Does International Outsourcing (of Activities to Countries Abundant in Unskilled Labour) Play a Significant Role in Increasing the Skilled and Unskilled Wage Inequality in Countries Like the USA and the UK?

- EC367 Term Paper –

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Introduction

Over the past three decades numerous developed nations have experienced a surge in the wage gap between skilled and unskilled labour. Academic debate has focused upon the significance of globalisation (specifically trade with low wage countries) and also technology (skill-biased technical change). Traditionally technology, particularly computers, is considered the fundamental cause of the problem with globalisation's effect being negligible.

Revisionists argue that through globalisation, world trade markets are becoming better integrated and international production networks are increasingly important. Outsourcing is now easier with recent developments in communications and transport technology. As a result firms, from industrialised countries, can increase profits via outsourcing parts of their production process to countries abundant in cheap unskilled labour. This strategy has improved the competitiveness of manufacturing firms within developed countries, with revisionists arguing that this has not been considered in traditional studies regarding trade's effect on wage inequality.

Outsourcing is an ambiguous term, but in the context of this paper it will refer to the contracting out of activities that were previously performed within a production unit to foreign subcontractors. Through an analysis of recent literature and taking into account of both traditionalist and revisionist views, an improved analysis can be made. Section 1 will outline the fundamental theories built upon by academics. In Section 2 the magnitude outsourcings' effect on wage inequality will be assessed in the context of the USA. Section 3 will analyse this effect once again but in the case of the UK. Section 4 will conclude and summarise the analysis. After considering the evidence it is apparent that outsourcing compounded with technology, has a significant effect in increasing the wage inequality between skilled and unskilled labour.

Section 1 – Fundamental Trade Theory

Many studies have been carried out regarding the effect of trade on wage inequality, which has relevance in analysing outsourcing as a cause. Models at the heart of numerous studies are the Hecksher-Ohlin model, the Stolper-Samuelson effect, Specific-Factors and Factor-Price Equalisation which provide an insight into wage inequality.

The Hecksher-Ohlin (H-O) model predicts trade patterns mirror a nation's endowments of factors of production as well as inequality between skilled and unskilled labour. In the case of this paper the model utilises two factors of production, skilled and unskilled labour. Developed nations are abundant in skilled labour and unskilled labour is scarce, developing nations experience the reverse. Therefore a developed nation's comparative advantages lies with skill-intensive products which are inexpensive under autarky, the opposite being true for developing nations. When the nations are opened to trade, each country will export the goods it has a comparative advantage in and import the goods it does not, leading to price rises of the good it exports in the home country (Lawrence, 2008: p. 25-26). For the case of a developed nation therefore, which is abundant in skilled-labour and unskilled-labour is scarce, unskilled-labour suffers on a "sustained basis" (Krugman, Obstfeld, 2009: p. 68).

The Stolper-Samuelson effect builds upon these price changes outlined in the H-O model, linking them to wages when using skilled and unskilled labour as two factors of production. The theory ultimately suggests that protectionism "unambiguously raises real wages" and the inequality gap increases (Lawrence, 2008: p. 26). The mechanism being, that when the price of a good increases, it elevates the return to the factor of production used comparatively intensively and lowers the return to the factor of production used less. In the context of a developed nation therefore, upon opening up to trade, skilled-labour-intensive goods will undergo a price rise and increase the wages of skilled-labour but reduce unskilled-labour wages (Lawrence, 2008: p. 26).

In the context of outsourcing therefore, a developed nation exports unskilled-labour-intensive stages of production to developing countries where unskilled wages are low, which lowers unskilled wages in developed countries yet raising their wages in developing countries. However this theory is founded on the assumption that the factors of production are completely mobile, implying that the wage rates of similarly skilled workers are the same in the long run. Furthermore the consequences of opening up to trade would be felt throughout the entire economy, even in the sectors that may not trade (Lawrence, 2008: p. 26). As a result if the Stolper-Samuelson effect functions in reality then there would be increased inequality between skilled and unskilled labour.

Expanding upon the perfectly mobile labour assumption, the specific-factors model relies upon this to justify a link between trade and factor returns, with specific factors that export (skilled labour) benefiting and those in import competing sectors (unskilled labour) loosing. This theory was popular in explaining US wage inequality during the 1980s but when applied to the modern day it does not provide a satisfying correlation between trade and wage inequality (Lawrence 2008: p. 27).

Factor-Price Equalisation implies that factor prices tend to equalise when nations are opened to trade. The mechanism functions on the principle that when nations open to trade and directly exchanging goods and services, they are also indirectly trading factors of production. The model assumes that both countries both produce goods they trade, technological levels are the same and trade equalises prices in both countries. In reality this is untrue e.g. prices cannot converge due to barriers to trade such as tariffs and restrictions (Krugman, 2009: p. 68-70). Therefore this model demonstrates that, providing prices do not converge, outsourcing is a profitable strategy and allows firms to take advantage of low wage rates outside of their home nation.

It has been shown that there is considerable literature regarding trade as a general factor in effecting wage inequality negatively. However, few have accounted for outsourcing within trade nor analyse its effects independently.

Section 2 – The Case of the USA

An important study by Feenstra and Hanson (1995) constructed a model very similar to the H-O model, but instead consists of a single manufactured good, produced from an exhaustive amount of intermediate inputs that are produced through skilled labour, unskilled labour and capital. What made this study initially unique, when compared to similar studies regarding US wage inequality, was their definition of outsourcing.

Under the umbrella of outsourcing they not only included imports by US multinationals but also intermediate and final goods that were imported and used in the "American firm" production process. Their analysis showed that outsourcing increased the relative demand for skilled labour in both the US and the developing South. Furthermore the rising import share during 1979-87 explains 15-33% of the shift towards skilled labour in the US manufacturing sector. They also analysed data to test for the Stolper-

Samuelson effect finding that commodity price movements are consistent with factor price changes which reinforces the view that trade, and thus outsourcing, is crucial in understanding US wage inequality (Feenstra and Hanson, 1995: p. 3-4).

Feenstra and Hanson (1996) expand upon their previous study to incorporate the period 1972-1990 and they find 31-51% of the increase in relative demand for skilled labour can be a result of outsourcing within US manufacturing industries (Feenstra and Hanson, 1996: p. *abstract*). This is the result of outsourcing shifting the production of intermediate goods from the North to the South which enlarges the wage gap in both regions. This is criticised however by Bin (2000) who explains that the positive relationship between outsourcing and wage inequality can be shown in cases such as Mexico after 1985, but cannot explain observed negative relationships in other countries. Furthermore Bin (2000) justifies the reason for Feenstra-Hanson's model not explaining a possible negative relationship is its' "lack of sectoral dimensions" (Bin, 2000: p. 2).

Bin (2000) constructs an identical model to that of Feenstra and Hanson (1996) but with two manufacturing goods produced from a continuum of intermediate goods. Through an examination of a trade equilibrium from the North and South, where the North outsources to the South via foreign direct investment (FDI), he concludes international outsourcing does not necessarily lead to a skill-biased labour demand shift in neither nations involved. Thus the relationship between outsourcing and wage inequality can be positive or negative, with Bin (2000) further adding that sectoral differences in FDI barriers being key in determining the bias of labour demand shifts.

Expanding upon FDI, Sayek and Sener (2001) developed a dynamic North-South model that incorporates the mechanics of technological progress and outsourcing. They model outsourcing as a process that is founded from technological differences between the North and South where FDI is a form of outsourcing to the South. Their findings show that understanding the factors that stimulate FDI is integral to understanding wage patterns. Technology-driven FDI and policy-initiated FDI can have varying effects on the wage gap between skilled and unskilled labour. For instance if an FDI increase is driven by improvements in the technology of international outsourcing, the effects on wage inequality in both countries is dependent on the parameters within the model. In contrast if an FDI increase is developed via policy (taxes/subsidies), the wages of skilled labour increases and widens the wage gap.

Academics seeking to place outsourcing as an important factor increasing wage inequality, often credit outsourcing activities with being driven by improvements in technology. Sayek and Sener (2001) downplay the role of these technological developments, showing that policy decisions can affect FDI (outsourcing) to a greater extent in widening the wage gap between skilled and unskilled labour.

Feenstra and Hanson (1998) utilised data for the US during the period 1979-90 and estimate the relative effects of trade (foreign outsourcing) versus technology (high-technology capital expenditure) where technological change influences produce prices. They implement structural variables into a price regression that is formed as an identity, firstly as a linear specification and then introducing interaction terms with factor quantities. Their results show that foreign outsourcing combined with expenditure on high-technology capital has played a role in increasing the wages of skilled labour and thus increasing inequality. However the effect of outsourcing in increasing the wages of skilled labour is less under both specifications when compared to high-technology expenditure.

Section 3 – The Case of the UK

Anderton and Brenton (1999) conducted a study to understand the effect of outsourcing on the fortunes of the unskilled, utilising data from the UK textiles and non-electrical machinery industries during 1970-86. Unlike many US studies that use aggregate imports as a proxy for outsourcing, they differentiate imports from developed countries and those from developing countries (Anderton and Brenton, 1999: p. 268). Their findings illustrate that imports from low-wage countries have played a critical role in the decline of the wage-bill share of the unskilled in the UK. Furthermore, disaggregating imports to identity low-wage sources of supply is essential for accurately identifying outsourcing activities. They also highlight that outsourcing differs between industries and that large currency appreciations may have disproportionately impacted the unskilled via the potential threat of outsourcing. (Anderton and Brenton, 1999: p. 267).

Hijzen, Gorg and Hine (2005) provide a study examining the effect of international outsourcing on the demand for skilled labour in the UK, concerning UK manufacturing industries during 1982-96. Furthermore they build upon the approach of Anderton and Brenton (1999) through computing international outsourcing via input-use matrices of input-out tables, as opposed to aggregate import data (Hijzen, Gorg and Hine, 2005: p. 861-862). They estimate the relative demand functions of skilled labour in a similar way to Feenstra and Hanson (2006), but improve it through incorporating a system of four variable factor demands. Their results show that outsourcing has had a "strong negative impact on the demand for unskilled labour", and thus the wages of the unskilled also (Hijzen, Gorg and Hine, 2005: p. 860).

In a more recent study Hijzen (2007) analyses the impact of international outsourcing on UK wage inequality in manufacturing during 1993-98, utilising the mandated wage approach proposed by Feenstra and Hanson in the context of the US. Importantly within this paper, Hijzen addresses the comparative significance of factor and sector bias regarding skill-biased technical change and outsourcing. Hijzen's analysis indicates technological change is what mostly drives increases in wage inequality, with international outsourcing also playing an integral role.

Contrary to much of the literature regarding the effect of international outsourcing on wage inequality, Canals (2007) argues quite the opposite in the context of the UK during 1992-2004. Canals uses data at a highly disaggregated level, involving 119 industries spanning across manufacturing, mining, services and agriculture. Canals finds that the magnitude of UK firms outsourcing has fallen and that the composition has changed, with more outsourcing services as opposed to goods. Canals (2007) concludes that the wage gap was in no way to do with outsourcing and in fact the gap would have been some 37% larger in the absence of outsourcing (Canals, 2007: p. 3). Notably the effect of outsourcing may depend upon its composition e.g. the outsourcing of goods is most likely to affect the wages of the unskilled. Therefore external factors, which effect the composition of outsourcing, must be the reason behind generating increases in the wage gap. Canals (2007) provides some examples such as an increase of unskilled workers through immigration acting as a substitute for outsourcing. Yet Canals (2007) gives credit to the hypothesis that skill-biased technical change may have increased the relative of demand of skilled labour leading to an increase in their wages.

Section 4 – Conclusion

In section 1 of this paper it was shown that fundamental trade theory provides an insight into trade's effect on wage inequality, with the unskilled often suffering in developed countries and also that outsourcing can be a profitable strategy. Section 2 demonstrated that international outsourcing played a significant role in increasing wage inequality in the US, which could be dependent upon the extent to which outsourcing was policy or technologically driven, with the possibility that international outsourcing could potentially improve wage inequality. Finally in section 3, in the case of the UK, it was shown that through improvements in measuring international outsourcing it still had an effect in increasing wage inequality but was dwarfed by the effect of technological change. Furthermore there is still some evidence pointing towards international outsourcing having very little to do with wage inequality and that it improved the wage gap.

In light of the evidence outlined in this paper, it is apparent that international outsourcing has played a significant role in increasing wage inequality between skilled and unskilled labour. This has been a result of improvements in technology and government policy which has facilitated outsourcing. Generally, the literature analysed that has examined the effect of international outsourcing specifically, has concluded international outsourcing increases wage inequality however there is still debate amongst the exact magnitude.

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