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RESEARCH REPORTS

The Making of an Economic Scientist

The recent interruption of the flow of statistics from the Federal Government has led some to question their value or utility. Although the data may not be everything we would like, we believe that it is vitally important to “stay tuned” to what is happening if economics is to be more than a branch of speculative philosophy.

In 1928, Wesley C. Mitchell, a pioneer of business-cycle analysis and a founder of the National Bureau of Economic Research, wrote a letter to a colleague describing how he came to his approach to economics. We will quote this letter¹ at some length.

Concerning the inclination you note to prefer concrete problems and methods to abstract ones, my hypothesis is that it got started, perhaps manifested itself would be more accurate, in childish theological discussions with my grandaunt. She was the best of Baptists, and knew exactly how the Lord had planned the world. God is love; he planned salvation; he ordained immersion... Hell is no stain upon his honor, no inconsistency with love... I adored the logic and... I developed an impish delight in dressing up logical difficulties which my grandaunt could not dispose of. She always slipped back into the logical scheme, and blinked the facts in which I came to take a proprietary interest.

I suppose nothing is better as a teething ring for a child who likes logic than the garden variety of Christian theology. I cut my eye-teeth on it with gusto and had not entirely lost interest in that exercise when I went to college.

There I began studying philosophy and economics about the same time. The similarity of the two disciplines struck me at once. I found no difficulty in grasping the differences between the great philosophical systems as they were presented by our textbooks and our teachers. Economic theory was easier still. Indeed, I thought

¹ Letter to John Maurice Clark, August 9, 1928. The edited version, from which we quote, appears in *Wesley Clair Mitchell, The Economic Scientist*, Edited by Arthur F. Burns, New York, National Bureau of Economic Research, 1952, p. 93ff.

the successive systems of economics were rather crude affairs compared with the subtleties of the metaphysicians. Having run the gamut from Plato to T. H. Green (as undergraduates do) I felt the gamut from Quesnay to Marshall was a minor theme. The technical part of the theory

was easy. Give me premises and I could spin speculations by the yard. Also I knew that my “deductions” were futile. It seemed to me that people who took seriously the sort of articles which were then appearing in the *Q. J. E.* [*Quarterly Journal of Economics*] might have a better time if they went in for metaphysics proper.

Meanwhile I was finding something really interesting in philosophy and in economics. John Dewey was giving courses under all sorts of titles and every one of them dealt with the same problem – how we think. I was fascinated by his view of the place which logic holds in human behavior. It explained the economic theorists. The thing to do was to find out how

Forbes and the “Flat Tax”

The candidacy of Republican Presidential hopeful “Steve” Forbes, is unusual. He has waived all federal financing. This allows him to spend as much as he chooses of his personal fortune (estimated to be on the order of \$500 million) on his campaign. This has enabled him to vastly outspend his rivals on television advertising. Other contenders have had to spend months, even years, building name recognition and forging links with established political figures or groups, but Mr. Forbes’ TV blitz has apparently put him on the short list of candidates in a matter of weeks.

The centerpiece of Mr. Forbes campaign is his proposed “flat tax” — a single rate of 17 percent on income with no deductions. We will not comment on the merits of this proposal, except to note that it has been wildly misrepresented by his opponents and by the media. In particular, a single rate will not mean that millionaires will pay “the same” as those of low to moderate income. The Forbes proposal, and all other “flat tax” plans, provide for generous personal exemptions — the flat rate applies only to incomes above a certain level. This means that the tax due on lower incomes would be a lower percentage (as low as zero) than the tax on high incomes. After years of debate on taxes, the continued confusion of average and marginal rates reflects either amazing innumeracy among journalists and politicians, or willful efforts to confuse and deceive.

Even more astonishing is the notion that Mr. Forbes simply wants to reduce his own taxes. One left-leaning think tank even calculated that he would save \$170,000 per year under his plan. We have no idea how accurate that estimate may be (Mr. Forbes has not released detailed financial statements or tax returns), but it should be noted that a return of just 2 percent on a \$500 million fortune is \$10 million annually, and the current top income tax rate is 39.6 percent.

If Mr. Forbes would indeed “save” \$170,000 at a 17 percent rate with no deductions (or even an amount several times that figure), he must now be utilizing many of the complex and obscure features of the tax code that he proposes to eliminate. If he invested for the highest return (subject to a 17 percent marginal rate) rather than for tax advantages, both his income and his tax bill would increase.

they came to attack certain problems; why they took certain premises as a matter of course; why they did not consider all the permutations and variants of those problems which were logically possible; why their contemporaries thought their conclusions were significant. And, if one wanted to try his own hand at constructive theorizing, Dewey's notion pointed the way. It is a misconception to suppose that consumers guide their course by ratiocination – they don't think except under stress. There is no way of deducing from certain principles what they will do, just because their behavior is not itself rational. One has to find out what they do. That is a matter of observation, which the economic theorists had taken all too lightly. Economic theory became a fascinating subject – the orthodox types particularly – when one began to take the mental operations of the theorists as the problem, instead of taking their theories seriously.

Of course Veblen fitted perfectly into this set of notions. What drew me to him was his artistic side. I had a weakness for paradoxes – Hell set up by the God of Love. But Veblen was a master developing beautiful subtleties, while I was a tyro emphasizing the obvious. He did have such a good time with the theory of the leisure class and then with the preconceptions of economic theory! And the economists reacted with such bewildered soberness! There was a man who really could play with ideas! If one wanted to indulge in the game of spinning theories who could match his skill and humor? But if anything were needed to convince me that the standard procedure of orthodox economics could meet no scientific tests, it was that Veblen got nothing more certain by his dazzling performances with another set of premises. His working conceptions of human nature might be a vast improvement; he might have uncanny insights; but he could do no more than make certain conclusions plausible – like the rest. How important were the factors he dealt with and the factors he scamped was never established.

That was a sort of problem which was beginning to concern me. William Hill set me a course paper on "Wool Growing and the Tariff." I read a lot of the tariff speeches and got a new side light on the uses to which economic theory is adapted, and the ease with which it is brushed aside on occasion. Also I wanted to find out what really had happened to wool growers as a result of protection. The obvious thing to do was to collect and analyze the statistical data. If at the end I had demonstrated no clear-cut conclusion, I at least knew how superficial were the notions of the gentlemen who merely debated the

tariff issue, whether in Congress or in academic quarters. That was my first "investigation" – I did it in the way which seemed obvious, following up the available materials as far as I could, and reporting what I found to be the "facts." It's not easy to see how any student assigned this topic could do much with it in any other way.

A brief introduction to English economic history by A. C. Miller, and unsystematic readings in anthropology instigated by Veblen reinforced the impressions I was getting from other sources. Everything Dewey was saying about how we think, and when we think, made these fresh materials significant. Men had always deluded themselves, it appeared, with strictly logical accounts of the world and their own origin; they had always fabricated theories for their spiritual comfort and practical guidance which ran far beyond the realm of fact without straining their powers of belief. My grandaunt's theology; Plato and Quesnay; Kant, Ricardo and Karl Marx; Cairnes and Jevons, even Marshall were much of a piece. Each system was tolerably self-consistent – as if that were a test of "truth!" There were realms in which speculation on the basis of assumed premises achieved real wonders; but they were realms in which one began frankly by cutting loose from the phenomena we can observe. And the results were enormously useful. But that way of thinking seemed to get good results only with reference to the simplest of problems, such as numbers and spatial relations. Yet men practiced this type of thinking with reference to all types of problems which could not be treated readily on a matter-of-fact basis – creation, God, "just" prices in the middle ages, the Wealth of Nations in Adam Smith's time, the distribution of incomes in Ricardo's generation, the theory of equilibrium in my own day.

There seemed to be one way of making real progress, slow, very slow, but tolerably sure. That was the way of natural science. I really knew nothing of science and had enormous respect for its achievements. Not the Darwinian type of speculation which was then so much in the ascendant that was another piece of theology. But chemistry and physics. They had been built up not in grand systems like soap bubbles; but by the patient processes of observation and testing – always critical testing – of the relations between the working hypotheses and the processes observed. There was plenty of need for rigorous thinking, indeed of thinking more precise than Ricardo achieved; but the place for it was *inside* the investigation, so to speak – the place that mathematics occupied in physics as

an indispensable tool. The problems one could really do something with in economics were problems in which speculation could be controlled.

That's the best account I can give off-hand of my predilection for the concrete. Of course, it seems to me rather a predilection for problems one can treat with some approach to scientific method. The abstract is to be made use of at every turn, as a handmaiden to help hew the wood and draw the water. I loved romances – particularly William Morris' tales of lands that never were – and utopias, and economic systems... but these were objects of art, and I was a workman who wanted to become a scientific worker, who might enjoy the visions which we see in mountain mists but who trusted only what we see in the light of common day.

Much of Mitchell's career was taken up with the compilation and analysis of data relating to business-cycle changes. He believed that this pervasive phenomenon was poorly explained, or simply ignored, by most of the grand theories of economics and that the study of the business cycle might therefore lead to an understanding of where the theories were in error. We, and many others, have continued this work following a variety of procedures. We do this because we believe not only that "keeping close to the data" provides us with a basis for further research but also that a perception of where we are in the cycle can be genuinely useful to our readers.

Are We Too Dependent on Official Data?

After a 1-month break resulting from the shutdown of Federal Government, we now resume our monthly analysis of business-cycle conditions. This has revealed how dependent we have become on government agencies for our data. Is this a bad thing? Probably not, in and of itself. The two most common complaints, that the government data are in some way "cooked" and that the entire effort is a waste of money are largely false.

Much of the official data *is* compiled within an outmoded or even misguided framework. The National Income and Product Accounts (NIPA's), for example, are essentially a Keynesian construction. However, problems with the data mainly result from their misuse (treating GDP as a measure of well-being, for example), which typically reflects a lack of understanding of how the data are compiled, what they attempt to measure, or both. Most emphatically we do not believe the notion that official data are falsified to

further politicians' ends is at all credible. This would require a conspiracy on such a massive scale that it would be impossible to keep secret for long.

According to Everett M. Erlich, the Undersecretary of Commerce for Economic Affairs, the "statistical agencies" of the government spend about \$100 million per year (presumably this does not

include outlays for processing information used for other purposes, such as tax returns). This is a large sum, and it no doubt could be spent more efficiently; however, it is well under 1/100 of one percent of total Federal Outlays. If the government for some reason got out of the statistical reporting business, the budget savings would be negligible.

In the absence of government statistics, economists would turn to less comprehensive data prepared by trade associations, proprietary surveys, and the like (data that could be more subject to manipulation), and economists would become even more prone to treat their conjectures and assumptions as facts. We do not think that this would be an improvement. □

BUSINESS-CYCLE CONDITIONS

The latest batch of business data is the weakest in quite some time. The leading, coincident, and lagging indicators deteriorated this month. Both our cyclical score and the percentage of leaders expanding now are below the level that indicates recession is more probable than continued expansion.

Among our 12 primary leading indicators, only the *index of common stock prices* reached a new high in our latest appraisal of business cycle conditions. (Stock prices and all other dollar-denominated series are reported in constant dollars.) The series is clearly expanding. The latest plot for *contracts and orders for plant and equipment* in the accompanying set of charts shows a new high as well, but unfortunately, this is the same datum we analyzed back in December. The release of more timely data for this series has been delayed due to the recent "shutdown" of the Federal Government and to scheduled revisions. Lacking new data, we cannot confidently appraise it and we downgraded its cyclical status from clearly expanding to indeterminate. The only other leader that remains appraised as clearly expanding is the *M2 money supply*, which increased in November.

The release of data for *new orders for consumer goods* and the *ratio of manufacturing and trade sales to inventories* also has been delayed. New data are expected in March, but, in the interim, we consider the cyclical statuses of both series to be indeterminate.

There was sufficient evidence this month to upgrade the appraisal of the *index of new housing permits*. As the historical chart on page 15 indicates, the housing index is close to its December 1993 level, which was its high for the current cycle. This was enough to upgrade the series' status from indeterminate to probably expanding. However, the cyclical status of *initial claims for state unemployment insurance* (inverted), which is now 14 months from its most recent peak, remains indeterminate.

The 3-month moving average of the *average workweek in manufacturing* decreased sharply to 40.8 hours, and the January base data fell to 39.8 hours. This

is the first time since January 1992 that either the base datum or the moving average has been below 41 hours, and the first time since April 1983 that the base datum has been below 40 hours. The decline was due in large part to severe winter conditions during January, which occurred during the reference week of the Bureau of Labor Statistics' establishment survey and which shut down much of the east coast for several days. This will most likely turn

out to be only a "blip" in the data. However, it was enough to warrant downgrading the series' appraisal from indeterminate to probably contracting.

The *change in consumer installment debt* declined for the fifth consecutive month. However, this decrease was judged insufficient to establish a clearly contracting trend and the series remains appraised as probably contracting.

The *M1 money supply*, the *change in sensitive materials prices*, and *vendor performance* — all of which already have established clear downward trends — remain appraised as clearly contracting. Both M1 and sensitive materials prices decreased and there was no change in the level of vendor performance.

For the past 8 months, the percentage of leaders expanding has been 50 percent

Statistical Indicators of Business-Cycle Changes

Change in Base Data				Primary Leading Indicators	Cyclical Status		
Oct.	Nov.	Dec.	Jan.		Sept.	Oct.	Nov.
-	-			M1 money supply	-	-	-
-	+			M2 money supply	+	+	+
-	+			Change in sensitive materials prices	-	-	-
+				New orders for consumer goods	+?	+?	?
-				Contracts and orders for plant and equipment	+	+	?
-	+			Index of new housing permits	?	?	+?
				Ratio of manufacturing and trade sales to inventories	-?	-?	?
-	-	+		Vendor performance	-	-	-
+	+	+		Index of common stock prices (constant purchasing power)	+	+	+
-	nc	-	-	Average workweek in manufacturing	?	?	-?
-	-	+		Initial claims for unemployment insurance (inverted)	?	?	?
+	-	+		Change in consumer installment debt	-?	-?	-?
				Percentage expanding cyclically	44	44	38
				Primary Roughly Coincident Indicators			
+	+	+	-	Nonagricultural employment	+	+	+
-	+	+		Index of industrial production	+	+	+
-	+			Personal income in manufacturing	?	?	-?
				Manufacturing and trade sales	+	+	?
+	-	-	+	Civilian employment to population ratio	?	?	-?
				Gross domestic product (quarterly)	+	+	+
				Percentage expanding cyclically	100	100	60
				Primary Lagging Indicators			
+	-	+	+	Average duration of unemployment (inverted)	+?	+?	+
				Manufacturing and trade inventories	+	+	?
+	-			Commercial and industrial loans	+	+	+
+	+			Ratio of consumer installment debt to personal income	+	+	+
-				Change in labor cost per unit of output, manufacturing	+?	+?	?
+	-	-		Composite of short-term interest rates	-	-	-
				Percentage expanding cyclically	83	83	75

nc No change. † Revised.

Under "Change in Base Data," plus and minus signs indicate increases and decreases from the previous month or quarter and blank spaces indicate data not yet available. Under "Cyclical Status," plus and minus signs indicate expansions or contractions of each series as currently appraised; question marks indicate doubtful status when shown with another sign and indeterminate status when standing alone.

or below. This month it decreased to 38 percent. A value below 50 for the percentage of leaders expanding usually is associated with the coming of the next recession. However, we have been hesitant to assert that a recession is imminent until the cyclical score, AIER's other measure of the leaders, decreased below 50. Until now, this had not occurred. This month the score dipped to 47. Since our method for predicting turning points in the economy is designed to signal a recession 3 to 6 months in advance, it seems that the next recession could materialize within the second or third quarter of 1996. However, a word of caution is warranted. As the previous article indicates, our forecasts are only as good as the data we use to make them. The past few months have thrown a wrench into the usual data collection procedures. Some of our latest data points are too "old" to be useful predictors of future business-cycle activity, and as new data come in our cyclical score will be revised. Regardless of whether or not we revise our assessment in light of new data, 1996 looks to be a period of slow growth if not outright recession.

The primary roughly coincident indicators show signs of weakness in the economy. Three of our six coincident indicators were downgraded this month. *Personal income in manufacturing* and the *ratio of civilian employment to population* reached new lows and are now appraised as probably contracting. The most recent data available for *manufacturing and trade sales* date back to September; in the absence of new data, the status of the series now is cyclically indeterminate.

After reaching new highs for most of 1995, *nonagricultural employment* decreased by 201,000 in January — the largest 1-month decrease thus far in this cycle. This decline was due in large part to the January blizzard, however, and was not enough to change the series' status. It remains appraised as clearly expanding.

Both the *index of industrial production* and *Gross Domestic Product* (GDP, quarterly) reached new highs and are appraised as clearly expanding. As part of the Bureau of Economic Analysis' benchmark revision to GDP earlier this year, GDP now is based in "chained 1992" dollars. This new method of estimating GDP eliminates some of the distortions created by the old "fixed-weighted 1987 dollars" method of estimation. (For a more detailed discussion of the old and new methods, see "Gross Domestic Product - Rewriting History" in the September 4, 1995 *Research Reports*.) The BEA eventually will release historical data based on the new method going back to 1947, but revised data currently are

available only back to 1959.

Table 1 compares the annual growth rates of GDP during the current expansion and the previous five expansions using the old and the new methods of estimating GDP (*i.e.*, the old fixed-weighted method based in 1987 dollars, and the new chained-weighted measure based in 1992 dollars.) As the table indicates, the new method of estimation shows an average annual growth rate of 2.5 percent during the current expansion (which began in March 1991). This is substantially lower than the 3.1 percent indicated by the old method. In other words, the economy has been growing more slowly for the past 5 years than everyone thought. In earlier business expansions, however, the economy grew faster according to the new method, than it did according to the old method. One benefit of the new method is that it apparently will reduce the extent to which economic history is rewritten in future years; "real" GDP growth rates no longer will be revised due to changes in benchmark years every 5 years or so. But as long as economists continue to seek better ways to measure aggregate economic activity — in essence, to add apples and oranges — the statistics will be subject to revision, as will the analysts' interpretation of U.S. economic history.

Overall, 60 percent of the coinciders with an apparent cyclical trend are expanding. This is the first time since February 1993 that the percentage of coinciders expanding has been less than 100. This apparent slowdown is what the leaders began predicting 9 months ago. Whether or not it becomes a full recession is not as yet apparent.

There were two new highs among the six primary lagging indicators. The *average duration of unemployment* (inverted) reached 15.7 weeks and the *ratio of consumer installment debt to personal income* reached 16.3 percent — the highest ratio ever recorded. Both series are appraised as clearly expanding. After reaching new highs for the past several months, *commercial and industrial loans* outstanding decreased by \$5.1 million, or about 1 percent, in November, but the series also re-

Table 1
GDP Measurement Comparison

Average Annual Growth During:	Old Method (fixed-87)	New Method (chained-92)
Current Expansion	3.1%	2.5%
1982-90 Expansion	3.4	3.7
1980-81 Expansion	2.9	3.5
1975-80 Expansion	4.1	4.5
1970-73 Expansion	4.7	5.3
1961-69 Expansion	4.5	5.0
1959-1995 Period	3.0	3.2

Source: Dept. of Commerce, BEA.

Note: Calculations are from business-cycle troughs to peaks

mains appraised as clearly expanding.

The *composite of short-term interest rates* fell from 5.52 percent in December to 5.31 percent in January. It remains appraised as clearly contracting. Since the composite of short-term rates is a lagging indicator, it is somewhat surprising to see the series contracting while the economy is still expanding. However, short-term rates behaved similarly toward the end of the 1982-90 expansion, when they began to decrease more than a year before the 1990-91 recession.

There are no new data for the remaining two lagggers, *manufacturing and trade inventories* and the *change in labor cost per unit of manufactured output*. Both series are undergoing benchmark revisions that are expected to be released next month. We have shown their cyclical statuses as indeterminate, pending the availability of new data.

Overall, 75 percent of the lagggers with an apparent cyclical trend are expanding, which is down slightly from 83 percent in December. Despite the warning signals from the leading indicators, the lagggers show few signs of the economic overheating and imbalances that typically precede a recession.

Since 1996 is an election year, presumably Washington is going to pull out all the stops to avoid a recession in the near future. However, any "pump priming" done now to prop up the economy temporarily could be detrimental to sustained growth later on. Unlike 1992 when Bill Clinton was elected, whoever wins this November may be faced with an economy that is heading into a recession, instead of recovering from one. □

PRICE OF GOLD

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			Feb. 8	Feb. 15
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