

MOBILITY AND INEQUALITY TRENDS

This page intentionally left blank

RESEARCH ON ECONOMIC INEQUALITY VOLUME 30

MOBILITY AND INEQUALITY TRENDS

EDITED BY

SANGHAMITRA BANDYOPADHYAY
Queen Mary University of London, UK

And

JUAN GABRIEL RODRÍGUEZ
Universidad Complutense de Madrid, Spain



United Kingdom – North America – Japan
India – Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2023

Editorial matter and selection © 2023 Sanghamitra Bandyopadhyay and
Juan Gabriel Rodriguez.

Individual chapters © 2023 The authors.

Published under exclusive license by Emerald Publishing Limited.

Reprints and permissions service

Contact: permissions@emeraldinsight.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-80382-902-9 (Print)

ISBN: 978-1-80382-901-2 (Online)

ISBN: 978-1-80382-903-6 (Epub)

ISSN: 1049-2585 (Series)



ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.

Certificate Number 1985
ISO 14001



INVESTOR IN PEOPLE

CONTENTS

| | |
|---|-----|
| <i>List of Contributors</i> | vii |
| <i>Introduction</i> <i>Sanghamitra Bandyopadhyay and Juan Gabriel Rodriguez</i> | ix |
| Chapter 1 Explaining Income Inequality Trends: An Integrated Approach <i>Petra Sauer, Narasimha D. Rao and Shonali Pachauri</i> | 1 |
| Chapter 2 On Measuring ‘Good’ and ‘Bad’ Income Inequality <i>Gordon Anderson</i> | 49 |
| Chapter 3 How Much of Intergenerational Immobility Can Be Attributed to Differences in Childhood Circumstances? <i>Rafael Carranza</i> | 65 |
| Chapter 4 Intergenerational Mobility and Life Satisfaction in Spain <i>Amaia Palencia-Esteban and Pedro Salas-Rojo</i> | 109 |
| Chapter 5 ‘Mingling’ the Gini Index and the Mean Income to Rank Countries By Inequality and Social Welfare <i>Ivica Urban</i> | 139 |
| Chapter 6 A Multifaceted Approach to Earnings Mobility Comparisons <i>John A. Bishop, Juan Gabriel Rodríguez and Lester A. Zeager</i> | 165 |
| Chapter 7 On Income Inequality in Urban Areas in China During the Period 2002–2013: Comparing the Case of Urban Locals With That of Rural Migrants <i>Joseph Deutsch, Pundarik Mukhopadhaya, Jacques Silber and Jing Yang</i> | 185 |

| | |
|---|-----|
| Chapter 8 National Versus Regional: Distributional and Poverty Effects of Minimum Income Schemes in Spain <i>Nuria Badenes Plá and Borja Gambau</i> | 219 |
| Chapter 9 COVID-19 Pandemic and Economic Stimulus Policies: Evidence From 156 Economies <i>Xingyuan Yao</i> | 243 |
| <i>Index</i> | 267 |

LIST OF CONTRIBUTORS

| | |
|-------------------------------|---|
| <i>Gordon Anderson</i> | Department of Economics, University of Toronto, Toronto, ON, Canada |
| <i>Nuria Badenes-Plá</i> | Instituto de Estudios Fiscales, Madrid, Spain |
| <i>John A. Bishop</i> | Department of Economics, East Carolina University, Greenville, NC, USA |
| <i>Rafael Carranza</i> | INET and Department of Social Policy and Intervention, University of Oxford, Oxford, UK |
| <i>Joseph Deutsch</i> | Department of Economics, Bar-Ilan University, Ramat-Gan, Israel |
| <i>Borja Gambau</i> | Analistas Financieros Internacionales (AFI) and Universidad Complutense de Madrid, Madrid, Spain |
| <i>Pundarik Mukhopadhaya</i> | Department of Economics, Macquarie University, Sydney, Australia |
| <i>Shonali Pachauri</i> | International Institute for Applied Systems Analysis (IIASA), Vienna, Austria |
| <i>Amaia Palencia-Esteban</i> | ECOBAS, EQUALITAS and Universidade de Vigo, Galicia, Spain |
| <i>Narasimha D. Rao</i> | Yale University, New Haven, CT, USA |
| <i>Juan Gabriel Rodríguez</i> | ICAE, EQUALITAS, CEDESOG and Departamento de Análisis Económico, Universidad Complutense de Madrid, Madrid, Spain |
| <i>Pedro Salas-Rojo</i> | International Inequalities Institute at London School of Economics, ICAE, EQUALITAS. |
| <i>Petra Sauer</i> | Luxembourg Institute of Socio-economic Research (LISER), Luxembourg Income Study (LIS), and Vienna University of Economics and Business, Vienna, Austria |
| <i>Jacques Silber</i> | Department of Economics, Bar-Ilan University, Ramat-Gan, Israel; LISER, Esch-sur-Alzette, Luxembourg; Centro Camilo Dagum, Tuscan Interuniversity Centre, Advanced Statistics for Equitable and Sustainable Development, Tuscany, Italy |

| | |
|-------------------------|---|
| <i>Ivica Urban</i> | Institute of Public Finance, Zagreb, Croatia |
| <i>Jing Yang</i> | Financial College, Jiangxi Normal University, Jiangxi, China |
| <i>Xingyuan Yao</i> | Zhejiang Financial College, Hangzhou, China |
| <i>Lester A. Zeager</i> | Department of Economics, East Carolina University, NC, USA |

INTRODUCTION

Research on Economic Inequality: Mobility and Inequality Trends comprises nine papers that present novel measurement methods and new empirics about inequality, mobility and poverty. The articles in this volume reflect the research that has occupied recent literature on the measurement of inequality and poverty in light of the current unprecedented global shock caused by COVID-19.

The volume begins the discussion with an analysis of trends in income inequality in recent decades around the world. In Chapter 1, Petra Sauer, Narasimha D. Rao and Shonali Pachauri raise the question of what mechanisms underlie the contrasting trends observed in income inequality around the globe. To address this research question, they examine a global sample of 73 countries between 1981 and 2010. Their findings indicate the existence of a small set of systematic factors across the global sample of countries. Declining labour income shares and increasing imports in high-income countries contribute significantly to increasing income inequality, while taxation and imports in low-income countries exert countervailing effects. Their study reveals the region-specific effects of technological change, financial globalisation, domestic financial deepening and public social spending. However, they find no systematic evidence of the equalising effect of education in high- and low-income countries.

In the second chapter, Gordon Anderson provides a thoughtful contribution on the crucial distinction between ‘good’ inequality and ‘bad’ inequality. The author proposes that measured inequality is a combination of both ‘bad’ inequality, that is, detrimental to society, and beneficial and ‘good’ inequality. Some inequalities are socially acceptable to all and necessary for optimal resource allocation and thus beneficial to society. These are thus constituent of ‘good’ inequality. The author explores the distinction between these two types of inequalities by addressing human resources, gender and immigrant status-based personal income differences in twenty-first-century Canada. The paper finds that categorising human resource-based differences as efficiency promoting ‘good’ inequalities and gender and immigrant status-based differences as discriminatory and ‘bad’ reveals that under all proposed measures, while aggregate and ‘good’ inequality grew over the sample period, ‘bad’ inequality diminished, reinforcing the case for inequality measures that are ‘Fit-For-Purpose’.

In Chapter 3, Rafael Carranza focuses on inequality of opportunity, a type of inequality that can be considered within the scheme proposed in the previous chapter as bad. If parental income is the only childhood circumstance, the intergenerational elasticity (IGE) can be interpreted as a measure of inequality of opportunity (IOp). However, parental income is one of many potential circumstances that can shape IOp. The author develops a model to decompose the interaction between childhood circumstances, parental income and offspring income.

Using the Panel Study of Income Dynamics (PSID) for the United States, he finds that childhood circumstances account for 55% of the IGE for individual earnings and 53% for family income, with parental education explaining over a third of those shares. Furthermore, the IGE misses a large part of the influence of circumstances: only 45% of the influence of parental education on the offspring's income goes through parental income (36% for earnings).

In Chapter 4, the authors Amaia Palencia-Esteban and Pedro Salas-Rojo undertake an empirical study of the relationship between life satisfaction and intergenerational mobility in Spain. The authors employ machine learning techniques in an innovative fashion to overcome traditional data limitations to estimate intergenerational income mobility. Thereafter, they use different econometric approaches to observe the relationship between life satisfaction and intergenerational mobility in Spain. Strikingly, the authors find that the relationship between the two entities is statistically not significant. They observe that variables, such as enjoying good health, higher income levels and marriage, are positively associated with life satisfaction. Overall, personal well-being in Spain is found to be more strongly related to material factors than to the amount of intergenerational mobility.

In Chapter 5, Ivica Urban reviews the indicators of social welfare that can be obtained by using the average income of the economy and the Gini coefficient, presenting new indicators of this type. This author argues for the use of intermediate views of inequality and for complementing country inequality rankings with those based on social welfare. To defend his approach, he conducts an empirical analysis for 36 European countries in 2018, using the data on the Gini index and the mean income available in the Eurostat database.

In Chapter 6, using an innovative approach, John A. Bishop, Juan Gabriel Rodríguez and Lester A. Zeager devise the basis for focusing on different facets of income mobility. They take the four classes of mobility measures identified in the literature, positional, directional, mobility as an equaliser of long-run earnings and earnings risk (or flux), and present the advantages of using a multifaceted approach, emphasising the importance of being careful to match the measure used with the concept of interest. They use an empirical application to illustrate the advantages of the multifaceted approach they propose, comparing earnings mobility in the United States and Germany using multiple mobility indices from each of the four classes for three 10-year panels. Their careful analysis illustrates that because of large differences in the German and US labour markets and in other social institutions that influence labour market outcomes, each country dominates in one facet of mobility but not in the others.

In Chapter 7, Joseph Deutsch, Pundarik Mukhopadhaya, Jacques Silber and Jing Yang undertake an intensive exploration of income inequality in China using novel methods. They focus on disparities between- and within-urban locals and rural migrants between 2002 and 2013, using data from the China Household Income Project (CHIP). Their results reveal that inequality (as measured by the Gini) among migrants increased by almost 18% and that of locals by 16%. In addition, they estimate mincerian earning functions and find the important role

of education, occupation and type of job contract in explaining within-group inequality. The authors use the recentred influence function (RIF) and find that short-term contracts, length of employment, in-system ownership, marriage and skill have inequality-enhancing effects for migrants. In addition, the type of contract explains much of the disparities between migrants and urban locals.

In Chapter 8, Nuria Badenes Plá and Borja Gambau investigate the effects of the new policy measure ‘Minimum Vital Income’ (MVI) introduced by the Spanish government to combat the increase in poverty caused by the COVID-19 crisis. The authors test its effectiveness in light of the existing policy guaranteeing a minimum income (Regional Minimum Income (RMI) schemes). Using EUROMOD, they simulate the distributional effects of the introduction of the MVI and find that its introduction would decrease poverty in three dimensions: incidence, intensity and inequality among the poor. Moreover, the negative effects of the elimination of the RMI are offset by the positive effects of the introduction of the MVI in most regions.

In Chapter 9, Xingyuan Yao investigates the impact of the COVID-19 pandemic on economic stimulus policies. Using standard difference-in-differences (DID) and continuous variable DID methods with data from 156 economies, his empirical results show that deaths have a greater impact on economic stimulus policies than confirmed cases and that the cumulative effect is more influential on economic stimulus than the short-term effect. Among additional determinants, the level of economic development is robustly positively correlated with the intensity of economic stimulus, while medical condition is negatively correlated. Population density and the proportion of ageing population are positively correlated with the intensity of fiscal policies. Heterogeneity tests show that while economic policies are more frequently used in developed economies, in developing countries, restrictive measures can substitute for economic stimulus. The results show that the impact of the pandemic may have increased economic inequality to some extent due to the impact of policy capabilities, requiring international coordination and assistance to low- and middle-income countries.

This page intentionally left blank

CHAPTER 1

EXPLAINING INCOME INEQUALITY TRENDS: AN INTEGRATED APPROACH

Petra Sauer, Narasimha D. Rao and Shonali Pachauri

ABSTRACT

In large parts of the world, income inequality has been rising in recent decades. Other regions have experienced declining trends in income inequality. This raises the question of which mechanisms underlie contrasting observed trends in income inequality around the globe. To address this research question in an empirical analysis at the aggregate level, we examine a global sample of 73 countries between 1981 and 2010, studying a broad set of drivers to investigate their interaction and influence on income inequality. Within this broad approach, we are interested in the heterogeneity of income inequality determinants across world regions and along the income distribution. Our findings indicate the existence of a small set of systematic drivers across the global sample of countries. Declining labour income shares and increasing imports from high-income countries significantly contribute to increasing income inequality, while taxation and imports from low-income countries exert counter-vailing effects. Our study reveals the region-specific impacts of technological change, financial globalisation, domestic financial deepening and public social spending. Most importantly, we do not find systematic evidence of education's equalising effect across high- and low-income countries. Our results are largely robust to changing the underlying sources of income Ginis, but looking at different segments of income distribution reveals heterogeneous effects.

Keywords: Income inequality; education; developing countries; world regions; comparative analysis; inequality trends

Mobility and Inequality Trends

Research on Economic Inequality, Volume 30, 1–47

Copyright © 2023 by Petra Sauer, Narasimha D. Rao and Shonali Pachauri

Published under exclusive licence by Emerald Publishing Limited

ISSN: 1049-2585/doi:10.1108/S1049-258520230000030001

INTRODUCTION

In large parts of the industrialised world, income inequality has been rising in recent decades (e.g. [Morelli et al., 2015](#)). Furthermore, the substantial gains of high-income growth rates have not been equally distributed among the population in some emerging economies such as China and India (e.g. Organisation for Economic Co-operation and Development (OECD), 2011). Conversely, many countries in Latin America, which report some of the highest historical inequality levels, have been experiencing declining income inequality trends ([Alvaredo & Gasparini, 2015](#)). This raises the question of which mechanisms underlie contrasting observed trends in income inequality around the globe.

We address this research question with an empirical analysis at the aggregate level, examining a global sample of countries and studying a broad set of drivers to investigate their interaction and influence on income inequality. Within this broad approach, we are interested in the heterogeneity of income inequality determinants across world regions and along the income distribution. We have thus assembled an unbalanced panel dataset gathered from 73 high-, middle- and low-income countries from 1981 to 2010; the dataset combines two variants of income, Gini coefficients and ratios, based on decile income shares with a set of explanatory factors that are derived from existent theoretical contributions and recent empirical findings. These include measures to capture the integrated distributional consequences of technological change, globalisation, financialisation and increasing functional income inequality in conjunction with presumably equalising forces, that is education, labour market institutions and welfare state redistribution.

The empirical literature that investigates the causes of income inequality can be grouped into three categories: studies that concentrate on particular drivers of income inequality, for example, trade (e.g. [Meschi & Vivarelli, 2009](#)) or labour market institutions (e.g. [Checchi & Garcia-Peñalosa, 2010](#)); studies that look at particular groups of countries, for example, OECD economies (e.g. [Roser & Cuaresma, 2016](#)) or Latin American countries (e.g. [Lustig et al., 2013](#)); and studies that investigate a broad set of determinants at the global level (e.g. International Labour Organization (ILO), 2008; [Jaumotte et al., 2013](#)). Our article bridges these strands of the literature. By compiling a dataset of income inequality measures from the World Income Inequality Database (WIID) with particular focus on consistency of income concepts and underlying sources across countries and over time, we aim to update and revise existing empirical findings based on a global sample of countries. However, estimated effects at the global level can mask which mechanisms are at work in generating particular levels and trends of income inequality in different world regions. This is not only suggested by theoretical and empirical evidence on particular determinants (see, e.g., [Goldberg & Pavcnik, 2007](#), for trade; and [Acemoglu, 2003](#), for technology) but also by contributions which show the relevance of the level of development ([Kuznets, 1955](#)) and point the role of institutions (e.g. [Huber et al., 2006](#); [Palma, 2019a, 2019b](#)). To infer region-specific effects, we split the full sample into high-income and developing economies and investigate subsamples of the latter group. Looking at different regional splittings enables us to analyse the relative relevance

of inequality drivers across country groups and to contribute to the understanding of income inequality determinants in the global South. Income inequality trends have also been shown to be driven by movements at different segments of the income distribution across countries. While [Palma \(2011, 2014\)](#) provides evidence on the relevance of the bottom 40% in conjunction with the top 10%, a large body of the recent literature points to the importance of movements at the very top ([Leigh, 2015](#); [Piketty & Saez, 2013](#)). Besides the income Gini, we thus consider inequality measures which capture inequality at the top, the bottom and between the extremes. Finally, we strive to model the education–inequality nexus and thereby add to the concerning more specific literature. Among others, [Castelló-Climent and Doménech \(2014\)](#) have identified the ‘puzzle’ that educational attainment has been increasing around the globe over recent decades, and the distribution of education has become more equal; however, there has been no effect, not even adverse, on income inequality. By accounting for the distributional dimension of education, separating the effects of different education levels and accounting for public education spending, we examine the possibility of finding the theoretically predicted negative relation between education and income inequality after controlling for confounding factors.

Our findings indicate the existence of a small set of systematic drivers across the global sample of countries. Accordingly, declining labour income shares and increasing imports from high-income countries significantly contribute to increasing income inequality, while imports from low-income countries and taxation exert countervailing effects. However, the majority of determinants differs across high-, middle- and low-income countries. Our study reveals the region-specific impacts of technological change, financial globalisation, domestic financial deepening and social policy on income inequality. While technological change exerts a direct equalising impact only in high-income countries, and only until the 1990s, foreign direct investment (FDI) inflows and public debt are particularly relevant to explain income inequality in low-income and Latin American countries. Moreover, public spending on health is equalising in middle- and low-income economies, whereas social protection spending, on the other hand, is regressive. Most importantly, we do not find systematic evidence of education’s equalising effect across high- and low-income countries. To a large extent, our results are robust to changing the underlying sources of income Ginis, but looking at different segments of income distribution reveals heterogeneous effects.

The rest of this article is organised as follows: In the first section, we review the theoretical and empirical literature and describe how existing knowledge motivates our analysis. We then introduce our income inequality measures and data sources and discuss descriptive trends of income inequality and its explanatory factors. After justifying our estimation method, we present our empirical results. Finally, we draw conclusions and provide suggestions for further analysis.

WHAT WE KNOW: THEORY AND EMPIRICAL EVIDENCE

The degree of (in)equality in a country’s income distribution is a function of the shares of total income from labour and capital (functional income distribution)

and their respective distributions among people (personal income distribution). The distribution of capital income results from the underlying wealth distribution and the returns derived therefrom. The distribution of labour income depends on the forces of supply and demand and on the relative bargaining power of agents, which is, among other things, shaped by labour market institutions. Beyond that, governments mitigate market risks and essentially play an extensive redistributive role. In this section, we summarise the theoretical mechanisms through which technological change, globalisation, financialisation, education, labour market institutions, taxation and public social spending affect income inequality and discuss the relation between functional and personal income distribution. Due to our interest in explaining diverging outcomes across world regions, we also discuss how the concerning literature gives attention to the particularity of mechanisms in the global South.

Technological Change

Conventionally, analyses of the distributional consequences of technological change have focused on its impact on the earnings distribution. According to the hypothesis that technology is skill biased (e.g. [Acemoglu, 2002](#)), new technologies that require high skills increase the relative productivity of high-skilled workers and cause the replacement of low-skilled labour. The resulting rise in relative demand puts a premium on high-skilled wages and increases wage inequality. Most literature studying technology-induced skill premiums focuses on high-income countries. However, models that account for the interaction between technology and trade suggest that the inequality increasing effect holds true for low-income countries as well (see the discussion in the subsequent section). For example, [Acemoglu \(2003\)](#) provides a theoretical framework suggesting that skill premiums arise not only in the United States but also in least developed countries (LDCs), where technological adoption and imitation is promoted via trade.

More recently, other dimensions of income distribution gained attention in theoretical and empirical literature. Most importantly, analyses that aim to explain the decline in the labour share since the 1980s also consider technological change to be a decisive factor. According to [Karabarbounis and Neiman \(2014\)](#), progress in information and communication technology (ICT) has significantly reduced the relative prices of investment goods, which has increased the capital intensity of production. As a consequence, the bargaining power of corporations increases relative to their labour force, enabling them to absorb rents ([Atkinson, 2015](#), Chapter 3; [Zilian et al., 2016](#)). Moreover, production and demand economies of scale in ICT-intensive branches have been shown to result in highly concentrated markets with ‘winner-takes-all’ structures ([Autor et al., 2017a, 2017b](#)). Thus, technological change also alters the distribution of profits and capital income. Beyond that, [Kim and Brynjolfsson \(2009\)](#) present evidence indicating that companies’ information technology (IT) intensity helps explain increasing remuneration of top executives, thereby contributing to rising inequality at the top of the earnings distribution. Finally, in their literature survey, [Tyson and Spence \(2017\)](#) highlight the central role of ICT in the global integration of markets for goods, services and

investment and in the expansion of the financial sector, the distributional consequences of which are discussed in the following sections.

Globalisation

Globalisation is a multidimensional phenomenon including trade in goods and services, cross-border investment and international financial flows.

The characterisation of trade effects has long been dominated by the Heckscher–Ohlin model and its corollary, the Stolper–Samuelson theorem (SST) (Stolper & Samuelson, 1941). The theorem posits that countries specialise in the factor of production they are relatively abundant in. Accordingly, high-income countries export capital- and skill-intensive goods and import low-skilled, labour-intensive goods from low-income countries. The latter reduces relative prices and wages in import-competing sectors, thereby increasing inequality between labour and capital income and between low- and high-skilled workers. Conversely, the import-induced relative reduction of prices and wages in capital- and skill-intensive sectors of low-income countries is predicted to reduce income inequality. The findings of Roser and Cuaresma (2016) support SST as they identify non-oil imports from less-developed countries to be a robust driver of increasing income inequality in OECD countries.

The comparative-advantage framework has been criticised for its inability to explain both the inequality effects of intra-industry trade between similar economies and the observed increase in income inequality in most middle- and low-income countries. For example, Meschi and Vivarelli (2009) find that imports from, as well as exports to, high-income countries increase income inequality, especially in middle-income countries. Two strands of the literature fill these gaps with particular relevance. First, theories that account for firm heterogeneity show that exporting firms are more productive and pay higher wages than average firms (see, e.g., Melitz, 2003; Verhoogen, 2008). Second, theories that account for technology indicate that trade liberalisation can provide incentives for innovative activities in exporting sectors (Melitz, 2003) and/or facilitate technological diffusion via technologies embedded in imported capital goods (Acemoglu, 2003).¹ Hence, skill premiums possibly emerge in both high- and low-income countries due to export and import flows from their respective economies. Theories that address the increasing relevance of FDI and outsourcing follow a similar line of argument, indicating that the required skill level of workers in those segments which move from high- to low-income countries is usually higher than the average skill level in receiving economies (Goldberg & Pavcnik, 2007). FDI inflows should therefore increase the dispersion of wages in developing countries. In contrast, if capital flowing out of high-income countries requires a lower skill level of workers than their average, FDI outflows contribute to increasing inequality in these economies. Jaumotte et al. (2013) thus argue that FDI outflows are closely associated with offshore outsourcing and, as such, are an important measure for analysing the impact of globalisation on inequality in industrialised countries. Jaumotte et al. (2013) investigate the effects of financial integration and show the strongest inequality-increasing effect of globalisation to result from inward FDI.

Explanations that go beyond the impact of market forces on the distribution of earnings have also proven to be relevant to understanding the relation between globalisation and income inequality. According to [Rodrik \(1997\)](#), as capital is more mobile than labour, trade integration has increased its relative bargaining power and, thus, its share in total income. Similar effects result from competition between nations aiming to attract foreign investment, which can induce a 'race to the bottom' with regard to regulatory standards ([Goldberg & Pavcnik, 2007](#)), labour organisation and corporate taxes ([Gross et al., 2016](#)). Moreover, the higher cross-border mobility of capital can affect the redistributive capacity of national tax and transfer systems ([Bertola, 2008](#); [Kanbur, 2015](#)). Finally, greater integration with the global economy has been shown to increase income volatility; the impact on sustained income inequality depends on policy responses and financial sector characteristics ([Bertola, 2008](#); [Kanbur, 2015](#)). Thus, according to [ILO \(2008\)](#), particularly low-income households in emerging economies with fragile financial systems have been adversely affected by the consequences of increasingly frequent banking crises after financial market liberalisation in the 1990s.

The Economic Relevance of Finance

Since the early 1990s, restrictions on cross-border (financial) capital flows have been relaxed and domestic financial capital markets have been liberalised through various means, including the removal of interest rate ceilings, credit controls and regulations on bank activity ([Evans, 2016](#)). The financial sector's increasing economic relevance has been denominated as *financialisation*; its distributional consequences have been analysed in various theoretical and empirical contributions.

One strand of the literature investigates the availability of private credit in developed financial markets as prerequisite for development and long-term growth. Accordingly, the relaxation of borrowing constraints allows for high-return investments, for example, in education, for low-income households, and can accelerate social mobility. Access to borrowing can also facilitate consumption smoothing and attenuate temporary income shocks. But if credit is provided without contingency, access has also been shown to increase vulnerability for uninsurable shocks ([Bertola, 2008](#)). Private debt can thus contribute to increasing inequality via increasing macroeconomic instability.² According to [Claessens and Perotti \(2007\)](#), whether domestic financial development is actually able to reduce income inequality in developing countries depends on the quality of institutions and whether or not the rich are able to shape them in ways which secure their own interests.

Another strand of the literature looks at the expansion of the financial sector and its consequences for changing corporate behaviour, the rise of executive remuneration and the declining labour share. The gap between high-income earners, especially top executives, and low-income earners has substantially increased since the early 1990s (e.g. [Leigh, 2015](#); [Piketty & Saez, 2013](#)). Rising top executive remuneration can, on the one hand, be explained by marginal productivity differentials created by the increasing complexity of managerial tasks in technology-intensive and multinational enterprises. On the other hand, it can be explained

by their increasing bargaining power in wage negotiations. This is, among other things, due to the variable income component which has become a major part of top executive's remuneration and has been increasingly linked to companies' stock market value (ILO, 2008). Beyond that, the alignment of corporate goals with financial sector aims – denominated as 'shareholder approach' – has been shown to reduce the bargaining power of trade unions to act as a countervailing force, thereby increasing inequality in the functional income distribution.³

Education

Approaches that explain increasing income inequality by the market forces of supply and demand attribute a key role to investment in the future labour force's education. The basic idea is that technological change and globalisation increase the demand for high skills, thus expanding the supply of highly qualified workers counteracts rising skill premiums. A popular exposition of the important role of education in the United States is Goldin and Katz's (2010) book *The Race Between Education and Technology*, which is based on ideas initially brought up by Jan Tinbergen (1974). Goldin and Katz (2010) argue that although secondary and tertiary educational attainment increased substantially in the United States, the premium on high skills continued to increase in the 1980s and 1990s, indicating that educational expansion was unable to meet demand growth due to technological change. An extensive body of research has analysed the dynamics of skill premiums, education and wage inequality in high-income countries (e.g. Peracchi, 2006). Research is relatively scarce for middle- and low-income countries where the focus has been on investigating the role of increased literacy and expanded primary education for poverty alleviation. However, as discussed in the concerning sections, technology and trade can also induce movements in the upper part of the education distribution, and tertiary education has been substantially expanding over recent decades in the global South as well (Sauer, 2019).

Theoretically, the formalisation of the distributional effects of education goes back to the human capital model, which predicts that an additional year of schooling increases individual productivity and wages (Becker, 1964; Becker & Chiswick, 1966). The relationship between education and inequality in the dispersion of wages depends, however, on the structure of returns to education, and the relative importance of *composition effects* and *wage effects*, respectively (Foerster & Tóth, 2015). The *composition effect* addresses the distribution of education: the income inequality effect depends on the extent to which higher educational attainment simultaneously results in a more equal distribution of education. The *wage effect* addresses how returns respond to changes in the demand for and supply of education. For example, increasing the primary-education share in low-income countries can simultaneously contribute to declining educational and increasing income inequality if returns on low education levels fall. Conversely, increasing higher education might increase the degree of educational inequality but still reduce the skill premium, thereby reducing inequality in the distribution of earnings. However, income inequality can increase as a result of educational expansion if wages are strictly convex in years of schooling. In that case, shifting

the educational structure to higher levels while keeping its distribution unchanged shifts the wage function to a steeper segment, implying that returns to education are distributed more unequally. According to [Bourguignon et al. \(2005\)](#), a fall in income inequality is only possible if educational expansion simultaneously results in a sufficiently large reduction in educational inequality. They show that this was the case in three (Brazil, China and Taiwan) out of the seven countries they have analysed; in Argentina, Colombia, Indonesia, Malaysia and Mexico, their estimated association between average educational attainment and income inequality is positive. Also, [Castelló-Climent and Doménech \(2014\)](#) have observed that large reductions in education inequality (measured by an education Gini coefficient) have not been accompanied by similar reductions in income inequality. [Castelló-Climent and Doménech \(2014\)](#) provide explanations for this ‘puzzle’, including factors such as technological change which contribute to increasing returns to education or the increasing relevance of movements in top incomes for overall inequality dynamics. However, they do not test for the relative importance of these factors in a multivariate setting.

The extent to which education is able to exert an equalising effect on income distribution also depends on the political economy of education which determines how education policy and educational institutions facilitate educational expansion and react to it. According to [Carnoy \(2011\)](#), the mass expansion of higher education may contribute to increasing income inequality in low-, middle- and high-income countries if public means are distributed unequally across educational institutions, resulting in quality differentials between elite and mass universities.

Labour Market Institutions and Welfare State Redistribution

A wide range of theories from political science, sociology and economics demonstrate the pervasive influence of political institutions and governance on income distribution.⁴ The role of public policy can be grouped into the following channels. First are policies that influence the drivers of income inequality such as technological change and trade openness. Second are policies that alter either the primary distribution of income, for example, through labour market regulations or the distribution of disposable household income through transfers and taxation. Third are health or education policies that create in-kind redistribution and affect the level and distribution of human capital.

Labour market institutions such as unions, collective bargaining structures, minimum wages and unemployment benefits aim to mitigate market risks and increase the relative bargaining power of labour. Labour support regulations can therefore simultaneously compress wage gaps and increase the labour share. Trade unions and institutionalised wage bargaining have generally been shown to exert an equalising impact on the dispersion of earnings, even if wage differentials between union and non-union workers rise ([ILO, 2008](#), Chapter 3). This relation also holds for minimum wages and, to a lesser extent, unemployment benefits (e.g. [Koeninger et al., 2007](#)). However, the overall effect of labour market institutions on inequality of disposable incomes is not equally clear. [Cecchi and Garcia-Peñalosa \(2010\)](#) present a theoretical framework to analyse the distributional effects of labour market institutions on various dimensions of income inequality