

NBER 2009 Macro Annual – Paper 4 - Transcript

Guvenen, Kuruscu, *A Quantitative Analysis of the Evolution of the US Wage Distribution: 1970-2000*

Fatih Guvenen initiated the discussion by wholeheartedly agreeing with Francesco Caselli that the main mechanism, namely the rise in unpaid on the job training, needs to be empirically documented. He gave the example of a radiologist who entered the US labor market in 1972 and spent all of the 1970s training because of the continuous introduction of new technology during that period. Beyond such anecdotes, and absent stronger empirical evidence, the authors' approach to justifying the mechanism has been to document as many wage implications as possible.

Chris Carroll reinforced Caselli's point about consumption inequality, in order to prevent the proposition that consumption inequality has not increased from becoming viewed as a stylized fact. He highlighted several problems with the Consumer Expenditure Survey (CEX) data, which are potentially driven by the fact that higher income people have stopped participating differentially over time. He noted that when it started, CEX consumption accounted for 85% of NIPA consumption, but it now accounts for only 60%. Moreover, there is no correlation between changes in average consumption in the CEX and NIPA, and the average saving rate has been steadily rising over time in the US, according to CEX. Guvenen later noted that he is sympathetic to the view that we may be under-estimating consumption inequality and cited as evidence the work on the CEX by Attanasio, Battistin and Ichimura (2004).

Daron Acemoglu challenged the view that the standard Tinbergen (1975) model is a great success. He argued that the success of that model comes from the fact that it assumes exactly the needed rate of skill biased technological change coming miraculously from some unknown source. But there is no reason for technology to be skill biased, and no evidence that other periods have been characterized by steady skill biased technological change occurring at a linear rate. Acemoglu also thought that the median wage being stagnant posed a challenge to the Tinbergen model. He felt that the model's ability to fit some time series regressions is not a high enough standard and applauded the exploration of alternatives.

Guvenen noted that even though the present model is parsimonious, there are several different mechanisms at work that generate rich predictions. The stagnation of the average wage is driven by three effects: the slowdown in the productivity growth of raw labor, the additional investment in training on the job, which reduces productivity by increasing the amount of time spent learning on the job, and the compositional effect on the labor force, with higher ability individuals now choosing to enter college rather than the labor market. He mentioned that there are alternative creative stories which explain the slowdown through the reorganization of firms. He cited the papers by Caselli (1999), Greenwood and Yorukoglu (1997) or Horstein and Krusell (1996). But he highlighted the present model's ability to generate a prolonged process through the various selection effects, age effects and composition effects, which yield a 20-year process endogenously.

Bob Gordon applauded David Autor's discussion of both supply and demand considerations. While the relative supply of skills is critical to the Tinbergen model, Autor had pointed out that the position of the relative demand curve is the only determinant of skill prices in the Guvenen and Kuruscu model. Gordon noted the richness

that comes from modeling both supply and demand. He declared that he envied Econ 101 students, who are taught that everything depends on both supply and demand and that he abhorred the RBC model precisely for being just supply and not demand. Gordon also referenced Autor's plot of a relatively stable increase in the 90-10 male wage differential from 1963 to 2005. Gordon noted that the plot does not look as clean for the 90-50 male wage differential, which shows a plateau from 1993 to 2003. Guvenen later commented that the model's 50-10 differential fits the data nicely. In the data, the rise in 90-50 differential is about twice as large as the rise in 50-10 differential and that is also true in the model.

Regarding the stagnation of the median wage, Gordon pointed out that in a 2005 paper with Ian Dew-Becker, he showed that errors in the price index led to that erroneous conclusion. In fact, the median Census Bureau household real income grew at 0.6% per year and the median income per capita grew at 1.2% per year (because of the shrinking size of households), so the idea of wage stagnation is vastly overstated. Guvenen later noted that this might help the paper, since the model underestimates wage stagnation. Gordon also reinforced Carroll's point regarding the measurement errors in the CEX and offered four examples of consumption of high income households that is not captured in the CEX: private school tuition, nannies, homes in the Hamptons and yachts. Finally, Gordon mentioned recent research which shows that not accounting for the higher cost of living in those metropolitan areas where college-educated people congregate leads to a bias in the measurement of the real income college premium relative to the nominal college premium. This higher cost of living could eliminate almost the entire college premium in real terms. New data on level CPI price indices, recently introduced in the Survey of Current Business, captures this effect. For example, while NY has a nominal income that is 20% higher than the national average, the CPI-corrected real income differential is zero. This suggests that the literature on consumption inequality needs to pay more attention to price indices.

Nicola Fuchs-Schuendeln submitted that the consumption measured in the data is very different from the definition of consumption in the model, which makes it difficult to compare the statistics of model with those in the data. She also questioned the model's assumption that hours are fixed, so that all training is on-the-job training. While she agreed with the idea of investing in training, she thought that such training might translate into fewer hours worked rather than take place on the job and thus result in lower wages. She wondered if the data shows any increase in hours inequality in the 1970s. In response, Guvenen mentioned his new paper which addresses some of these concerns, and which explores the differences between US and European trends in wage inequality. That paper has endogenous labor supply, solves for the consumption-leisure choice, and has a better measure of consumption. The finding is that different labor market policies, especially progressivity, give rise to different incentives, which can explain why wage inequality has increased in the US but not in some European countries. Regarding hours inequality, he noted that matching the (low) micro estimates of the elasticity of labor supply implies relatively muted action in the elasticity of hours over time. He also hypothesized that the 1970s data on hours would not present a clear picture because of the high level of unemployment and all the selection effects.

Greg Mankiw reiterated Gordon's point regarding the stagnation of wages. He posited that a CPI bias of about 1% per year amounts to quite a bit of consumption over

20 years. Second, he noted that if this paper is right, then Richard Freeman was very wrong. He wrote a book called “The Overeducated American” (1976) which documented the college premium going down and concluded that getting educated was a waste of time. Conversely, this paper says that the college premium was going down precisely because it was a great time to get lots of training. Finally, Mankiw wondered if the Tinbergen model could explain the residual variance within education groups, in addition to the variance between college and non-college groups. Autor reasoned that as long as there are any measurement errors in skill, then whenever there is a rise in inequality between groups, there will also be a within-group rise in inequality. To Acemoglu’s interjection that the 1970s pose the problem, Autor replied that the 1970s are less of a problem than they used to be, primarily because we’ve become less confident in the 1970s data! Caselli added that the 1970s may not be a problem if one differentiates between skills learned in college and innate skills, which are not necessarily perfect substitutes. Guvenen agreed with Caselli’s point, but suggested that in that case one needs two exogenous sources of variation working in opposite directions during the 1970s, one to exacerbate differences within groups and one to mitigate these differences.

Acemoglu agreed that we have to think seriously about price indices. But he also pointed out that the bias would have to be implausibly large to eliminate a drop as large as 30% in wages at the bottom of the distribution. Mankiw reiterated the point about the 1% annual CPI bias, but Autor wondered why there should be acceleration in the bias precisely in the 1970s. Acemoglu agreed, calling it a “miraculous bias” and arguing that if the bias in the CPI had been present since the beginning of time, it wouldn’t change the pattern of relative wages. But in fact the topic of the paper is the discontinuous change observed in the 1970s. Mankiw argued that his point was not about the bottom wages falling relative to the median wages, but rather about whether the bottom wages have fallen in real terms. Gordon pushed even further in this direction, citing evidence that the price indices for the poor have gone up less than those for the rich, since the rich buy a lot of low productivity growth services, while the poor benefit from the Walmart effect. This means that the single CPI bias is not equally applicable to all parts of the income distribution.