

The Art and Practice of Economics Research: Lessons from Leading Minds
(Edward Elgar Publishing, 2012)

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Interview with Robert J. Barro, Harvard University

October 21, 2010

Robert Barro was born in New York City in 1944 and graduated with a BS in physics from the California Institute of Technology in 1965 before obtaining a PhD in economics from Harvard University in 1970. Professor Barro has taught economics at Brown University, 1968–1972, the University of Chicago, 1972–1975 and 1982–1984, the University of Rochester, 1975–82 and 1984–87, and Harvard University, where he currently serves as the Paul M. Warburg Professor of Economics.

Professor Barro's research interests have focused largely on macroeconomics and economic growth, including the empirical determinants of growth, the economic effects of public debt and budget deficits, and the formation of monetary policy, but he is currently researching the interplay between religion and political economy and the impact of rare disasters on asset markets. His most-cited articles in chronological order include 'Are Government Bonds Net Wealth?' *Journal of Political Economy* (1974), 'A Positive Theory of Monetary Policy in a Natural Rate Model,' *Journal of Political Economy* (1983), co-authored with David Gordon, 'Government Spending in a Simple Model of Endogenous Growth,' *Journal of Political Economy* (1990), 'Economic Growth in a Cross Section of Countries,' *Quarterly Journal of Economics* (1991), and 'International Data on Educational Attainment: Updates and Implications,' *Oxford Economic Papers* (2001), co-authored with Jong-Wha Lee. His books include *Nothing is Sacred: Economic Ideas for the New Millennium* (MIT Press, 2002), *Economic Growth* (MIT Press, second edition, 2004), co-authored with Xavier Sala-i-Martin, and *Macroeconomics: A Modern Approach* (Thomson/Southwestern, 2008).

Professor Barro was elected as a Fellow of the Econometric Society in 1980 and a Fellow of the American Academy of Arts and Sciences in 1988. He holds honorary professorships from Tsinghua and Wuhan Universities in China and from Universidad del Pacifico in Peru, and honorary degrees from the University of Macedonia, Greece and Universidad Francisco Marroquin, Guatemala. Barro is currently a Co-Editor of the *Quarterly Journal of Economics*, and is a past Editor of the *Journal of Political Economy* (1973–1975, 1983–1985).

I interviewed Robert Barro in his office in the Department of Economics at Harvard University. It was mid-afternoon of Thursday, October 21, 2010.

BACKGROUND INFORMATION

Bowmaker: Why did you decide to pursue an academic career in economics?

Barro: I guess it started when I was an undergraduate at Caltech majoring in physics. I took a course from Richard Feynman. He was a very inspirational, brilliant figure, but his course also persuaded me I should not be a theoretical physicist, because I did not believe I would make any major contributions. I did not like applied physics, but there were a lot of positives out of that course in terms of mathematical reasoning and logic.

I took my first economics class when I was a junior. My brother was an economist and he gave me some ideas about the subject. Once I got into it, it was very clear to me that it was the field I should be in. I liked the combination of the technical material and the applied aspects, including policy.

Bowmaker: As a student, which professors were most influential or inspirational?

Barro: I had only one professor of economics at Caltech: Alan Sweezy. His brother, Paul, is better known and was more of a Marxist economist, but Alan was basically a straight Keynesian. In retrospect, the amazing thing is that I liked the course even though it was taught completely out of

Keynes's *General Theory*. Aside from the question of intellectual merit, the *General Theory* does not make a very good textbook, but I thought at the time that it was exciting.

I applied to Harvard and MIT and some other places for graduate school. I almost went to MIT, but I ended up going to Harvard for the PhD program, because MIT did not guarantee me financial support beyond the first year. Harvard's department at the time—the mid- to late-'60s—turned out to be really bad. They had little strength in macroeconomics, but more generally, it was before Harvard made some major appointments that made a big difference, including Kenneth Arrow, Martin Feldstein, Zvi Griliches, and Dale Jorgensen. At the time I started graduate school, Harvard's Economics Department was close to a vacuum, but maybe that was what I needed. That is, it forced me to work things out mostly on my own.

The person who inspired me most in that period was Franco Modigliani, who was visiting Harvard from MIT. I enjoyed his class. He was working on a big macroeconometric model at the time, and he wanted me to work on it. Fortunately, that didn't work out, because a big macroeconometric model was not the right focus for me. But Modigliani was a positive figure, certainly the best macro professor I had, even though he was not involved with my thesis. Marc Nerlove, another visitor, gave me some good ideas on research. And Zvi Griliches, after he arrived and after I had already taken a job at Brown, was a great help with the research on my dissertation. Actually, he once told me that his major job was to run interference for me with respect to the rest of the department.

Bowmaker: As a researcher, which colleagues have been most influential or inspirational?

Barro: Milton Friedman and Gary Becker would be the two outstanding people for me. I went to Chicago in the early '70s after I had been at Brown University for three and a half years. Milton was a bigger influence for me in terms of his approach to economics. Maybe the fact that all the Harvard professors thought that Milton's work was no good made me think that Milton must be brilliant, once I realized that the Harvard people did not know what they were talking about. But he was particularly an influence for me in terms of applied price theory and, in some ways, his impact is bigger there than in macroeconomics and monetary economics.

I met Gary Becker when I was on the job market. I gave a seminar at Columbia, where he was at the time, and since then we have had a lot of positive interactions. We did some work together, and I particularly admire the way he has stuck with serious research throughout his career. Most people who do good work tend eventually to go on to do something different, but often less valuable. Bob Lucas was like Gary in this respect—Bob has continued to do serious research throughout his career. Lucas's work was also very important to me, not so much in terms of direct one-on-one collaboration, but more in terms of the ideas in his research, especially the work in the '70s related to rational expectations.

GENERAL THOUGHTS ON RESEARCH

Bowmaker: What do you see as the value of pure versus applied research in economics?

Barro: In some sense, the best research is work that combines the two, but most research does not exactly follow that model. Economists tend to be pretty narrow in terms of what they are good at.

Bowmaker: How would you describe the dialogue between theory and empirics in economics?

Barro: Some theoretical work lends itself naturally to empirical applications and some less so. You see that today in terms of trying to assess the financial crisis and why it was that most economists were too optimistic about not having a repeat of the Great Depression. A lot of modeling of financial markets being done right now is pretty theoretical; whether it turns out to be successful will certainly relate to its predictive power.

Bowmaker: How would you characterize your own research agenda and how has it changed through time?

Barro: I have worked in a lot of different areas, mostly related to monetary economics and macroeconomics, but sometimes even applied price theory. My first large body of research tried to understand better the Keynesian model and how to improve it.¹ I then moved into the Lucas-inspired rational expectations macro model and the related real business cycle analysis (originated particularly by Ed Prescott).² At about the same time (the early to mid-'70s), the work I did on Ricardian equivalence was consistent in approach with the rational expectations research.³ I also did a lot of applied work related to the rational expectations model, in particular, trying to explain business fluctuations by monetary shocks that were unanticipated.⁴

I then worked on long-run economic growth, mostly focusing on the empirical implications from the Solow growth model.⁵ I never understood why Solow did not appreciate this research more, but I think he and I just have never gotten along. He had this basic theory in the '50s, which I thought was an important development, but he never really thought of it so much as a theoretical framework for applied analysis. I felt he should have been very excited by the empirical work starting in the early '90s that came from some of the convergence implications of his model. Yet, he never seemed to embrace it. I talked to him about it once, but I did not get very far.

More recently, I have worked on other topics, such as religion and political economy, which fit in with my research on economic growth.⁶ In 2005, I also started a project on rare economic disaster events, which are often financial-type crises, such as the Great Depression, but also relate to wars. This is a continuing area of my research, much of it joint with a graduate student, José Ursúa, who is on the job market this year. We—particularly José—have constructed a major panel data set covering

¹ See, for example, Barro, R.J. and H.I. Grossman (1971), 'A General Disequilibrium Model of Income and Employment,' *American Economic Review*, Vol. 61, No. 1 (March), pp. 82–93.

² See, for example, Barro, R.J. (1976), 'Rational Expectations and the Role of Monetary Policy,' *Journal of Monetary Economics*, Vol. 2, No. 1 (January), pp. 1–32; Barro, R.J. and A.M. Santomero (1976), 'Output and Employment in a Macro Model with Discrete Transaction Costs,' *Journal of Monetary Economics*, Vol. 2, No. 3 (July), pp. 297–310; Barro, R.J. (1976), 'Indexation in a Rational Expectations Model,' *Journal of Economic Theory*, Vol. 13, No. 2 (October), pp. 229–244.

³ See, for example, Barro, R.J. (1974), 'Are Government Bonds Net Wealth?' *Journal of Political Economy*, Vol. 82, No. 6 (November), pp. 1095–1117.

⁴ See, for example, Barro, R.J. (1977), 'Unanticipated Money Growth and Unemployment in the United States,' *American Economic Review*, Vol. 67, No. 2 (March), pp. 101–115; Barro, R.J. (1978), 'Unanticipated Money, Output, and the Price Level in the United States,' *Journal of Political Economy*, Vol. 86, No. 4 (August), pp. 549–580.

⁵ See, for example, Barro, R.J. (1991), 'Economic Growth in a Cross Section of Countries,' *Quarterly Journal of Economics*, Vol. 106, No. 2 (May), pp. 407–443.

⁶ See, for example, Barro, R.J. (1996), 'Democracy and Growth,' *Journal of Economic Growth*, Vol. 1, No. 1 (March), pp. 1–27; McCleary, R.M. and R.J. Barro (2006), 'Religion and Economy,' *Journal of Economic Perspectives*, Vol. 20, No. 2 (Spring), pp. 49–72.

up to 42 countries going back before 1914. The work relates to Angus Maddison's contributions on long-term national accounts, but I think we have made a major advance on Maddison.⁷

The other research I am currently pursuing involves empirical assessments of fiscal stimulus packages. Specifically, I am estimating effects of government purchases and tax rates on real GDP; sometimes the effects are described as spending and tax multipliers.⁸ I began with the United States but am now applying the analysis to other countries. I am also looking, in work joint with Price Fishback, at the experience in the 1930s New Deal period in the United States. We are examining the responses across the US states to (exogenous) variations in grants received from the federal government. Overall, I am frankly surprised with my recent work, because I think it is higher quality than I thought I would be doing at this stage of my career.

Bowmaker: Do you think it is important to have broad research interests?

Barro: I think most people are probably better off with a narrow focus. It may be exciting moving from one area to the other, but it can also have a big cost. Having to learn new literatures can be a major impediment, and very often you have to make a significant investment in new data. For example, in my work on rare disasters, I had to learn a lot of literature related to finance, and the data are certainly different. But at the same time, I view economics as something that you can apply in many places, without having to relearn the basics of the subject.

Bowmaker: Do you think there is any difference in the types of work done by researchers at different stages of their careers based on tenure concerns, publication requirements or other pressures? Should there be a difference?

Barro: You do not find too many people beyond a certain age who are making major contributions in economics. A good number of top economists give up being active researchers. For example, Bob Solow made a couple of brilliant contributions when he was young, but he did not follow up with important research. Maybe that is optimal, because most people are not capable of producing high-quality frontier research throughout their lifespan.

IDEA GENERATION

Bowmaker: Where do you get your research ideas?

Barro: I have never been able to answer that question, but I would say that a lot of it is idiosyncratic. Take my research on rare disasters that I began in 2005. I remember specifically Marty Weitzman giving a seminar at Harvard on tail events, which he has applied to environmental issues as well as macroeconomic disasters. When he was talking, I was thinking that we could use this framework to explain some of the major asset pricing puzzles like the equity premium. Because this was a field that was not familiar to me, I looked at what had been done previously, including John Campbell's

⁷ See, for example, Barro, R.J. and J.F. Ursúa (2008), 'Consumption Disasters in the Twentieth Century,' *American Economic Review*, Papers and Proceedings, Vol. 98, No. 2 (May), pp. 58–63; Barro, R.J. and J.F. Ursúa (2008), 'Macroeconomic Crises since 1870,' *Brookings Papers on Economic Activity*, Economic Studies Program, The Brookings Institution, Vol. 39, No. 1 (Spring), pp. 255–350.

⁸ See, for example, Barro, R.J. and C.J. Redlick (2011), 'Macroeconomic Effects From Government Purchases and Taxes,' *Quarterly Journal of Economics*, Vol. 126, No. 1 (February), pp. 51–102.

survey paper, which led me to Tom Rietz's paper from the late '80s.⁹ Rietz's work was a comment on Mehra and Prescott's equity premium puzzle paper from 1985.¹⁰ Rietz argued that the low-probability chance of a disaster, such as the Great Depression, could explain the observed equity premium. Unfortunately, Mehra and Prescott seemed to convince people in a rejoinder that Rietz's work was not a great insight, but when I learned about it almost 20 years later, I felt it made a lot of sense. And so, I thought about how one could formalize the idea—this notion led to a series of theoretical and empirical papers related to rare disasters, a project that is still ongoing.

Bowmaker: At what point does an idea become a project that you devote resources to?

Barro: I end up throwing away most things that I start working on. That is one reason that I am reluctant to have co-authors, because then it is harder to discard a project.

IDEA EXECUTION

Bowmaker: What makes a good theoretical paper?

Barro: A good theoretical paper has an important theoretical insight and potential applications, in terms of further theory as well as empirics.

Bowmaker: Can you give an example?

Barro: Lucas's initial paper on rational expectations in macroeconomics provided a great theoretical insight about the confusion between monetary and real shocks, but also led to applied work, because it produced some empirical patterns that looked like expectations-augmented Phillips Curves.¹¹ In fact, it inspired a whole new field.

Paul Romer's two early papers on endogenous technological change were very important contributions.¹² I have been disappointed with the subsequent course of Paul's career, because that was great work, and I was looking for more, but it did not come.

My Ricardian equivalence paper also fits in with this discussion.¹³ It was a simple, important concept that was central to macroeconomics; it changed the way people thought about fiscal deficits and public debt, even if they did not embrace the paper's specific results. And Olivier Blanchard's 1985 paper in the *JPE* extended my work to bring in finite horizon effects, and people have used that framework for other things.¹⁴ I remember discussing the paper at a conference. I started out by

⁹ Campbell, J.Y. (2000), 'Asset Pricing at the Millennium,' *Journal of Finance*, Vol. 55, No. 4 (August), pp. 1515–1567; Rietz, T.A. (1988), 'The Equity Risk Premium: A Solution,' *Journal of Monetary Economics*, Vol. 22, No.1 (July), pp. 117–131.

¹⁰ Mehra, R. and E.C. Prescott (1985), 'The Equity Premium: A Puzzle,' *Journal of Monetary Economics*, Vol. 15, No. 2 (March), pp. 145–161.

¹¹ Lucas, Jr, R.E. (1972), 'Expectations and the Neutrality of Money,' *Journal of Economic Theory*, Vol. 4, No. 2 (April), pp. 103–124.

¹² Romer, P.M. (1986), 'Increasing Returns and Long-Run Growth,' *Journal of Political Economy*, Vol. 94, No. 5 (October), pp. 1002–1037; Romer, P.M. (1990), 'Endogenous Technological Change,' *Journal of Political Economy*, Vol. 98, No. 5 (October).

¹³ Barro, R.J. (1974), 'Are Government Bonds Net Wealth?' *Journal of Political Economy*, Vol. 82, No. 6 (November), pp. 1095–1117.

¹⁴ Blanchard, O.J. (1985), 'Debt, Deficits, and Finite Horizons,' *Journal of Political Economy*, Vol. 93, No. 2 (April), pp. 223–247.

saying, “I hesitate to say this, and I do not want to compromise my reputation, but I think this is a really good paper.” Olivier was very pleased [*laughs*].

Bowmaker: What makes a good empirical paper?

Barro: It is on an important question, it comes up with some clear findings, and it provides a vehicle for additional testing and ideas about the relationships.

Bowmaker: Can you give an example?

Barro: Milton Friedman’s book on permanent income is one of the most important empirical studies.¹⁵ He deals with a topic that people have thought a lot about in terms of consumption and saving behavior, and he shows how some simple theoretical insights have a great deal of explanatory power.

Phillip Cagan’s 1950s study on hyperinflation is another important empirical paper.¹⁶ He uses effectively an exciting set of new data to understand money demand and the determinants of inflation.

My most-cited paper, which is from the *QJE* in 1991, is on a very important topic: Why do some countries grow faster and therefore have higher standards of living in the long run? This paper uses a simple conceptual idea (essentially the Solow growth model) applied to data across countries and over time. Many people hate the paper and question the robustness of the results, but it has had a lot of influence.¹⁷

Bowmaker: When you hit a brick wall on a project, do you continue to work on the problem, or do you take a break and work on something else?

Barro: I would not usually describe it as a ‘brick wall.’ For example, I am working on a study with my wife, Rachel, on how the Catholic Church chooses saints in terms of numbers and geographical distribution.¹⁸ We have the idea that the Church chooses saints to make its Catholic population more enthusiastic, and that it cares more about that when it has to compete with other groups, particularly evangelicals. We started putting together the data, which go back to the 1500s, about five or six years ago. But since then, we have put the project aside on several occasions and not worked on it. That is not because we hit a ‘brick wall’; it is just that we were doing other things. We will eventually complete this project!

Bowmaker: What has been the biggest change during your career in how researchers in your fields conduct research?

Barro: The field has become more technical in terms of the mathematical apparatus and there have been major developments in computer power. For example, I am currently working on a project

¹⁵ Milton Friedman (1957), *A Theory of the Consumption Function*, National Bureau of Economic Research.

¹⁶ Cagan, P.G. (1956), ‘The Monetary Dynamics of Hyperinflation,’ in Milton Friedman (ed.), *Studies in the Quantity Theory of Money*, Chicago: University of Chicago Press, pp. 25–117.

¹⁷ Barro, R.J. (1991), ‘Economic Growth in a Cross Section of Countries,’ *Quarterly Journal of Economics*, Vol. 106, No. 2 (May), pp. 407–443.

¹⁸ Barro, R.J. and R.M. McCleary (2011), ‘Saints Marching In, 1590 – 2009,’ *NBER Working Papers* 16769, National Bureau of Economic Research.

(with Emi Nakamura, Jón Steinsson, and José Ursúa) that tries to assess whether macroeconomic disasters have permanent or only temporary effects.¹⁹ That work is very intensive in terms of numerical analysis, and I could not have done it 10 years ago.

THE WRITING PROCESS

Bowmaker: Which aspect of the writing process do you find most difficult?

Barro: I do not have a lot of trouble with writing. I am pretty good at it.

Bowmaker: What steps have you taken during your career to improve the quality of your writing?

Barro: In terms of popular writing, one has to be careful with jargon and concepts that are too difficult. In the US, more than the UK, for example, you really have to bring things down to a moron level. Sometimes I question whether this makes sense. Why should it be that important issues of economic policy can be analyzed effectively in ways that are understandable to journalists, or politicians, or other persons who lack economic expertise?

COLLABORATION

Bowmaker: When you work with co-authors, how do you decide whom to work with?

Barro: The dominant form of my co-authorship has been with current and former students. As already mentioned, I am doing work right now with José Ursúa on rare disasters. Earlier in my career, I worked a lot with Xavier Sala-i-Martin, who was my first PhD student at Harvard. He was doing his thesis on growth and convergence, particularly across the US states. We co-authored a number of articles that came out of that work, and we also wrote a book, *Economic Growth*, which has been successful.²⁰ Sala-i-Martin was a hard worker and had many ideas.

Bowmaker: Did you enjoy writing the book with him?

Barro: The first edition was a positive experience. It was exciting putting the theoretical and empirical work on growth into a form that was accessible to graduate students. But the second edition was more tedious. It was mostly a matter of improving on what we already had, so there was little innovation. And Xavier was too much into FC Barcelona (the famous soccer team) at the time.

¹⁹ Nakamura E., Steinsson, J., Barro, R.J. and J. Ursúa (2010), 'Crises and Recoveries in an Empirical Model of Consumption Disasters,' *NBER Working Papers* 15920, National Bureau of Economic Research.

²⁰ See, for example, Barro, R.J. and X. Sala-i-Martin (1992), 'Convergence,' *Journal of Political Economy*, Vol. 100, No. 2 (April), pp. 223–251; Barro, R.J. and X. Sala-i-Martin (1992), 'Regional Growth and Migration: A Japan–United States Comparison,' *Journal of the Japanese and International Economies*, Vol. 6, No. 4 (December), pp. 312–346; Barro, R.J. and X. Sala-i-Martin (1992), 'Public Finance in Models of Economic Growth,' *Review of Economic Studies*, Vol. 59, No. 4 (October), pp. 645–661; Robert J. Barro and Xavier Sala-i-Martin (2004), *Economic Growth* (MIT Press, second edition).

Bowmaker: Are you comfortable with your students being on the job market with a co-authored paper?

Barro: It has become much more common now to have co-authored work on the job market, and I think it can work. A few years ago, Mike Golosov took a diversified approach when he was on the market. Sometimes, he talked about his best paper, which was co-authored with Bob Lucas.²¹ It was clear that Mike had contributed more than 50 per cent to that paper, and he got credit for it, but he was worried about the issue, and I think that is why at other times he presented one of his own papers. Of course, he is a brilliant economist, and sometimes students have more difficulty in presenting joint work on the job market.

Bowmaker: What are the main challenges associated with collaborative work and how do you overcome them?

Barro: A few years ago, I did a couple of papers with Alberto Alesina on common currencies.²² We both viewed ourselves as idea people, and that did not work that well when there were two of us. More generally, the hardest thing in collaborative research is telling a co-author that I am no longer going to work on a project because I have decided it is not that promising.

RESEARCH ASSISTANCE AND FUNDING

Bowmaker: How do you use undergraduate and graduate research assistants?

Barro: In my recent research on fiscal effects, I worked with a brilliant undergraduate here at Harvard, Charles Redlick. I took the intellectual lead, but he played a big role in a very effective partnership. He did things readily on his own, particularly in terms of putting together the long-term US macro time-series data, so that we could estimate spending multipliers and tax effects. In fact, he is a full co-author on that paper, which will be published in the *QJE* in February.²³

I have had a similar type of interaction with my graduate student, José Ursúa, who I have been working with for five years. I will hate to see him go. His work on assembling the national accounts data for the rare disasters research has been truly amazing.

Bowmaker: How important is funding for getting your work done?

Barro: It's of some importance, but I cannot remember a time when I thought, "Oh, if only I could get another \$10,000, that would make a key difference to my research."

²¹ Golosov, M. and R.E. Lucas, Jr (2007), 'Menu Costs and Phillips Curves,' *Journal of Political Economy*, Vol. 115, No. 2 (April), pp. 171–199.

²² Alesina, A. and R.J. Barro (2000), 'Dollarization,' *American Economic Review*, Papers and Proceedings, Vol. 91, No. 2 (May), pp. 381–385; Alesina, A. and R.J. Barro (2002), 'Currency Unions,' *Quarterly Journal of Economics*, Vol. 117, No. 2 (May), pp. 409–430.

²³ Barro, R.J. and C.J. Redlick (2011), 'Macroeconomic Effects From Government Purchases and Taxes,' *Quarterly Journal of Economics*, Vol. 126, No. 1 (February), pp. 51–102.

SEMINAR PARTICIPATION AND NETWORKING

Bowmaker: What are the benefits to attending a seminar that is closely related to your work versus one that is not closely related?

Barro: Harvard has so many seminars that it is difficult to attend a large share. I go mostly to the regular macro seminar plus the macro lunch, where graduate students present their work. Those lunch seminars are excellent. The students get a lot of constructive suggestions on how to go forward with their dissertations, and it also promotes an excellent interplay among the faculty, better than that in the regular seminars. On Tuesday, for example, I went to a seminar by Danny Shoag, who is on the job market, and he presented a clever paper on estimating spending multipliers across the US states, using recent data. I got a lot out of that seminar.

Bowmaker: How important is professional networking to success in research?

Barro: It is not something that I have relied on in my career. My wife is always telling me that I do not network enough, but I think she means with people at Harvard.

Bowmaker: To what extent is the absence of departmental colleagues working in one's research area a major disadvantage?

Barro: Having colleagues who work in your research fields is a big deal. It certainly shows up all the time in seminars.

COMMUNICATION OF RESEARCH

Bowmaker: How do you find the right balance between communicating your research at an early stage versus the close-to-finished stage?

Barro: I tend to err on the side of distributing my research, including any data that I have collected, at an early stage.

Bowmaker: What are the unique challenges to giving a seminar and how do you overcome them?

Barro: I remember the job market seminar I gave at Columbia in the late '60s. I was in the third year of my PhD. I did not have a thesis advisor, but I had completed most of the research on my own. There was nobody among the faculty at Harvard doing macroeconomics and I think that was better than having somebody mediocre as an advisor. The vacuum forces you to figure things out. Anyway, even though I did not formally go on the job market, I managed to get interviews at three places: Brown, Northwestern and Columbia. The talk at Columbia sticks in my mind. My thesis was about hyperinflation and, at a certain point in the seminar, somebody from the audience began to complain about the econometrics. It was Raj Chetty's father! He was really criticizing me and, before I could say anything, Gary Becker gets up and starts arguing back and forth with him. Eventually, Gary ended up being triumphant. I thought to myself, "This is great. Seminars are easy. A brilliant guy from the audience will do all the arguing for you." But it has never happened to me again [*laughs*].

PUBLICATION

Bowmaker: Do you think that the current structure of the publication process in economics facilitates or impedes scientific understanding and knowledge production?

Barro: There have been some puzzling developments. The top journals have become more dominant over time, even though there has been a large increase in the number of field journals. And you would have thought that the number of articles published in the top journals would have gone up commensurately with the size of the profession, but it has not. In fact, the number moved downward in the case of the *JPE*, which is now a dysfunctional journal. I edited the *JPE* with George Stigler back in the '70s and '80s, and I think it was the best journal up to a certain point in the '80s. But since then, it has been terribly managed. If you submit a paper there, you are lucky if you hear back in 15 months, and often you just receive something that makes no sense. I do not send anything to the *JPE* these days. You have to be a masochist to put yourself into that ridiculous arena.

I feel bad about the *JPE*. I worked very hard on it when I was an editor. I think one of the problems today is that it has too many co-editors, which means it is difficult to give each one a real stake in the journal, particularly when they also turn over so often.

Meanwhile, the *QJE* has been on the way up. My colleague, Larry Katz, has been mostly responsible for its success. He is compulsive about getting things done quickly and efficiently. When you work with him, you have to do the same, otherwise you feel really guilty. And so we are very productive. You typically do not have to wait more than 70 days to get a first response, and we usually provide valuable feedback in the form of referee reports, which improve the quality of the paper.

A couple of years ago, Lars Hansen from Chicago was put in charge of a committee to figure out what to do about the *JPE*. He was asking for advice, and I said that we were thinking of making a takeover bid because we seem to be able to manage journals better. I said we would run it as an efficient separate enterprise, not a merger, but he did not take us up on the offer [*laughs*].

Bowmaker: How would you best describe your approach to dealing with a 'revise and resubmit' request from a journal? How about an outright rejection?

Barro: Sometimes when I get a rejection, which certainly happens often enough, I think the referees have nothing useful to say and I just ignore it and send it somewhere else. But other times, there can be good grounds for criticism. For example, in one of my recent papers, I can see what the basic problem is, and I have not solved it yet. I had to lower my standard in terms of where that particular paper is likely to be published.

'Revise and resubmits' are usually fairly straightforward, and I always address productive comments.

Bowmaker: What have been your best and worst experiences during the publication process?

Barro: My worst experience has been with papers that I submitted to the *JPE* that have just sat there forever without any answer and ultimately got rejected without any particular rationale. That has happened more than once.

I might guess at Bob Lucas's worst experience. His 1972 paper that introduced the idea of rational expectations in macroeconomics was originally submitted to the *AER*. The editor at the time was George Borts, who was my colleague at Brown in the '70s. Borts rejected the paper

because it was too mathematical. Bob wrote back accusing him of running *Newsweek* magazine. Borts once said to me, “What would you have done?” I told him, “I would have accepted that paper immediately. I think you were crazy.”

My best experience would probably relate to the work Herschel Grossman and I did on Keynesian macroeconomics in the early '70s. We had submitted it to the *AER*, and I remember Borts calling us into his office to explain how we should revise the paper. He ended up accepting it and, for a long time, that was my most-cited paper.²⁴

REFEREEING AND EDITING

Bowmaker: Do you have any advice for a young scholar on being a referee?

Barro: I often send papers to people who have not been asked to referee in the past. PhD students or young assistant professors will be honored and excited. They will spend a tremendous amount of time doing the reports and will be very conscientious. They tend to be up on the fresh, new ideas and often they provide not only constructive comments, but also find flaws in the work. Senior people are usually lousy referees. They tend not to take things seriously and will not be careful enough. But there are a few hundred referees that we use at the *QJE*, and you get an idea over time about which people are willing and good referees.

When I was an editor of the *JPE*, I introduced the business of paying the referees, which I think was the first time it had been done in economics. At the time—30 years ago—it was \$50. I had to open a bank account so I could write checks from the *JPE*. Continental Illinois Bank was the bank that was then the most connected to the university, and they said, “Oh, we know all about the *JPE*. We’d be happy to open an account, but you need something that proves that you own the journal.” So, I opened an account instead at a local bank. Once I had that account, I was able to open a Fidelity account for the *JPE* and that was the one we actually used. It had the restriction that you could not deposit checks that were smaller than \$50, so that was why we set the paper submission fee at \$50 [*laughs*]. At one point, we received a check for \$50,000 that was payable to the *JPE*. George Stigler told me, “You could go down to the courthouse and change your name to the *Journal of Political Economy* for \$200. Then you can cash this check for yourself.” George was a very funny guy.

Bowmaker: Do you have any advice for a young scholar on being an editor?

Barro: I was a junior faculty member at Chicago when I was editing the *JPE* with George Stigler. I ended up with a lot of trouble, particularly when I rejected some papers from my colleagues. It did not work out very well in that respect. But it has been exciting editing the *QJE*, because it is one of the top journals. I do not think I would want to do the work for a second-tier journal. It would be much less rewarding. Olivier Blanchard took up the position of being the editor of the *AEJ Macro*. He thought he could make it into a top-tier journal for macroeconomics, but I did not think so. He was doing all right, but people were not sending papers there as a first choice. And so, he became disappointed and stopped doing it. I do not know what it takes to make a top journal, but whatever it is, it persists for a long time and it is very hard to enter the business of being a top journal.

²⁴ Barro, R.J. and H.I. Grossman (1971), ‘A General Disequilibrium Model of Income and Employment,’ *American Economic Review*, Vol. 61, No. 1 (March), pp. 82–93.

TIME MANAGEMENT

Bowmaker: How do you divide up your working day, both in terms of quantity and timing of different kinds of work?

Barro: It varies. I try to do the routine work on the *QJE* every other day, but the main work comes when I have to seriously consider an article for publication and I have to read it carefully. Sometimes I am working actively on one of my own research projects and I will want to devote a lot of time to it. Some parts of the year, I will be teaching and that makes a big difference to my day. And, of course, my job also requires me to travel, but I try not to do that too much, because it takes a great deal of time and energy.

Bowmaker: How do you balance multiple research projects?

Barro: It is a problem when there are too many things going on at once and I cannot be heavily involved in the details of a project. That means I am not on top of the work.

Bowmaker: How do you balance your personal and professional lives?

Barro: [*Laughs*]. My wife says I should do more things besides being an economist. Maybe that is true. Gary Becker always told me he had a lot of trouble when reporters asked him about his hobbies, because he thought economics was his hobby as well as his vocation. And so he would make things up like, "I play tennis." Sometimes I think I should be spending more time with things that are not economics, but then I get over it.

REFLECTIONS AND THE FUTURE OF ECONOMICS

Bowmaker: What are the biggest challenges facing your research fields?

Barro: The key challenges in macroeconomics are related to unusual, but large, adverse events, such as the recent financial crisis and, in particular, the policies that might deal with them.

Bowmaker: What are the strengths and weaknesses of your own research?

Barro: I am able to apply a common way of reasoning to a lot of different problems, which can be either macro or micro. That is a plus for me. I said earlier that it is better for most people to be specialized, but that is not the way I function most effectively. And I am also able to combine theory with empirical applications. I might benefit from having more mathematics in my work, so perhaps that is a weakness.

Bowmaker: In the end, do you think the profession has helped to bring out and shape your research for the best?

Barro: I have a lot of uneasiness about my status within the profession. I do much better if you look at things that are objective, particularly citation patterns, compared to 'popularity contests,' such as awards and prizes. This reality is annoying, but it spurs me on to do more work rather than less.

Bowmaker: Do you have any professional regrets?

Barro: Sometimes I think about the difference it might have made if I had gone to graduate school at MIT rather than Harvard. But then I realize I was probably better off not going to MIT, which clearly had a much better department at the time, because I would have been too influenced by the professors there.

Bowmaker: What are your professional ambitions?

Barro: I am pretty content with myself in terms of what I have produced over a long period. It has already gone beyond my expectations. I hope to be able to continue producing frontier-type research. Gary Becker is the best role model in that respect.

Bowmaker: How would you describe the state of economics today? Are you optimistic about its future?

Barro: For many key economic problems, like dealing with potential depressions and financial fragility, economics is all there is. It is not the case that some other field is going to do better. Despite some views to the contrary, the recent financial crisis did not reduce the demand for economics; it increased it, even though at the same time, there was a lot of attack on economists for not having predicted the events, or at least knowing what to do once they happened. The fact is that economics is a counter-cyclical profession.