Comments on: Productivity and Wages in the American Economy: A Tale of Two Centuries

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Given the subtitle of this paper and the authors' concluding sentence, it seems appropriate to begin by paraphrasing Charles Dickens: To wit, "It was the best of papers, it was the worst of papers." Unfortunately, I have neither the ability nor space in which to develop the story as Dickens might. Moreover, the paper lies somewhere between. The results of their work are interesting and reflect a substantial amount of work, but I wish they had presented the results somewhat more clearly and discussed some of their estimation problems. Of course, they could not do all things in the space allotted them, and my remarks are probably addressed adequately in the working papers on which this piece rests.

Vedder and Gallaway look at the relationship between wages and productivity at various dates throughout the nineteenth and twentieth centuries and conclude unsurprisingly that the market economy was working very well. "The empirical evidence. . . is strikingly consistent with the straightforward propositions of neoclassical economic theory" -- And, as we all know, economies cannot work any better than that. In their view the competitive results from 1820 to the present were equitable and efficient.

The market was equitable because workers were paid their marginal products. This is shown by a comparison of the estimated elasticity of output for labor (α_a) with the observed labor share of income (α_n). The former figure is taken to represent the marginal product of labor, that is, what a worker should be paid, and the latter represents what they were actually paid. This is obscured somewhat by calling the latter the neoclassical prediction, which seems to imply a theoretical figure rather than the actual.

The former figure α_a is derived from a Cobb-Douglas production function fitted to sample date for manufacturing

firms, at various dates from 1820 to 1920. It is not clear where the other figure comes from, in particular, whether it is constant for the century or varies by date whether the norm is the national average or labor's share for the specific industry or industries being examined.

In general I wish they had discussed more fully and carefully the estimates and tests presented in Table 1. For example, the sample sizes are reported as numbers of firms in most years, but as 46 states in 1880 and 160 cities in 1920. Are these the sample sizes in those years? Apparently, the "sample" is comprised of one representative firm from each state or city; where that firm is not selected at random, but takes on the mean values derived from the statistics for the entire manufacturing sector in that state or city. Each firm then represents a different mix of output and production characteristics depending on the state's composition of output and level of technology. It would seem this aggregation procedure would create some problems in estimating the production function. I would have liked the authors to address the quality of their estimated elasticities, in particular indicating whether the coefficient is biased downward.

Their result is that the null hypothesis of no exploitation is accepted in every year. More strictly, the evidence shows that there is no significant difference between the estimated coefficient (α_a) and labor's actual share of income (α_n). To accept this hypothesis of no difference it appears they have performed a two sided test. In my view, this does not seem to be the proper test for exploitation. A more appropriate alternative hypothesis would seem to be that the marginal product is greater than the wage, (that is, $\alpha_a - \alpha_n > 0$), which implies a one-sided test. If this were done, then the null hypothesis would be rejected in 1920 at the 5-percent level of significance. Since one always suspects that the more recent data are more accurate than the earlier stuff, this could be a telling statistic.

Even if statistically insignificant, the test statistic for 1920 indicates that workers were not receiving a substantial portion of their marginal product, perhaps as much as 20 percent! ($.09/\alpha_a$) I doubt the workers would have thought this fair no matter how many statistics courses they might have taken.

In the second section of the paper they present evidence to indicate that the ratio of wages to the return to capital has risen substantially. This is implicitly attributed entirely to a rise in the capital/labor ratio with technical progress apparently seen as neutral in its effects. In any case, capital

grew so rapidly that in spite of whatever technical progress occurred the real return to capital was cut in half between 1840 and 1970. This seems to be a fairly substantial and surprising decline, one which raises the spectre of capital having earned more than its marginal product in the earlier years, and some of the decline reflecting increased competition. But then this would imply some other input (labor?) was not getting its marginal product in the earlier years.

In the third section they offer a pre-Keynesian hypothesis that unemployment is positively related to the level of money wage rates adjusted for price- and productivity-level changes. It is not intuitively obvious how they deduce this from their three neoclassical propositions, even allowing for the fact that one of the statements, "productivity per unit of labor input will vary positively with employment," does not mean what it says. Beyond that, it is unclear how they can deduce hypotheses about unemployment without some specification of a labor supply function. However, they do refer to a working paper which probably explains this, and it certainly has an intuitive appeal. In any case, their model works well to predict unemployment rates, including those of the Depression and the 1970s. The key to cyclical variations is apparently that money illusion causes a short-term discrepancy between wages and marginal products. Luckily, this effect did not manifest itself in any of the years in which they estimated their manufacturing production functions.

They conclude by paraphrasing a famous editorial, "Yes Virginia, there is a neoclassical world." This may be fitting, for if I recall that Christmas editorial correctly, Santa Claus exists if you really believe he or she does. Then, too, since this world apparently includes recurring recessions, prolonged Depressions (which I never realized was a neoclassical prediction), and, possibly, 20 percent exploitation, I could quote someone, probably Archie Bunker, "who needs it!" Since a crucial component of their mechanism is money illusion, which I always associated with Keynes, the paper has made one thing perfectly clear. I now know what Santa Claus meant when he said "We're all Keynesians now."