New design product offerings will significantly affect market demand and share ratios.

New 400 MPH turboprop aircraft will have a small impact upon the overall business turbine market.

A host of external market factors were listed without specific conclusions as to a finite quantitative impact.

At risk was the potential for Federal Reserve policy actions which could affect economic activity and thus contain business market growth as early as mid-1984 or by late 1985.

A basic consensus forecast was developed from an array of all sealed envelope forecasts submitted. The results are provided below. It must be noted that these estimates reflect probable reported retail sales or deliveries which include both production shipments and inventory sales.

Estimated Actual Market

	CY 1983	1984	1985
Business Jet	230	310	390-430
Business Turboprop	300-335	450-500	550-600

Suggested Market Research Areas by Activity

At the request of the Transportation Research Board staff, a list of potential market research study areas was compiled for business aviation markets.

Impact of used aircraft availability and lower prices on new aircraft demand.

International product competition.

Purchase decision influence factors by type of end users.

Aircraft operational use characteristics by type aircraft and industry application.

Finite impact of investment tax policies.

Export of various airport airways policies on market demand.

Business decentralization trends in the U.S., European and Asian areas and probable effects on aircraft demand versus electronic communications.

Improved determination of used aircraft sales price trends at the retail level.

Active fleet analysis by type user.

Fuel price and availability relationships to retail market demand.

Role of business aviation as a function of air transportation system growth potential worldwide.

In summary, this workshop attempted to assess previous economic and market conditions leading to a consensus of current factors providing the framework for market recovery in the 1984-1985 period. Consideration was given to the various means of measuring the turning point and relative magnitude of change. Economic assumptions and a supportive set of market conditions expected to prevail were developed.

THE UNITED STATES ECONOMIC OUTLOOK
David Wyss, Data Resources, Inc.

The economy seems to be improving. We have gone through the worst recession in postwar history and are beginning to move into a strong and sustained recovery. The real economy jumped ahead very sharply in the second quarter of 1983. The third quarter is going to show similarly strong growth, and although signs of a slowing of the economy are beginning to creep into the economic horizon, the signs are only about what we would expect at this stage of a recovery. We expect slower but still good economic growth through the next two years.

The recovery has some surprising aspects to it. Consumption is leading the recovery. The consumer has decided that it is time to spend money, and this rise in consumer spending is giving the impetus to the growth of production and the growth of income. Several things have happened to change the consumer's attitude about spending his cash. If you look at Table 1, consumer confidence (the index as measured by the University of Michigan Survey Research Center) rose sharply at the beginning of this year. The consumer decided that the times were improving; it was time to buy, inflation was under control. The consumer proceeded to spend with a vengeance. Real retail sales rose in line with the increase in consumer confidence. Real disposable income has also jumped quite sharply since early 1982. We have had two tax cuts in that period, both of which have added substantially to available disposable income. More importantly, with the rise in production has come a decline in the unemployment rate and a sharp rise in employment. The unemployment rate has dropped from 10.8 percent to 9.5 percent, a large drop for this early in a recovery. On the other hand, there was a very high unemployment rate to start, and 9.5 percent is still a very poor performance by normal historical standards. We have a long way to go before we have unemployment back to normal.

Within retail sales, consumer durables have been by far the most rapidly growing sector of the economy. Automobile sales rose 16 percent in the first half of 1983, and non-automobile durables rose 10.5 percent. There has been some slowing in the auto sales this summer, which has been widely blamed on the low inventory position, but sales of motor vehicles are still very high and rising quite rapidly.

The other side of the sharp rise in consumption was the sharp decline in the savings rate. The savings rate in the second quarter of 1983 fell to 4 percent, the lowest savings rate since the Korean War. There is serious doubt that this level of savings is sustainable, especially in view of all the new incentives to save that were part of supply side economics. Is it really true that supply side economics, which is supposed to increase savings, has led to a reduction in the savings rate? It may be that it has, but it is also quite possible that much of that low savings rate represented a

Table 1. Real personal consumption expenditures.

	1983 I	1983 II	1983 III	1983 IV	Years 1982	Years 1983	Years 1984	Years 1985
Rates of Change - SAAR								
Total Personal Consumption	2.9	9.7	4.1	4.5	1.4	4.3	4.1	2.9
Personal Consumption except Autos and Parts	3.0	6.5	3.5	3.8	1.3	3.3	3.5	2.9
Durable Goods	7.6	32.0	7.7	10.5	-0.9	11.7	8.8	4.5
Autos & Parts	2.7	67.5	13.2	13.5	2.5	19.8	11.7	3.9
Furniture & Appliances	9.7	14.2	4.9	8.1	-3.1	7.0	7.1	4.7
Other Durable Goods	15.9	0.3	-0.8	8.1	-3.5	3.3	5.0	5.4
Nondurable Goods	3.2	5.8	4.3	3.1	0.5	3.1	3.0	2.3
Food & Beverages	4.0	1.2	6.7	2.1	1.2	3.5	2.6	2.3
Clothing & Shoes	1.0	19.5	3.7	5.6	1.4	4.7	5.0	3.1
Gasoline & Oil	19.5	-1.3	-1.8	-1.4	1.8	2.2	-1.8	-2.0
Fuel Oil & Coal	-15.7	142.8	-39.0	-7.2	-2.5	2.8	-2.0	0.4
Other Nondurable Goods	-1.0	0.4	3.9	5.2	-2.9	0.5	3.8	2.9
Services	1.4	6.5	2.9	3.7	2.9	3.1	3.4	3.0
Housing	3.8	3.3	2.5	2.7	2.8	2.7	2.8	3.1
Household Operation	-6.9	21.4	-0.4	3.3	0.9	1.2	2.5	1.4
Transportation	-1.9	4.0	8.3	5.7	-1.8	0.4	5.0	4.2
Other Services	2.6	5.2	3.6	4.3	4.4	4.3	3.8	3.1
Saving Rate (NIPA Basis) (%)	5.4	4.0	5.1	5.1	5.8	4.9	5.4	5.7
Factors Affecting Consumer Spending								
Household Economic Position and Attitude								
Real Disposable Income (%Ch)	2.9	3.3	9.0	4.4	0.5	3.3	4.6	3.4
Household Net Worth (%Ch)	9.9	6.0	1.7	1.5	-0.9	7.5	2.1	0.8
National Unemployment Rate (%)	10.2	10.0	9.3	8.9	9.6	9.6	8.2	7.8
Consumer Sentiment Index (1966/I=100.0)	75.3	91.5	92.9	92.4	68.0	88.0	85.6	79.8

DATA RESOURCES, INC.

prespending of the July 1, 1983 tax cut, and much of it may also represent certain problems with the savings data in the national income accounts. There is serious reason to believe, from other data, notably the Federal Reserve's savings data, that the income numbers are understated in the national income accounts. An understatement of the income numbers would, of course, result in an understatement of the savings rate, since saving is simply the difference between income and consumer expenditure. It is important to know what is going on with the savings rate, because the sustainability of a low savings rate tells us whether consumption is sustainable. If the savings rate bounces back to normal, to 6 percent, there would be a quick slowdown in the economy. If the savings rate remains low, 5 percent or so, then there will be continued strong growth of consumption through 1984, and that will help keep the recovery going.

The other part to the improvement in consumer confidence, has been the sharp improvement in the inflation rate. Inflation has dropped sharply since its peak in 1981. The consumer price index, which rose over 10 percent in 1981, has risen less than 2.5 percent over the last twelve months. All the fundamental factors indicate a much lower inflation rate over the coming years. Wage growth has slowed to very low levels by recent historic evidence over the last twelve months. Hourly earnings have risen only 4.3 percent. The strength of the dollar has kept import costs low. Prices, excluding energy items, have actually declined 2.5 percent over the last twelve months. Not all of these factors are sustainable. The dollar will not continue to rise. The hourly earnings increases are likely to get a little bit higher, but with the unemployment rate high and unions still pretty quiet, in terms of wage demands, wage settlements will remain relatively low. Food prices will certainly bounce up, with the bad harvest that is expected in 1983, but even when all of these factors are combined with minor items, such as a rise in employer contributions for social security next year, we still expect a good performance of unit labor costs in 1984, and only a mild increase in the inflation rate. The inflation rate, as measured by the consumer price index should remain in the 4.5 percent to 5 percent range over the next two years (Table 2).

The old question in economics was why the real interest rate never moved. Now the question is, since inflation has come down so much, why have not the interest rates come down with it. This factor constitutes the most serious threat to the continuation of the recovery. Investment has still not picked up in this recovery. That is not unusual. We are only six months into the recovery and investment should not be picking up yet. But the question is, can investment pick up when the interest rate is 5 percent or more above the inflation rate. If you look at Figure 1 you can see that there has been a sharp decline in interest rates. The federal funds rate has dropped from 18 percent in 1981, down to 9.5 percent at present, but this decline in interest rates has only offset the decline in the inflation rate. The real interest rate, the bottom line on Figure 2, has remained very stable in a 5 percent to 7 percent range every since 1981.

This pattern is very disturbing. Throughout postwar history, and in fact throughout prewar history, the interest rate and the inflation rate have been very close to each other. When the inflation rate went up, the interest rate would follow, perhaps with a little bit of a lag, but pretty much following in line. The real interest rate, the difference between the two, was virtually zero. As measured by the Treasury bill rate, the

Table 2. Inflation: recent evidence and forecast.

	Percent Change at Annual Rate 6 Months	12 Months	Percent Change 1981	1982	1983	1984	1985
GNP Deflator *	4.5	4.4	9.4	6.0	4.4	4.8	5.0
Consumer Price Index	3.4	2.4	10.3	6.2	3.2	4.8	4.9
Adjusted Hourly Earnings	3.2	4.3	9.1	6.8	4.8	5.1	5.7
Unit Labor Costs *	0.6	3.3	7.7	7.9	2.9	3.0	4.2
Imported Goods Excl. Energy *	-0.6	-2.6	2.0	0.3	-1.9	5.1	8.3
Producer Price Indexes							
Finished Goods	1.4	1.5	9.3	4.0	1.9	4.8	5.3
Excluding Food and Energy	3.4	3.1	8.6	5.7			
Wholesale Price Indexes							
Farm Products	4.1	-1.0	2.2	-4.9	2.2	9.3	6.0
Processed Foods	2.7	0.0	3.1	1.1	2.4	6.9	6.3
Energy	-7.1	-4.2	21.0	-0.2	-4.0	3.3	5.5
Non-Energy Industrial Products *	1.7	1.8	8.0	3.1	2.5	5.5	6.0
Foreign Prices * **	2.6	-2.8	-1.9	-3.7	-0.7	5.9	9.1
Factors Affecting Prices (Average Levels)							
Vendor Performance	0.49	0.45	0.45	0.37	0.50	0.51	0.50
Capacity Utilization Rate	0.73	0.72	0.79	0.71	0.74	0.79	0.80
Unemployment Rate	10.1	10.2	7.6	9.7	9.7	8.3	7.9

* These quarterly series compare 83:3 with 83:1 in the six-month column and 83:3 with 82:3 in the twelve-month column. All other monthly reports compare July data to January 83 and July 82 as appropriate.

** Corrected for exchange rate movements.

real interest rate has averaged about half of a percent during the postwar period until 1981. All of a sudden in 1981 the real interest rate shot up to about 5 percent, and with some bouncing around it has stayed there. Why has this happened? What has caused this change in the economy? Is it going to continue? And will business continue to invest if it does?

Perhaps the most often cited cause of the rise in the real interest rate has been the change in the government deficit. Throughout most of postwar history the government has been neutral in the U.S. financial market. Historically the federal government has run a small deficit, and the state and local governments have had a small surplus. On net the government has been neither a borrower nor a lender in financial markets. That changed sharply in 1981. In 1983 we expect a federal deficit around $200 billion, about 6 percent of gross national product. Figure 3 shows what this does to the funds available to the economy. If we go back to 1979, before interest rates started to go up, the federal deficit was about 2 percent of GNP, and private saving was about 8.5 percent of GNP. The government, in other words, was using less than one quarter of available private domestic savings. In 1983 the government will borrow about 4.5 percent of GNP. Individuals and corporations will save about 5 percent of GNP. The government sector will be borrowing 90 percent of net private domestic

Figure 1. Federal funds versus three-month Treasury bill rate.

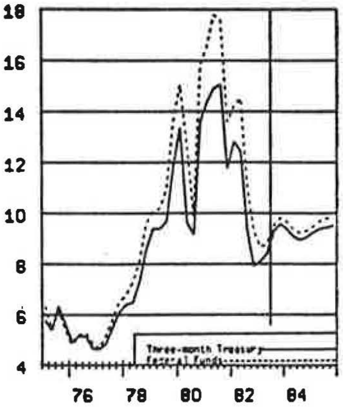


Figure 2. Federal funds rate: nominal and real.

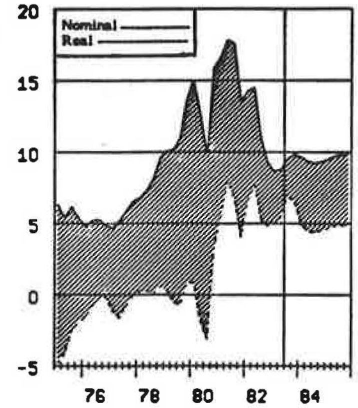
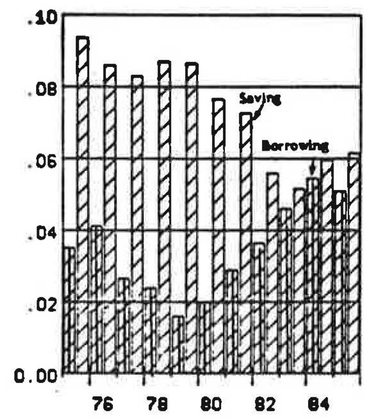


Figure 3. Government borrowing and private saving (percent of GNP).



saving. Those funds are no longer available to finance housing or to finance investment by corporations. Somebody has to buy that debt, and that is going to take funds out of the economy. And that is going to keep real interest rate high.

There is some offset to this deficit from overseas. The high real interest rate has raised the value of the dollar. It has done that in spite of creating a very large current account deficit in the U.S. The price of the dollar, like the price of anything else, is set by supply and demand. The demand for dollars has gone up because overseas investors can earn a very high rate of return on assets invested in dollars. So foreigners are going into the market and buying up dollars and investing the money in Treasury bills, in land in Florida, in whatever else looks profitable. As a result of the rise in the dollar, the U.S. share of world trade has been falling sharply. Real exports have declined in eight out of the last twelve quarters. The United States has lost a full percentage point of its share of world trade, a disaster for the American exporter. It is going to get worse. For 1983 we expect a current account deficit of $35 billion; next year it is likely to be over $50 billion.

If it were not for our interest earnings from overseas, it would be even worse than that. If we take out net interest flows, we would be showing about -$80 billion next year. With the situation in Latin America we may be losing some of those interest inflows.

On the other side, the money that is coming in from abroad is helping pay off some of our deficit. The federal government is financing the deficit in part by borrowing from Germans, from Britons, from Italians, and from anybody else who wants to put money into the United States. That net capital inflow will offset about 15 percent of the federal deficit in 1983. It is a dangerous position. Currency markets like currencies, or dislike currencies, not always for rational reasons. If the foreign investors suddenly decide that they do not want dollars any more in their portfolio, if they feel that there is a major political threat, if they have to warry about what a President Cranston might do to United States economic policy, if they are worried about the safety of the dollar or of the American banks, those dollars could leave the United States very rapidly. If the dollars leave the United States, the dollar would suddenly start coming back down very quickly. We would see that in our inflation rate as import prices rise, and we might well see it in higher interest rates as we lose the inflow of funds. Our best guess is that foreigners will continue to like dollars. The real rate of return is high enough to keep the dollar strong, but that is one reason why the real rate of return is going to have to stay high. That high interest rate is going to keep investment weaker than in a normal recovery. It is hard to convince a manufacturer that he can earn 5 percent after inflation, on his investment. As long as manufacturers are remaining hard to convince we are going to see very little plant expansion. There will be some upturn. There is going to be replacement; there is going to be needed capacity to build, but investment is not going to be quite as robust as in the average recovery.

The net result is a recovery which begins to show signs of age at the end of 1983. After a strong third quarter we will see a medium-strong fourth quarter, with real growth in the 4.5 percent to 5 percent range, followed by further slowing of the economy to a 4 percent average during the four quarters of 1984. It will still be a recovery. The unemployment rate will continue to decline, consumers will generally feel pretty good, but there will be continued strain on financial markets from the large deficit, which will keep interest rates high in both nominal and real terms.

Inflation will remain low. The unemployment rate is declining, but it is still high. As a result unions are nervous, and nervous unions do not demand very high wage increases. In addition, with inflation low, large increases in wages are not necessary to compensate for cost of living increases. We are in the virtuous part of the wage-price spiral.

There are risks to this outlook. The risks could come from an over-enthusiastic Federal Reserve, especially entering the election next year. If money supply is again growing rapidly, and especially if we are seeing signs of higher wage growth in late 1984, as the recovery is proceeding, then the Federal Reserve might clamp down once again on financial markets, and interest rates would move upward.

If we are lucky, financial conditions could improve. If the inflation rate remains low, and if the money aggregates remain within their target band, the Federal Reserve might decide that it has done enough to the economy and that it can let the interest rates come down. In that case investment would come back, and there would be a more normal cyclical investment pattern and a stronger recovery in 1984 and 1985 (Table 3).

Table 3. Data resources summary table of the United States economy, 1983-1985.

	1983				1984				Years			
	I	II	III	IV	I	II	III	IV	1982	1983	1984	1985
GNP and Its Components Billions of Dollars - SAAR												
Total Consumption....................	2073.0	2148.4	2192.8	2241.6	2288.9	2334.3	2377.8	2422.6	1991.9	2164.0	2355.9	2540.3
Nonres. Fixed Investment.............	332.1	335.9	341.9	350.9	360.5	370.4	380.9	392.1	348.3	340.2	376.0	422.5
Res. Fixed Investment................	111.3	127.7	139.4	139.1	139.3	142.5	148.0	154.3	90.8	129.4	146.0	157.4
Inventory Investment.................	-39.4	-11.9	4.9	13.6	22.6	28.3	34.1	34.8	-24.6	-8.2	29.9	36.0
Net Exports..........................	17.0	-12.3	-16.7	-18.2	-16.7	-18.6	-20.9	-23.2	17.4	-7.5	-19.9	-27.0
Federal Purchases....................	273.5	272.7	285.9	296.4	303.3	311.8	319.0	329.7	258.7	282.1	316.0	349.9
State and Local Govt. Purchases......	404.0	409.4	418.5	425.7	433.3	441.5	449.4	457.7	390.5	414.4	445.5	479.4
Gross National Product...............	3171.5	3270.0	3366.8	3449.0	3531.3	3610.1	3688.3	3768.0	3073.0	3314.3	3649.4	3958.6
Real GNP (1972 Dollars)..............	1490.1	1523.4	1551.0	1569.4	1586.7	1603.2	1619.2	1634.1	1485.4	1533.5	1610.8	1664.7
Prices and Wages - Annual Rates of Change												
Implicit Price Deflator..............	5.5	3.5	4.6	5.0	5.2	4.8	4.7	5.0	6.0	4.4	4.8	5.0
CPI - All Urban Consumers............	-0.4	4.2	4.9	4.8	5.1	4.8	4.6	4.6	6.2	3.2	4.8	4.9
Producer Price Index - Finished Goods	-2.6	0.7	3.5	5.4	5.7	5.2	4.9	5.0	4.0	1.9	4.8	5.3
Compensation per Hour................	7.0	4.5	4.4	5.4	6.7	5.6	5.9	6.0	7.9	5.8	5.7	6.2
Core Inflation.......................	7.5	7.0	6.4	5.9	5.5	5.3	5.1	5.1	8.7	6.7	5.3	5.0
Production and Other Key Measures												
Industrial Production (1967=1.000)...	1.385	1.443	1.494	1.520	1.545	1.565	1.586	1.608	1.386	1.461	1.576	1.656
Annual Rate of Change............	9.9	17.9	14.9	7.1	6.8	5.1	5.6	5.7	-8.1	5.4	7.9	5.1
Housing Starts (Mil. Units)..........	1.694	1.688	1.723	1.651	1.631	1.707	1.782	1.804	1.059	1.689	1.731	1.692
Retail Unit Car Sales (Mil. Units)...	8.4	9.2	9.4	10.0	10.2	10.4	10.5	10.7	8.0	9.2	10.5	11.0
National Unemployment Rate (%).......	10.2	10.0	9.3	8.9	8.5	8.3	8.1	8.0	9.6	9.6	8.2	7.8
Federal Budget Surplus (NIA).........	-183.3	-163.7	-195.0	-191.2	-189.5	-192.3	-192.3	-195.9	-147.1	-183.3	-192.5	-205.1
Money and Interest Rates												
Money Supply (M-2)...................	2043.6	2095.7	2151.9	2194.7	2242.4	2298.4	2347.4	2400.1	1944.7	2194.7	2400.1	2578.1
% Change, 4th-Qtr. to 4th-Qtr.....	12.4	13.3	13.2	12.9	9.7	9.7	9.1	9.4	9.3	12.9	9.4	7.4
New AA Corp. Utility Rate (%)........	12.23	11.77	12.36	12.65	12.61	12.13	12.05	11.98	15.13	12.25	12.19	12.10
New High-Grade Corp. Bond Rate (%)...	11.22	10.44	11.79	12.09	12.06	11.59	11.52	11.46	13.89	11.39	11.66	11.58
Federal Funds Rate (%)...............	8.65	8.80	9.52	9.82	9.64	9.34	9.21	9.31	12.26	9.20	9.38	9.70
Prime Rate (%).......................	10.88	10.50	10.83	11.36	11.32	10.94	10.73	10.77	14.86	10.89	10.94	11.15
Incomes - Billions of Dollars												
Personal Income......................	2657.8	2715.7	2775.7	2841.1	2909.6	2966.8	3028.5	3090.9	2578.7	2747.6	2999.0	3251.6
Real Disposable Income (%Ch).........	2.9	3.3	9.0	4.4	5.1	3.1	3.4	3.4	0.5	3.3	4.6	3.4
Saving Rate (%)......................	5.4	4.0	5.1	5.1	5.4	5.3	5.4	5.4	5.8	4.9	5.4	5.7
Profits Before Tax...................	169.7	199.1	215.9	225.5	237.9	244.8	252.6	260.2	174.2	202.6	248.9	268.0
Profits After Tax....................	108.2	124.1	140.9	146.3	154.0	160.4	164.9	169.5	115.1	129.9	162.2	177.5
Company Profits......................	89.7	100.0	111.0	116.0	120.0	123.1	127.3	131.8	88.9	104.2	125.5	140.0
Four-Qtr. Percent Change..........	-0.9	10.0	22.2	39.2	33.7	23.1	14.7	13.6	-17.2	17.2	20.5	11.5
Composition of Real GNP - Annual Rates of Change												
Gross National Product...............	2.6	9.2	7.4	4.8	4.5	4.2	4.0	3.7	-1.9	3.2	5.0	3.3
Final Sales..........................	0.6	5.9	5.8	3.9	3.5	3.7	3.5	3.7	-0.7	2.8	4.0	3.3
Total Consumption....................	2.9	9.7	4.1	4.5	3.7	3.4	3.0	3.1	1.4	4.3	4.1	2.9
Nonres. Fixed Investment.............	-1.5	6.1	5.4	7.6	7.4	7.0	6.7	7.0	-4.7	-1.6	6.9	7.0
Equipment..........................	5.0	16.6	10.5	7.9	7.9	7.8	7.3	7.7	-7.5	1.8	8.6	7.7
Nonres. Construction...............	-13.9	-14.9	-5.3	6.8	6.1	5.0	5.2	5.2	1.8	-8.8	2.9	5.1
Res. Fixed Investment................	57.7	75.9	34.7	-5.6	-4.6	3.4	10.0	11.0	-15.3	38.9	7.4	1.6
Exports..............................	2.4	-8.2	4.9	3.3	4.4	4.2	4.5	5.0	-7.8	-7.5	3.4	5.1
Imports..............................	12.1	24.6	7.1	7.8	5.6	6.1	6.0	5.7	1.4	4.2	7.4	5.4
Federal Government...................	-17.9	-2.7	15.3	7.1	4.7	6.8	4.8	4.8	5.6	3.4	6.4	4.4
State and Local Governments..........	-1.6	-0.5	2.9	1.0	1.3	1.3	1.5	1.5	-0.5	-0.1	1.4	1.3