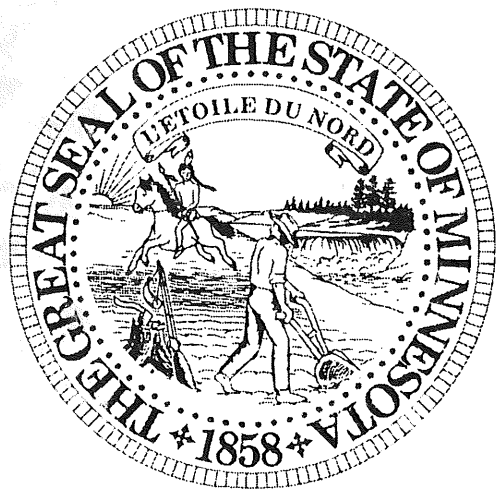
CARLSON ADMINISTRATION

ANALYSIS OF CLINTON ECONOMIC PLAN'S IMPACT ON THE MINNESOTA ECONOMY



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EXECUTIVE SUMMARY

- The Clinton economic plan contains two basic components:
  - A short-term economic stimulus package
  - A long-term revenue package, featuring a tax on energy

- The economic stimulus package has a peak positive impact on Minnesota in 1996, of 3%, decreasing to only 0.2% by 1999.

- Most industries show performance below baseline expectations in 1997 under best case conditions and in 1996 under worst case conditions.

- The gross state product drops below the baseline in the year 2001 and never recovers, even under best case conditions.

- 34 of the 39 Minnesota industries studied show significant negative impacts by the year 2020 under even best case conditions, and most perform below baseline projections well before the year 2000.

- Industries hardest hit are those which fall into one of two groups:

  1. Those which are most energy dependent, such as agriculture, mining, miscellaneous manufacturing, and transportation.

  2. Those which are highly dependent on discretionary spending, such as medical/health care, non-profit organizations, eating and drinking/hospitality, investments (banking, insurance, and real estate), recreation and amusement.

- Industries which are both highly energy dependent, and highly dependent on discretionary spending, such as tourism, will be subject to multiple negative effects under both best and worst case conditions.

- Marginal industries, such as mining, will be placed in extremely tenuous economic conditions, even under best case conditions.

- The environmental benefits of the Clinton plan are minimal compared to the goals of the Department of Public Service Quadrennial Report. The environmental benefits of the Clinton plan are achieved through a general economic slow-down, and at a cost of $320 per household of four, by the administration's own estimates (New York Times, April 11,1993) or $284 per household by DPS estimates. Other pertinent environmental concerns include the following:

  1. The stimulus portion of the package actually increases emissions above baseline levels, at least temporarily.

2. Reduction in emissions relative to baseline coincide almost perfectly with reductions in economic output relative to baseline.

3. These two facts indicate that the Clinton economic plan is poor environmental control, at best.

4. Environmental improvements achieved under the DPS plan are achieved through tax and regulatory incentives and through private investment. Our modeling indicates the DPS strategies would result in a stronger state economy measured by lower energy expenditure per dollar of gross state product.

STUDY PARAMETERS

- This study models the impact of the Clinton economic plan as it was introduced in February of 1993, and does not take into account subsequent changes in exclusions and likely Congressional curtailment of the economic stimulus portions. The result is that this study tends to overstate the benefits of the stimulus portion of the plan, and to understate the negative impact of the tax plan. The Clinton Administration has characterized the changes to date as minor adjustments, as opposed to any major shift in focus. This underscores that this study is indeed, very current, albeit conservative.

- The model does not consider the unique demographic trends within Minnesota, especially the emigration of population away from the agricultural community. This, too, results in an overstatement of the positive impact of the stimulus, and an understatement of the negative impact of the tax.

- Best case assumptions of the model project reduced interest rates. Worst case assumptions project stable interest rates. If interest rates in fact increase, this would again tend to make the model overstate the stimulus benefits, and understate the negative impact of the taxes.

- Minnesota's state tax structure often results in a "pass through" of federal taxes. The modeling in this study has not taken this into consideration, again making the findings here conservative.

- The model projects both stable prices and declining economic output relative to the baseline. This means that the added costs due to the taxes will not be fully passed on to the consumer, causing a narrowing of profit margins. It is reasonable to expect that this will result in lowered per capita incomes, expressed in lower wages, and/or higher unemployment. The model does not consider the added social costs experienced under these conditions.

- No attempt was made to incorporate the effects of any eventual additional taxes which may result from the Clinton Administration's plans to reform the health care industry.

Analysis of Clinton Economic Plan's Impact on the Minnesota Economy

Minnesota Department of Public Service
April 14, 1993

Background

Introduction

Early in February 1993, President Clinton proposed a major economic plan to the nation. It included both tax and spending programs intended to reduce the federal deficit and, at the same time, stimulate the U.S. economy in the years 1994 and 1995. Like the citizens of every state, Minnesotans want to know how this plan will affect them. Because the President's proposal contains a significant energy tax, the Energy Division of the Minnesota Department of Public Service has undertaken this analysis of the Clinton economic plan.

The energy impacts of the Clinton proposal cannot be analyzed independently of other aspects of the plan. Energy use and economic activity are integrally connected. It would seem that the proposed energy tax would have a significant impact on Minnesota's energy use and economy. The same is true of higher corporate taxes, new personal income tax levels, changed investment tax credits, and new government spending programs. Therefore, the impact of the entire economic plan on economic activity and energy use within the state was examined simultaneously to achieve a clear picture of the results.

The Clinton Economic Plan

This analysis begins with the Clinton economic plan as it was announced in February 1993. In large part, the stimulus portion of the Clinton proposal includes a 1994 increase in non-residential and durable good investment of some $16-billion, a 7% Investment Tax Credit for the years 1994 and 1995, an additional $1.78-billion in housing expenditures, an annual increase in educational expenditures of $9.25-billion, and a $11.75-billion investment per year in infrastructure beginning in the year 1995. For the most part, the economic stimulus portions of the President's proposal are to become effective before any of the programs directed at deficit reduction.

In order to address the issue of deficit reduction the Clinton economic plan is comprised of four major components. The President would reduce defense spending by some $76-billion over a four year period, effectuate a 2% increase in corporate income taxes, increase personal income taxes by $15-billion, and implement a broad-based British Thermal Unit (BTU) energy tax. As it is currently proposed, an energy tax of $0.257 per million BTUs would be applied to most forms of energy such as natural gas, coal, hydro-power and nuclear power. Petroleum products like gasoline, heating oil, and propane would be taxed at $0.597 per million BTUs. Electrical energy would be taxed according to

the primary fuel source used for its generation. Wind, solar energy and fuels used as chemical feed stocks would be exempt from the energy tax.

Subsequent to its introduction, the President's economic plan was modified. As originally proposed, there were only four exemptions to the energy tax. Currently the Clinton administration proposes thirteen exemptions to its energy tax, but projects the same amount of revenue from a smaller number of sources. Because the projected amount of revenue is unchanged even though the number of exemptions has increased, those consumers still subject to the energy tax can be expected to carry an even larger financial responsibility. Consequently, the effects of the tax on sectors of the economy may be understated by this analysis.

In addition to the variable nature of the President's proposal, it is also possible that the Clinton package may not be adopted by Congress in its entirety, which will alter the plan's impact and effectiveness. The analysis contained herein reflects the Clinton economic plan as it was originally presented in February 1993.

Finally , according to a University of Minnesota economist, the economic model utilized for this analysis does not consider the negative economic impacts of emigration from the agricultural community. If the Clinton plan adversely affects the agricultural economy as this analysis demonstrates, additional emigration from the agricultural sector would be expected. This would increase the relative disadvantage of Minnesota compared to the rest of the nation.

In sum, the attached analysis will tend to overstate the benefits of the economic stimulus and understate the negative economic impacts of the revenue portions of the Clinton economic plan.

Analysis Methodology

Three forecasting models were used to perform the analysis of the Clinton economic plan: the Regional Economic Models Incorporated (REMI) model of the U.S. economy, the REMI model of the Minnesota economy[1], and the ENERGY 2020 model of energy use in Minnesota[2]. The REMI model forecasts Gross National Product (GNP) and then apportions that GNP to the states based upon various economic criteria.

The REMI model is a modified Computable General Equilibrium (CGE) model.[3]. The basic underlying concept of such models is that firms will set

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[1] The REMI model is used in Minnesota by the Departments of Revenue, Natural Resources, Trade and Economic Development, the Minnesota Racing Commission, and the Pollution Control Agency.

[2] ENERGY 2020 is used by the state energy offices in California, Illinois, Massachusetts, and Vermont. It is used by utilities, including Minnesota Power. Other users include the Canadian Department of Energy, Mines, and Resources and the National Renewable Energy Laboratory.

[3] "Modified" in that the traditional CGE model always assumes that the economy is in equilibrium, whereas REMI recognizes inefficiencies in the markets.

production (output) levels and choose a mix of factor inputs, based on prevailing market conditions in order to maximize profit. Unlike a traditional Input/Output (I/O) model which assumes that inputs are fixed as a percentage of output, REMI assumes that all inputs are substitutes for each other. The degree of substitutability is determined econometrically assuming a traditional Cobb-Douglas production function.[4] Similarly, consumers will choose levels of savings and consumption of various goods and services to maximize individual satisfaction.[5]

In this analysis, impacts of the proposed Clinton plan were estimated using appropriate independent variables in the national model, and the REMI national model applied those changes to the details of the U.S. economy. The REMI state model, along with ENERGY 2020, were then run to determine the impact of the national changes on the Minnesota economy and state energy use.

Three sets of assumptions were used: a Baseline, Best Case, and Worst Case scenario. The Baseline scenario did not incorporate the new Clinton economic plans. It provides a status quo or reference scenario based on the Baseline scenario of the *1992 Energy Policy and Conservation Report* produced by the Minnesota Department of Public Service in December 1992.

Baseline Case assumptions:

1. Federal tax, monetary, and spending policies that were in effect prior to the Clinton administration will remain in effect. this includes reductions in the levels of military spending. No new major economic policy initiatives (new taxes, subsidies, etc.) will be enacted at the federal level.
2. Minnesota will continue to have sustained economic and population growth.
3. Real energy prices will rise slowly. The energy prices used in this Baseline Case are the same as those used in the *1992 Energy Policy and Conservation Report.*
4. There will be natural gains in energy efficiency due to advances in technology, existing conservation programs, and existing consumer purchasing behavior. This includes continuation and growth of utility sponsored conservation programs.
5. Renewable energy use will continue to grow. Ethanol consumption levels will rise to 10 percent of total gasoline use in Minnesota based on current mandates and incentives. Existing financial incentives for renewable energy development will continue.
6. Growth in Minnesota's electrical use will require the construction of additional power plants; coal will be used for new baseload plants and natural gas will be used for peaking plants. All existing electrical plant will remain in use throughout the useful life of the equipment. Minnesota's nuclear plants will continue to operate.

Best Case scenario assumptions:

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[4] A Cobb-Douglas production function assumes that output is a multiplicative function of the inputs raised to some power: Output = A * $Input^{a}_{1}$ * $Input^{b}_{2}$ * $Input^{c}_{3}$ * ....

[5] This paragraph describes the 53 sector version of the REMI model which we use. There is also a 210 sector version of the REMI model which does use fixed Input/Output ratios. Some reviewers have mistakenly believed that is the version of REMI which we use. The only place where the 53 sector version of the model uses fixed coefficients is in the estimation of the division of labor within a given industry.

1. Pre-tax energy prices remain unchanged from the Baseline case;
2. Any money savings associated with consumer energy conservation would be spent in other areas;
3. Decreases in the federal deficit would result in equal increases in private investment;
4. Decreasing the federal deficit would bring down interest rates, thereby neutralizing the effect of additional business and personal taxes; and
5. Investment in infrastructure and research and development would result in a 10% real rate of return. This increased rate of return would be realized as additional wages and profit and would be spent on other goods and services, leading to increased economic activity.

Worst Case scenario makes three changes to the above assumptions:

1. Reduction in federal deficits would not result in increases in private investment,
2. Interest rates would stay at current rates as the Federal Reserve fights inflationary effect, so increases in corporate and personal taxes would reduce economic activity, and
3. The real rate of return on infrastructure and research and development would be zero; therefore, no new economic activity would be created as a result of these investments.

The results of modeling these two scenarios were then compared to the Baseline scenario. References to economic performance within this report are always comparisons to the Baseline scenario economic performance unless otherwise specified.

It should be pointed out that neither scenario included increasing interest rates. It is reasonable to assume that increasing interest rates would slow the long-term economic activity within the state even further. In this regard, even the Department's worst case scenario could be considered conservative.

To examine the impact on specific industries, Standard Industrial Classification (SIC) groups defined within the REMI model were utilized. The real dollar economic output of each of the industries can be followed throughout the projection period under all scenarios. To determine impacts on general industry groups, a number of specific industries were combined and a weighted average economic output relative output in the year 1990 was developed for each scenario. For example, to produce a picture of the general impact on forestry-related industries, lumber, paper, construction, and forest/agricultural service SIC codes were combined to create a forestry composite.

Effects on the Minnesota Economy

General Economic Effects

Impact on Gross State Product

The Gross State Product (GSP) is the value of all goods and services produced within the state of Minnesota. It is a well-accepted measure of economic activity within the state. References in this report comparing specific industries to the general state economy are comparison to the performance of the GSP. Under all scenarios, our analysis found continued growth in the real GSP.

Under both scenarios, the analysis shows long-term reductions in economic output for the entire state, compared to the Baseline. This implies slower economic growth than Baseline projection. It is likely that this slower growth would be manifest in lower employment levels and/or reduced wages. Both reduce the total amount of consumer discretionary income relative to Baseline.

Using the Best Case scenario, the positive impacts of the stimulus portion of the plan are very evident. The Best Case GSP outperforms the Baseline projection through the year 2000. It reaches its peak in the year 1996, when the Best Case GSP is approximately $3.5 billion (3%) higher than the Baseline scenario. Eventually, the dampening effect of the various tax increases in the plan overtake the stimulus portion. Within ten years, the Best Case scenario is 0.5% below Baseline. By the year 2020, it is 2.3% below Baseline, approximately $4 billion less in real dollars.

The Worst Case scenario produces similar trends, but the positive impacts of the stimulus are much smaller. There is one year of increased economic growth reaching $1.5 billion (1.4%) above Baseline. GSP goes below the Baseline by the year 1997. Within five years, the Worst Case GSP is almost 3% below the Baseline. By the year 2020, real GSP is 4.1% below Baseline, a reduction of approximately $7.5 billion.

Impact on Consumer Prices

Under either scenario, the analysis shows very little change in basic prices of consumer goods, as measured by the Consumer Price Index (CPI). Prices are slightly higher throughout the projection in both scenarios, but they remain very close to the Baseline projection. The obvious exception is energy prices, which will increase from 5% to 8% depending on the energy source.

General Statewide Industry Impacts

Under the Worst Case scenario, virtually all of the thirty-nine Minnesota industries examined show long-term performance problems relative to the Baseline. Twenty-nine industries show greater than 4% reduction in real output by the year 2020, seventeen industries show between 3% and 4% reduction, and one industry shows a 2% to 3% reduction. Under Best Case assumptions, results are more variable. Most industries still show performance declines, but some show improved long-term performance relative to the Baseline. Five of the industries showed performance improvements by the year 2020, compared to the Baseline. Several were very close to Baseline projections. The industries that show the largest reductions in economic output are highly energy dependent industries such as mining and food production, or industries that rely on available discretionary income such as tourism, financial and medical. The following chart provides more detail on these trends.

Performance by the year 2020 Relative to Baseline

	Number of Individual Industries	
	Worst Case	**Best Case**
Greater than 4% decline	21	3
3% to 4% decline	17	15
2% t0 3% decline	1	10
1% to 2% decline	0	4
0% to 1% decline	0	2
Improvement	0	5
Total	39	39

The benefits of the economic stimulus package can be examined under both Best and Worst Case scenario in a similar manner. Under the Best Case scenario, all industries reach maximum performance above Baseline in the year 1996. Under the Worst Case scenario, all industries reach maximum performance relative to Baseline in the year 1994. The following table shows details of peak performance relative to Baseline.

Performance Relative to Baseline at Peak Impact of Stimulus

	Best Case 1996	**Worst Case 1994**
Less than 1%	3	27
1% to 2%	16	7
2% to 3%	8	3
3% to 4%	3	2
4% to 5%	1	0
6% to 6%	2	0
Over 6%	6	0
Total	39	39

Another way of gauging general industry impacts under the Clinton economic plan is to examine when industries begin to perform at lower real output levels than Baseline projection. For example, it has already been shown that the Minnesota GSP, the best measure of the average state economy, drops below Baseline output in the year 2001, under the Best Case assumptions, and in the year 1997, under Worst Case assumptions. Looking at the number of industries making the transition to reduced economic output during a given period gives us an idea of the general statewide economic impact. The following table presents this information.

First Year Below Baseline	Best Case	Worst Case
1995	0	0
1996	0	18
1997	16	21
1998	9	0
1999	1	0
2000	2	0
2001-2005	3	0
2006-2010	0	0
2011-2015	2	0
2016-2020	1	0
Do Not Drop Below Baseline	5	0

Impact on Industry Groups.

Agribusiness Industry Group

Includes Food Production, Chemicals, Petroleum Products, and Agricultural Services

- **Under the Best Case scenario, agribusiness will be harder hit by the Clinton Plan than the rest of the state economy . Under the Worst Case scenario, it performs marginally better than the rest of the state.**
- **Under the Best Case scenario, food production, Minnesota's fifth largest industry, is significantly worse-off than the rest of the state.**
- **The petroleum products industry is hit particularly hard relative to the rest of the economy under both scenarios.**

Farming, the manufacture of farm products, and other support services are a large part of the Minnesota economy. Minnesota's farm products are also a major source of exports from the state. This industry group is significantly affected by the Clinton plan.

Under the Best Case scenario, all of the individual agribusiness components, as well as the composite, show growth rates above Baseline projections during the first two or three years. The effect of the stimulus peaks in the year 1996 at $170 million (1.2%) above Baseline. The petroleum products industry then immediately goes into two years of rapid contraction. The net output of these industries remains higher than the Baseline projection for varying amounts of time: three years in the case of food and petroleum products, to five years in the case of chemicals. Within six years, real output of

all component industries, as well as the agribusiness composite, is below the Baseline projection. By the year 2020, real output of the component sectors ranges from 2.0% to 3.3% below Baseline, even under Best Case scenario. Real output of the agribusiness composite is 3.1% below Baseline.

Under the Worst Case scenario, very small, short-term benefits from the stimulus are indicated. Growth rates exceed the Baseline projection for only one year, reaching $80 million (0.6%) above Baseline. Within three years, the real output of the agribusiness composite and the component industries is below Baseline projections. It is worse for the petroleum products industry: in the year 1994, the industry starts four years of no or negative growth. It drops below the Baseline after two years. Under the Worst Case scenario, all of the agricultural component industries are 2.0% or more below the Baseline projection within five years. By the year 2020, real output of the component sectors ranges from 3.3% to 4.1% less than Baseline under Worst Case scenario. Real output of the agribusiness composite is 3.5% below Baseline.

Tourism Industry Group

Includes Eating & Drinking, Recreation and Amusement, and Hotels

- **All tourist-related industries will be hurt harder than the state as a whole, by the Clinton Plan.**
- **Tourism-related industries rely on consumer's discretionary income. Increased taxes and declining income will have a negative impact on these industries.**
- **There is little benefit from the stimulus package to the tourism industry under either scenario.**

Minnesota has an active tourism industry. One would expect tourism to be affected by the Clinton plan both because of the change in discretionary income and the additional cost of travel due to increased fuel prices. While the decline in personal income is certain to affect tourism negatively, the effects of fuel price changes are less clear. Increases in transportation costs might cause more Minnesotans to vacation in their own state.

Under the Best Case scenario, all of the individual tourism industries, as well as the composite, show growth rates slightly above Baseline projections in the first year. The effects of the stimulus reach their peak in the year 1996 at $90 million (1.5%) above Baseline. The long-term impact for all of the component sectors is negative when compared to the Baseline projection because of reductions in consumer discretionary income. By the year 2020, real output of the component sectors ranges from 3.4% to 3.9% below Baseline. Real output of the tourism composite is 3.7% below Baseline.

Under the Worst Case scenario, similar trends are indicated, but positive impacts of the stimulus are even smaller, almost unnoticeable. Growth rates exceed the Baseline projection for only one year, exceeding the Baseline by $30 million (0.5%) at the peak of the stimulus. Within three years, the real output of the composite and the component industries is below Baseline projections. The long-term impacts of the tax portion of the plan slow the growth rates in these

tourism related industries even further. Under these Worst Case assumptions, all of the tourism related industries are 3.0% or more below Baseline projections within five years. By the year 2020, real output of the component sectors ranges from 4.2% to 4.6% below Baseline. Real output of the tourism composite is 4.6% below Baseline.

Financial Industry Group

Includes Real Estate, Insurance, Banking, and Credit & Finance

- **Financial services in Minnesota are hit harder than the state economy as a whole under both scenarios. All individual industries in this group perform worse than the state economy under the Best Case scenario, and three out of four perform worse under the Worst Case scenario.**
- **Real estate, the third largest industry in Minnesota, performs worse than the general state economy under both scenarios.**

Under the Best Case scenario, all four component industries, as well as the composite, show very limited short term economic benefits. Even with the Best Case stimulus assumptions, these industries benefit little from the stimulus and outperform the Baseline for only three years. In the year 1996, the effects of the stimulus reach their peak at $290 million (1.3%) above Baseline. Within five years, they are all more than 1.0% below the Baseline projection. By the year 2020, real output of the component sectors ranges from 3.1% to 3.8 % below the Baseline projection. Real output of the financial composite ends up 3.7% below the Baseline.

Under the Worst Case scenario, the analysis shows similar results. The positive impacts of the stimulus package are short lived. Growth rates exceed the Baseline projection for only one year, reaching $120 million (0.6%) above Baseline. Within three years, the real output of the composite and the component industries is below Baseline projections. Under the Worst Case scenario, all of the financial-related industries are 2.6% or more below Baseline projections within five years. By the year 2020, real output of the component sectors ranges from 4.0% to 4.7% below Baseline. Real output of the high-tech composite is 4.5% below Baseline.

Forest Products Industry Group

Includes Lumber, Paper, Construction and Forestry Services

- **All industries in the group fare as well, or better than, the Minnesota economy as a whole.**

Minnesota has historically relied on its forest resources to support some of the state's largest industries. These industries are particularly important to the economy of northern Minnesota.

Under the Best Case scenario, all of the individual forestry components, as well as composite, show growth rates above Baseline projections in the first three years. The "jump start" of the stimulus is especially visible in the construction industry. The benefits of the stimulus package peak in the year

1996 at $760 million (3.4%) above Baseline. The net outputs of these industries remain higher than Baseline projects for varying amounts of time: four years in the case of paper, to almost ten years in the case of construction. After ten years, real output of all component industries and the forestry composite is below the Baseline projection. By the year 2020, real output of the component sectors ranges from 1.9% to 2.5% below Baseline. Real output of the composite is 2.3% below Baseline.

Under the Worst Case scenario, the positive impacts of the stimulus are not as large or long lasting. Industry growth rates exceed the Baseline projection for only one year, reaching a maximum of $270-million (1.2%) above Baseline in the year 1994. Within four years, the real output of the composite and the component industries is below Baseline projection. Under this scenario, all of the forestry component industries are 2.2% or more below Baseline projections within five years. By the year 2020, real output of the component sectors ranges from 3.2% to 3.9% below Baseline. Real output of the composite is 3.7% below Baseline.

Transportation Group:
Includes Air Transportation, Trucking, and Railroads

- **Harder hit than the state economy under the Best Case scenario.**
- **Slightly better off than the rest of the economy under the Worst Case scenario.**

Minnesota has a diverse transportation industry. Since petroleum-based fuel is a key input in all of the transportation industries, it is no surprise that the Clinton economic plan adversely affects this important sector. The BTU tax on petroleum products under the President's plan is twice as high as for other energy sources. This tax raises the basic cost of all transportation fuels, putting a damper on the growth of the transportation industries in Minnesota.

Under the Best Case scenario, all of the individual transportation industries and the transportation composite show growth rates above Baseline projections in the first three years, due mainly to the stimulus package aimed at infrastructure. The effects of the stimulus reach their peak in the year 1996 at $130 million (2.2%) above Baseline. The net outputs of these industries remain higher than Baseline projections for varying amounts of time: three years in the case of air transportation, to six years in the case of rail transportation. Within ten years, real output of all component industries and the composite is below Baseline projections. By the year 2020, real output of the component sectors ranges from 1.9% to 2.9% below Baseline. Real output of the transportation composite is 2.5% below Baseline.

Under the Worst Case scenario, the same trends are evident, but positive impacts of the stimulus are not as great. Growth rates exceed the Baseline projection for only one year, reaching $40 million (0.7%) above Baseline. Within three years, the real output of the transportation composite and the component industries drops below the Baseline projection. Under Worst Case assumptions, all of the transportation component industries are 2.4% or more below Baseline

projections within five years. By the year 2020, real output of the component sectors in 2020 ranges from 3.2% to 3.6% below Baseline. Real output of the transportation composite is 3.5% below Baseline.

The REMI model produces what may appear to be an unusual shape for the baseline railroad industry projection. After discussion of this phenomenon with University of Minnesota faculty, it was determined that the unusual shape of no growth until the year 2005 and substantial growth thereafter was reasonable. The recent drop in interest rates has already started to increase railroad investments. The initial investments are aimed at operating cost reduction and would not have a major impact on economic output of the industry. However, in the year 1995, when these investments have been completed, railroads are expected to begin investments in productivity enhancements. These would result in larger output for this sector. Because the lead time is long on railroad investments, the 2006 take-off date is reasonable.

Metals Industry Group

Includes Mining, Primary Metals, Fabricated Metals and Motor Vehicles

- **Benefit substantially from Clinton plan under the Best Case scenario.**
- **Hit harder than the state average under the Worst Case scenario.**
- **Mining is the exception. The already struggling mining industry is Minnesota's hardest hit industry under both scenarios.**

A number of Minnesota industries depend on metal. These include taconite mining, primary metal processing, fabricated metal products, and motor vehicle and parts manufacturing. In theory, the Clinton economic plan's emphasis on developing infrastructure should increase demand for products in these industries. Metals are needed to build roads, bridges, and other infrastructure. Better roads lead to greater demand for automobiles and auto parts. On the other hand, the higher energy costs and other taxes associated with the Clinton plan could affect Minnesota's competitiveness with other U.S., and even foreign producers.

Under the Best Case scenario, all of the individual metals, as well as the composite, show growth rates above Baseline projections in the first three years. This is definitely due to the "jump start" of the economic stimulus package. The effects of the stimulus peak in the year 1996 at $820 million (8.7%) above the Baseline. The net outputs of these industries remain higher than Baseline projection for longer than most other industries in Minnesota: four years in the case of mining, to the full thirty years in the case of motor vehicles and primary metals. The long-term impact for both mining and primary metals is negative when compared to the Baseline projection. Within four years, real output of the mining industry is below the Baseline projection. By the year 2020, real output of the component sectors ranges from a 1.0% improvement to 3.2% below Baseline. Real output of the metals composite is 0.2% below Baseline.

Under the Worst Case scenario, these industries perform slightly worse than the Minnesota economy as a whole. Growth rates exceed the Baseline projection for only one year, reaching a maximum of $210 million (2.3%) above

Baseline. Within four years, the real output of the composite and the component industries is below Baseline projections. Under Worst Case assumptions, all of the metals-related industries are 2.8% or more below the Baseline projection within five years. By the year 2020, real output of the component sectors ranges from 3.8% to 5.9% below Baseline. Real output of the metals composite is 4.6% below Baseline.

High Technology Group

Includes Instruments, Electrical Equipment, and Communications
Does not include Computers

- **Under the Best Case scenario, the high-tech group benefits from the Clinton plan .**
- **The group's behavior is consistent with statewide GSP in the Worst Case scenario.**
- **The communications industry follows statewide GSP closely under both scenarios.**

Minnesota, in addition to its traditional farming and mining industries, also has a significant presence in the high-tech industries. We examined the economic impacts on instruments, electrical equipment, and communications. Unfortunately, due to SIC code definitions, it was impossible to isolate economic statistics for the computer industry. The computer industry is included in the non-electric machinery group which will be discussed later.

Under the Best Case scenario, the two larger high-tech components, instruments and electric equipment, as well as the composite, show higher economic performance than the Baseline projection through the year 2020. The communications industry, however, outperforms the Baseline projection for only four years. The positive benefits of the stimulus package peak in the year 1996 at $640 million (7.5%) above Baseline. By the year 2020, real output of the component sectors ranges from 2.8% below Baseline to 2.0 % above. Real output of the high-tech composite ends up the same as the Baseline.

Worst Case assumptions present substantially different results. The positive impacts of the stimulus package are short lived. Growth rates exceed the Baseline projection for only one year, reaching a maximum of $140 million (1.7%) above Baseline.. Within four years, the real output of the composite and the component industries is below the Baseline projection. Under this Worst Case scenario, all of the high-tech industries examined are 2.9% or more below Baseline projections within five years. By the year 2020, real output of the component sectors ranges from 3.2% to 4.7% below Baseline. Real output of the high-tech composite is 4.0% below Baseline by the year 2020.

Impacts on Miscellaneous Industries

Retail Trade

- **Performs worse than statewide GSP under both scenarios.**
- **Largest industry examined in this study**

Wholesale Trade

- **Performs better than statewide GSP under both scenarios.**
- **Sixth largest industry examined.**

Medical

- **Performs worse than statewide GSP under both scenarios.**
- **Other studies show medical expenditures highly dependent on discretionary income.**
- **Seventh largest industry examined in this study.**

Printing

- **Performs at or above state GSP under both scenarios.**
- **Ninth largest industry examined in this study.**

Non-Electric Machines

- **Performs better than statewide GSP under both scenarios.**
- **This industry classification includes the computer industry.**
- **Fourth largest industry examined in the study.**

Effect on Minnesota's Environment

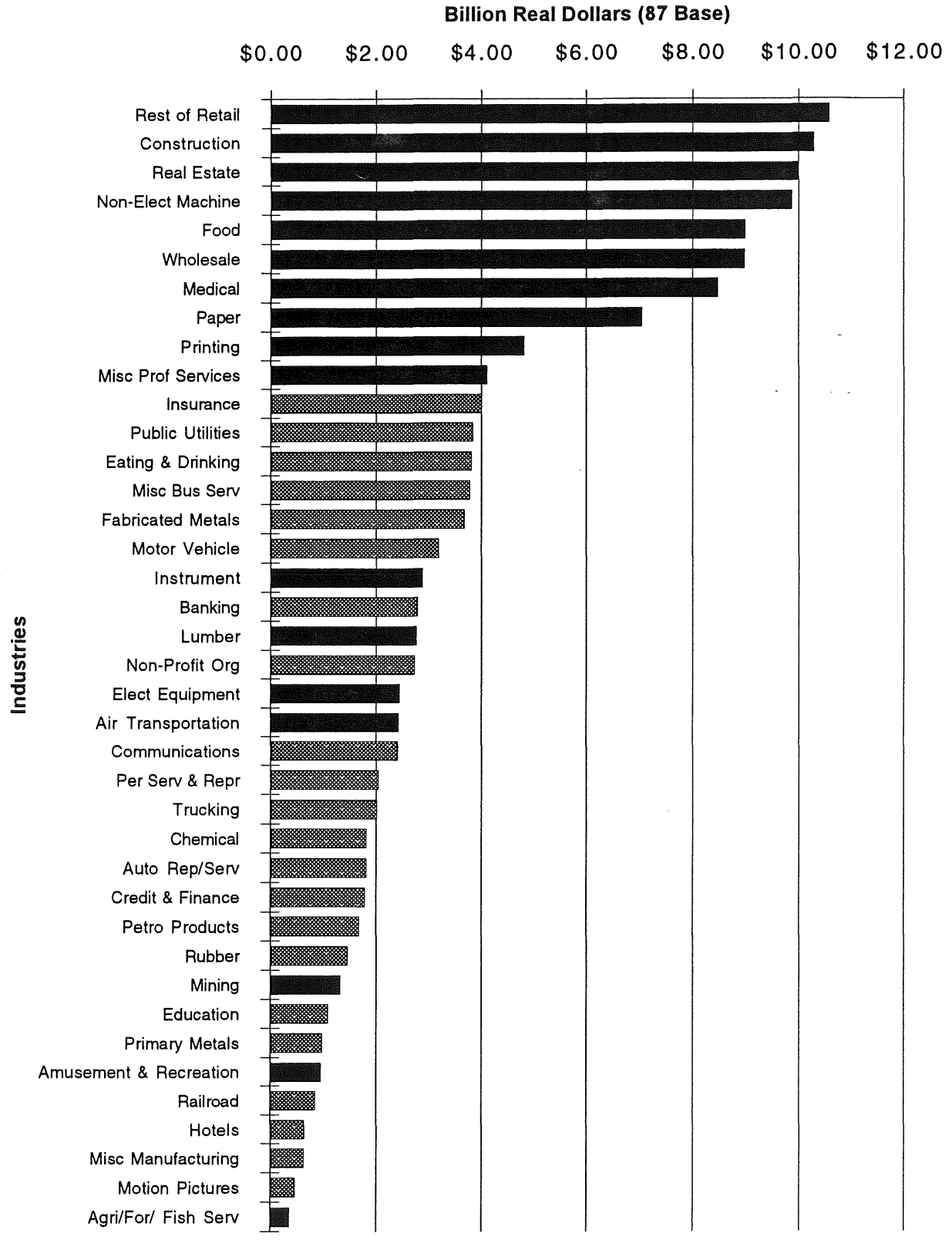
In announcing his economic plan, the President stated that the plan would also achieve significant environmental benefits. The energy tax portion of the plan was specifically identified as a means to encourage energy conservation and renewable energy development. Achievements in these areas would reduce harmful energy-related emissions.

Production of six energy-related emissions of concern to public policy makers was examined: carbon monoxide, sulfur dioxide, nitrous oxides, volatile organic compounds, particulates and carbon dioxide. These emission products were modeled using Baseline, Best Case and Worst Case assumptions. As with economic output levels, the emission levels of the Best and Worst Case scenarios were then compared to the Baseline case. The emission reductions of the Clinton economic plan are then compared to the emission levels projected under the Goal scenario of the *1992 Energy Policy and Conservation Report*, published by the Department of Public Service in December of 1992.

Because the stimulus portion of the package gives economic activity a short-term burst, it also creates increased energy use and increased emission in the short run. Under both Best and Worst Case scenarios, the modeling does show long-term emission reductions. Under Best Case assumptions, the emission reduction achieved by the year 2020 range from 3.8% to 5.7% below baseline. Emission reductions are substantially greater under the Worst Case scenario, ranging from 6.3% to 7.7% below Baseline by the year 2020. These emission reductions are due in part to energy efficiency, but a substantial portion is directly related to reduced economic activity within the state.

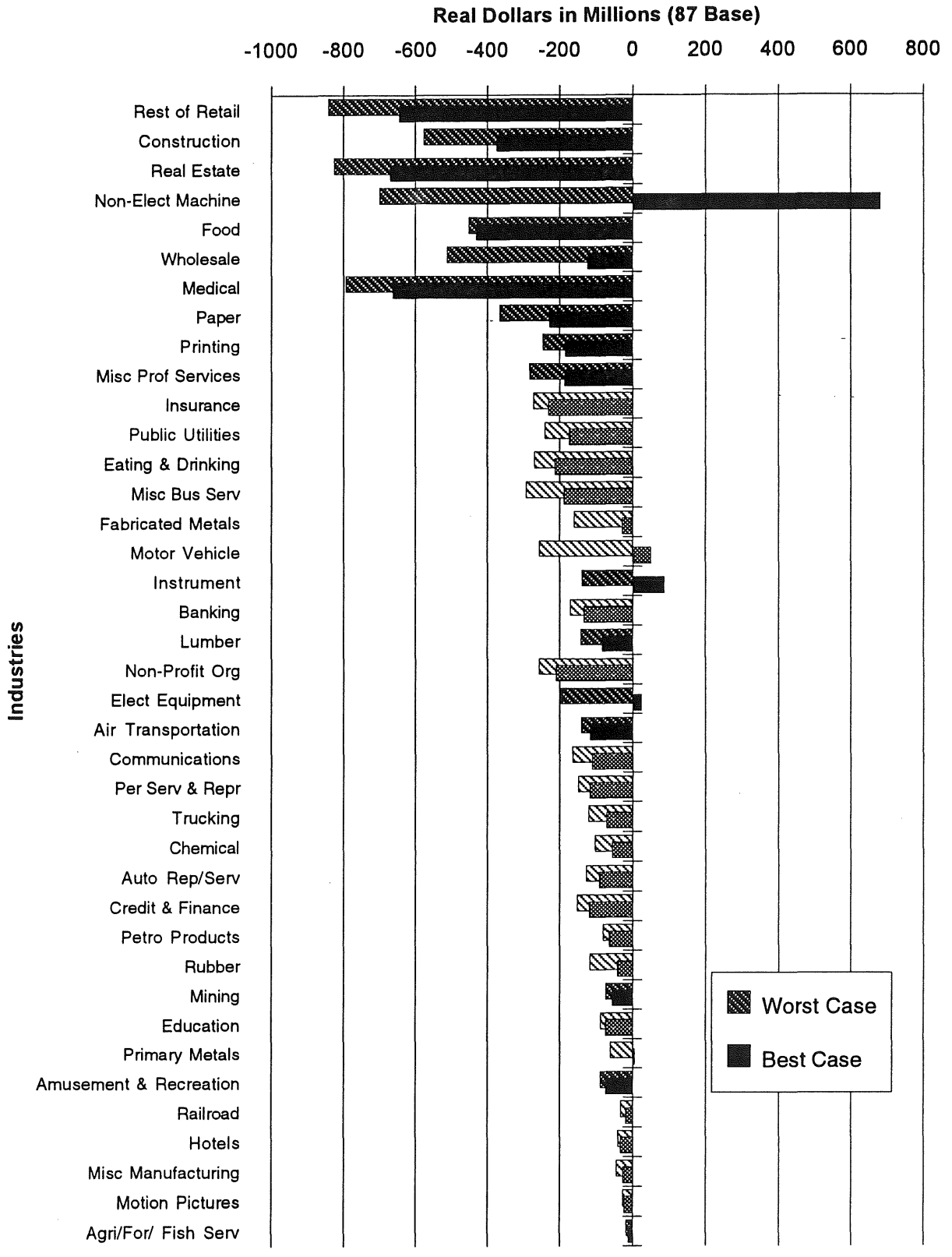
Emission reductions projected under the Goal scenario of the *1992 Energy Policy and Conservation Report* are substantially greater than either of the scenarios of the President's economic plan. These range from 13% to 34% below Baseline by the year 2020. Emission reductions projected under this Goal scenario are achieved while attaining a higher level of future economic activity.

1990 Minnesota Industry Economic Output



Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

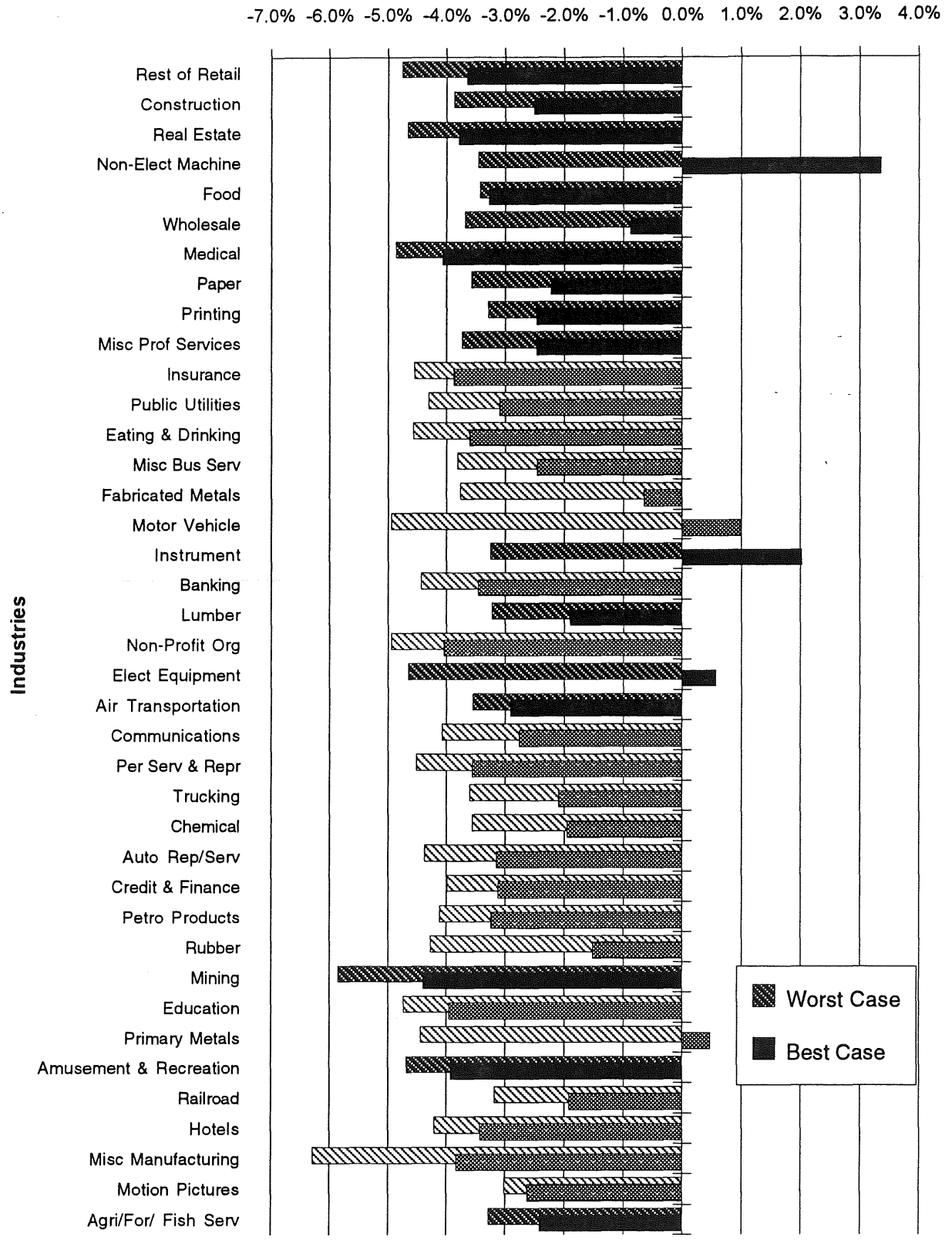
Change in Minnesota Industry Output by 2020 Compared to Base Case



- Only five industries improve under Best Case.
- Industries relying on discretionary income such as retail, real estate, medical, and food hard hit.

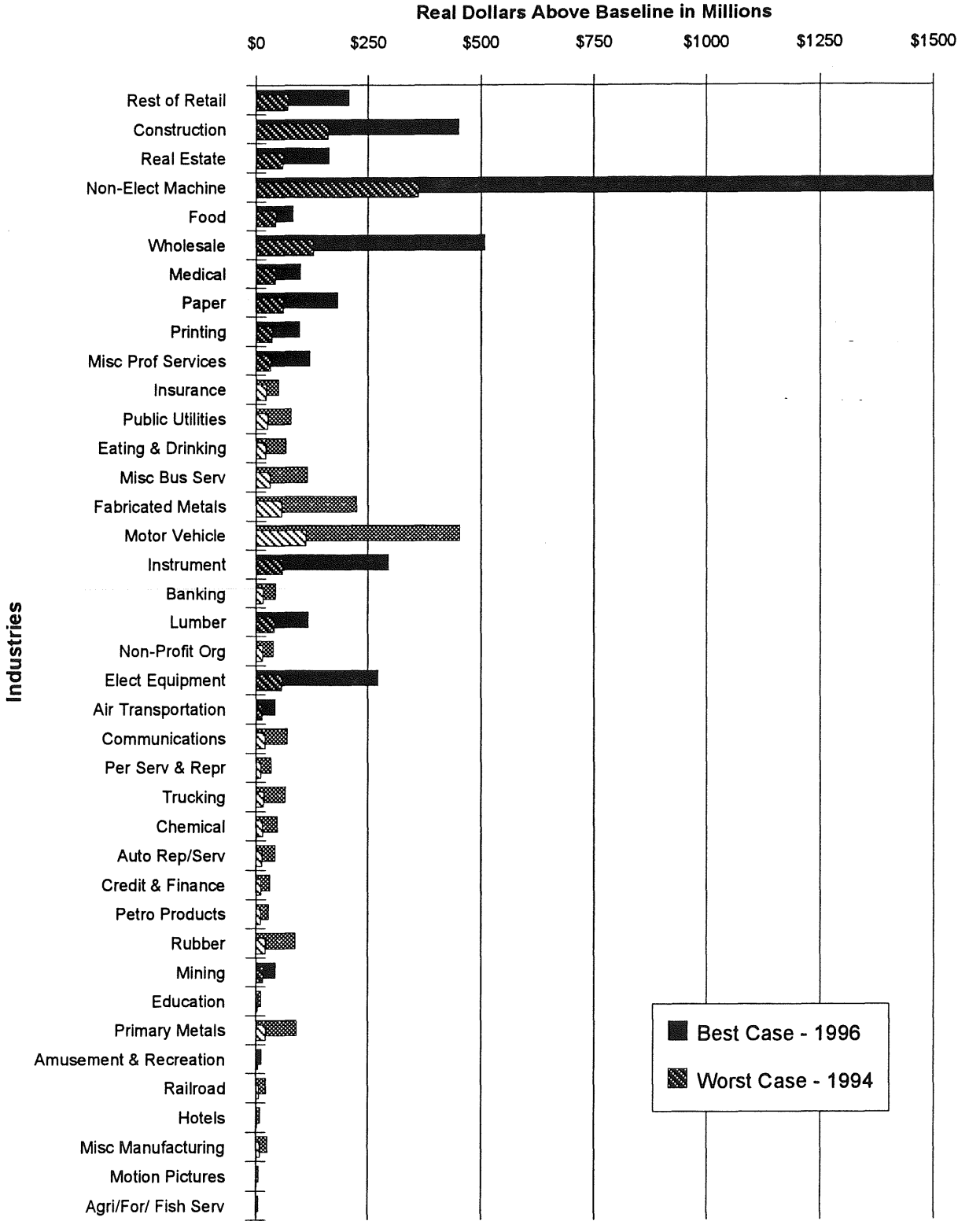
Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Percent Change in Minnesota Industry Output by 2020 Compared to Base Case



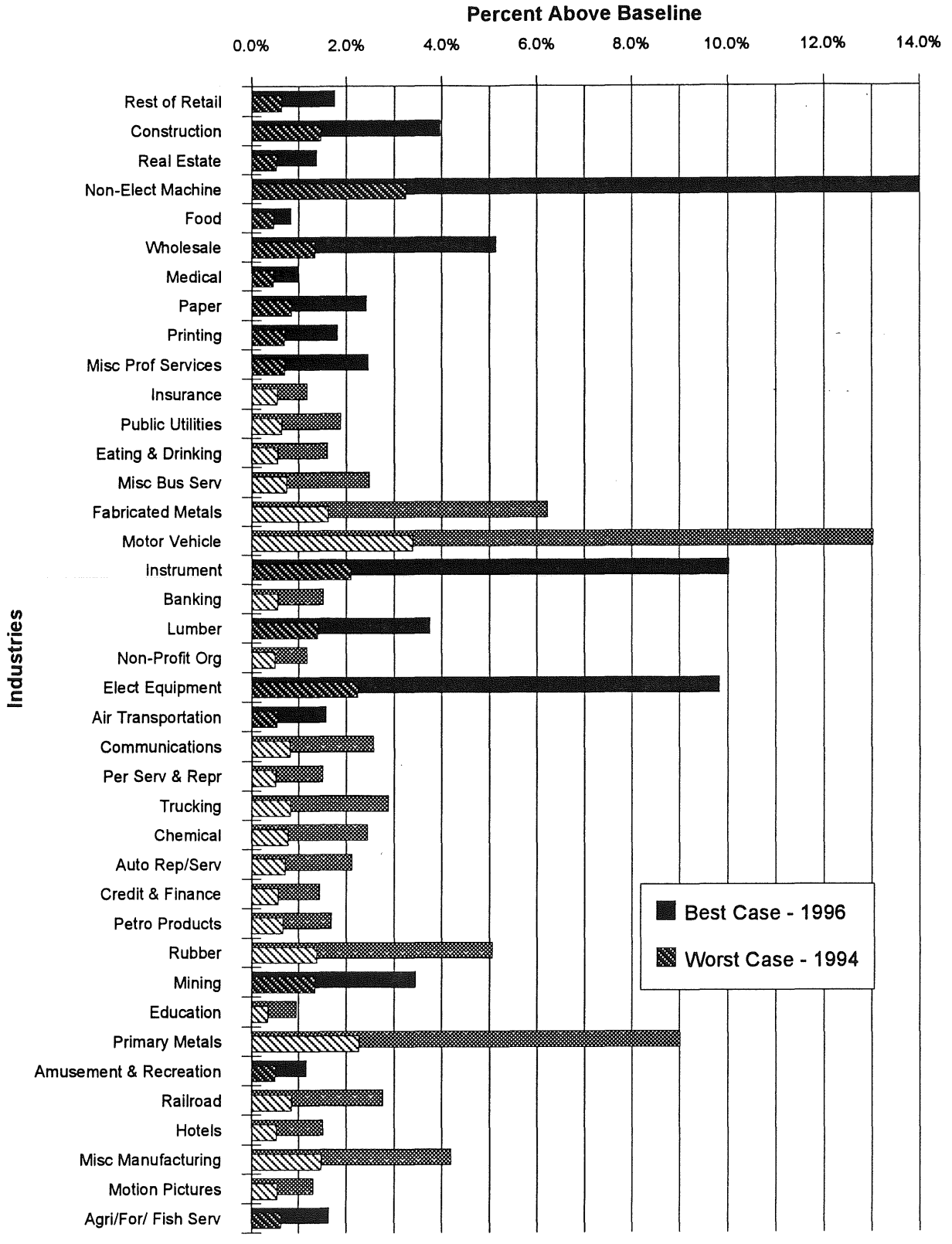
Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Increase in Minnesota Industry Output at Peak of Stimulus



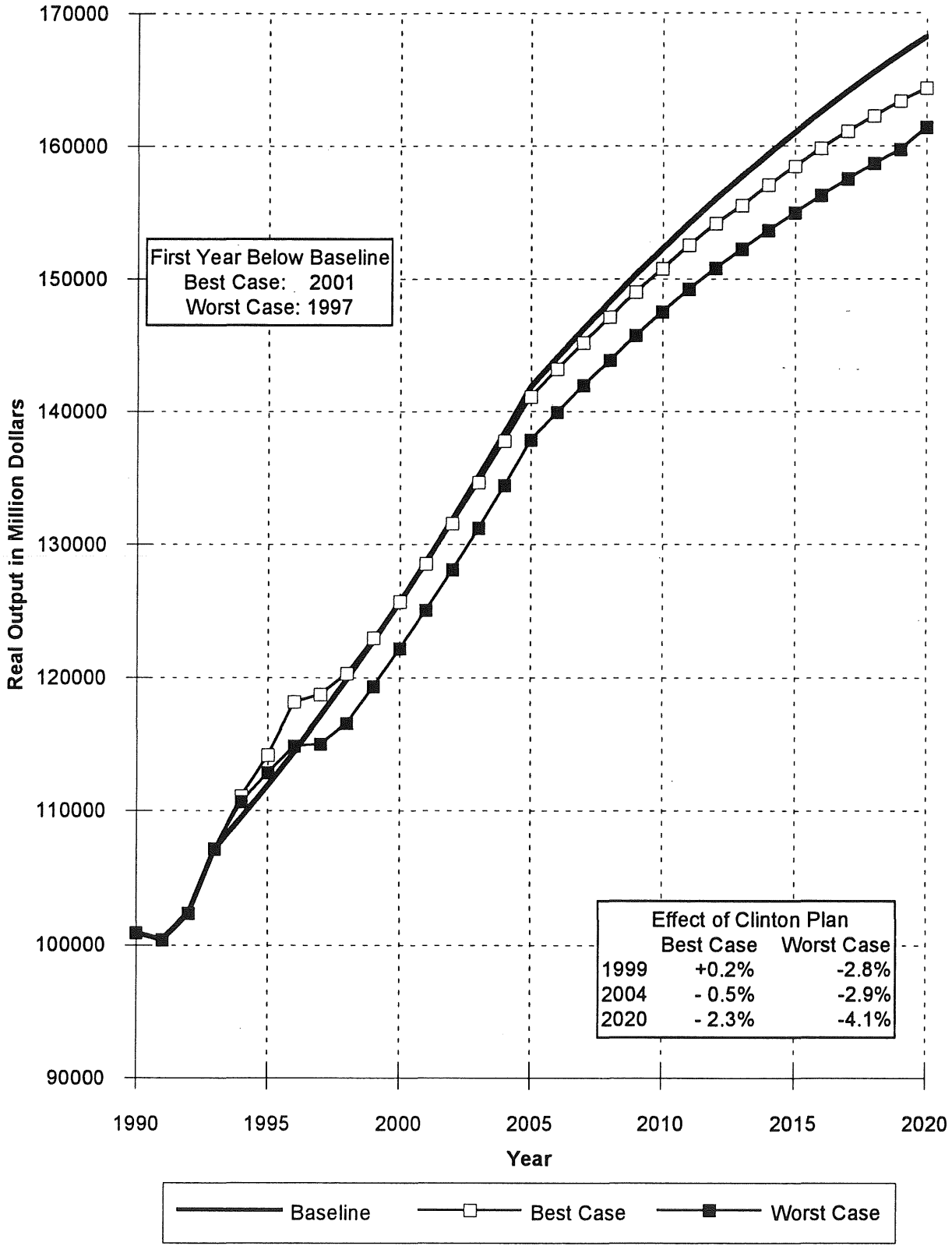
Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Increase in Minnesota Industry Output at Peak of Stimulus



Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

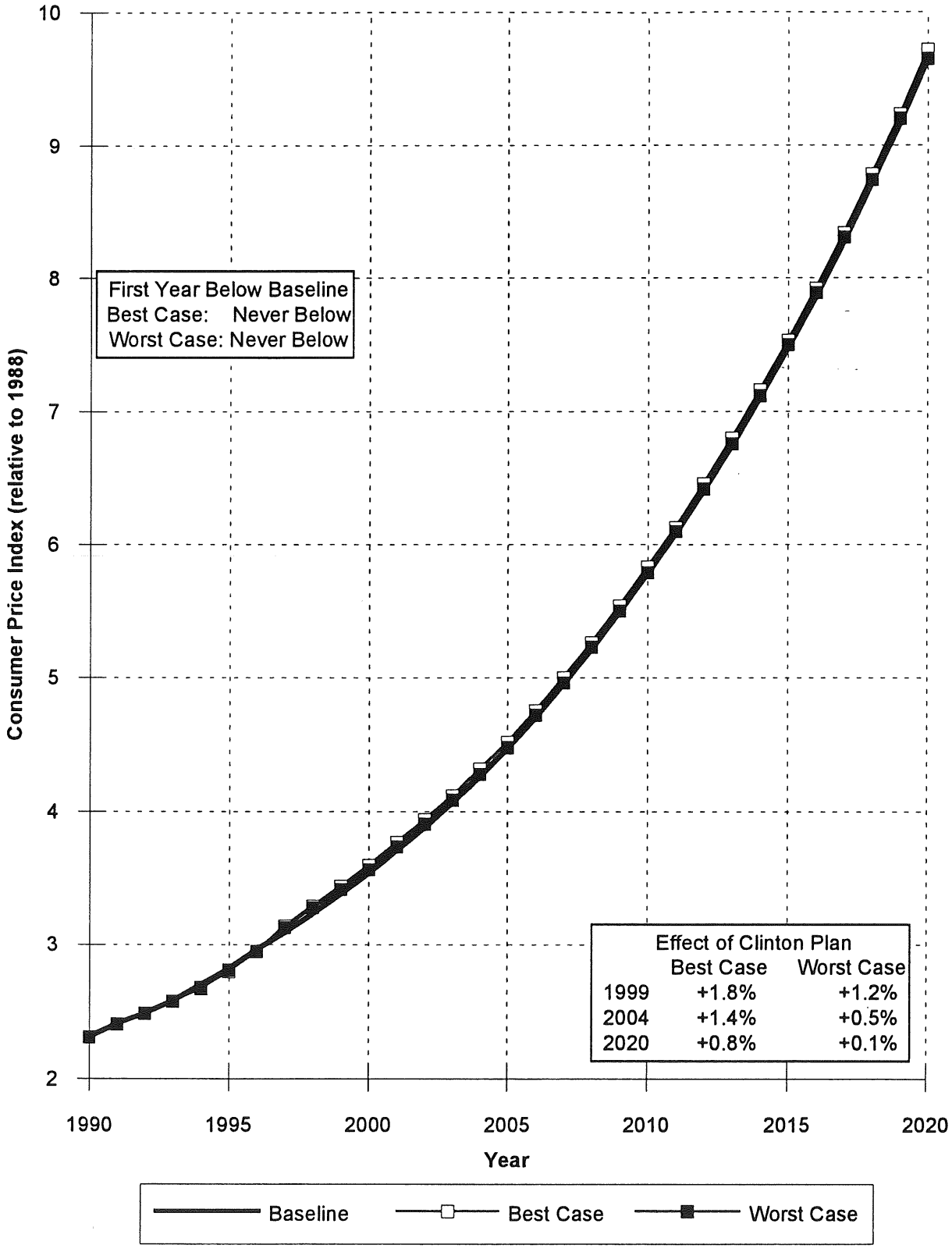
Effect on Minnesota Gross State Product



- Long-range economy slows relative to Baseline under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

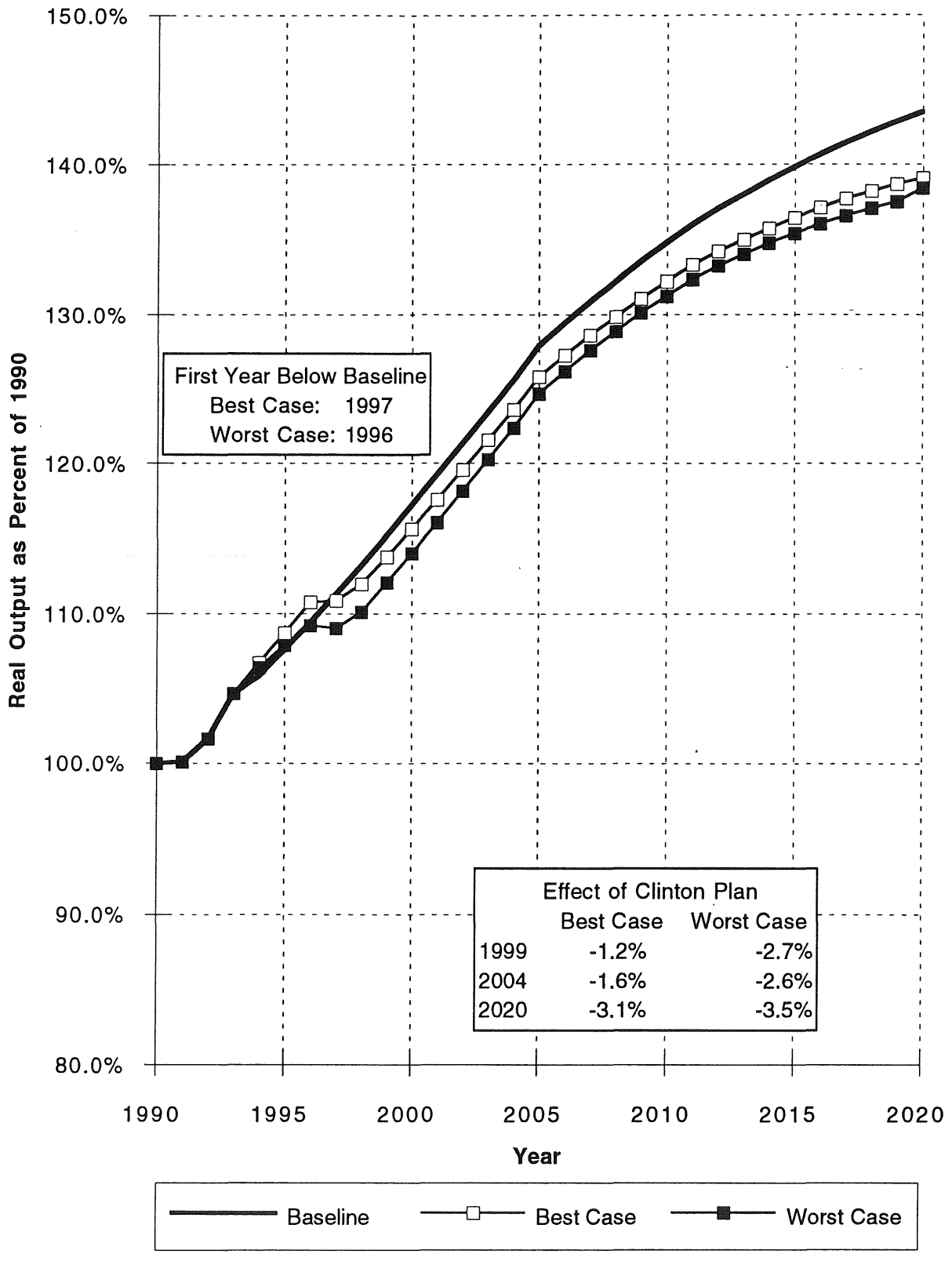
Consumer Prices in Minnesota



Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Effect on Minnesota Agribusiness Composite

Includes Food Production, Chemicals, Petroleum Products and Agricultural Services

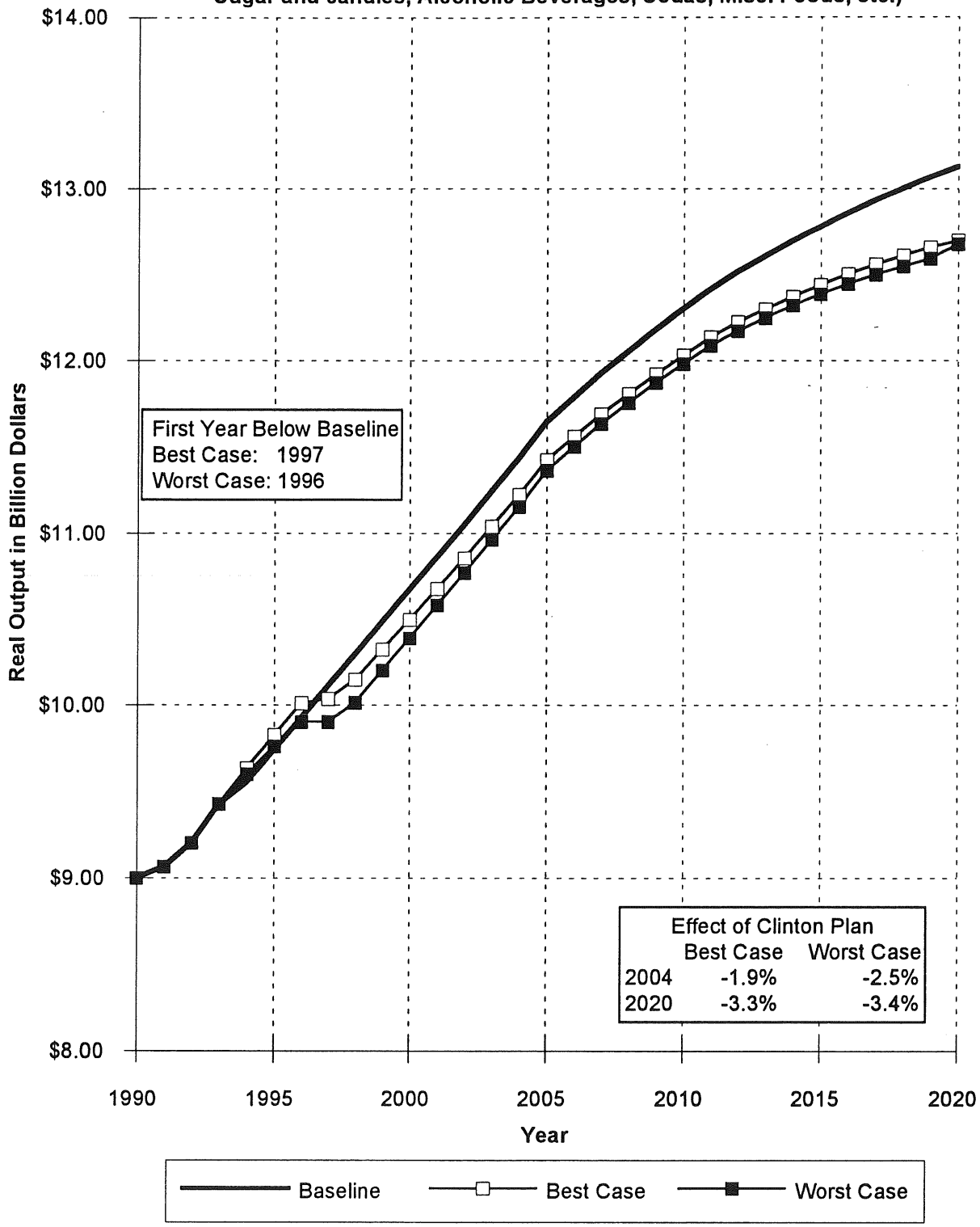


- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Food Industry

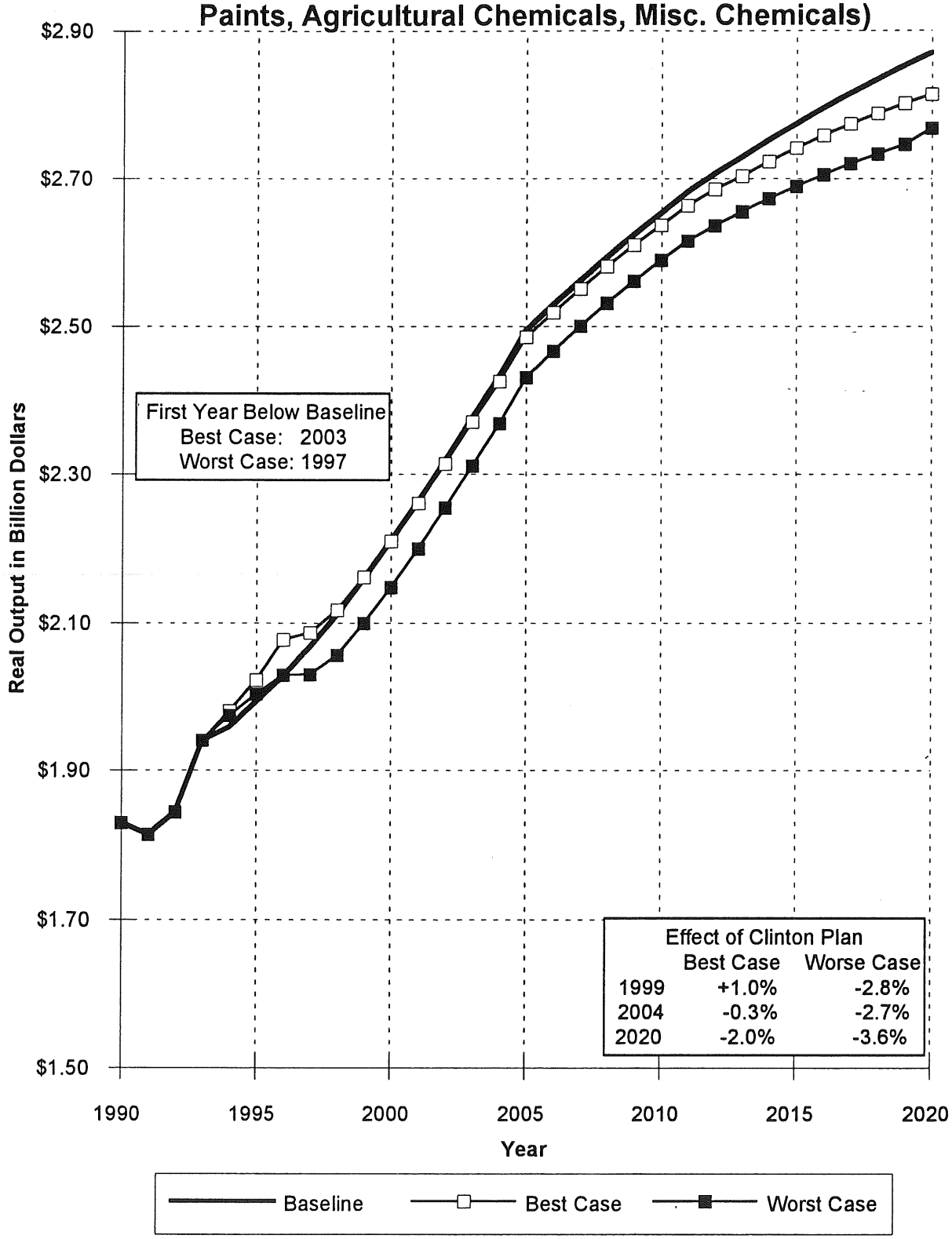
(Meat, Dairy, Fruits & Vegetable, Grain Mill Products, Fats & Oils, Bakery products, Sugar and candies, Alcoholic Beverages, Sodas, Misc. Foods, etc.)



- Very small short-term gains under both scenarios.
- Substantial negative, long-term impacts under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

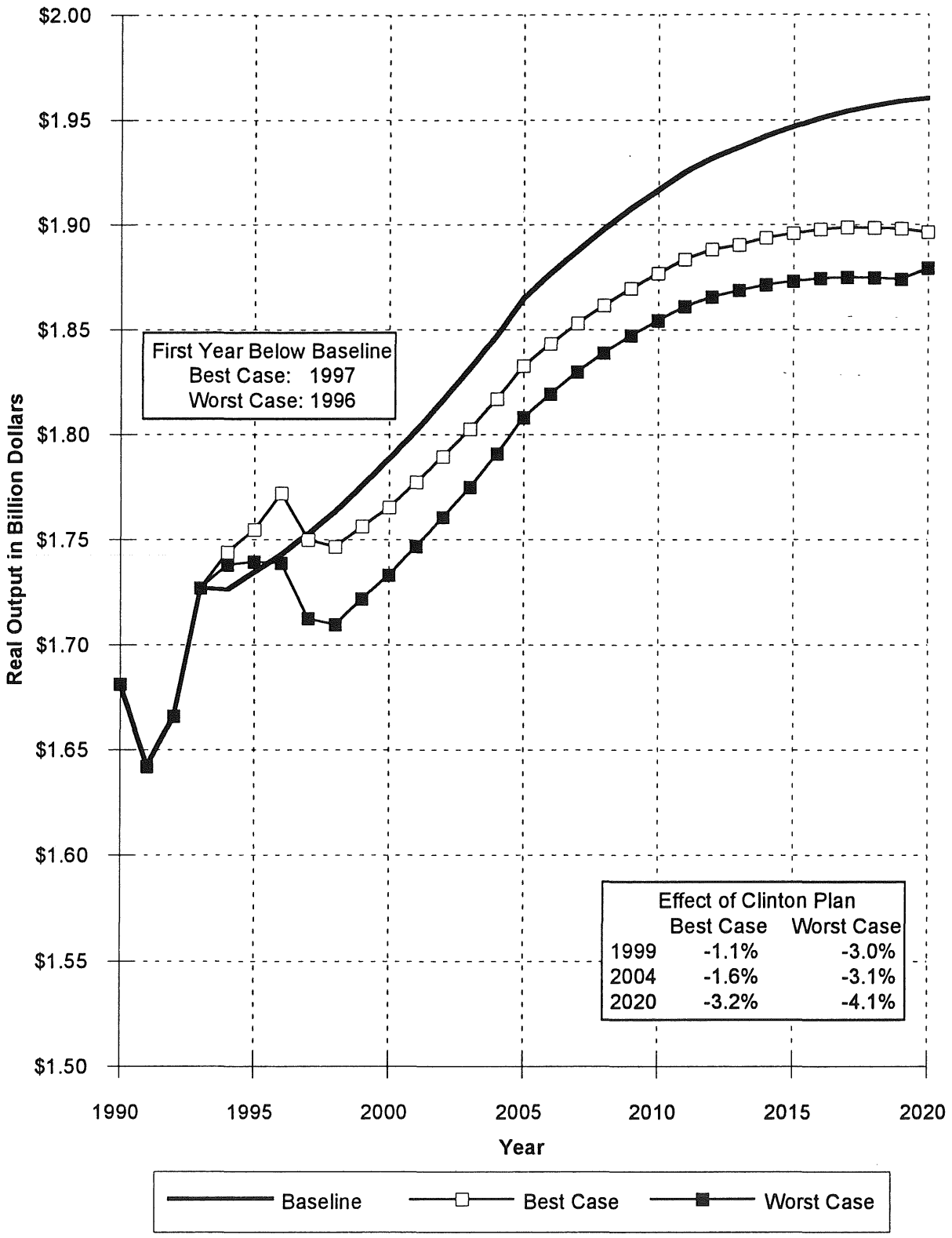
Impacts on Minnesota Chemical Industry
(Industrial Chemicals, Plastics, Drugs, Soaps & Cleaners Paints, Agricultural Chemicals, Misc. Chemicals)



- Optimistic scenario baseline until last ten years.
- Very small short-term gains and substantial long-term liabilities under pessimistic scenario.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Petroleum and Coal Products Industry

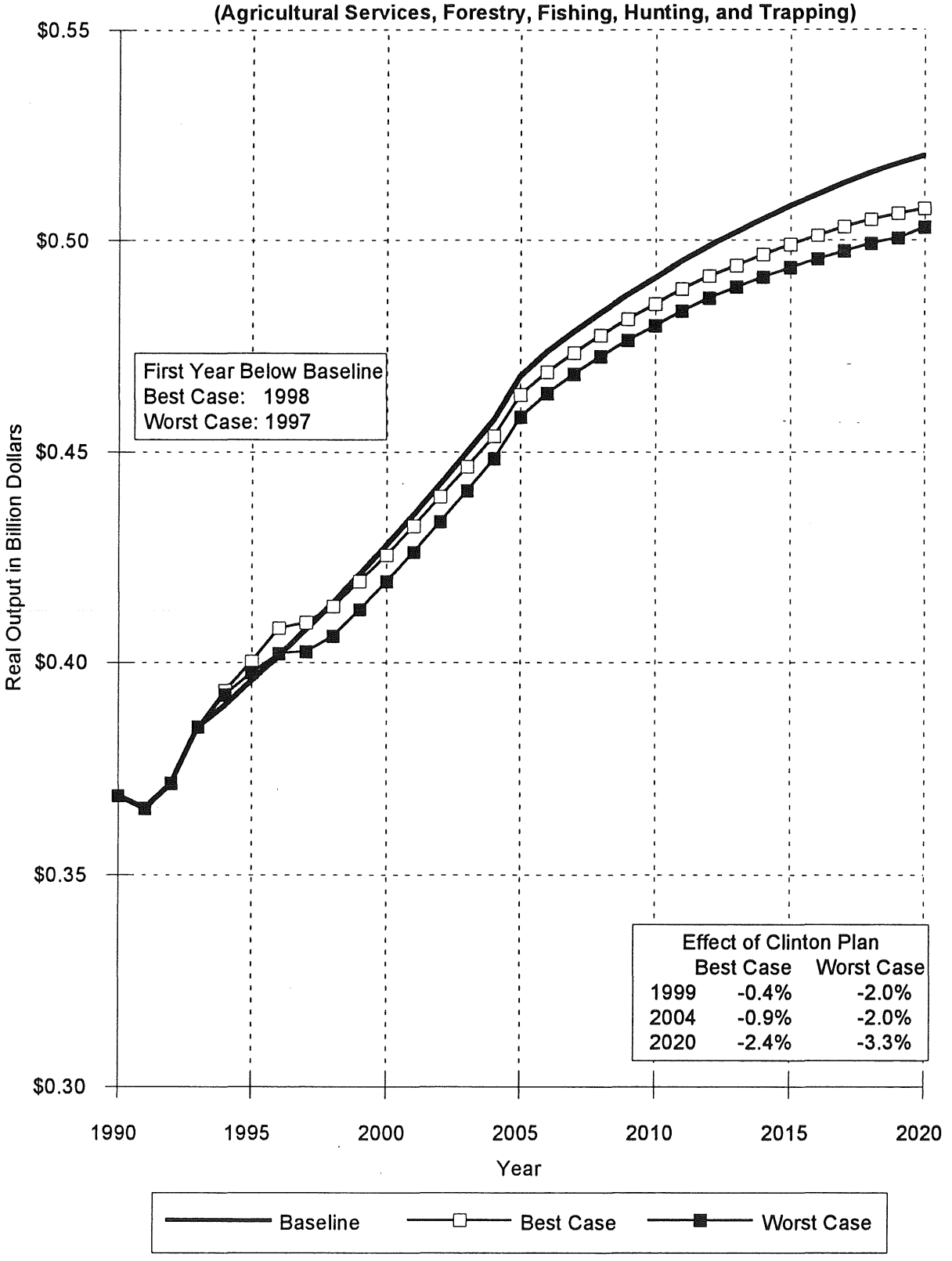


- Significant negative impacts under both scenarios.
- Most directly affected by the higher tax on petroleum.
- Periods of industry decline under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Agriculture, Forestry and Fishery Services Industry

(Agricultural Services, Forestry, Fishing, Hunting, and Trapping)

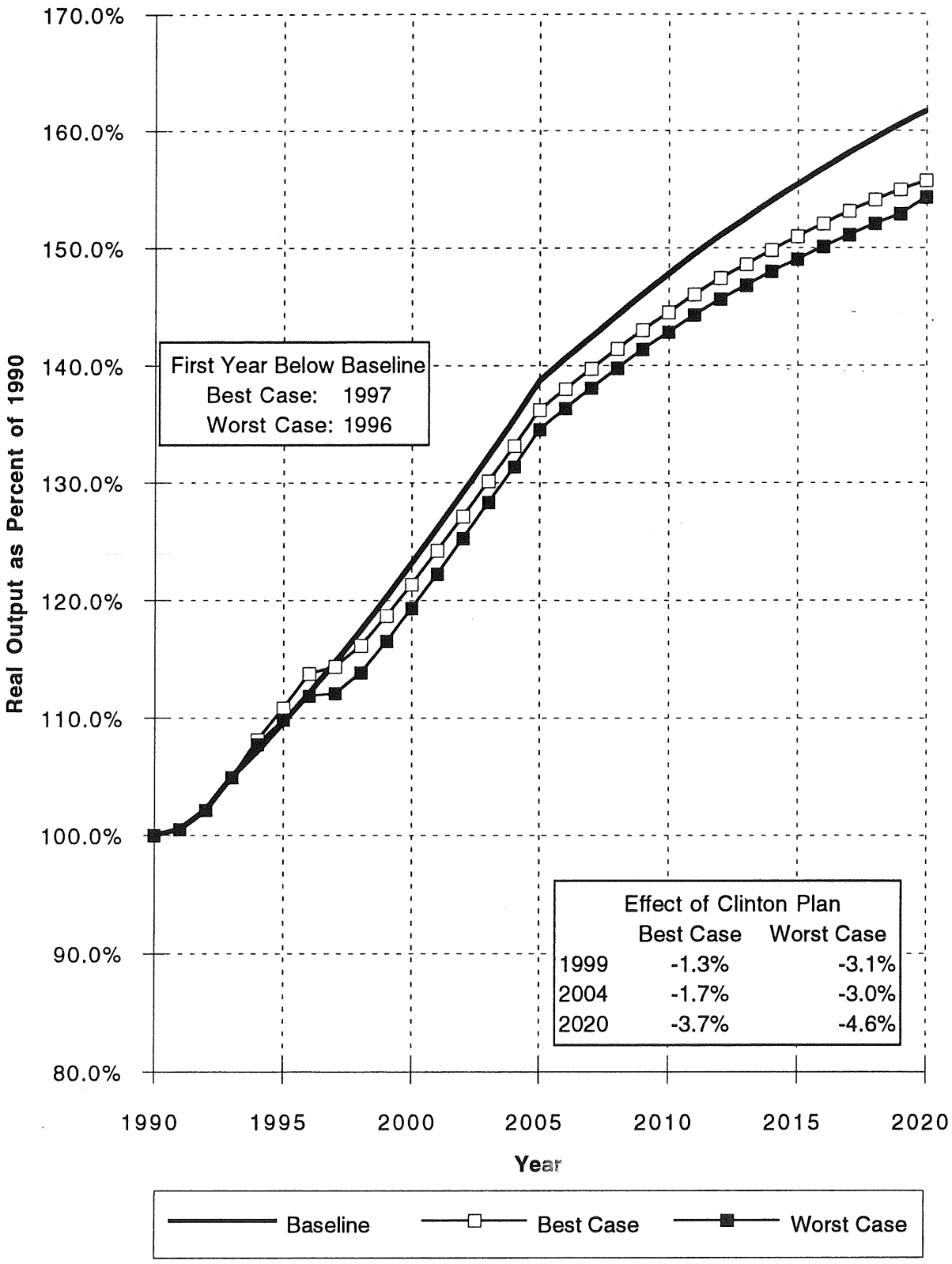


- Small, short-term gains under both scenarios.
- Reduced economic output in long-term under both sets of assumptions.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Effect on Minnesota Tourism Composite

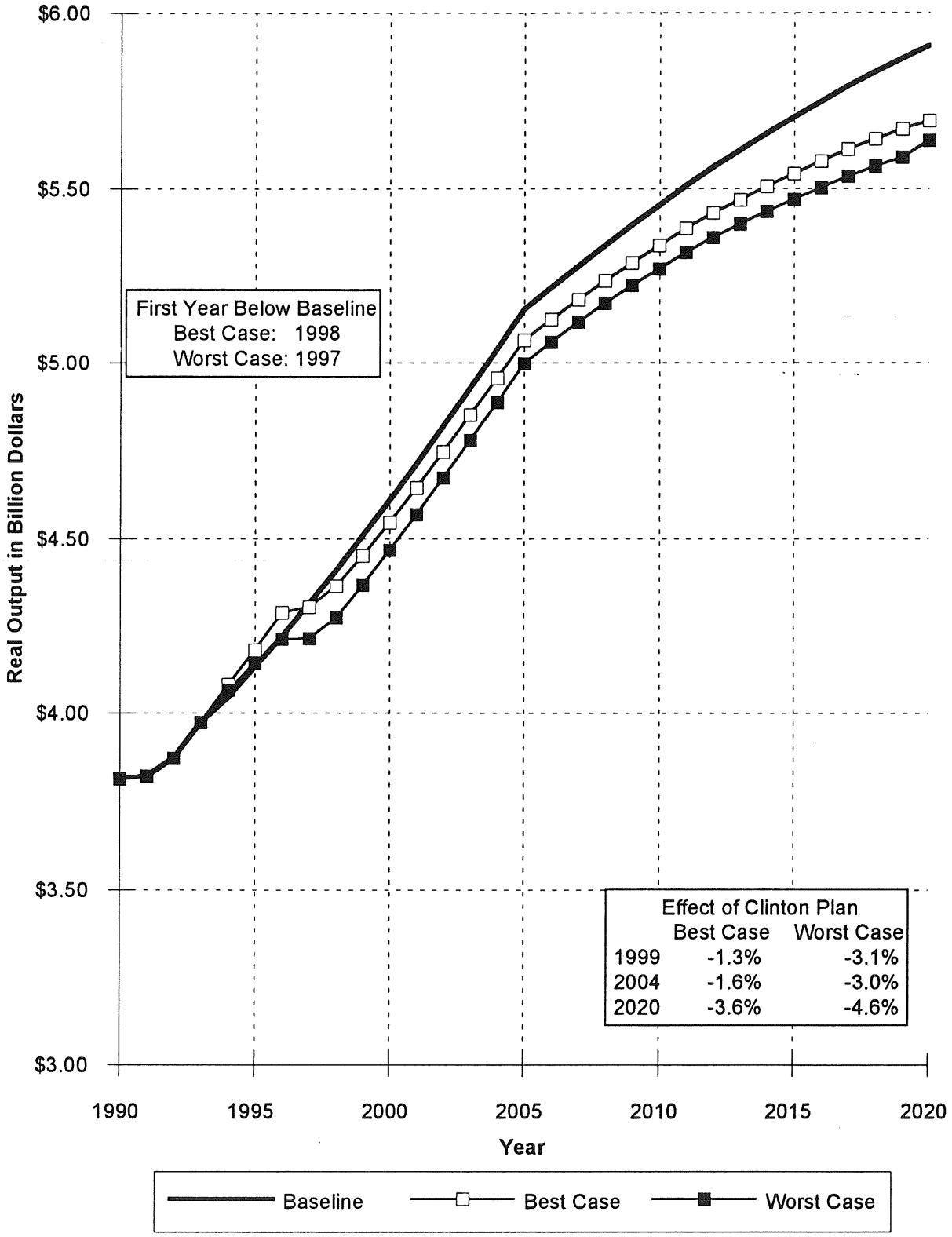
Includes Eating & Drinking, Amusement & Recreation, and Hotels



- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

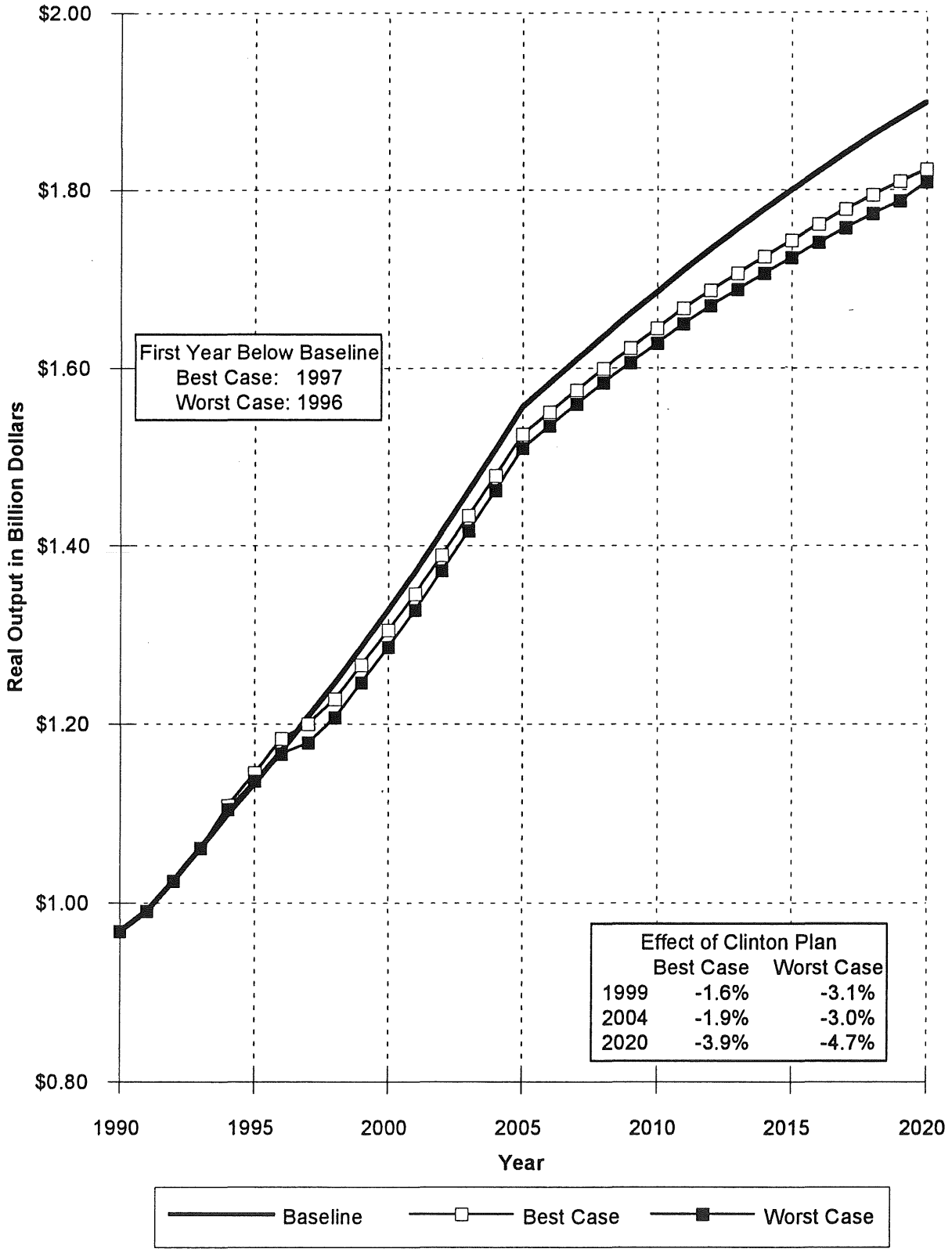
Impacts on Minnesota Eating and Drinking Establishments



- Small, short-term benefits and long-term performance reductions under both scenarios.
- Worse off than general state economy.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

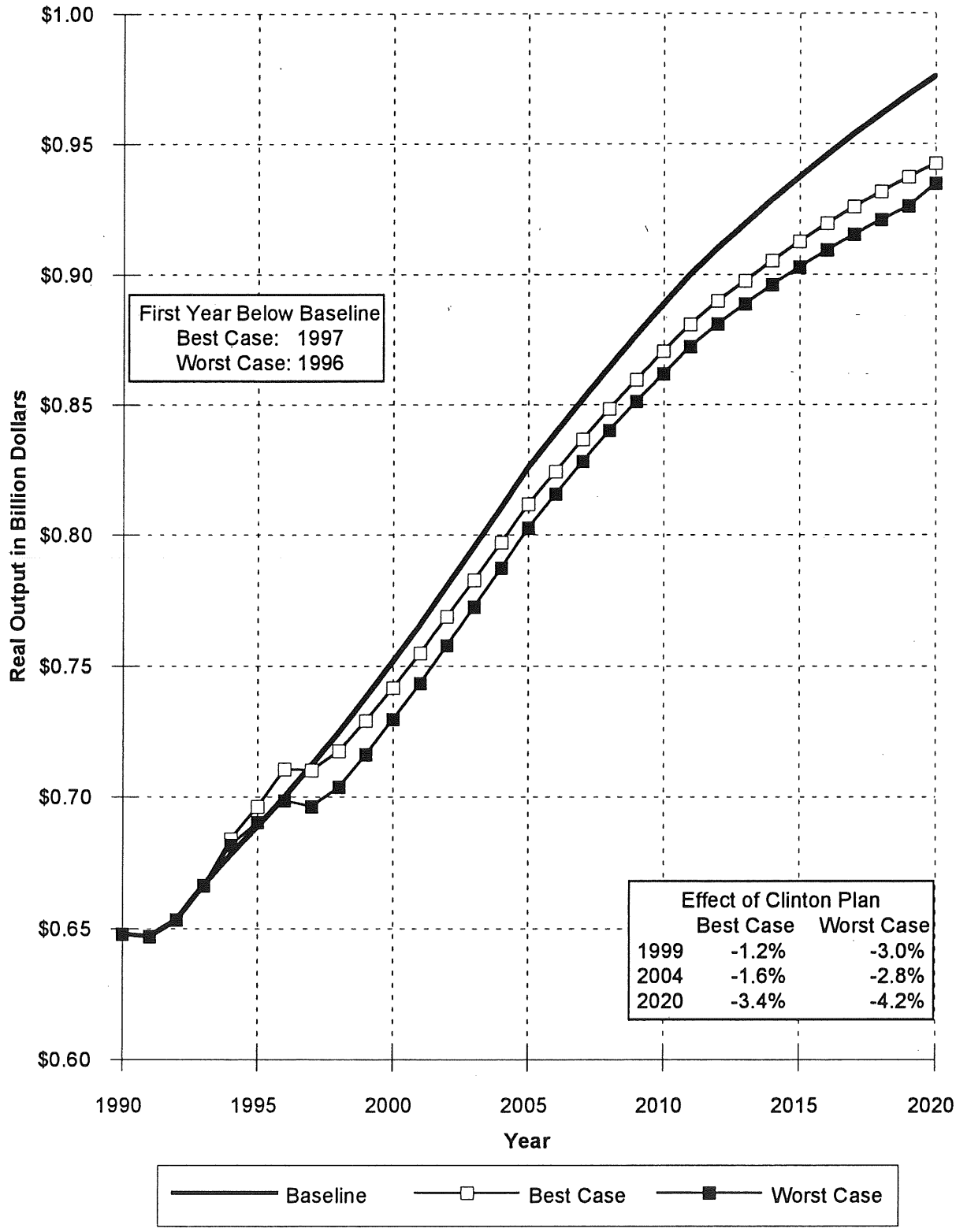
Impacts on Minnesota Amusement & Recreation Industry (Orchestras, Entertainers, Bowling Alleys, Sports, etc.)



- Significant reductions in industry economic activity under both scenarios.
- Two scenarios very similar in this industry.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Hotel Industry

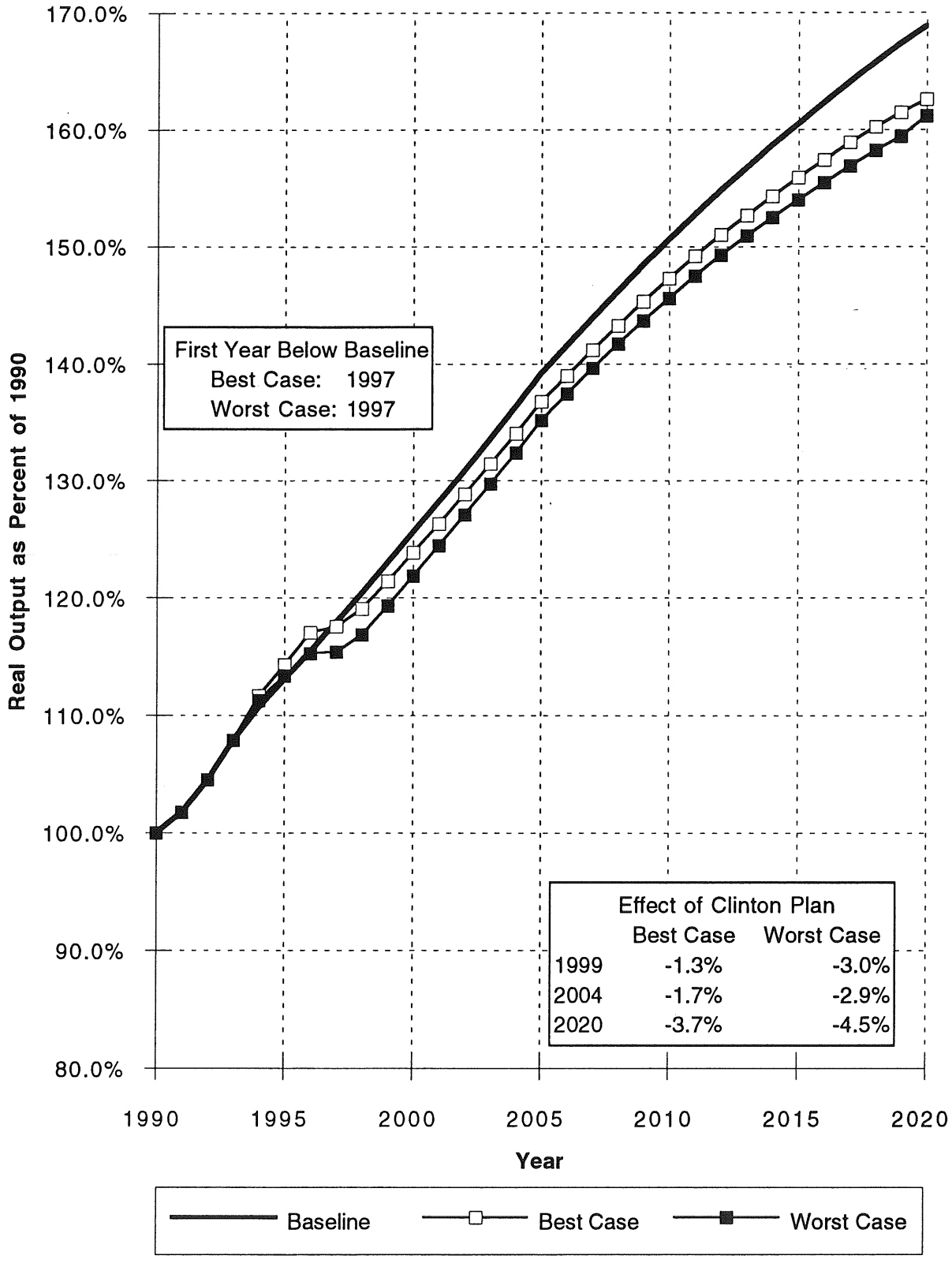


- Small, short-term benefits and long-term performance reductions under both scenarios.
- Worse off than general state economy.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

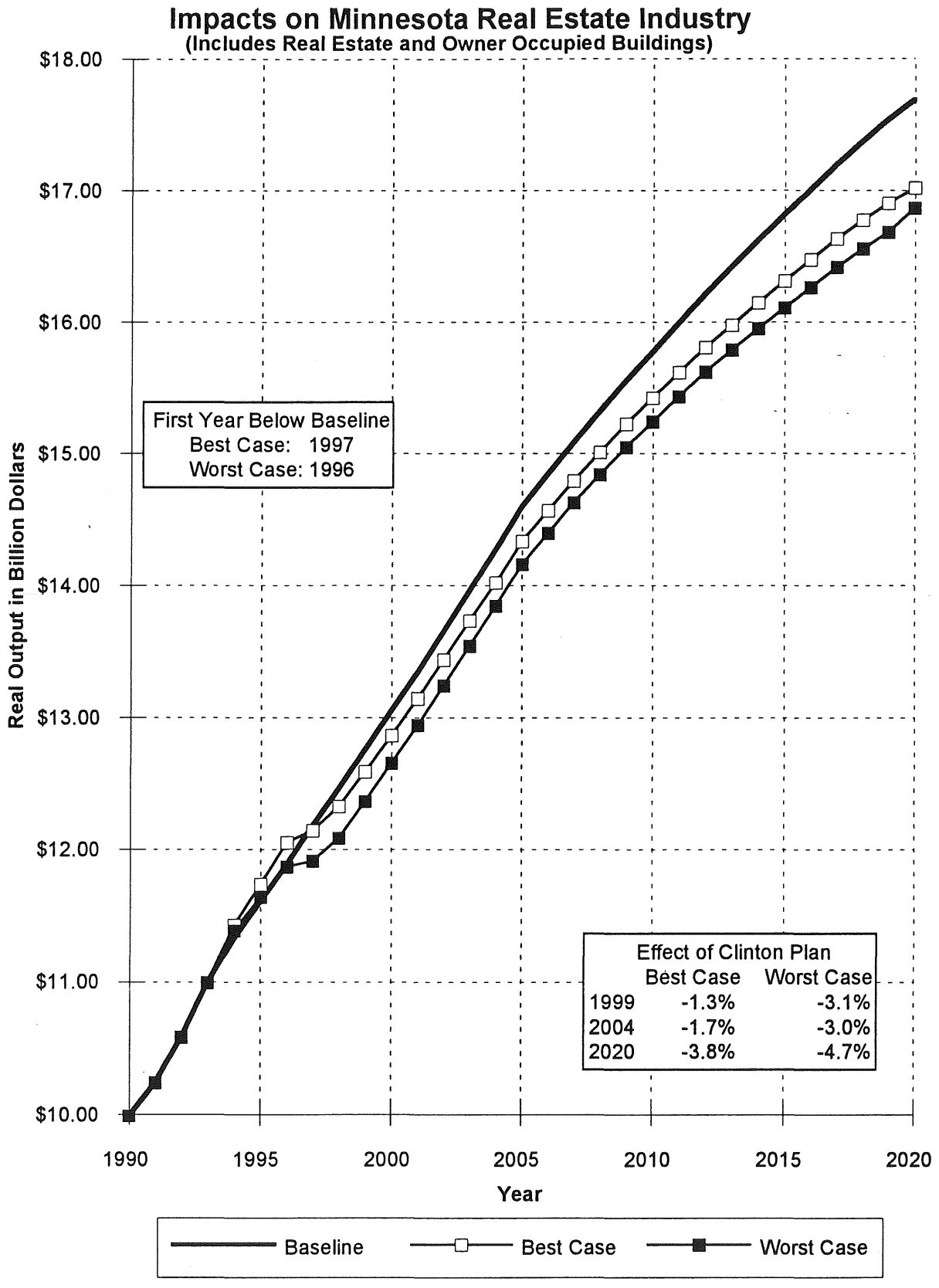
Effect on Minnesota Financial Composite

Includes Real Estate, Insurance, Banking and Credit & Finance



- Small, short-term benefits and long-term performance reductions under both scenarios

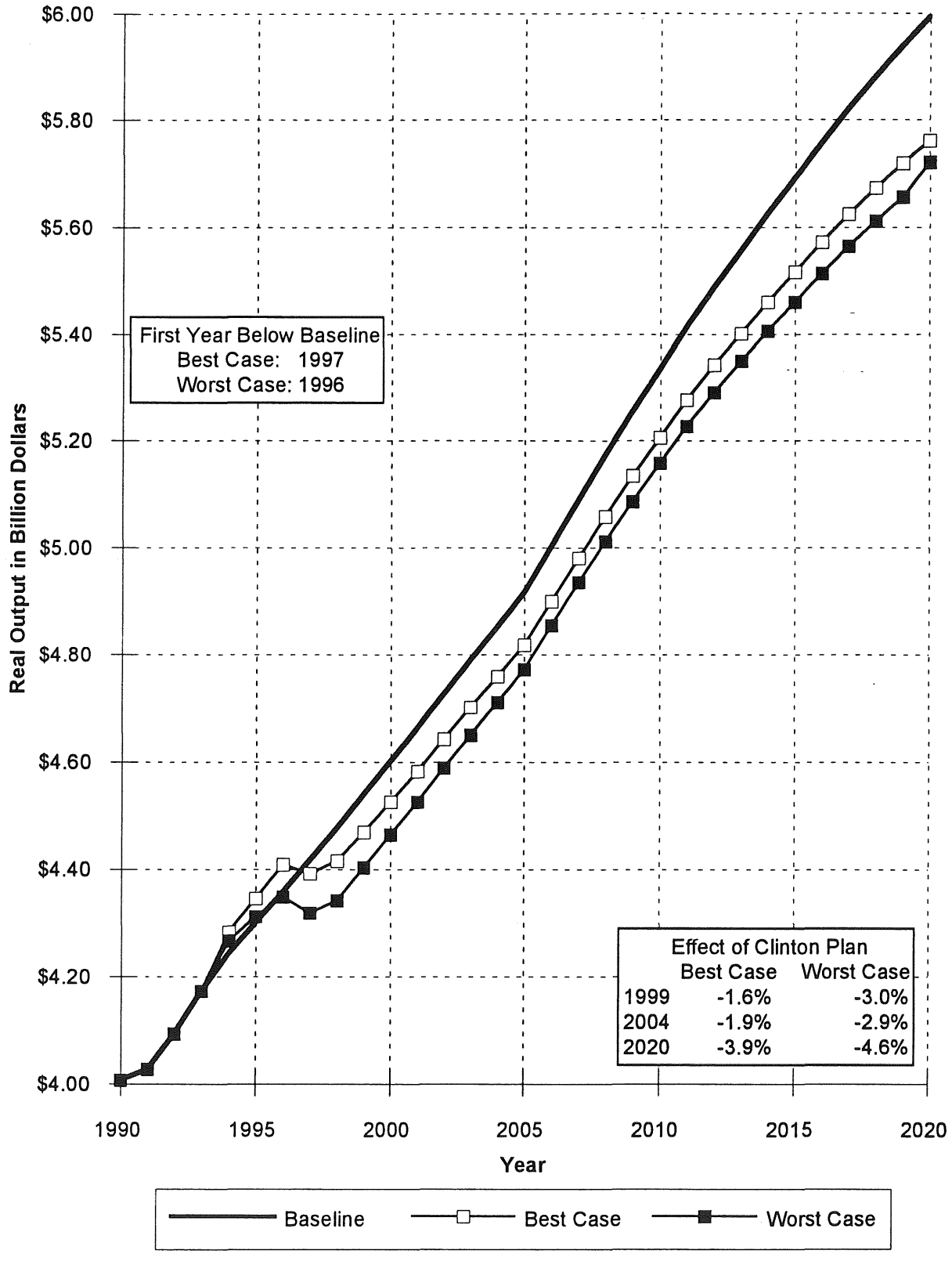
Analysis of Clinton Economic Proposal
Minnesota Department of Public Service



- Very small positive impacts from stimulus.
- Significant long-term liabilities for third largest industry.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

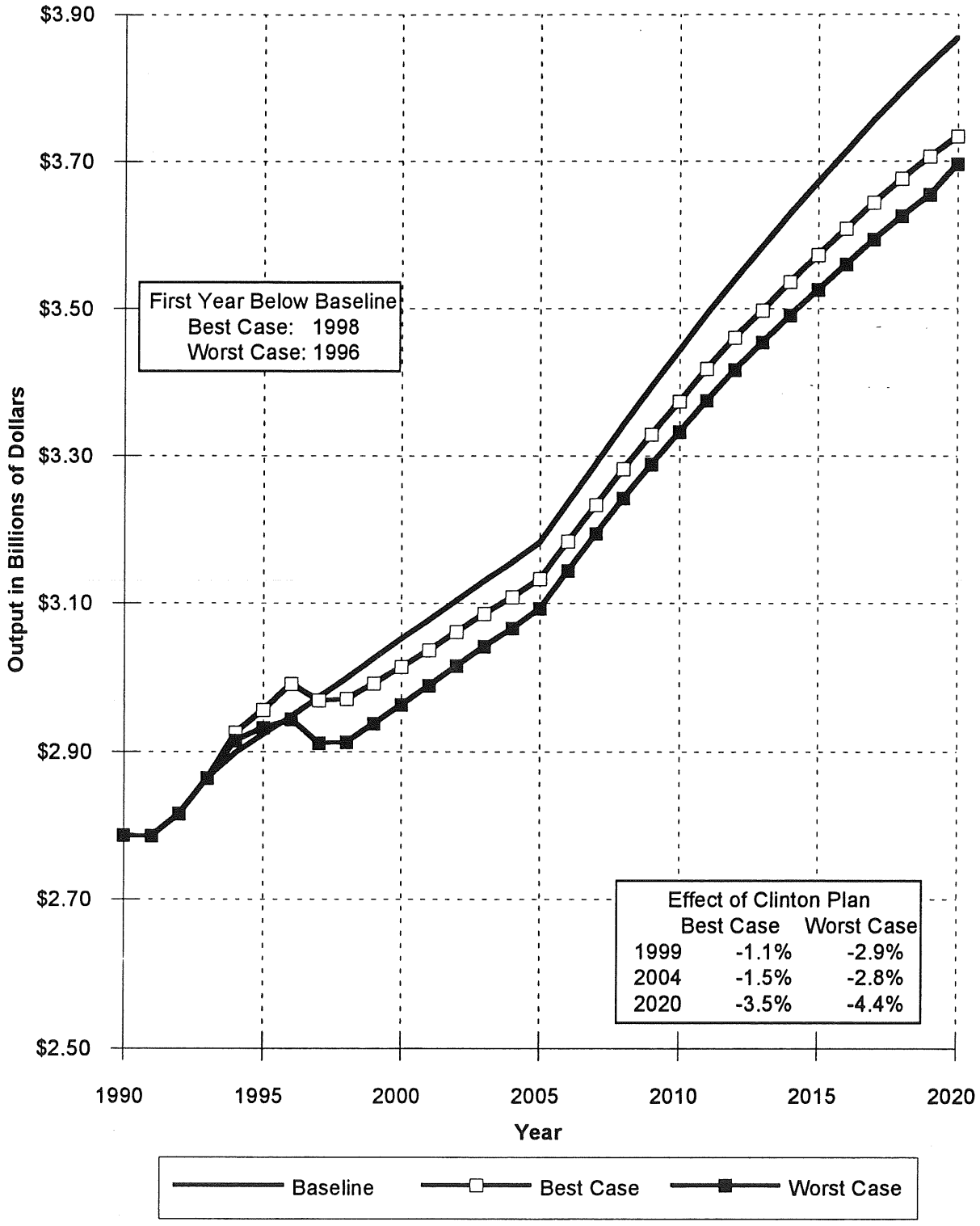
Impacts on Minnesota Insurance Industry



- Small, short-term benefits and long-term performance reductions under both scenarios.
- Worse off than general state economy.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Servioe

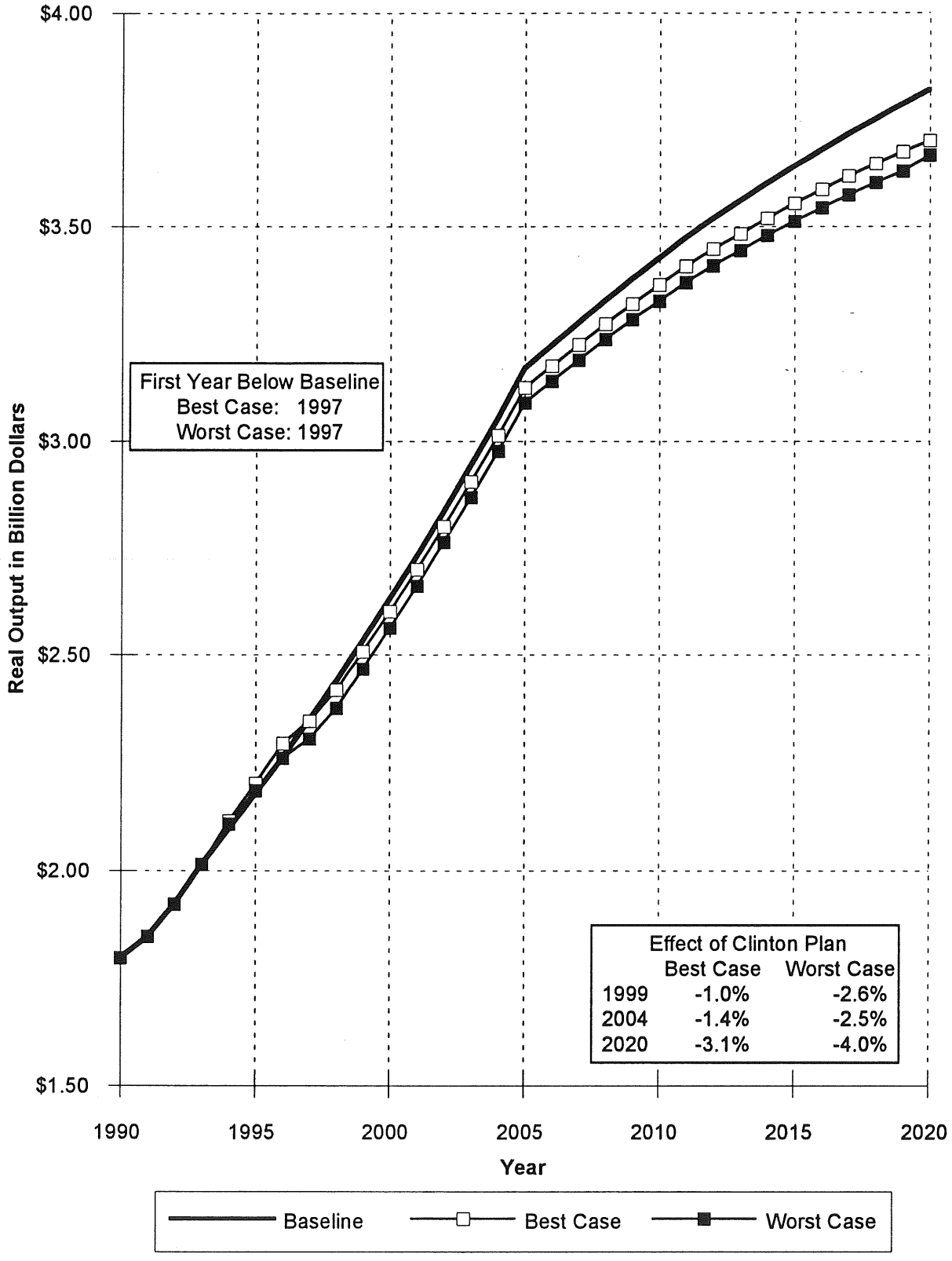
Impacts on Minnesota Banking Industry



- Small short-term gain under both scenarios.
- Two-year period of negative growth under both scenarios.
- Significant negative long-term impacts under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Credit & Finance Industry (Non-Bank Banks)

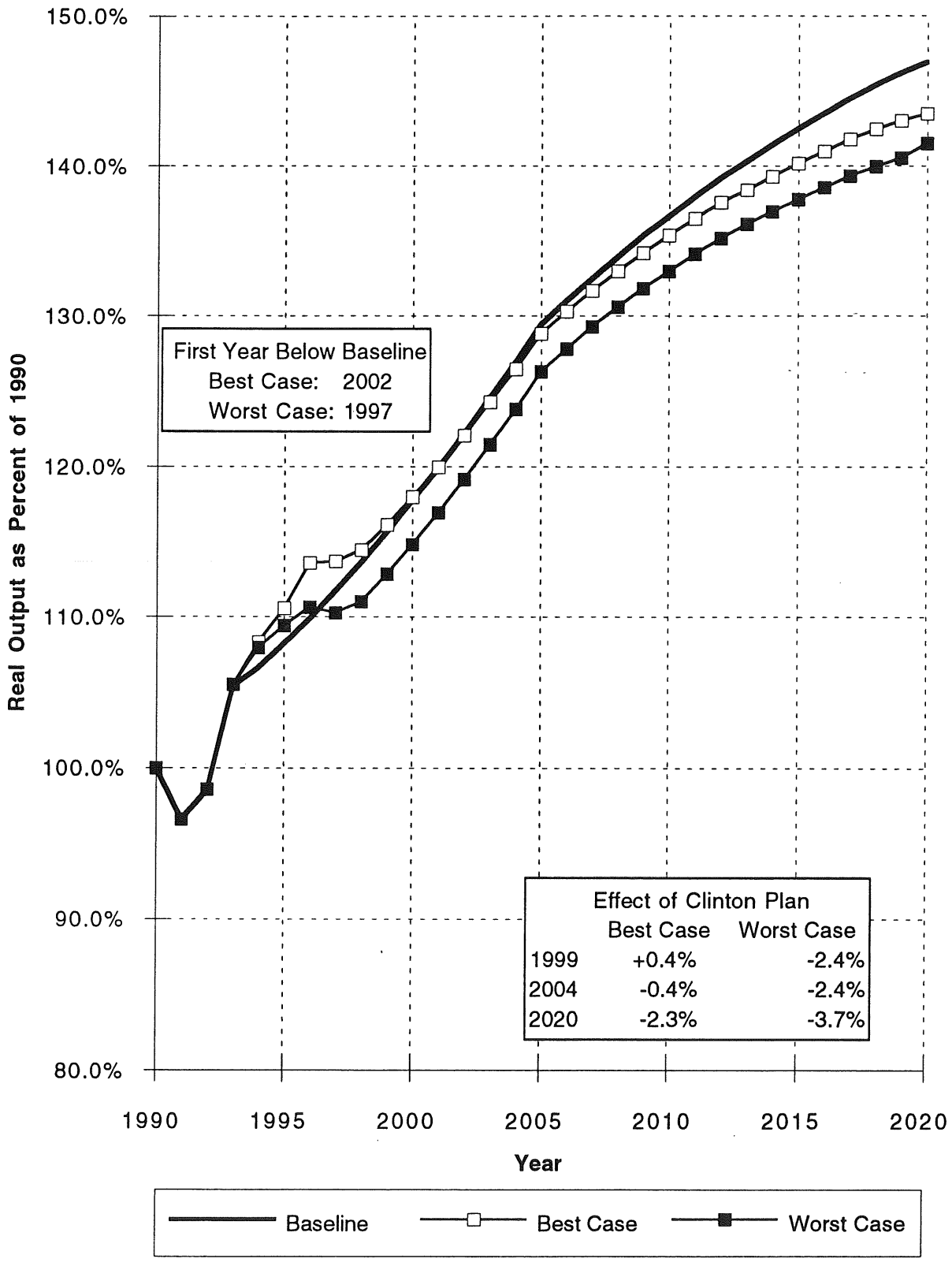


- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Effect on Minnesota Forestry Composite

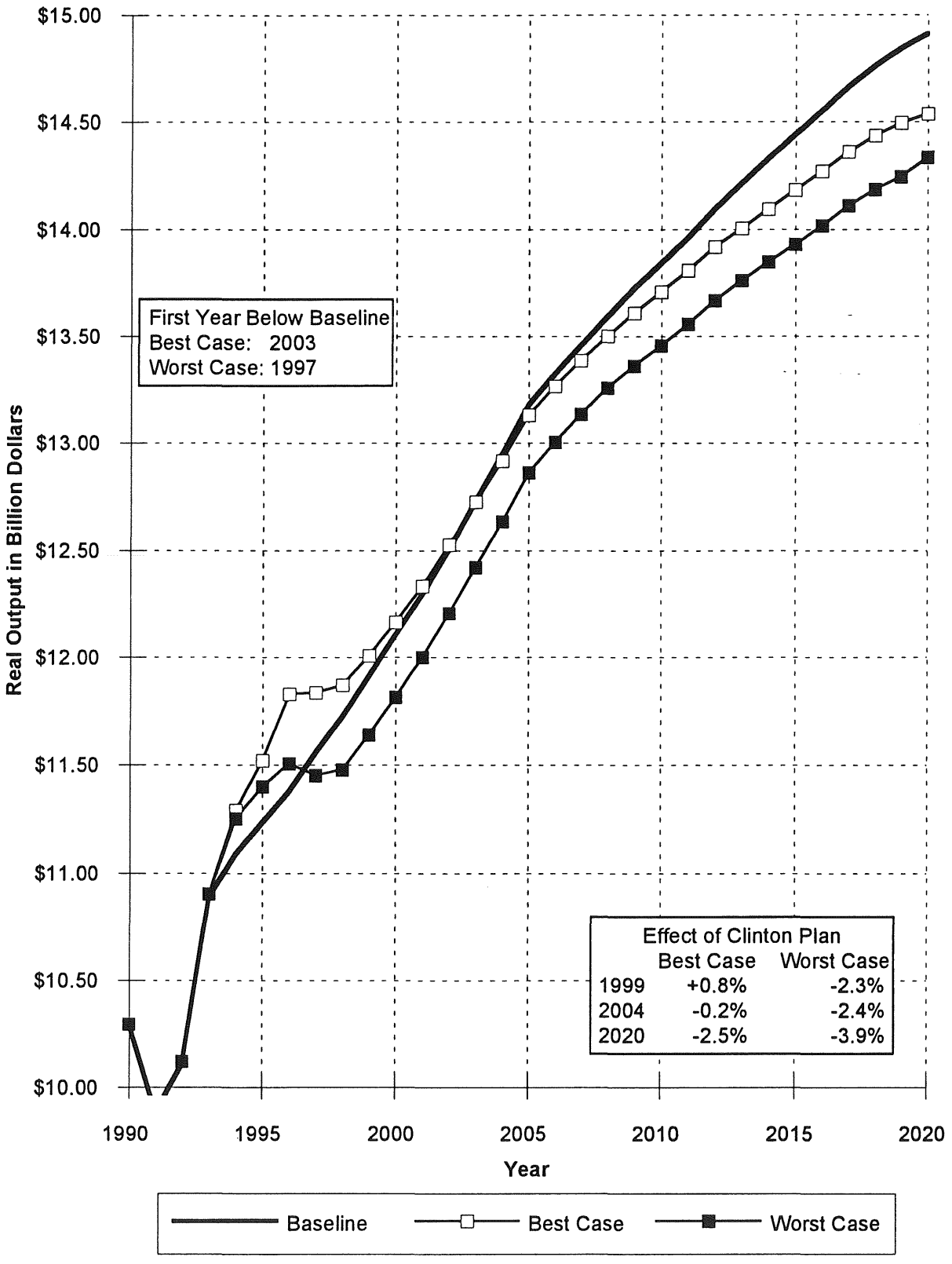
Includes Lumber, Paper, Construction and Forestry Services



- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Construction Industry

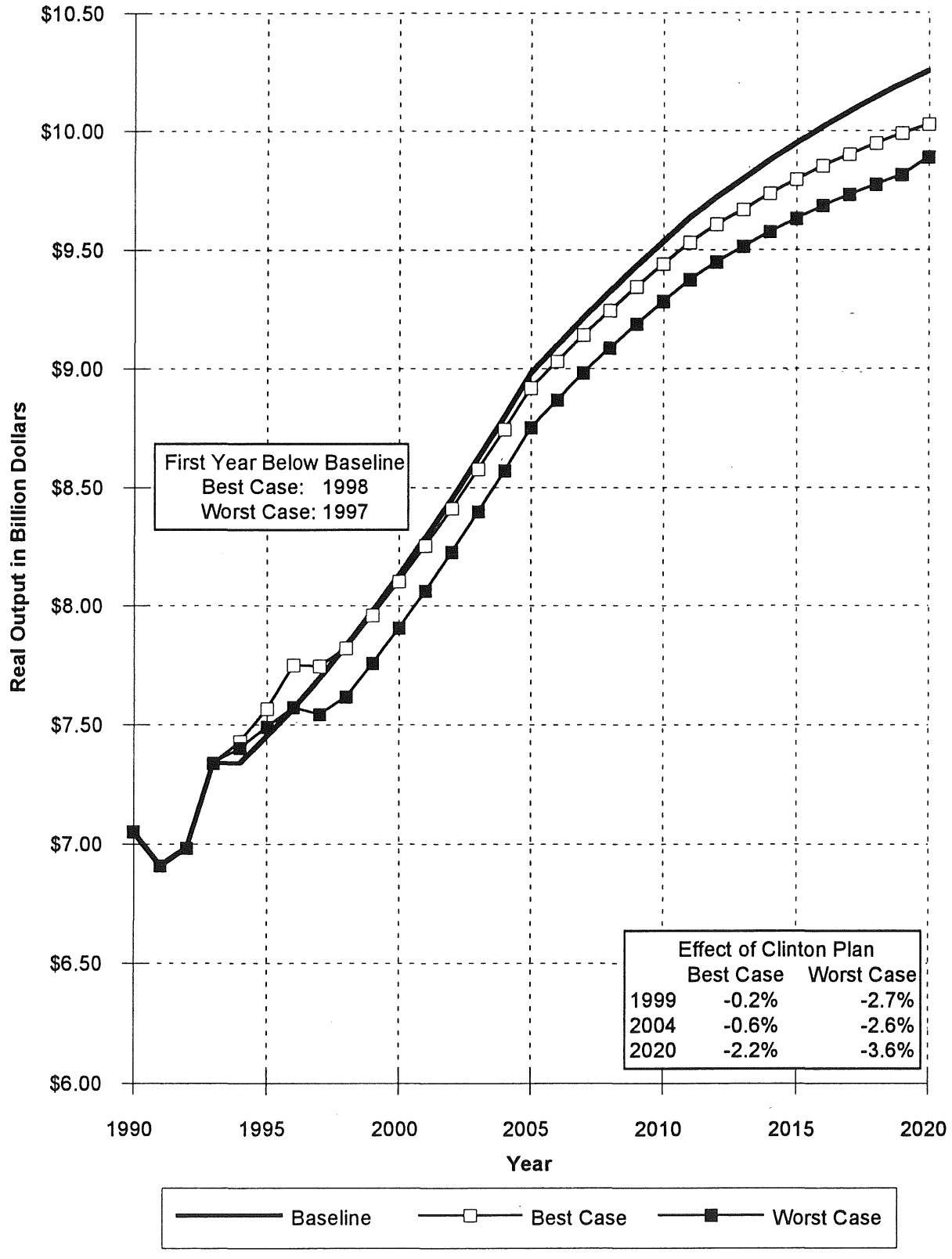


- Substantial benefits from stimulus package under best case.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Paper Industry

(Pulp, Paper, Paperboard Mills, Containers & Boxes, Other Converted Paper Products)

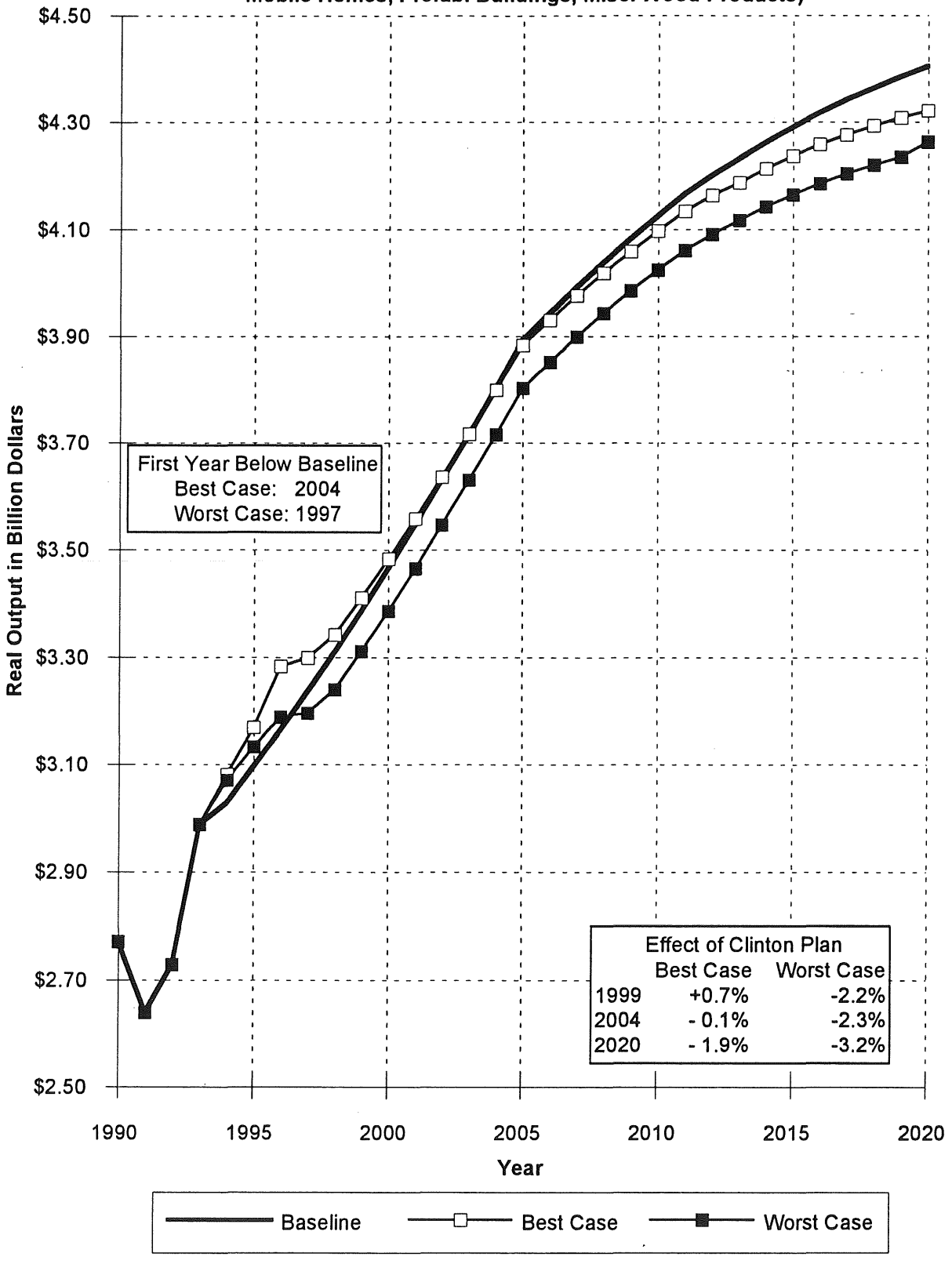


- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Lumber Industry

(Logging, Sawmills, Other Wood Milling, Veneer & Plywood, Wood Containers, Mobile Homes, Prefab. Buildings, Misc. Wood Products)

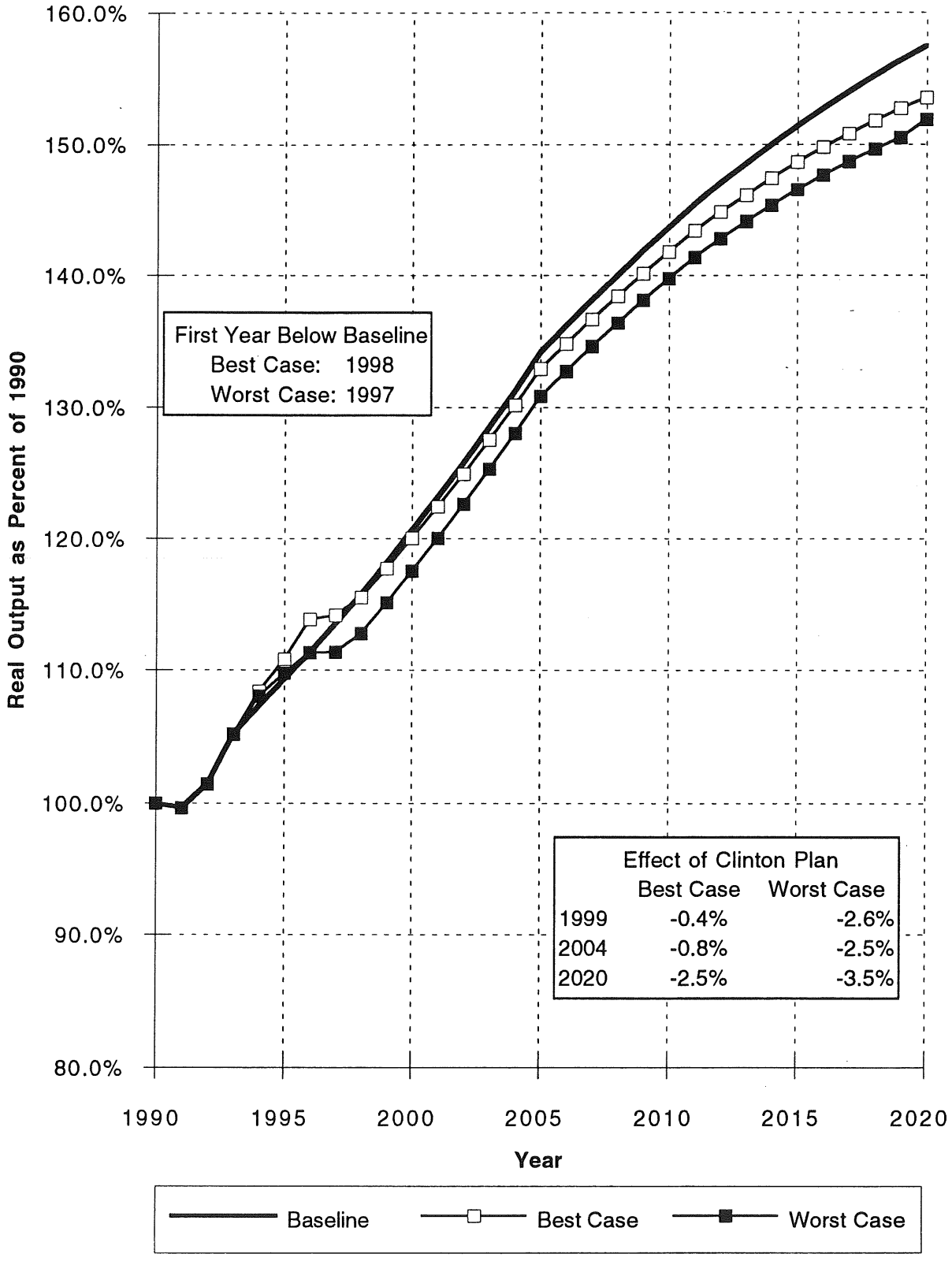


- Positive benefits of stimulus last ten years under best case.
- Significant economic reduction under worst case.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Effect on Minnesota Transportation Composite

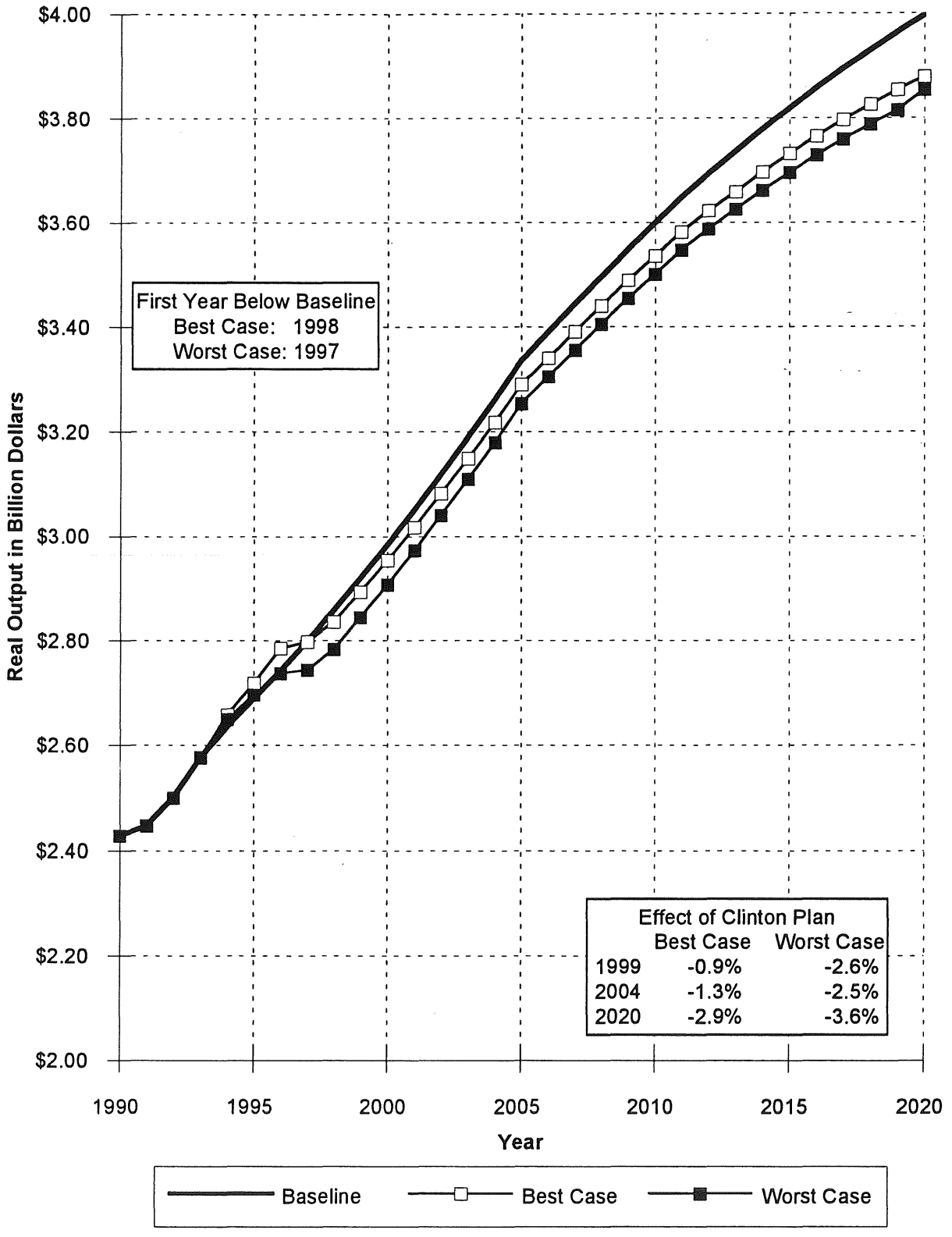
Includes Trucking, Air Transportation and Rail



- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

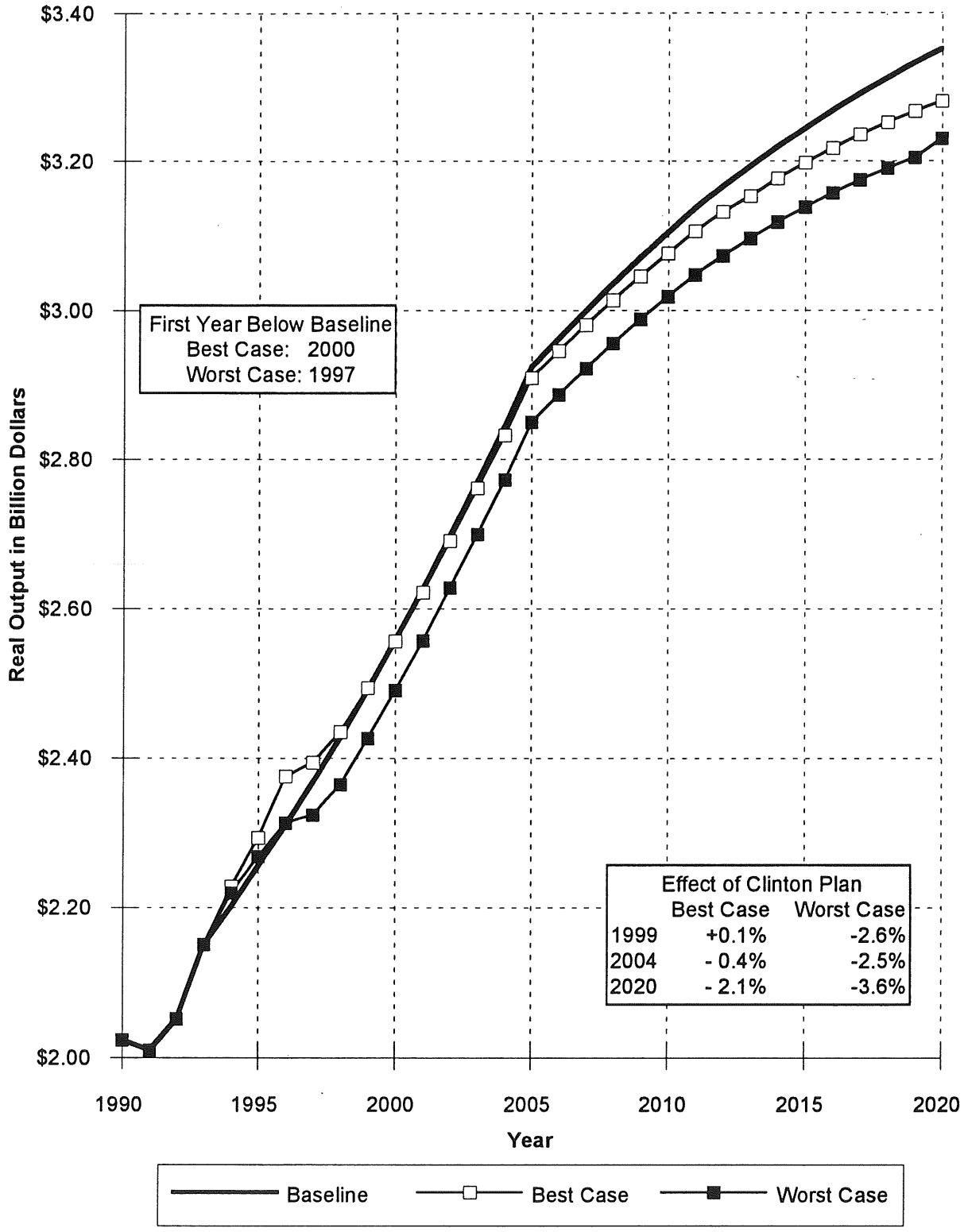
Impacts on Minnesota Air Transportation Industry



- Air Transportation shows small short-term improvement under both scenarios.
- By 1997, positive effects have worn off and growth slows under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

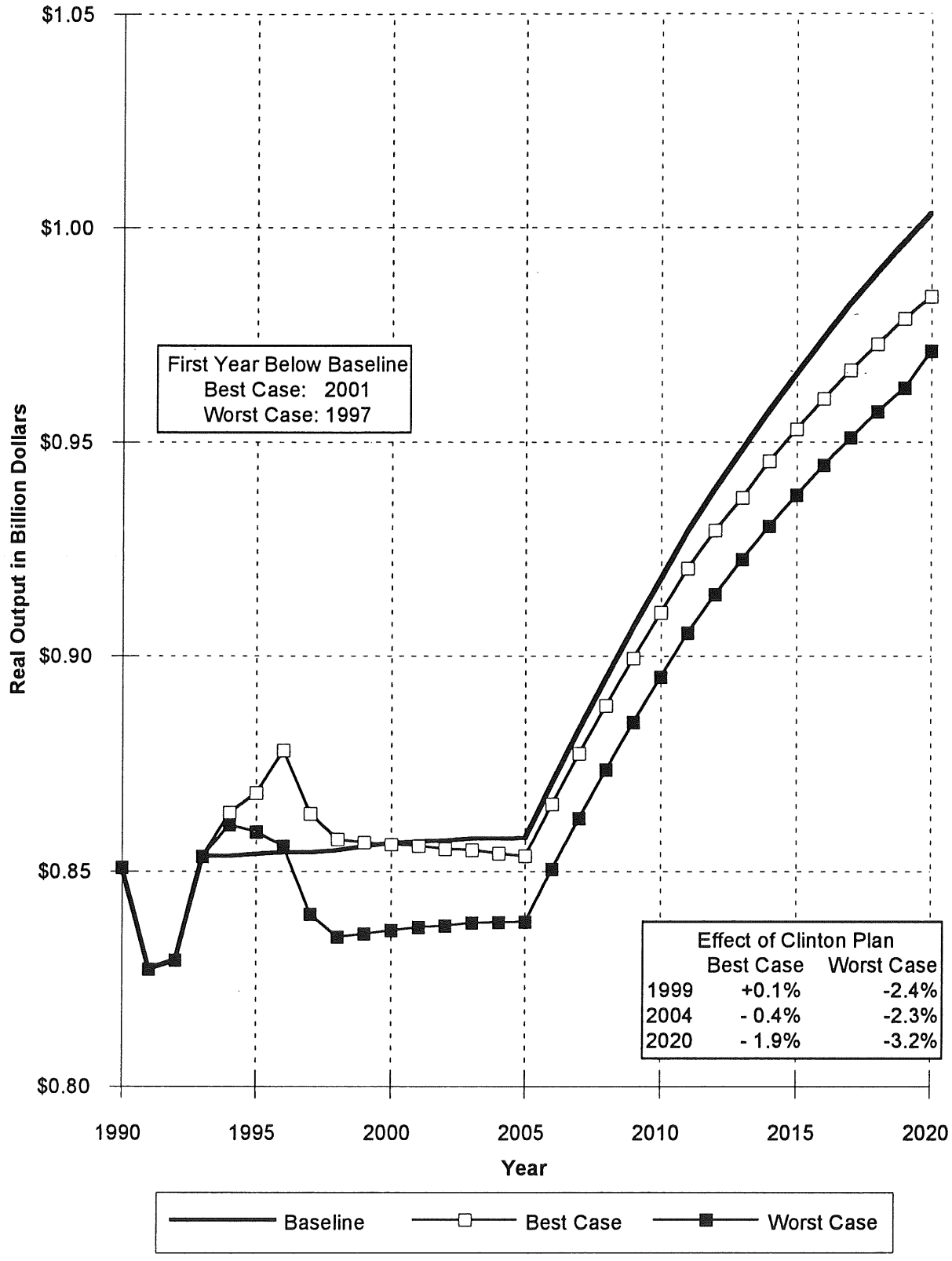
Impacts on Minnesota Trucking and Warehousing Industry



- Smal, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Railroad Industry

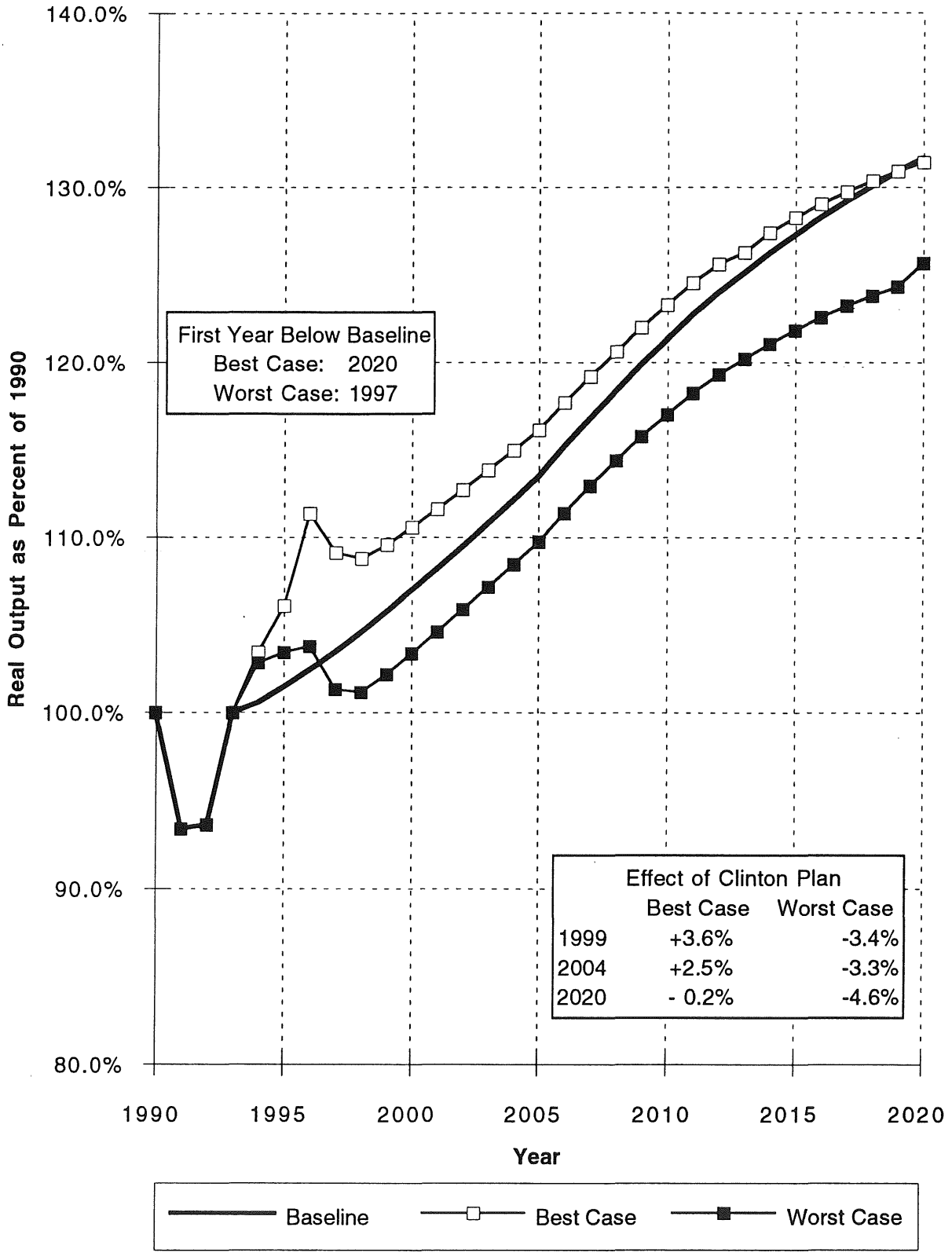


- Baseline shows no growth until 2005.
- Short-term gains, but long-term decreases under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Effect on Minnesota Metal Industry Composite

Includes Mining, Primary Metals, Fabricated Metals and Motor Vehicles

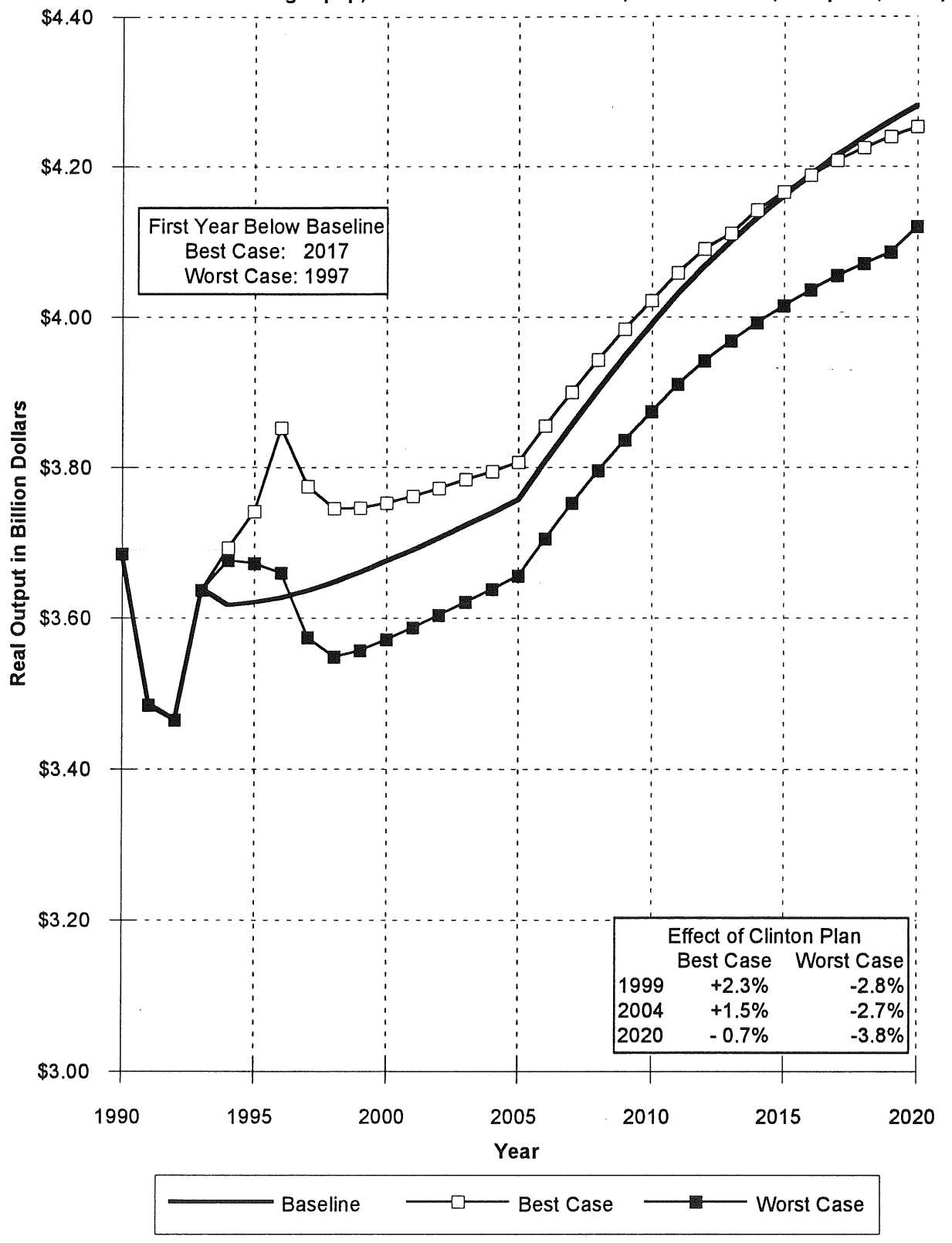


- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Fabricated Metals Industry

(Cans, Shipping Containers, Cutlery, Hardware, Plumbing, Forgings, Stampings, Non-Elect. Heating Equip, Structural Metal Products,Metal Services, Weapons, Misc.)

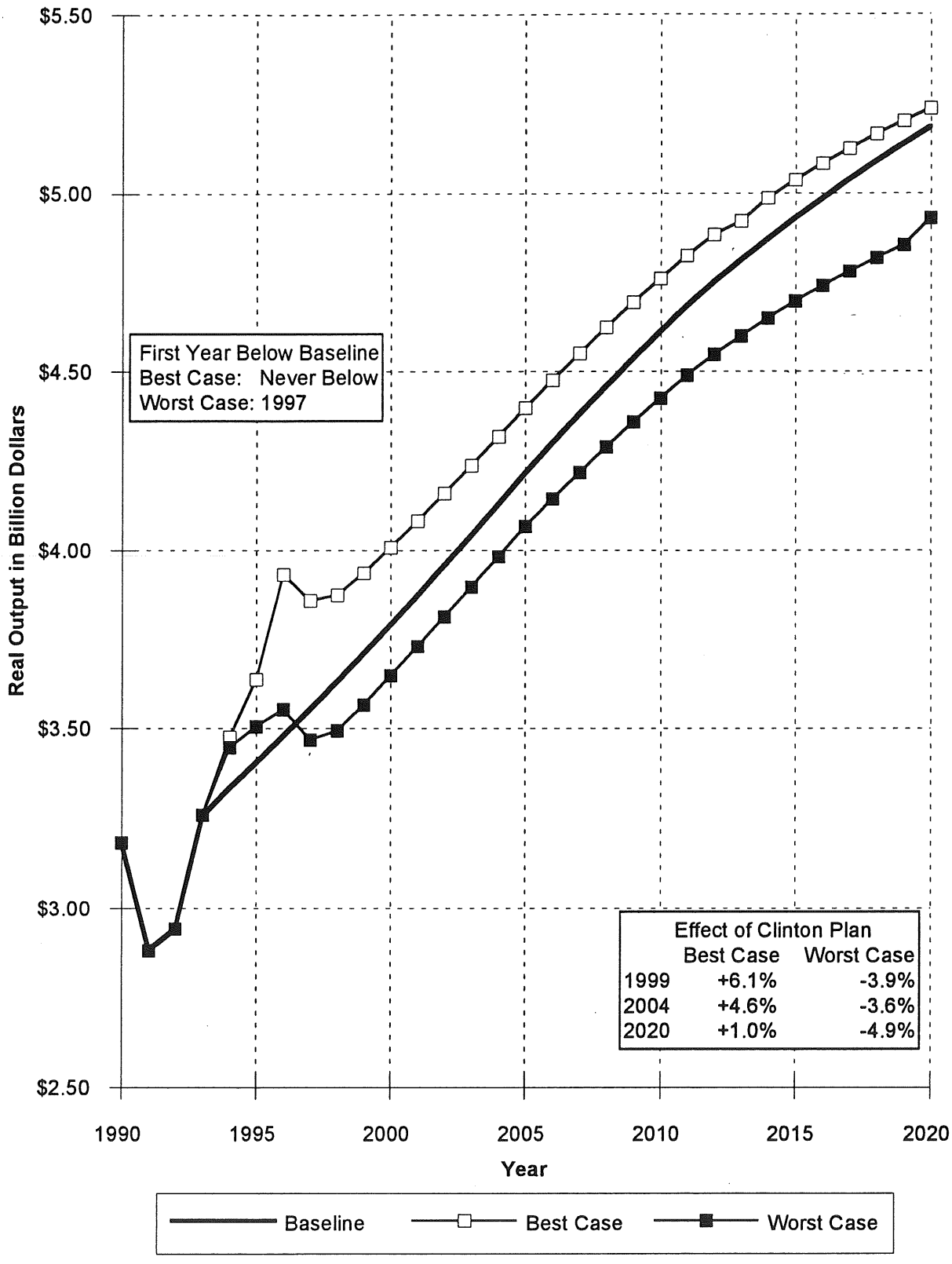


- Best case out-performs baseline until 2017.
- Four years of economic decline under worst case.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Motor Vehicle Industry

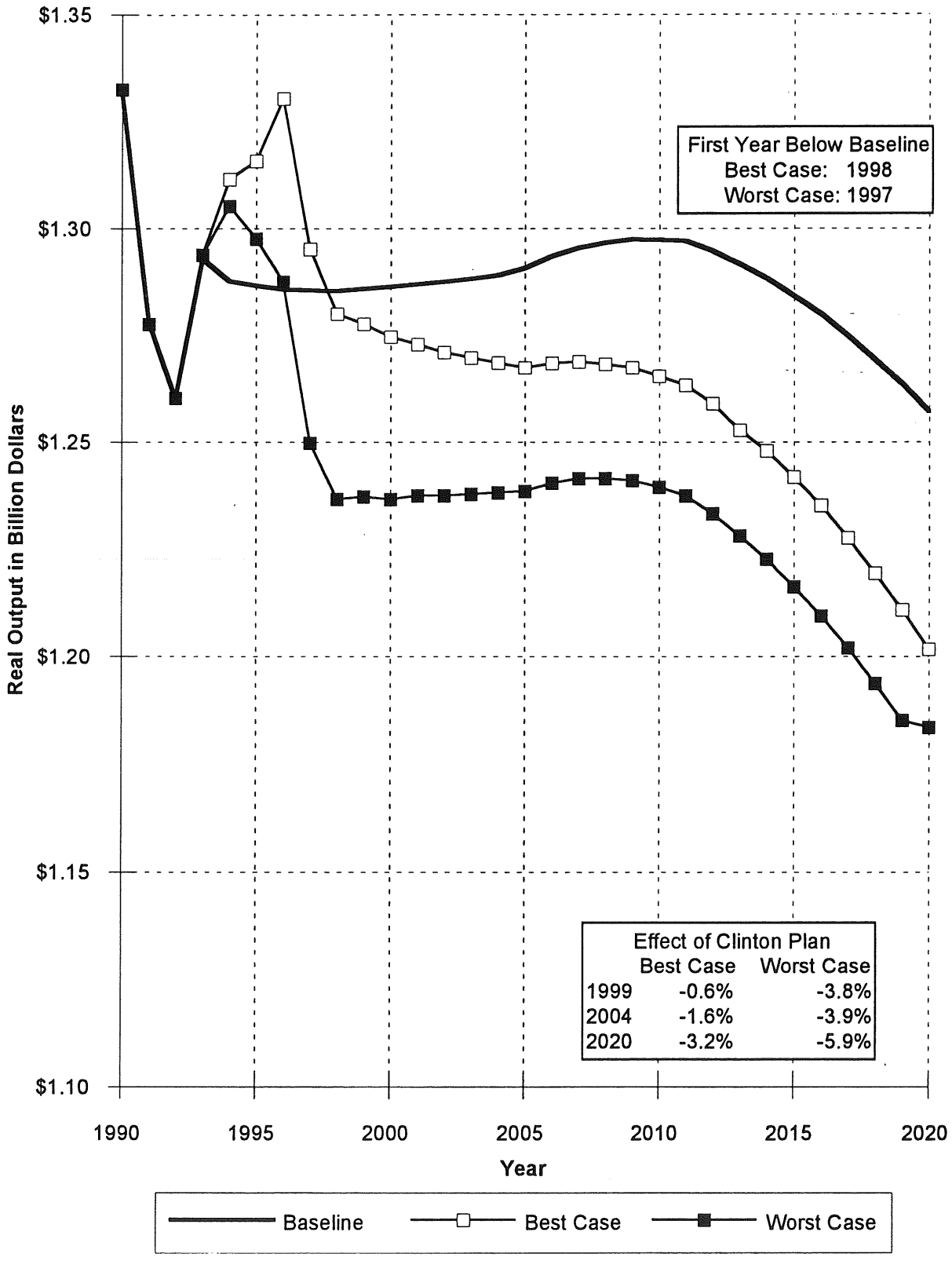
(Vehicles, Parts, Car & Truck Bodies, Trailers & Mobile Homes)



- Best case out-performs baseline throughout the projection.
- Long-term reductions under worst case.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Mining Industry

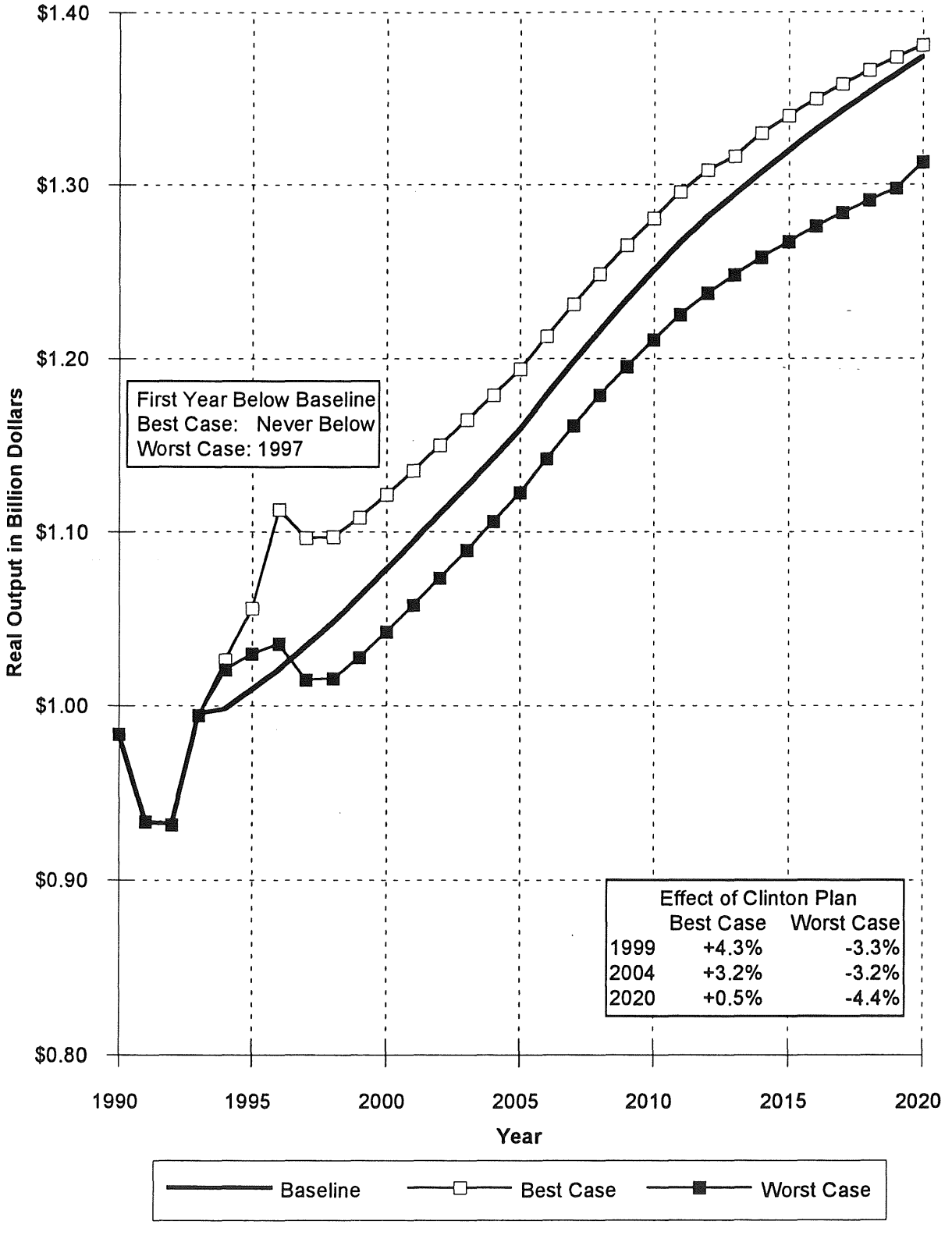


- Industry with largest negative impact.
- Severe problems under all scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Primary Metals Industry

(Blast Furnaces, Steel Products, Foundries, Primary Non-Ferrous Metals, Misc. Primary and Secondary Metals, Nonferrous Rolling & Drawing)

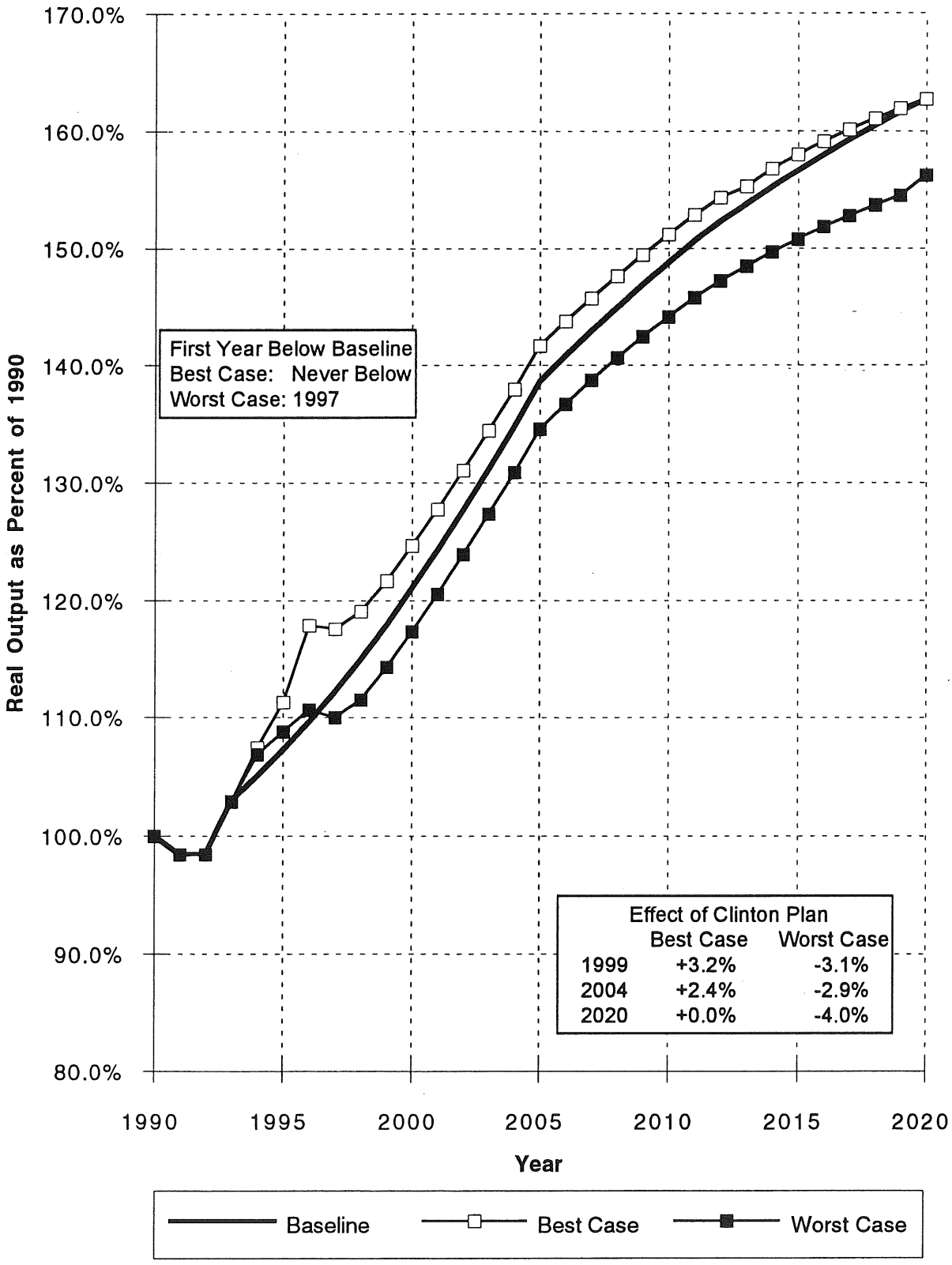


- Best case out-performs baseline thoughout projection.
- Long-term liabilities under worst case.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Effect on Minnesota High Tech Composite

Includes Instruments, Electrical Equipment, Communications

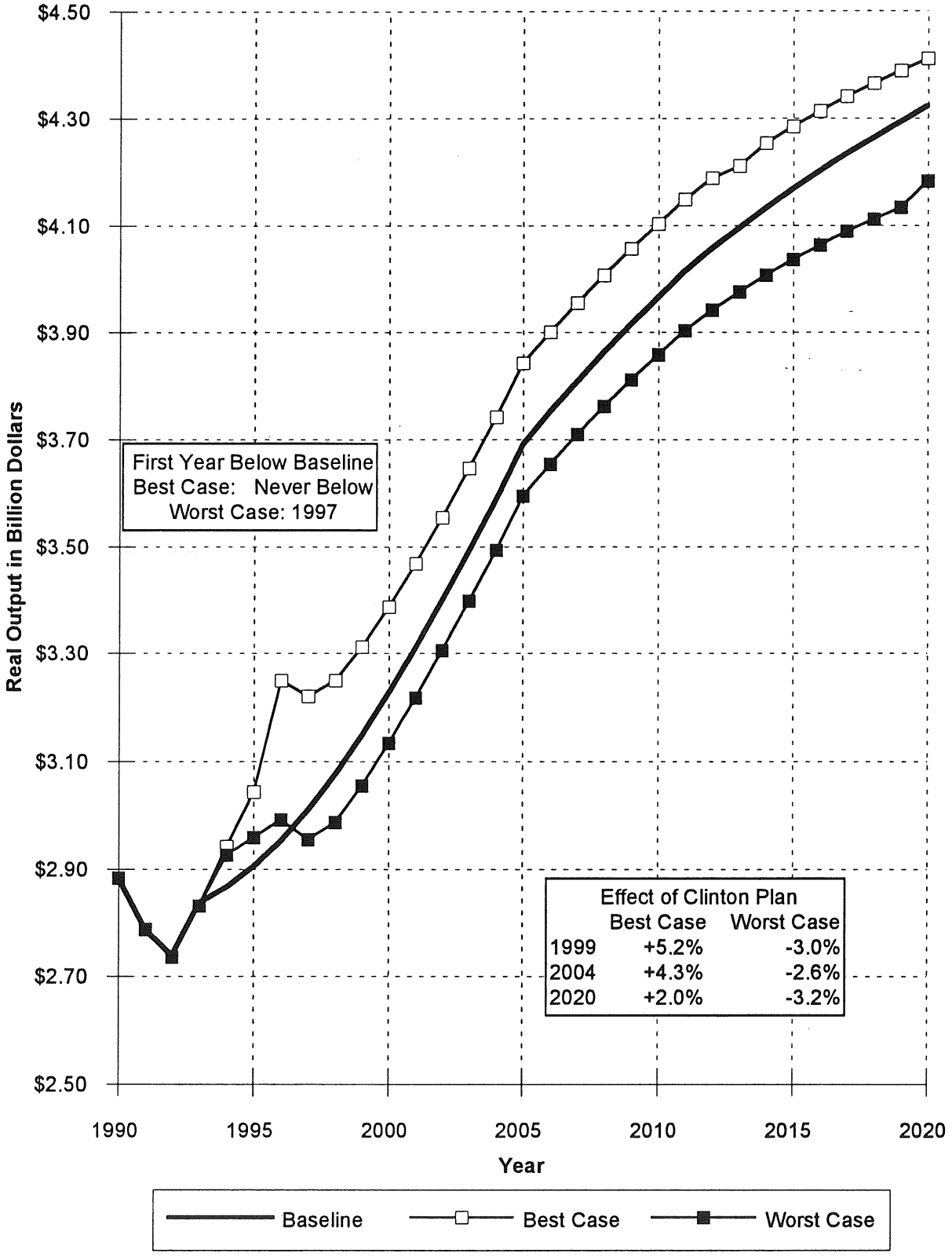


- Small short-term benefits and long-term performance reductions under Worst Case scenario.
- Better performance throughout under Best Case.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Instrument Industry

(Search & Navigation Equip., Measuring Devices, Watches, Ophthalmic Goods, Medical Instruments & Supplies, Camera Equipment & Supplies)

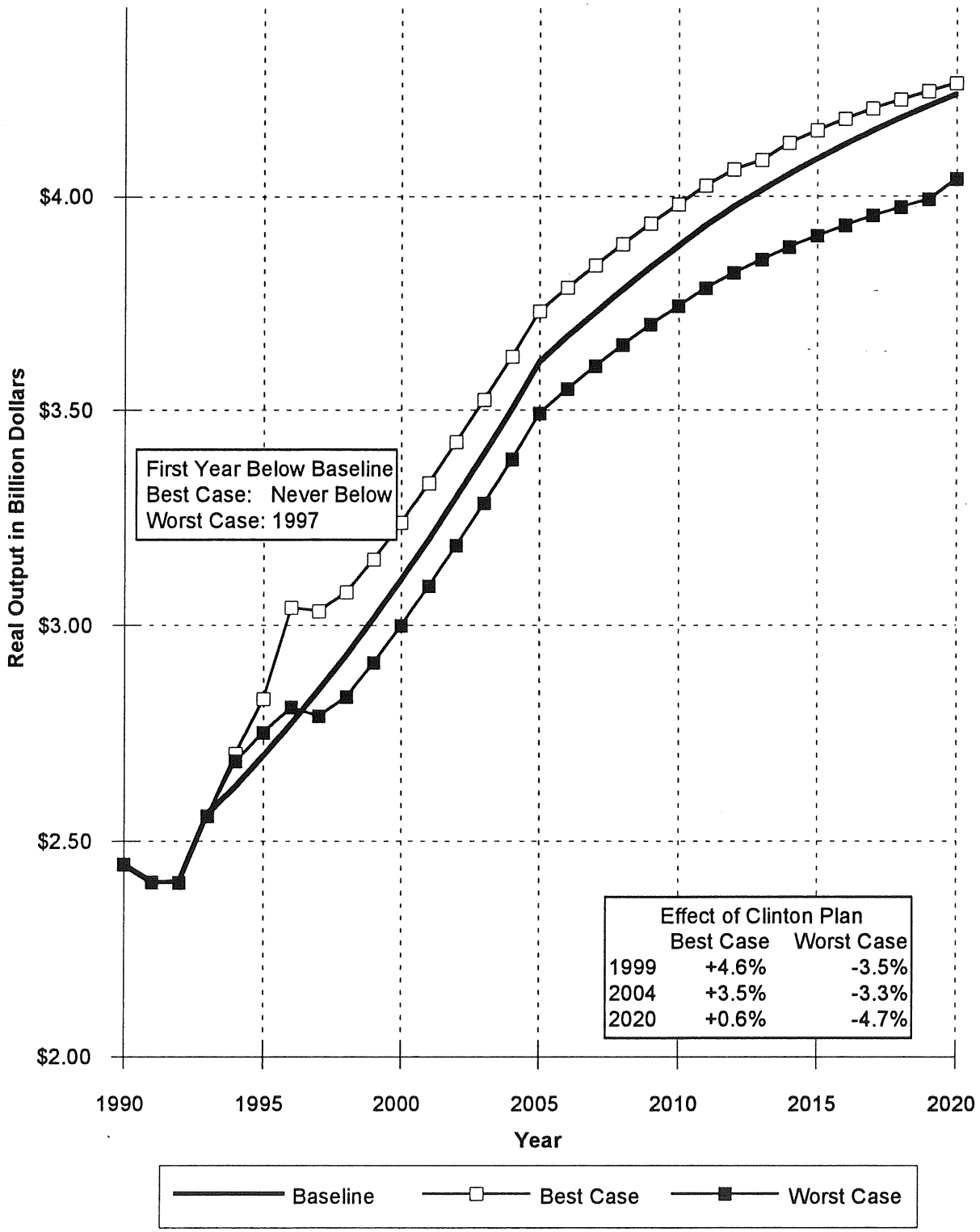


• Best case out-performs baseline throughout projection.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Electric Equipment Industry

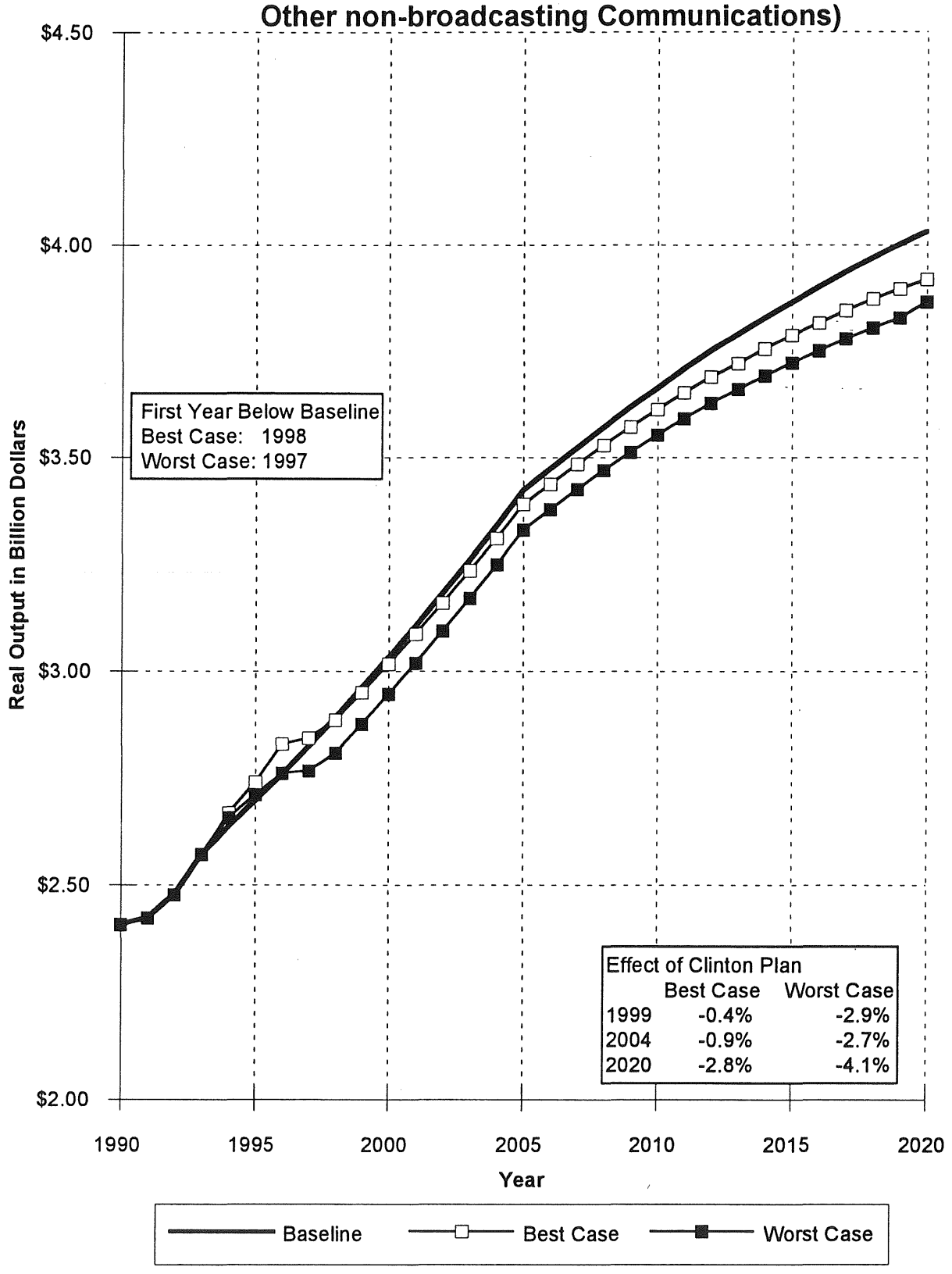
Distribution Equip., Industrial Apparatus, Household Appliances, Lighting and Wiring, Audio & Video Equip, Telephones & Telegraphs, Communications Equip., Semiconductors, Elect. Components, Batteries, Engine Elect. Parts, Elect. Equip. and Supplies, etc.



- Best case out-performs baseline throughout projection.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

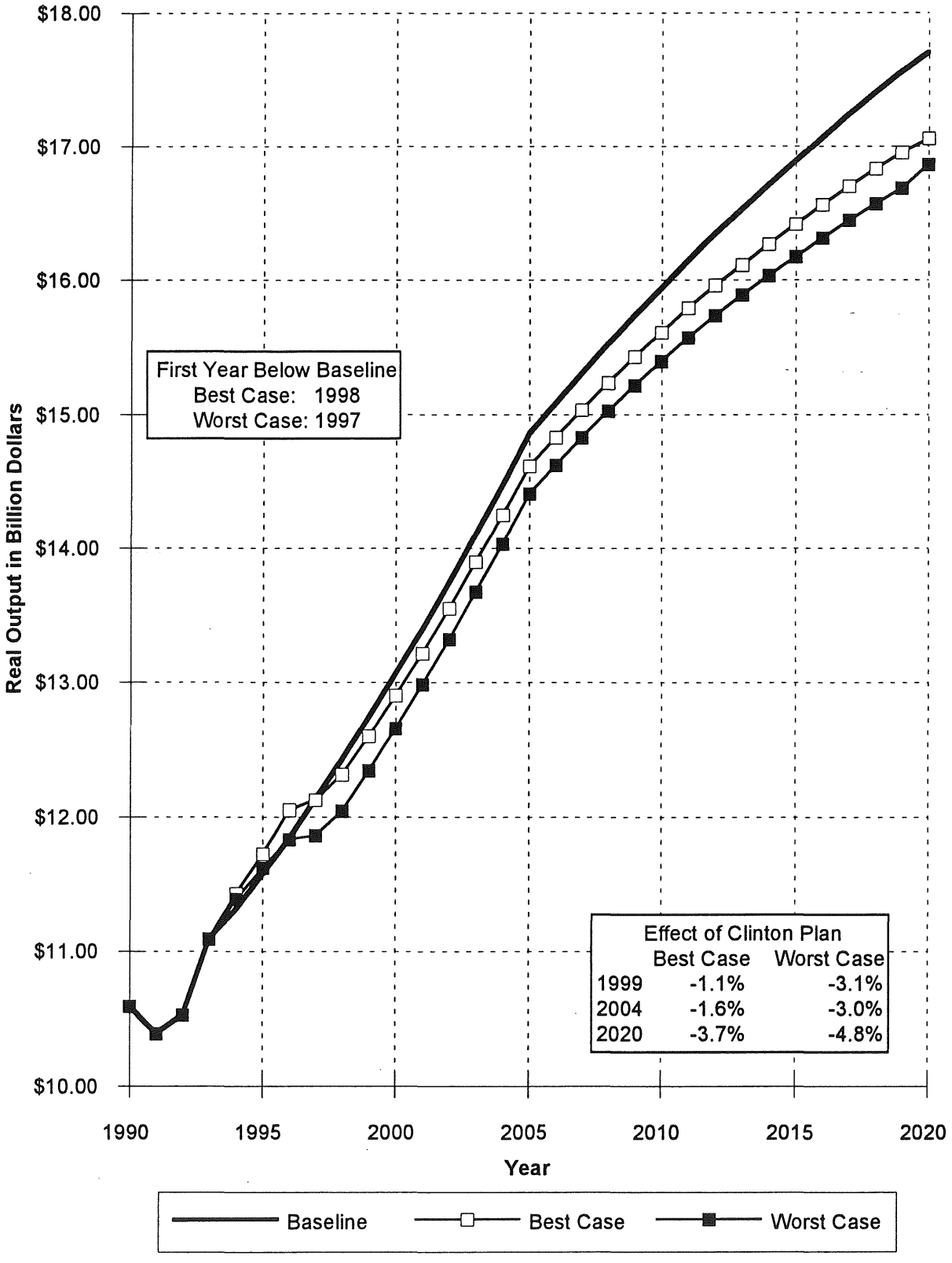
Impacts on Minnesota Communications Industry (Radio, T.V., Cable T.V., Telephones, Other non-broadcasting Communications)



- Small, short-term benefits and long-term performance reductions under both scenarios.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Miscellaneous Minnesota Retail Trade Industries

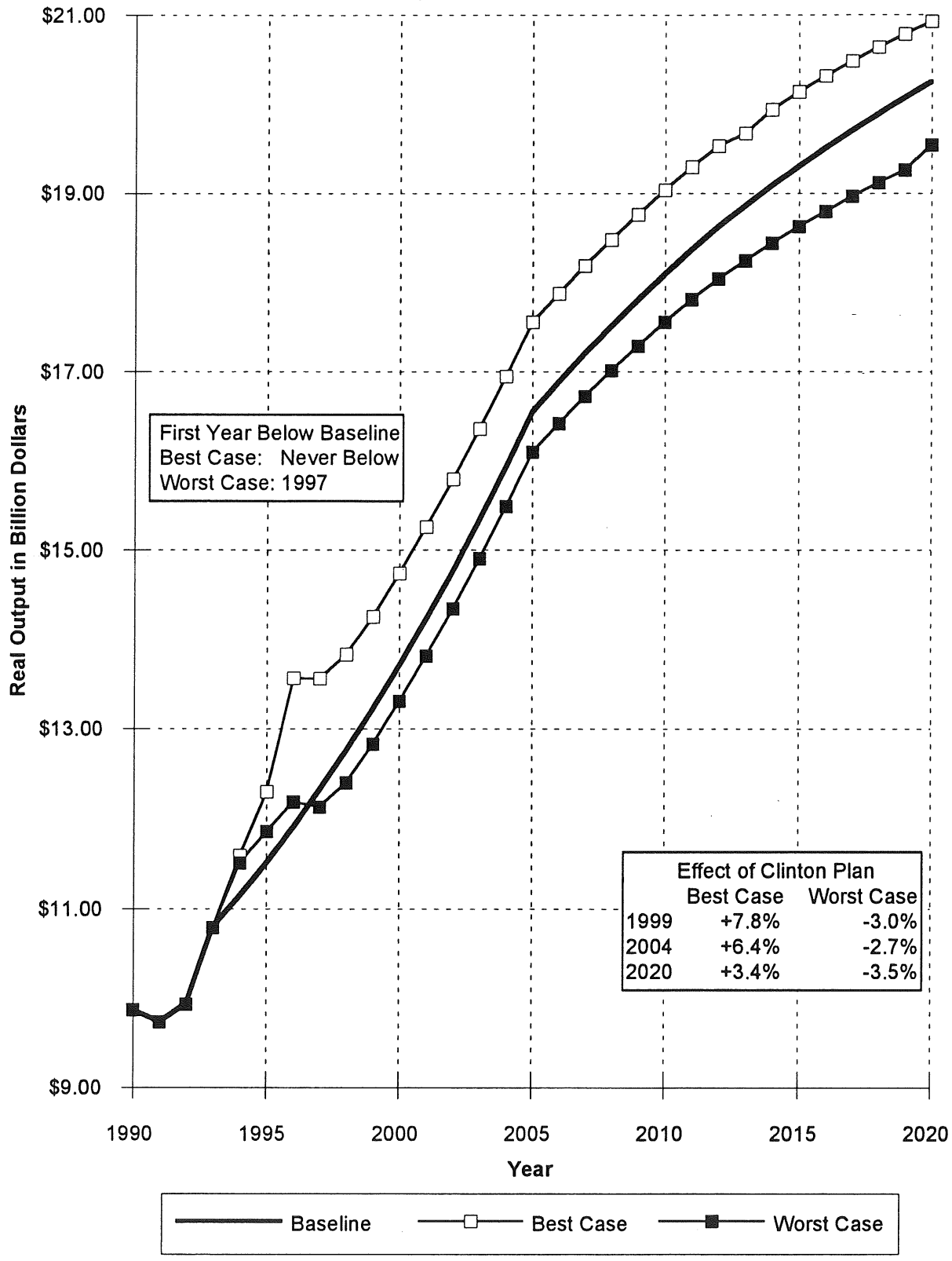


• Performs worse than general state economy.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Non-Electric Machine Industry

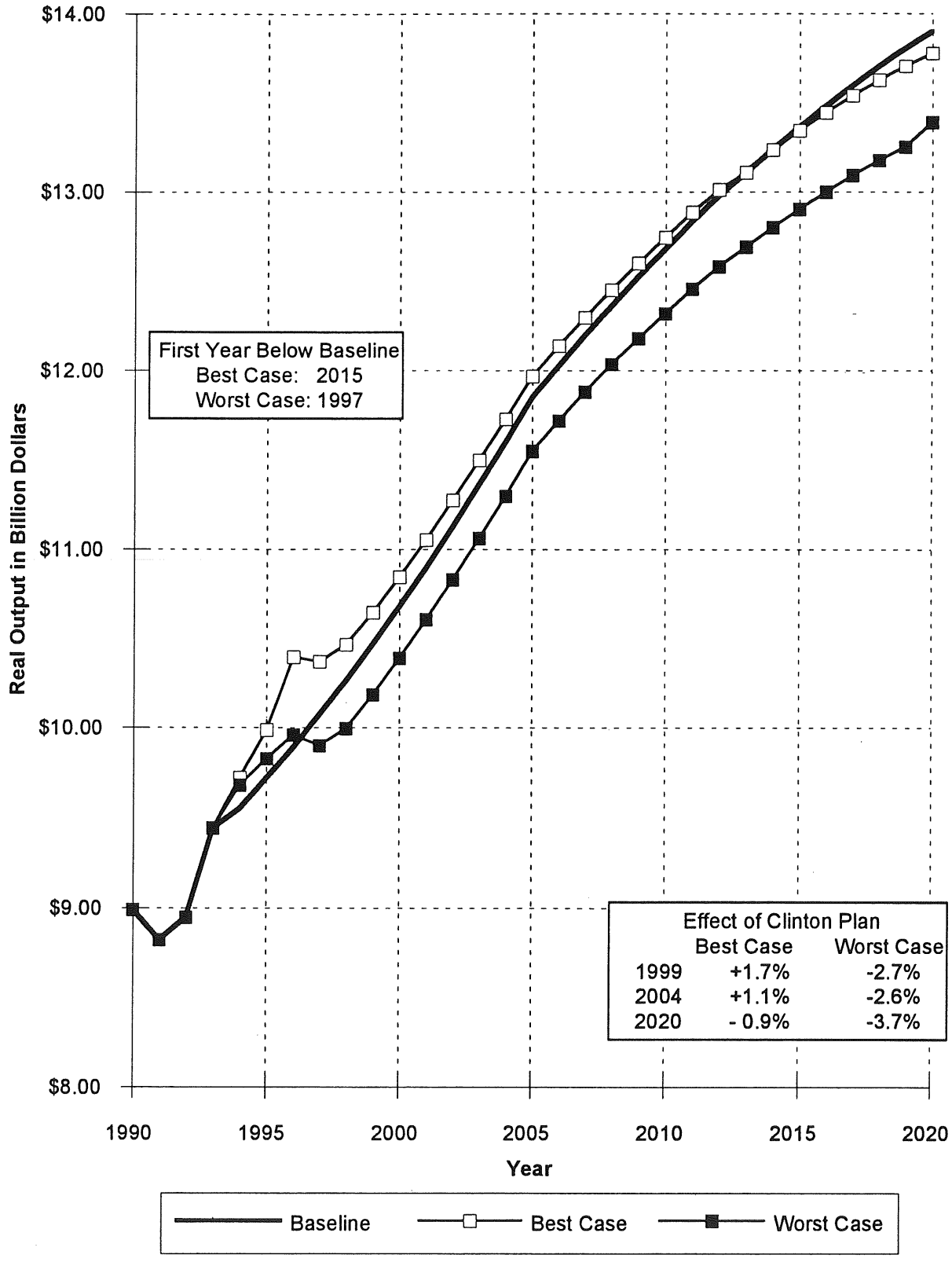
(Engines, Turbines, Machines for: Farm & Garden, Construction, Mining & Drilling, Material Handling, Metal Work, Industrial Use; Computers & Adding Machines, Refrig. & Service Industry, etc.)



- Best case out-performs baseline throughout projection.
- Fourth largest industry in Minnesota.

Analysis of Clinton Economic Proposal
Minnesota Department of Public Service

Impacts on Minnesota Wholesale Trade



• Under Best Case, benefits of stimulus last through 2015.

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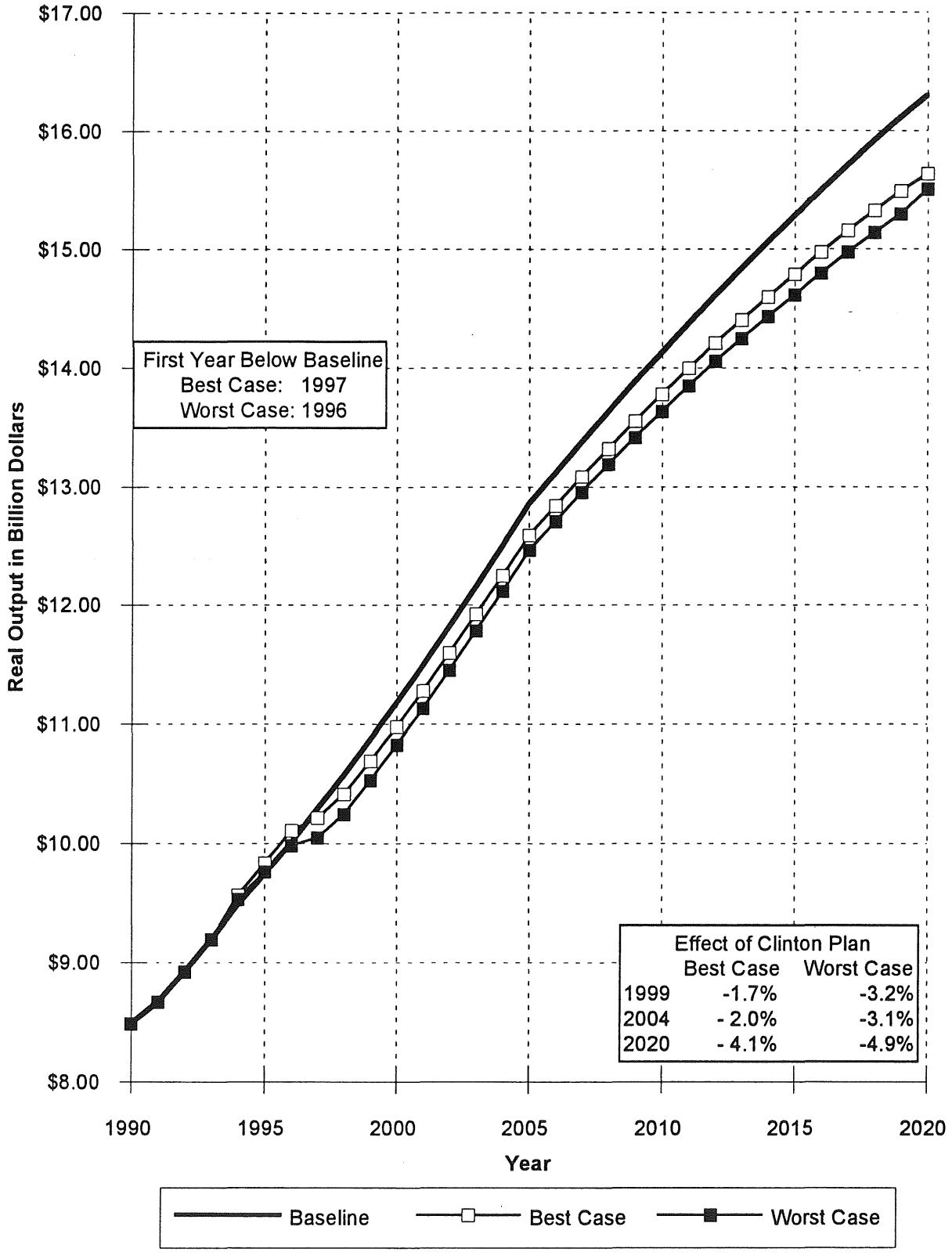
Impacts on Minnesota Medical Industry

(Health Practioners, Hospitals, Nursing Homes, etc.)



• Performs worse than general state economy.

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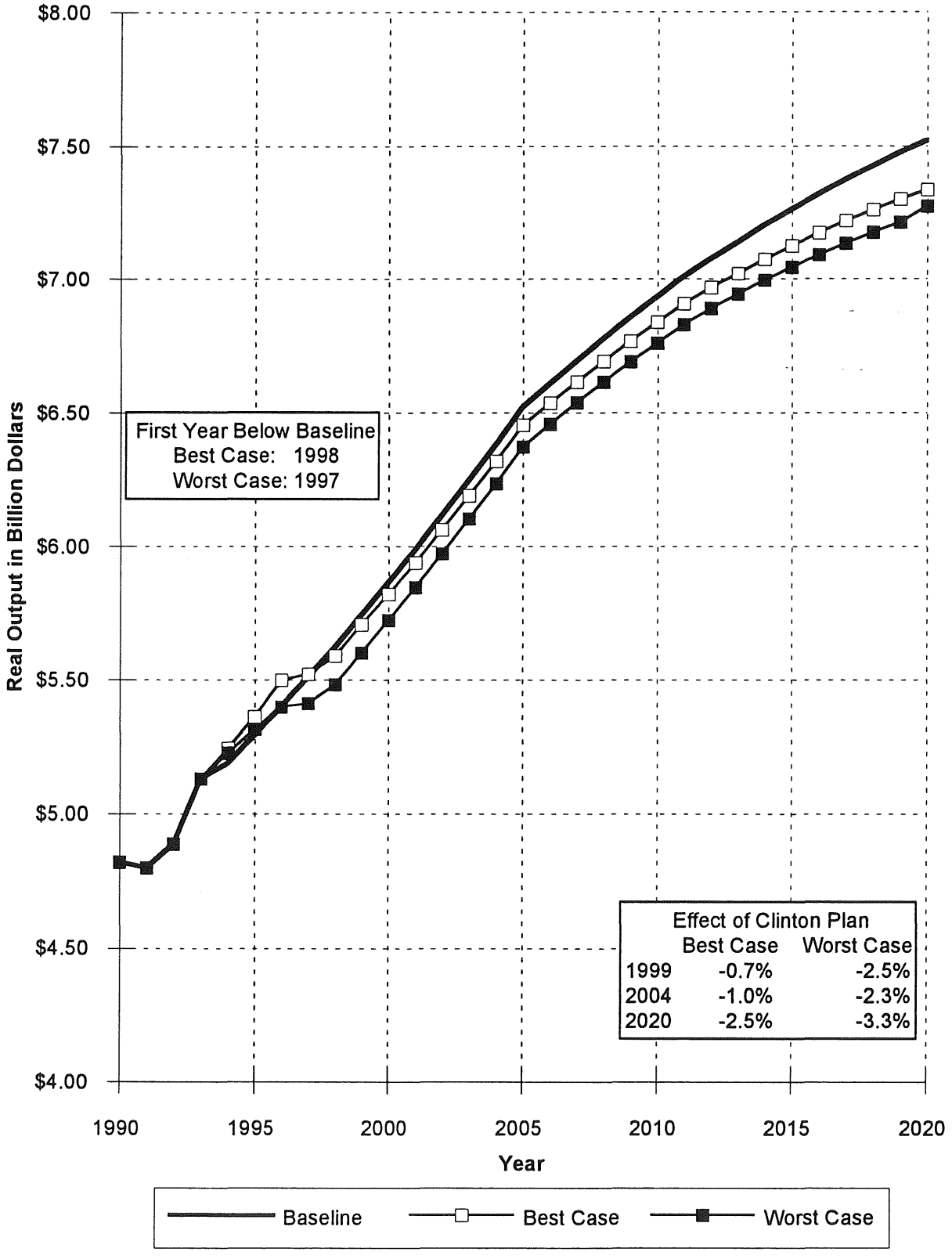
Impacts on Minnesota Printing and Publishing Industry

(Newspapers, Periodicals, Books, Greeting Cards, Commercial Printing & Business Forms, Printing Trade Services)



• Ninth largest industry in Minnesota.

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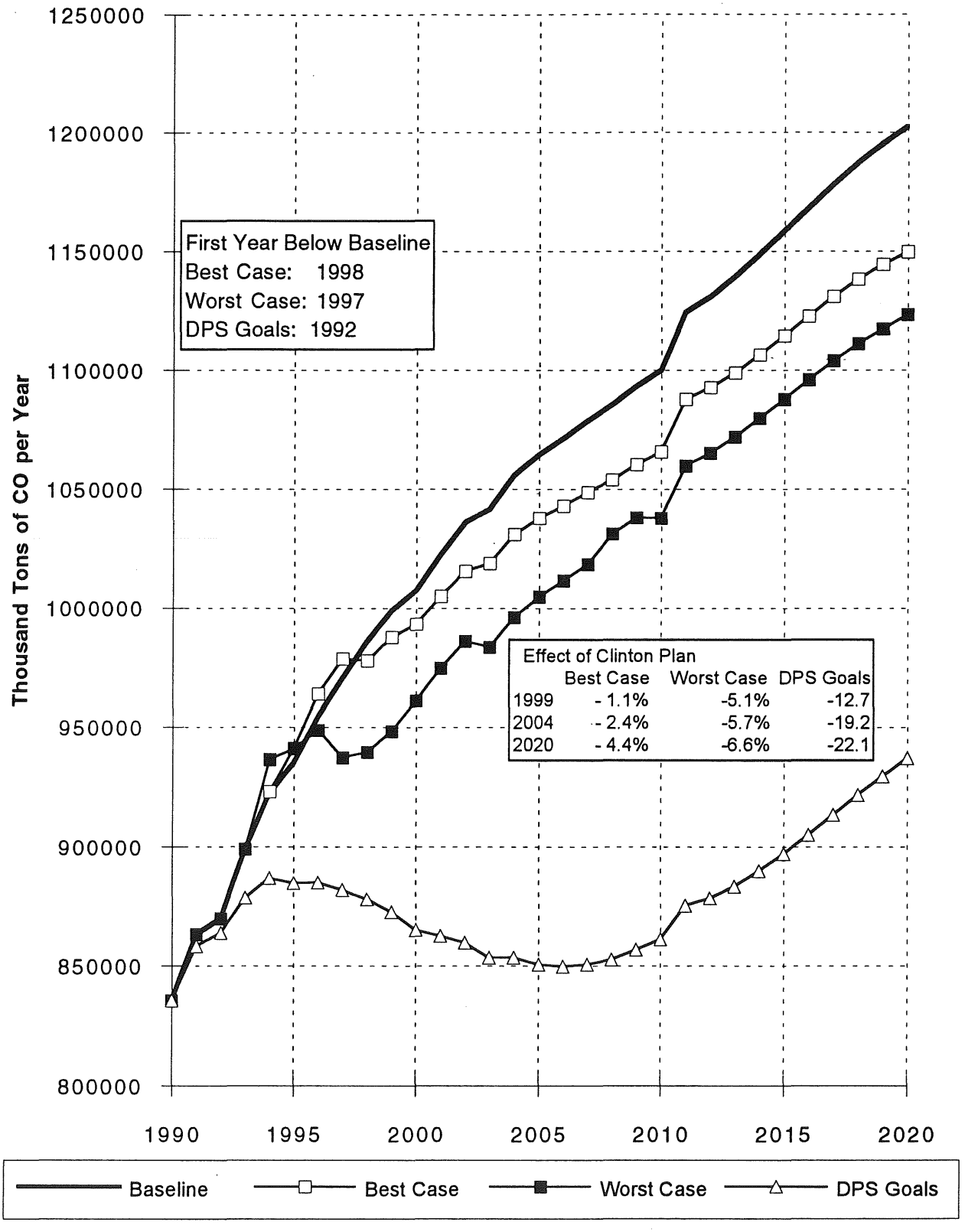
Annual Minnesota Carbon Monoxide Emissions



- Short term increases, but long term reductions under both scenarios.
- DPS goal scenario significantly lower.

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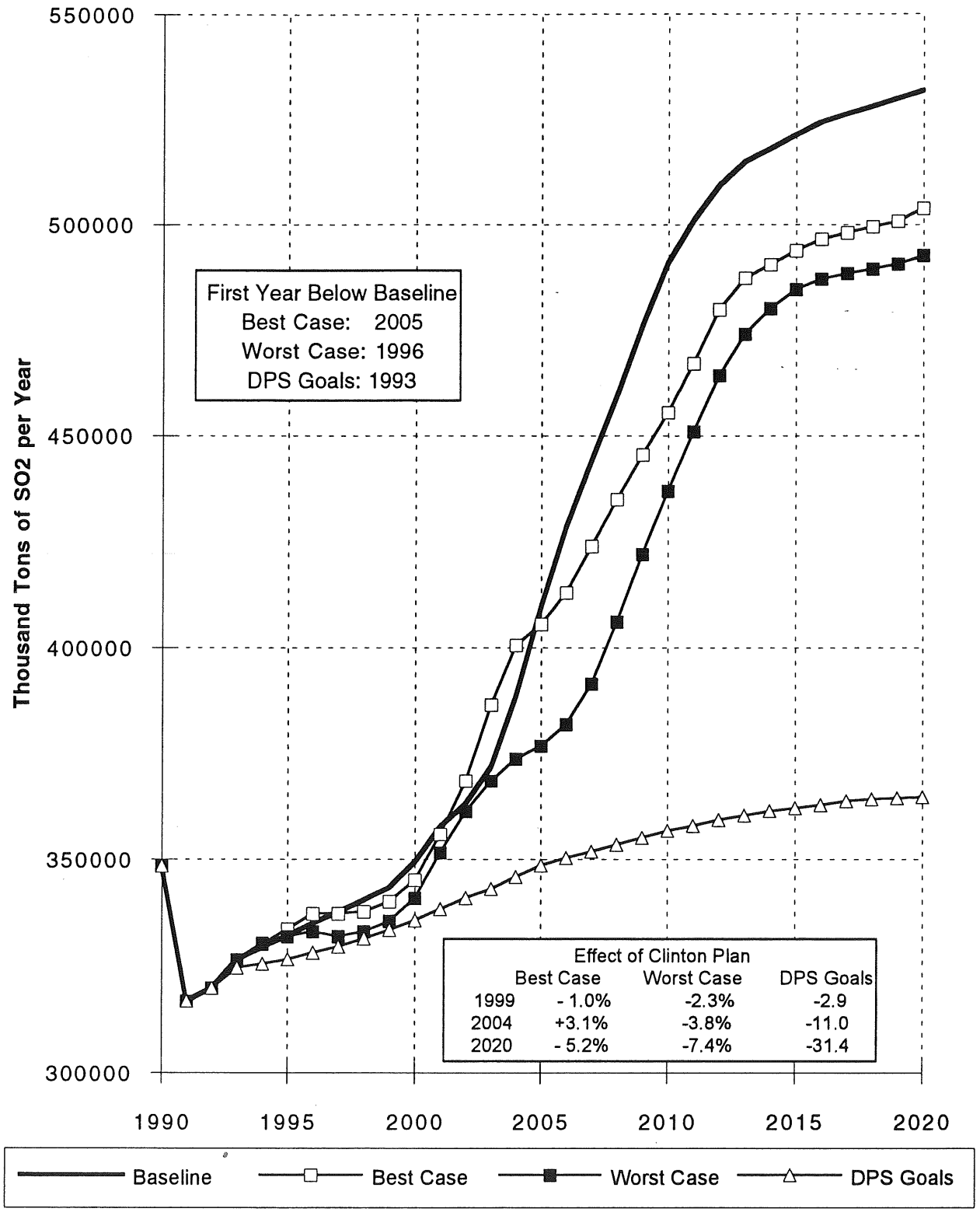
Annual Minnesota Sulfur Dioxide Emissions



- Short-term improvements only under Worst Case scenario.
- Long-term benefits under both scenarios.
- DPS goal scenario significantly lower.

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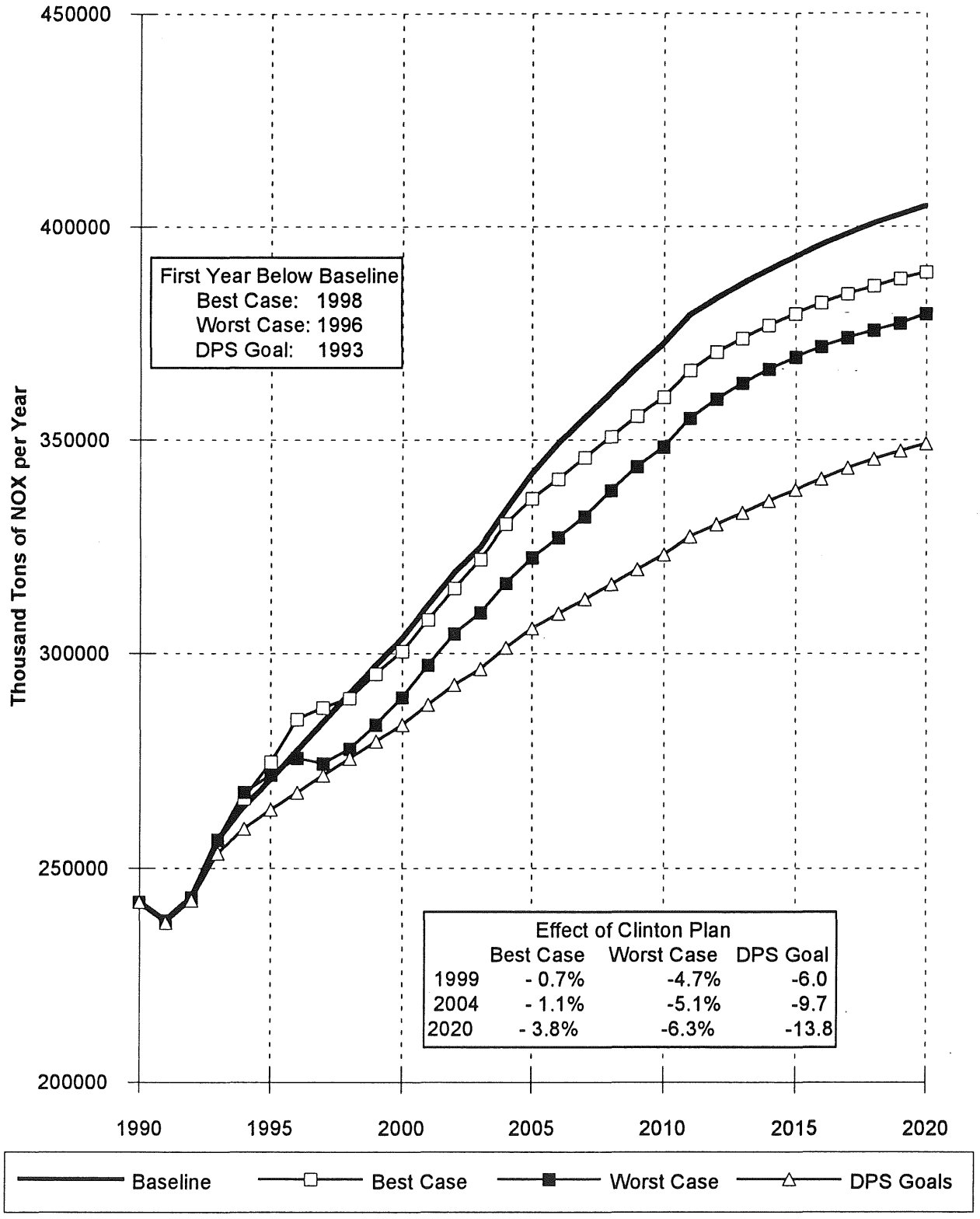
Annual Minnesota Nitrous Oxide Emissions



- Small, short-term increases in emissions and significant long-term improvements under both scenarios.
- DPS goal scenario significantly lower.

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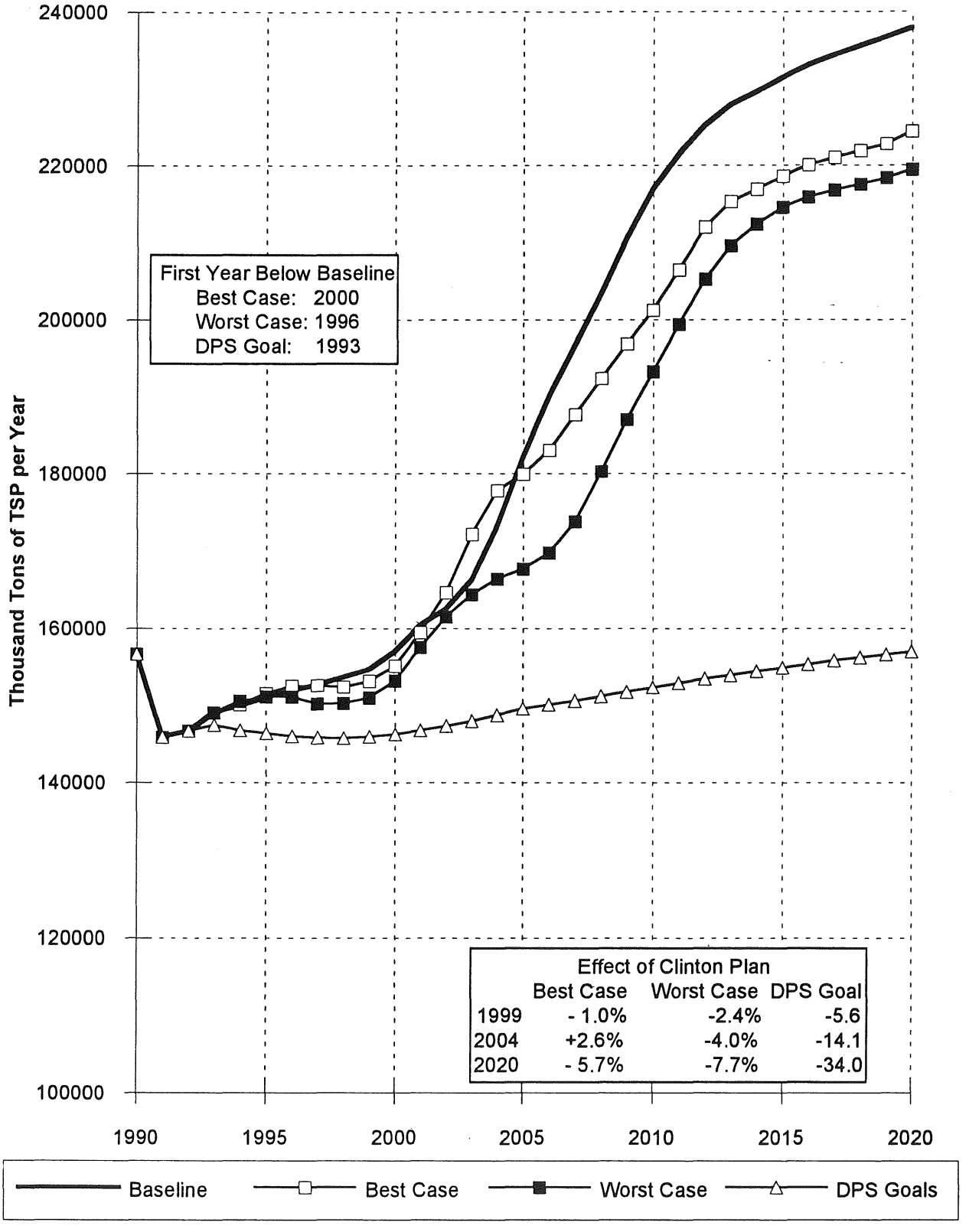
Annual Minnesota Total Solid Particulate Emissions



- Long term improvements under both scenarios.
- DPS goal scenario significantly lower.

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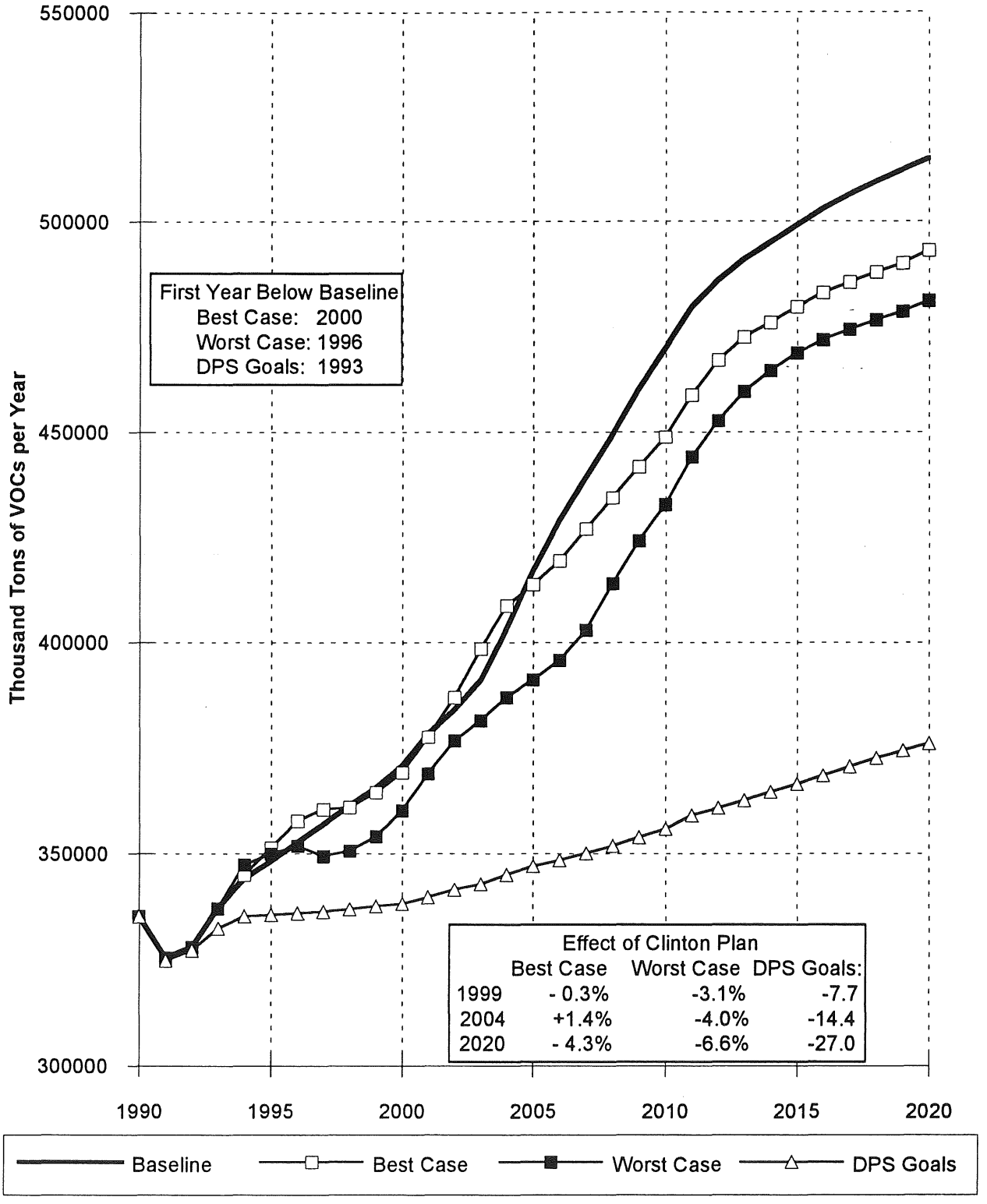
Annual Minnesota Volatile Organic Compound Emissions



- Short and long term improvements under Worst Case scenario.
- Emissions do not improve until 2005 under Best Case scenario.
- DPS goal scenario significantly lower.

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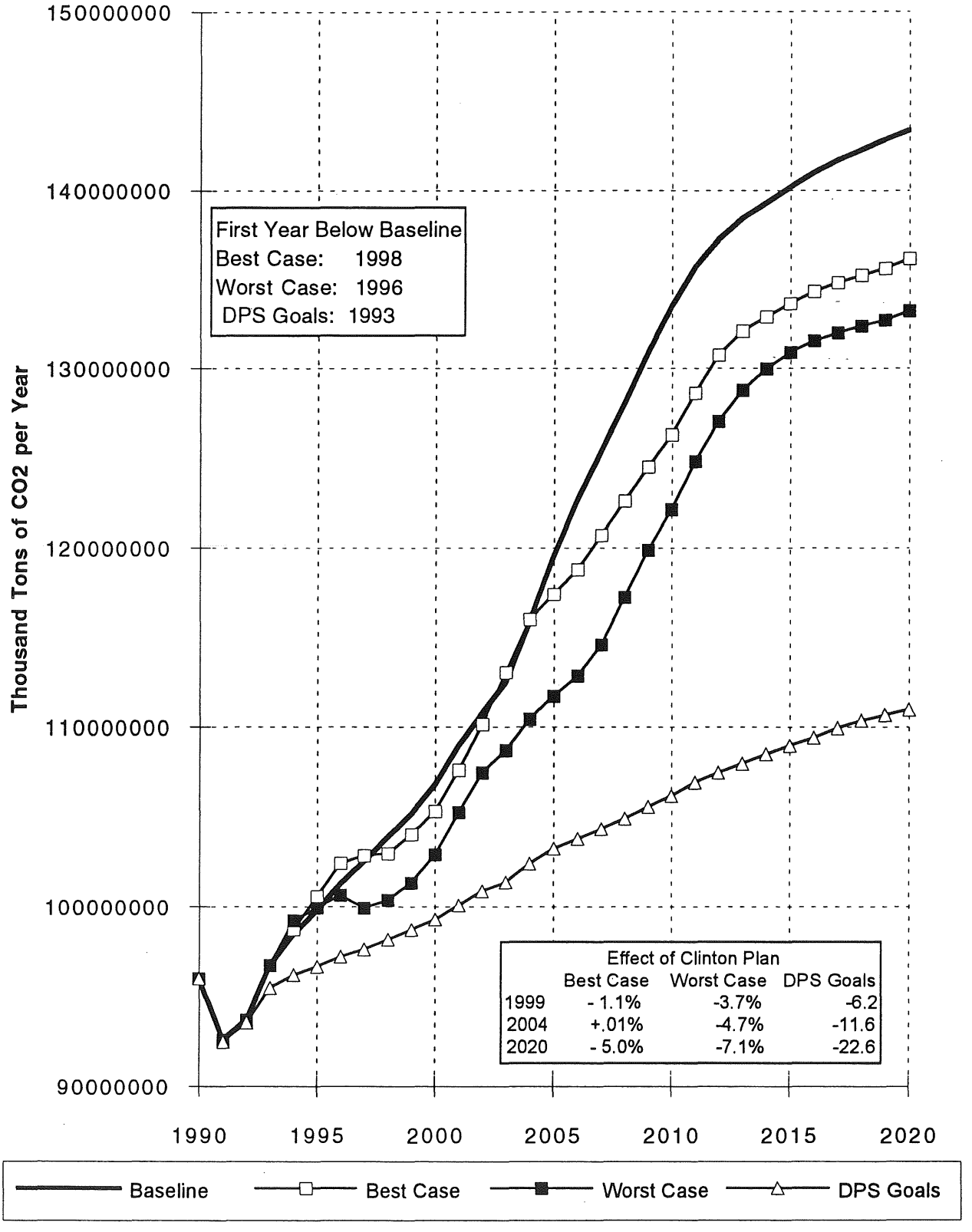
Annual Minnesota Carbon Dioxide Emissions



- Long term reductions under both scenarios.
- DPS goal scenario significantly lower.

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