## 4. WORKING WITH JACOB MINCER: REMINISCENCES OF COLUMBIA'S LABOR WORKSHOP

BY GARY S. BECKER

Permit me to spend some time elaborating upon my reminiscences of the years during which I worked closely with Jacob—I must say that the decade Jacob and I spent working together was surely one of the most, if not the most exciting and fruitful in my life.

People ask how it is that Jacob and I never wrote a paper together. In fact we did-but we never published it. We did a paper on a forward-looking, perfect foresight model of the relation between consumption and income. At that time, time-series analyses were all backward-looking, in the sense that consumption was based on some form of weighted average of past and present income. Jacob and I thought that the right way of looking at consumption was by assuming people are forward-looking. We wrote a paper on the subject that is closely related to the major paper by Robert Hall (1988), but we assumed perfect certainty. We had a theoretical model, and did some empirical work. Why did we not publish this? That is a good question. We should have! I am sure that it would have become an influential paper. We thought that the empirical relationship predicted by the theory between consumption and income was not quite right, and we did want to work further on that, but never did. I had a look at the paper a year ago or so— I still think it is quite a good paper!

Although we did not write much together, the intellectual collaboration and interaction was continuous, so it is hard to know what was his contribution and what was mine. We were engaged together in an exploration, an intellectual venture, that took us to a number of areas. We accomplished an enormous amount together, and that was far more important than what we might have written together.

This intellectual co-operation led to a great workshop-the labor economics workshop at Columbia. Several factors contributed to its success. First of all, it had a continuing input of first-class students. Ultimately, the quality of the students determines the success of a workshop, and I would give our students number one credit for the accomplishments of the workshop. They were hard-working, able, extremely interested in the subject, and they were ready to take criticisms of their work. All these were important characteristics-a kind of survival training for the real intellectual world. We tried to have an open intellectual discussion that raised important economic questions.

These students were engaged in what is now recognized as often path-breaking work, far ahead of the profession at the time. Consider some of the topics on which they worked: human capital; family economics; household economics and allocation of time; crime; discrimination.

Jacob's dissertation on compensating differentials in education was a pioneer analysis of human capital. I remember that he explained his dissertation to me when I first met him. I was also interested in human capital because of my dissertation on discrimination. I told him that I was going to New York shortly to work at the NBER (the National Bureau of Economic Research was then located in New York) on a project on education and human capital. He said that he was going to Chicago on a post-doctoral fellowship partly because he thought I would be there. I replied that I was going to New York assuming that he would still be there. Jacob went to Chicago that year, and I came to Columbia and the NBER. He sent me a copy of the Ph.D. dissertation he had written at Columbia. I was immediately impressed by its first-class originality, even though he did not have anyone at Columbia, with the possible exception of George Stigler, who was interested in education and earnings. So I concluded that he was a very unusual young economist, with a lot of independence and creativity.

He did come back to New York, and within a couple of years we got him to Columbia. I had started a study at the NBER on rates of return to education. Jacob and I had become increasingly interested in On-the-Job Training since once you begin to discuss the relation between human capital and earnings you can't stop at education. Earnings are not constant after people start working, so something else is going on. You could do what labor economists traditionally did before the human capital revolution, which was to attribute increases in earnings with years in the labor force to unions or seniority, but that seemed far from the real story. One had to realize that investments in human capital do not stop with schooling, but continue in postschooling activities, either on-the-job, or elsewhere in training programs. We were both working on post-school investments, as reflected in the articles published in the 1962 JPE Annual Supplement, that important volume edited by Ted Schultz, one of the pioneers of human capital analysis, and a great friend of both of us (Becker 1962, Mincer 1962a). We continued to analyze education and post-school investments in the workshop. One major output was Jacob's outstanding book (Mincer 1974).

Jacob published his paper on labor force participation of married women after it had been presented at a 1960 conference (Mincer 1962b), and everybody there

immediately agreed that it was very important. I had read Clarence Long's book on labor force participation of women for the NBER, probably the most important work on that topic until that time. Jacob's paper cleaned up and extended the analysis by showing how one could use income and price effects in a way that would not only explain cross-sectional evidence, but also much of the time-series change in women's participation. Most of the time, successful analysis of cross-section evidence does not do very well in analyzing changes over time. Jacob succeeded about 60 percent of the way in reconciling the two types of evidence, which was a large advance compared to earlier work on this subject.

I was also working on the family, starting with my paper on fertility at an NBER Conference (Becker 1960). Hence, we had a common interest in studying family behavior, including women's labor force participation and fertility.

Jacob and I also both worked on time allocation. Some of our students did very good dissertations on this subject. I was involved in time allocation through my work on human capital. I had a long footnote in my human capital theory paper (Becker 1962), which showed how the discussion of foregone earnings could be extended to a general full-income framework. I expected that analysis to come out shortly – it took a few years (Becker 1965). Initially, our interests in this topic were independent, but they became increasingly connected. It was really a joint venture, the purpose of a workshop. Together with the students we created an atmosphere of intellectual cooperation and fermentation on this and other subjects.

The workshop consisted mainly of student presentations of their research in progress - we always tried to give first priority to our students. The temptation often is to invite known faculty speakers from elsewhere because they attract a larger audience. However, the purpose of a workshop is to train students. That is why Jacob and I started ours - to give students the opportunity to present, preferably at an early stage of their dissertation work. But Jacob and I also presented our work at their early stages, so that students would see that they were not asked to do something that we were not ready to do ourselves. In early presentations of our work, we also received valuable comments.

Jacob and I invited to participate in the workshop young economists who were at the NBER either as visitors (such as Sherwin Rosen, who spent a year visiting at the NBER) or as NBER associates (such as Victor Fuchs). Visiting professors at Columbia also participated, including Assar Lindbeck and Stephan Linder from Sweden. Both spent a year at Columbia and participated regularly in the workshop. Labor economics in Europe was virtually dead at that time. There was some literature on industrial relations, but that made little use of economic analysis. Assar took back to Europe many of the ideas discussed at the workshop, such as human capital. It took Europe a while before it caught up with the level of the Workshop discussions on these topics.

Nowadays there are many economists doing important work in labor economics. But at that time, outside of Chicago and Columbia, human capital, time allocation, household economics, and labor force participation of women were mostly ignored. I believe, and I can also speak for Jacob on this, that most of the profession was not interested in these topics until much later. However, we felt confident enough to

keep working on these subjects, hoping that someday this work would be appreciated by the economics profession. Fortunately, that eventually did happen. But in Jacob's case I would say not sufficiently, and this celebration and his IZA prize announced today are part of the professional appreciation that is due him.

Jacob was crucial to the workshop. I was much more aggressive, more critical. Jacob spoke less frequently and more quietly, but I do not remember his making a comment that was not relevant. Jacob's comments were thoughtful and helpful, for his goal was to help students do everything they could to get the maximum amount out of their analyses, and in tackling interesting empirical questions. Jacob has always been an ingenious empirical analyst, clearly among the most outstanding empirical analysts of his generation. In those days the data available was very limited, yet Jacob would find ways of making the most out of the limited data available for the many pioneering papers presented in the workshop. Although data are always limited, one of the most important challenges in social science is to get the most out of existing data. Jacob was wonderful at that, and he conveyed that genius to the students and other participants in the workshop.

We supervised many dissertations together. He was the first supervisor on some of them, I on others. I cannot say who was more dominant, since most of the time we were both dominant, hopefully not contradicting each other. I had a reputation for being tougher, but after a few drafts I would tend to give up. Not Jacob! He would force students to extract the maximal number of empirical implications, and then test them extensively. Students often had to struggle to finish, but the dissertations and subsequent careers of these students were far better because they were pushed hard. Sometimes, when working on a complex topic, like women's participation in the labor force, you want to give up, and you need someone who pushes you further. Jacob did it, more than I, especially with the empirical analysis. That made the dissertations substantially better, which had an important impact on the careers of many of the students.

We met weekly at the workshop in which most of those present today participated as students, but Jacob and I also had contact beyond the workshop. We were both at the NBER, where we would spend a part of each week in seminars and projects. Many of our research assistants there were our Columbia students, going through a research apprenticeship, and interacting with full-time staff such as Anna Schwartz, Victor Fuchs, and a number of others. Some, unfortunately, are now deceased, such Arthur Burns and Sol Fobucant.

Let me return to how much I learned from Jacob. Our talents were extremely complementary-I was more theoretical, he was more empirical. But we both recognized that empirical work needs good theory, and theory needs to be tested because it cannot exist in a vacuum. I was more outspoken, he was quieter. I personally feel that I benefited so much from this complementarity. To be complementary, you need strong agreement on the basics. If researchers are too different, there will be little interaction between them. Jacob and I agreed practically all the time. We had very few disagreements, maybe none on fundamental issues. But we had different strengths and weaknesses that were complementary. Certainly, I felt this.

I decided to leave Columbia mostly because of the way the faculty-not Jacob!dealt with the student unrest of the late 1960s. It was a very difficult decision, since I had to leave many close associates and friends. But as I remember those times, I am driven to salute a great economist who combines originality, insight, impeccable honesty, modesty, generosity, and stubbornness in a unique way. Jacob, it has been a great pleasure to interact with you over many decades, and an even greater pleasure to work so closely with you. Thank you so very much.

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