entire time frame. A net present value of $4.986 million is associated with these impacts upon income tax collections.

Graph 7.14 Disposable Personal Income

Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Disposable Income	$5.755 Billion	$5.7554 Billion	$.369 Million

7.15 SUMMARY OF BLOCK 4 ECONOMIC IMPACTS

In 2007,some of the economic impacts of the combined Exit 82 and retail projects were forecasted to:

- Increase Labor & Proprietor's Income by $375,000 in the area's economy
- Increase income tax collections by $59,000 in the area's economy
- Increase disposable personal income $369,000 in the area's economy

Similar to other monetary impacts reported in previous sections of this report, the impacts reported in this section accumulate over time. These two projects were forecasted to:

- Impact the regional economy's labor & proprietor's income by an NPV of $5.395 million
- Impact the regional economy's income tax collections by an NPV of $948,000
- Impact the regional economy's investment spending by an NPV of $4.986 million

7.16 IMPORTS

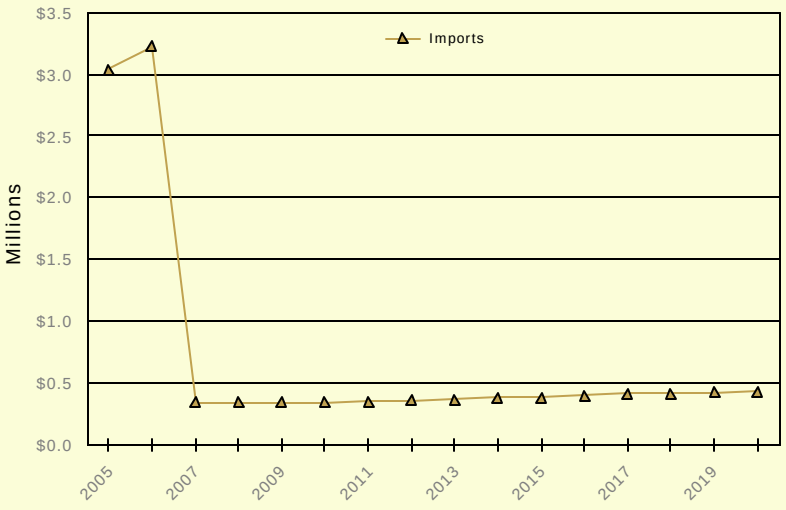
Imports that would occur because of the exit 82 project and the three new retail stores are graphed to the right in graph 7.5.1. For a detailed explanation of imports and how the REMI model handles imports see section 5.5.

The import impacts start off in 2005 at $3.04 million as construction on both exit 82 and the retail stores starts. Import impacts climb to $3.22 million as construction on both projects finishes in 2006. As with the previous sections there is a large drop in impacts in 2007 as the retail stores open for business.

In this case, the impacts drop by 89.23% to reach $0.36 million in 2007. The impacts are relatively flat after 2007 but do start to increase slowly in 2010. Import impacts end up at $0.44 million at the end of the period graphed in 2020.

The sum of the impacts on regional imports from 2005 to 2020 is $11.60 million. The Average yearly impacts of imports works out to be $0.73 million. An NPV cacluation using a discount rate of 7.5% for import impacts from 2003-2020 yields $7.23 million.

Graph 7.16 Imports



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Imports	$9.258 Billion	$9.258 Billion	$.347 Million

7.17 EXPORTS

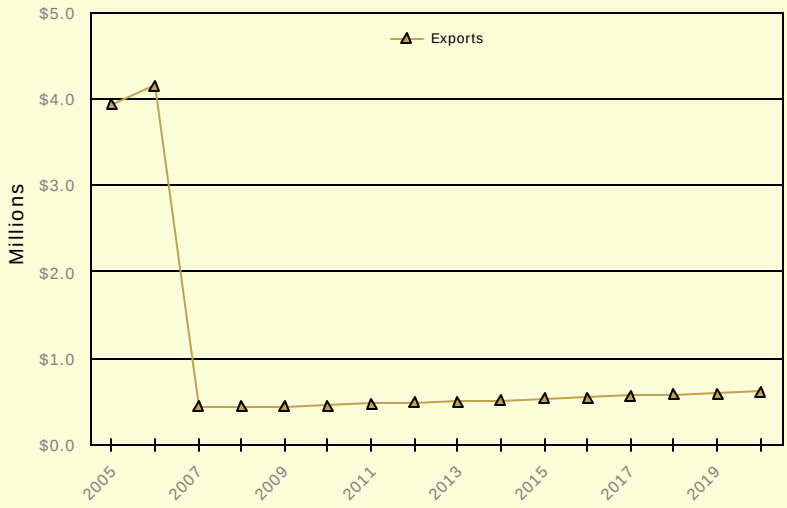
An explanation and definition of exports and how exports are handled by the REMI model can be found in section 5.5.2. Impacts on exports from the region start out at $3.93 million in 2005. This is roughly$0.9 million more than import impacts for the same year. Exports impacts then rise to $4.16 million in 2006 as construction finishes on exit 82 and the retail stores.

As with the regional import impacts, the export impacts drop dramatically in 2007. Actually the drop was almost identical in terms of a percentage decrease with the export impacts dropping 89.21% as compared to import impacts declining 89.23%.

After falling to $0.45 million in 2007, export impacts see another small decline in 2008 and then start to slowly rise in the remaining years of the period graphed until the impacts reach $0.62 million in 2020.

The sum of all the export impacts from 2005 to 2020 equals $15.34 million, while the average yearly impact is $0.96 million. The NPV of the impacts from 2003 to 2020 is $9.47 million using a discount rate of 7.5%.

Graph 7.17 Exports



Scenario	2007 Control Forecast	2007 Alternative Forecast	2007 Economic Impact
Exports	$9.641 Billion	$9.641 Billion	$.449 Million

7.18 SUMMARY OF BLOCK 5 ECONOMIC IMPACTS

In summary, regional import and export impacts that could be expected to occur as a result of the exit 82 project and the new retail stores are as follows:

- Average yearly import impacts of $0.73 million
- Import impacts with a NPV of $7.23 million from 2003-2020
- Average yearly export impacts of $0.96 million
- Export impacts with a NPV of $9.47 million

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