

Approved March 1, 1988  
Date

JOINT HOUSE AND  
MINUTES OF THE SENATE COMMITTEE ON ECONOMIC DEVELOPMENT

The meeting was called to order by Representative Phil Kline at  
Chairperson

12:40 ~~xxx~~ a.m./p.m. on Wednesday, February 24, 1988 in room 313-S of the Capitol.

All members were present except: Representatives Goosen, Dyck, Leach, Barkis, Baker, Gjerstad, Weimer, Foster, and R.H. Miller. - Excused.

Committee staff present:

Lynn Holt, Research Department  
Elaine Johnson, Secretary  
Mary Allen, Secretary

Conferees appearing before the committee:  
None.

The joint meeting of the Senate Economic Development Committee and the House Economic Development Committee was called to order at 12:40 p.m. by the Chairman of the House Economic Development Committee, Representative Phil Kline.

Chairman Kline introduced Dr. Tony Redwood, Executive Director of the Institute for Public Policy and Business Research at the University of Kansas.

Dr. Redwood introduced Norman Clifford, Director of the Kansas Econometric Model and Assistant Professor of Economics who accompanied him. Dr. Redwood spoke on economic forecasting and went over some of the highlights of the Institute's U.S. and Kansas Economic Forecasts for 1988. (Attachment 1).

Discussion followed.

Meeting adjourned at 1:24 p.m.



GUEST LIST

<u>NAME</u>		<u>REPRESENTING</u>
Harold C. Pitts	Topeka	
Kent Craft	Salina	Kansas Tech
Paul Johnson	Topeka	PACK
Lee J. Stauder		
Sue Stanley	Kansas City	
Mark Warkentin	Lawrence	Sen. Elections
Bernie Johnson	Lawrence	Self
Garrett Gordon	Lawrence	Ks. Black Republican Council
Tony Redwood	Lawrence	KU
Norman Clifford	Lawrence	KU
Paul E. Fleener	Manhattan	Kansas Farm Bureau
Jan Jossen	Lawrence	KU
Harlan Puddi	Topeka	KDOC
Rick Kready	Topeka	KPL Gas Service
Brenda M. Manice	Gates Center	SEK Tourism Region
D. WAYNE ZIMMERMAN	TOPEKA	KDOC

Institute for Public Policy and Business Research  
The University of Kansas

**U.S. AND KANSAS  
ECONOMIC FORECASTS FOR 1988**

by

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Assistant Professor of Economics

Robert Glass  
Research Economist

Mohamed El Hodiri  
Professor of Economics  
Director of Economic Research

Anthony L. Redwood  
Professor of Business  
Executive Director

Funding for the Kansas Economic Modeling Program at the Institute is provided by the State of Kansas.

February 24, 1988

Report No. 141

*House Eco Dev  
Attachment 1  
2/24/88*

## Preface

The Institute for Public Policy and Business Research is pleased to present this forecast, which we generated using the Kansas Econometric Model and the Indiana University Econometric Model of the United States. This report includes an executive summary, an explanation of the modeling process and our assumptions in using it, forecasts for the U.S. and Kansas economies for 1988, and an appendix with detailed quarter-by-quarter forecasts for each sector.

The forecast and this report were prepared by Professor Norman Clifford, director of the Kansas Econometric Model. Robert Glass assisted with the preparation of forecasts. The Kansas Econometric Model is a long-term project of the Institute; Professor Clifford, Professor Mohamed El Hodiri, Dr. Gary Albrecht, and Robert Glass, among others, have been instrumental in its development. Professor Donald Lien has been responsible for the development of the supporting ARIMA model.

## Executive Summary

### National Forecast

During 1988 real GNP growth will slow to 2.4 percent for the year compared with 2.7 percent for 1987. In the first half of the year, real GNP will grow at an annual rate of only 1.8 percent, but it will pick up to 3.3 percent in the latter half. We forecast that all the major components of GNP, consumption spending, investment spending, government purchases, and net exports, will grow in real terms during the year. Consumption spending and investment spending will grow more slowly during the first half of the year due to the October 1987 stock market crash.

However, the falling dollar will make U.S. goods cheaper abroad, reducing the trade deficit and boosting GNP. The trade-weighted average of the dollar will fall 10 percent in 1988 after falling 13 percent in 1987. Consequently, the U.S. trade deficit in real terms will fall from \$131.3 billion to \$112 billion during the year.

Real U.S. personal income will grow 1.8 percent. Due to social security tax increases, real disposable income will grow only 1.4 percent. Although this is an improvement over last year's 1.1 percent, it will be well below 1986 growth of 4.05 percent.

U.S. employment will grow steadily throughout 1988, though at a lower rate early in the year. It will average 1.8 percent for the year, which is significantly below the

1987 rate of 2.6 percent.

Slower growth will reduce pressure on prices so that inflation will average 4.7 percent for the year.

Table 1  
The National Forecast--Summary

	1984	1985	1986	1987	1988
Real GNP	3501.4	3607.4	3713.3	3811.9	3904.4
Growth Rate	6.78	3.03	2.93	2.66	2.43
Rate of Inflation	4.27	3.55	1.92	3.80	4.70
Civilian Employment	105.1	107.3	109.7	112.5	114.5
Growth Rate	4.13	2.03	2.28	2.57	1.76
Unemployment Rate	7.38	7.08	6.88	6.12	6.13
3-month rate T-bills	9.57	7.49	5.97	5.80	6.22
Real Personal Income	2878.5	2975.8	3094.8	3146.7	3205.2
Growth rate	5.56	3.38	4.00	1.68	1.86
Real Disposable Income	2469.8	2542.2	2645.2	2672.8	2708.8
Growth Rate	5.91	2.93	4.05	1.05	1.35
Real Net Exports	-84.1	-108.2	-145.8	-131.3	-112.0

Our U.S. forecast, summarized in Table 1 above, is based on the Indiana University Econometric Model of the United States. To arrive at the preceding forecast, we have imposed major assumptions on that basic model:

1. The federal government will cut the budget beyond the Gramm-Rudman targets.
2. The Federal Reserve will begin to exercise monetary restraint around the middle of 1988.

3. World prices will grow 4.3 percent during the year.
4. Growth in consumer spending will slow due to consumers' reactions to the stock market crash of 1987.

### Kansas Forecast

The Kansas forecast, summarized in Table 2, is based on the Institute's Kansas Econometric Model and on the national forecast given above.

Table 2  
The Kansas Forecast--Summary

	1984	1985	1986	1987	1988
Total					
Employment	1135.0	1173.8	1158.0	1186.2	1194.4
Growth Rate	1.88	3.42	-1.35	2.47	0.69
Wage & Salary					
Employment	960.7	967.9	982.8	997.7	1013.3
Growth Rate	4.26	0.75	1.54	1.52	1.56
Unemployment Rate	5.3	5.0	5.5	4.8	4.9
Nominal Personal					
Income	32076	34063	36042	37766	39645
Growth Rate	8.04	6.19	5.81	4.78	4.98
Real Personal					
Income (82\$)	29686	30479	31544	31800	32148
Growth Rate	4.13	2.67	3.49	0.81	1.09

The outlook for real personal income growth in the nation is not auspicious (1.8 percent), and the Kansas forecast is worse: In real terms Kansas personal income will grow only 1.1 percent. On the other hand, per capita personal income will closely track the nation, since Kansas population will not grow as fast as U.S. population. In

current dollars, wage and salary income will grow 5.8 percent, nearly the same rate as the nation (5.9 percent), but falling farm proprietors' income will dampen Kansas personal income growth.

In the same fashion falling farm employment will depress Kansas total employment, which will grow 0.7 percent in 1988 compared with 2.5 percent in 1987. But Kansas farm employment will fall 1.5 percent, while nonfarm wage and salary employment will grow 1.5 percent.

Figures for nonfarm wage and salary employment are more reliable than total employment figures, because data for self-employment and for farm employment are extremely difficult to collect. The trend has been for growth in wage and salary employment in Kansas to underperform the nation. During 1987 Kansas nonfarm wage and salary employment grew 1.5 percent, while U.S. growth was 2.4 percent. But during 1988 Kansas's growth rate of 1.6 percent will be nearer the national rate of 1.9 percent.

The leading sector for employment growth will be mining (8.7 percent), which makes up about 1 percent of total employment. Growth in service sector employment will be 2.4 percent in 1988 compared with 3.0 in 1987.

Employment will grow 2.3 percent in nondurable goods manufacturing in 1988. Within that sector, printing and publishing will lead with 2.7 percent growth. Employment in durable goods manufacturing will only grow 0.5 percent,



constrained mainly by a 1.4 percent reduction in transportation equipment manufacturing, which includes aircraft manufacturing. Forecasted employment growth for the entire manufacturing sector, which makes up 15 percent of the Kansas economy is 1.2 percent.

Wholesale trade will grow 2.2 percent (-0.4 percent in 1987), retail trade employment will grow 1.9 percent (2.6 percent in 1987), construction employment will grow 1.2 percent (-2.0 percent in 1987), transportation and utilities will grow 0.8 percent (0.8 percent in 1987), and finance, insurance and real estate will not grow, although this sector grew 2.2 percent last year.

## Introduction

Forecasts produced at the Institute for Public Policy and Business Research at the University of Kansas predict a slowdown in both the U.S. and Kansas economies in 1988, but do not indicate the occurrence of a recession during the year. The forecasts are generated by simultaneous equation econometric models, and the parameters of the models are estimated using historical data. We based our U.S. forecasts on the Indiana University Econometric Model of the United States. Kansas forecasts come from the Kansas Econometric Model, under development at the Institute for Public Policy and Business Research at the University of Kansas.

Each model has variables whose values are determined within the model, so-called endogenous variables, and variables whose values are determined outside the model, so-called exogenous variables. The national model has 250 endogenous variables and 57 exogenous variables, and the Kansas model has 90 endogenous variables and 23 exogenous variables. In the U.S. model, exogenous variables relate to national economic policies or to the international economy as it affects the United States. Examples of exogenous variables for the U.S. model are government spending levels, federal tax policies, the size of the money stock, the quantity of imported oil and petroleum products, and the price deflator for imported oil. In the Kansas model, exogenous variables are national variables that affect the

performance of the Kansas economy, such as gross national product, the consumer price index, and interest rates.

Given this framework, we determined the exogenous variables for the national model, choosing a likely scenario for national economic policies and the behavior of the rest of the world. We use the national model to forecast the values of the endogenous national variables, which we in turn use as exogenous data for the Kansas model. The Kansas model forecasts the endogenous Kansas values. Thus, the quality of both the national and Kansas forecasts depends in part on the ability of the forecaster to predict national economic policies and the behavior of the rest of the world during the forecast period.

The forecasts presented here are based upon our assumptions about the exogenous events that are driving the models:

1. The federal government will exercise some degree of fiscal restraint, cutting the budget beyond the Gramm-Rudman targets. In particular, government expenditures will still grow 3.69 percent in 1988, but government receipts will grow even faster, at an 8.83 percent annual rate, reducing the deficit to \$114.5 billion for 1988, down from \$155.6 billion in 1987. Most of the increase in receipts will come from contributions to social insurance, which will grow at a 10.42 percent annual rate, or \$36.2 billion, and personal tax and non-tax receipts, which will grow at an annual rate of 8.62 percent or \$34.8 billion.

2. After responding to the stock market crash by injecting money into the economy, the Federal Reserve will begin to exercise monetary restraint around the middle of 1988. During 1988, M2 will grow 4.77 percent, and M1 will grow 3.72 percent.

3. World prices will grow at an average rate of 4.3

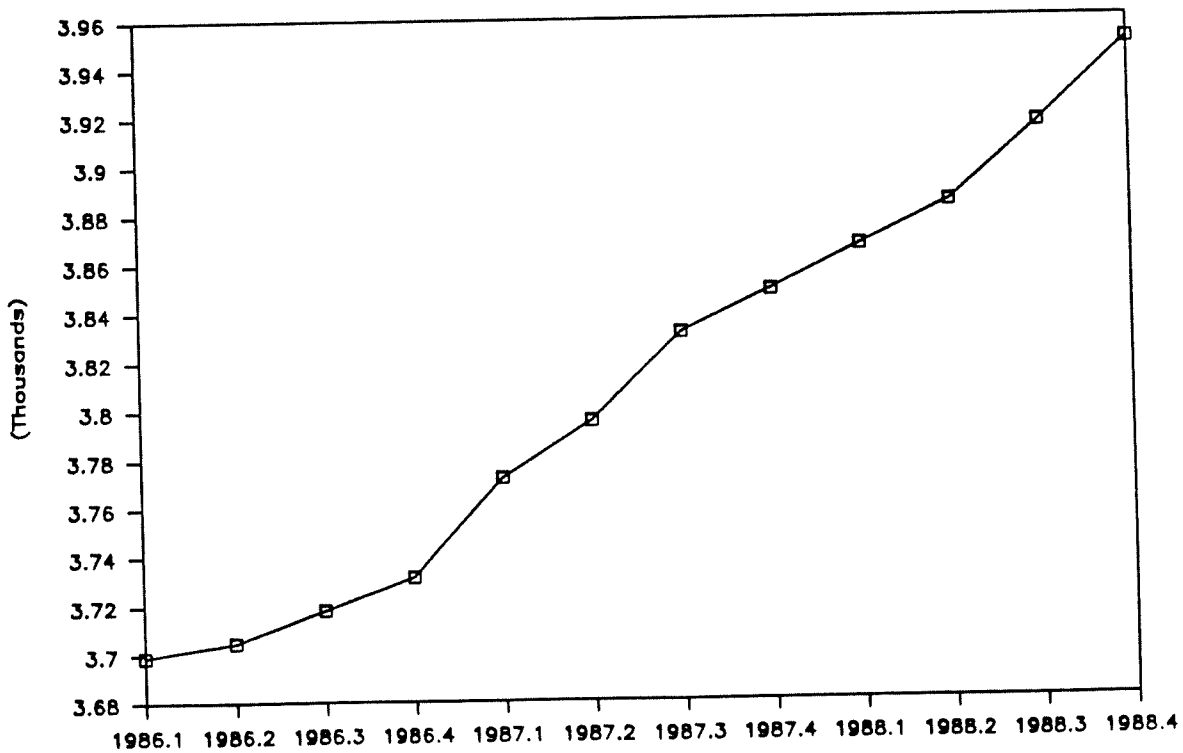
percent, and world oil prices will grow at 4.8 percent.

4. Growth in consumer spending will slow during 1988. The stock market crash of October 1987 reduced nominal wealth for some consumers and left others feeling that the world is becoming riskier. We assume that these wealth effects of the crash are small and short-lived. In particular, we assume that real consumer spending did not grow at all in the last quarter of 1987 (after growing at a nearly 5 percent annual rate in the third quarter) and will grow only very slowly, at a 1.5 percent annual rate, for the first half of 1988. It will pick up in the second half of the year however, growing at an annual rate of 3 percent during that period. For the year, real consumer spending will grow at a rate of 1.95 percent, just under its 2 percent rate of growth for 1987.

### National Forecast

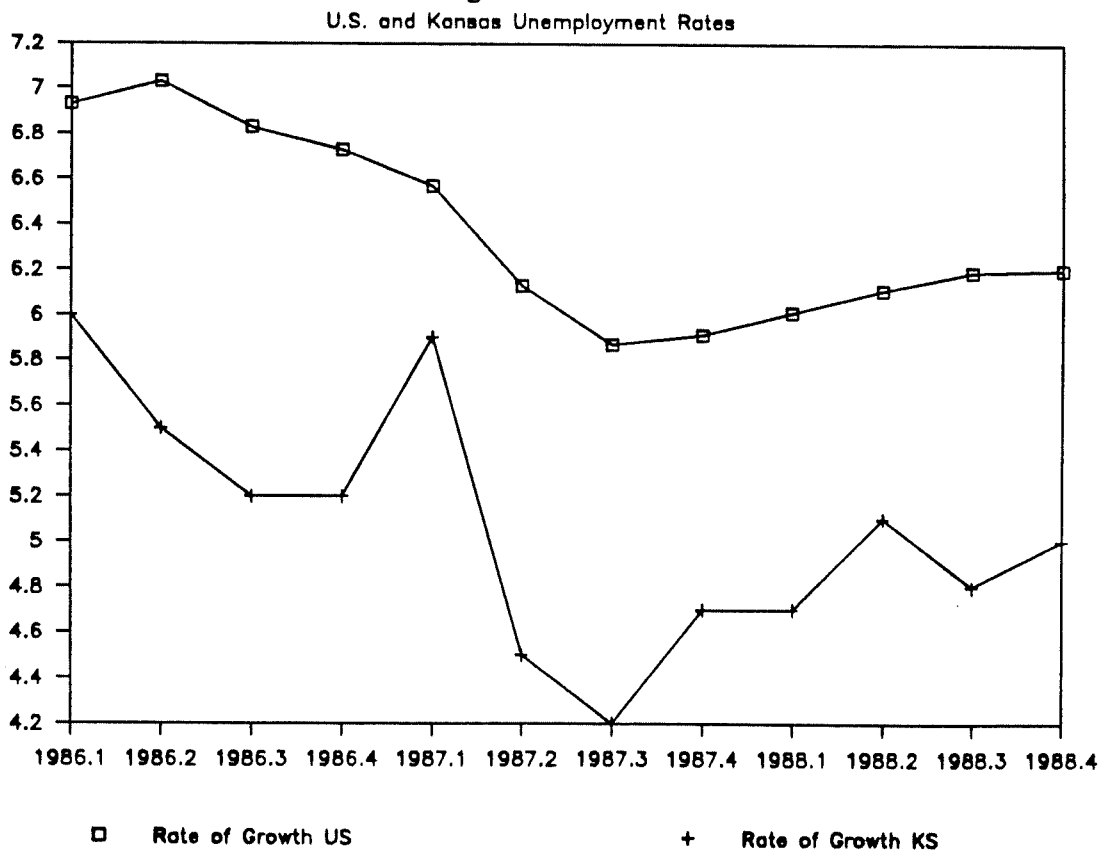
Given these assumptions, the national forecast for 1988 is for slow economic growth, especially in the first half of the year, but no recession. The path of real gross national product, which is illustrated in Figure 1, captures the essential story of the national economy for the year. For the first half of 1988 the economy will be sluggish, with real GNP growing at only a 1.8 percent annual rate. In the latter half of the year, as the effects of the stock market crash wear off, the economy will pick up and real GNP will grow at an annual rate of 3.3 percent over that period. Real GNP will grow 2.43 percent for the entire year, in spite of the less than 2 percent growth in real consumption spending.

Figure 1. Gross National Product



U.S. employment will grow consistently throughout 1988, averaging 1.8 percent, significantly below its average growth rate of 2.6 percent in 1987. Slower growth of the economy will cause unemployment, which crept below 6 percent in the last two quarters of 1987, to edge above 6 percent in the first quarter of 1988 and to increase gradually throughout the year (Figure 2). The average for the year will be 6.1 percent, about the same as for 1987.

Figure 2.



Slower growth will also reduce pressure on prices, and the inflation rate as measured by the rate of change of the consumer price index will gradually decline during 1988 (Table 3). The average for the year will be 4.7 percent, a rate which is high relative to the rates of the past two years but still within what many would consider to be an acceptable range.

Table 3  
Forecasted Rate of U.S. Inflation

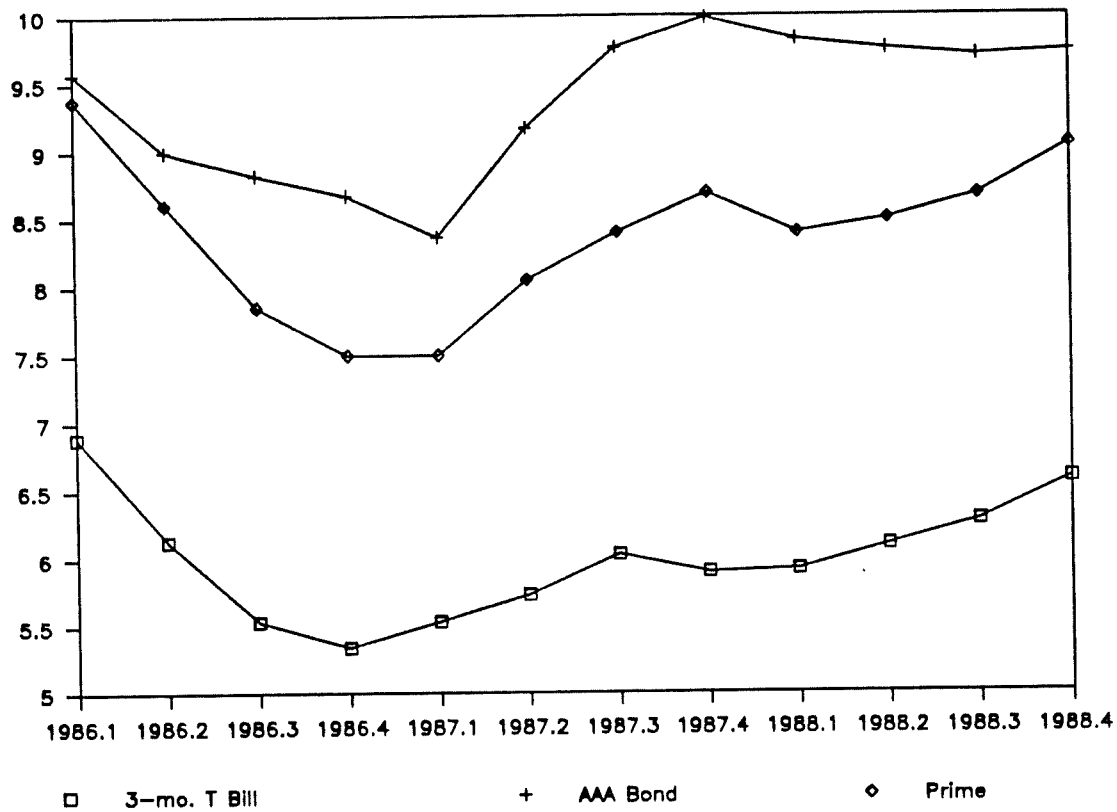
	Q1	Q2	Q3	Q4
1988	4.81	4.47	4.20	4.05
1987*	5.27	4.90	3.88	3.60
1986*	1.60	-1.30	2.43	2.66

\*Historical data are provided for 1986 and the first three quarters of 1987.

Another effect of the stock market crash and the temporary cooling off of the economy will be to reduce inflationary expectations. Lower expectations of inflation, along with reductions in the federal deficit and some easing of monetary policy will put downward pressure on interest rates during the last quarter of 1987 and the early part of 1988. However, the more restrictive monetary policy beginning in the second quarter of 1988 will cause interest rates to rise gradually over the last three quarters of the year. On average interest rates will be up about one-half of a percentage point over those of 1987. Figure 3 shows the forecasted interest rates on three-month treasury bills, the

prime lending rate, and the AAA bond rate.

Figure 3. Forecasted Interest Rates



Consumption spending, investment spending, government purchases and net exports, the components of gross national product, will show varying real rates of growth during 1988. Although real consumption spending will grow at less than 2 percent for the year, the rate of growth will be significantly higher for some types of consumption. The biggest gain in consumption, 3.05 percent, will come in services, with real consumption of electricity and gas increasing 7.17 percent. The next biggest gain, 2.24 percent, will be in durable goods, although automobile



purchases by consumers will fall slightly in real terms. Consumer purchases of nondurable goods will be only slightly higher than their 1987 level in real terms.

Real nonresidential fixed investment will increase 3.99 percent, with all of the growth coming in producers' durable equipment. Real residential investment will increase 1.07 percent. The increase in business inventories will be smaller in 1988 than in 1987 as firms adjust to the new higher inventory levels built up in recent quarters.

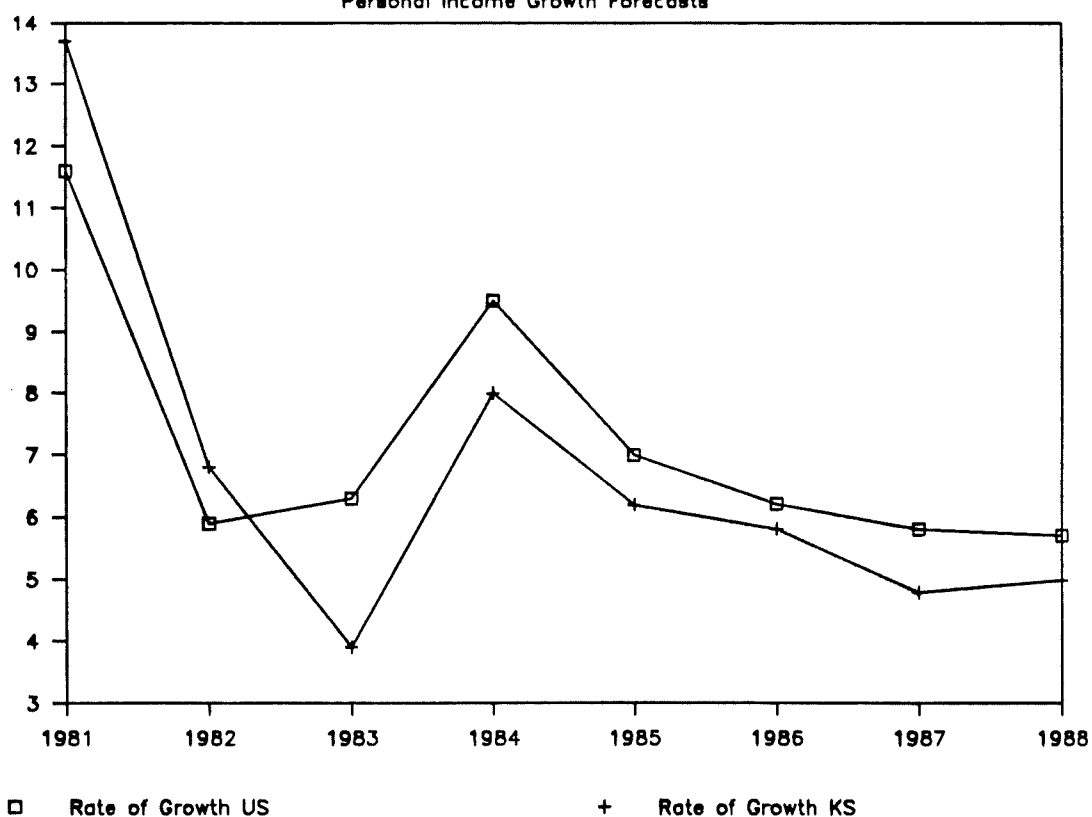
Purchases of goods and services in real terms by all levels of government will increase 2.24 percent, with federal defense purchases increasing 2.07 percent and federal nondefense purchases increasing 1.60 percent.

The declining trade deficit will boost real GNP growth as the dollar continues to fall. A trade-weighted average of the dollar will fall 10.19 percent in 1988 after falling 13.27 percent in 1987. As a result, real exports will rise 9.3 percent to \$459.6 billion, while real imports increase only 3.58 percent to \$571.6 billion, reducing the real trade deficit from \$131.3 billion to \$112 billion. However, because the value of the dollar is declining, the value of imports in current dollars will grow much more quickly relative to the value of exports, and the trade deficit in current dollars will keep increasing, from \$117.1 billion in 1987 to \$126.1 billion in 1988.

U.S. personal income in current dollars will grow 5.7

percent in 1988 compared with 5.8 percent in 1987. Figure 4 shows current dollar growth patterns since 1981. Real personal income will grow 1.8 percent in 1988. Disposable income will grow less than personal income, due to social security tax increases. Disposable income will grow 5.2 percent in current dollars, 1.4 in real terms.

Figure 4. U.S. and Kansas—  
Personal Income Growth Forecasts

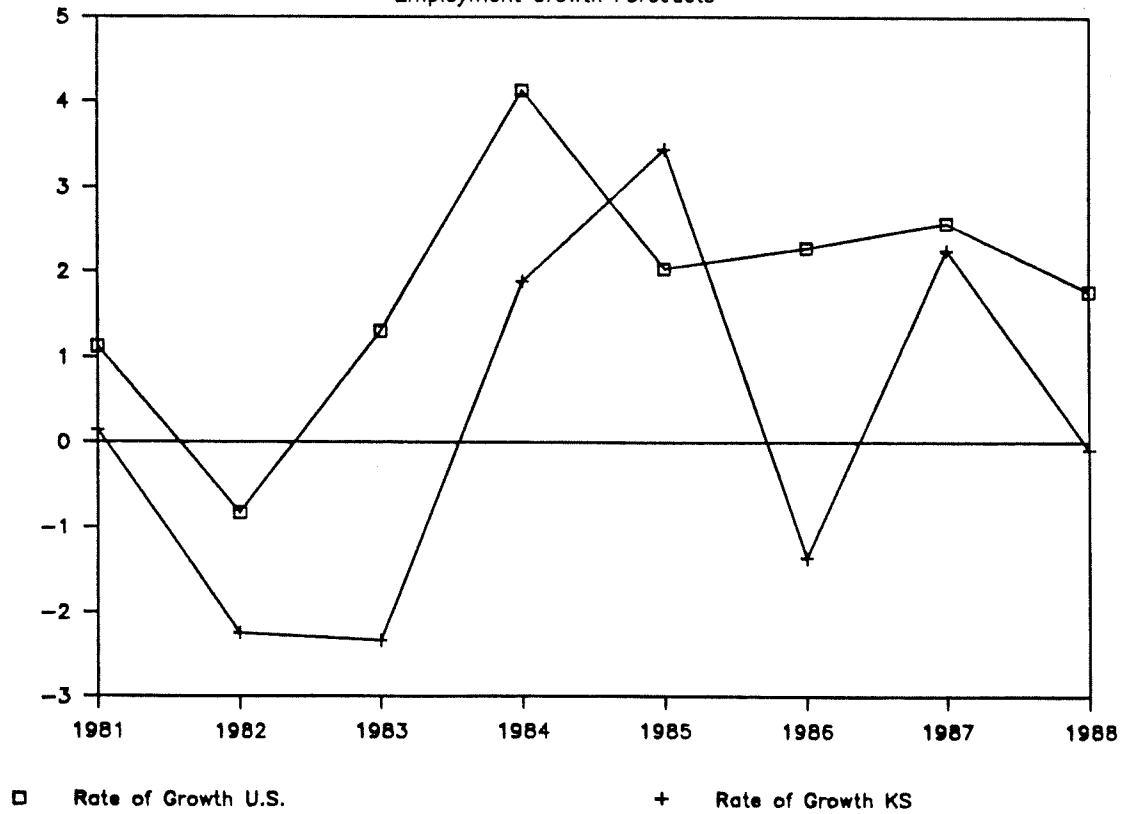


### Kansas Forecast

The slowdown in the national economy will be mirrored in the performance of the Kansas economy. This is not unusual: the Kansas economy has followed the national business cycles since 1960. As can be seen by comparing growth rates of employment and personal income in Kansas with their national counterparts in Figures 4 and 5, Kansas will grow even more slowly than the nation in 1988.

Figure 5. U.S. and KANSAS-

Employment Growth Forecasts



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On average, Kansas employment will grow 0.7 percent in 1988. Kansas wage and salary employment by place of work will grow 1.6 percent in 1988, compared with 1.9 percent in the nation. But Kansas farm employment will fall 1.5 percent, while nationally farm employment will fall only 1.3 percent. With employment and the labor force growing roughly at a modest 0.7 percent, unemployment will be up slightly, from 4.8 percent in 1987 to 4.9 percent in 1988. Figure 2 includes the quarterly forecast for the Kansas unemployment rate.

Kansas employment growth will vary within sectors. Employment in manufacturing of nondurable goods will grow at 2.3 percent, with employment in printing and publishing leading the way at 2.7 percent. Following long-term national trends, employment in durable goods manufacturing will increase at a very modest 0.5 percent.

In Kansas, durable goods manufacturing will be constrained mainly by a 1.4 percent reduction in employment in transportation equipment. Two conflicting forces are at work in the transportation equipment industry. On the one hand, the continuing fall in the dollar should help to stimulate orders for aircraft from abroad. On the other hand, the slowdown in the national economy will reduce orders for private aircraft, and the expected budget cuts will result in fewer military orders.

Employment growth in sectors outside of manufacturing

will also exhibit considerable variance. Employment in services will grow 2.4 percent (3.0 percent in 1987). Wholesale trade employment will grow 2.2 percent after falling 0.4 percent in 1987. Retail trade will grow 1.9 percent, compared with 2.6 percent in 1987. Employment in construction will grow 1.2 percent, compared with a 2 percent drop in 1987.

Government employment in Kansas will increase 0.7 percent (-0.8 percent in 1987), with a -2.2 percent drop in federal government employment more than offset by a 1.2 percent increase in state and local government employment. Federal employment represents only about 15 percent of total government employment in Kansas.

Employment will also be nearly stable in transportation and utilities (0.8 percent). Finance, insurance, and real estate employment will not grow in 1988.

For 1988, Kansas personal income in real terms will grow 1.1 percent during 1988, well below the national rate of 1.8 percent. Real Kansas wage and salary income will grow 2.2 percent, but falling farm proprietors' income and increasing contributions to social insurance will depress the total. However, as Figure 6 shows, in per capita terms personal income will continue to closely track the nation because of our nearly stable population level.

## The Role of Econometric Modeling

In judging the reliability of forecasts generated from an econometric model, it is important to clarify the role of the model in the forecasting process. Econometric modeling is not a technique that allows us to do away with the judgement of the forecaster. Rather it complements that judgement. In fact, the forecaster's judgement is required to get the model to produce any forecasts at all, since the forecaster must predict the path of government policies and other exogenous events. Thus one possible source of errors in the forecasts is the forecaster's inability to accurately predict the course of exogenous events.

A second possible source of error in the forecasts comes from the fact that the model specifies economic relationships inexactly. There are two reasons for this lack of total precision. One is that the model must necessarily be a simplification of the real world, if for no other reason than that the available economic data are incomplete. The other is that the quantitative relationships are estimates, based on relatively few observations of the economy in the past, and thus can never be guaranteed to exactly capture behavior over the whole range of economic activity.

A third possible source of error is that even if we were to have an exact model of the economy as it was yesterday, the structure of the economy may change:

Tomorrow's economy may be fundamentally different from the past economy that we have been modeling. If so, we may be forecasting the future based upon an irrelevant past.

Given all the possible sources of error in the forecasts, why should one place any faith in the forecasts generated by these econometric models, especially given alternatives such as informal "judgmental" forecasts and pure time series forecasts? As we have already noted, the use of an econometric model does not limit the role of the forecaster's judgement. If a judgmental forecaster uses his best judgement to predict that the government's budget will be reduced by \$45 billion and that therefore GNP will grow only 2 percent, he is using some informal model of the relationship between the government's budget deficit and the rate of growth of GNP. Since the econometric model can keep track of many more relationships than most of us can keep in our heads, and since its quantitative relationships are derived, using sound statistical principles, from much more economic data than any forecaster could informally analyze, the use of the econometric models should improve the quality of forecasts. Nor can the judgmental forecaster, with his knowledge of recent events, surpass the forecaster who uses an econometric model. Any knowledge of recent economic events can and should be used to modify the forecasts of the econometric model, and we are able to incorporate informal knowledge about the economy into the econometric forecasts.

Finally, econometric models can produce forecasts in much more detail than any judgmental forecaster can provide.



**APPENDIX**

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APPENDIX

Institute for Public Policy and Business Research, University of Kansas 1988 Kansas Forecast

EMPLOYMENT

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
KCLF KS EMP: Civilian Labor Force	1233.8	1265.4	1244.7	1244.0	1229.5	1271.5	1262.3	1260.6
Percent Change (Annual Rate)	2.5	10.6	-6.4	-0.2	-4.6	14.3	-2.8	-0.1
KEMP KS EMP: Employed	1160.7	1208.5	1192.1	1185.2	1172.0	1207.2	1202.0	1196.7
Percent Change (Annual Rate)	-0.7	17.5	-5.3	-2.3	-4.4	12.6	-1.7	-1.8
KUNEMP KS EMP: Unemployed	73.1	56.8	52.5	58.8	57.5	64.3	60.3	63.1
Percent Change (Annual Rate)	76.7	-63.5	-27.2	57.4	- 8.5	56.0	-2.2	19.9
KUR KS EMP: Unemployment Rate	5.93	4.50	4.20	4.70	4.67	5.05	4.78	5.00
GESE KS EMP: Self Employed	150.7	163.1	144.7	134.5	144.9	144.2	139.8	139.0
Percent Change (Annual Rate)	63.8	37.2	-38.0	-25.4	34.7	-2.0	-11.5	-2.5
GETOTRES KS EMP: Non-Farm W &S Emp by POW	959.1	977.7	974.9	995.6	976.7	996.3	990.3	1004.1
Percent Change (Annual Rate)	-5.7	8.0	-1.1	8.7	-7.4	8.3	-2.4	5.7
KEFARM KS EMP: Farm	51.0	67.8	72.5	55.1	50.4	66.8	71.9	53.7
Percent Change (Annual Rate)	-33.0	212.6	31.0	-66.6	-29.9	207.7	34.5	-68.8
GELOXX KS EMP: Mining Residual	1.40	1.47	1.50	1.43	1.28	1.45	1.49	1.42
Percent Change (Annual Rate)	-8.98	20.45	9.41	-16.63	-37.16	66.98	11.72	-18.75

Kansas forecasts were generated using assumptions determined by the Institute for Public Policy and Business Research and operationalized through the Kansas Econometric Model.

Institute for Public Policy and Business Research, University of Kansas 1988 Kansas Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
KE10T KS EMP: Total Non-farm Wage & Salary	979.93	998.80	994.70	1017.50	998.43	1017.94	1010.63	1026.32
Percent Change (Annual Rate)	-5.86	7.93	-1.63	9.49	-7.29	8.05	-2.84	6.36
KE1014 KS EMP: Mining	11.43	11.73	12.27	12.70	12.59	13.00	13.40	13.33
Percent Change (Annual Rate)	-1.16	10.92	19.46	14.90	-3.48	13.65	13.01	-2.07
KE13 KS EMP: Oil & Gas Extraction	10.03	10.27	10.77	11.27	11.31	11.55	11.91	11.92
Percent Change (Annual Rate)	-0.00	9.63	20.95	19.91	1.62	8.56	13.18	0.18
KE1517 KS EMP: Construction	38.50	43.03	46.27	43.30	37.60	44.34	46.84	44.39
Percent Change (Annual Rate)	-37.69	56.09	33.61	-23.29	-43.17	93.50	24.54	-19.37
KENDUR KS EMP: Non-durable Goods	71.33	72.90	73.40	73.73	73.73	74.82	74.99	74.55
Percent Change (Annual Rate)	-0.93	9.08	2.77	1.83	-0.02	6.04	0.93	-2.32
KE20 KS EMP: Food & Kindred	27.67	28.10	28.47	29.03	28.50	29.05	29.58	29.42
Percent Change (Annual Rate)	-3.76	6.41	5.32	8.20	-7.11	7.97	7.48	-2.21
KE23 KS EMP: Apparel	3.03	3.33	3.60	3.63	3.53	3.55	3.55	3.47
Percent Change (Annual Rate)	-28.61	45.83	36.05	3.76	-11.33	2.83	-0.59	-8.43
KE27 KS EMP: Printing & Publishing	18.30	18.43	18.17	17.93	18.68	18.97	18.54	18.64
Percent Change (Annual Rate)	5.27	2.95	-5.66	-5.04	17.69	6.36	-8.66	2.00
KE28 KS EMP: Chemicals & Allied Prod.	7.93	8.03	7.90	7.93	7.89	7.94	7.93	7.76
Percent Change (Annual Rate)	-4.89	5.14	-6.48	1.70	-2.41	2.64	-0.48	-8.05
KE29 KS EMP: Petroleum & Coal	2.90	2.93	2.97	2.97	2.86	2.88	2.85	2.72
Percent Change (Annual Rate)	0.00	4.68	4.62	0.00	-14.07	3.71	-4.41	-16.93

Kansas forecasts were generated using assumptions determined by the Institute for Public Policy and Business Research and operationalized through the Kansas Econometric Model.

Institute for Public Policy and Business Research, University of Kansas 1988 Kansas Forecast

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	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
GEONDR KS EMP: Other Non-Durable Goods Percent Change (Annual Rate)	11.50 8.54	12.07 21.22	12.30 7.96	12.23 -2.15	12.28 1.58	12.43 4.78	12.54 3.79	12.55 0.15
KEDUR KS EMP: Durable Goods Percent Change (Annual Rate)	103.20 1.83	105.63 9.77	106.53 3.45	107.57 3.94	106.36 -4.43	106.38 0.10	105.73 -2.44	106.65 3.54
KE32 KS EMP: Stone Glass Clay Percent Change (Annual Rate)	6.80 -3.83	6.93 8.08	7.13 12.05	6.70 -22.17	6.47 -13.28	6.86 26.66	7.04 10.70	6.93 -5.89
KE33 KS EMP: Primary Metals Percent Change (Annual Rate)	2.63 -25.38	2.60 -4.97	2.63 5.23	2.70 10.52	2.74 5.76	2.79 7.87	2.81 3.26	2.86 6.69
KE34 KS EMP: Fabricated Metals Percent Change (Annual Rate)	11.10 -5.79	11.47 13.88	11.77 10.88	11.77 0.00	11.62 -4.96	11.85 8.15	12.01 5.50	12.01 0.20
KE3536 KS EMP: Machinery, Incl. Electrical Percent Change (Annual Rate)	26.93 10.55	27.80 13.51	28.13 4.88	28.33 2.87	28.57 3.35	28.42 -2.06	28.28 -1.90	28.45 2.43
KE37 KS EMP: Transportation Equipment Percent Change (Annual Rate)	46.63 3.21	47.63 8.86	47.57 -0.56	48.63 9.28	47.90 -5.86	46.98 -7.50	45.99 -8.19	46.95 8.61
GEODUR KS EMP: Other Durable Goods Percent Change (Annual Rate)	9.10 -5.65	9.20 4.47	9.30 4.42	9.43 5.86	9.06 -14.82	9.49 20.05	9.60 4.94	9.45 -6.22
KE4049 KS EMP: Transportation & Utilities Percent Change (Annual Rate)	61.73 -2.97	63.00 8.46	63.20 1.28	63.27 0.42	62.23 -6.40	63.37 7.54	63.73 2.26	63.78 0.34
KE40 KS EMP: Railroads Percent Change (Annual Rate)	9.43 -17.56	9.70 11.80	9.77 2.78	9.43 -12.97	9.08 -14.01	9.07 -0.54	9.09 0.66	8.93 -6.54

Kansas forecasts were generated using assumptions determined by the Institute for Public Policy and Business Research and operationalized through the Kansas Econometric Model.

Institute for Public Policy and Business Research, University of Kansas 1988 Kansas Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
KE42 KS EMP: Trucking & Warehousing	21.27	22.33	22.47	22.43	21.71	22.65	23.13	23.05
Percent Change (Annual Rate)	1.26	21.62	2.41	-0.59	-12.37	18.65	8.60	-1.34
KE49 KS EMP: Electric Gas & Sanitary Serv.	11.50	11.53	11.60	11.50	11.47	11.62	11.76	11.53
Percent Change (Annual Rate)	-1.15	1.16	2.33	-3.40	-0.89	5.10	5.15	-7.78
GE40XX KS EMP: Trans & Utilities Redidual	19.53	19.43	19.37	19.90	19.97	20.03	19.75	20.27
Percent Change (Annual Rate)	-0.68	-2.03	-1.37	11.48	1.35	1.25	-5.46	10.98
KE5051 KS EMP: Wholesale Trade	65.20	66.00	66.93	66.77	66.67	67.77	68.19	67.02
Percent Change (Annual Rate)	-5.14	5.00	5.78	-0.99	-0.59	6.75	2.54	-6.70
KE5259 KS EMP: Retail Trade	180.5	183.5	185.4	189.9	182.3	187.7	189.7	193.4
Percent Change (Annual Rate)	-11.4	6.9	4.2	10.0	-15.2	12.4	4.3	8.1
KE53 KS EMP: Gen. Merchandise Stores	24.8	25.3	25.9	28.6	25.9	25.6	25.9	28.2
Percent Change (Annual Rate)	-26.0	8.9	10.4	47.2	-32.9	-4.1	5.5	39.2
KE54 KS EMP: Food Stores	26.9	26.8	27.3	27.6	27.0	27.2	27.5	28.0
Percent Change (Annual Rate)	-6.7	-0.5	7.1	4.0	-7.5	2.2	4.7	7.7
KE55 KS EMP: Auto. Dealers & Gas Stations	22.1	22.6	22.8	22.7	22.4	23.0	23.2	23.0
Percent Change (Annual Rate)	-5.8	8.7	3.6	-2.3	-4.4	10.6	3.2	-3.3
KE56 KS EMP: Apparel & Accessory Stores	8.8	8.6	8.6	9.2	8.5	8.4	8.5	9.1
Percent Change (Annual Rate)	-30.5	-5.9	-1.5	31.0	-26.7	-4.2	3.3	30.9
GE52XX KS EMP: Retail Trade Residual	98.0	100.2	100.8	101.9	98.4	103.5	104.6	105.1
Percent Change (Annual Rate)	-7.8	9.3	2.6	4.4	-12.9	22.2	4.3	2.2

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Institute for Public Policy and Business Research, University of Kansas 1988 Kansas Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
KE6067 KS EMP: Finance, Insurance, R.E. Percent Change (Annual Rate)	54.5 2.2	55.6 7.8	56.0 3.2	55.5 -3.8	55.1 -2.4	56.2 8.3	56.7 3.5	55.8 -6.1
KE60 KS EMP: Banking Percent Change (Annual Rate)	16.4 1.6	16.5 1.6	16.4 -0.8	16.3 -2.4	16.3 -1.2	16.3 0.9	16.4 1.0	16.1 -6.5
KE6364 KS EMP: Insurance Percent Change (Annual Rate)	10.2 -3.8	10.2 0.0	10.2 1.3	10.1 -6.4	9.9 -6.1	9.9 -0.5	9.9 -1.9	9.7 -7.1
GE60XX KS EMP: F.I.R.E Residual Percent Change (Annual Rate)	27.9 4.9	28.9 14.6	29.3 6.1	29.1 -3.6	28.9 -1.7	30.0 15.8	30.5 6.8	30.1 -5.6
KE7089 KS EMP: Services Percent Change (Annual Rate)	195.2 -2.2	198.8 7.7	200.1 2.5	201.8 3.6	200.4 -2.8	204.6 8.7	204.8 0.4	204.9 0.1
KE70 KS EMP: Hotels & Lodging Percent Change (Annual Rate)	8.6 -27.8	8.8 9.6	8.8 -3.0	8.3 -19.7	8.1 -11.0	8.8 39.1	9.2 21.2	9.1 -5.5
KE72 KS EMP: Personal Services Percent Change (Annual Rate)	11.3 -2.3	11.6 9.7	11.4 -6.7	11.7 9.7	12.2 21.0	11.9 -10.9	11.5 -11.1	11.6 2.6
GE70XX KS EMP: Services Residual Percent Change (Annual Rate)	175.2 -0.6	178.4 7.5	179.9 3.4	181.9 4.4	180.1 -3.8	184.0 8.9	184.1 0.3	184.2 0.2
KEFED KS EMP: Federal Gov. Percent Change (Annual Rate)	27.8 7.5	27.9 1.4	27.6 -3.8	27.5 -1.9	26.9 -7.8	27.4 6.6	27.2 -1.9	26.9 -5.6
KESL KS EMP: State & Local Gov. Percent Change (Annual Rate)	170.5 -7.1	170.7 0.3	157.0 -28.4	175.5 56.2	174.5 -2.1	172.4 -4.9	159.3 -27.1	175.6 47.9

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Institute for Public Policy and Business Research, University of Kansas 1988 Kansas Forecast

		1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
HOURS AND WAGES									
KH20	KS HRS/WK: Food & Kindred Products	43.40	43.87	42.87	40.97	41.27	41.74	42.24	41.29
	Percent Change (Annual Rate)	36.30	4.37	-8.81	-16.59	2.96	4.63	4.88	-8.62
KH23	KS HRS/WK: Apparel&Other Fin. Prod.	35.57	38.20	38.87	38.40	37.92	37.84	37.78	37.18
	Percent Change (Annual Rate)	-7.16	33.07	7.17	-4.72	-4.94	-0.84	-0.60	-6.20
KH29	KS HRS/WK: Pet. Refining & Rel. Ind.	40.60	41.93	41.77	43.93	42.60	42.87	42.57	42.19
	Percent Change (Annual Rate)	-21.26	13.80	-1.58	22.42	-11.58	2.56	-2.80	-3.47
KH34	KS HRS/WK: Fabricated Metal Products	35.60	36.07	37.37	39.33	38.18	38.43	38.22	37.92
	Percent Change (Annual Rate)	-6.12	5.35	15.22	22.77	-11.23	2.69	-2.17	-3.17
KH3536	KS HRS/WK: Machinery, Incl. Elec.	42.07	41.43	41.07	42.13	41.50	40.96	40.03	40.81
	Percent Change (Annual Rate)	6.94	-5.89	-3.49	10.80	-5.85	-5.11	-8.75	7.94
KH37	KS HRS/WK: Transportation Equipment	40.33	40.80	40.73	41.13	40.20	40.17	40.14	41.28
	Percent Change (Annual Rate)	0.33	4.71	-0.65	3.99	-8.79	-0.29	-0.28	11.87
KW20	KS WAGE/HR: Food & Kindred Products	8.82	8.85	8.83	8.80	8.91	8.99	9.09	9.17
	Percent Change (Annual Rate)	2.93	1.52	-1.05	-1.05	5.16	3.44	4.33	3.67
KW23	KS WAGE/HR: Apparel&Other Fin. Prod.	5.36	5.26	5.28	5.24	5.29	5.33	5.40	5.48
	Percent Change (Annual Rate)	2.78	-7.25	1.53	-3.49	4.06	3.25	5.46	5.47
KW29	KS WAGE/HR: Pet. Refining & Rel. Ind.	13.43	13.40	13.31	13.72	13.88	14.06	14.13	14.29
	Percent Change (Annual Rate)	9.57	-0.99	-2.47	12.68	4.84	5.35	2.03	4.47

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	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
KW34 KS WAGE/HR: Fabricated Metal Products	8.16	8.06	8.08	8.08	8.10	8.21	8.29	8.40
Percent Change (Annual Rate)	7.71	-4.81	1.00	0.33	0.90	5.58	3.91	5.50
KW3536 KS WAGE/HR: Machinery, Incl. Elec.	9.52	9.40	9.40	9.47	9.52	9.61	9.75	9.85
Percent Change (Annual Rate)	-2.35	-4.81	0.14	2.87	2.01	3.96	5.85	4.42
KW37 KS WAGE/HR: Transportation Equipment	12.14	11.94	11.88	11.87	11.79	11.94	12.08	12.41
Percent Change (Annual Rate)	12.16	-6.32	-2.21	-0.34	-2.58	5.21	4.83	11.27

WAGE BILLS

KPSTOT KS WG BILL: Total Wages & Salaries	19193.0	19565.0	19981.0	20350.9	20430.6	20814.0	21097.9	21355.9
Percent Change (Annual Rate)	-4.0	8.0	8.8	7.6	1.6	7.7	5.6	5.0
KP0102 KS WG BILL: Farm Wages & Salaries	166.0	167.0	170.0	172.2	174.7	176.6	178.7	180.2
Percent Change (Annual Rate)	0.0	2.4	7.4	5.2	5.9	4.6	4.7	3.4
KP0709	69.0	64.0	63.0	63.6	64.3	65.0	65.7	66.5
Percent Change (Annual Rate)	35.1	-26.0	-6.1	4.2	4.3	4.4	4.5	4.5
KP1014 KS WG BILL: Mining	236.00	266.00	276.00	291.59	297.64	306.89	311.40	314.95
Percent Change (Annual Rate)	7.08	61.39	15.91	24.59	8.55	13.03	6.00	4.64
KP1517 KS WG BILL: Construction	983.00	965.00	981.00	973.02	946.49	1006.24	1034.26	1036.36
Percent Change (Annual Rate)	-5.50	-7.13	6.80	-3.21	-10.47	27.74	11.61	0.82
KPDUR KS WG BILL: Durable Goods	2517.00	2670.00	2752.00	2769.60	2701.13	2747.17	2770.33	2843.49
Percent Change (Annual Rate)	-39.51	26.62	12.86	2.58	-9.53	6.99	3.42	10.99

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	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
KPNDUR KS WG BILL: Nondurable Goods	1586.00	1624.00	1613.00	1644.83	1673.86	1709.87	1730.72	1746.30
Percent Change (Annual Rate)	5.75	9.93	-2.68	8.13	7.25	8.89	4.97	3.65
KP4049 KS WG BILL: Trans. & Public Utilities	1682.00	1742.00	1778.00	1820.48	1826.75	1859.30	1884.43	1919.53
Percent Change (Annual Rate)	-14.85	15.05	8.53	9.91	1.38	7.32	5.52	7.66
KP5051 KS WG BILL: Wholesale Trade	1532.00	1567.00	1593.00	1626.52	1645.23	1676.45	1699.28	1703.29
Percent Change (Annual Rate)	6.52	9.46	6.80	8.69	4.68	7.81	5.56	0.95
KP5259 KS WG BILL: Retail Trade	1912.0	1926.0	1954.0	1985.2	1994.9	2022.0	2047.2	2069.6
Percent Change (Annual Rate)	3.9	3.0	5.9	6.6	2.0	5.6	5.1	4.5
KP6067 KS WG BILL: Finance, Insurance, & R.E	1227.0	1239.0	1265.0	1281.0	1299.3	1334.1	1365.0	1372.7
Percent Change (Annual Rate)	13.0	4.0	8.7	5.1	5.9	11.1	9.6	2.3
KP7089 KS WG BILL: Services	3182.0	3196.0	3291.0	3420.6	3459.4	3525.5	3588.6	3630.9
Percent Change (Annual Rate)	6.4	1.8	12.4	16.7	4.6	7.9	7.3	4.8
KPGTOT KS WG BILL: Govt. & Govt. Enterprises	4102.0	4140.0	4245.0	4302.2	4347.0	4384.7	4422.2	4472.1
Percent Change (Annual Rate)	6.4	3.8	10.5	5.5	4.2	3.5	3.5	4.6

PERSONAL INCOME

KITOT KS PERS INC: Total Personal Income	37154.0	37498.0	37748.0	38663.1	38749.3	39401.6	39898.4	40532.4
Percent Change (Annual Rate)	-0.8	3.8	2.7	10.1	0.9	6.9	5.1	6.5
GRITOT	31790.9	31686.7	31630.6	32090.9	31866.2	32099.1	32204.7	32423.3
Percent Change (Annual Rate)	-6.3	-1.3	-0.7	5.9	-2.8	3.0	1.3	2.7

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Institute for Public Policy and Business Research, University of Kansas 1988 Kansas Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
KIFPRP KS PERS INC: Farm Proprietors Income	1773.0	1598.0	1158.0	1346.0	1200.9	1235.5	1193.8	1294.3
Percent Change (Annual Rate)	-22.9	-34.0	-72.4	82.5	-36.6	12.0	-12.8	38.2
KINPRP KS PERS INC: Non-farm Proprietors Inc.	3079.0	3133.0	3208.0	3270.5	3327.2	3377.8	3436.4	3498.6
Percent Change (Annual Rate)	10.4	7.2	9.9	8.0	7.1	6.2	7.1	7.4
KIDIR KS PERS INC: Dividends Interest & Rent	6568.0	6625.0	6748.0	6904.0	7028.6	7147.1	7258.1	7370.0
Percent Change (Annual Rate)	3.5	7.6	9.6	7.4	6.9	6.4	6.3	
KIAR KS PERS INC: Adj. For Residence	1255.0	1206.0	1218.0	1239.3	1272.2	1293.8	1314.6	1335.9
Percent Change (Annual Rate)	37.5	-14.7	4.0	7.2	11.0	7.0	6.6	6.6
KIPCSI KS PERS INC: Pers. Cont. For Soc. Ins.	1541.0	1573.0	1601.0	1619.4	1730.9	1755.3	1782.4	1812.3
Percent Change (Annual Rate)	-1.5	8.6	7.3	4.7	30.5	5.7	6.3	6.9
KITR KS PERS INC: Transfer Payments	4967.0	5033.0	5097.0	5219.3	5244.8	5290.4	5354.5	5433.4
Percent Change (Annual Rate)	4.5	5.4	5.2	9.9	2.0	3.5	4.9	6.0
KIOLI KS PERS INC: Other Labor Income	1859.00	1913.00	1938.00	1952.51	1975.93	1998.27	2025.54	2056.65
Percent Change (Annual Rate)	-10.64	12.14	5.33	3.03	4.89	4.60	5.57	6.28

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Institute for Public Policy and Business Research, University of Kansas      1988 U.S. Forecast

		1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
GNP	US: Gross National Product	4377.7	4445.1	4512.00	4561.44	4619.74	4676.50	4752.30	4833.83
	Percent Change (Annual Rate)	8.62	6.30	6.16	4.46	5.21	5.01	6.64	7.04
GNP82	US: Gross National Product 82\$	3772.2	3795.3	3831.20	3848.74	3866.92	3884.16	3916.32	3950.20
	Percent Change (Annual Rate)	4.43	2.47	3.84	1.84	1.90	1.80	3.35	3.50
PDGNP	US: Implicit Deflator - GNP	1.16	1.17	1.18	1.19	1.19	1.20	1.21	1.22
	Percent Change (Annual Rate)	3.99	3.74	2.24	2.57	3.24	3.15	3.19	3.40
RTB3M	US: 3-Month T-Bill Rate	5.53	5.73	6.03	5.90	5.92	6.10	6.28	6.59
RPRIME	US: Prime Rate Charged By Banks	7.50	8.05	8.40	8.69	8.40	8.50	8.68	9.05
RAAA	US: Moodys AAA Corp. Bond Rate	8.37	9.17	9.76	9.98	9.82	9.75	9.70	9.73
M1	US: M1 Money Supply	738.20	750.00	749.87	764.74	773.45	773.22	781.64	786.13
	Percent Change (Annual Rate)	13.77	6.55	-0.07	8.17	4.64	-0.12	4.43	2.32
M2	US: M2 Money Supply	2824.33	2840.60	2861.50	2912.00	2951.23	2974.21	3013.40	3045.73
	Percent Change (Annual Rate)	6.59	2.32	2.98	7.25	5.50	3.15	5.38	4.36
NRUT	US: Unemployment Rate-Total	6.57	6.13	5.87	5.91	6.01	6.11	6.19	6.20
CPIALL	US: CPI-All items	3.35	3.39	3.42	3.47	3.51	3.55	3.59	3.62
	Percent Change (Annual Rate)	5.27	4.90	3.88	5.84	4.81	4.47	4.20	4.05
SURPF	US: Federal Govt. Surplus	-170.50	-139.20	-150.92	-161.60	-137.47	-101.67	-112.13	-106.66

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Institute for Public Policy and Business Research, University of Kansas      1988 U.S. Forecast

		1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
C	US: Personal Consumption Expend.	2893.76	2943.69	3003.69	3032.60	3074.30	3112.08	3166.66	3216.15
	Percent Change (Annual Rate)	5.01	7.08	8.41	3.90	5.62	5.01	7.20	6.40
C82	US: Personal Consump. Expend. 82\$	2475.95	2487.52	2517.01	2517.1	2528.19	2535.27	2556.04	2572.75
	Percent Change (Annual Rate)	-0.73	1.88	4.83	0.01	1.78	1.12	3.32	2.64
PDC	US: Implicit Deflator - C	1.17	1.18	1.19	1.21	1.22	1.23	1.24	1.25
	Percent Change (Annual Rate)	5.78	5.13	3.42	3.88	3.77	3.84	3.77	3.67
CD	US: Per. Con. Exp.-Durables	396.13	409.02	432.58	427.8	432.10	435.76	442.07	447.23
	Percent Change (Annual Rate)	-20.74	13.66	25.12	-4.31	4.03	3.43	5.92	4.75
CD82	US: Per. Con. Exp.-Durables 82\$	375.90	385.38	403.27	395.7	396.59	396.91	399.88	401.82
	Percent Change (Annual Rate)	-21.25	10.48	19.90	-7.34	0.94	0.32	3.03	1.96
CN	US: PCE-Nondurables	969.92	982.09	988.09	993.4	1002.02	1010.02	1024.12	1037.21
	Percent Change (Annual Rate)	10.35	5.11	2.47	2.17	3.52	3.23	5.70	5.21
CN82	US: PCE-Nondurables 82\$	883.18	879.04	878.39	877.1	877.97	877.94	883.35	887.97
	Percent Change (Annual Rate)	1.31	-1.86	-0.29	-0.59	0.41	-0.02	2.49	2.11
CS	US: PCE-Services	1527.70	1552.58	1583.01	1611.3	1640.18	1666.30	1700.47	1731.71
	Percent Change (Annual Rate)	9.80	6.68	8.07	7.34	7.36	6.52	8.46	7.55
CS82	US: PCE-Services 82\$	1216.87	1223.10	1235.35	1244.3	1253.62	1260.42	1272.81	1282.96
	Percent Change (Annual Rate)	5.35	2.06	4.07	2.94	3.02	2.19	3.99	3.23

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Institute for Public Policy and Business Research, University of Kansas

1988 U.S. Forecast

		1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
IFN	US: Fixed Nonresidential Invest.	422.8	434.6	452.80	450.52	450.77	454.58	461.32	470.31
	Percent Change (Annual Rate)	-14.51	11.64	17.83	-2.00	0.22	3.42	6.07	8.03
IFN82	US: Fixed Nonresidential Invest. 82\$	426.0	437.9	461.80	460.12	459.34	461.16	465.24	471.37
	Percent Change (Annual Rate)	-14.64	11.65	23.68	-1.45	-0.67	1.59	3.59	5.37
IFNE	US: Producers Durable Equipment	294.1	304.9	319.33	318.56	319.19	322.52	328.16	335.64
	Percent Change (Annual Rate)	-15.46	15.40	20.39	-0.97	0.80	4.23	7.18	9.44
IFNE82	US: Producers Durable Equipment 82\$	305.6	317.5	336.83	336.78	336.93	339.11	343.13	348.87
	Percent Change (Annual Rate)	-14.64	11.65	26.67	-0.06	0.18	2.61	4.83	6.86
IFNS	US: Investment in Structures	128.7	129.7	133.47	131.96	131.57	132.06	133.16	134.67
	Percent Change (Annual Rate)	-12.25	3.36	12.02	-4.45	-1.16	1.47	3.39	4.62
IFNS82	US: Investment in Structures 82\$	120.4	120.4	124.93	123.34	122.41	122.05	122.11	122.50
	Percent Change (Annual Rate)	-12.96	0.00	16.00	-5.02	-2.98	-1.16	0.19	1.28
IFR	US: Residential Investment	225.4	227.7	228.30	229.51	233.18	237.26	242.37	247.93
	Percent Change (Annual Rate)	-2.62	4.14	1.06	2.14	6.55	7.19	8.88	9.50
IFR82	US: Residential Investment 82\$	198.2	196.8	196.70	195.48	196.48	197.67	199.58	201.85
	Percent Change (Annual Rate)	-7.68	-2.80	-0.20	-2.47	2.07	2.46	3.91	4.64
IBIT	US: Change in Bus. Inventories	51.6	40.3	15.50	16.29	18.74	18.74	16.58	20.05
IBIT82	US: Change in Bus. Inventories 82\$	47.6	39.0	18.10	16.94	16.71	17.40	16.63	20.41

U.S. forecasts were generated using assumptions determined by the Institute for Public Policy and Business Research and operationalized through the Indiana Econometric Model of the United States.

Institute for Public Policy and Business Research, University of Kansas

1988 U.S. Forecast

		1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
IBIF	US: Change in Farm Inventories	2.9	13.0	7.70	0.00	0.00	0.00	0.00	0.00
IBIF82	US: Change in Farm Inventories 82\$	3.7	16.3	8.90	0.00	0.00	0.00	0.00	0.00
IBIN	US: Change in Nonfarm Inv.	48.7	27.3	7.70	16.29	18.74	18.74	16.58	20.05
IBIN82	US: Change in Nonfarm Inv. 82\$	43.9	22.7	9.20	16.94	16.71	17.40	16.63	20.41
NEX	US: Net Exports	-112.2	-118.4	-121.70	-115.98	-120.34	-124.56	-128.87	-130.50
NEX82	US: Net Exports 82\$	-135.2	-132.7	-137.90	-119.54	-116.33	-113.14	-110.19	-108.27
EX	US: Total Exports	397.3	416.5	433.40	444.35	456.12	468.01	480.03	491.03
	Percent Change (Annual Rate)	15.43	20.78	17.25	10.49	11.02	10.84	10.68	9.48
EX82	US: Total Exports 82\$	397.8	414.5	430.60	439.08	447.70	455.99	463.93	470.80
	Percent Change (Annual Rate)	10.15	17.88	16.47	8.11	8.09	7.61	7.16	6.05
IM	US: Total Imports	509.5	534.8	555.10	560.33	576.45	592.57	608.90	621.53
	Percent Change (Annual Rate)	7.65	21.39	16.07	3.82	12.02	11.66	11.49	8.56
IM82	US: Total Imports 82\$	533.0	547.2	568.50	558.62	564.03	569.12	574.12	579.07
	Percent Change (Annual Rate)	-5.16	11.09	16.50	-6.77	3.93	3.66	3.56	3.49
PDIOIL	US: -Implicit Deflator - IOIL	.50	0.56	0.59	0.59	0.60	0.60	0.61	0.62
GVP	US: Total Government Purchases	896.2	917.1	933.50	948.53	963.09	978.40	994.24	1009.89
	Percent Change (Annual Rate)	4.54	9.66	7.35	6.60	6.28	6.51	6.64	6.45

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Institute for Public Policy and Business Research, University of Kansas

1988 U.S. Forecast

		1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
GVP82	US: Total Government Purchases 82\$	759.6	766.7	775.50	778.67	782.52	785.79	789.02	792.08
	Percent Change (Annual Rate)	-6.17	3.79	4.67	1.64	1.99	1.68	1.66	1.56
GVPF	US: Fed. Govt. Purchases	366.9	379.6	384.60	387.11	389.69	393.63	397.66	401.65
	Percent Change (Annual Rate)	-1.83	14.58	5.37	2.64	2.69	4.10	4.16	4.08
GVPF82	US: Fed. Govt. Purchases 82\$	327.3	332.6	338.30	338.00	338.99	340.09	341.18	342.30
	Percent Change (Annual Rate)	-18.62	6.64	7.03	-0.35	1.18	1.30	1.28	1.33
GVPFD	US: Fed. Defense Purchases	287.50	294.50	296.00	297.7	299.34	301.58	304.15	306.55
	Percent Change (Annual Rate)	12.75	10.10	2.05	2.31	2.23	3.02	3.46	3.19
GVPFD82	US: Fed. Defense Purchases 82\$	257.40	263.50	264.90	266.0	266.90	267.90	268.90	269.90
	Percent Change (Annual Rate)	7.65	9.82	2.14	1.67	1.36	1.51	1.50	1.50
GVPFO	US: Fed. Nondefense Purchases	79.40	85.10	88.60	89.4	90.35	92.05	93.50	95.09
	Percent Change (Annual Rate)	-38.33	31.96	17.49	3.74	4.23	7.76	6.45	6.99
GVPFO82	US: Fed. Nondefense Purchases 82\$	69.90	69.10	73.40	72.0	72.09	72.19	72.28	72.40
	Percent Change (Annual Rate)	-66.53	-4.50	27.31	-7.41	0.51	0.54	0.48	0.71
GVPS	US: State and Local Govt. Purch.	529.30	537.60	548.90	561.4	573.40	584.77	596.59	608.25
	Percent Change (Annual Rate)	9.27	6.42	8.68	9.44	8.81	8.18	8.33	8.05
GVPS82	US: State and Local Govt. Purch.82\$	432.30	434.10	437.30	440.7	443.53	445.70	447.85	449.78
	Percent Change (Annual Rate)	4.96	1.68	2.98	2.62	2.62	1.98	1.94	1.73
CCAWA	US: Cap. Cons. Allow. with Adj.	469.70	476.60	480.50	486.2	493.04	499.95	507.13	514.89
	Percent Change (Annual Rate)	3.30	6.01	3.31	5.0	5.72	5.72	5.87	6.27

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		1988 U.S. Forecast							
		1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
CCAXA	US: Cap. Cons. Allow w/o Adj.	442.90	450.40	451.90	457.1	463.44	469.85	476.53	483.79
	Percent Change (Annual Rate)	-4.05	6.95	1.34	5.0	5.64	5.64	5.81	6.24
CCADJ	US: Cap. Cons. Adjustment, Total	26.80	26.20	28.60	29.1	29.60	30.10	30.60	31.10
	Percent Change (Annual Rate)	350.06	-8.66	41.99	7.0	7.05	6.93	6.81	6.70
MNP	US: Net National Product	3907.90	3968.50	4031.50	4075.2	4126.72	4176.55	4245.17	4318.94
	Percent Change (Annual Rate)	9.26	6.35	6.50	4.0	5.15	4.92	6.74	7.13
IBT	US: Indirect Business Taxes	358.30	365.20	372.80	381.6	391.70	407.90	418.20	428.60
	Percent Change (Annual Rate)	7.48	7.93	8.59	10.0	11.01	17.60	10.49	10.32
TRB	US: Business Transfer Payments	22.80	23.10	23.30	23.3	23.74	23.98	24.28	24.60
	Percent Change (Annual Rate)	3.59	5.37	3.51	3.0	4.20	4.22	4.94	5.52
SD	US: Statistical Discrepancy	-2.20	-3.10	0.00	0.0	0.00	0.00	0.00	0.00
	Percent Change (Annual Rate)	-99.87	294.24	-100.00	.	.	.	.	.
SUBT	US: Sub. less Cur. Sur.-Gov. E.	19.30	9.90	0.80	11.9	11.90	11.90	11.90	11.90
	Percent Change (Annual Rate)	666.30	-93.08	-100.00	4895748	0.00	0.00	0.00	0.00
YN	US: National Income	3548.30	3593.30	3636.20	3682.0	3723.18	3756.57	3814.60	3877.64
	Percent Change (Annual Rate)	9.21	5.17	4.86	5.0	4.55	3.64	6.32	6.78
CPNIA	US: Corp. Prof. w. IVA + CCADJ	294.00	296.80	291.80	287.8	266.31	249.07	251.39	254.28
	Percent Change (Annual Rate)	19.66	3.86	-6.57	-5.0	-26.71	-23.49	3.77	4.69
YINT	US: Net Interest	323.60	331.10	339.50	349.2	357.12	365.49	372.93	380.39
	Percent Change (Annual Rate)	2.38	9.60	10.54	12.0	9.45	9.71	8.39	8.24

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Institute for Public Policy and Business Research, University of Kansas      1988 U.S. Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
CSIT      US: Cont. to Soc. Ins.-Total	386.70	390.90	396.70	400.9	425.08	430.73	436.97	443.84
Percent Change (Annual Rate)	6.12	4.42	6.07	4.0	26.43	5.42	5.93	6.43
WALD      US: Wage Accruals less Disburs.	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00
Percent Change (Annual Rate)	.	.	.	-100.00	.	.	.	.
TRG      US: Govt. Trans. to Pers.-Total	510.90	518.40	522.10	534.20	536.44	541.04	547.64	555.82
Percent Change (Annual Rate)	5.51	6.00	2.89	9.60	1.69	3.47	4.97	6.11
YINTP      US: Personal Interest Income	499.80	506.30	517.60	530.98	542.13	553.06	562.97	572.97
Percent Change (Annual Rate)	2.44	5.30	9.23	10.75	8.67	8.31	7.36	7.30
YDIVP      US: Personal Dividend Income	84.50	86.30	88.70	89.85	90.09	89.98	90.23	90.53
Percent Change (Annual Rate)	7.95	8.80	11.60	5.31	1.06	-0.49	1.10	1.34
YP      US: Personal Income	3662.00	3708.60	3759.70	3822.71	3867.07	3919.35	3978.42	4043.06
Percent Change (Annual Rate)	7.83	5.19	5.63	6.87	4.72	5.52	6.17	6.66
WSD      US: Wage and Salary Disburse.	2163.30	2191.40	2227.00	2255.32	2287.84	2320.26	2356.71	2396.58
Percent Change (Annual Rate)	6.70	5.30	6.66	5.18	5.89	5.79	6.43	6.94
OLI      US: Other Labor Income	206.70	209.50	211.10	213.00	215.41	217.82	220.69	223.95
Percent Change (Annual Rate)	4.58	5.53	3.09	3.65	4.59	4.55	5.38	6.05
YPROT      US: Total Proprietors Inc.	320.90	323.10	322.10	329.69	335.24	339.23	344.47	349.99
Percent Change (Annual Rate)	34.83	2.77	-1.23	9.77	6.90	4.86	6.32	6.57
YPROF      US: Farm Proprietors Inc.	51.30	47.30	39.10	40.46	40.39	39.43	38.84	38.17
Percent Change (Annual Rate)	285.96	-27.73	-53.31	14.64	-0.69	-9.20	-5.76	-6.78

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Institute for Public Policy and Business Research, University of Kansas      1988 U.S. Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
YPRON    US: Nonfam Proprietors Inc. Percent Change (Annual Rate)	269.70 13.67	275.80 9.36	283.00 10.86	289.23 9.11	294.85 7.99	299.81 6.90	305.62 7.99	311.83 8.37
YRENT    US: Rental Income of Persons Percent Change (Annual Rate)	20.00 39.59	18.90 -20.25	18.50 -8.20	19.04 12.21	19.49 9.70	19.87 8.10	20.19 6.70	20.46 5.26
TRT       US: Total Transfer Payments Percent Change (Annual Rate)	533.70 5.50	541.50 5.98	545.40 2.91	557.70 9.33	560.18 1.79	565.02 3.51	571.92 4.97	580.43 6.09
CSIP     US: Pers. Cont. to Soc. Ins. Percent Change (Annual Rate)	166.70 12.68	168.40 4.14	170.80 5.82	172.85 4.89	183.28 26.40	185.90 5.85	188.75 6.29	191.85 6.72
TPT       US: Tot. Pers. Tax + Nontax Pay Percent Change (Annual Rate)	536.10 3.12	578.00 35.12	566.20 -7.92	575.61 6.81	585.31 6.91	620.55 26.35	614.87 -3.61	625.00 6.76
YPD       US: Disposable Personal Income Percent Change (Annual Rate)	3125.90 8.67	3130.60 0.60	3193.50 8.28	3247.10 6.88	3281.76 4.34	3298.80 2.09	3363.55 8.09	3418.05 6.64
YPD82    US: Disposable Personal Income Percent Change (Annual Rate)	2674.60 2.72	2645.50 -4.28	2676.10 4.71	2695.13 2.88	2698.78 0.54	2687.38 -1.68	2714.97 4.17	2734.26 2.87
YINTC    US: Int. Paid by Cons. to Bus. Percent Change (Annual Rate)	92.10 0.00	92.60 2.19	93.80 5.29	97.13 14.97	99.81 11.53	101.94 8.78	103.65 6.91	105.19 6.05
TRFF     US: Pers. Trans. Pay. to For. Percent Change (Annual Rate)	1.70 -35.91	1.20 -75.17	1.40 85.26	1.50 31.78	1.50 0.00	1.50 0.00	1.50 0.00	1.50 0.00
YSAV     US: Personal Saving Percent Change (Annual Rate)	138.40 159.92	93.20 -79.44	94.60 6.15	115.89 125.20	106.12 -29.69	83.29 -62.05	91.73 47.16	95.21 16.05

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Institute for Public Policy and Business Research, University of Kansas      1988 U.S. Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
YSAVR    US: YSAV as a Percent of YPD	4.40	3.00	3.00	3.57	3.23	2.52	2.73	2.79
Percent Change (Annual Rate)	123.15	-78.39	0.00	100.29	-32.61	-62.83	36.15	8.81
WSC      US: Wages and Salaries	2163.30	2191.40	2227.20	2255.32	2287.84	2320.26	2356.71	2396.58
Percent Change (Annual Rate)	6.70	5.30	6.70	5.15	5.89	5.79	6.43	6.94
WSCG    US: W. and S.-Govt. + Govt. Ent.	412.20	418.10	424.20	426.01	432.66	439.14	445.93	452.81
Percent Change (Annual Rate)	8.58	5.85	5.96	1.72	6.40	6.12	6.34	6.31
WSCO    US: W. and S.-Other	1751.10	1773.30	1803.00	1829.31	1855.18	1881.12	1910.78	1943.77
Percent Change (Annual Rate)	6.26	5.17	6.87	5.97	5.78	5.71	6.46	7.09
SUPT    US: Supplements to w. and s.	426.60	432.00	437.10	441.02	457.21	462.64	468.91	475.94
Percent Change (Annual Rate)	2.96	5.16	4.81	3.64	15.51	4.84	5.53	6.14
CSIB    US: Emp. Cont. to Soc. Ins.	220.00	222.50	226.00	228.02	241.80	244.83	248.22	251.99
Percent Change (Annual Rate)	1.65	4.62	6.44	3.63	26.45	5.10	5.66	6.21
CPBT    US: Corp. Prof. before Taxe	257.00	268.70	256.70	255.64	238.78	224.64	229.18	234.22
Percent Change (Annual Rate)	15.51	19.49	-16.70	-1.64	-23.89	-21.66	8.33	9.09
TCPT    US: Profits Tax Liability	128.00	134.20	128.21	131.67	129.99	128.67	132.41	135.96
CPAT    US: Corp. Prof. after Taxes	129.00	134.50	128.49	123.97	108.79	95.97	96.77	98.27
YDIV    US: Dividends-Total	90.30	92.40	95.20	96.45	96.89	96.88	97.33	97.83
Percent Change (Annual Rate)	7.90	9.63	12.68	5.38	1.82	-0.04	1.86	2.07
CPU      US: Undistributed Corp. Prof.	38.70	42.10	33.29	27.51	11.89	-0.91	-0.56	0.44

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Institute for Public Policy and Business Research, University of Kansas      1988 U.S. Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
IVA      US: Inventory Valuation Adj. Percent Change (Annual Rate)	-11.30 159.87	-20.00 881.31	-13.50 -79.24	-16.01 97.74	-20.44 166.02	-23.48 74.05	-25.74 44.43	-28.01 40.12
CCCAD    US: Corp. Cap. Cons. Adj. Percent Change (Annual Rate)	48.20 71.81	48.00 -1.65	48.60 5.09	48.19 -3.30	47.98 -1.76	47.91 -0.58	47.95 0.32	48.07 1.00
UHH      US: Unemployment Percent Change (Annual Rate)	7.83 -7.56	7.34 -22.84	7.04 -15.09	7.13 5.06	7.28 8.71	7.44 9.22	7.57 7.25	7.61 2.02
LFC      US: Civilian Labor Force Percent Change (Annual Rate)	119.20 2.19	119.61 1.39	120.04 1.42	120.67 2.11	121.22 1.84	121.74 1.75	122.27 1.74	122.79 1.72
EHA      US: Agricultural Employment Percent Change (Annual Rate)	3.22 5.44	3.27 5.83	3.16 -12.51	3.14 -2.50	3.14 -0.34	3.14 0.68	3.16 2.45	3.18 1.78
EETNA    US: Tot. Priv. Nonfarm Empl. Percent Change (Annual Rate)	97.91 2.88	98.44 2.18	99.11 2.75	99.62 2.05	100.05 1.75	100.44 1.60	100.95 2.02	101.55 2.40
EET      US: Tot. Nonfarm Empl. Percent Change (Annual Rate)	101.13 2.96	101.71 2.29	102.27 2.23	102.76 1.91	103.19 1.68	103.59 1.57	104.11 2.03	104.72 2.38
EEFG     US: Fed. Govt. Empl. Percent Change (Annual Rate)	2.92 2.28	2.93 2.44	2.95 1.51	2.92 -3.70	2.92 0.00	2.92 0.00	2.92 0.00	2.92 0.00
EESG     US: S & L Govt. Empl. Percent Change (Annual Rate)	14.03 0.96	14.10 1.89	14.09 -0.14	14.16 1.97	14.23 2.02	14.30 1.74	14.37 2.02	14.44 2.03
EEG      US: Total Govt. Empl. Percent Change (Annual Rate)	16.95 1.19	17.03 1.98	17.04 0.14	17.08 0.98	17.15 1.68	17.21 1.44	17.29 1.68	17.36 1.68

U.S. forecasts were generated using assumptions determined by the Institute for Public Policy and Business Research and operationalized through the Indiana Econometric Model of the United States.

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Institute for Public Policy and Business Research, University of Kansas      1988 U.S. Forecast

	1987Q1	1987Q2	1987Q3	1987Q4	1988Q1	1988Q2	1988Q3	1988Q4
WRCPNA US: Wage Rate Per Hour-Pr. Nonag.	9.77	9.84	9.95	10.05	10.16	10.26	10.37	10.48
Percent Change (Annual Rate)	2.07	2.90	4.63	4.24	4.27	4.29	4.32	4.36
PROD82 US: Output Per Nanhour-Pr. Nonag.82\$	18.62	18.66	18.75	18.77	18.79	18.82	18.90	18.95
Percent Change (Annual Rate)	0.77	0.88	1.98	0.38	0.59	0.59	1.60	1.20

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