

Introduction

The median income in the U.S. today is about \$56K, almost the same as it was in 1995 when the technology industry boomed. Technology has replaced several blue-collar jobs which have forced many workers to switch into jobs where the pay is typically lower. It has also increased the demand for high and low ends jobs while displacing the jobs of the middle class. Several economists project that advancement in technologies will reduce the demand for many clerical and administrative works while increasing the demand for jobs that are not yet automated, such as cleaning and restaurant jobs. For example, truck driving is the most common job in the majority of the U.S. Their income level is \$48-\$72K in average and about one of every 15 workers in the country is employed in the trucking business. However, the introduction of the driverless trucks is expected to automate millions of jobs which will again affect the middle-income families negatively and raise the unemployment rate.

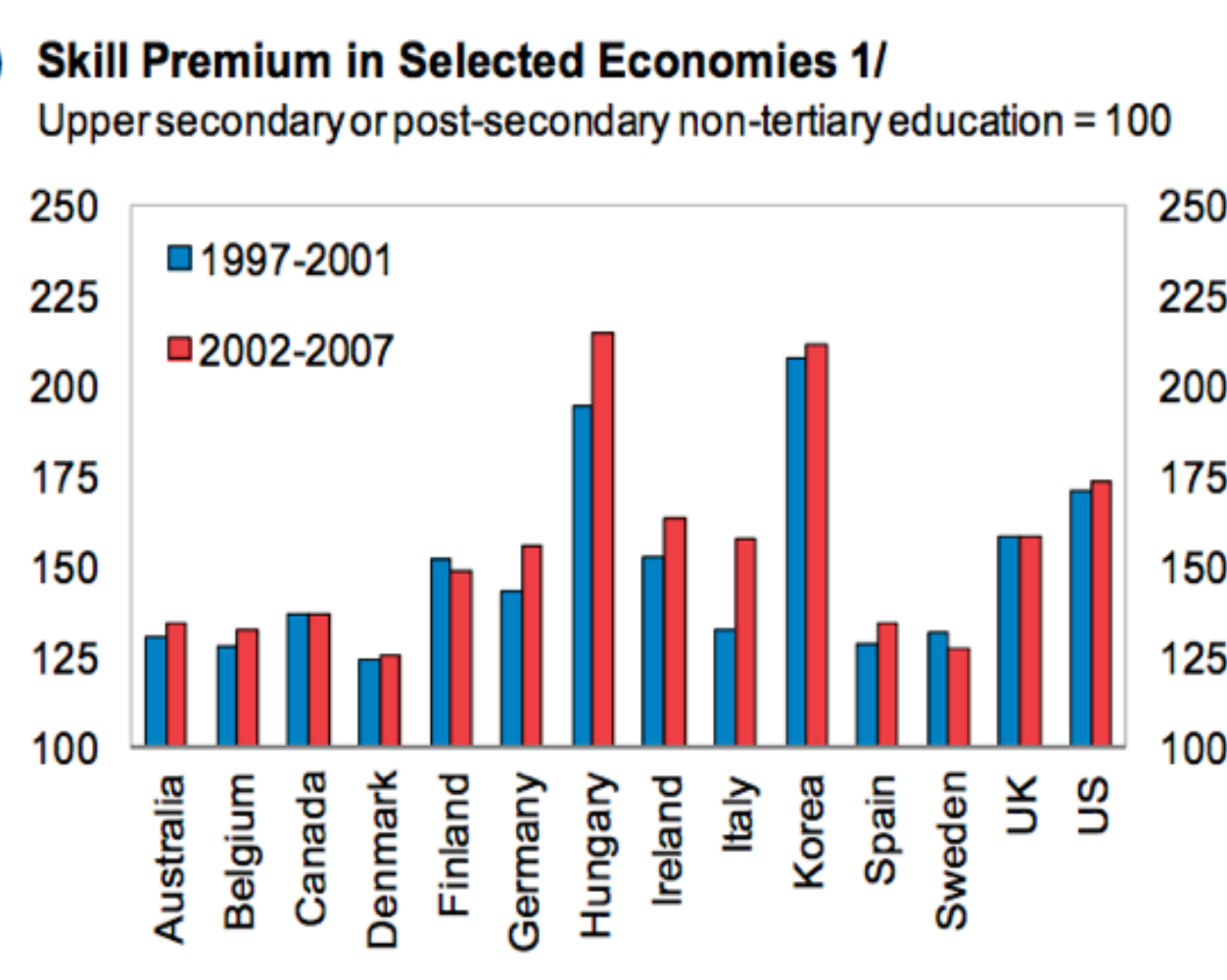
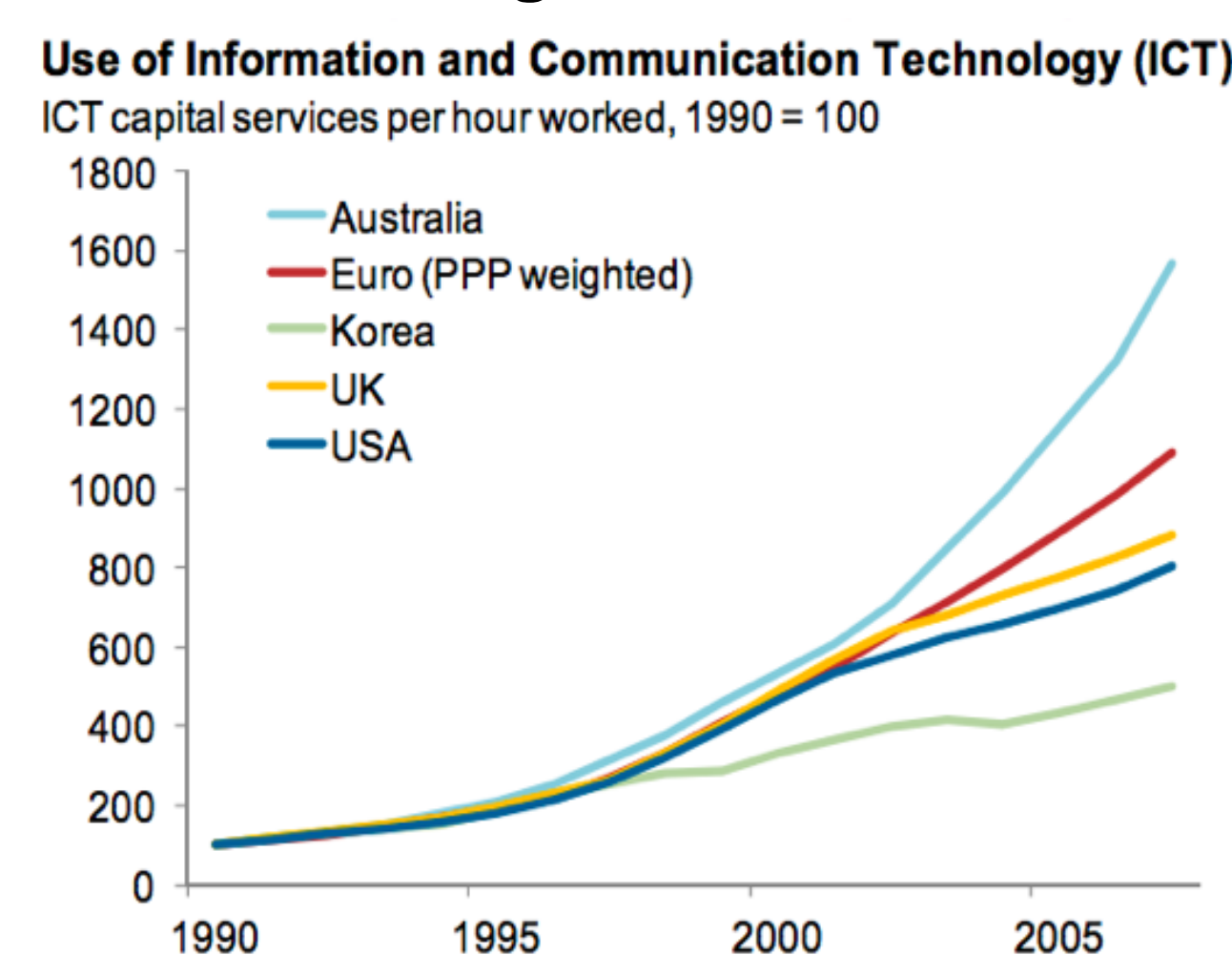
Over the last two decades, technology is considered as one the important factor for accelerated economic growth. However, there are still fierce debates about the distributional income effect of development in automation. The question then arises whether the advancement in technology helps alleviate income inequality or not.

Methods and Materials

I have used statistical tool, eViews, to conduct regression analysis of macroeconomic variables such as San Francisco Tech Pulse and real median household income in the United States. In addition, review of existing analysis of role of technology and macro-economic policies in income equality is used to demonstrate relationship between the variables.

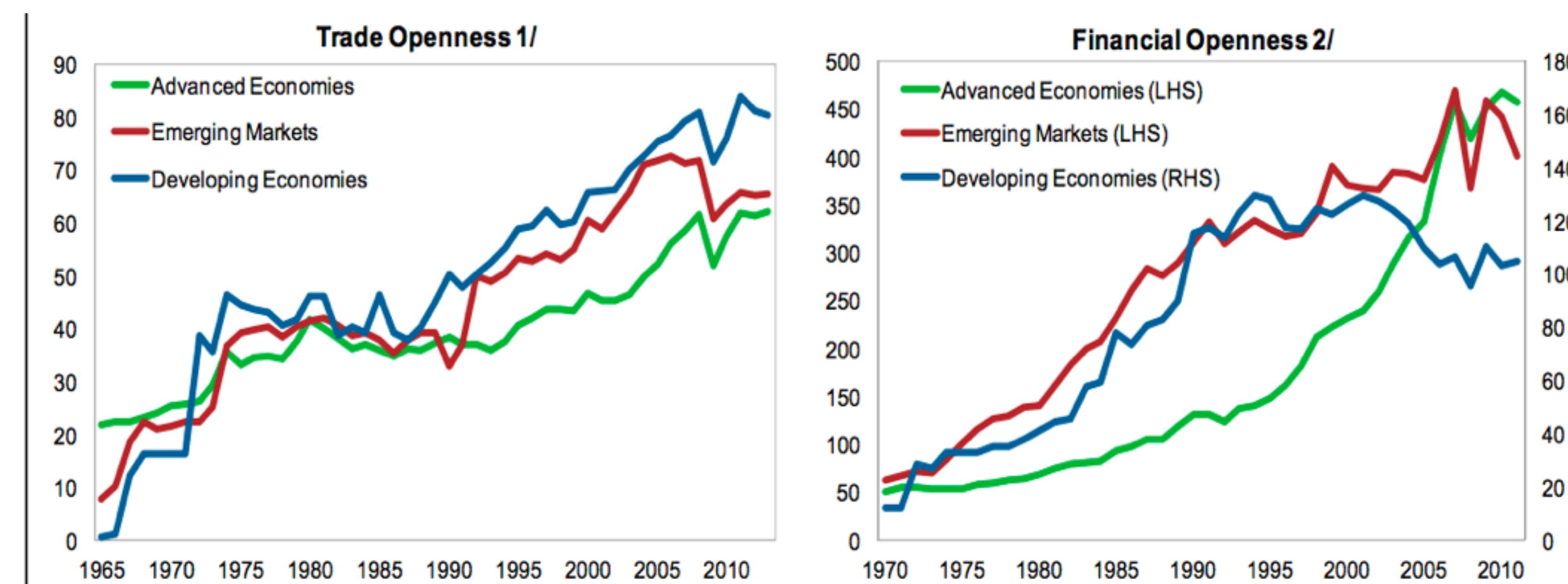
Findings

Technological Process and Skill Premium in OECD Countries



Source: Organisation of Economic Co-operation and Development.

Trade and Financial Openness (Percent of GDP)



Sources: IMF, International Financial Statistics; IMF, World Economic Outlook database; and IMF staff calculations.

Table 1: Most Job Growth between 2014 - 2024

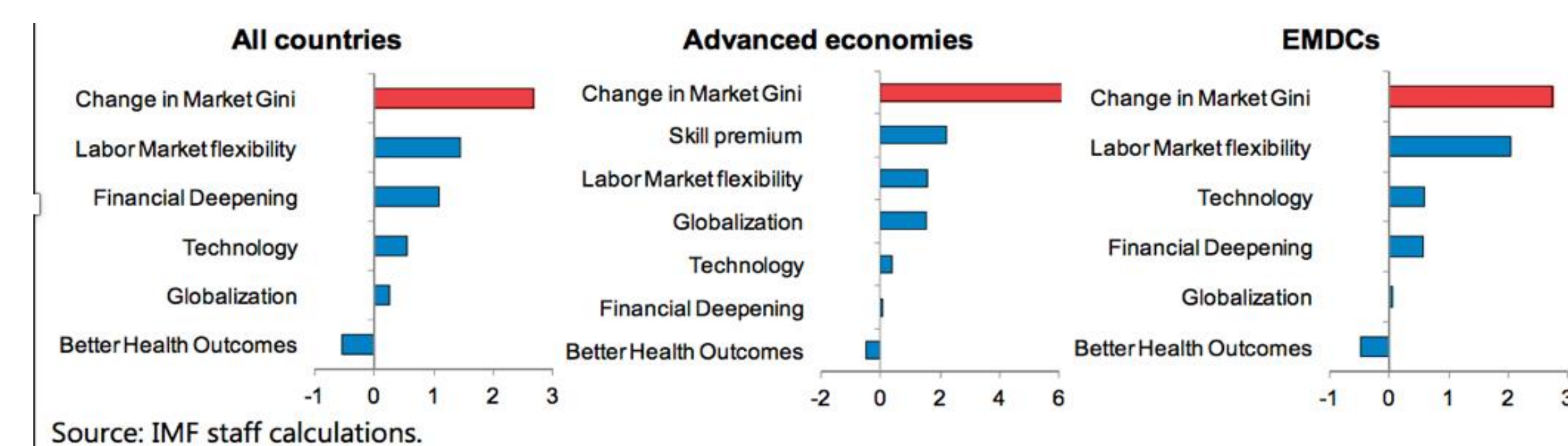
2014 National Employment Matrix title and code	Employment		Change, 2014-24		Median annual wage, 2015 ⁽¹⁾	
	2014	2024	Number	Percent		
Total, all occupations	00-0000	150,539.9	160,328.8	9,788.9	6.5	\$36,200
Personal care aides	39-9021	1,768.4	2,226.5	458.1	25.9	\$20,980
Registered nurses	29-1141	2,751.0	3,190.3	439.3	16.0	\$67,490
Home health aides	31-1011	913.5	1,261.9	348.4	38.1	\$21,920
Combined food preparation and serving workers, including fast food	35-3021	3,159.7	3,503.2	343.5	10.9	\$18,910
Retail salespersons	41-2031	4,624.9	4,939.1	314.2	6.8	\$21,780
Nursing assistants	31-1014	1,492.1	1,754.1	262.0	17.6	\$25,710
Customer service representatives	43-4051	2,581.8	2,834.8	252.9	9.8	\$31,720
Cooks, restaurant	35-2014	1,109.7	1,268.7	158.9	14.3	\$23,100
General and operations managers	11-1021	2,124.1	2,275.2	151.1	7.1	\$97,730
Construction laborers	47-2061	1,159.1	1,306.5	147.4	12.7	\$31,910
Accountants and auditors	13-2011	1,332.7	1,475.1	142.4	10.7	\$67,190
Medical assistants	31-9092	591.3	730.2	138.9	23.5	\$30,590
Janitors and cleaners, except maids and housekeeping cleaners	37-2011	2,360.6	2,496.9	136.3	5.8	\$23,440
Software developers, applications	15-1132	718.4	853.7	135.3	18.8	\$98,260
Laborers and freight, stock, and material movers, hand	53-7062	2,441.3	2,566.4	125.1	5.1	\$25,010

Source: Bureau of Labor Statistics

According to Bureau of Labor Statistics (BLS):

- Out of 30 occupation with the most job growth from 2014 to 2024, only 10 occupations have median annual wage more than \$50K.
- Occupations that have median wage lower than \$50K includes personal care aides, construction laborers, office clerks etc.
- Postal service mail carriers, switchboard operators, and insurance underwriters are expected to decline by 26.2%, 37%, and 11.4% respectively.
- Bookkeeping, accounting, and auditing clerks will face the largest job decline of 148,000 by the end of the year 2024.

Decomposition of the Change in Market (Gross) Income Inequality (Gini points, current versus mid-1980s)



Source: IMF staff calculations.

Discussion

Increased use of Information Technology has helped improve productivity and quality of life. It has also helped strengthen global economy and high volume of trade.

However, it should be realized that advancement in technology plays a key role in driving up skill premium which is the ratio of the wages of skilled to unskilled workers, resulting in increased labor income inequality.

In addition, in advanced economies, the ability of firms to adopt laborsaving technologies and offshoring has been cited as an important driver of the decline in manufacturing and rising skill premium (Feenstra and Hanson 1996, 1999, 2003).

Conclusions

It is evident that technology has contributed to the widening of in income inequality; however, it has also helped us improve the productivity and quality of service provided in different sectors such as health, manufacturing, education and so on.

It should also be realized that benefits of technology are magnificent. Thus, the increase in income inequality created by the technological advancement should be alleviated by improving labor market policies as they have more amplified effect on reducing income inequalities.

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