Public Disclosure Authorized

Public Disclosure Authorized

Report No: ACS14169

Russian Federation
Poverty and Shared Prosperity in Russia

Deconstructing Russia's Shared Prosperity Success: The Role of Labor and Non-Labor Income

May 2015

GPVDR

EUROPE AND CENTRAL ASIA

Standard Disclaimer:

This volume is a product of the staff of the International Bank for Reconstruction and Development/ The World Bank. The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Copyright Statement:

The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. The International Bank for Reconstruction and Development/ The World Bank encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

For permission to photocopy or reprint any part of this work, please send a request with complete information to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA, telephone 978-750-8400, fax 978-750-4470, http://www.copyright.com/.

All other queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA, fax 202-522-2422, e-mail pubrights@worldbank.org.

Acknowledgements

This policy report has been prepared by the World Bank Poverty Global Practice in the Europe and Central Asia Region. The report was prepared by Luis F. Lopez-Calva (Task Team Leader, GPVDR) and a team composed of Paula Calvo (Consultant), Olga Emelyanova (Research Analyst, GMFDR), Vladimir Gimpelson (Higher School of Economics, Consultant), Samantha Lach (Consultant), Nora Lustig (Professor at Tulane University and Director of the CEQ initiative, Consultant), Mikhail Matytsin (Research Analyst, GPVDR), Daria Popova (University of Essex, Consultant), and Josefina Posadas (Economist, GSPDR), under the guidance of Carolina Sanchez-Paramo (Program Manager, GPVDR, ECA Region). The team is grateful for useful comments provided by participants at the 2015 Higher School of Economics April Conference and the 2015 RLMS Conference that took place in May 2015in Moscow.

.

Contents

1. Introduction 6

2. Understanding the drivers of shared prosperity in Russia 10

2.1 Market (Labor) income 12

2.1.1 Demand-side and changes in returns: a process of labor upgrading 20

2.2 Non-market income: The incidence of the fiscal system 28

2.2.1 Fiscal Incidence Framework 29

2.2.2 The Tax System and Social Spending in Russia 31

2.2.3 Data and Assumptions 36

2.2.4 The Impact of Fiscal Policy on Inequality and Poverty 37

3. Are these trends sustainable? Policy implications. 42

References 43

Annexes 50

A1. RIF decomposition methodology 50

A2. Wage inequality in the late 1990s 53

A3. The Russian Tax System 54

A4. The Russian Social Protection System 57

A5. Fiscal Incidence Analysis 63

A6. Data 64

Deconstructing Russia's Shared Prosperity Success

POLICY NOTE[1]

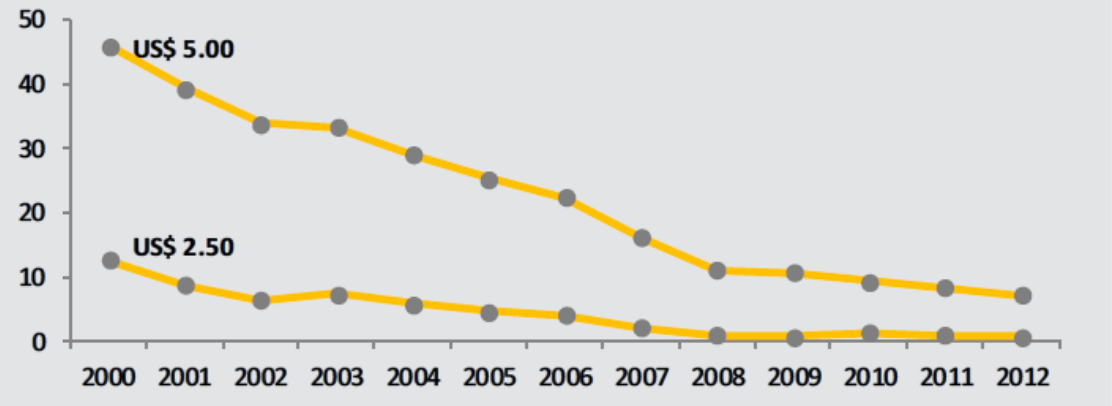
1. Introduction

The Russian Federation has sustained significant growth over the past decade, accompanied by high rates of income mobility for all groups in the population. In terms of overall growth, between 2000 and 2013, increases in Gross Domestic Product (GDP) averaged 5.15 percent a year, above the regional mean for Europe and Central Asia (ECA) (4.53 percent). During the whole decade the positive trend observed was only interrupted by the 2008-09 crisis (when GDP declined by around 7.8 percent), after which growth quickly resumed. Indeed, GDP per capita nearly doubled between 2000 and 2012 (from $8,613 to $15,177, in PPP 2005 dollars). The trend, however, has been decelerating and high growth is not expected to resume in the coming years.

The positive outcomes in economic growth were accompanied by economic mobility for most households, reflected in substantial poverty reduction. The share of people living in poverty declined over the past decade, from around 30 percent of the population in 2000, to about 11 percent in 2014, based on the national poverty line. The overall declining trend, however, masks the fact that Russia experienced a period of stagnation in 2013-14 (after reaching a record low of 10.7 percent in 2012, the poverty rate stagnated at 10.8 percent in 2013 and increased to 11.2 percent in 2014). Using regional and international poverty lines, poverty rates are lower: based on the US$5 a day regional moderate poverty line (in real 2005 PPP values), poverty was 7.3 percent in 2012 (Figure 1). On the other hand, extreme poverty is nearly nonexistent in Russia; according to the international line of US$1.25 a day, the extreme poverty rate is very close to zero (0.03 percent in 2012). Even using the national extreme poverty line, roughly equivalent to US$2.50 a day, extreme poverty was well below one percent (0.77 percent) in 2012.

[1] This overview note is part of the project on Shared Prosperity in the Russian Federation. It summarizes the main messages from the following background papers: Calvo, P.A., L.F. Lopez-Calva, and J. Posadas (2015) "*A decade of declining earnings inequality in the Russian Federation*"; Gimpelson, V. (2015) "*Industrial Foundations of Russian Inequality: Looking from the Demand* Side"; Gimpelson, V. (2015) "*Inequality of labor market incomes*"; and N. Lustig, Lopez-Calva, L.F, M. Matytsin and D. Popova (2015) "*Who Benefits from Fiscal Redistribution in Russia*?". Further details on the data and methodological approaches, analysis and findings may be found in the individual papers.

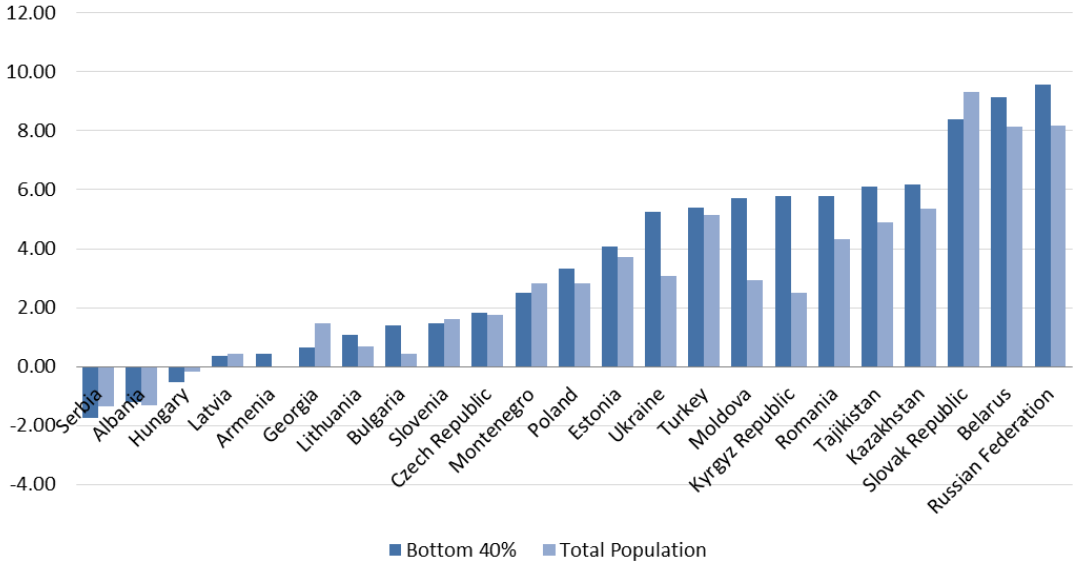
Figure 1. Poverty headcount ratio in Russia, 2000-2012



Source: World Bank staff calculations; ECATSD using ECAPOV

Inclusive growth has led to a positive performance of the country in terms of shared prosperity—measured by the income/consumption growth of the bottom 40 percent of the welfare distribution. With an annual income growth of 9.6 percent for the bottom 40 percent, Russia was among the best-performing countries in ECA in terms of shared prosperity between 2006 and2011 (Figure 2).

Figure 2. Income/Consumption growth of bottom 40 in ECA, circa 2006-2011

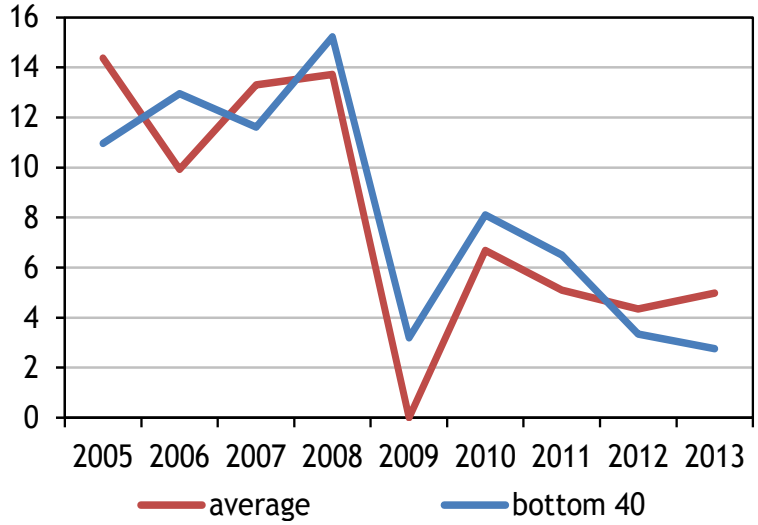


Source: World Bank, Global Database for Shared Prosperity

Notwithstanding the positive performance observed, the recent trends suggest sustainability concerns. The slowdown in the positive trend in shared prosperity is reflected in Figure 3, which shows that the real income growth of the bottom 40 percent of the population significantly decelerated in 2012–13 to around 3 percent (from an average of almost 10 percent in 2005–11). The growth of the bottom 40 was lower than that for the population as a whole, which has been

relatively stable around 4 or 5 percent. The slowdown in income growth at the bottom has already affected poverty reduction adversely, and is likely to limit further the evolution of shared prosperity in the future.

Figure 3. Real income growth in Russia, y-o-y, percent[2]



Source: Rosstat and World Bank staff calculations.

Alongside the inclusive economic growth, economic mobility has improved remarkably in the country as reflected by the growth of the middle class. The middle class in the country—defined as those with a consumption of US$10-50 PPP per capita per day—doubled in a span of 11 years: from around 30 percent in 2001 to 64.5 percent of the population in 2012. The Russian middle class is, in fact, one of the largest (in terms of population share) in ECA and the emerging world. A closer look at how growth was distributed, however, shows that it was mainly driven by an expansion of the share of the relatively better-off people within the group. Indeed, the share of the population with a per capita income of US$25-50 per day increased faster than that with a per capita income of US$10-25.

Notwithstanding the overall upward mobility trend, numerous households remain vulnerable. [3] The share of the vulnerable—those individuals living above the poverty line but still at considerable risk of falling back into poverty in the face of shocks—declined from 37 percent to 30 percent of the population between 2001-2011. However, making up about a third of the population, this group remains sizeable. On the other hand, the proportion of poor decreased from 36 percent to 10 percent in the same period, while the middle class grew from 27 percent in 2001 to 60 percent in 2010 (Meyer and Sanchez-Paramo, 2014). Despite this upward mobility, approximately 15 percent of the population experienced large enough declines in per capita income to push them into a lower

[2] Rosstat reports this particular number as income aggregate, although it is based on consumption.
[3] In this context, an individual is considered poor if her consumption is equal or less than US$5 a day. Similarly, an individual is considered vulnerable if her consumption is high enough to be above the poverty threshold but too low to be considered middle class (i.e. higher than US$5 a day but less than US$10 a day).

socio-economic group over the decade, suggesting that vulnerability to shocks remains an issue at all levels.[4]

Upward economic mobility in Russia appears to be the result of both increases in average income levels and changes in the distribution of income. As Meyer and Sanchez-Paramo (2014) find, over three fourths of the observed decline in poverty can be explained by changes in average income, while the remaining fourth is explained by changes in the distribution of income. Growth in average income, on the other hand, accounts for half of the movements into the middle class, with the remaining half linked to changes in the income distribution.

Given the positive outcomes observed, the question is, to what extent is Russia's favorable performance in terms of shared prosperity sustainable? To this end, this note explores the main drivers behind the progress to date. The evolution of the labor market, on one hand, and the incidence of the fiscal system, on the other, appear as the two main factors driving the observed poverty reduction, increase in the income of the bottom 40, and growth of the middle class in Russia. Maintaining these achievements on the way forward, however, is not without concerns, particularly as growth slows down and the fiscal context and demographic dynamics make the current pattern potentially unsustainable. A clearer picture of how these drivers have worked can help assess the sustainability of future trends.[5]

The cyclical macroeconomic conditions, characterized by a high price of oil and very good global conditions, induced a Dutch-disease process, favoring growth in the non-tradable sector. Given the factor intensities in tradable versus non-tradable sector, unskilled wages increased in the positive cycle. This process is likely to come to a halt, given the reduction in oil prices.

The rest of the note is structured as follows: Section 2 presents an analysis of labor income, including an overview of market dynamics and the reduction of wage inequality in the country. It also provides a review of the incidence of the fiscal system on shared prosperity; including a review of some of the demographic issues that the country is facing. Section 3 presents a summary of the lessons derived from the analysis that can inform policy dialogue and contribute to ensuring the sustainability of the progress achieved in shared prosperity going forward.

[4] For instance, more than 30 percent of those considered middle class in 2001 were either vulnerable or even poor in 2005; and the same can be said between 2006-2010.

[5] The analysis follows the assets approach (Bussolo and Lopez-Calva, 2014), focusing on human capital assets, their use and returns.

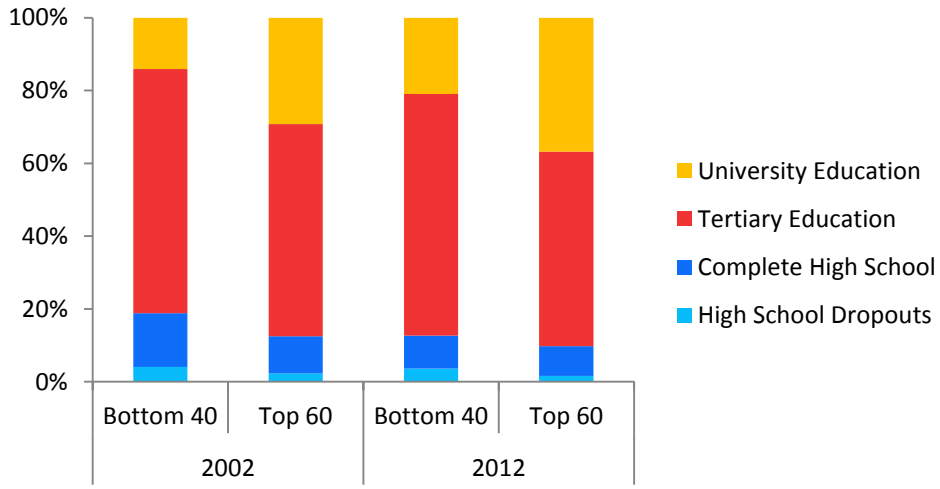
2. Understanding the drivers of shared prosperity in Russia

1. *Up until 2012, income at the bottom of the distribution has grown more than mean income in Russia. This improvement in shared prosperity over the last decade has been accompanied by a decline in inequality.*
2. *Inequality has decreased, both in terms of overall income inequality, which has dropped slightly, as well as in terms of wage inequality, which has shown a robust and sustained reduction over the past decade. These indicators do not take into account the concentration for top earners, given that they are not represented in the survey.*
3. *The profile of the bottom 40 changed significantly in the last decade, displaying larger improvements in skills-upgrading and in labor-related outcomes vis-à-vis the top 60 percent.*
4. *Both labor and non-labor income contributed to the decline in wage inequality in Russia. Labor income played a significant role through the relatively higher wage growth at the bottom of the distribution. Net transfers, on the other side, have reinforced the progressive pattern, particularly so when pensions are taken into account.*

This section assesses how market (labor) income and non-market income (net fiscal incidence) explain the income-generation capacity of Russian households. By looking at these elements, we explore the mobility patterns of the bottom 40 in order to shed light on the challenges for sustainable upward mobility. Before going into the labor and non-labor income decompositions, we present a brief profile of the bottom 40, looking at the evolution of their characteristics compared to the top 60 percent of the distribution.

A profile of the bottom 40 percent suggests a significantly larger improvement in terms of skills vis-à-vis the top 60 percent. Over the last decade, we observe a skill upgrading process among workers in the bottom 40. As illustrated in Figure 4, the share of university graduates as a percentage of employment for households in the bottom increased by 50 percent between 2002 and 2012, compared to a 24 percent increase for those in the top 60. This suggests an increase in the stock of human capital assets of the bottom 40, with the potential to improve their income-generation capacity.

Figure 4. Share of employment by educational level (as % of employment)



Source: RLMS (Rounds XI and XXI). *Notes:* Excludes employees with missing values in wages. The sample was restricted to 25+ working population.

The profile of the bottom 40 changed significantly in the last decade in terms of labor related outcomes. The capacity of the bottom 40 to use their assets and generate income through labor appears to have improved between 2002 and 2012. The unemployment rate for bottom 40 households fell from 12 percent in 2002 to 8 percent in 2012, a significantly larger reduction compared to that for the top 60—a decline in unemployment from 4 to 3 percent over the same period (Figure 5). On the other hand, wages as a share of total household income increased from 34 percent in 2002 to 45 percent in 2012 for bottom 40 households, closing the gap with the top 60 (whose wages as a share of total income hovered around 50 percent in both years) (Figure 6).

Figure 5. Unemployment rate (as % of LFP)

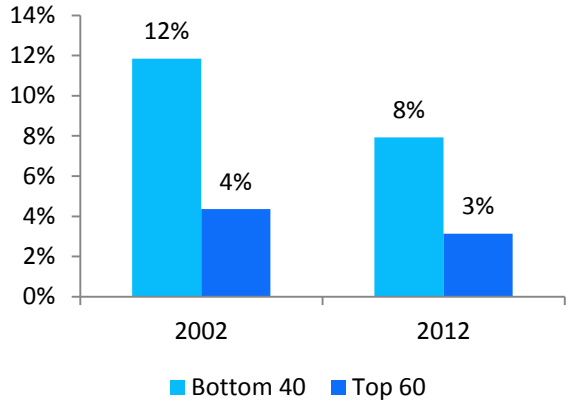
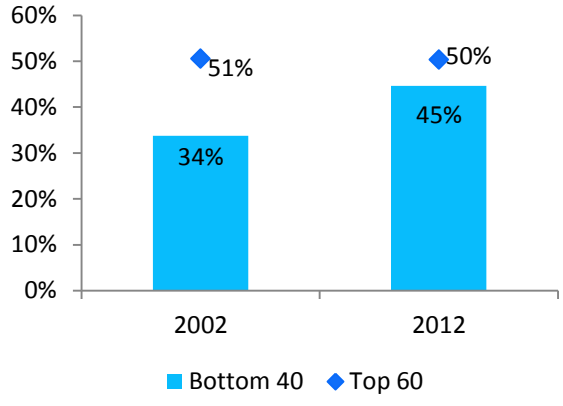


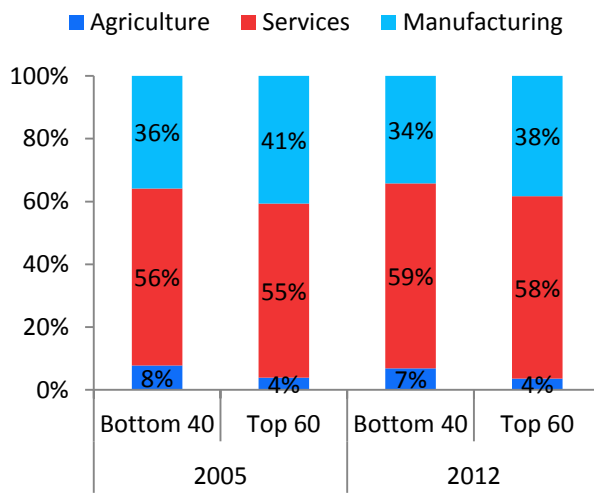
Figure 6. Share of wage income on total income of the household



Source: RLMS (Rounds XI and XXI).

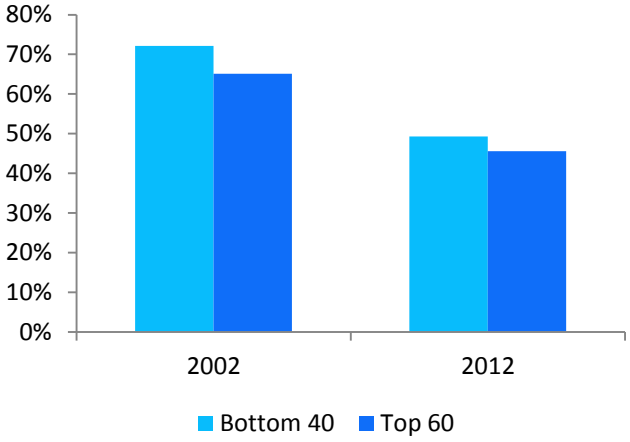
There was also a reallocation in the sector of employment for bottom 40 households, from agriculture and manufacturing to the service industry. Employment in agriculture, as a share of total employment, decreased slightly for bottom 40 households, from 8 to 7 percent, while staying constant for the top 60 in the period 2002-2012 (Figure 7). The share of employment in services out of total employment increased for both groups, while that of manufacturing decreased for both (these trends are based on aggregates; as shown below, employment dropped in certain manufacturing subsectors and increased in others). The decrease in employment in the public/semipublic sector also suggests a reallocation of workers (in both the bottom 40 and top 60) from the public to the private sector (Figure 8). This aggregate, however, also conceals movements within sectors and is likely reflecting the significant drop in employment in-state-owned enterprises, which are included alongside public sector employment.

Figure 7: Sectoral composition of employment (as % of employment)



Source: RLMS (Rounds XIV and XXI). *Notes: Excludes employees with missing values in wages. Manufacturing includes Transport and Communication. Services include both public and private services. Industry data is only available from 2005 onwards.*

Figure 8: Employment in the public/semi-public sector (as % of employment)



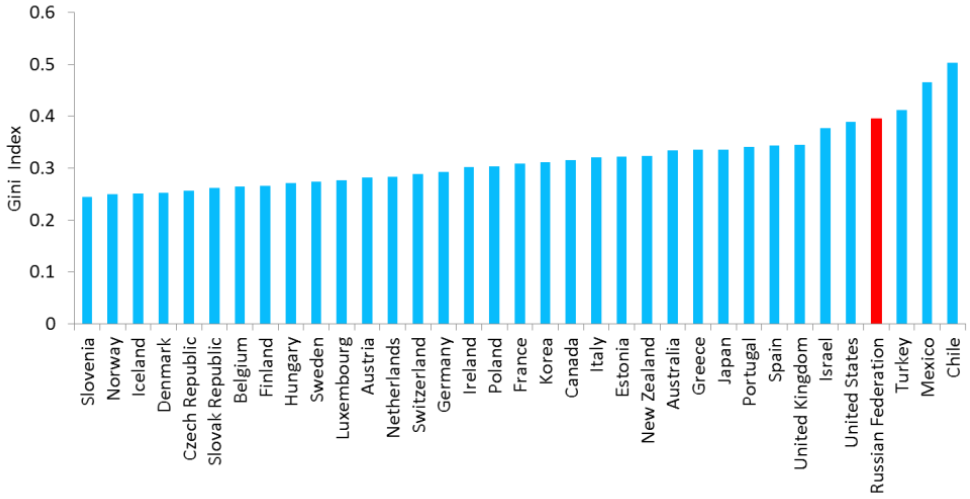
Source: RLMS (Rounds XI and XXI). *Notes:* Excludes employees with missing values in wages.

2.1 Market (Labor) income

1. *The positive result in shared prosperity and the significant reduction in wage inequality are related to very progressive dynamics taking place in the labor market. While wages grew for everyone, they grew more at the bottom of the income distribution, leading to the compression of overall wage distribution.*
2. *This reduction in wage inequality is, in turn, mainly explained by changes in returns—with a reduction in the skills wage-premium. While changes in characteristics—such as education, whether firms are public or private, and urban-rural location—contribute to explain the reduction in wage inequality, changes in returns to characteristics have played an even more significant role behind the decline.*

Income inequality has decreased in Russia, although it remains high by regional standards. Along the transition to a market economy, income inequality escalated throughout the 1990s: Milanovic (1999), for instance, documents an increase in the Gini coefficient from 0.22 to 0.52 between 1989 and 1996, while Clarke (1997) finds a sharp increase in income inequality, from 0.29 in 1992 to 0.50 in 1993. After peaking following the 1998 financial crisis, inequality per capita fell by 33 percent between 1998 and 2012. Notwithstanding the remarkable decline, at a Gini index of 0.39 (2010), income inequality in Russia is still high for OECD standards. In fact, it is more similar to Latin American countries and the United States than to countries in the ECA region (Figure 9).

Figure 9. Gini Index at disposable income in OECD Countries, 2011



Source: OECD.Stat. *Note*: Figures correspond to 2011, except for Belgium (2010), Netherlands (2010), Australia (2010), México (2010), Russian Federation (2010), Japan (2009) and Hungary (2009).

Labor market wages followed the same trend; indeed, wage inequality experienced an important reduction over the last decade, after years of increasing inequality.[6] Based on the country's longitudinal monitoring survey (RLMS-HSE), earnings inequality fell during 2002-2012.[7] This is a reversal of the upward trend observed during the 1990s, associated with the transition to a market economy. Russia, indeed, experienced a substantial increase in wage inequality during the early 1990s (Flemming and Micklewright, 1999; Commander et al., 1999). As Brainerd (1998) points out, wage inequality nearly doubled from 1991 to 1994, as returns to measured skills (education, occupation) within groups increased substantially. At the same time, the skill premia across experience groups became more compressed and the relative wages of older workers declined. Trends in the late 1990s, on other hand, are less conclusive, with some studies pointing out that wage inequality ceased to grow, and others that it continued to rise (see Table A2 in Annex 2).

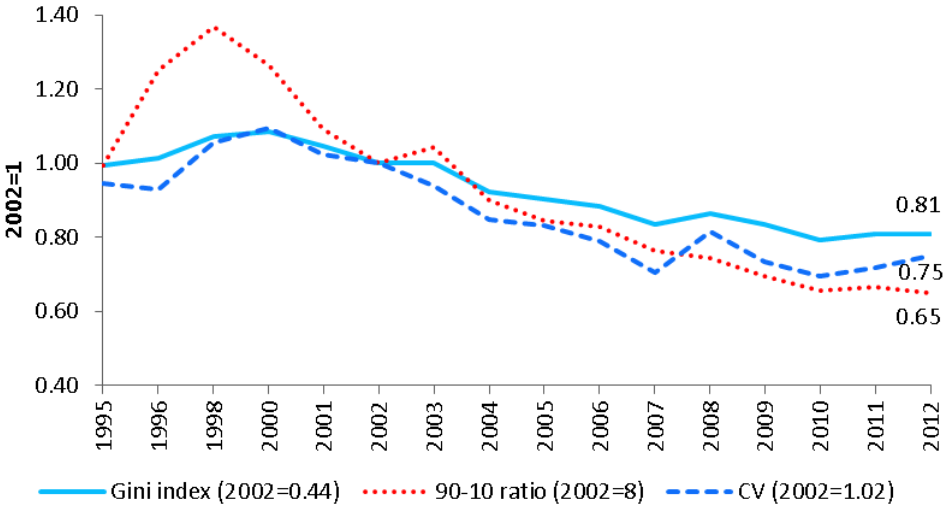
The reduction in wage inequality found during 2002-2012 is substantial and robust to the selection of indicator. Even if the trends in the late 1990s are inconclusive, wage inequality in the 2000s has declined in no uncertain terms. The analysis finds a 19 percent reduction in wage inequality measured by the Gini index; a 35 percent reduction in terms of the 90-10th percentile ratio; and a 25 percent reduction in terms of the coefficient of variation (Figure 10). Comparing wage and income, the fall in inequality was slightly larger for income per capita vis-à-vis labor earnings (27 percent vs. 22 percent) looking at the 1995-2012 period. It is important to note that the changes recorded in wage (and income) inequality do not take into consideration the concentration at the top of the distribution, given that 'top earners' are not represented in the surveys.

[6] This section draws from Calvo, López-Calva and Posadas (2015), and Lukiyanova and Gimpelson (2015), background pieces for this project.

[7] A detailed description of the RLMS-HSE survey used in this section is found in Annex 6.

Figure 10. Earnings inequality in the Russian Federation, 1995-2012

(2002 = 1)

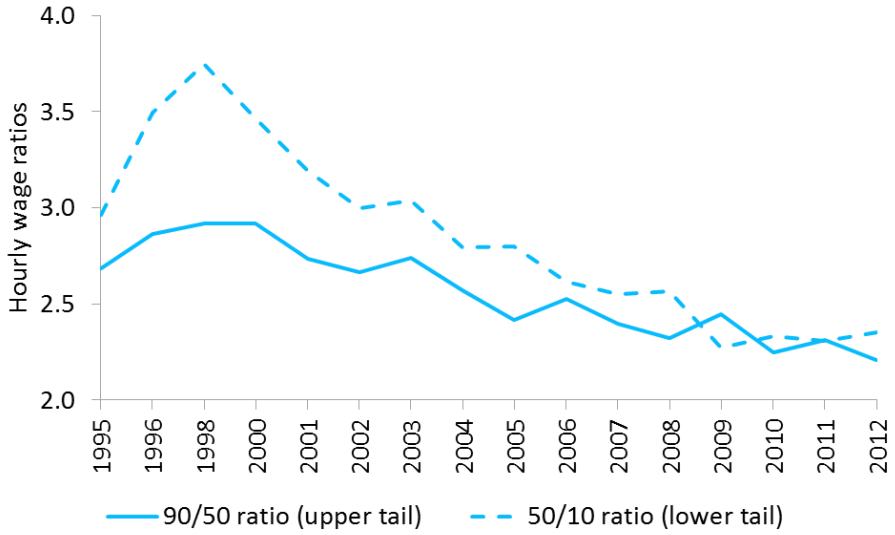


Source: RLMS (Rounds VI-XXI). *Note*: Indicators of inequality are computed using hourly wages.

Much of the decrease in wage inequality was pushed by a compression at the bottom of the wage distribution. Indeed, inequality declined faster at the bottom of the wage distribution. Between 2002 and 2012, the 50-10 percentile ratio of hourly wages diminished by 22 percent while the 90-50 percentile ratio only decreased by 17 percent (Figure 11).

Figure 11. Reduction in earnings inequality in the Russian Federation, 1995-2012

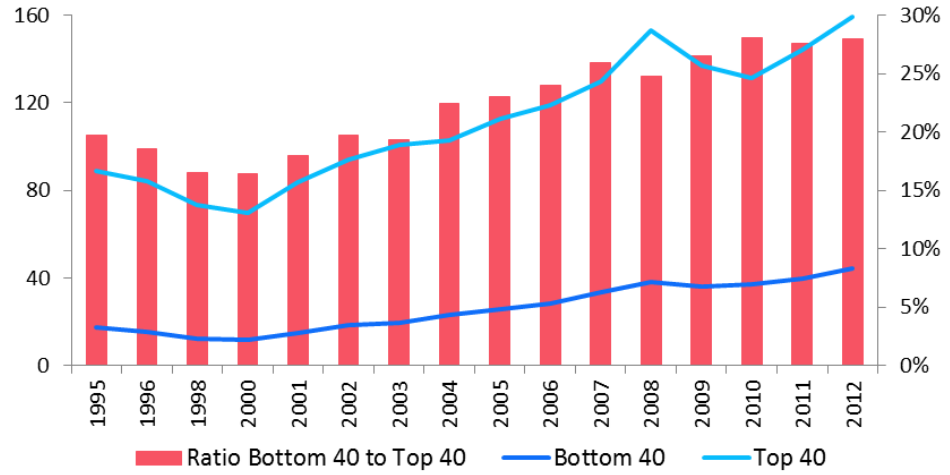
(90-50 and 50-10 percentiles ratios)



Source: RLMS (Rounds VI to XXI). *Note*: Indicators of inequality are computed using hourly wages.

Increases in the average wage were larger at the bottom of the distribution, contributing to the decrease in inequality. The 2000s were characterized by increases in real wages and income at all levels of the income distribution. However, the largest changes took place in the bottom part of the distribution. Real wages for the bottom 40 percent of the wage distribution have been growing at a higher pace than wages for the top 40 percent, reducing the wage gap between both groups (Figure 12).

Figure 12. Average hourly wages for the bottom 40 and top 40 percent, 1995-2012
(at 2011 constant rubles)



Source: RLMS (Rounds VI to XXI). *Note*: Indicators of inequality are computed using hourly wages.

The analysis looks at the contribution of individual factors—such as institutional, educational, demographic and job-related factors—to the change in wages at different points in the distribution. Institutional factors include the equalizing effect from the government's active minimum wage policy; as well as the contribution from firm-related factors, such as changes in the ownership and size of firms. The educational variables consider four different educational levels: high school dropouts, completed high school, technical-vocational, and university education. Demographic variables look at the role of gender and age, as well as consider a geographic dimension. Finally, job related factors include the occupation and industry-affiliation of workers.

Changes in wage inequality can be decomposed into two drivers: i) changes in the labor force composition; and, ii) changes in returns to skills. Following Firpo, Fortin and Lemieux (2009), the changes in the level of wage inequality may be decomposed into changes in the observable characteristics of the labor force (the composition effect) and changes in the returns to these characteristics (the wage structure effect).[8] *Composition effects* reflect shifts in the composition of

[8] A detailed description of this methodology is found in Annex 1.

the labor force, such as educational attainment, as well as gender, institutional and geographic factors. On the other hand, *wage effects* are related to the evolution of returns, affected by changes such as in the skill premium and the gender wage gap, or changes in the demand for skills. Box 1 provides further detail on the role that both effects can play in explaining the wage inequality compression.

Box 1. Wage structure versus composition effects

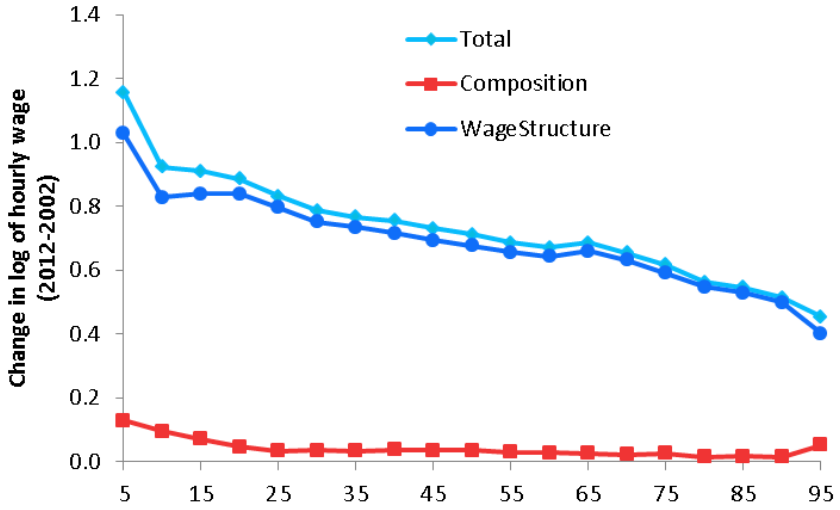
In the decomposition analysis, changes in wages—and in wage inequality measures—can be decomposed into two different concepts: i) composition effects and ii) wage structure effects. The first concept, the *composition effect*, measures the changes in wages or in a wage inequality index (such as the variance, the Gini or the 90-10 percentile ratio), which can be explained by changes in the composition of the labor force. For example, considering a case where there are only public and private firms, and private firms pay higher wages than publicly owned ones. In this case, if the share of workers in private firms grows, keeping everything else constant, the average wage in the economy will grow—this may in turn increase or reduce inequality (depending on the share of workers in each group, and where in the distribution were those workers that moved from one sector to another). This is a mere *composition effect*: Private and public firms are still paying the same wages, but the share of workers in the high-wage sector increased.

On the other hand, *wage structure effects* consider those changes in wages—and wage inequality—that result from changes in how labor market skills are remunerated (i.e. changes in the price of labor market characteristics). Changes in the price of labor market skills may reflect changes in the demand or supply of those skills, or changes in the productivity of a certain skill. For example, considering the case where workers who have a university degree are more productive than workers without a university degree. If firms wish to attract better-educated workers, they may increase the remuneration to those workers. If this occurs, the same skill would be better paid in the labor market, leading to an increase in the price of that skill, that is, a *wage structure effect*. However, the opposite would happen if the skills of university–graduated workers were obsolete and did not fulfill firms' requirements. This could lead to a decrease in the payment of university-degree workers (and thus in the return to this skill). This could, in turn, reduce wages within this group and then reduce wage inequality, as a consequence of a pure *wage structure effect*—even if the composition of the labor force between educational groups were to remain constant.

While changes in labor force characteristics contributed to the reduction in wage inequality, *returns* to characteristics were the dominant factor. The descriptive analysis suggests that, overall, educational factors, public or private firm ownership and urban-rural location are the most relevant factors to explaining composition effects. Particularly, these composition effects are relevant to explaining reduction in inequality at the lower-end of the distribution. However, the decomposition analysis shows that wage structure effects, i.e. returns to characteristics or *prices*, are much more important than composition effects, explaining a larger share of the reduction of wage inequality at all levels of the wage distribution (Figure 13). These results are consistent with those of

Lukiyanova and Gilmpelson (2015), who find that wage structure effects dominate composition effects to explain inequality reduction between 2005 and 2013.

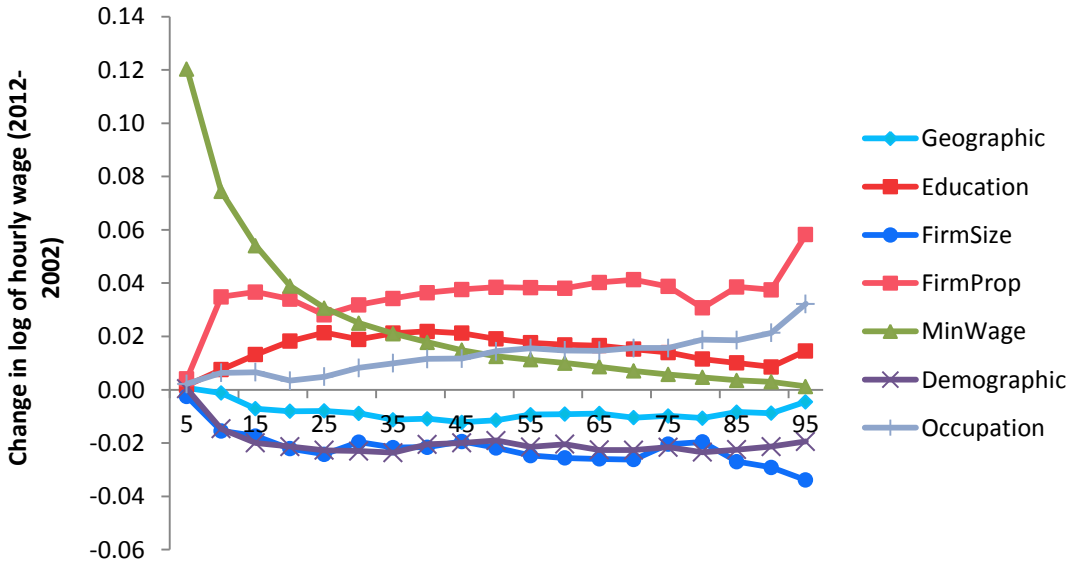
Figure 13. Wage structure and composition effects (2002-2012)



Source: RLMS (Rounds XI and XXI)

Composition effects are more important at the lower end of the wage distribution, contributing to a larger extent to the reduction of wage inequality at the bottom. The minimum wage policy and urban-rural location are the main drivers behind the composition effects on the wage compression taking place at the bottom of the distribution. On the other hand, education and firm size are more important at the top (Figure 14).

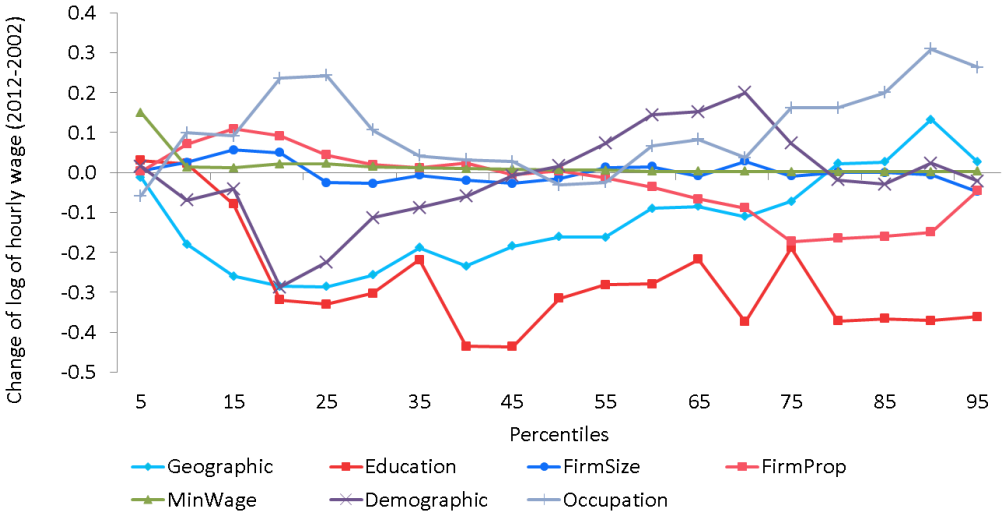
Figure 14. Detailed composition effects (2012-2002)



Source: RLMS (Rounds XI and XXI).

The (relatively more important) wage structure effects are mainly explained by education and firm ownership. Changes in the returns to firm-size and to public vs. private firms have contributed to reducing wage inequality. The number of large, often publicly-owned, companies has decreased while that of smaller companies has grown relatively larger. Bigger, public companies, often dedicated to natural resources, tend to pay higher salaries. As, on average, less people are earning the higher wages paid by larger firms, the wage gap has contracted. Additionally, while returns to education decreased at all levels of the wage distribution, they did so even more at the top. Indeed, the fall in the skill premium for university education is an important factor behind the compression of the wage distribution: wages at the top—in larger firms and higher-skilled activities—have grown relatively less, contributing to the reduction of the wage gap. Changes in the *demand* for skills are thus likely to be important in explaining the wage compression. While the role of demand side factors cannot be explored for 2002-2012 (as there is no sector variable in the 2002 survey), the analysis for the period 2005-2013 reveals a small inequality-reducing composition effect related to industrial composition, and a neutral wage structure effect of industrial shifts (Lukiyanova and Gimpelson, 2015). The role of demand-side factors is the subject of the next section.

Figure 15. Detailed wage structure effects (2002-2012)



Source: RLMS (Rounds XI and XXI).

Box 2. Potential factors behind the reduction of wage inequality: A descriptive analysis

The minimum wage policy played a positive but relatively minor role in the compression of the earnings distribution. Minimum wages grew by 398 percent in real terms between 1996 and 2012. While the steady increases in minimum wages, both in nominal and real terms, appear to have played a role in explaining the reduction in wage inequality—particularly at the lower tail of the distribution—this effect was non-binding given the low share of workers who actually earn below minimum wage (lower than 15 percent).

An increase of employment in private and large firms, which pay higher wages, also appears to have contributed to the variation in wages. The transition to a market economy led to an increase in the share of employment in private firms, which rose from 18 percent in 1995 to 53 percent in 2012. Private and larger firms tend to be more productive than public ones, paying higher wages (Abwowd and Kramaz, 1999), which contributes to explaining the positive wage premium in large firms during the whole period. This effect is more important at the top of the wage distribution.

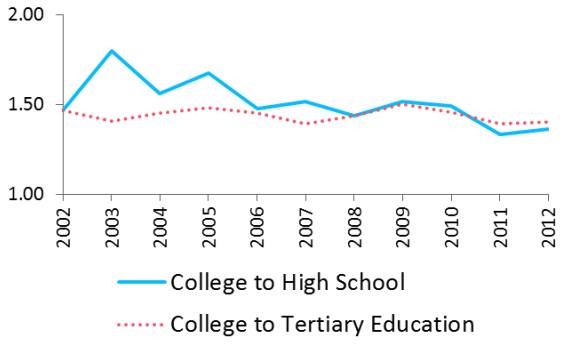
The country experienced a fall in returns to college education, particularly at the top end of the distribution. The number of college graduates rose, from 22.1 percent in 2002 to 29.7 percent in 2012. While education plays an important role in explaining the variation in earnings, its importance decreased between 2005-2013 due to the expanding pool of university graduates and the reduction of the skills premium at this level. The returns to education between different demographic groups is converging: women and rural workers who initially enjoyed higher university premiums relative to men and urban workers, have seen this premium decrease, while average wages have been growing more rapidly among high school dropouts. Hypotheses behind the decline in the university premium include a low quality of tertiary education, a skills mismatch (25 percent of firms identify an inadequately educated workforce as a major constraint, according to the Enterprise Survey), or an obsolescence of skills. Differences between rural and urban workers, and between men and women may reflect some relative demand shifts, which are also explored below.

Notwithstanding the compression in the earnings distribution in Russia, the gender wage gap has contracted little throughout the last decade. While female labor force participation is high (female workers constitute 50 percent of the labor force), women earn less than men. Most of the increase in the share of university graduate workers referred to female workers. However, Atencio and Posadas (2013) find that differences in skills continue to play a key role in explaining the gender wage gap at the bottom of the distribution, while differences in returns are more important at the top. The high occupational segregation of women may also contribute to explaining the gap. Fostering the acquisitions of skills for women at the bottom of the distribution, both though formal educational and on-the-job-training is thus still a challenge in order to reduce the gap. Policies could also be implemented to promote the access of women to typically-male occupations, and to limit female discrimination in the labor market.

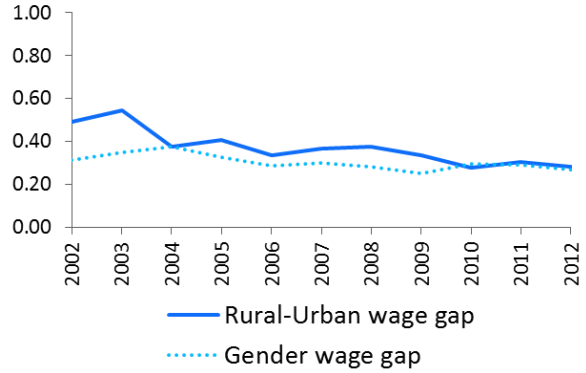
The slight decline in the gender gap as well as the closing of the rural-urban wage gap, however, could have contributed to the fall in the wage compression. The gender gap in pay averaged 31 percent between 1995 and 2012, and is closing very slowly, even with an average

increase in female skills. Lukiyanova and Gimpelson (2015) find that the wages of women grew faster than those of men leading to the narrowing of the gender wage gap during 2004-2008, although the growth rates equalized from 2008-2013. The slight increase in the ratio of female-to-male wages could have contributed to some extent to the compression of the wage structure. The increase in the share of rural workers in the labor force could also have contributed to the decline in wage inequality, since as the rural-urban wage gap closes urban workers are better paid, on average.

Reduction of the skills premium for college graduates



Rural-urban and gender gap



Source: RLMS (Rounds VI to XXI). *Note*: Educational level refers to highest degree received. College includes graduate level studies.

2.1.1 Demand-side and changes in returns: a process of labor upgrading[9]

1. *Changes in returns to skills, or the price of labor, appear as the dominant factor behind declining wage inequality.*
2. *These changes are explained by a process of labor upgrading—that is, a reallocation of labor towards higher-productivity and thus higher-paying jobs, which resulted from the structural transformation of the Russian economy. The sectors absorbing labor are relatively high-productivity sectors that pay medium and high wages (such as retail, construction and financial services), while the sectors pushing labor out are the lower-productivity and low-paying ones (with agriculture standing out).*
3. *Labor upgrading has meant that individuals with the same skill level are being more productive and thus, paid more, by moving from low-skill low-pay sectors to low-skill relatively higher-pay ones (i.e., from agricultural activities to the construction sector), hence the equalizing process.*
4. *Minimum wage policies have played an additional role in reducing the wage dispersion at the bottom.*
5. *Notwithstanding the productivity-enhancing impact of the labor upgrading process, this positive impact could fade away as the economy's structural transition comes to an end, and/or be offset by the negative impact of growing informality.*

A process of labor upgrading appears to have driven the reduction in wage inequality. Particularly at the lower end of the income distribution, changing inequality was driven by changes in returns to skills. In turn, these changes in returns to skills—or the price of labor—appear to have been led by a reallocation of labor towards higher-paying jobs. Using macro and industry level data Gimpelson (2015) looks at changes in the industrial composition of employment—the employment

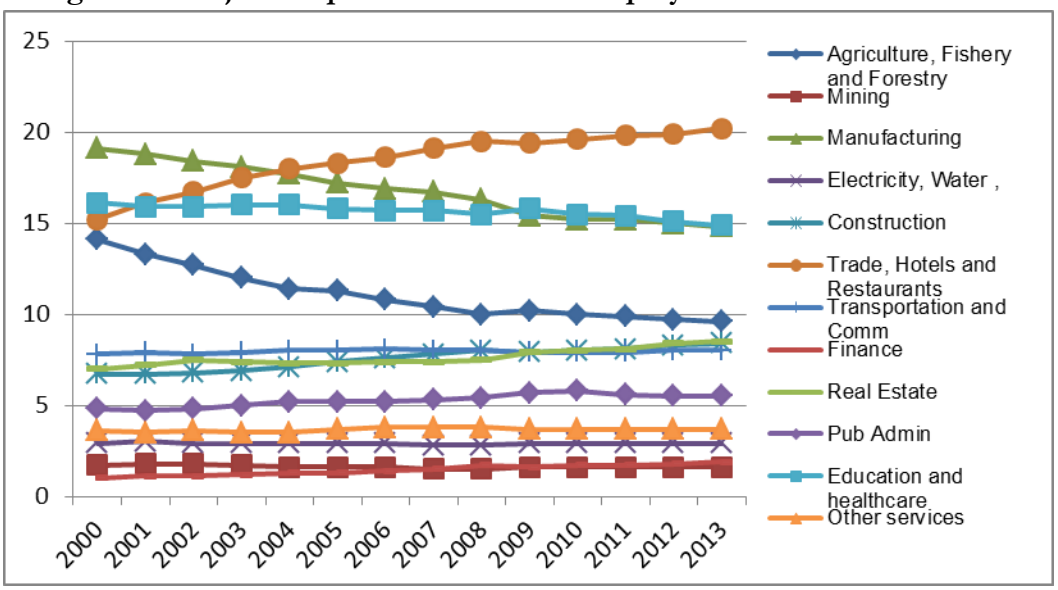
[9] This section draws from Gimpelson (2015), background paper for this project.

structure, movement of labor across sectors, changes in productvity, etc.—to investigate their impact on declining wage inequality.

Throughout the period there is variation within the overall national trend, due to a diverse response to shocks across regions. It is important to note that the geographic area plays a significant role in the decompositions. These regional differences in the speed of adjustment in employment are partly explained due to a differential enforcement of employment protection laws (see Gonzalez, Sharma and Zhao, 2015).The regions where employment protection legislation is better enforced adjust more slowly to shocks.[10]

There has been a significant reallocation of labor across industries towards higher-paying jobs. A significant structural transformation took place in the Russian economy over the last decade, touching all major sectors. Labor reallocated alongside this transition. The major shifts in the economy meant that individuals moved from agriculture and manufacturing to the services sector. Within the latter, the flow went from public to private services. These trends were relatively stable over 2008-2013. The share of employment in low-productivity, low-wage sectors (such as agriculture and certain manufacturing subsectors) out of total employment contracted sharply, while the proportion of medium- and high-wage industries (such as retail, construction and financial services) expanded (Figure 16). Overall, there was a decline in employment in low–paying industries and an employment growth in medium-pay ones. These changes were associated with the shift from the production of tradable goods towards non-tradable services, as economic growth was pushed forward by rising oil prices.

Figure 16. Major compositional shifts in employment between 2000-2013.



Source: Rosstat.

[10] Employment protection laws should theoretically reduce adjustment, not only decreasing the number of layoffs during downturns but also dampening hiring in upturns due to the possibility of having to lay off workers in the future (Gonzalez , Sharma and Zhao, 2015)

The occupational composition of employment also changed, with low-paying occupations contracting. The occupational composition of labor changed, alongside the large-scale shift towards service occupations, and as demand for professionals grew across all sectors. As illustrated in Table 1, the share of "manager" and "professional" occupations increased, while the least-skilled and lowest-paid categories experienced significant employment losses. It is important to note that demand in low-skill low-wage sectors contracted, while that in low-skills but higher-productivity (and hence, higher pay) sectors increased (e.g., an individual moving from low-skills low-wage agriculture to low-skills higher-wage construction). That is, for the low-skilled, higher productivity jobs expanded, while those of lower productivity contracted, hence the "labor upgrading".

Table 1. Composition of employed population aged 15-72 by occupation, 2000-2013, LFS, %

Occupations	2000	2008	2013	Change 2000-2013, pp.
Legislators, senior officials and managers	4.4	7.0	8.6	4.2
Professionals	15.6	18.5	19.9	4.3
Technicians and associate professionals	15.2	15.2	15.0	-0.2
Clerks	3.4	2.9	1.8	-1.6
Service workers	11.8	13.8	15.6	3.8
Skilled agricultural workers	6.3	4.1	3.5	-2.8
Craft workers	16.3	14.8	131	-3.2
Plant and machine operators and assemblers	13.5	12.5	12.4	-1.1
Elementary occupations	13.5	11.2	10.0	-3.5
Total	100	100	100	-

Source: Authors' elaboration, LFS data.

Wages across different sectors tended to converge. The wage growth in low-wage industries, such as agriculture, education and healthcare was faster than on average, while in high-paying sectors like mining and finance, real wage growth tended to decelerate. While the higher-wage sectors did grow, they absorbed relatively less labor. On the other hand, the low-wage sectors contracted and the middle-pay ones expanded. The salaries of the higher-skilled grew less than the salaries for the low-skilled, which meant that the wage premium fell. This contributed to the narrowing of wage differentiation across industries. The convergence in the lower part of the wage distribution by industries sped up visibly between 2011 and 2013, reflecting governmental interventions in public sector wages and the effects of the minimum wage adjustments on agricultural employment.

Earnings inequality *within* industries also decreased, possibly reflecting a weakening demand for low-skilled workers. Using CEO data, the results suggest that wage differentiation tended to narrow in all industries (except for cultural activities), which could be driven by a waning demand for low-skilled workers. The minimum wage raises introduced in 2007 and 2009 could also be a factor behind the inequality fall. One of the most notable declines is found in retail, where the

Gini decreased from 0.46 to 0.40. A Shorrocks-Fields decomposition confirms intra-industry decreasing inequality, showing that the contribution from industry for males decreased from 9.7 to 8.1 percent, and for females from 7.9 to 3.1 percent, between 2005 and 2013.

The larger decrease in wage inequality intra-industry for females is likely due to the hastened wage growth in the major public sectors, such as education and healthcare, where female workers tend to be overrepresented. While the public-private wage gap has historically been large and to the benefit of the private sector, growth in wages in the public sector began to accelerate starting in 2012. Larger contributions from returns to education may also be behind this phenomenon as public sector workers tend to have higher levels of education.

Table 2. Shorrocks-Fields Wage Decomposition in log monthly earnings

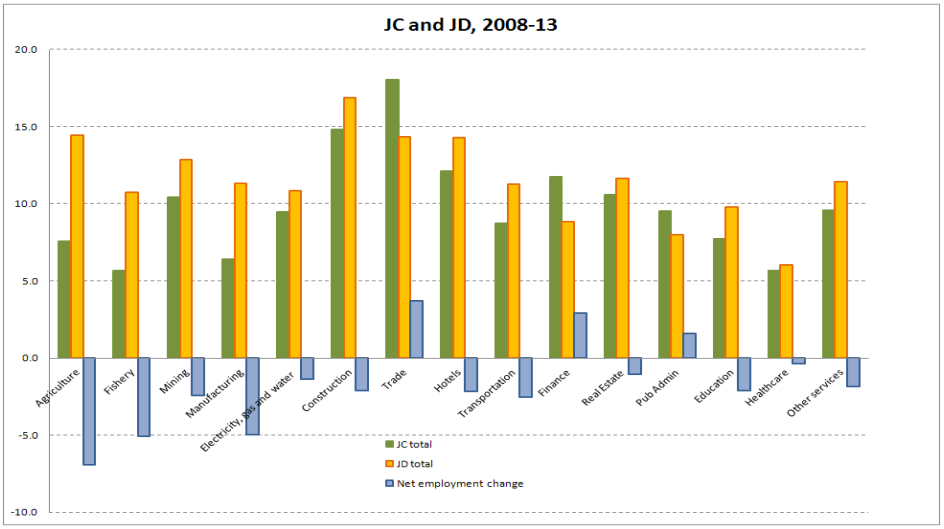
(% of change explained in CV)

	Males			Females		
	2005	**2013**	**Δ**	**2005**	**2013**	**Δ**
Age, age sq	1.0	1.1	0.2	1,1	0.7	-0.4
Education	6.9	10.7	3.9	13.7	17.0	3.3
Region	15.7	16.7	1,.0	16.7	18.2	1.7
Industry	9.7	8.1	-1.6	7.9	3.1	-4.8
Working hours	0.6	1.0	0.4	0.2	0.6	0.4
Residuals	66.3	62.4	-3.9	60.5	60.3	-0.2

Source: CEO data

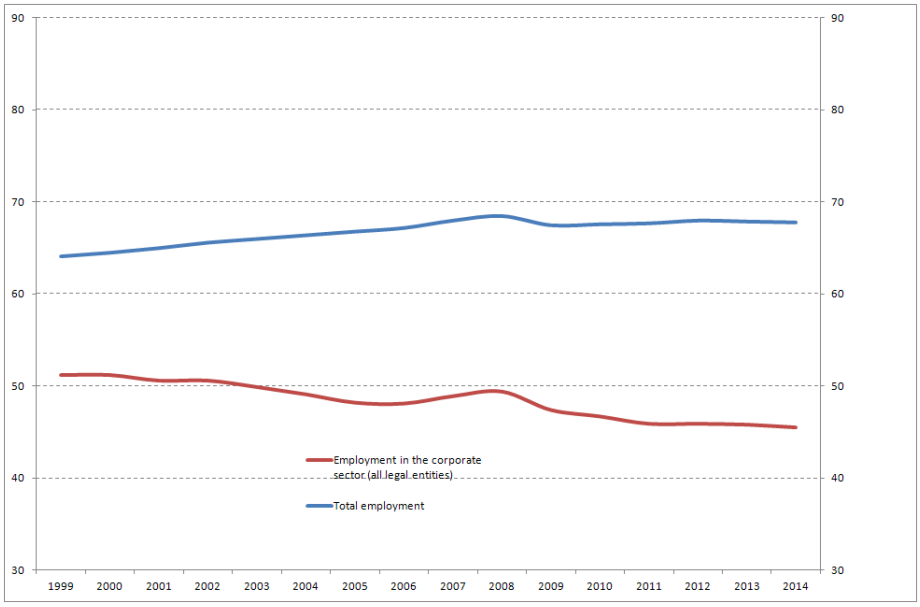
While corporate employment has contracted, total employment has in fact, increased, when accounting for informal jobs. In most industries, job destruction has far exceeded job creation (retail, construction and financial services are the only exceptions, while agriculture and manufacturing make up the bigger losers in employment) (Figure 17). This has led to an overall contraction of employment over 2008-2013. Data on job creation and destruction, however, is limited to large and medium enterprises. When small firms, self-employed, and informal workers are taken into account, employment is actually growing. The growing gap between total employment and the corporate sector employment suggests that informality has been expanding in the Russian economy (Figure 18). This component of reallocation constitutes evidence of weakening demand for labor in the formal sector.

Figure 17. Job Creation and Job Destruction by Industries, 2008-2013



Source: Rosstat data, Gimpelson (2005) estimates.

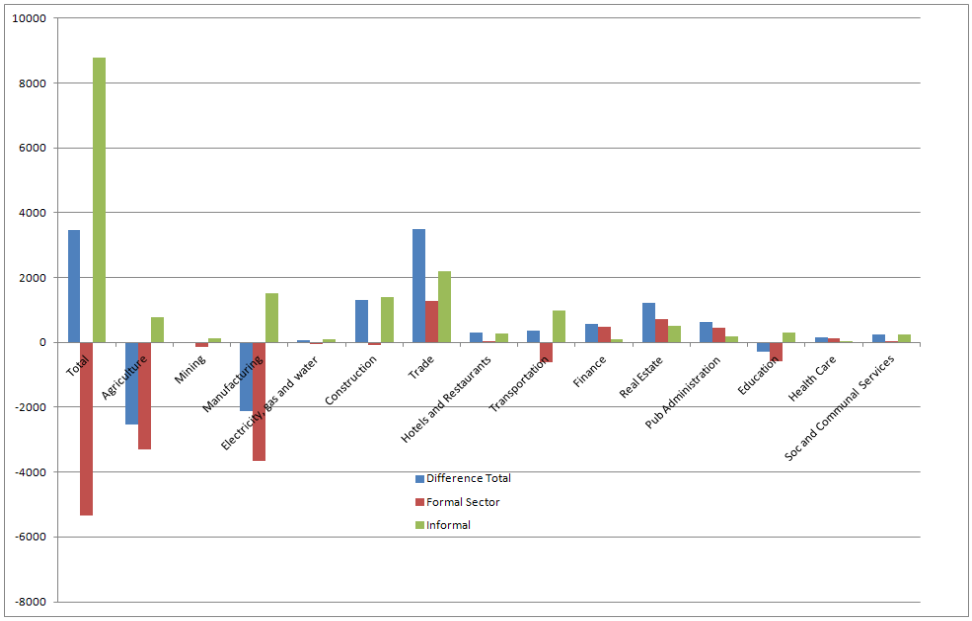
Figure 18. Total and Formal (Corporate Sector) Employment, millions



Source: Rosstat data, Gimpelson (2005) estimates

Employment in the lower-productivity, informal sector is expanding, with potential to counteract the decline in inequality. The contraction of jobs in companies and firms, while total employment continues to grow, signals to a gradual reallocation of jobs from the corporate to the informal sector. In 2000, the informal sector employed around 13 million people; in 2005 it was closer to 20 million, while in 2014 it generated labor income for 22-23 million. Figure 19 illustrates the reallocation of workers from the regulated sector to the informal one over 2000-2013. The formal sector reduced its workforce by nearly 5 million individuals during this period, while the unregulated sector incorporated over 7.5 million workers.

Figure 19. Change in Total Employment, Formal & Informal Employment, 2000-13, millions



Source: Rosstat data, Gimpelson (2005) estimates

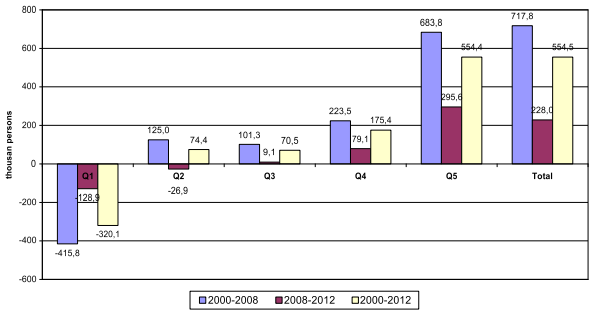
The non-corporate sector, made up largely of self-employment and hired labor in micro-businesses and households has lower productivity and earnings than the formal one. Informal earnings are also typically more unequal. So far, the productivity enhancing cross-industry reallocation has been so strong that it could not be be offset by the productivity-reducing informalization process. However, further shifts towards informality could increase income inequality.

Overall, the economic growth of the 2000s is found to have enhanced job quality and increased wages for the majority of workers. The rapid GDP growth based on the rise of commodity prices brought large wage gains but little additional employment. Nevertheless, the general rise in earnings due to the way growth was shared was so strong that this tide "lifted all boats" across the economy—even though different sectors were affected to varying degrees. The reallocation (or structural change) improved job quality in terms of the earnings-generating capacity of jobs. "Bad" jobs (low-skilled and poorly paid) were progressively destroyed, as "good" jobs (skilled and well-paid) were created instead. This gradual upgrading of all jobs across the employment spectrum helped to share prosperity. The middle segment of the distribution remained stable, while the lowest-wageaid quintile contracted and the highest-wage quintile expanded.[11]

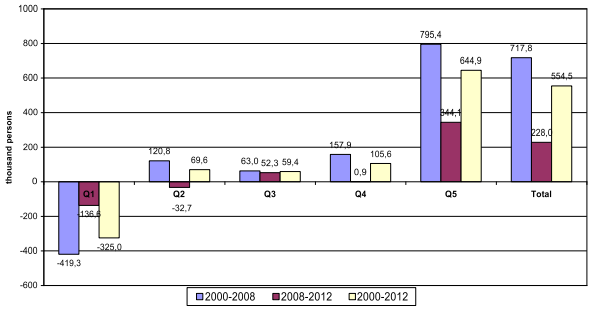
[11] In 2012, each of the three middling quintiles accumulated approximately 20 percent of the total employment (about the same as in 2000). However, the segment of low paid jobs had contracted by 7 percentage points, while the proportion of good jobs expanded by 8 percentage points.

Figure 20. Absolute annual average change in number of workers per job quintiles 2000-2012

Average monthly wage



Hourly wage



Source:Gimpelson (2015)

The effect of reallocation on productivity (and therefore on earnings) is positive in general. The analsysis finds no evidence in any part of the Russian economy (except for manufacturing), that suggests a polarization or total degradation of job composition. In most cases, the analysis finds an enhancement of the employment structure, and, in some sectors, an expansion in the middle and a flattening of the tails. As the main providers of middle-pay jobs, manufacturing industries were replaced by retail and other private sector services. Meanwhile, the impact of technologically advanced industries on structural change remained minimal.

While reallocation so far is productivity-enhancing, this positive impact could be offset by the negative impact of growing informality. Table 3 presents the results from a decomposition of labor productivity into the within-industry and structural components.[12] As shown, the "within" component accounts for most of the growth. Productivity was fueled either by resource extraction or by non-tradable services, while other sectors (agriculture, manufacturing, and transportation) contributed little. Meanwhile, the "between" components in agriculture and manufacturing are negative and, together, deduct from the aggregate productivity growth. The expansion of informality—the formal/informal divide—decreases partially the positive contribution of reallocation. The 'between" (or structural change) term decreases in value in all sectors, except for mining and financial services, pointing to an outflow from the sectors to less productive, informal activities. If informality keeps rising, its negative impact is likely to increase.

[12] Using industry level data based on national accounts, Gimpelson (2015) explores whether the reallocation discussed was productivity-enhancing or reducing. For this exercise, it is assumed that productivity and earnings are correlated and that the analysis can shed additional light on earnings and inequality developments in the period under study.

Table 3. Decomposition of labor productivity growth rates in 2004-2012 by aggregated sectors, taking into account the formal-informal split.

		Without formal/informal divide		With formal/informal divide	
	Total	Within	Between total	Within	Between
	1= 2+3 1=4+5	**2**	**3**	**4**	**5**
Total market economy*	28.01	23.54	4.47	24.40	3.61
Agriculture	0.40	0.96	-0.56	1.34	-0.94
Manufacturing	1.36	2.54	-1.18	3.46	-2.10
Mining, oil and gas (and related)	8.28	8.02	0.27	7.09	1.19
Construction, retail, telecom and other services	8.91	6.94	1.96	7.01	1.90
Transport	1.26	0.94	0.32	1.53	-0.27
Financial Intermediation and Business Services	7.80	4.13	3.67	3.97	3.83

Source: Gimpelson, 2015.

*Market economy excludes public administration, education, healthcare, and real estate industries.

Indeed, the productivity-enhancing and wage-enhancing labor upgrading process seems to have led to a decline in wage inequality. Russia has seen a significant reallocation of labor across industries towards higher-paying jobs, as reallocation boosted productivity. The process of job creation (and destruction) has led to employment growth in medium-pay industries, and an absolute and relative decline in employment in low-pay sectors. This employment restructuring, particularly the contraction of employment in low-pay and low-productivity sectors appears as the major driver of falling wage inequality.

Declining inequality, however, faces sustainability issues. The process of labor upgrading may not be sustainable. As the structural transition comes to an end, and demand stabilizes, the sectors that have been absorbing labor will reach a point where they will not be able to continue doing so (especially at higher wages). At the same time, the increasingly uncertain fiscal panorama will affect the public sector's capacity to continue to support rising public wages. Furthermore, the expansion of informality can jeopardize prospects of productivity and earnings growth, counteracting the decline in inequality. To address these challenges, higher rates of job creation are needed. This, in turns, depends on key improvements in the institutional and regulatory environment.

2.2 Non-market income: The incidence of the fiscal system[13]

1. *The analysis of the fiscal system reveals that overall it holds a moderate redistributive power, if contributory pensions are included and are considered as transfers.*
2. *This redistributive power, however, practically disappears if pensions are treated as deferred income instead of transfers, leaving a system with a regressive tax structure–based on indirect taxes—and a series of social programs with low vertical redistributive capacity.*
3. *The system however, does show redistribution across socio-demographic groups. Households with adults and no children, and households with only one child are net payers in the system, while households with two children or more, and households with pensioners (older than 65) are net receivers.*

As a complement to the income-generation capacity of households, the analysis of the net incidence of the fiscal system can uncover the reinforcing or compensating role of the existing fiscal structure.

The social security and social protection systems in Russia have undergone a deep transformation over the last decades. During the 1990s, all sectors of social protection underwent cuts in spending while major reforms took place, such as the reform of the pension system, the introduction of means-tested social assistance, the substitution of in-kind subsidies by cash benefits, etc. On the other hand, since the mid-2000s, the Russian welfare state has been expanding due to high commodity prices; though dependency on oil revenues makes the future of the system volatile (Cerami, 2009).

Russia has also carried out a series of comprehensive reforms in terms of intergovernmental relations. The present system comprises a complex structure of responsibilities divided between the federal and regional governments. Pensions and social insurance-based allowances are regulated at the federal level and financed through social insurance contributions (SIC) and the federal budget. As a result of the 2005 decentralization reform, the majority of responsibilities for regulation and financing of non-contributory social benefits were transferred from the federal to the regional level (to be matched with respective transfers). The delivery of all non-contributory programs is carried out at the municipal level. However, few municipalities provide their own social assistance benefits out of their budgets.

This section assesses the distributional impact of the main tax and social spending programs by applying a fiscal incidence analysis. The study aims to quantify who benefits and who bears the burden of redistribution at particular points in time. Given the overwhelming weight of the pension system, both as a source of revenue (social insurance contributions to the pension system represent 17.2 percent of total tax revenues plus contributions) and as a component of social spending (spending on contributory pensions is roughly 40 percent of total social spending), the analysis looks at the redistributive and poverty-reducing effect of pensions under two extreme

[13] This section is based on the CEQ analysis carried out for Russia, presented in Lustig, et al. (2015), a background piece prepared for this project. Led by Nora Lustig since 2008, the Commitment to Equity (CEQ) is a project of Tulane University, the Center for Global Development, and the Inter-American Dialogue.

assumptions: contributory pensions as deferred income, and contributory pensions as pure government transfers.

This is the first comprehensive incidence analysis of public spending and taxation for Russia. The study includes both direct and indirect taxes, as well as cash transfers and transfers in-kind, through public education and healthcare. In addition to assessing the incidence of taxation for the population as a whole, the analysis disaggregates households into categorical groups such as pensioners and active workers, and by household type. The method applied is described in detail in (Lustig & Higgins (2013).[14] Because it applies the Commitment to Equity (CEQ) methodology, the results for Russia are comparable with those of other middle-income countries for which the framework has been applied. The analysis uses the Russian Longitudinal Monitoring Survey (RLMS-HSE) 2010.

2.2.1 Fiscal Incidence Framework

Fiscal incidence analysis assesses the distributional impact of a country's taxes and transfers. Essentially, fiscal incidence analysis allocates taxes (personal income tax and consumption taxes, in particular) and public spending (social spending, in particular) to households or individuals to compare their impact on the distribution of income (see Box A5 in Annex 5). Transfers include both cash transfers and benefits in kind, such as publicly-provided government services in education and healthcare, as well as consumption subsidies such as food, electricity and fuel subsidies.

The analysis rests on four income concepts. Starting from *market income* (mainly, income from labour and capital), each new income concept incorporates other elements of the fiscal system to the previous one. *Disposable income* subtracts direct personal income taxes and adds cash transfers, *consumable or post-fiscal income* subtracts indirect taxes and adds subsidies, and *final income* adds public health and education measured at average government cost. In broad terms, *disposable income* measures how much income individuals may spend on goods and services as well as save. *Consumable income* measures how much individuals are able to actually consume. For example, a given level of disposable income could mean different levels of actual consumption depending on the size of indirect taxes and subsidies. *Final income* includes the value of public services in education and health if individuals would have had to pay for those services at the average cost to the government (see Figure 21, summarizing the four income concepts).

Public pensions from pay-as-you-go contributory systems may be considered either as deferred income (i.e., analogous to private savings, except in that they are mandatory) or as a social (government) cash transfer. If considered as deferred income, public pensions are added to market income and therefore excluded from the fiscal incidence analysis. If considered as social

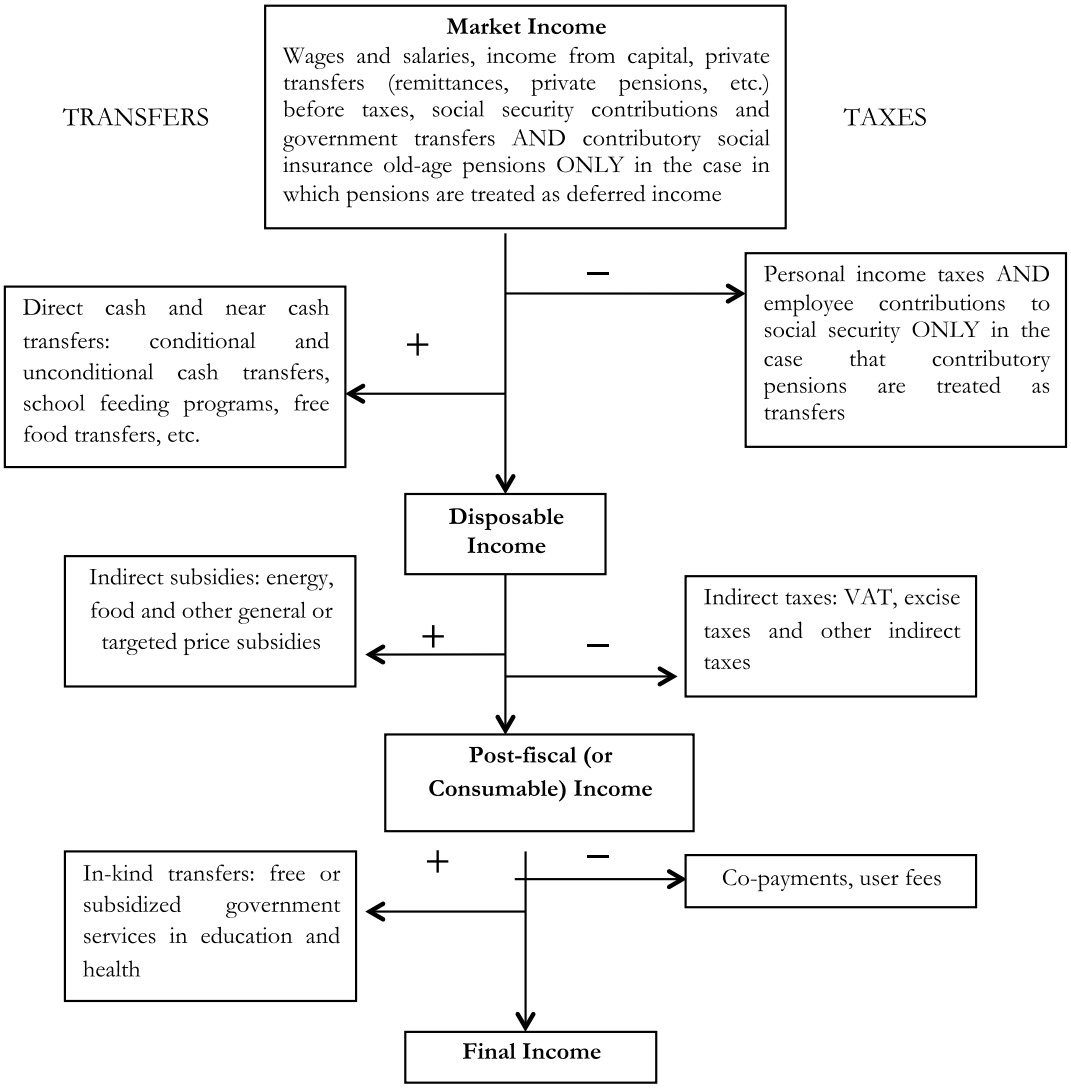
[14] For an application of this method, see Lustig, Pessino, & Scott (2014) and Inchauste et al. (2015).

transfers, public pensions are added, together with other social cash transfers, to market income and therefore are included as one of the components of fiscal income redistribution.[15]

The treatment of contributory pensions not only affects the amount of spending and how it gets redistributed, but also the ranking of households by original income or pre-fiscal income. For example, in the scenario in which contributory pensions are considered a government transfer, households whose main (or sole) source of income is pensions will have close to zero income before taxes and transfers, and thus will be ranked at the bottom of the income scale. When contributory pensions are treated as deferred income, in contrast, households who receive contributory pensions will be placed at a (sometimes considerably) higher position in the income scale. Thus, the treatment of contributory pensions in the incidence exercise may have significant implications for the order of magnitude of the "pre-fisc" and "post-fisc" inequality and poverty indicators.

Figure 21. Income Concepts and the Accounting Framework

[15] For consistency, when pensions are treated as deferred income, pension contributions are accounted as private savings and deducted from market income; when pensions are treated as social transfers, pension contributions are included as part of market income and deducted from disposable income as a direct tax.



Source: Lustig and Higgins (2013).

2.2.2 The Tax System and Social Spending in Russia

1. *Public pensions account for a very significant share of social spending in Russia (8.7 percent). Without pensions, social spending accounted for 13.1 percent of the GDP in 2010; including direct cash and near-cash transfers, social care services and spending on education and healthcare.*
2. *There is potential to increase effectiveness. Given the volume of spending, the system could redistribute more if it was better targeted.*

The Russian tax system is largely a unified, national system. While there are a few regional and local taxes, their share in overall taxation is small. Most of the personal income and corporate income tax revenue is retained at the regional level as well as more than half the excise and extraction of minerals tax revenues (see Table A3 in Annex 3 for the exact distribution). Federal

taxes include social insurance contributions, personal income tax, value added tax, tax on mineral resource extraction, corporate profit tax, and excises. The taxes accounted for in the CEQ analysis include the following: *Social insurance contributions*, which are the largest source of tax revenues, accounting for 5.3 percent of GDP in 2010; *Personal income tax* revenues, accounting for 3.9 percent of GDP; the *Value added tax (VAT),* which is the second largest source of federal revenue, accounting for 5.4 percent of GDP in 2010; and *Excise taxes,* imposed mainly on the sale of manufactured excisable goods and on the import of such goods, which account for 1 percent of GDP (Table 4). A detailed account of these taxes, and their tax rates, as well as others not included in the CEQ analysis is presented in the annex.

Table 4. Russian tax revenues, 2010

Spending Component	Billions of rubles	% of GDP	Included in analysis
Social insurance contributions			
Social Insurance Fund contributions	243.4	0.5%	yes
Healthcare Funds contributions	280.8	0.6%	yes
Direct taxes		0.0%	
Personal income tax	1790.5	3.9%	yes
Vehicle tax, etc		0.0%	yes
Indirect taxes		0.0%	
VAT	2498.6	5.4%	yes
Excise taxes	471.5	1.0%	yes
Other taxes		0.0%	
Corporate profit tax	1774.6	3.8%	
Property taxes	628.2	1.4%	
Taxes on natural resource extraction	1440.8	3.1%	
Taxes on total income	207.7	0.4%	
Arrears and overpayment on calcelled taxes	56.1	0.1%	
Total taxes and contributions analyzed (Benchmark)	**5284.9**	**11.4%**	
Total taxes and contributions (Benchmark)	**9392.3**	**20.3%**	
Pension Fund contributions	*1929.0*	*4.2%*	*yes*
Total taxes and contributions analyzed (Sensitivity Analysis)	**7213.9**	**15.6%**	
Total taxes and contributions (Sensitivity Analysis)	**11321.3**	**24.4%**	
		8.7%	

Source: Federal State Statistics Service data (http://www.gks.ru/), Statistical digest "Social situation and standard of living of the population of Russia".

In terms of pensions, since 2002, Russia maintains a three-pillar system: the first one is based on a pay-as-you-go principle; the second pillar is a funded one (for those born after 1966); while the third pillar provides mechanisms for individuals to save additional money on a voluntary basis. The first and second pillars are financed by contributions to the extra-budgetary Pension Fund, paid by employers and the self-employed. In addition, Russia has a zero pillar or general revenue-financed benefits for uninsured pensioners (the disabled, children-orphans etc.), referred to as *social pensions*. In 2010, out of the more than 44 million pensioners, 2.6 million were recipients of social pensions; while spending on social pensions accounted for 0.5 percent of GDP. The average size of a social pension in 2010 was almost half the average size of an old-age

labor pension.[16] Some of the most important components of the social protection system are described below. The details on the overall system are presented in annex 4.

Starting in the mid-2000s, Russia's Pension Fund has been running a substantial (and growing) deficit, which makes the distinction between contributory and non-contributory complex. The deficit reached 41 percent of the total pension fund amount in 2010; causing the distinction between contributory and non-contributory pensions in Russia to be somewhat arbitrary.[17] For the present analysis, in the benchmark scenario, social pensions are considered a government transfer, while contributory pensions are considered a part of market income. In the sensitivity analysis, contributory pensions are considered as a government transfer along with social pensions.

Pensioners in Russia appear to hold several benefits in terms of age of retirement, flexibility, as well as protection from inflation and risk of poverty. The statutory retirement age is among the lowest in the world: 55 years for women and 60 for men. Both early retirement and postponement are possible, while various occupational pensions exist. State pensions are not taxable and people are allowed to work while receiving pension benefits; the share, in fact, of working pensioners is about 30 percent. Contributory pensions are indexed to inflation and average wage growth rates. Social pensions are indexed to inflation rates and changes in the cost of a pensioner's poverty line, while additional ad hoc increases were common in recent years. In conjunction, this makes the poverty risk of pensioners the lowest in comparison with all other social groups. The replacement ratio, however, as measured by the ratio of the average pension and the average earnings in the economy in 2010 amounted to 35.7 percent, well below the 1980s level (40 percent).

Protection from unemployment makes up another key element of the system whereby total spending on unemployment-related benefits accounted for 0.4 percent of GDP in 2010. The *unemployment benefit*[18] is financed by general revenues. Given its weak relation to the length of service and earnings of an employee, it may be considered a transfer. The unemployment benefit is paid to nearly 90 percent of the registered unemployed. However, only about a third of unemployed individuals are registered with the public employment service. In total the number of recipients in 2010 was 1.4 million, which is less than 1 percent of the population. Registered unemployment rates in Russia are substantially lower than survey-based rates (by ILO definition), predominantly due to limited incentives for registration.

[16] That is, 4,730 rubles or USD 283 PPP for the average social pension per month compared to 8166 rubles or USD 489 PPP per month for an old-age labor pension. PPP conversion factor 2011 (consumption) from WDI for 2010 is 16.68 rubles per 1 USD.

[17] After 2010 the new formula for the insurance-based labor pension was developed to become effective in 2015. In the meantime, the deficit of the Pension Fund led to the decision to impose a temporary moratorium on the funded element in 2014-2015. Most recent developments indicate that the mandatory funded element is likely to be completely destroyed.

[18] In addition to this, the State Employment Service provides *early retirement pensions* to the recipients of unemployment benefits and *material aid* to those unemployed who exhausted their eligibility for the benefit.

Spending on social insurance-based transfers accounts for 1 percent of GDP. The most expensive benefits are a *temporary incapacity benefit* paid during the period of absence from work due to sickness or the necessity of taking care of a sick family member (0.4 percent of GDP) and a (partly non-contributory) *child allowance up to 1.5 years* (0.3 percent of GDP). The latter has become one of the main child-related cash transfers after the implementation of the pro-natalist package of reforms in 2007. The size of the *child allowance up to 1.5 years* equals 40 percent of the average monthly earnings, subject to both upper and lower limits. As of 2010, the allowance was paid to 3.6 million people in total (among which 44 percent were uninsured) or 2.5 percent of the population.

Public pensions make up the largest component of social spending in Russia (8.7 percent). Without pensions, social spending accounted for 13.1 percent of the GDP in 2010; including spending on direct cash and near-cash transfers, social care services and education and health-related spending at all levels.[19] If spending on contributory pensions is included, however, then social spending in Russia amounts to 21.3 percent of GDP. Public pensions are the largest component of social spending in Russia—8.7 percent of the GDP in 2010. Table 5 presents the social spending items.

Table 5. Russian social spending, 2010

Spending Component	Billions of rubles	% of GDP	Included in analysis	Notes and source
Direct transfers (cash and near cash)	*2,443.8*	*5.3%*		
Non-contributory (social) pensions	230.4	*0.5%*	yes	(a)
Unemployment benefit and ALMPs (quasi insurance)	183.9	*0.4%*		
Unemployment benefit and material aid to the unemployed	52.8	*0.1%*	yes	(b)
Employment promotion and ALMPs	128.4	*0.3%*		(c)
Social insurance benefits	473.4	*1.0%*		
Maternity leave allowance	67.3	*0.1%*	yes	(d)
Lump-sum birth/family placement grant	18.7	*0.0%*	yes	(d)
Child care allowance up to 1.5 years	121.8	*0.3%*	yes	(d)
Temporary incapacity benefit	185.2	*0.4%*		(d)
Other	80.4	*0.2%*		
Non-contributory (social assistance) benefits	1,316.6	*2.8%*		
Not means-tested benefits	1,078.4	*2.3%*		
Monthly and lump-sum cash payments (monetised privileges)	419.3	*0.9%*	yes	(e)
Other privileges (cash and in kind)	362.4	*0.8%*	yes	(f)
Maternity capital	97.6	*0.2%*	yes	(g)
Compensation for child care fees	9.9	*0.0%*	yes	(h)
Special forms of support for families with children	16.4	*0.0%*		(i)
Other benefits (scholarships etc.)	172.7	*0.4%*	yes	(j)
Means-tested benefits	238.3	*0.5%*		

[19] Direct transfers include the quasi-insurance unemployment benefit, insurance-based benefits, non-contributory (social) pensions and other social assistance benefits, some of which are means-tested. In-kind transfers are benefits derived from the universal public education and healthcare systems.

Child allowance up to 16(18) years	43.1	*0.1%*	yes	(b)
Housing subsidy	55.7	*0.1%*	yes	(b)
State social assistance	8.3	*0.0%*	yes	(h)
Social supplement to pension	130.6	*0.3%*		(g)
Social care (not direct transfers)	*239.5*	*0.5%*		
Social care	168.3	*0.4%*		(k)
Other social programmes	71.2	*0.2%*		(l)
Education	*1,893.9*	*4.1%*		
Childcare/preschool	321.3	*0.7%*	yes	(m)
Primary/secondary	827.4	*1.8%*	yes	(m)
Vocational	163.8	*0.4%*	yes	(m)
Tertiary	377.8	*0.8%*	yes	(m)
Other	203.6	*0.4%*		(m)
Healthcare	*1,708.8*	*3.7%*		
Primary (Outpatient) Care & In-patient care	1,592.9	*3.4%*	yes	(m)
Psychical culture and sports	115.9	*0.3%*		(m)
Social spending analyzed (Benchmark)	**4,943.3**	***10.7%***	**yes**	
Total social spending (Benchmark)	**6,046.5**	***13.1%***	**part**	
Contributory pensions	*3,819.5*	*8.2%*	*yes*	(a)
Social spending analyzed (Sensitivity analysis)	**8,762.9**	***18.9%***		
Total social spending (Sensitivity analysis)	**9,866.1**	***21.3%***	**yes**	

Source: Federal Treasury data (http://www.roskazna.ru/); Laws on implementation of the Federal and Regional budgets; Federal State Statistics Service data (http://www.gks.ru/), Statistical digest "Social situation and standard of living of the population of Russia"; Federal Employment Service (Rosstat) data (http://www.rostrud.ru/).
See Notes in Figure A4 in Annex 4.

Non-contributory social assistance, accounting for 2.8 percent of GDP in 2010, mostly goes to programmes which are not means-tested (2.3 percent of GDP). The most expensive among these programmes is the *privileges* programme (approximately 1.7 percent of GDP) inherited from the Soviet social protection system. These *privileges* are free services or discounts on payment for services[20], provided to vulnerable categories of the population, such as people with disabilities, war veterans, dependents of war victims, victims of the Chernobyl accident, etc., but also cover privileges for groups based on their merits before the state and on their occupational status. The second most expensive not means-tested social programme (0.2 percent of GDP) is the *maternity capital* programme, another element of the pro-natalist policy package introduced in 2007. This is a lump-sum grant paid to any woman who gives birth to, or adopts, a second (third and consequent) child.

While there is no such thing as a single anti-poverty benefit, there are three programmes in Russia where poverty and other eligibility criteria are mixed. Altogether, the means-tested benefits account for 0.5 percent of GDP. Eligibility for means-tested benefits is derived from

[20] These programs are broad ranged, such as free access to a wide range of services and goods.

comparing disposable family/household income with the national poverty line. The most expensive one is a *social supplement to pension*, which accounts for half of the total spending for these purposes. This benefit is provided to all non-working pensioners whose total income is below the cost of a pensioner's poverty line in the given region. The provision of the other three means-tested benefits—*Child allowances up to 16 years*, *housing subsidies*, and *state social assistance*, remains with the regional budgets (although the federal budget co-finances housing subsidies and child allowances by means of intra-budgetary transfers), hence their generosity and coverage varies from region to region. Further details on these programmes are provided in Annex 4.

There is a high coverage of education at all levels, except for pre-school, with an expenditure of 4.1 percent of GDP. *Education*-related spending in Russia accounted for 4.1 percent of GDP. The Russian constitution guarantees equal access to free-of-charge education at the pre-school, primary and secondary school levels, and primary vocational school, as well as free secondary vocational and tertiary education on a competitive basis at state and municipal educational institutions.The current system of pre-school education, inherited from the Soviet era, formally guarantees full-time day care for all children under the minimum school age (7 years). The proportion of children attending pre-school institutions was about 55-60 percent during 2000s. Currently the supply of such services, both in quantity and quality, does not satisfy the growing demand.

At 3.7 percent of GDP, healthcare is considered underfunded by WHO standards. Healthcare is free at the point of demand for Russian citizens. In 2010 spending on healthcare amounted to 3.7 percent of GDP, below the WHO's recommended level of public expenditure of 6 percent, and is thus considered underfunded.[21] There is also a high disparity in healthcare spending between different regions (about 30 percent between the lowest and the highest level of health spending per capita in 2010). Free provision is quite limited, which results in a growth of private spending on healthcare services, including "additional" services provided by public medical institutions. On the other hand, the system of ***social care institutions*** provides services to children-orphans/children left without parental care, to elderly and disabled people, and to the homeless. Spending for these purposes amounted to 0.4 percent of GDP.

2.2.3 Data and Assumptions

The Russian Longitudinal Monitoring Survey (RLMS-HSE) is used for the purpose of the CEQ analysis. Annex 6 describes how it fulfills the specific requirements for the analysis, the sample used, weights, etc. This information is summarized in Table 6.

Table 6. The database description, 2010

[21] It is also not efficient. According to WHO report in 2000 Russia ranked 75th among 191 countries by the level of per capita healthcare spending and only 127th by the level of the population health. The same level of the population health could be achieved at 60 percent of the actual healthcare spending. See: WHO 2000. *The World Health Report. Health systems: Improving performance* Geneva, Switzerland, World Health Organisation.

Original name	Russian Longitudinal Monitoring Survey (RLMS-HSE)
Provider	National Research University - Higher School of Economics
Year of collection	2010
Period of collection	October-December 2010
Income reference period	Typically income and expenditure for the month preceding the survey, for some types of expenditures - 3 months preceding the survey
Sampling	A three-stage stratified clustered probability sample of dwellings
Unit of assessment	Household (people living together and sharing income and expenses)
Coverage	Permanent residents, people living in institutions are excluded
Sample size	21,343 individuals; 7,923 households (total sample including the panel element)
Response rate for household grid	80% (60% in Moscow and St-Petersburg)
Final sample used in the analysis	16,867 individuals; 6,323 households
Weighting	The weights must be used in order to adjust the sample for design factors (sampling probabilities and non-response) and deviations from the census characteristics. In addition, the weights provided with the original data were scaled up to the overall population

Source: Authors' elaboration.

In order to determine the size of each fiscal intervention at each step of income, it is necessary to "map" the taxes and transfers from Russia's national accounts and administrative fiscal data to individual members in households. The approach, however, is different from that followed by other initiatives with similar objectives such as Euromod. The main difference is that in Euromod every fiscal intervention is microsimulated. In the CEQ approach, one tries to use information collected in the household surveys as much as possible. If the survey does not include questions on certain items, the values are either simulated or imputed following the methodologies described in Lustig and Higgins (2013). The specific method followed for each fiscal intervention is presented in Table A6 in Annex 6.[22]

2.2.4 The Impact of Fiscal Policy on Inequality and Poverty

1. *The fiscal system overall has a distributive power similar to that of the United States (if pensions are taken as transfers).*
2. *Nevertheless, if pensions are treated as deferred income, the redistributive capacity of the fiscal system pales considerably. The role that pensions play in the redistributive potential of fiscal policy is decisive.*
3. *On the other hand, while net direct taxes are equalizing, indirect ones are unequalzing, under any scenario.*

[22] The welfare indicator used in the fiscal incidence analysis is income per capita. The analysis used here is point-in-time and does not incorporate behavioural or general equilibrium effects. It is a first-order approximation that measures the average incidence of fiscal interventions. The analysis is based on economic rather than statutory tax incidence. For example, it is assumed that personal income taxes and contributions by employees and employers are borne by labour in the formal sector. Individuals who are not contributing to social security are assumed to pay neither direct taxes nor contributions. Consumption taxes are fully shifted forward to consumers. The analyses take into account the lower consumption tax incidence associated with own-consumption, rural markets and informality. Finally, it is worth noticing that CEQ data is aimed at incidence analysis and does not necessarily coincide with that found in other sources, in particular National Accounts.

The role of pensions in the redistributive capacity of fiscal policy is striking—when considered a transfer, their impact is dramatically larger. When pensions are considered deferred income, the redistributive effect equals 2.5 Gini points or a 6.5 percent reduction with respect to market income Gini. In contrast, if contributory pensions are considered a transfer, the figures are 9 Gini points and 19.4 percent, respectively. Table 7 shows the change in the Gini coefficient induced by fiscal policy for each of the income concepts for the two scenarios considered: pensions as deferred income and pensions as government transfers. The first result is the striking difference in the redistributive effect of net direct taxes (that is, from "market income" to "disposable income") depending on whether pensions are considered deferred income (and contributions to social security as mandatory savings) or a government transfer (and contributions as a tax).

The next element to note is that net direct taxes are equalizing but net *indirect* taxes are unequalizing in both scenarios. The former (latter) is observed by calculating the change from market to disposable income (from disposable to consumable income) Gini. If pensions are a transfer, the marginal contribution to the reduction in inequality from net direct taxes is large and similar to that of the marginal contribution of transfers in-kind: consider the change from market to disposable income compared with the change from consumable to final income. Transfers in-kind (education and health) are always equalizing. Transfers in-kind are the largest component when contributory pensions are treated as deferred income.

Table 7. Fiscal Policy and Inequality: Russia

	Market Income	Disposable Income	Consumable Income	Final Income
Contributory pensions included in market income				
Gini index	**0.3880**	**0.3628**	**0.3763**	**0.3445**
absolute change wrt market income	--	-0.025	-0.012	-0.043
% change wrt market income	--	-6.5%	-3.0%	-11.2%
Contributory pensions as government transfers				
Gini index	**0.4652**	**0.3750**	**0.3927**	**0.3551**
absolute change wrt market income	--	-0.090	-0.072	-0.110
% change wrt market income	--	-19.4%	-15.6%	-23.7%

Source: Authors' estimates based on Russian Longitudinal Monitoring Survey (RLMS-HSE) 2010.

1. *The effect of pensions plays an important role in how Russia benchmarks against other middle-income countries in terms of its redistributive capacity.*
2. *If pensions are considered as transfers, Russia is close to the United States' considerable level of redistribution. However, if pensions are taken as deferred income, then the country's redistributive performance is more moderate, comparable to that of Mexico.*

3. *The effect of pensions is also observable in the importance of transfers towards poverty reduction. If pensions are considered as a transfer, the reduction in poverty induced by cash transfers net of direct taxes is large.*

Depending on the assumption regarding pensions, Russia can look as redistributive as Mexico, on the moderate side or, much more redistributive, like the United States (Table 8). How does Russia compare with other middle income countries, the EU 27 and the United States? As Table 8 reflects, when pensions are considered deferred income, Russia's reduction of the Gini is slightly higher than that of Mexico's. However, if pensions are considered a transfer, redistribution is almost as large as that of the U.S. It is important to note that the difference between the two scenarios, while smaller than that observed for the EU 27, is the largest of all the rest. This reinforces the conclusion that Russia's redistributive machinery can be modest unless pensions are considered a transfer.

Table 8. Redistributive Effect: Russia vs. Middle Income Countries, the US and the EU: Pensions as Market Income and Pensions as Transfers

	Indonesia (2012) *	Colombia (2010)	Peru (2009)	Mexico (2010)	Brazil (2009)	Chile (2009) **	South Africa (2010) ***	Seven countries	USA (2011) ****	EU (2010)	Average	Russia (2010)
Pension as market income	0.0043	0.0072	0.0102	0.0230	0.0350	0.0373	0.0768	0.0277	0.0700	0.0915	0.0277	0.025113
Pension as Transfer	0.0051	0.0129	0.0095	0.0211	0.0588	0.0374		0.0316	0.1090	0.2079	0.0241	0.090186

Source: Lustig (2015; CHAPTER FOR OECD flagship) based on Brazil: Higgins and Pereira, 2014; Chile: Jaime Ruiz Tagle and Dante Contreras, 2014; Colombia: Melendez, 2014; Indonesia: Afkar et al., 2015; Mexico: Scott, 2014; Peru: Jaramillo, 2013; South Africa: Inchauste et al., 2014.
European Union: EUROMOD statistics on Distribution and Decomposition of Disposable Income,
accessed at http://www.iser.essex.ac.uk/euromod/statistics/ using EUROMOD version no. G2.0. United States: Higgins, Sean et al., forthcoming. For Russia:
Russian Longitudinal Monitoring Survey (RLMS-HSE) 2010.
Note: Year of household survey in parenthesis. For definition of income concepts see the section on methodological highlights in text.
The scenario for South Africa assumed free basic services are direct transfers.

* For Indonesia, the fiscal incidence analysis was carried out adjusting for spatial price differences.

** The only contributory pensions in South Africa are for public servants who must belong to the Government Employees Pension Fund.
Since the government made no transfers to the GEPF in 2010/11, there is no scenario in which contributory pensions are treated as transfers.

*** Chile only has a pay-as-you-go system for older workers and a fully funded system running since 1980 based on individual accounts.
The contributions to the old system (the ones that may subsist) are not available as a separate item in National Accounts.

**** The Gini coefficients for the United States and for the European Union are for equivalized income.

The importance of cash transfers (net of direct taxes) depends on whether pensions are treated as transfers or not; in the former case, the impact on poverty is as high as 6 percent. The importance of the assumption regarding pensions is also reflected in the change in poverty. Table 9 shows that the reduction in poverty induced by cash transfers net of direct taxes is quite small if pensions are considered market income: a mere -0.7 percent change from market income to disposable income. However, the change equals -6.3 percent if pensions are treated as a transfer. More importantly, net indirect taxes increase poverty above the prevailing one with market income by a nontrivial amount if pensioners are excluded from the poor (e.g., the scenario in which pensions are part of market income). If pensions are treated as a pure transfer, in contrast, the consumable income poverty is lower than market income for each of the poverty lines considered.

Table 9. Fiscal Policy and Poverty: Russia

	Market Income	Disposable Income	Consumable Income
Contributory pensions as market income			
$1.25 PPP	**1.9%**	**1.2%**	**3.4%**
absolute change wrt market income	--	-0.7%	1.5%
$2.5 PPP	**3.9%**	**2.6%**	**5.6%**
absolute change wrt market income	--	-1.3%	1.7%
$4 PPP	**7.7%**	**6.1%**	**10.6%**
absolute change wrt market income	--	-1.6%	2.9%
National PL (≈$10 PPP)	**23.3%**	**22.5%**	**29.6%**
absolute change wrt market income	--	-0.8%	6.3%
Contributory pensions as government transfers			
$1.25 PPP	**7.5%**	**1.3%**	**3.9%**
absolute change wrt market income	--	-6.3%	-3.6%
$2.5 PPP	**11.4%**	**3.0%**	**6.9%**
absolute change wrt market income	--	-8.5%	-4.6%
$4 PPP	**17.2%**	**7.5%**	**13.1%**
absolute change wrt market income	--	-9.7%	-4.2%
National PL (≈$10 PPP)	**35.6%**	**28.8%**	**36.7%**
absolute change wrt market income	--	-6.8%	1.1%

Source: Authors' estimates based on Russian Longitudinal Monitoring Survey (RLMS-HSE) 2010.

1. *The system clearly favors fertility: households with two or three children are net receivers (more so, those households with three children), while households with no children or with only one child, are net payers.*

2. *On the other hand, every age group pays in the aggregate, only those older than 65 are net receivers.*

Looking at the impact of the fiscal system by demographic groups, it emerges that households made up of a couple and a single child as well as adults without children subsidize all other groups. The system clearly favors fertility: households with two or three children are net receivers. As shown in Table 10, pensioners and couples with three children or more are the groups that benefit the most from the system. Couples with two children also benefit in net terms (mainly due to the program "maternity capital"). Households with no children or with only one child, on the other hand, are net payers. In terms of age groups, all groups are net payers in the aggregate, except for those older than 65.

Table 10. Incidence by demographic group

Group:	Net Payers (-) Pensions as market income	Net Payers (-) Pensions as transfers
couple 1 child	-16.5%	-7.0%
couple 2 children	0.6%	4.9%
couple 3+ children	42.4%	42.3%
lone parents	1.8%	12.7%
only adults	-21.0%	-29.9%
only pensioners	1.7%	212.1%
mixed	-13.4%	8.2%
Total Population	-10.1%	-0.3%

Source: Lustig, et al. (2015)

Table 11. Incidence by age group

Group:	Net Payers (-) Pensions as market income	Net Payers (-) Pensions as transfers
0-17 years	-3.0%	-6.6%
18-29 years	-14.1%	-19.8%
30-64 years	-14.0%	-9.5%
65+ years	2.6%	163.7%
Total Population	-10.1%	-0.3%

Source: Lustig, et al. (2015)

The results in this section show that the Russian system of transfers and taxes has a limited redistribute capacity vertically, but does redistribute among socio-demographic groups. There seems to be room to reconsider the targeting of some programs in order to enhance the distributional impact of the system. The existing redistribute impact (horizontal) may reflect political economy considerations whose efficiency implications have not been analyzed, but could be non-negligible.

3. Are these trends sustainable?

1. Concerns for sustainability in the trends observed are threefold:

i) Labor upgrading winding down/stagnating, as the structural transformation of the economy comes to an end; in addition to the increase in the informal economy, which will have an effect on the declining wage inequality observed to date.

ii) Public, with fiscal space shrinking, the state's capacity for transfers will decrease, affecting the progressive power of non-labor income.

iii) Spatial: as labor regulation tends to strengthen with the economic downturn, it is likely to reduce the capacity of firms to adjust and crate more employment.

The results discussed in this note, based on the findings of the background pieces, suggest that there are reasons for concern regarding the sustainability of the recent positive trends in poverty and shared prosperity. In terms of labor income, the productivity enhancing labor shifts observed in the last ten years are not likely to continue for two reasons. First, because the structural changes implied by those shifts are slowing down and, second, because the macroeconomic (cyclical) conditions will also be adverse. The downward shift in the size distribution of firms and the increase in informality will impose a cost to the overall economy in terms of productivity, and will affect high skilled worker relatively more.

In terms of the non-labor income, the fiscal system will be facing a narrowing fiscal space. In addition to the weak redistribute capacity of the system, fiscal pressures may impose constraints on fiscal reforms, which may be necessary to enhance the distribute capacity. As a result of the above, the income growth prospects in Russia are negative, not only in terms of the level of growth (or contraction in the short run, but also in terms of the incidence of such a growth pattern, which is likely to become more regressive.

Policy responses to overcome these trends should focus on improving the market functioning in specific markets (credit and housing/real estate, for example) so that the households at the bottom can use all their assets more intensively. Enhancing market function and protecting competition would also improve business environment, as the private sector becomes crucial in a sustainable growth strategy. On the fiscal side, there is room to improve the system at the margin to enhance its redistributive capacity.

References

Abowd, J.and F. Kramarz (1999). 'Econometric analyses of linked employer-employee data' *Labour Economics*, 6(1): 53-74.

Afkar, R., J. Jellema, and M. Wai-Poi, "Fiscal Policy, Redistribution, and Inequality in Indonesia," in G. Inchauste and N. Lustig (eds), *The Distributional Impact of Fiscal Policy: Experience from Developing Countries*, forthcoming.

Andrienko, Y., and S. Guriev. (2004). 'Determinants of interregional mobility in Russia', *Economics of Transition*, Vol. 12(1): 1–27.

Atencio, A. and J. Posadas (2013). 'Gender gap in pay in the Russian Federation: Twenty years later still a concern', mimeo.

Autor D. H., F. Levy F and R.J. Murnane(2003).'The Skill Content of Recent Technological Change: An Empirical Exploration' *The Quarterly Journal of Economics,*118 (4): 1280–1333.

Beneke, Margarita, Nora Lustig y José Andrés Oliva. 2015. "El impacto de los impuestos y el gasto social en la desigualdad y la pobreza en El Salvador." CEQ Working Paper No. 26, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue.

Boeri, T.and K. Terrell (2002). 'Institutional determinants of labor reallocation in transition', *Journal of Economic Perspectives*, 16(1): 51-76.

Brainerd, E. (1998). 'Winners and Losers in Russia's Economic Transition', *TheAmerican Economic Review*, 88(5): 1094-1116.

Bucheli, Marisa, Nora Lustig, Máximo Rossi, and Florencia Amábile. 2014. "Social Spending, Taxes and Income Redistribution in Uruguay." In Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review,* May, Volume 42, Issue 3.

Bussolo, M., and L.F. Lopez-Calva (2014) "Shared Prosperity: Paving the Way in Europe and Central Asia." Washington, D.C: World Bank.

Cabrera, Maynor, Nora Lustig and Hilcías Morán. 2014. "Fiscal Policy, Inequality and the Ethnic Divide in Guatemala." CEQ Working Paper No. 20, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, October.

Cerami, A. 2009. Welfare state developments in the Russian Federation: oil-led social policy and the 'Russian miracle'. *Social Policy and Administration,* 43**,** 105-120.

Clarke, S. (1997). 'Structural Adjustment Without Mass Unemployment. Lessons from Russia'. Edited by S. Clarke. Edward Elgar Publishing Inc, 1998.

Commander, S.andJ. Kollo. (2008). 'The changing demand for skills Evidence from the transition', *Economics of Transition*, 16(2): 199-221.

Cook, L. J. 2007. *Post-communist welfare states: reform politics in Russia and Eastern Europe,* Ithaca, NY, and London, Cornell University Press.

Davis S. and J. Haltiwanger (1999). Gross Job Flows. Chapter 41. In: Handbook of Labor Economics, Vol.3. Edited by O.Ashenfelter and D.Card. Elsevier, 1999.

Davis S., R. Faberman and J. Haltiwanger. 'The Flow Approach to Labor Markets: New Data Sources and Micro–Macro Links'. *Journal of Economic Perspectives, 20 (3): 3-26*.

Fedorov, L. (2002). 'Regional inequality and regional polarization in Russia, 1990–1999', *World Development*, 30(3): 443–456.

Fernández-Macías E., D. Storrieand J. Hurley (2012). Transformation of the Job Structures in the EU and USA., E. Fernández-Macías, D. Storrie and J. Hurley (Eds.). London, UK: Palgrave MacMillan.

Ferreira, F.H.G., N. Lustig and D. Teles (eds.) (2015), "Appraising Cross-National Income Inequality Databases", *Journal of Economic Inequality*, Special Issue, forthcoming.

Ferreira, F., S. Firpo and J. Messina (2014). 'A more level playing field? Explaining the decline in earnings inequality in Brazil, 1995-2012', IRIBA WP No. 12.

Fields, G. (2003). 'Accounting for Income Inequality and Its Change: A New Method, with Application to the Distribution of Earnings in the United States', *Research in Labor Economics, 22(3): 1-38*.

Firpo, S., N. Fortin, and T. Lemiuex. (2007). 'Decomposing Wage Distributions using Recentered Influenced Function Regressions' Working Paper British Columbia University

Flemming, J. and J. Micklewright. (1999). 'Income Distribution, Economic Systems and Transition', Innocenti Occasional Papers, Economic and Social Policy Series no. 70.

Fortin, N., T. Lemieux, and S.Firpo (2011) 'Decomposition Methods Economics' Chapter 1. Handbook of Labor Economics. Vol. 4. Elsevier B.V

Gimpelson V. and R.Kapeliushnikov (2014). 'Polarization or Upgrading? Evolution of Employment in Transitionary Russia', IZA DP No. 8688.

Gimpelson V., O.Zhikhareva and R.Kapeliushnikov (2014). 'Job Turnover: What the Russian Statistics Tells Us'. *Voprosy Ekonomiki*, No. 7.

Gimpelson, V.and Kapeliushnikov, R. (2011). 'Labor market adjustment: Is Russia different?' Working Paper WP3/2011/04, Series WP3 Labour Markets in Transition, Higher school of economics, Moscow.

Gimpelson, V. and Lippoldt, D. (2000). 'The Russian Labour Market: Between Transition and Turmoil', London, L.: Roman & Littlefield.

Gonzalez, A., S. Sharma, and J. Zhao (2005). 'Enforcing Inflexibility: Employment Adjustment with Variable Enforcement of Labor Laws'.

Goos M., A. Manning and A. Salomons. (2009) 'The Polarization of the European Labor Market' , *The American Economic Review, 99 (2): 58-63*.

Goos M. and A.Manning. (2007) 'Lousy and Lovely Jobs: The Rising Polarization of Work in Britain' *Review of Economics and Statistics*. 89 (1): pp. 118-133.

Gorodnichenko, Y., K. Sabirianova Peter and D. Stolyarov. (2010). 'Inequality and volatility moderation in Russia: Evidence from micro-level panel data on consumption and income', *Review of Economic Dynamics*, 13(1): 209-237.

Guriev, S.and E. Vakulenko. (2014). 'Breaking out of poverty traps: Internal migration and interregional convergence in Russia', *Journal of Comparative Economics* (in press).

Haltiwanger J., S. Scarpetta and H. Schweiger. (2010) 'Cross Country Differences in Job Reallocation: The Role of Industry, Firm Size and Regulations'. EBRD Working Paper No. 116.

Higgins, S., N. Lustig, W. Ruble and T. Smeeding (2015), "Comparing the Incidence of Taxes and Social Spending in Brazil and the United States", Review of Income and Wealth, forthcoming..

Higgins, Sean and Claudiney Pereira. 2014. "The Effects of Brazil's Taxation and Social Spending on the Distribution of Household Income." In Lustig, Nora, Carola Pessino and John Scott. 2014.

Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review,* May, Volume 42, Issue 3.

Hussmanns R. (2004) 'Measuring the Informal Economy: From Employment in the Informal Sector to Informal Employment', Bureau of Statistics Working Paper No. 53. Geneva: International Labour Office.

Inchauste, G., N. Lustig, M. Maboshe, C. Purfield and I. Wollard (2015), "The Distributional Impact of Fiscal Policy in South Africa", Policy Research Working Paper, No. 7194, World Bank, February.

Jaramillo, Miguel. 2014. "The Incidence of Social Spending and Taxes in Peru." In Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review*, May, Volume 42, Issue 3.

Kakwani, Nanak C. 1977. "Measurement of Tax Progressivity: An International Comparison." *The Economic Journal* 87(345): 71-80.

Katz, L. and K. Murphy.(1992). 'Changes in Relative Wages, 1963-1987: Supply and Demand Factors', *Quarterly Journal of Economics*, 107(1): 35-78.

Kazakova, E..(2007). 'Wages in a growing Russia: When is a 10 percent rise in the gender wage gap good news?', *CERGE-EI Working Paper 257*

La Porta, R., and A..Shleifer (2014). 'Informality and Development.' *,* 28 (3): 109–26 .

Lukiyanova, A. (2015). Earnings inequality and informal employment in Russia, Economics of Transition (forthcoming).

Lukiyanova A. (2011). 'Effects of Minimum Wages on the Russian Wage Distribution', / Working papers by NRU Higher School of Economics, Series EC Economics, No. 09.

Lukiyanova, A. (2006). 'Structure and Distribution of Earnings in Russia, 1994–2003', *The Journal of Comparative Economic Studies*, 4: 9–40.

Lustig, N. (2015), "The Redistributive Impact of Government Spending on Education and Health: Evidence from 13 Developing Countries in the Commitment to Equity Project" Chapter 17 in Inequality and the Role of Fiscal Policy: Trends and Policy Options, edited by Benedict Clements, Ruud de Mooij, Sanjeev Gupta, and Michael Keen (Washington: International Monetary Fund, forthcoming).

Lustig, N. (2015), "Inequality and Fiscal Redistribution in Middle Income Countries: Brazil, Chile, Colombia, Indonesia, Mexico, Peru and South Africa. Evidence from Commitment to Equity

Project (CEQ)", *CEQ Working Paper*, No. 31, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, Forthcoming.

Lustig, Nora. 2015. "Fiscal Policy, Inequality and the Poor in the Developing World. Round 1." CEQ Working Paper No. 23, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue. Forthcoming.

Lustig, Nora (editor). 2015. Commitment to Equity Assessment: Estimating the Impact of Fiscal Policy on Inequality and Poverty. Handbook. Forthcoming.

Lustig, N., A. Enami and R. Aranda (2015), Measuring the Contribution of Taxes and Transfers to Changes in Inequality and Poverty: How to Address Path Dependency. CEQ Working Paper No. 25, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue.

Lustig, N., C. Pessino and J. Scott (eds.) (2014). The Redistributive Impact of Taxes and Social Spending in Latin America, Special Issue, Public Finance Review, May, Vol. 42, No. 3.

Lustig, Nora and Carola Pessino. 2014. "Social Spending and Income Redistribution in Argentina in the 2000s: the Rising Role of Noncontributory Pensions." In Lustig, Nora, Carola Pessino and John

Lustig, N. and S. Higgins (2013), "Commitment to Equity Assessment (CEQ): Estimating the Incidence of Social Spending, Subsidies and Taxes. Handbook", *CEQ Working Paper*, No. 1, July 2011, revised January 2013, New Orleans, United States.

McMillan, M., and D. Rodrik.(2011). 'Globalization, Structural Change, and Productivity Growth' In Making Globalization Socially Sustainable, edited by Mark Bacchetta and Marion Jansen, 49–84. Geneva: ILO; WTO. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_144904.pdf

Melendez, M. (2014), "CEQ Master Workbook: Colombia", November 21, Tulane University.

Milanovic, B. (1999). "Explaining the increase in inequality during transition", *Economics of Transition*, 7(2): 299-341

Mitra, P. and R. Yemtsov. (2007). 'Increasing inequality in transition economies: Is there more to come?', in Bourguignon, F., Pleskovic, B. (Eds.) Annual World Bank Conference on Development Economics: Beyond Transition.

OECD (2011). The Labour Market and Social Policy Review: the Russian Federation.

Packard, T., J. Koettl, and C. Montenegro (2012) 'In From the Shadow: Integrating Europe's Informal Labor', Washington DC: The World Bank.

Ruiz-Tagle, J. and D. Contreras (2014), CEQ Master Workbook: Chile, August. (SI)

Sabirianova Peter, K. (2003). 'Skill-Biased Transition: The Role of Markets, Institutions, and Technological Change', IZA DP No.893.

Sabirianova Peter, K., (2002). 'The Great Human Capital Reallocation: A Study of Occupational Mobility in Transitional Russia', *Journal of Comparative Economics*, 30(1): 191 – 217.

Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review,* May, Volume 42, Issue 3.

Scott, John. 2014. "Redistributive Impact and Efficiency of Mexico's Fiscal System." In Lustig, Nora, Carola Pessino and John Scott. 2014. Editors. *The Redistributive Impact of Taxes and Social Spending in Latin America. Special Issue. Public Finance Review*, May, Volume 42, Issue 3.

Shorrocks, A.F. (2013), "Decomposition Procedures for Distributional Analysis: A Unified Framework Based on the Shapley Value", Journal of Economic Inequality, pp. 1-28.

Titterton, M. 2006. Social policy in a cold climate: health and social welfare in Russia. *Social Policy and Administration,* 40**,** 88-103.

UNICEF, 2011. The situation analysis of children in the Russian Federation: on the way to the equal opportunity society. Moscow: UNICEF.

Voskoboynikov, I. (2012). 'New Measures of Output, Labor and Capital in Industries of the Russian Economy' GGDC Research Memorandum GD-123.
http://www.rug.nl/feb/onderzoek/onderzoekscentra/ggdc/index;

WHO, 2000. *The World Health Report. Health systems: Improving performance* Geneva, Switzerland, World Health Organisation.

World Development Report 2013. Jobs. World Bank 2013

World Bank (1999). 'Russia: Targeting and the longer-term poor', Report No.19377-RU.

Background papers for this project:

- Calvo, P.A., L.F. Lopez-Calva, and J. Posadas (2015). "A decade of declining earnings inequality in the Russian Federation", Background paper.

- Gimpelson, V. (2015) "Industrial Foundations of the Russian Inequality: Looking from the Demand Side". Background paper

- Gimpelson, V. (2015). "Inequality of labor market incomes", Background paper.

- Lopez-Calva, L.F., N. Lustig, M. Matytsin and D. Popova (2015). "Who Benefits from Fiscal Redistribution in Russia?", Background paper.

Annexes

A1. RIF decomposition methodology

The decomposition methodology developed by Firpo, Fortin and Lemieux (2007) seeks to decompose changes in any moment in a distribution while still providing a detailed account of the contribution of each variable used in the regression. The decomposition builds on the use of Re-centered Influenced Functions—widely called RIF—that create a linear approximation for the moments of the distribution. These RIF regressions, developed by the same authors, are described in detail in Firpo, Fortin, and Lemieux (2009). Next, we present the basic steps behind this approach and the interpretation changes, compared to the traditional Oaxaca-Blinder decomposition.

Assuming wages Y_{it} depend on a set of characteristics X_i and some unobserved characteristics or components ε_i:

$$Y_{it} = g_t(X_i, \varepsilon_i) \quad \text{for} \quad t = 0,1 \tag{1}$$

where $g_t(X_i, \varepsilon_i)$ are unknown functions that can change over time, and for which we are not imposing any functional form. The analysis does take place under the assumption that there is some unknown joint distribution for (Y, T, X), where T is the time period. Thus from the observed data (Y, T, X), $Y_1|T = 1 \sim F_1$ and $Y_0|T = 0 \sim F_0$.

The objective of the decomposition is to estimate a counterfactual distribution for wages where everything else is left fixed except for the function governing wages. Thus, we are interested in estimating $Y_0|T = 1 \sim F_C$. This counterfactual distribution, F_C, is the one that would have prevailed under the wage structure of group 0, but with the distribution of the observed and unobserved characteristics of group 1.

The decomposition is performed at a certain distributional moment or statistic. Following the nomenclature of Firpo, Fortin and Lemieux (FFL), we call v the function that computes a (functional) statistic of the joint distribution of $(Y_0, Y_1)|T$. This function v can produce the mean, the variance, the Gini coefficient or a quantile moment. Thus, the overall wage gap can be computed based on any statistic:

$$\Delta_O^v = v(F_1) - v(F_0) = v_1 - v_0 \tag{2}$$

where F_{vt} are real functions that generate the statistic v at time t. We then decompose using the counterfactual distribution to compute composition and wage structure effects:

$$\Delta_O^v = (v_1 - v_C) + (v_C - v_0) \tag{3}$$
$$\Delta_O^v = \Delta_S^v + \Delta_X^v$$

where Δ_S^v is the "wage structure" component and Δ_X^v is the "composition" component of the overall wage gap. The wage structure component captures the change in the distribution function, from $g_1(.,.)$ to $g_0(.,.)$, keeping the distribution of $(X, \varepsilon)|T = 1$ fixed. The composition component, instead, leaves the distribution function fixed at $g_0(.,.)$ and captures the differences in the distribution of characteristics $(X, \varepsilon)|T = 1$ to $(X, \varepsilon)|T = 0$. Notice that the composition effect identifies changes in both observable and unobservable characteristics. This is an important difference compared to other decomposition methodologies previously developed.

In order to be able to compute these counterfactual functions, two assumptions need to hold:

(i) Ignorability. Let (ε, T, X) *have a joint distribution. For all* x *in* χ*:* ε *is independent of* T *given* $X = x$.

The *Ignorablity* assumption simply states that there should not be non-random selection of the characteristics. For example, if we were trying to analyze gender wage gaps, this assumption will not hold for the majority of women as more skilled women (both in terms of observable and unobservables) are more likely to work, and thus their wages will not represent the group.

(ii) *Overlapping Support. For all* x *in* χ, $p(x) = Pr[T = 1|X = x] < 1$. *Furthermore,* $Pr[T = 1] > 0$.

The *Overlapping Support* assumption requires that there is an overlap in all observable characteristics in the two groups. In other words, all observed values of x should be observed in both groups.

Under these two assumptions, the counterfactual distribution could be estimated using a re-weighting approach, similar to that employed in the program evaluation literature. The re-weighting scheme is:

$$\begin{aligned} \omega_1(T) &\equiv \frac{T}{p} \\ \omega_0(T) &\equiv \frac{1-T}{1-p} \\ \omega_C(T,X) &\equiv \left(\frac{p(X)}{1-p(X)}\right)\left(\frac{1-T}{p}\right) \end{aligned} \tag{4}$$

where the first two re-weighting functions transform features of the marginal distribution of Y into features of the conditional distribution of Y_1, given $T = 1$, and of of Y_0 given $T = 0$. The third re-weighting function transforms the marginal distribution of Y into features of the counterfactual distribution of Y_0 given $T = 1$.

If these two assumptions hold, then the function that computes the statistic of interest is identified as:

$$\begin{aligned} F_t(y) &= \mathbb{E}[\omega_t(T).\mathbb{I}\{Y \le y\}] \quad \text{for} \quad t = 0,1 \\ F_C(y) &= \mathbb{E}[\omega_C(T,X).\mathbb{I}\{Y \le y\}] \end{aligned} \tag{4}$$

which also allows the identification of Δ_S^v and Δ_X^v.

The FFL methodology continues by applying the RIF regressions to further divide the wage structure and composition effects into the contribution of each covariate. At this point, Δ_S^v and Δ_X^v, which are non-linear, have been identified non-parametrically (via the re-weighting functions). To further decompose into the effect of each covariate, FFL uses RIF to provide a linear approximation to each Δ_S^v and Δ_X^v. This linearization works as follows:

$$RIF(y; v) = v(F) + IF(y; v) \tag{5}$$

where the influence function (IF) captures the part of the variation (or mass of the distribution) that lies outside the 'point of linearization' (or point of mass concentration). Mathematically,

$$\begin{aligned} IF(y; v) &= \lim_{\epsilon \to 0} \frac{(v(F_\epsilon) - v(F))}{\epsilon} \\ F_\epsilon(y) &= (1-\epsilon)F + \epsilon\delta_y \qquad \text{for } 0 \le \epsilon \le 1 \end{aligned} \tag{6}$$

where δ_y is the distribution that concentrates the mass around y.

The critical advancement is that the law of iterated expectations can be applied to RIF, and from there, the contributions of each covariate may be obtained. Then, the decomposition can be written as:

$$\Delta_O^v = \Delta_S^v + \Delta_X^v \tag{7}$$
$$\Delta_O^v = (m_1 - m_C) + (m_C - m_0)$$

where $m_t^v \equiv E[RIF(y;v)|X, T = t]$ for $t = 0,1$, and $m_C^v \equiv E[RIF(y_0;v)|X, T = 1]$.

We now move to the interpretation of each component: composition and wage structure. The first thing to keep in mind is that, because we are working with RIF regressions, we can only obstain first-order approximations. Thus, each of the components will include an approximation error term, which is expected to be small in size.

In the composition effect, the contribution of each covariate should be interpreted as the "policy effect" of changing the distribution of the covariate between $T = 0$ and $T = 1$, while holding constant the distribution of the other covariates and the function that determines wages, i.e. the wage structure.

The interpretation of the contributions of each covariate to the wage structure effect is cumbersome as it must be done with respect to the base category chosen. Unfortunately, the RIF decomposition does not address the problem of choice of base category, as in the seminal Oaxaca and Blinder approach. Moreover, the approximation residual term will vary with the choice of the base category. However, independently of the choice of base category, the approximation residual terms should be small. In sum, both the residual difference and the wage structure associated to each covariate depend on the choice of base group.

The contribution of each covariate can be interpreted as the "policy effect" of changing the distribution of X from its value in the base group at time $T = 1$. This is usually referred to as the change in the dispersion of the distribution over time, or simply the dispersion enhancing effect under $g_1(.,.)$ and $g_0(.,.)$.

A2. Wage inequality in the late 1990s

Table A2. Wage inequality in the late 1990s and early 2000s, according to different studies.

Study	Period	Trend
Gorodnichenko et al. (2009)	1994-2005	Wage inequality remained constant
Lukiyanova (2006)	1994-early 2000s	Wage inequality remained stable between 1994-96; rose after the 1998 crisis and remained high until decreasing from 2002 on to reach its mid-1990s level.
Mitra and Yestov (2006)	1989 to early 2000s	Wage inequality rose

Source: Authors' elaboration.

Using a panel micro data set from the Russia Longitudinal Monitoring Survey (RLMS), Gorodnichenko et al. (2009) look at different measures of individual earnings and hourly wages, both actual and contractual, finding that wage inequality did not grow between 1994-2005. Lukiyanova (2006) finds that wage inequality stayed stable between 1994-96, spiked after the 1998 crisis and remained high until 2002, when it decreased, falling back to its mid-1990s level. On the other hand, contrasting different data sources, Mitra and Yestov (2006), report that wage inequality increased in Russia from 1989 to the early 2000s, reflecting "a rising education premium, minimum wage policies and increased divergence of wages across sectors, regions and occupations", in addition to other determinants such as restructuring and unemployment; changes in government spending and taxation; price liberalization and inflation, among others. In this line, in terms of returns to education, Gorodnichenko et al. (2009) find that the education premium rose since 1995 but dropped after 2002. These authors also find a substantial male tertiary education premium (college/non-college), about 50 percent on average.[23]

[23] Refers to the average wage of university educated males divided by the average wage of non-university educated males.

A3. The Russian Tax System

The Russian tax system is largely made of federal taxes. These are: social insurance contributions, personal income tax, value added tax, tax on mineral resource extraction, corporate profit tax, excises.[24] There are a few regional and local taxes, though their share in overall taxation is small. All regional and local taxes are asset-related: property tax, vehicle tax and land tax. Most of the personal income and corporate income tax revenues are retained at the regional level, as well as more than half of the excise and extraction of minerals taxes. Table A3 presents the exact distribution.

Table A3. Distribution of Principal Tax Revenues among Subnational Tiers of Government

	Percent Share Retained by Each Tier as of 2014				
	Federal	Re-gional	First Tier Munici-palities*		Second Tier Munici-palities
			Cities	Districts	
Federally controlled taxes					
Corporate income tax	10	90			
Personal income tax		85	15	5	10
Excise on alcohol	50	50			
Excise on gasoline**	28	72			
Tax on extraction of common minerals		100			
Tax on extraction of other minerals excluding hydrocarbons and diamonds	40	60			
Simplified tax on imputed income	10		90	90	
Simplified tax on small businesses			100	100	
Single agriculture tax			100	50	50
Regionally controlled taxes					
Taxes on transport, gambling and enterprise assets		100			
Locally controlled taxes					
Individual property and land taxes					100
*Cities receive the shares assigned to both districts and second tier municipalities. ** The federal share is distributed among regions on the basis of road mileage Source: Russian federal legislation					

Some federal taxes such as the personal income tax may be forwarded to regional budgets through intra-budgetary transfers; while the corporate profit tax is split into federal and regional shares defined by the Tax Code.

Social insurance contributions are the largest source of tax revenues, accounting for 5.3 percent of GDP in 2010. They represent a financial obligation imposed on employers (employees do not pay separate contributions) and the self-employed in order to obtain revenues required for providing pensions, social insurance allowances (including maternity, temporary incapacity[25], unemployment) and

[24] Other federal taxes prescribed by the Tax Code include a tax on animal and water wildlife, levied upon licensed hunters and fisheries, and a document tax, e.g. the ad valorem duty required to start civil litigation in state courts.

[25] Note that the *workplace accident insurance* is not part of the social contributions. Each employer must contribute to group accident insurance. The rate varies between 0.2 and 8.5percent, depending on the type of business.

healthcare. Contributions paid by employers are specified as percentage of the gross annual earnings of an employee. Contributions paid by the self-employed are defined as a percentage of the minimum wage. The self-employed are obliged to pay only pension and health insurance contributions, participation in other social insurance programs is voluntary. The same tax rates apply for employers and the self-employed. In 2010 the overall tax rate of 26 percent was applied to gross annual earnings below 415,000 rubles, while earnings exceeding this amount were exempt.[26]

Personal income tax revenues account for 3.9 percent of GDP. Main income (work for pay, contractor's agreements, housing lease) is taxed at 13 percent rate. Capital gains from asset sales are taxable only if the seller owned the asset for less than 3 years. A higher tax rate of 35 percent applies to some sources of income, e.g. bank interests that exceed the upper limit computed using a refinancing rate. However, interest rates are usually below the threshold, making interests tax free. For non-residents all types of income received on the territory of Russia are taxed at a 30 percent rate. Dividends received by shareholders are subject to a 9 percent tax rate. For taxpayers whose only taxable income comes from employment the PIT is withheld by the employer and there is no need to file a tax return. There are small tax deductions for parents with low earnings and tax deductions for expenses related to charity, education and healthcare, purchase and sale of housing.

Value added tax (VAT) is the second largest source of federal revenue which accounted for 5.4 percent of GDP in 2010. Starting from 2004 the standard rate of VAT is 18 percent. A number of transactions are exempt from VAT, including inter alia export sales, international transportation services, supplies exported from Russia, etc. There are certain types of activities that under certain conditions are also exempt from VAT, including: the sale of specifically listed medical goods and services; funeral services; warranty repair services; educational services rendered by nonprofit educational institutions on the basis of license; services rendered by organizations carrying out activities in the area of culture and art; banking and insurance services. A reduced 10 percent rate is applicable in in the following cases: sales of specifically listed foodstuffs; sales of specifically listed goods for children; sales of periodical printed publications, except for those of advertising or erotic nature; sales of specifically listed medical goods manufactured both in and outside of Russia.

Excise taxes imposed mainly on the sale of manufactured excisable goods and on the import of such goods account for 1 percent of GDP. The excisable goods are: raw and refined alcohol, alcoholic drinks stronger than 0.5 percent by volume, including beer; tobacco products; petrol and diesel fuel, motor oils; passenger cars and motorcycles with engines in excess of 90 h.p.; since 2013 home heating oil. In contrast to VAT, excise duties are typically expressed as a fixed amount of rubles per quantity bought by the consumer. Since 2007, cigarettes have been additionally taxed based on a percentage of manufacturers' suggested retail price.

[26] There were several increases in the tax rates and changes in the tax schedule since 2010 aimed at reducing the deficit of the Pension Fund.

The above-mentioned taxes are accounted for in the CEQ analysis. Other taxes not included in the CEQ analysis are: *corporate profit tax* (3.8 percent of GDP), *natural resource extraction tax (3.1percent of GDP), property taxes* (1.4 percent of GDP) and *unified taxes on total income* paid by taxpayers that have switched to a simplified taxation scheme (0.4 percent of GDP). It is noteworthy, starting from 2009 the revenues from taxes on labor (i.e. the personal income tax and social contributions) exceeded the revenues from the natural resource extraction and corporate taxes.

A4. The Russian Social Protection System

Unemployment benefits are paid on a monthly basis conditional on applicant's registering with the employment service every two weeks. The maximum size of the unemployment benefit was set at the level of 4,900 rubles (USD 293.4 PPP) per month and the minimum size was 850 rubles (USD 50.9 PPP) per month. Until 2009, few workers benefited from *Active Labour Market Programmes* (ALMPs). This has changed when, in response to the economic crisis, the government has launched additional measures to decrease tension at the regional labour markets. In 2010 these programmes covered 1.85 million unemployed people.

The ***child allowance up to 1.5 years*** benefit is paid to socially-insured mothers upon the completion of a 140-day long *maternity leave*, during which they are entitled to a benefit equal to 100 percent of their average earnings for the 12 months preceding the leave (but subject to the upper limit linked to the threshold of regression on social insurance contributions). In 2010, the lower limit was set at the level of 2,060 rubles (USD 123.4 PPP) per month for the period of leave with the first child and 4,121 rubles (USD 246.8 PPP) per month for the period of leave with the second and subsequent children. Mothers whose contribution record is below six months are entitled to the minimum size of the allowance.

The ***privilege programme*** refers to free services or discounts on payment for services.[27] Part of the non-contributory social assistance, this programme is financed between the federal and the regional governments since 2005. Almost all federally funded privileges (apart from discounts on payment for housing/utilities) have been monetized, i.e. substituted by cash benefits in 2005. As of 2010 a few regions (including Moscow) still provided in-kind benefits to the population, together with regular and lump-sum cash payments. The complex structure of the system of privileges – the possibility of being entitled to several types of benefits at the same time, manifold forms of provision (cash and in-kind benefits) and different sources of financing (federal and regional), make it almost impossible to assess the scope and scale of the programme based on official statistics. In 2010 16.694 million people received a *monthly cash payment* for federal beneficiaries. The size of the benefit ranged from 436 rubles (USD 26.2 PPP) for blood donors to 10,851 rubles (USD 649.8 PPP) for holders of some military decorations. The number of people who received *regular cash payments* from the regional authorities in 2010 amounted to at least 11.010 million people. The size ranged from ranged from 467 rubles (USD 28 PPP) for labour veterans to 605 rubles (USD 36.3 PPP) for citizens with honorary degrees/special merits before the region. Hence, by a conservative estimate, in 2010 at least 27.704 million people or 19.4 percent of the population of Russia were entitled to one or another type of privileges. However, as the privileged citizens are mainly old age people their number has been decreasing.

[27] These programs are broad ranged, such as free access to a wide range of services and goods, e.g. exemptions from/discounts for rent or utility payments; telephone services; medicines, medical appliances, health care services; municipal, commuter or long-distance transport; vouchers for sanatoriums, spas, child care facilities, or summer camps. Some categories of citizens are exempted/discounted from real-estate taxes, or may receive substantial financial support to repair their house, or may be provided with a land plot.

Between 2007 and 2010, certificates for the ***maternity capital*** were issued to 2.612 million people (1.8 percent of the population). Among those, 346 thousand people (13.3 percent of all recipients) disposed of the capital (or a part of it). The size of the capital is annually indexed for inflation; in 2010 it amounted to 343,278 rubles (or USD 20,555.6 PPP). The assets can be used once the child is 3 years old in three ways only: to purchase new housing/pay for a mortgage credit; to pay for all types of children's education; or to add to the funded element of the mother's pension. So far 99 percent of families have chosen to spend these assets to improve their housing. Therefore, the programme can be treated either a direct transfer or an in-kind housing benefit. In our analysis we chose the first option, assuming that the maternity capital is a cash transfer which is disposed of in the same year as it is granted. A random non-take up was introduced in order to account for the fact that only 13.3 percent of beneficiaries disposed of the assets by 2010.

There are three anti-poverty benefit programmes in Russia, where poverty and other eligibility criteria are mixed. Eligibility for means-tested benefits is derived from comparing disposable family/household income with the national poverty line. It is referred to as the *Minimum Subsistence Level* (MSL) and equals the cost of a minimum basket of goods and services. The composition of a basket is defined for three demographic groups (children under 16 years, men and women of active working age, men and women of pension age) and estimated quarterly for each region and for Russia as a whole. In 2010 the average national SML amounted to 5,688 rubles (USD 340 PPP) per month.

The ***social supplement to pension*** benefit is provided to all non-working pensioners whose total income is below the cost of a pensioner's poverty line in the given region. The size of the benefit equals the gap between the pensioner's poverty line and the pension benefit. In 2010 4.943 million people or 12 percent of pensioners received the supplement. In our analysis the benefit is accounted for as part of the pension, because it is paid together with the pension and cannot be separated from pensions in the survey.

Child allowances up to 16(18[28]) years are provided to children in families with per capita income below the regional poverty line. This is a classical example of anti-poverty programme. Nevertheless, the targeting accuracy of the programme is low. As a result, the allowance fails to provide adequate support to participating families, while spreading its budget to 9.943 million children (about 40 percent of children under 16 years), among which 65 percent are not poor. The size of this benefit is set by regional authorities, as a result a basic monthly payment in 2010 varied from 70 rubles (USD 4.2 PPP) to 1,000 rubles (USD 59.9 PPP) per child with median of 150 rubles (USD 9 PPP).

Housing subsidies on the other hand, have a more complex objective. One of the major reforms of the 2000s in Russia was the transition to a 100 percent cost of utilities for the population. This implied a cancellation of the programme of cross-subsidies, whereby enterprises and companies paid for utilities at inflated rates which helped to recoup a part of the cost of utilities for the

[28] If the child is in full-time education.

population. ***Housing subsidies*** were designed to protect people from spending a high share of their income on rent and utilities[29]. A household with housing costs in excess of the regional threshold (no less than 22 percent of household income) qualifies for a subsidy that brings the share of housing costs down to the threshold. Eligibility and benefit formulae allow non-poor to qualify as beneficiaries. Regional authorities have little control over the programme design which is set by the federal legislation. In 2010 an average size of the benefit was 896 rubles (USD 53.7 PPP) per household-beneficiary; the benefit was paid to 3.763 million households (or 7.3 percent of the total number of households).

The programme of ***state social assistance*** provides a relief to the poor or needy households. The programme design and the decisions as to whether to target any benefits to the poor alone, however, have been fully left with regional authorities. Most often the rules mix the notion of targeting with categorical provision of assistance, defining certain groups (such as lonely pensioners, families with 3+ children, students, etc.) who are eligible for the benefits. In addition, targeted assistance is often confused with one-time emergency assistance (e.g. loss of the breadwinner, severe illness, natural disaster). The inter-regional variation in spending on this programme is the highest among the means-tested programmes. In 2010 an average monthly cash payment was equal to 306 rubles (USD 18.3 PPP) per one family member, while an average lump-sum payment amounted to 1,789 rubles (USD 107.1 PPP). The number of those who actually received a regular cash benefit amounted to 1.394 million people, and the number of recipients of a lump-sum payment was 1.103 million people, which altogether is less than 2 percent of the population.

The Russian constitution guarantees equal access to and free of change ***education*** at the level of pre-school, primary and secondary school and primary vocational school, as well as free secondary vocational and tertiary education on a competitive basis at state and municipal educational institutions. Childcare is mostly public.[30] Parents contribute in the form of fees, covering only part of the actual cost. The supply-side subsidies for childcare constitute at least 80 percent of the cost of childcare services. Primary and secondary general education (between ages 7 and 16) is compulsory. After that children may either stay at secondary school for 2 more years to get a secondary education certificate (ages 16-18), which allows them to start tertiary education (4 to 6 years), or to follow the vocational education track to get a primary vocational degree (1.5 years) or

[29] Some regions, however, have not switched completely to the 100 percent cost of utilities for the population by 2010. The cost of the discounted utility tariffs can be approximated by subtracting the gross amount of the actually covered costs of utilities by the population from the gross amount of accrued costs of utilities in each region. In Russia as a whole the part of the cost of utilities actually covered by the population amounted to approximately 93-95 percent in 2005-2012.

[30] Currently the supply of such services, both in quantity and in quality, does not satisfy the growing demand. During the economic recession of the 1990s, which was accompanied by a fall in fertility rates, many pre-school institutions were closed. In 2000s the demand for childcare services started to grow again due to demographic and economic factors – a growth in the number of children of pre-school age and an increase in the economic activity of the population. In combination with the uneven distribution of these institutions across regions and municipalities, this has led to a ten-fold increase in the number of children waiting for a place in a pre-school institution (from 200 thousand in 1999 to over 2.2 million children in 2010-2011). The problem is aggravated by the fact that the system of care services for the elderly is also weak and the market for these services is absent.

secondary vocational degree (3 to 4 years). The latter also allows students to continue with tertiary education. The majority of students attending primary and secondary general school (13.569 million) and primary vocational school (1.007 million) are enrolled in the public system: the share of private schools at this level of education is negligible. The number of students enrolled in secondary vocational education is 2.1257 million people, among which 95 percent are in public institutions. 83 percent of all students in the tertiary education system (7.0498 million in academic year 2010/2011) were enrolled in public colleges and universities and only one third of them were in budgetary places, i.e. did not pay fees.

Healthcare is free for Russian citizens[31]. Healthcare spending in 2010 amounted to 3.7 percent of GDP (including spending on physical culture and sports at 0.3 percent of GDP). There is also a high disparity in healthcare spending between different regions. The state guarantees of free health care include in and out-patient treatment, as well as rehabilitation/nursing care and provision of medicines/medical appliances for specific categories of patients. In fact free provision is quite limited which results in a growth of private spending on healthcare services, including "additional" services provided by public medical institutions. Public healthcare for working people is funded through contributions paid by employers and the self-employed to the Federal and Territorial Mandatory Health Insurance Funds. The costs of health insurance of non-working citizens are covered from the regional budgets; the share of healthcare spending subsidized by the budget is 56 percent.

The system of ***social care institutions*** provides services to children-orphans/children left without parental care, to elderly and disabled people, and to the homeless. In 2010, 126 thousand children lived in state care institutions. Institutions of in-patient care for the disabled adults and the elderly provided places to 269 thousand people. Larger groups of the population attended centres of temporary or day stay for the disabled and elderly (573 thousand) and were clients of the programme of home-based care (1.089 million people). Thus, the most generous estimate of the number of clients of care institutions is 1.5 percent of the population, while spending for these purposes amounted to 0.4 percent of GDP.

Figure A4. Russian social spending, 2010

Spending Component	Billions of rubles	% of GDP	Included in analysis	Notes and source
Direct transfers (cash and near cash)	*2,443.8*	*5.3%*		
Non-contributory (social) pensions	230.4	*0.5%*	yes	(a)
Unemployment benefit and ALMPs (quasi insurance)	183.9	*0.4%*		
Unemployment benefit and material aid to the unemployed	52.8	*0.1%*	yes	(b)
Employment promotion and ALMPs	128.4	*0.3%*		(c)
Social insurance benefits	473.4	*1.0%*		
Maternity leave allowance	67.3	*0.1%*	yes	(d)

[31] People without citizenship have a right to free emergency care.

Lump-sum birth/family placement grant	18.7	*0.0%*	yes	(d)
Child care allowance up to 1.5 years	121.8	*0.3%*	yes	(d)
Temporary incapacity benefit	185.2	*0.4%*		(d)
Other	80.4	*0.2%*		
Non-contributory (social assistance) benefits	1,316.6	*2.8%*		
Not means-tested benefits	1,078.4	*2.3%*		
Monthly and lump-sum cash payments (monetised privileges)	419.3	*0.9%*	yes	(e)
Other privileges (cash and in kind)	362.4	*0.8%*	yes	(f)
Maternity capital	97.6	*0.2%*	yes	(g)
Compensation for child care fees	9.9	*0.0%*	yes	(h)
Special forms of support for families with children	16.4	*0.0%*		(i)
Other benefits (scholarships etc.)	172.7	*0.4%*	yes	(j)
Means-tested benefits	238.3	*0.5%*		
Child allowance up to 16(18) years	43.1	*0.1%*	yes	(b)
Housing subsidy	55.7	*0.1%*	yes	(b)
State social assistance	8.3	*0.0%*	yes	(h)
Social supplement to pension	130.6	*0.3%*		(g)
Social care (not direct transfers)	*239.5*	*0.5%*		
Social care	168.3	*0.4%*		(k)
Other social programmes	71.2	*0.2%*		(l)
Education	*1,893.9*	*4.1%*		
Childcare/preschool	321.3	*0.7%*	yes	(m)
Primary/secondary	827.4	*1.8%*	yes	(m)
Vocational	163.8	*0.4%*	yes	(m)
Tertiary	377.8	*0.8%*	yes	(m)
Other	203.6	*0.4%*		(m)
Healthcare	*1,708.8*	*3.7%*		
Primary (Outpatient) Care & In-patient care	1,592.9	*3.4%*	yes	(m)
Psychical culture and sports	115.9	*0.3%*		(m)
Social spending analyzed (Benchmark)	**4,943.3**	***10.7%***	**yes**	
Total social spending (Benchmark)	**6,046.5**	***13.1%***	**part**	
Contributory pensions	*3,819.5*	*8.2%*	*yes*	(a)
Social spending analyzed (Sensitivity analysis)	**8,762.9**	***18.9%***		
Total social spending (Sensitivity analysis)	**9,866.1**	***21.3%***	**yes**	

Sources:
Federal Treasury data (http://www.roskazna.ru/); Laws on implementation of the Federal and Regional budgets; Federal State Statistics Service data (http://www.gks.ru/), Statistical digest "Social situation and standard of living of the population of Russia"; Federal Employment Service (Rosstat) data (http://www.rostrud.ru/).
Notes:
(a) Total spending on pensions are computed as the sum of spending of the Federal Budget and the Regional Budgets (excluding expenditures on the regional social supplement to pension) and spending of the Pension Fund (excluding expenditures on privileges, maternity capital and other social transfers). Spending on non-contributory pensions are approximated as total expenditures on state social provision pensions. Spending on contributory pensions are equal to total spending on pensions minus spending on contributory pensions.
(b) Rosstat data on expenditures on some social benefits

(c) Subventions to the Regional budgets on implementation of the Federal active labour market programmes (ALMPs).
(d) Implementation of the budget of the Social Insurance Fund; article "Social policy" (excluding expenditures on benefits for the victims of nuclear accidents, in-kind benefits for the disabled; recreation and vouchers to sanatoriums and transportation to the place of recreation, the guaranteed list of social services and funeral benefit).
(e) Expenditures on the unified monthly payment and other regular and lump-sum cash payments for the privileged categories. Estimated as the sum of expenditures on payments from the Federal budget (including inter-budgetary transfers) and the Regional budgets.
(f) Sum of expenditures on: social support on payment for rent and utilities for all categories of the population, provision of the set of social services for the federal beneficiaries, provision of the technical means of rehabilitation for the disabled, transportation of pensioners to and from the place of recreation, and all other types of social support provided by the Regional budgets.
(g) Data on implementation of the budget of the Pension Fund.
(h) Laws on implementation of the Regional
budgets.
(i) Sum of expenditures on the lump-sum and monthly child allowance for the enlisted military, benefits related to the family placement of the orphans, child allowance for the victims of radiation due to accidents.

(j) Sum of expenditures on the compensations of the material damage for the victims of political repressions, aid to the refugees and internally displaced people, and other types of benefits.

(k) Expenditures of the Consolidated budget, article "Social care" (excluding expenditures on the social supplement to pension in Moscow).
(l) Expenditures of the Federal budget, article 1005 "Applied scientific research in the area of social policy", article 1006 "Other social policy issues", and expenditures of Regional budgets, article 1003 "Social welfare of the population" and 1004 "Support to families and children" (excluding social welfare expenditures).

(m) Treasury data on implementation of the Consolidated budget.

A5. Fiscal Incidence Analysis

Box A5. What Is Fiscal Incidence Analysis?

Fiscal incidence analysis consists of allocating taxes and public spending (social spending in particular) to households or individuals so that one can compare incomes before taxes and transfers with incomes after taxes and transfers, where the latter may include the monetized value or consumption of free public services. In addition to assessing the impact of fiscal policy on the distribution of income, one may be interested in how taxes and transfers affect the welfare of different social groups such as groups of individuals differentiated by gender, ethnicity, or location.

The most common fiscal incidence analysis examines what is paid and received without assessing the behavioral responses that taxes and public spending may trigger on individuals or households. This is often referred to as the "accounting" approach and is adopted in this study. Put simply, the accounting approach consists of starting from a pre-fisc income and, depending on the fiscal intervention under study, allocating the proper amount of a tax or a transfer to each household or individual. If the fiscal intervention is a direct tax (transfer) and one starts the analysis from pre-tax (pre-transfer) income, the post-tax (post-transfer) income is calculated by subtracting (adding) the tax paid (transfer received).

More formally, let's define before taxes and transfers income of unit h as I_h,and net taxes of type i as T_i. Let us define the "allocator" of tax i to unit h as S_{ih}(or the share of net tax i borne by unit h). Then, post-tax income of unit h can be defined as: $Y_h = I_h - \sum_i T_i S_{ih}$. Although the theory is quite straightforward, its application can be fraught with complications. Most of the complications arise because actual incidence can be quite different from statutory incidence (for example, due to tax evasion) and the data to calculate the actual incidence is incomplete or absent.

Fiscal incidence analysis can be partial or comprehensive. Partial fiscal incidence analysis assesses the impact of one or several fiscal policy interventions: for example, income taxes or the use of public education and health services. Comprehensive fiscal incidence analysis assesses the impact of the revenue and spending sides simultaneously: namely, the impact of direct and indirect taxes, cash and in-kind transfers, and indirect subsidies. Incidence analysis can use income or consumption (per capita or equivalized) to measure household welfare. In this study we assess fiscal policy on a partial and comprehensive basis and test the sensitivity of our findings using both income and consumption (i.e. disposable income) measures. Additionally, there is point-in-time vs. lifetime fiscal incidence analysis. The analysis can assess a current system or estimate the potential or actual effects of particular reforms. It can use the statutory incidence or the actual one (including tax evasion or less than full take-up of a cash transfer, for example). It can make different assumptions about tax shifting and the value of in-kind benefits. The analysis can assess the average incidence of a tax or benefit or it can assess the incidence on the margin: e.g., the distribution of an increase in the spending of public education.

Incidence studies use micro-data from household surveys or rely on incidence indicators from secondary sources. Since in practice surveys will not include information on every tax paid or transfer received (or the information even if it exists may be inaccurate), that information must be generated in a consistent and methodologically solid way. Frequently, the information will have to be generated using more than one method to check the sensitivity of the results to assumptions that one cannot externally validate.

Source: Lustig and Higgins (2013).

A6. Data

The Russian Longitudinal Monitoring Survey (RLMS) is a longitudinal series of nationally representative household and individual data. This survey, jointly conducted by the Carolina Population Center at the University of North Carolina at Chapel Hill and the Demoscope team at the Higher School of Economics (HSE) in Russia, has been administered every year from 1992 to 2013, except from 1997 and 1999. The decomposition analysis on section 2.1 uses data from rounds VI (1995) to XXI (2012), while the fiscal incidence analysis in section 2.2 is based on round XIX (2010). The sample includes both cross-sectional and panel components and is large enough to support the analysis of small groups at the national level. In particular, te RLSM interviewed 3,783 households (8,417 adults) in 1995 and 8,440 households (18,687 adults) in 2012. Both section 2.1 and 2.2 are based on the cross sectional sample, while the panel structure of the data is not exploited. The main limitation of the RLMS is that it is not representative at the regional level, covering 32 (out of 83) regions.

The RLMS includes demographic information at the individual and the household level. The survey collects information on household income by source, social benefits, and also expenditures and other relevant characteristics that may affect tax liabilities or benefit entitlements. Moreover, the RLMS has data on labor market status, education and health variables and within-household relationships. The survey satisfies international standards in terms of sampling and quality of data collection[32].

Assumptions and considerations for the decomposition analysis

The main dependent variable for the decomposition analysis in the log of hourly wages from the primary occupation, expressed in 2011 constant rubles33. The sample has been restricted to the subgroup of individuals satisfying the following conditions: (a) are in the 18-60 age group[34], (b) currently have a job, (c) have received some money for their work in the last 30 days, (d) are not self-employed and (e) are full- time workers, reporting to have worked at least 140 hours in the last 30 days.

Excluding unpaid workers might be a potential problem in cases when wage arrears are a common practice. Even if employed, workers are classified as unpaid if they report to have not received any

[32] RLMS-HSE uses a three-stage probability sample drawn from the population of dwellings. Persons living in institutional households (children's homes, social care institutions, convents) are excluded. On average the household response rate exceeds 80 percent, but they are lower in Moscow and St-Petersburg (less than 60 percent).

[33] Nominal wages expressed in rubles have been deflated to 2011 rubles using the Consumer Price Index from the World Development Indicators (WDI). Wages for 1995 (Round VI) and 1996 (Round VII) have been divided by 1,000 to take into account the nominal revaluation of the ruble in January 1998 (1,000 old rubles = 1 new ruble).

[34] In the Russian Federation, retirement age is 60 years-old for men and 55 years-old for women. However, women are more likely to continue to work after retirement (Atencio and Posadas, 2013). For that reason, we decided to use 60 years-old as the cutting age. However, in our estimations we include a dummy variable which takes value 1 for women between 55 and 60 years old, to control by potential effects of legal retirement on wages.

money in the last 30 days. However, after being a generalized practice in the 1990s and earliest 2000s, wage arrears became a minor issue after 2000. Excluding self-employment is a common practice in labor literature since self-reported wages of self-employed workers tends to be less reliable. Self-employment represented only a 7 percent of total employed population in 2011. Then, limiting the sample to wage workers is not expected to qualitatively affect results. The sample has been restricted to full time workers, who are expected to obtain all their money from their primary occupation. Finally, the top and bottom 0.25 percent of the whole hourly wage distribution has been excluded in each round[35]. These observations are considered as outliers.

Assumptions and considerations for the CEQ analysis

In the particular case of the CEQ analysis, a number of national household surveys has been considered for the purpose of CEQ analysis and the only one that fulfilled all the essential conditions was the Russian Longitudinal Monitoring Survey (RLMS-HSE).[36]

The data set contains weights that adjust the cross-sectional sample not only for design factors (sampling probabilities and non-response), but also for deviations from the census characteristics.
For our purposes we have additionally computed the *grossing weights*. In other words, the weights provided with the original data were scaled up to the overall population. They were calculated as the ratio of population to sample counts for subgroups defined by household size (1,2,3,4,5+ members) and location of residence (urban or rural). Population totals are taken from the 2010 census. Applying weights to gross the numbers up to population figure gives 54,402,000 households and 137.81072 million individuals[37].

Another major data adjustment was imputation of user-missing data on earnings, income or expenditure, or other important variables. Don't know/Refuse to answer responses were imputed whenever reasonable using median values (median values at the regional level were used if the sample was big enough). Some households reported zero income or expenditure (the reference period in the survey is one month); however, there was no justification for omitting or imputing those observations.

The specific method followed for each fiscal intervention is presented in Table A6.

[35] Lukiyanova (2006) also uses data from the RLMS and removes the top 0.25 percent of the monthly wage distribution in each round. However, for the bottom of the distribution she adopts a different criteria, and removes all individuals reporting monthly earnings less than 2/3*17600 rubles (17,600 rubles was the mandatory minimum wage in November 1994).

[36] Other potential source of data were the Household Budget Survey (HBS) and the Survey of Income and Social Programmes (SISP). The HBS is conducted on a sample of 50,000 households, but only collects consumption data. The SISP is designed for income distribution analysis, but does not collect consumption data. Moreover, the data that are available now are the 2012 pilot survey of 10,000 individuals.

[37] The census figures are 54.56062 million households and 142.8654 million individuals.

Table A6– Construction of Income Concepts: Assumptions and Sources

	BENCHMARK	SENSITIVITY ANALYSIS
Pre-incidence Analysis Income	Net Market income	Net Market income
INCOME CONCEPTS: DEFINITIONS, METHODS AND SOURCES		
MARKET INCOME		
Earned and Unearned Incomes of All Possible Sources and Excluding Government Transfers	Included	Included
Social Security Pensions	Included	Not included
Gifts, proceeds from sale of durables.	Included	Included
Autoconsumption	Included	Included
Imputed rent for owner occupied housing	Not included, as there is no question on the estimated rent if own housing is rented at the market. Also very few households in Russia rent housing at market prices. Can only be estimated using other survey, e.g. the Rosstat Survey on Living Conditions (2012).	Not included, as there is no question on the estimated rent if own housing is rented at the market. Also very few households in Russia rent housing at market prices. Can only be estimated using other survey, e.g. the Rosstat Survey on Living Conditions (2012).
NET MARKET INCOME=MARKET INCOME - (DIRECT TAXES AND EMPLOYEE CONTRIBUTIONS TO SOCIAL SECURITY [IN BENCHMARK, EXCEPT CONTRIBUTIONS TO PENSIONS])		
Direct Taxes	Simulation method: The data on income tax were not collected in the survey, and income measures reported were net (after tax) incomes. Therefore, firstly, income tax had to be imputed using the inversion of rules. Income tax on earnings was simulated only for workers in the formal sector. Secondly, income tax was added to net income to arrive at gross (before tax) market income. Direct identification method: Vehicle and property taxes, stamp duties, etc. apart from land tax, were reported and taken directly from the survey.	Simulation method: The data on income tax (Nalog na dokhody phyzicheskih lits) were not collected in the survey, and income measures reported were net (after tax) incomes. Therefore, firstly, income tax had to be imputed using the inversion of rules. Income tax on earnings was simulated only for workers in the formal sector. Secondly, income tax was added to net income to arrive at gross (before tax) market income. Direct identification method: Vehicle and property taxes, stamp duties, etc. apart from land tax, were reported and taken directly from the survey.

Employee contributions to social security	Simulation method: Social contributions are levied on gross earnings (income tax base) and paid by employers and the self-employed. Employees do not pay separate contributions. SICs were simulated using the existing tax rates for formal sector workers and added to the income tax base to arrive at gross market income. Here only contributions to Social Insurance Fund and Health Insurance Funds were taken into account, contributions to Pension Fund are treated as a form of lifetime earnings.	Simulation method: Social contributions are levied on gross earnings (income tax base) and paid by employers and the self-employed. Employees do not pay separate contributions. SICs were simulated using the existing tax rates for formal sector workers and added to the income tax base to arrive at gross market income. Contributions to Pension Fund, Social Insurance Fund and Health Insurance Funds were taken into account.
DISPOSABLE INCOME = NET MARKET INCOME + DIRECT GOVERNMENT TRANSFERS [IN SENSITIVITY ANALYSIS, + CONTRIBUTORY PENSIONS]		
Non-contributory pensions	Direct Identification Method. All social pensions (old-age social pension, disability social pension and survivors social pension) were put into this category. They are reported in the survey. NB: Contributory pensions are not fully social-insurance based either, as the PF deficit is covered from the budget.	Direct Identification Method. All social pensions (old-age social pension, disability social pension and survivors social pension) were put into this category. They are reported in the survey. NB: Contributory pensions are not fully social-insurance based either, as the PF deficit is covered from the budget.
Targeted monetary transfers	Direct Identification Method. We included the three programmes that have means-tested elements: child allowance up to 16(18) years, state social assistance and housing subsidy. They are reported in the survey. The fourth means-tested transfer is a supplement for non-working pensioners, whose pension is below the subsistence level. This one is paid together with the state pension and cannot be separated.	Direct Identification Method. We included the three programmes that have means-tested elements: child allowance up to 16(18) years, state social assistance and housing subsidy. They are reported in the survey. The fourth means-tested transfer is a supplement for non-working pensioners, whose pension is below the subsistence level. This one is paid together with the state pension and cannot be separated.
Other direct transfers	Directly identified transfers: unemployment benefit, unified monthly payment (monetized privileges), childcare allowance up to 1.5 years, scholarships. Simulated transfers: maternity allowance, lump-sum birth	Directly identified transfers: contributory pensions, unemployment benefit, unified monthly payment (monetized privileges), childcare allowance up to 1.5 years, scholarships. Simulated transfers:

	grant, maternity capital, compensation of childcare fees. Imputed transfers: privileges in cash and in kind	maternity allowance, lump-sum birth grant, maternity capital, compensation of childcare fees. Imputed transfers: privileges in cash and in kind
Food Transfer	All in-kind transfers are accounted for within the category 'imputed privileges' (see above). Those include various irregular cash transfers, free/discounted public transportation for pensioners, pupils and students, disabled people and families with many children in some regions, vouchers to summer camps/sanatoriums for children and pensioners, the disabled, etc.	All in-kind transfers are accounted for within the category 'imputed privileges' (see above). Those include various irregular cash transfers, free/discounted public transportation for pensioners, pupils and students, disabled people and families with many children in some regions, vouchers to summer camps/sanatoriums for children and pensioners, the disabled, etc.
Social Security Pensions	Not included	Direct identification method. Contributory pensions are well reported and taken directly from the survey: old-age labour pension, old age state provision pension, disability labour pension, disability state provision pension, survivors labour pension, other pension (mostly occupational). NB: Contributory pensions are not fully social-insurance based either, as the PF deficit is covered from the budget.
CONSUMABLE INCOME = DISPOSABLE INCOME + INDIRECT SUBSIDIES - INDIRECT TAXES		
Indirect subsidies	Imputation method. One type of general subsidy that is imputed are subsidised tariffs for utilities for the population. Subsidies vary from region to region, while on average the price subsidy amounted to 5-7% of the total cost of utilities.	Imputation method. One type of general subsidy that is imputed are subsidised tariffs for utilities for the population. Subsidies vary from region to region, while on average the price subsidy amounted to 5-7% of the total cost of utilities.
Indirect taxes	Simulation method. VAT is simulated using the data on expenditures available in the same survey. Tax evasion is unlikely so it was not considered. Excises on alcohol, tobacco and car fuel are also simulated using consumed quantities. Indirect effects are not accounted	Simulation method. VAT is simulated using the data on expenditures available in the same survey. Tax evasion is unlikely so it was not considered. Excises on alcohol, tobacco and car fuel are also simulated using consumed quantities. Indirect effects are not accounted

	for, as an I/O matrix is not available	for, as an I/O matrix is not available
FINAL INCOME = CONSUMABLE INCOME + GOVERNMENT IN-KIND TRANSFERS/NET MARKET INCOME PLUS ALL TRANSFERS = DISPOSABLE INCOME + GOVERNMENT IN-KIND TRANSFERS		
In-kind education	Simulation method. Can be used for childcare, as parents report fees and parents should pay no more than 20% of the actual fees. The totals are not substantially different from the ones obtained using the imputation method, so the latter is used everywhere for the sake of a uniform approach. Imputation Method. The survey reports whether the individual attends kindergarten/pre-school, general secondary school, vocational school or is in tertiary education. We assumed that all kindergartens/pre-schools and secondary schools are public (private education at that level is very rare), and excluded students who reported having paid fees at secondary vocational schools and higher education institutions. The education benefit is based on the cost per student by level: childcare - 59,641.5 rubles per year, secondary general school - 60,978 rubles per year; vocational school - 53,975.8 rubles per year, tertiary education - 64,591.2 rubles per year. The amounts were scaled up using the ratio of income in NA and income from SA1.	Simulation method. Can be used for childcare, as parents report fees and parents should pay no more than 20% of the actual fees. The totals are not substantially different from the ones obtained using the imputation method, so the latter is used everywhere for the sake of a uniform approach. Imputation Method. The survey reports whether the individual attends kindergarten/pre-school, general secondary school, vocational school or is in tertiary education. We assumed that all kindergartens/pre-schools and secondary schools are public (private education at that level is very rare), and excluded students who reported having paid fees at secondary vocational schools and higher education institutions. The education benefit is based on the cost per student by level: childcare - 59,641.5 rubles per year, secondary general school - 60,978 rubles per year; vocational school - 53,975.8 rubles per year, tertiary education - 64,591.2 rubles per year. The amounts were scaled up using the ratio of income in NA and income from SA1.

In-kind health	Imputation Method. Basic healthcare coverage is universal, although there are user fees for services beyond the basic coverage and informal payments are still quite widespread. Imputations are based on average cost of public healthcare per one citizen (11952.9 rubles per year) which was imputed to those who reported using public services. The survey reports whether the individual visited a doctor/had tests in the past month and stayed in a hospital over the past 3 months (36% of the respondents). Those who reported having private health insurance (4%) were excluded as we assumed that that they are unlikely to use public healthcare at the same time, although theoretically they could. The amounts were scaled up using the ratio of income in NA and income from SA1.	Imputation Method. Basic healthcare coverage is universal, although there are user fees for services beyond the basic coverage and informal payments are still quite widespread. Imputations are based on average cost of public healthcare per one citizen (11952.9 rubles per year) which was imputed to those who reported using public services. The survey reports whether the individual visited a doctor/had tests in the past month and stayed in a hospital over the past 3 months (36% of the respondents). Those who reported having private health insurance (4%) were excluded as we assumed that that they are unlikely to use public healthcare at the same time, although theoretically they could. The amounts were scaled up using the ratio of income in NA and income from SA1.