A Note on Profits, Rents and Wages in Global Production Networks

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What are the consequences for profits, rents and wages of the splintering of production tasks across firms in different countries? Such global production networks allow the concentration of rents in lead firms, with some share of these rents possibly being shared with labour. However, profits and wages in competitive production segments, largely located in developing countries, will tend towards market-based minima. Various combinations of product and labour market conditions and their outcomes are analysed in this paper. It ends with a discussion of the different routes by which wages might be increased in such a system of global production networks.

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In a global production network (GPN), in integrated firms do not carry out all or most of the production and marketing tasks. Rather, it is split among numerous firms each carrying out particular tasks. This disintegration of the firm follows from the gains to be had from a reduction in transaction costs.

In Coase's analysis the firm exists because high transaction costs increase the cost of coordination of tasks linked by market relations. These high transaction costs lead to coordination being carried out through non-market relations in the firm. This analysis could be extended to firms that have branches across countries, the quintessential multinational corporation (MNC).

The development of information and communication technologies (ICTs) and transportation, however, has reduced transaction and transport costs allowing the splintering of production tasks between firms. Specification and instructions can be codified and transmitted between firms. In Japanese "just in time" production, various components could be brought in by suppliers, reducing inventory costs. Even in services provision, all the component aspects could be outsourced with the provider only performing the integration and marketing functions. An example of a successful business model of this type is that of the Indian mobile phone service provider, Airtel, which carries out only branding, marketing, billing and the crucial task of integrating services but outsources the rest.

The development of production capabilities across the globe means that the splitting up of production tasks can take place not only within a country, but also between firms in different countries. Technological advances in transportation (e g, containerisation) and low carbon costs have been combined with ICTs to enable firms to utilise the spread of production capabilities in many countries. All these have led to the phenomenon of GPNs.[1] With this development, trade is no longer characteristically in goods (e g, cloth or wine), but in particular production segments or trade in tasks (cut-make-trim (CMT) vs design-brand-market) as Grossman and Rossi-Hansberg (2006) call it.

In manufacturing, such specialisation in tasks is not just confined to garments and shoes. It includes IT hardware and automobiles. Apple, for instance, concentrates on product design, architecture and operating system, leaving even detailed design of components to its network of suppliers. The auto majors also similarly concentrate on design and assembly, leaving whole subassemblies to be designed and supplied by the various component manufacturers. Integration, rather than manufacture itself, becomes the key task with the splintering of production. This trade in tasks exists not only in manufacturing, but also in services. Witness the Indian boom in offshoring of particular office tasks.

With GPNs, the lead firms may carry out just branding, design and marketing, leaving all other tasks in production to numerous units around the world. This splintering of production tasks across firms has some important consequences for wages and profits, which we explore in this note.

Consequences for Wages and Profits

In an integrated firm with a degree of monopoly, which may be due to technology or branding, or a combination of the two, there would be some excess profits or rent. This rent would accrue in the firm. This rent earned by the integrated monopoly firm is likely to have an effect on wages in the firm as a whole. Whether the worker is a cleaner, on the assembly line or in the design section, the firm's rent is likely to have an impact on wages down the line. This is akin to Kalecki's theory of distribution, where wages depend on the degree of monopoly. "High mark-ups in existence will encourage strong trade unions to bargain for higher wages since they know that firms can 'afford' to pay them" (Kalecki 1971: 161).

In comparison to a non-monopoly firm that did not earn such a rent, the cleaner at the monopoly firm would earn a higher wage than the cleaner in the non-monopoly firm. In an integrated firm, some part of the rent earned would be distributed down the line, though the major share would be concentrated at the top, in profits. This would allow wages for performing tasks within the rent-earning integrated firm to be higher than for comparable tasks within non-rent earning firms.

Consider now a situation where the cleaning task is outsourced to a firm providing janitorial services. The price the janitorial firm could charge for its service would depend on its horizontal and vertical relations. The vertical relation is with the lead firm and is contractual. In such a contractual relationship, unlike in an arms' length market transaction, there could be bargaining and this could, in principle, allow for some of lead firms' rents to trickle down. But strength in a bargaining relationship depends on a number of factors, including ease of entry into the segment, ownership of proprietary knowledge, capital and skill required. With competition in easily provided services, the supplier firm cannot charge a mark-up over the available market price and there will be no rent or excess earned in this segment. The supplier will charge a rate to the lead firm, based not on the profits the lead firm earns but on the volume of work to be performed. Further, its rate would be the same for every customer, with some possibility of discounts for a higher volume of work. The important point is that the rents earned by the lead firm would not percolate to the supplier firms performing the janitorial or other such easily-supplied tasks.

Use of Labour Market Segmentation

The above difference can be stated in another way. In an integrated firm, segmentation of the labour market cannot be exploited to its fullest, since all sections of workers will demand some share of the overall rents. Employers, however, have an interest in treating different segments of workers differently. This could become possible with disintegration of the production tasks among various firms, each dealing principally with a task requiring a different skill level, thus utilising more fully the segmentation of the labour market. With segmentation of the labour market operating even within a country, such different treatment of segments of workers could be carried out within a national market.

The GPN is an extreme example of splintered production. In this case it is possible to use the segmentation of the labour market at the international level, bringing into play differences in national wage levels of workers of comparable production skills. Efficiency wages can be paid to those whom it is important to retain and who can be expected to provide greater productivity with higher wages. Usually unorganised workers, such as homeworkers, women or those required in peak seasons, can be paid less if the labour markets in which they operate can be separated out. The splintering of production and outsourcing of tasks enables employers to utilise to the fullest the segmentation of the labour force, and that too on a global scale. Workers in different production units perform different tasks and are paid according to their performance, with no reference to the final product to which the workers contribute. In fact, further down the chain of subcontracting, the workers might not even know the final product, branded or otherwise, to which they contribute.

For example, a study of the garments' GPN around Delhi (Bhaskaran et al 2010) has found just the above result in the case of embroidery and embellishments, which are outsourced to home production. Those performing these tasks receive the same piece-rate, irrespective of the final producer for whom the task is being performed. The workers do not even know the final producer or marketer for whom the work is being performed. The piece wage they receive is the same, irrespective of whether their work goes into the making of a high-value branded product on the international market or a low-value undifferentiated product on the domestic market. The piece-rate they receive varies only with the type of work and not with the product market for which it is destined. None of the rents of the lead but non-integrated firms trickle down to these homeworkers. Given the ease of entry into this segment of work, the wages are driven down to the minimum, to the cost of production of labour or even lower.

Bargaining in Contractual Relations

In a GPN, we have not an integrated firm, but a lead firm that outsources all tasks, other than design, branding and marketing. Further, let the supplier firms work not only for this lead firm, but also for other firms in the sector. This is a reasonable assumption. Electronic component and sub-assembly manufacturers, for instance, work for a host of final brands. Apparel manufacturers too work for many different brands. At the same time, the relations between suppliers and the lead firms are not straightforward market relations. Rather, there are contractual relations between lead and supplier firms. But for all of these supplier firms, and for the workers in these firms, what would be important is the horizontal competition that they face. With ease of entry, these intermediates-supplying firms would not earn, or be given, a share of the rents of their customer brands. Thus, the lead firm is simultaneously able to take advantage of both its monopoly product price in the developed economy market and the competitive low wage in the labour-abundant developing economy.

But not all intermediate product suppliers are of the above type. Microsoft and Intel, for instance, are component suppliers who are also standard-setters. Their products are industry standards, intellectual property rights protect their products, and they earn considerable rents from this position. But apparel manufactures, performing CMT tasks do not have such standard-setting power; and, thus, they do not earn any rents. Further, the greater the number of stages of GPNs in which contracted firms exist, the greater becomes the downward pressure on wages because at each stage intermediate firms get their share of profit from the contracted work.

The splitting up or splintering of production tasks in a GPN then means that the rents of the product tend to be concentrated in just one segment of the sector, in the lead firm that usually carries out the design, branding and marketing. At the same time, the intermediate suppliers or those performing easily replicable tasks in non-lead firm units do not get any of the rent of the product. In these firms both profits and wages are driven down, possibly wages more than profits. The splintering of production in a GPN then would result in the concentration of rents as profits in the lead firms. Supplying firms and their workers would not get a share of these rents. Wages in these suppliers would then tend to the minimum possible.

The minimum possible wage, however, would have to be somewhat higher than what labour could earn in an alternative occupation. So long as there are supplies of labour that could be shifted from agriculture, or could enter into paid work for the first time, the Lewis-style wages need be just above the alternate possible. In the case of women entering paid work for the first time, the wage could be particularly low. In which case, firms in a developing economy that are able to draw such women into global production, might be able to earn an extra profit, due to the low wages of these women. From the point of view of the firm this enables a lowering of cost and a surplus profit. But from the point of view of the workers themselves, this is an increase in their incomes (Ghose 2003).

Competition and Product Prices

With supply price being driven down, what happens to product prices in the high-income importing country? The distribution of the surplus between lead producers and consumers depends on the extent of competition in the product market. Kaplinsky (2005) argues that for one type of global firm, the retailer, the market is becoming increasingly competitive and thus prices in the importing country are also being driven down. This would mean that the extra profits earned by pushing down costs in producing countries would tend to be passed on to consumers and thus increase real incomes in the importing countries. One might add that, if product prices are driven down across the globe, then there would be an all round increase in real incomes.

But the increasingly competitive situation of retailing is not the norm for all product markets. Global brands in relatively competitive markets, even for apparel, are able to secure rents. Are these rents due to design, branding and marketing, activities that are usually carried out in-house in the lead firms? In this note we do not go into a full discussion of this issue, but point out that the neoclassical marginal productivity theory does attribute shares of value to particular inputs. But a more classical theory would argue that in a product with more than one input, it is really not possible to attribute any share of the value created to just one input; the product is jointly produced by many inputs. But what branding and other forms of intellectual and other property rights' protection measures do is to enable the rent of the product to be captured in the production segment that includes the design, branding and marketing functions. Value is produced all along the line, but the surplus is captured in certain segments, and is concentrated in the lead firms.

The lead firms need not be only from among the final product manufacturers. They could also be from among the intermediary producers, as the examples of Microsoft and Intel show. While the end product of the PC is more or less commoditised (other than for Apple products), proprietary technology enables Microsoft Windows software and Intel chips to capture rents in their integration into PCs.

What the above shows is that where rents will accrue in a GPN is not entirely determined by the structure of production. Further, relations within a GPN are not straightforward market relations, meaning that transactions within a GPN are often not arms' length market transactions, but are contractual. Garment brands, for instance, do not just go to the market and buy the types of garments they want; rather they contract out their production with various specifications and conditions. Prices paid for performing certain tasks depend on the bargaining strengths of the contracting partners. This, in turn, depends on the ease of entry, special skills, proprietary technology, and so on.

Even with product prices competitively determined and thus without a share of rents, a firm can earn a surplus over and above normal profits. This can happen if its cost of production is lower than that of competitors. Despite more-or-less identical methods of production, as for instance, in the CMT segment of garment production, if the firm can keep down wages, then it would earn more than the normal profit. Given the existence of country-based differences in wages, this is more likely to occur between countries than within a country. If the price paid for the CMT segment is identical and if Bangladesh wages are half those of Vietnam, then, given no compensating productivity differences, Bangladesh firms would earn a surplus over normal profits. In this case excess profits are not due to a high product price but due to a low price of labour.

Prospects for Increasing Wages

What we have discussed so far is the result based on the working out of economic factors, both of the market- and non-market contractual relations. Within this are there any prospects for increasing wages, or will they inevitably and irrevocably tend towards the cost of production of labour power? To answer this question it is necessary to consider two kinds of product market conditions. One is that of increasingly competitive retailing, as analysed by Kaplinsky (2005). The other is that of the somewhat oligopolistic competition as between global brands, with their design and branding market specificities. In the first case, there would be little scope for action to increase wages, as all extra profits from a reduction in the cost of production, would be reflected in price decreases. Wages would increase to the extent that falling prices raise real incomes. But there would be no change in the share of profits and wages.

Where, however, the lead firms are able to capture some of the surplus as rents, there would be some scope for action to increase wages, certainly in the lead firms. But, the distribution of rents across a GPN is not given. Lead firms get most of the rent. But this can change depending on the relative bargaining positions of different actors in the GPN. For instance, the growth of very large contract manufacturing or contract supplying firms, such as the now notorious

Foxconn in electronics and Li & Fung in apparel supply, may well have enabled these intermediaries to increase their share of rents in the sector. Different forms of upgrading by developing country firms could change the bargaining positions within GPNs.

In upgrading by developing country firms, there could be a process upgrading that reduces costs and consequently increases margins. But this additional margin would last only as long as other competing firms do not adopt the improved production process. Once the technological improvement spreads and becomes generalised, then the additional margin would disappear. Productivity increase through an improved production process may provide an additional margin only so long as it does not become the industry norm.

This is a variation of the Prebisch-Singer thesis, initially applied to the trade between agricultural commodities and manufactures. As Kaplinsky emphasises, this applies even in the case of easily adopted technological advances in manufacturing. What can be generalised from the Prebisch-Singer thesis are the conditions of easily adopted technological advances and the consequent competition among suppliers. With these two conditions the Prebisch-Singer thesis could be applied, as Kaplinsky has done not just to the agriculture-manufacture exchange situation, but also to the exchange within manufacturing or, for that matter, services.

Another type of upgrading is functional upgrading or the addition of functions to move to what is called "full package supply", where the supplier takes, for instance, a design and turns it into a product. The addition of functions such as detailed manufacturing design, adaptation, sourcing of materials, right up to delivery to stores is likely to increase margins earned by the full package suppliers or contract manufacturers.

The full package suppliers, whether in apparel or software, would be able to get a premium over, for instance, assemblers of garments or, for that matter, iPod assemblers. In fact, case studies have shown (Nathan and Posthuma 2010) that assemblers of garments in Tiruppur, India and of iPods in China get around the same 5% margin on turnover, while full package suppliers in garments get around 25% to 30% margins.

Wages of Skilled Workers

The above forms of upgrading could yield some share of rents, possibly temporarily, to developing country firms. How rents are distributed among contracting partners in GPNs depends on the bargaining strength of individual firms, but the resultant would be somewhere between the perfect competition solution of no rents and the monopoly solution of full rents.

Whether higher rents will necessarily mean higher wages depends on labour market conditions for the required workers. Functional upgrading increases the employment of skilled workers, which could yield higher wages for them. Whether the skill premium will increase depends on whether scarcities develop in the skills required.

The wage result also depends on the strength of unions in the upgraded firms, but the existence of rents could make unions stronger and provide conditions for workers to be able to secure a share of the rents accruing to developing country firms. But, it is also necessary to emphasise that such an increase in wages is in no way automatic and may not even occur. Whether or not wages of skilled workers increase following upgrading depends on the market conditions for skilled workers and also on the national situation with regard to workers' rights, and the organisations to secure them.

Often it happens that firms that have gone through functional upgrading employ a higher proportion of skilled labour or demand higher skill at the entry level and pay higher wages for these workers. These firms attract better quality and younger workers and replace already employed older workers. So, with functional upgrading existing low skilled workers not only fail to get higher wages but they may also lose their jobs. Functional upgrading at the firm level need not lead to an increase in the wage of low-skilled labour.

Wage increases of the above type are basically for skilled labour in performing tasks with scarce skills. They are unlikely to raise the entire wage structure, rather they are likely to increase the wage differential between the high-skilled and the low-skilled labour.

Raising the Floor

The entire wage structure might rise in a number of conditions. The first condition is when there is an overall shortage of labour, the second is when there is an increase in the reservation wage, the wage at which labour is willing to enter the industrial labour force. The third is when there is an increase in the minimum manufacturing wage in a sufficiently important supplying country. The fourth is that when buyers are willing to pay a premium for consumer-demanded meeting of labour standards, what is also called the market for labour standards (Freeman and Elliott 2003). Research might throw up other situations in which wages can rise in global production. The important thing is that there is a possibility of a struggle within the global labour production systems. The very structure of production does not entirely determine the final result. As argued above, since these are contractual relations the distribution of rents, and following that also wages, down the line can be influenced by various bargaining factors.

The first condition, of an overall shortage of labour, could easily develop in a country with a small labour force, such as South Korea or Taiwan. This is the attainment of the Lewis turning point, with labour having been transferred to industry. But, as the experience of South Korea under military rule itself shows, such a Lewis transition does not automatically result in an increase in wages. In South Korea, despite the condition of a shortage of labour, it required the end of the military-autocratic regime and the strengthening of democratic trade unions before wage increases were instituted. This may be called the Kuznets condition of the necessary institutional structure to bring about an increase in wages and a decrease in inequality.

In countries with a large labour force, such as China or India, the above condition of the Lewis turning point is even more difficult to achieve. But there are signs in China that such a turning point has been reached. Many accounts and government reports point to shortages of labour and not just of skilled labour. And, interestingly, after wages having been kept down for years, there are reports of numerous struggles for higher wages and other related protests.

The other condition of an increase in the reservation wage could come about through an increase in agricultural productivity. Such an increase would raise the wage at which labour would be willing to leave agriculture. This raising of the reservation wage could also be brought about by an employment guarantee, such as India's National Rural Employment Guarantee Act (NREGA).

With the average earnings of rural labour going up by about Rs 5,000 per year, the minimum urban annual wage to make the shift worthwhile would also have to increase by at least this amount. A rural employment guarantee would raise the social minimum, the floor of wage incomes.

But raising the floor of wages even in large countries such as China and India, has inevitable consequences in a world where global production is split by tasks. As wages go up in one location, capital will seek other locations for the low-skilled tasks where wages are still low. Thus, there is a shift of low-skill tasks to interior parts of China and even to Bangladesh, Indonesia and Vietnam. What this shows is that there are limits to which individual countries can raise the floor of wages. Or, if wages were pushed up, then there would have to be some economic upgradation by firms in that country, as in now being attempted by China. And low-skill tasks would then shift to other low-wage locations.

In November 2010, Bangladesh increased the minimum wage by about 40% to Bangladesh taka 3,000 per month, but even after this increase Bangladesh wages of about $45 are the lowest in Asia, much lower than that of the nearest competitors Vietnam and Laos of $84 (ILO 2011). After a long campaign protesting that employers could not afford such an increase in wages, and if implemented, it would seriously affect the competitiveness of Bangladesh in the global garment industry, employers were forced to accept the increase in minimum wages. Profit margins were affected, but as pointed out above, with wages in Bangladesh lower than in, say, Vietnam, Bangladesh firms were already earning an excess over normal profits. Bangladesh garment firms responded to the increase in wages in a number of ways. One was to reduce the percentage differential between wages of skilled and non-skilled, thus minimising the impact on the total wage bill. Some companies also carried out changes on the shop-floor to increase productivity and in logistics to reduce overall costs. A more general response was to increase production to compensate for lower margins. Thus, both the volume of Bangladesh garment exports and investments in adding capacity in the same have continued to increase. With wages in Bangladesh, even after the increase, being almost half that in Vietnam and Laos, it is no wonder that the Bangladesh garment industry continues to expand.

Increasing the Wage Share

Coming back to the distribution of income, through upgrading some rents could accrue to developing country firms. In turn, with an appropriate social action, there could be an increase in wages in the upgraded developing country firms. Such increases, however, are likely to be largely of skilled workers and not of low-skilled workers. Given the current preponderance of low-skilled workers in the labour force of labour-abundant countries, an increase in the wages of low-skilled workers is needed in order to increase the wage share.

With the working out of the Lewisian transfer of labour from agriculture to industry and services, such as seems to be happening in China, there would be definite market pressure to increase wages at the bottom. Interventions such as an employment guarantee or a minimum wage legislation could also increase wages at the bottom and thus raise the wage share. If that were to happen and if there are countries with lower wages, the result would be to force industry in the countries where wages are going up to shift to those countries or locations where they are lower. With such an increase in wages at the bottom in the countries where there is a large labour force, such as China and India, the impact on the distribution of income would be to increase the share of wages and reduce that of profits and rents. The danger, however, lies in the possibly low-skilled labour in these countries not being able to find employment at an effective higher wage, along with the possibility of fiscal problems in maintaining a budget-based higher wage.

An increase in wages at the bottom can be called social upgrading, then this social upgrading is necessary to increase the share of wages in global income. What has been argued in this paper is that this increase in the wage share and thus a reduction in inequality would not come through the spontaneous working of the economic mechanism, whether of market or non-market (bargaining) relations. It will have to be brought about through deliberate social policy of governments and social organisations, such as trade unions.

Can there be globally coordinated action to set a minimum floor wage? Competing through lower wage costs is the manner in which countries new to global production enter it. Given the fact that workers in these countries may be coming from depressed economic conditions and that even low-paid wage work would be an improvement over their existing earnings, it is unlikely that a scheme to set such a global floor wage would be acceptable, or, even if agreed to, would work. Enterprises in countries outside the existing global production networks would try to break in by offering low wages. Historically, this is the manner in which global production spread to new locations, whether China, India or Bangladesh. So long as there are countries or locations where the Lewis transition is still taking place, it is not likely that any attempt at setting global minimum wages would work. Attempts to set such a minimum would be seen as protectionist, as an attempt by the early entrants to retain low-skill work. In the end, a global raising of the wage floor, and thus of the wage share, would have to depend on the working out of the global transition from agriculture to manufacture and services, along with adequate organisational and rights structures.

NOTE

1 A comprehensive introduction to global production networks is Jennifer Bair (2009).

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