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Technical Change, the Computer, Globalisation and Income Distribution: A Task for Economic Systems

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1. Introduction

Marxist economic theory has at its core the distribution of income between those who supply labour and those who own the means of production, meaning, in the modern context, capital. Thus, the Marxist model views the distribution of income between the two factors of production and its consequences for society as central to the analysis of economic systems. Neo-classical theory, on the other hand, has income distribution as much less central to its analysis. The incomes of labour and capital are determined through what is called the functional distribution of income, meaning that each factor receives payments based on its marginal product. Moreover, economic systems theory offers little in the way of analysis regarding the effect of the distribution of income on the functioning of the economy.

One of the reasons for the seeming lack of interest in distributional issues is the belief that the distribution of income between labour and capital is rather invariant. For example, Keynes (1939, p. 48) writes '…the stability of the proportion of the national dividend accruing to labour, irrespective apparently of the level of output as a whole and of the phase of the trade cycle… is one of the most surprising, yet best-established, facts in the whole range of economic statistics, both for Great Britain and for the United States'.[1] Although Keynes view was eventually challenged by Phelps Brown and Hart (1952) and Solow (1958), it is only recently that the study of the determinants of labour's share of GDP in the capitalist system has generated much interest. This interest is in part due to political debates over related subjects such as growing income inequality in developed market economies and the shrinking of the middle class.

2. The facts

There is considerable evidence that labour's share of GDP fluctuates with the business cycle, in large part because profits are strongly pro-cyclical. However, there also appear to be long-term movements in labour's share that are unrelated to cyclical factors. Solow (1958) found that between 1929 and 1955, labour's share of national income in the United States fluctuated between 58.5 and 73.4 percent, the latter figure at the height of the Great Depression. In the post-WWII period, labour's share rose until the late 1970s or early 1980s, and then declined. For example, in the G-7 countries it has fallen from a peak of 74 percent in 1974 to 64 percent in 2010 (Krämer, 2011). Much the same holds for the OECD countries (Guscina, 2006). Moreover, as Arpaia and Pickelman (2008, p. 33) note, the strong similarity of movements in labour's share of income occur despite 'different labour compacts and "social" models' employed by these countries. Nor, according to Diwan (2001) is this only a developed-country phenomenon; Latin America and Africa, as well as Asia after the Asian financial crisis show the same pattern.

3. The explanations

Three broad explanations have been offered for this phenomenon. The first of these is technological change. Proponents of this view argue that, if technical progress is capital augmenting, then labour's share of income will fall. Thus the explanation for the rise and then fall of labour's share of income in the post-war period is that, in the first part of this period, technical progress was labour augmenting, leading to rise in labour's share while in the latter part of the period, it was capital augmenting, thus driving labour's share down. The explanation for the shift in the nature of technical progress is often given as the computer revolution and the many changes in working associated with it. However attractive such an explanation may be for the developed countries, it is difficult to imagine that the 'information revolution' had a similar and contemporaneous effect in developing countries, yet their trend in labour shares was much the same as in developed countries. Moreover, if the computer and its associated technologies are the cause of falling labour shares, then it is surprising to find the United States lagging behind other developed countries in the decline in labour shares despite its lead in the adoption of the computer.

A second explanation for labour's falling shares of national income is globalisation, which is assumed to influence income distribution in a number of ways. One of these is through the Hecksher-Ohlin model. The argument is that the entry of new, labour-abundant countries such as China, India and the former Soviet Union and its East European satellites into the global economy have both altered the global factor endowment in favour of labour while the greater liberalization of trade has opened countries up the effect of this endowment shift.[2] While the two trends seem correlated, the timing is off. China's opening to the global economy did not begin until the early 1980s and was quantitatively unimportant for many years despite its rapid growth from very low levels, and the other countries on the list entered global markets even later, well after the decline in labour's share began. Other authors suggest off-shoring, FDI and other aspects of globalisation as well, but because growing globalisation and the downward trend in labour's share more or less coincide over the post-1980 period, identifying causality is difficult.

A somewhat different argument for the effects of globalisation is made by Diwan (2001), who argues that globalisation has made capital, especially financial capital, more mobile than labour. Thus when economic or financial crises occur in a country, labour must act as a shock-absorber so that this capital does not flee the country. Consequently, in periods of crisis, labour loses the 'distribution battle' and is left to pick up the costs of bailing out the financial sector or the central bank and paying off the stabilization loans from the IMF. While the statistical evidence is compelling, it does not seem to explain the decline in labour's share in countries such as the US where such crisis were rare before 2008.

A final set of explanations has a more systems-oriented flavour in that it points to labour market institutions such as job protection, unionisation, product market imperfections that allow firms to earn rents and possibly share them with labour, etc. As with the other explanations, an examination of these institutions has plausibility when applied to some countries and for some time periods, but it is not clear that it provides an explanation for a phenomenon that seems to affect all countries in more or less the same way at more or less the same time.

4. Conclusions

The lack of a clear explanation or such a broad and pervasive phenomenon as the global decline in labour's share of national income suggests that it may somehow be related to systemic factors that are at work in all 'capitalist' economies, and thus a close examination of what forces in the system influence labour's share of national income seems in order. Also deserving more attention for students of economic systems is the question of whether such changes in the distribution of income between labour and capital have any impact on the functioning of the economy and, more important, on the functioning and stability of society. Marx certainly thought they did, and perhaps we should heed his concerns even if we opt for a different intellectual framework for analysing the phenomenon.

Notes

[1] It is worth noting that early support for the Cobb-Douglas production function also came from the constancy of labour's share of GDP in the US, as such constancy is a feature of the Cobb-Douglas production function.

[2] Thus, Jaumotte and Tytell (2007) argue that the effective global labour supply quadrupled between 1980 and 2005. Other authors, however, note that the K/L ratio has also increased during that time.

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