Equality and public services – beyond consumer spending

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[Introduction 3](#_Toc388199683)

[1. Context: growing inequality and economic and social consequences 3](#_Toc388199684)

[Chart A. Falling share of wages 1970-2010: advanced and developing countries 3](#_Toc388199685)

[2. The social and economic value of equality 4](#_Toc388199686)

[2.1. The economic value of equality 4](#_Toc388199687)

[Chart B. Improving equality and improving economic growth 4](#_Toc388199688)

[2.2. The social value of equality 5](#_Toc388199689)

[Chart C. Health and social problems are worse in more unequal countries 5](#_Toc388199690)

[2.3. Mechanisms of equality: trade unions, taxation, benefits, and public services 5](#_Toc388199691)

[3. The equality economy of public services 5](#_Toc388199692)

[3.1. Public services and equality: OECD countries 6](#_Toc388199693)

[Chart D. Distribution of value of public services across household quintiles, 27 OECD countries 6](#_Toc388199694)

[Chart E. Distribution of value of total public services over quintiles, 2007, OECD. 6](#_Toc388199695)

[Chart F. Value of public services relative to disposable income, 27 OECD countries 7](#_Toc388199696)

[Table 1. In-kind benefits as share of disposable income (average for 27 OECD countries) 7](#_Toc388199697)

[Chart G. More valuable to the poorest than benefits or market income (UK) 8](#_Toc388199698)

[Chart H. Value of public services as % of post-tax money income (UK) 8](#_Toc388199699)

[Table 2. UK: Effects of taxes and benefits by quintile groups of households 2010/11(£ per year) 9](#_Toc388199700)

[3.2. Public services and equality: developing countries 9](#_Toc388199701)

[3.2.1. Latin America 9](#_Toc388199702)

[Chart I. Impact on inequality of taxes, benefits, and public services (Gini coefficient, 6 Latin American countries) 10](#_Toc388199703)

[Table 3. Absolute and relative progressiveness of education and healthcare. 10](#_Toc388199704)

[3.2.2. Asia: healthcare 10](#_Toc388199705)

[Table 4. Share of poorest 20% in public healthcare benefits, Asia, 2005 11](#_Toc388199706)

[3.2.3. Education 11](#_Toc388199707)

[Table 5. Shares of poorest and richest quintiles in public education spending (1990s) 12](#_Toc388199708)

[3.2.4. Education in Indonesia 12](#_Toc388199709)

[Table 6. Benefits of public spending on education by quintile group, Indonesia, 2005 12](#_Toc388199710)

[4. Infrastructure and inequality 13](#_Toc388199711)

[Chart J. Improvements in income equality due to infrastructure development, 1990s–2000s, by region 13](#_Toc388199712)

[4.1. Public water and equality 14](#_Toc388199713)

[4.2. Rural electrification, gender equality and development 14](#_Toc388199714)

[4.3. Cross-subsidy and equality 15](#_Toc388199715)

[4.4. Equality, poverty and living standards 15](#_Toc388199716)

[Chart J. Public services and infrastructure in multi-dimensional indicators of poverty (MPI) 15](#_Toc388199717)

[5. Public services , equality, and quality of life 16](#_Toc388199718)

[5.1. Public services linked to more equal distribution of income 16](#_Toc388199719)

[Table 7. Unequal austerity: effects on inequality of changes in taxes and public spending 16](#_Toc388199720)

[5.2. Equalisation through public sector employment 16](#_Toc388199721)

[5.3. Public services as mediator between equality and social benefits 17](#_Toc388199722)

[6. Conclusions 17](#_Toc388199723)

[7. Bibliography 19](#_Toc388199724)

[8. Notes 23](#_Toc388199725)

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# Introduction

There has been much recent research and discussion about equality. The great majority of it focuses on equality in terms of the money income of households. Taxation and social security benefits are recognised as important mechanisms for equalising incomes. But in all advanced countries, and a growing number of developing countries, public services make a greater contribution to equality than the tax and benefit systems combined, because of the equal distribution of the value of the services. Public services also contribute to equality of household incomes.

This paper sets out the evidence, both from high income OECD countries, and from developing countries, showing:

* The extremely equal distribution of the benefits of public healthcare and education
* public health and education services are more important equalisers than social security benefits
* public services are major absolute and/or relative additions to the economic resources of the poor
* public infrastructure services – water, electricity, telecoms –improve equality and reduce poverty
* public services improve income equality through direct employment and ‘fair wages’ clauses

Failure to acknowledge this evidence damages international policy recommendations. The UNDESA 2013 report on inequality, for example, fails to mention the evidence on equality from services in recent reports on OECD and Latin American countries (UNDESA 2013, OECD 2012, Lustig 2012). The ILO concept of a ‘social protection floor’ barely mentions public services, implying that all the protection needed can come from welfare benefit, and that austerity policies do not harm equality (ILO 2011).

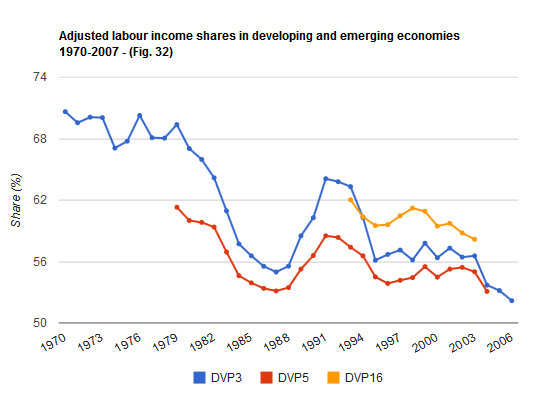
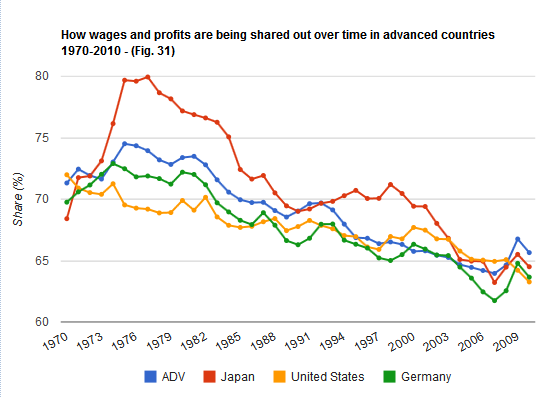
The paper concludes that research, and international and national policies, need to recognise that development of public services is as central to the creation of more equal societies as the distribution of market income or the use of benefits.

# Context: growing inequality and economic and social consequences

Economic and political developments in recent decades have created much greater inequalities, in two ways.

Firstly, there has been a long-term decline in the share of wages in both high income countries and developing countries. (ILO 2012) This decline means that workers have gained little during these decades - even though productivity has risen massively – while company profits, and people whose incomes derive from those profits, have increased their share of the economy.

1. Falling share of wages 1970-2010: advanced and developing countries



Source: ILO 2012 <http://www.ilo.org/global/research/global-reports/global-wage-report/2012/charts/WCMS_193311/lang--en/index.htm>

Secondly, higher income groups have increased their incomes much faster than lower income groups, especially in the USA, the UK, and central and eastern Europe. This gap has continued to widen since the recession: in the USA the top 1 per cent increased their real income by 31% from 2009 to 2012, while the income of the other 99% grew by only 0.4% (Stockhammer 2013; Saez 2013)

The real extent of the gains of the top 1% is even greater, because their tax avoidance strategies mean that much of their income and wealth is not counted. There is between $21trillion and $32 trillion of unrecorded wealth in tax havens, almost all of which is certainly owned by the top 1% of the world’s population. (Dhaxton et al 2012)

In addition to the unequal distribution of income between groups within countries, there is also great inequality on a global scale between rich and poor countries. Although differences between countries have been narrowing recently, there remains a great global divide between the large number of poor in all countries and the few people with extremely high incomes in a few rich countries. These differences are exacerbated as corporations, banks and countries try to shift the burden of risk arising from the current recession, so increasing inequalities on a global on a regional and global scale (Beck 2013)

Source: UNICEF 2011[[1]](#endnote-1)

# The social and economic value of equality

Recent research has demonstrated that greater equality is better for everyone, both socially and economically. This research looks at equality mainly in terms of distribution of income between households, and also at the distribution of income between corporate profits and workers’ wages and salaries. But very little of it considers the role of public services in providing directly to all households alike, and to economies as a whole, services which are basic to the quality of life and to the functioning of modern economies.

## The economic value of equality

Over the last 200 years, a higher share of profits has been linked with slower economic growth. During the first half of the 20th century, wages gained a greater share of national income, the share of profits fell, and economies grew rapidly. This was reversed in the 1980s, however, so the share of profits has risen, there is greater inequality of incomes – and also slower economic growth (Piketty 2014). Growth prospects would be improved generally by re-balancing income shares through a faster growth in wages. (Onaran and Galanis2013; Stockhammer and Onaran 2012).[[2]](#endnote-2)

More equal distribution of income across households is also linked to better economic performance, partly because money is more likely to be spent by people on average or poorer incomes instead of being saved or hidden in tax havens by the rich (Stiglitz 2013). An analysis of 131 countries found that improving equality of income distribution is linked to higher growth in GDP per capita, so the growth of inequality has led to slow economic growth (Ortiz and Cummins 2011). Deliberate austerity policies to cut back on public spending and borrowing have further worsened income inequalities, and reduced the chances of economic recovery (Krugman 2013, Cynamon and Fazzari 2014). Even IMF research papers recognise the damage done by persistent and growing inequality, warning that “This is not a recipe for stability and sustainability”.[[3]](#endnote-3)

1. Improving equality and improving economic growth

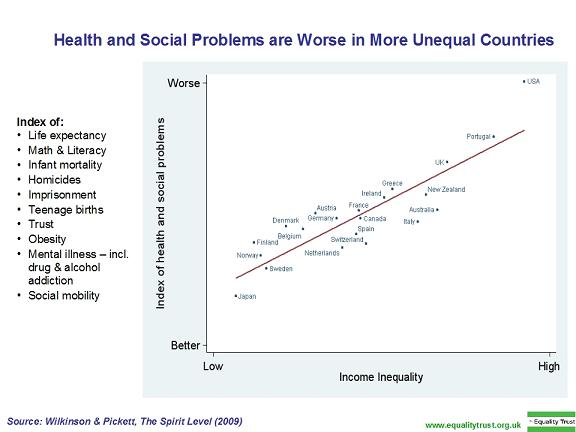


Source: UNICEF 2011[[4]](#endnote-4)

## The social value of equality

The outstanding work on the social benefits of equality is ‘The Spirit Level’(Wilkinson and Pickett 2009), using international data to demonstrate that more equal distributions of income lead to a better life for everyone. The chart below, which summarises their work, shows that the countries with the most equal distribution of income also have better social outcomes for everybody - life expectancy is higher, infant mortality is lower, literacy is higher, there are fewer murders, less mental illness, less obesity, and less people in prison. So more equal distribution of incomes does not only benefit the poor, at the expense of the rich – it leads to social outcomes which are of benefit to everyone. By contrast, inequality makes lives worse for the most vulnerable, most brutally by shortening their life expectancy in multiple ways, including through insecurity of employment (Wilkinson and Pickett 2009, Therborn 2013).

1. Health and social problems are worse in more unequal countries



Source: Wilkinson and Pickett 2009

## Mechanisms of equality: trade unions, taxation, benefits, and public services

In order to get the benefits of greater equality, there have to be mechanisms other than the market to force a fairer distribution of resources.

One of these is trade unionism, which gives greater power to workers vis-à-vis employers, and so can increase the share of wages at the expense of the share of profits. This automatically has an equalising effect, as wages are far more equally distributed than profits. This can be reinforced by state regulation, for example imposing and enforcing high levels of minimum wages, or creating statutory rights to maternity leave.

The other great mechanism for achieving greater equality is public spending, financed by taxation. Equality is improved by taxation if it is progressive, so that those on higher incomes pay a higher proportion of their incomes. Equality is further improved by public spending on social security benefits, which distributes money to households on low incomes, such as the elderly and unemployed.

But spending on public services such as healthcare, education, and social services has an effect on equality which is at least as great, but is generally ignored in discussions. The following sections set out the evidence.

# The equality economy of public services

Public services such as public health services, public education, child care, care for older people, and public housing also have a powerful redistributive effect, because they are available in principle to everyone. For those on lower incomes, public services are at least as valuable as either benefits or income. As a result, cuts in spending on services have a disproportionate impact on households on lower incomes.

In addition, services such as child care, care for older people and education have a big impact on gender equality, because they allow more women to get paid employment. This is true not only in high-income countries, where public services are largest, but also in developing countries, where public services are making a growing impact. Infrastructure like water, sanitation, electricity, roads and telecoms also improve equality because they make it possible for everyone to improve their livelihoods by using these services.

## Public services and equality: OECD countries

In OECD countries, the overall value of these services was on average 13% of GDP - more than the total value of benefits. Education and healthcare each account for about 5.5% of GDP, with the other 2% consisting of social care for children and the elderly, and social housing. (Verbist et al 2012).[[5]](#endnote-5)

The benefits of public services are very evenly distributed between the households divided into five income bands, or quintiles. That is, each quintile receives roughly equal benefit from the services, in absolute terms. The figures are based on data on actual use of education and healthcare by households in each country.

This equalising effect of the provision of public services is remarkably consistent across all OECD countries. Everywhere, with only slight deviations, the benefits of these services are equally distributed. It is a picture of material equality at the heart of countries where the market continues to generate great inequality.

1. Distribution of value of public services across household quintiles, 27 OECD countries

Source: calculated from Verbist et al p.35 <http://dx.doi.org/10.1787/5k9h363c5szq-en>

1. Distribution of value of total public services over quintiles, 2007, OECD.

**

Source: Verbist et al p.35 <http://dx.doi.org/10.1787/5k9h363c5szq-en>

This equal distribution of benefits contrasts strongly with the unequal distribution of money incomes. As a result, public services are far more important to poorer households, and are equivalent to a substantial proportion of their disposable income - worth 76% of disposable income for the poorest 20%. Even for households around average income, they are worth an extra one-third on top of disposable income. For the top 20%, public services are still worth an additional 14% to their disposable income.

1. Value of public services relative to disposable income, 27 OECD countries

Source: calculated from Verbist et al p.35 <http://dx.doi.org/10.1787/5k9h363c5szq-en>

1. In-kind benefits as share of disposable income (average for 27 OECD countries)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Q1 (poorest) | Q2 | Q3 | Q4 | Q5 (richest | All bands |
| Education | 30.6 | 18.5 | 14.2 | 10.4 | 5.6 | 11.8 |
| Health care | 34.9 | 22.2 | 15.8 | 11.8 | 7.2 | 13.9 |
| Social housing | 1.8 | 0.7 | 0.4 | 0.2 | 0.1 | 0.4 |
| ECEC (child care) | 4.5 | 3 | 2.4 | 1.5 | 0.8 | 1.8 |
| Elderly care | 4 | 1.9 | 0.7 | 0.4 | 0.2 | 0.9 |
| Total | 75.8 | 46.4 | 33.5 | 24.3 | 13.7 | 28.8 |

Source: Verbist et al p.35 <http://dx.doi.org/10.1787/5k9h363c5szq-en>

Public services are therefore not just an additional bonus, of minor importance, compared with consumer spending. In the UK, for example, these public services are worth as much as the entire post-tax income, including benefits, of the poorest 20% - that is, about 12million people; for over 60% of the population – over 36 million people in the UK - public services are worth more than one-third of their post-tax income; on average, the value of services are equivalent to 28% of post-tax incomes.

It is often assumed that taxation has a progressive impact, but in practice public services, and benefits, are the crucial equalising mechanisms. Income tax and profits tax are progressive, because those on high incomes pay more; but this is offset by the effects of indirect taxes, like VAT or sales taxes, and social security contributions paid by workers, because these taxes are regressive – they represent a higher percentage of the income of the lower paid. As a result, the overall effect of the tax system in the UK, for example, is almost neutral. It is the provision of services, and benefits, which creates the greater equality. The same is true in developing countiries. In Brazil, for example, the taxation system is actually regressive – that is the poor pay more than those on high incomes – but once again, it is the effect of public services and benefits that has the great equalising effect. [[6]](#endnote-6)

1. More valuable to the poorest than benefits or market income (UK)

Source: calculated from ONS 2012, see table

1. Value of public services as % of post-tax money income (UK)

Source: calculated from ONS 2012, see table

1. UK: Effects of taxes and benefits by quintile groups of households 2010/11(£ per year)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Quintile groups of ALL households1 | Bottom | 2nd | 3rd | 4th | Top | All house-holds | Ratio Top/Bottom quintile |
| Original income | 5 089 | 11 764 | 22 482 | 39 642 | 81 501 | 32 096 | 16:1 |
| plus cash benefits | 7 040 | 8 322 | 6 655 | 4 098 | 2 115 | 5 646 |  |
| Gross income | 12 129 | 20 086 | 29 137 | 43 740 | 83 616 | 37 741 | 7:1 |
| less direct taxes and employees' NIC | -1 271 | -2 510 | -4 755 | -9 002 | -19 727 | -7 453 |  |
| Disposable income | 10 858 | 17 576 | 24 382 | 34 737 | 63 890 | 30 288 |  |
| less indirect taxes | -3 365 | -3 741 | -4 770 | -6 033 | -8 339 | -5 250 |  |
| **Post-tax income** | **7 493** | **13 835** | **19 612** | **28 704** | **55 550** | **25 039** | **7:1** |
| Memo: total tax as % of orig income | 38.2% | 31.1% | 32.7% | 34.4% | 33.6% | 33.7% |  |
|  |  |  |  |  |  |  |  |
| **plus benefits in kind** | **7 749** | **7 584** | **7 459** | **6 825** | **5 826** | **7 089** |  |
| Of which education | 3 296 | 2 944 | 2 860 | 2 660 | 2 048 | 2 762 |  |
| Of which health | 4 100 | 4 391 | 4 397 | 3 978 | 3 461 | 4 065 |  |
| Final income | 15 242 | 21 419 | 27 071 | 35 529 | 61 376 | 32 127 | 4:1 |

Source: ONS 2012 <http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/2010-11/index.html>

## Public services and equality: developing countries

### Latin America

There is now clear evidence that public services have similar impacts in developing countries. In Latin America, public services make a greater impact on inequality than taxes and benefits combined.

A 2011 study examined the impact of taxes, benefits and public services (healthcare and education) in 6 Latin American countries with a combined population of 390 million - Argentina, Bolivia, Brazil, Mexico, Peru, Uruguay. (Lustig et al 2012). [[7]](#endnote-7) Like the OECD reports, the research used data on actual use of services and converted that into ‘virtual income’ to see how the benefits of public services changed the distribution of income.

In all countries, these public services significantly reduce inequality, as measured by the Gini coefficient (a ratio which shows the extent of inequality: a smaller Gini indicates greater equality). The reduction varies between 10% and 20% - lower than the OECD range of effects, but still very significant. That means that in all countries, public services are relatively progressive – the poor get a much higher proportion of the benefit of public services than they do of market income - as in OECD countries.

This refutes the conventional cynicism that the rich benefit most from social spending in Latin America:

“social spending does not accrue to the richest quintile. On the contrary, [it is] progressive in absolute terms for Argentina and slightly so for Bolivia and Mexico. In Brazil and Peru social spending is progressive in relative terms” [[8]](#endnote-8); ….“inequality of access to basic services in education and health has ceased to be a major problem in many countries”. [[9]](#endnote-9)

Another striking result is that public services have a more important effect in reducing inequality in these countries than social security benefits and taxes combined:

“the largest decline in inequality is due to in-kind transfers in education and health…. governments in Latin America redistribute mostly through public spending on education and health”. [[10]](#endnote-10)

Even in Brazil, for example, whose benefits programme includes the Bolsa familia, the combined effects of education and healthcare make a contribution to equality twice as great as the effects of tax and benefit.

This can be seen in the graphic below which shows the change in the Gini coefficient in each country after the successive impact of taxes and benefits, and finally public healthcare and education services. In every country, this final stage – from ‘post-fiscal income’, i.e. after all taxes and benefits, to final income, which includes the value of the public services - have a bigger impact than taxes and/or benefits combined (the graphs show this for 5 countries: the same would be true for Peru, but due to data limitations health spending recorded for Peru includes only a fraction of actual public spending on health)..

1. Impact on inequality of taxes, benefits, and public services (Gini coefficient, 6 Latin American countries)

Source: Lustig, Nora et al 2012 <http://www.caf.com/attach/19/default/taxes-social-spending-inequality-poverty-argentina-bolivia-brazil-mexico-peru-synthesis-results.pdf>

1. Absolute and relative progressiveness of education and healthcare.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Education |  |  | Healthcare |  |
|  |  | Absolute distribution: % of benefit going to each decile (‘concentration shares’) | Relative distribution: benefit as % of market income |  | Absolute distribution: % of benefit going to each decile  (‘concentration shares’) | Relative distribution: benefit as % of market income |
| Argentina | 1st (lowest) decile | 11.7% | 93.1% |  | 18.6% | 61.4% |
|  | 10th (highest) decile | 5.2% | 2.2% |  | 1.7% | 0.4% |
| Bolivia | 1st (lowest) decile | 6.5% | 93.2% |  | 10.8% | 6.3% |
|  | 10th (highest) decile | 9.5% | 1.6% |  | 7.3% | 0.0% |
| Brazil | 1st (lowest) decile | 15.5% | 167.3% |  | 6.1% | 77.9% |
|  | 10th (highest) decile | 7.2% | 1.3% |  | 33.6% | 7.4% |
| Mexico | 1st (lowest) decile | 11.1% | 76.9% |  | 10.0 | 27.7% |
|  | 10th (highest) decile | 6.8% | 1.1% |  | 8.8% | 1.1% |
| Peru | 1st (lowest) decile | 14.0% | 30.9% |  | 3.8% | 5.8% |
|  | 10th (highest) decile | 4.0% | 0.3% |  | 26.8% | 1.3% |

Source: Lustig, Nora et al 2012 <http://www.caf.com/attach/19/default/taxes-social-spending-inequality-poverty-argentina-bolivia-brazil-mexico-peru-synthesis-results.pdf>

### Asia: healthcare

The pattern in Asian countries, for healthcare systems, is similar to that in Latin America – nearly all systems are progressive in either absolute terms, or at least relative terms. A 2007 study of Asian healthcare systems in 8 countries and three Chinese provinces or regions, found that 10 out of 11 systems reduced inequality. In 4 cases - Hong Kong SAR, Malaysia, Sri Lanka and Thailand – the distribution of benefits was equal, was equally distributed or positively favoured the poor: and the poorest 20% received 20% or more of the benefits. Vietnam was not far behind. Public healthcare systems were still relatively progressive in 5 other cases (Bangladesh, India, Indonesia, Gansu, and Heilongjiang). Only in Nepal was the system not progressive in its effects (before the regime change) (O’Donnell et al 2007).

Factors that influence the progressiveness include the level of public spending, the absence of fees, and geographical distribution of resources. Overall, the higher the proportion of GDP spent on healthcare, the more progressive was the distribution. There are virtually no fees in the most progressive systems - Hong Kong SAR, Sri Lanka, and Malaysia. Public health spending is of greater benefit to the poor in Hong Kong SAR, Malaysia, Thailand, Sri Lanka, and Vietnam because the distribution of hospital care is more favorable to the poor (O’Donnell et al 2007)

1. Share of poorest 20% in public healthcare benefits, Asia, 2005

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | % of public healthcare spending benefitting poorest 20% | *% of disposable income (private consumption) of lowest 20%* | Absolutely equal/progressive | Relatively progressive | Public spending on healthcare as % of GDP |
| Bangladesh | 16.8 | *7.3* |  | v | 1.0 |
| Gansu (China) | 8.2 | *5.2* |  | v | 2.4 |
| Heilongjiang (China) | 10.5 | *6.0* |  | v | 1.5 |
| Hong Kong SAR | 38.7 | *6.8* | *v* | v | 3.3 |
| India | 12.5 | *10.5* |  | v | 0.8 |
| Indonesia | 13.5 | *9.8* |  | v | 0.6 |
| Malaysia | 23.0 | *7.2* | *v* | v | 1.3 |
| Nepal | 6.6 | *8.1* |  |  | 1.2 |
| Sri Lanka | 20.9 | *8.3* | *v* | v | 1.6 |
| Thailand | 20.1 | *6.9* | *v* | v | 2.0 |
| Vietnam | 14.8 | *8.8* |  | v | 1.4 |

Source: O’Donnell et al 2007

Other studies on developing countries have confirmed that public spending on healthcare is progressive, that is that the poor get greater benefits, either in absolute or relative terms. One of these studies, covering over 70 developing and transition countries, found that the poor gained twice as much benefit as the rest:

“The absolute impact of public health spending on the health status of the poor is more than twice that of the non-poor …. For child mortality rates, a 1% increase in public spending on health reduces child mortality by twice as many deaths among the poor. Infant mortality rates follow a similar pattern. (Gupta et al 2003)

### Education

Public education services have multiple impacts on equality, by:

* making education equally available to all, including both men and women, without barriers of affordability
* improving the employment prospects and human development of children from poorer households, women, and other disadvantaged groups
* increasing disposable income by reducing or eliminating the need to spend money on education, which is proportionately of greater benefit to poorer households

These effects are greatest where education is universally available, with no direct or indirect fees. Different types of education spending may favour different groups. The benefit of public spending on primary schools is fairly equal, or greater for poorer households, so is progressive. But for secondary education this is reversed, so that more of the benefit goes to the higher income groups; for tertiary – university – education, it favours better-off groups even more.

These patterns are not usually due to targeting or discrimination in the education system itself. They reflect the fact that in many countries nearly all children attend primary school, whereas the children of lower income families are expected to contribute to family income, and so are less likely to attend secondary school – and even less likely to attend university. It would not however improve equality to reduce spending on secondary schools: this would make it even more difficult for poorer families to afford to send their children to secondary school, and so reduce equality of opportunity. The same is true of university education.

An analysis of the benefits of education spending in developing countries shows these different patterns:

* In primary education, in nearly all regions, the poorest 20% get about as much, or more, of the benefit than the richest 20%, in all groups of countries: so it is equal or progressive in absolute terms.
* For secondary education, the absolute benefits are greater for the higher income groups – but the poor still get a higher proportion of the benefit than they do of money incomes, so the impact is still relatively progressive, in all regions.
* This is true for education spending as a whole, even when university education is included, and even in Africa and Asia: the richest 20% get 3 times as much benefit as the poorest, whereas their money incomes are many times greater than the poorest.

1. Shares of poorest and richest quintiles in public education spending (1990s)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | PRIMARY Education spending | | SECONDARY Education spending | | TERTIARY Education spending | | ALL Education spending | |
|  | *No. of countries* | Poorest 20% get | Richest 20% get | Poorest 20% get | Richest 20% get | Poorest 20% get | Richest 20% get | Poorest 20% get | Richest 20% get |
| Sub-Saharan Africa | *10* | 17.8 | 18.4 | 7.4 | 38.7 | 5.2 | 54.4 | 12.8 | 32.7 |
| Asia and Pacific | *4* | 20.3 | 16.9 | 8.3 | 37.3 | 2.5 | 69.0 | 12.4 | 34.8 |
| Middle East and North Africa | *2* | 24.7 | 12.4 | 11.0 | 24.4 | 4.0 | 46.9 | 15.3 | 24.1 |
| Transition | *7* | 19.3 | 20.0 | 12.5 | 24.6 | 8.7 | 32.6 | 15.3 | 24.0 |
| Western Hemisphere | *14* | 29.5 | 9.4 | 15.1 | 17.8 | 4.7 | 41.6 | 19.2 | 20.7 |
| Total | *37* | 22.8 | 15.1 | 11.3 | 27.9 | 5.4 | 46.3 | 15.8 | 26.3 |

Source: Davoodi et al 2010 [[11]](#endnote-11)

### Education in Indonesia

A 2010 report on Indonesia, shows the absolute and relative impacts of different forms of public spending on education. Poorer households got more benefit from public spending on primary education than the richer groups, so the benefit of primary education is absolutely progressive. For secondary education, the children of richer families received more benefits, because of higher enrolment rates. But if primary and secondary education are added together, the spending per capita is almost completely equal across the income bands, except that the top group gets less benefit – which presumably reflects their use of private schools. So in absolute terms, the school system can be considered remarkably equal.

For university education, the spread is even more skewed in favour of the richer groups, so that in absolute and relative terms the system favours the rich. However, reducing public spending on university education is unlikely to help the children of the poor, who need public finance most.

If school and university spending are added together, the whole system is still progressive in relative terms. The top 20% get twice as much benefit from the education system as the bottom 20% but their incomes are more than 5 times greater than the poorest. So when the value of the education system is added to household incomes, they end up more equal than the market distribution of income.

1. Benefits of public spending on education by quintile group, Indonesia, 2005

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Share of income (post-tax) | Share of 1ary education spending | Share of 2ary education spending | Share of university education spending | Share of all education spending | 1ary plus 2ary spending per capita | Univ spending per capita |
| Q1 | 8.3 | 23.8 | 10.5 | 4.0 | 15.5 | 76,436.0 | 6,448.0 |
| Q2 | 12.0 | 22.3 | 14.6 | 5.7 | 16.0 | 75,930.0 | 9,188.0 |
| Q3 | 15.8 | 20.6 | 19.1 | 10.8 | 17.4 | 75,223.0 | 17,409.0 |
| Q4 | 21.0 | 18.3 | 24.9 | 19.5 | 19.8 | 74,006.0 | 31,433.0 |
| Q5 | 42.8 | 15.0 | 30.9 | 60.0 | 31.3 | 70,158.0 | 96,715.0 |
| Top:bottom | 5.2 | 0.6 | 2.9 | 15.0 | 2.0 | 0.9 | 15.0 |

Source: Juswanto 2010, World Bank database, PSIRU calculations

# Infrastructure and inequality

Other public services involve infrastructure which connects people to networks. They include roads, electricity, water, sewerage, and telecoms. As well as being very important for supporting economic growth and business activities, they provide important economic and social benefits to families and communities.

These ‘infrastructure’ or ‘network’ services have a double impact on inequality.

Firstly, the quality of life directly improves as a result of the services themselves: as communities gain access to piped water and sanitation their health improves, access to electricity facilitates reading and education as well as the use of electrical equipment including refrigeration and food conservation, radio and television, and roads, rail and telecoms provide greater mobility and ability to communicate. The impact of this can be seen, literally, from space. Satellite observation of lights on earth at night has been matched with population data to create maps, and an index, of the equality of distribution of these lights. This index is closely correlated with the Human Development Index. [[12]](#endnote-12)

Secondly, they improve equality of income, because people have better opportunities for earning more when they get access to roads and electricity and telecoms. Across all continents, there is a strong correlation between access to roads, electricity, water and sanitation and greater equality. This equality impact of infrastructure is greater than the impact of tax and benefits in Latin American countries, for example (though not as great as the value of health and education services: see above). The following chart shows the scale of this effect, across all continents, measured by a reduction in the Gini coefficient.

Chart J. Improvements in income equality due to infrastructure development, 1990s–2000s, by region

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Source: César Calderón and Luis Servén 2008 [[13]](#endnote-13)

The more people are connected to electricity grids, piped water services, sewerage or fixed telecom line, the greater the developmental benefit and the greater the increase in equality. But it is not profitable for private companies to construct networks for all, so these networks are invariably created through public investment – and this public financing of networks is itself a physical form of redistribution of wealth. In Africa, a World Bank survey found that the public sector remains the dominant source of finance for water, energy, and transport, while the contribution of the private sector had been close to zero: there has only been some private investment in telecoms. Even in countries where these networks are now private, universal connection was established under public ownership before privatisation took place in the 1980s and 1990s. And the European Commission is investing €50 billion of public money to develop electricity, road, rail and internet networks across Europe, to: “plug the gaps that would not be filled if the market, or existing public-sector instruments were the only options.” [[14]](#endnote-14)

These services are highly valued in developing countries. For example, infrastructure services have been an important factor in the democratic processes of India, where the slogan of ‘bijli, sadak, pani’ – electricity, roads, and water – is widely used in election campaigns, because voters recognise the importance of these factors: household surveys in a number of different states provide systematic evidence that these infrastructures rank at the top of voter demands, alongside education. [[15]](#endnote-15)

## Public water and equality

The importance of public sector provision can be seen from a comparison of investment in water and sanitation services in the department of Maldonado in Uruguay. Water services were privatised in 1993 and sanitation in 2000; both were then taken back into public ownership in 2004, following a referendum. A study compared progress with connecting households to sewerage under both regimes, and found that, whereas privatisation had little impact on access to the sanitation network, the return to public ownership led to a 15 percent increase in access to sanitation networks “. The main beneficiaries were the poorest: "… the bottom 25 percent has greater access to the network during the nationalization period than during the privatization period." Under public ownership, there was also a large and significant improvement in water quality. [[16]](#endnote-16)

## Rural electrification, gender equality and development

South Africa has massively increased the number of households connected to its electricity system, financed first by cross-subsidies and then from tax revenues: the continuing programme is financed from a national government fund. The percentage of the population with access to electricity rose from 40 percent in 1994 to 66 percent in 2002: by the end of 2006 over 3.3 million households had been connected. South Africa also provides subsidies to enable poor households to receive 50 KWh per month free, with reduced tariffs after that point. By the end of 2006, 1 million households were benefiting from this. [[17]](#endnote-17)

One effect of rural electrification is to release women from household duties of fuel collection and enable them to find paid jobs. In South Africa, within 5 years of electrification, there was a sharp fall in the use of wood as a cooking fuel, and a 13.5% increase in female employment, though little effect on male employment. The employment effects were greatest for women in their 30s and 40s, in middle-poor communities. [[18]](#endnote-18) [[19]](#endnote-19)

This contrasts with the rest of Africa, where: “In most countries, rural electrification is at single digit levels and urban electrification still well below 50 per cent. For lower income groups, access to electricity is still a dream. the emphasis on profitability appears to have relegated expanded electrification of the poor to the bottom of the priority list”, and neither private sector participation nor regulation has made any significant contribution to the extension of access to network services. [[20]](#endnote-20)

Electrification in Brazil also produces significant gains in human development. These come in the form of higher levels of education, and higher household incomes: “The development gains are large - a 10% increase in electrification reduces poverty by about 5%” [[21]](#endnote-21)

## Cross-subsidy and equality

When utilities are run as public services, cross-subsidies can be used as a powerful way of making the services accessible and affordable for all. Wealthier users of a service, including corporate users, can be charged more than ordinary households, and the extra money can be used to finance investment in the system for the benefit of all, or to reduce the price for poorer consumers, or to pay for other public services. So it reduces inequality by transferring resources from the rich, or companies, to the poor, as acknowledged by World Bank researchers: “implementing welfare programs through a transparent cross-subsidy in the utility rates, especially if undertaken such that only fixed charges are affected, may well be more efficient than a general poverty alleviation program undertaken with general tax funds.”[[22]](#endnote-22)

Under privatisation and liberalisation cross-subsidies are far more difficult and may become impossible. This is because private companies rely on attracting the best customers, and so they offer them the best – lowest – prices. For electricity or telecoms, for example, these best customers are big companies. The least desirable customers are the poor who consume little but require similar administrative overheads: they are therefore charged higher rates. As a result, the experience of telecoms liberalisation in Europe, for example, was that costs fell sharply for companies, but very little for households.

## Equality, poverty and living standards

The importance of public services and public infrastructure is reflected in a new multi-dimensional measure of poverty and development now used by UNDP, which has three dimensions – health, education, and living standards. The measures of education and health are clearly related to public services in these areas, but the measurement of ‘living standards’ is also heavily focussed on public infrastructure - access to water, sanitation and electricity account for half of the measures used of living standards.

The UN global consultation exercise in 2013 reinforced the relevance of this multi-dimensional framework. Education, healthcare, honest government, and water and sanitation were seen as the most important factors for development, along with decent employment. The consultation report includes the conclusion that: “the new agenda should provide for a greater role of the state in the provision of public ‘goods’”[[23]](#endnote-23)

1. Public services and infrastructure in multi-dimensional indicators of poverty (MPI)



Source: OPHI [[24]](#endnote-24)

Note: ‘floor’ means living space

Equality under the various dimensions of the MPI cannot be treated as an automatic consequence of greater equality of income. Public services and public infrastructure are a separate and additional dimension of equality. Households which are ‘income poor’ only partly overlap with the households that are poor in relation to the index of services and infrastructure: “for example, in South Africa, 11% of the population are income poor and 11% are MPI poor, but only 3% are poor by both measures. Mis-matches of 40% to 80% are regularly observed”.[[25]](#endnote-25) The same is true for changes: improvements in income equality are not automatically connected with improvements in equality of living standards. Most countries which recorded improvements: “reduced multidimensional poverty as fast or faster than they reduced income poverty”: in India, for example, poverty as measured by the MPI reduced 50% faster between 1999 and 2006 than income poverty, and the biggest reductions came from access to electricity, housing conditions, access to safe drinking water and improved sanitation. [[26]](#endnote-26)

# Public services , equality, and quality of life

## Public services linked to more equal distribution of income

Greater provision of public services and greater equality of income seem to be mutually reinforcing. An assessment of the effects of tax and public spending changes in 150 countries from 1970 to 2009 found that

spending on public health and housing has an even greater impact on improving equality than the same spending through social security benefits: “higher shares of GDP on social welfare, education, health, and hous­ing public expenditures have a positive impact on income distribution, individually and collectively.” (Martinez-Vazquez, et al 2012) An analysis of the impact of austerity policies found that cuts in spending worsened inequality most. (Woo et al 2013)

1. Unequal austerity: effects on inequality of changes in taxes and public spending

Source: calculated from Martinez-Vazquez, et al 2012, table 4

## Equalisation through public sector employment

Public services, as opposed to social security benefits, lead to more equality of household incomes mainly as a result of the employment provided. More people are employed, the distribution of earnings is more equal, and ‘fair wages’clauses magnify this effect.

This happens partly through the impact on the economy in general of public spending. Austerity measures which reduce public spending always increase unemployment, and higher unemployment makes inequality worse; an IMF paper estimates that as much as 20% of the impact on inequality comes from this effect on unemployment. Additionally, higher levels of education spending are also linked with greater equality in income distribution, because education raises the proportion of workers with education and therefore raises their wages. (Woo et al 2013) Spending on direct employment in public services also reduces the proportion taken as profits, which improves the overall distribution of income in favour of wages. In Latin America, for example: “The countries that have experienced recent increases in the wage share of national income have also increased their levels of formal employment in general. This has not necessarily occurred through additional, private employment-generation only. In much of Latin America in the 2000s, there have been significant increases in public employment, through the expansion and qualitative improvement in public services in areas such as health and education, as well as through **insourcing** activities that had been outsourced previously by Governments to private companies (Keifman and Maurizio, forthcoming).”

Pay levels are also more equally distributed in the public sector. While the top jobs get paid somewhat less than their private sector counterparts, workers in low-paid occupations, such as cleaning and security, get higher wages in the public sector – and women workers are also consistently better paid in the public sector than the private sector. So increasing the proportion of workers employed in the public sector makes the general distribution of incomes more equal. This pattern has been observed in Europe, Latin America, Pakistan, and Zambia (Nielsen and Rosholm 2002; **Hyder and Reilly 2005;** Lucifora and Meurs 2006; Mizala et al 2011, **Christofides L.** and **Michael** **M. 2013)**.

For the same reason, public ownership of utilities and other companies improves income equality, whereas privatisation worsens equality of incomes, because senior executives in privatised operations pay themselves far higher salaries than in the public sector - Wilson and Pickett (2009 pp. 243-4) suggest that this may have been a major factor in the growth of inequality in the UK in the 1980s.

This effect on wage equality could be weakened to the extent that the public sector outsources work rather than using direct employees, if contractors are free to pay ‘private sector’ rates. But this is prevented where governments use ‘fair wages’ policies requiring contractors to provide pay and conditions comparable to the public sector. These same provisions also extend the equalising effect of public sector pay into the private sector. Other procurement conditions have also been used to create greater equality of opportunity, especially for women and ethnic minorities, which has a further effect in equalising household incomes, by raising the employment and wages of those who previously suffered from discrimination. (ILO 2008; McCrudden 2004)

## Public services as mediator between equality and social benefits

Public services are also one of the mechanisms linking income equality to better social outcomes. ‘The Spirit Level’ makes few references to public services, but it notes that public spending on education is strongly linked to equality of personal income, so that better educational results are linked to both factors (Wilson and Pickett 2009 p.112). On healthcare, it comments that life expectancy is not strongly correlated with the *total* spending on healthcare: but *public* spending on healthcare *is* positively linked to infant mortality rates – whereas private healthcare spending has no effect, or even a negative effect, and even foreign aid has no significant effect (Ogloblin 2011, Tacke and Waldmann 2011, Mukherjee and Kizhakethalakal 2013). A study of 93 countries found that income equality is strongly linked to better infant mortality - so that if the income share of the top 20% is cut by 1% of GDP, then infant mortality falls by 1.5% - but it also found that “The overall results are sensitive to public policy: public health care expenditure, educational outcomes, and access to basic sanitation and safe water can explain the inequality–health relationship”. (Tacke and Waldmann 2013) The same combination was identified in Brazil, where life expectancy is improved both by public healthcare services and by more equal distribution of income. (Rasella et al 2013). So public services may be a key mediating mechanism by which more equal societies deliver better social outcomes.

# Conclusions

Public services are one of the central mechanisms for improving equality. Their impact on equality is at least as great as the redistribution of disposable income through benefits. The growth of public services, including public infrastructure services, is central to the creation of more equal societies, in high income countries and in developing countries alike.

Public services do not just mitigate the effects of the market economy – in a real sense, they reduce the relative size of the market economy, and replace it with an intrinsically more equal system. The benefits of services are equally distributed, so that they bear no relation to the wealth of households, or the market value of labour to employers – although they continue to bear a close relationship to demand, e.g. for education, health, energy. Profit may be zero, or recycled into other services, but in either case is not an essential driver of the system.

These effects of public services are economically significant, because they challenge market allocation by price and demand, and challenge the dominant mode of private production. They are socially significant, because these public services are based on principles of universalism and solidarity, which similarly challenge the social relations of the market.

The distribution of extra spending power through benefits is no substitute for public services in terms of their effect on equality. Public sector employment is central to the positive effect on income equality, and the absolute equalisation of service provision is central to the redistributive effect of the services themselves.

The growth in outsourcing of these services, including through PPPs, reduces the equalising effect of public services, in two ways. Firstly, it replaces the wage income of public employees with a mixture of profits and wages of private employees, and thus increases the share of profits. Secondly, especially through PPPs, it enables private companies to charge higher prices to consumers or governments, thus again increasing the potential share of profits and reducing the disposable income of households.

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# Notes

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   * Lustig, Nora et al 2012 The Impact of Taxes and Social Spending on Inequality and Poverty in Argentina, Bolivia, Brazil, Mexico and Peru: A Synthesis of Results Working Paper 1216 August 2012 <http://econ.tulane.edu/RePEc/pdf/tul1216.pdf> (also CAF Working paper 2012/05, at <http://www.caf.com/attach/19/default/taxes-social-spending-inequality-poverty-argentina-bolivia-brazil-mexico-peru-synthesis-results.pdf>
   * Lustig, Nora 2012 Taxes, Transfers, and Income Redistribution in Latin America. Inequality in Focus Volume 1, No 2 July 2012 <http://siteresources.worldbank.org/EXTPOVERTY/Resources/InequalityInFocusJuly2012FINAL.pdf>

   The results have been re-worked and presented in different ways, to fit the WB agenda. Some versions almost ignore the impact of public services e.g. the impact of education is explored entirely in terms of reducing the relative wages of skilled workers, and the results on healthcare are mentioned only in a dismissive footnote, in: Lustig, Nora; Lopez-Calva, Luis F.; Ortiz-Juarez, Eduardo. 2012. Declining inequality in Latin America in the 2000s : the cases of Argentina, Brazil, and Mexico. Policy Research working paper ; no. WPS 6248. Washington D.C. - The Worldbank. <http://documents.worldbank.org/curated/en/2000/01/16867190/declining-inequality-latin-america-2000s-cases-argentina-brazil-mexico-declining-inequality-latin-america-2000s-cases-argentina-brazil-mexico> [↑](#endnote-ref-7)
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