

THE IMPACT OF INTERNATIONAL TRADE ON INCOME INEQUALITY

Akbarova Mohinur Farxod qizi

Third year student of Tashkent State University of Economics,

Faculty of «Business Administration»

E-mail: mohinurakbarova10@gmail.com

Abstract

We present a concise hypothesis that demonstrates the process by which international trade leads to the division of wages and employment into distinct groups. We are examining two countries where individuals with varying skills are employed either as knowledge workers, who create specialised products, or as production workers, who are involved in manufacturing. Under conditions of balance, enterprises that are initially equal in terms of their characteristics attract people with varying levels of expertise, resulting in differences in product quality among firms. Market integration has a more positive impact on companies who manufacture products of superior quality. The prevailing pattern of product markets where only the winners succeed intensifies competition for skilled individuals, hence worsening income disparity within nations and resulting in a division of the labour market.

Key words

Job polarisation, wage polarisation, middle-income class, globalisation, business heterogeneity.

There is a widespread acknowledgement that income inequality has experienced a substantial rise in numerous nations (e.g., Blau and Kahn, 1996; Card et al., 2013; and Goldberg and Pavcnik, 2007). In the United Kingdom, specifically, top executives can anticipate receiving an average remuneration over £4.5 million (\$6.9 million) this year. Compensation at the highest level experienced a growth rate of more than 300% from 1998 to 2010. Simultaneously, the real wage of the average British worker has remained relatively unchanged. The data indicates that the proportion of executive to average compensation at FTSE 100 companies increased from 47 to 120 times over a span of 12 years.

Extensive evidence shows that job polarisation has taken place in several advanced nations, including the United States and certain European countries. This means that the proportion of jobs requiring high skills and low skills has increased, while the proportion of middle-wage jobs has decreased. This polarisation is also reflected in earnings, with a divergence between high and low earners. These findings have been documented by Autor et al. (2008) and Acemoglu and Autor (2011). Income inequality has been attributed to outsourcing, skill-biased technology progress, and the lack of strong labour unions. Autor et al. (2003) contend that computers supplant workers in carrying out cognitive and routine physical tasks, while simultaneously enhancing workers' abilities in executing nonroutine tasks. The phenomenon of routine-biased technological development is well recognised as a contributing factor to employment polarisation, as discussed by Autor et al. (2006, 2008). The significance of globalisation cannot be overstated in relation to employment polarisation and economic inequality within countries. Keller and Utar (2016) state that import competition, particularly from China, is a significant driver of job polarisation in Denmark. Job polarisation refers to the phenomenon where employment shifts from mid-wage manufacturing to low-wage services and high-wage jobs. The researchers determine that the growth in income disparity between 1999 and 2009 may be attributed to around 16% of rising import competition. This is mostly due to changes in employment, including both upward and downward shifts from mid-pay jobs, rather than

the observed wage polarisation. Moreover, they discover compelling evidence that the introduction of import competition leads to a decrease in occupations with moderate wages, accompanied by an increase in both high-wage and low-wage positions. In contrast, neither offshore nor technological advancements can account for the growth of high-wage and low-wage jobs, respectively. Both exporting and importing can contribute to economic disparity. Bernard and Jensen (1997) discovered that the disparity in wages between non-production and production workers grew over the 1980s, with exporting plants playing a significant role in this shift. Baumgarten (2013) and Danziger (2017) have also observed that the pay premium in exporting establishments is greater than in domestic ones. Regarding the overall influence of globalisation, studies by Autor and Dorn (2013), Goos et al. (2009, 2014), and Michaels et al. (2014) indicate that trade openness and offshore have had a role in increasing income inequality, although to a lesser extent than technology advancements that favour certain types of jobs. The labour market is significantly influenced by international trade in goods, which in turn has a substantial impact on sectors. The user's text is enclosed in tags. This study presents a concise theory that demonstrates how the increasing international trade in goods worsens income inequality within a country and leads to job polarisation. Specifically, the model explains that the real incomes of both the highest and lowest income earners increase, while those of the middle-income class decrease. The user's text is "[2]". The ICT revolution has greatly facilitated consumers' access to comprehensive product information and enabled them to easily compare similar products. Even a slight variation in product quality can have a significant impact on the profitability of enterprises within industries. Companies that offer high-quality items tend to have a disproportionately big share of the market. However, the current trend of product markets where only one victor emerges creates intense competition for highly skilled individuals, as the quality of a product is determined by the expertise of knowledge workers, such as managers and research and development personnel. As a result, knowledge workers in successful companies receive a disproportionately high pay as compensation for their skills. This influence is magnified by a higher opportunity for international trade. The ICT revolution has mostly led to a fall in trade costs, including marketing and other expenses in foreign countries, resulting in a significant growth in the volume of global trade. The expansion of global trade inherently amplifies disparities in profitability across companies within industries, hence exacerbating income inequality both between and within various skill groups. In order to demonstrate this occurrence, we construct a modified version of Lucas's (1978) model that includes two countries. In this model, companies in a representative differentiated-good (manufacturing) sector, which are initially equal in terms of their characteristics, employ knowledge workers with varying levels of expertise. As a result, they produce goods with various qualities. Companies also employ production personnel to manufacture their goods. When hiring production workers, we make the assumption that they are homogeneous in terms of their productivities, even if there may be variations in their skills. During a state of balance, knowledge workers are allocated to various firms based on their individual talents. Firms that recruit a team of highly skilled knowledge workers are able to generate products of superior quality, whilst those that employ average knowledge workers make products of inferior quality. The salary disparity can occur between knowledge workers and production workers inside a company, which is especially significant for lucrative enterprises that manufacture high-quality products. The impact of international trade on enterprises' profitability varies. The winners of globalisation are top-tier enterprises that manufacture superior products, as they gain significant advantages from accessing new markets. Conversely, medium-tier and lowest-tier enterprises suffer negative consequences as a result of globalisation. They are adversely affected by the entry of high-ranking international companies into their domestic market. While medium-tier enterprises may export their products to both foreign and local markets, the increased earnings gained from exports, after

deducting fixed export expenses, are insufficient to compensate for the losses incurred in their domestic market. Due to the heightened competition in the home market, the least competitive enterprises are compelled to withdraw. Hence, the highest-earning individuals who possess exceptional skills and are employed by leading exporting companies reap the advantages of trade liberalisation; they emerge as the beneficiaries of globalisation. In contrast, middle-income people employed as knowledge workers in mid-level and low-level companies are likely to have negative consequences as a result of trade liberalisation. Their incomes decrease as a result of the decline in profitability for the companies they work for following trade liberalisation. Workers with moderate skills may transition from the pool of knowledge workers to the pool of production workers, resulting in reduced wages, as less competitive enterprises leave the market. Despite the potential increase in product variety and consumption options resulting from trade liberalisation, our analysis demonstrates that the real earnings of the middle-income class unequivocally decrease when opening up to trade, given certain conditions. Workers in the middle-income level are the sole recipients of negative consequences resulting from trade liberalisation. Opening the country to commerce leads to an increase in the real earnings of the least skilled people, namely those working in production. This is due to the greater availability of different goods and services for consumption. As a result of globalisation, we can expect that the salary gap between knowledge workers and production workers will increase in top-tier organisations, while it will decrease in other firms. This prediction can be tested. Verhoogen (2008) provides empirical support that aligns with this forecast. The author records that the devaluation of the exchange rate during the peso crisis of 1993-1997 prompted more efficient Mexican factories to boost their exports and increase wages, particularly for employees in white-collar positions. During this stage, there is an increase in the wage gap between white-collar and blue-collar workers within firms that are more productive. This indicates that exporting encourages firms to improve the quality of their products and disproportionately reward white-collar workers. Friedrich (2015) also discovers evidence from Danish data that trade stimulates exporting companies to augment sales, include more levels of hierarchy, and intensify wage disparity inside those companies. In addition, he records that even when accounting for the number of hierarchical levels, an escalation in sales results in an expansion in salary inequality within the organisation. In addition to providing the major results of our research in the baseline model with two symmetric countries, we also expand the model in Section V to include the scenario when countries have different population sizes and ability distributions. Our numerical models reveal that international trade intensifies economic disparity inside nations. In the context of population asymmetry, income inequality is higher in the smaller country in the trade equilibrium. Conversely, in the context of ability-distribution asymmetry, income inequality is higher in the talent-abundant country. In the online appendix, we perform a straightforward empirical analysis and observe from the data for the OECD countries during the period of 1979-2014 that, according to the information presented in column (4) of the appendix table (which incorporates fixed effects for both country and year), trade has a positive impact on income inequality. However, this impact is relatively smaller in larger countries, which aligns with the predictions of the model. Nevertheless, these impacts do not demonstrate statistical significance. The user's text is enclosed in tags. Undoubtedly, we are not the pioneers in theoretically forecasting that international commerce exacerbates the wage disparity across various income brackets. Blanchard and Willmann (2016), Costinot and Vogel (2010), Helpman et al. (2010a,b), Helpman et al. (2016), Manasse and Turrini (2001), Sampson (2014), and Yeaple (2005) and other researchers demonstrate in their models that international trade in products increases wage inequality inside countries. The user's text is "[4]". Out of all the research mentioned, the ones by Manasse and Turrini (2001) and Yeaple (2005) are the most similar to our paper. Manasse and Turrini (2001) utilise a comparable fundamental model

structure to ours. They demonstrate that enterprises, which are initially equal in terms of their characteristics, create products of varying grades due to the fact that they are managed by entrepreneurs with diverse skills. The findings demonstrate that skill earnings in non-exporting enterprises are diminished compared to those in exporting firms due to increased trade integration. According to their analysis, the number of skilled workers, who are also entrepreneurs, is fixed and does not change when trade is opened up. This number is equal to the number of enterprises in the differentiated-good industry. Therefore, they are unable to assess the impact of trade liberalisation on the occupational choices of individual workers, particularly when trade leads to the elimination of struggling enterprises from the market. The impact of trade liberalisation on wage distribution within countries is a significant factor to consider. This is because globalisation strengthens the winner-take-all trend in product markets, leading to a decrease in the number of firms in each industry and a reduction in the number of jobs for knowledge workers in the middle-income class. Furthermore, their model fails to demonstrate any negative impact of international trade on the middle-income class. Yeaple (2005) makes similar predictions to ours in a comparable model setting. In his concept, enterprises have the autonomy to select both their own production methods and the categories of workers they employ. An notable characteristic of his approach is the interdependence between the technology and skills of labour; advanced technology that yields high productivity is paired with workers who possess high levels of skill. He demonstrates that a fall in trade costs can lead to a decline in the real salary of workers with middling skills, among other effects. In our model, the only factor that causes variation among firms is the average talent of knowledge workers, which is determined internally. However, a key distinction between our model and the one proposed by the author is that we divide labour into two categories that are allocated internally: knowledge workers and production workers. This differentiation is crucial to our analysis. Initially, let us examine the distinct impacts of trade on employees within companies, which constitutes an additional significant disparity in wages, alongside the wage difference within industries and vocations. Furthermore, we can demonstrate that, given the moderate requirement regarding the elasticity of substitution, the actual incomes unequivocally decrease due to globalisation for certain individuals in the middle-income category. This occurs because these individuals transition from being knowledge workers to becoming production workers following the liberalisation of trade. Furthermore, it is crucial to recognise the significance of differentiating knowledge workers from production workers when analysing the impact of globalisation on the labour market. Knowledge can be integrated into products, enabling unlimited replication through the use of capital and production labour. This capability empowers enterprises to potentially amass significant wealth in the global market. Globalisation does not inherently lead to a higher demand for personnel with specialised knowledge. (Our model accurately forecasts that globalisation leads to a decline in demand.) It alone amplifies the need for skilled individuals. The knowledge generated by a select group of knowledge workers is incorporated into the goods and disseminated globally. Monte (2011) and Egger and Kreickemeier (2012) further expand Lucas's (1978) model to analyse the influence of international commerce on the distribution of income. Due to their slightly divergent interests, they fail to demonstrate the decrease in the actual salary of the middle-income group resulting from trade. We assert that our model is the most straightforward method for illustrating the negative impact of trade on the middle-income class, while encompassing the crucial elements of globalisation: the winner-take-all market and competition for skilled individuals. Our model, which includes workers' occupational selection, demonstrates that international trade results in labour market polarisation, specifically the transition from a knowledge-worker position to a production job. Additionally, research demonstrates that trade leads to a rise in salary disparities within large exporting companies, but a decrease in wage disparities within smaller companies. Furthermore, the model is expanded to include the scenario of

asymmetric countries in order to demonstrate statistically that trade worsens income disparity, especially in smaller countries.

To analyse the influence of international commerce on income inequality among workers with varying abilities, we have constructed a trade model involving two countries. In this model, the average skill level of knowledge workers impacts the quality of the product produced by the firm. Knowledge workers are allocated to enterprises based on their competencies, resulting in variations in product quality between firms. International trade confers advantages upon firms that manufacture high-quality goods, while simultaneously diminishing the earnings of firms that have limited export activity and those that exclusively cater to their domestic markets. As a result, there is a widening gap in income inequality among knowledge workers, who are the ones entitled to the remaining profits of the firms. International commerce boosts the actual earnings for both high-income individuals and low-income individuals, as they profit from a subsequent decline in the price index. However, it reduces the wages for the middle-income group. The model has been intentionally intended to be as straightforward as possible in order to emphasise the key elements that we believe are responsible for job and wage polarisation in developed nations due to globalisation: the winner-take-all market and the competition for highly skilled individuals. To achieve this goal, we have made several simplifying assumptions. Firstly, we assume that enterprises are obligated to hire a predetermined number of knowledge workers. Secondly, we assume that the productivity of production workers remains constant regardless of their talents. Modifying these assumptions would certainly impact some of our outcomes. Within the online appendix, we have examined a specific scenario where the productivity of manufacturing workers is influenced by their individual abilities. In these instances, salary disparity inevitably emerges both among production workers and knowledge workers. Our research has demonstrated that our primary assertion, that trade leads to wage polarisation, remains applicable in the expanded model, as long as productivity is only somewhat influenced by ability. If the ability has a substantial impact on their productivity, then trade will be advantageous for everyone, including those in the middle-income bracket. The outcome is unsurprising due to the nearly linear relationship between wage and ability for all workers in such situations. Consequently, the disparity between knowledge workers and production workers is negligible, resulting in a minimal decrease in wages when transitioning from the former to the latter occupation.

Reference List:

1. Acemoglu, D. and Autor, D. H. (2011), Skills, Tasks and Technologies: Implications for Employment and Earnings, in O. Ashenfelter and D. Card (eds.), *Handbook of Labor Economics* 4B, 1043-1171, North Holland, Amsterdam, The Netherlands.
2. Acemoglu, D. and Robinson, J. A. (2006), *Economic Origins of Dictatorship and Democracy*, Cambridge University Press, New York, NY.
3. Atkinson, A. B., Piketty, T., and Saez, E. (2011), Top Incomes in the Long Run of History, *Journal of Economic Literature* 49, 3-71.
4. Autor, D. H. and Dorn, D. (2013), The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market, *American Economic Review* 103, 1553-1597.
5. Autor, D. H., Dorn, D., and Hanson, G. H. (2013), The China Syndrome: Local Labor Market Effects of Import Competition in the United States, *American Economic Review* 103, 2121-2168.
6. Autor, D. H., Dorn, D., Hanson, G. H., and Majlesi, K. (2017), *Importing Political*

7. Polarization? The Electoral Consequences of Rising Trade Exposure, NBER Working Paper 22637.
8. Autor, D. H., Katz, L. F., and, Kearney, M. S. (2006), The Polarization of the U.S.Labor Market, American Economic Review Papers and Proceedings 96, 189-194.
9. Autor, D. H., Katz, L. F., and Kearney, M. S. (2008), Trends in U.S. Wage Inequality: Revising the Revisionists, Review of Economics and Statistics 90, 300-323.
10. Autor, D. H., Levy, F. and Murnane, R. J. (2003), The Skill Content of Recent Technological Change: An Empirical Exploration, Quarterly Journal of Economics 118,1279-1333.
11. Baumgarten, D. (2013), Exporters and the Rise in Wage Inequality: Evidence from German Linked Employer-Employee Data, Journal of International Economics 90, 201217.