Progress in Economics

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Progress in economics, as in any developed science, is achieved by a combination of new insights, that change the way an issue is perceived and steady development, exploration and testing within an established framework. Both are important. Without new insights, eventually any field becomes sterile. Without detailed investigation, testing, and scholarly discussion economics can become dependent on rhetoric and clever argument but divorced from reality.

Progress has come in both ways during my years as a working economist. When I entered the profession, economists had only recently completed the saving-investment controversy; perhaps the contribution of that discussion was that most everyone became habituated to the definitions Keynes had used. These were much simpler and easier to use than some of the alternatives, for example Dennis Robertson's distinctions between saving, hoarding, lacking, dishoarding, etc. Keynes's definitions helped economists to at last separate stocks and flows.

Sidetracks are very much a part of the process of scientific development. Research activity has an uncertain outcome, in common with many other types of investment activity. A path may look very promising but yield much less than anticipated when the investment of effort was made. Probably many of the economists who studied turnpike theorems, the bias in technical change and the elasticity of substitution, or the reswitching controversy -- to name three examples from the not very distant past -- thought that more powerful results would result from their efforts. After the fact, it is easier to choose the winners. Mainly for this reason, I discuss some of the main achievements and disappointments of the twenty or past thirty years at greater length than my speculations about the future.

If I were limited to choosing one substantive and one methodological contribution in the past thirty years, my choices would be the theory of finance and the
method known as rational expectations. Fortunately, the editor has not imposed such a limit, so I will add three other achievements - - the resurgence of neo-classical monetary theory, the development of political economy, and the new microeconomic theory of the firm. The last two topics could be combined under the heading theory and institutions or some similar title. Instead of choosing between economic theory or institutional analyses, as in the past, political economy and the emerging theory of the firm as an institution combine the two and, just as importantly, use economic theory to understand why we observe the institutions or arrangements that we have. Under this heading, I include principal-agent analysis, property rights and much more that has followed the Coase theorem and related developments.

Rational expectations was the name John Muth gave to his powerful insight that the most reliable way to form expectations about any event or phenomenon is to use the best verified theory of that phenomenon. While his work was known and appreciated, not much happened until a decade later when Robert Lucas made rational expectations part of a general equilibrium model. With that advance in the method used to bring expectations into economic models, dynamic general equilibrium models moved from abstract exercises to testable frameworks. Moreover, the way was open to incorporate information, search, learning and similar topics into mainstream economics. This work has forced economists to study the use of information and the value of information to households, firms, and governments. Powerful new ideas such as time consistency and credibility have developed as a result. An important step, yet to be taken, is to understand and incorporate costs of acquiring information. The current generation of rational expectations analyses emphasizes the value of information but neglects the costs of acquiring information. This neglect limits what can be learned from rational expectations models and permits economists to continue to use models in which everyone has the same information.

In the past twenty-five years, finance has moved from a small part of the curriculum in business schools to an exciting sub-discipline of economics. The development has gone so far that finance practitioners now use finance theory in much the same way that practicing engineers use engineering analyses. There is probably no branch of economics in which the relation between theory and practice is
as close. Practitioners do not use theory only to gain insight; theory is used to design new securities, to restructure existing securities so that major purchasers get securities that are tailor made to reduce risk for given return or increase return for given risk. In this way, finance and economics has improved the efficiency of securities markets and contributed to a reduction in the risk that economies must bear.

When I entered the profession and for many years after, Keynesian-style economics was standard macroeconomics. Macroeconomists were inclined to see their role as managing the economy or teaching others to manage it. By the 1960s, computers and models had developed enough to permit econometric forecasters to bring together the Phillips curve, IS and LM in an elaborated model that produced quarterly predictions about the future of the economy. Policymakers tried to use these models to reduce unemployment at one time and to reduce inflation at another.

I count it as progress that there is now much better understanding that economics is not the science that produces reliable forecasts of coming events. We have learned much about our limitations and about the reasons why our ability to forecast is limited. As a result many economists have returned to the classical or neo-classical vision of their contribution to policy -- developing rules and procedures (or institutions) that reduce risk and remove externalities where this provides a net benefit.

In Keynesian macroeconomics, errors were additive in equations reflecting the errors in observation or measurement. This assumption did not fit well with the heightened emphasis on information, uncertainty and misperception. Although the new approaches ignored the costs of acquiring information, as already noted, they returned to the pre-Keynesian vision of fluctuations as the result of surprises and misperceptions.

Disappointments

Developments in statistics and the emergence of econometrics as a subfield offered the promise of a more quantitative base for economics. The development of computers made possible the application of the new methods of analyzing data. At last, it seemed economists would be able to test hypotheses, reject less powerful hypotheses and settle on the most fruitful paths for progress in the discipline.
These objectives have not been realized as fully as once appeared probable. Tests have not been able to discriminate sharply between alternative models in many areas. Quantitative foundations have been built or strengthened in some cases, but it is also true that on many topics economists seem unable to discriminate sharply between alternatives. Nowhere is this more true than in macroeconomics. One current response has been to step back from hypothesis testing to weaker methods such as calibration or simulation.

Disappointment is not limited to macroeconomic testing. Precise estimates of critical elasticities have not been pinned down. For example, we do not know how savers responds to relative price changes, how suppliers of labor respond to taxes, or how welfare recipients respond to incentives.

Another disappointment has been the continued separation between research and policymaking. As the sophistication of economic models has increased, they have often become less relevant for policy. A rather standard current view among younger colleagues is that, until there is a general equilibrium model of the economy, economists can say nothing useful but policy issues. As a person who continues to regard economics as an empirical science and a policy science, I do not accept this view.

The Future

A research challenge for economists is, as it has always been, to strengthen economics as a policy science. I believe that progress of this kind requires combining institutions and economic theory. In democratic countries policy depends on politics as well as on opportunities to increase economic efficiency or provide public goods. In practice, policy officials and elected representatives care at least as much about who gains and loses, who pays and receives, as on economists' measures of welfare.

In the past, political theory, institutional analysis and economic theory were often seen as alternative ways of analyzing events. Public choice or political economy and the new theory of the firm as an institution have combined institutions with economic theory in different ways. These new approaches see the economic model as working within an institutional setting. The setting constrains the outcomes
expected following some stimulus, but the setting is also shaped in response to the outcomes and the goals of the organization in the case of the firm or the general public in the case of social policy. The message is that to get different outcomes, the constraints must be changed. Policy analysis becomes a matter of learning about constraints and changing institutions. The focus is much more on rules or procedures and less on specific actions.

These newer approaches expand the scope of economics into areas that were previously the domain of political scientists or sociologists. Extensions into these domains not only expand the subject matter of economics but broaden the content of economic analysis. As parts of political science or sociology are analyzed by economists, sociological and political constraints become combined with economic analyses to the benefit of each of the disciplines.

The development of political economy and socio-economics is the analogue in the social sciences of the formation of biophysics or biochemistry in the natural sciences. As disciplines develop, major problems to be solved may lie outside the self-imposed boundaries of an existing discipline. This gives rise to extensions of the boundaries. Future progress in these new areas will strengthen economics as a policy science and open new challenges for economists.