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**Impact of the continued economic downturn
on education and teachers: Employment, salaries
and conditions of teaching and learning**
by Lee E. Nordstrum

Background paper for discussion at the 11th Session of the CEART
(Geneva, 8–12 October 2012)

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Impact of the continued economic downturn on education and teachers: Employment, salaries and conditions of teaching and learning, by Lee Nordstrum

This paper served as a background study for the 11th Session of the Joint ILO/UNESCO Committee of Experts on the Application of the Recommendations concerning Teaching Personnel (CEART), held in Geneva, 8-12 October 2012.

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1. Introduction

This background paper seeks, to the extent possible with available data, to outline evolutions (either positive or negative) in educational provision, teacher employment and salaries, and the conditions of teaching and learning since the onset of the financial crisis in late 2008. To this end, recent data from a variety of sources is collated that highlight trends in overall education expenditure, including overseas development assistance (ODA), teacher employment, educator salaries and general conditions of teaching and learning. These are then compared to analogous indicators from pre-crisis years to distinguish any effect that the crisis may have had on the education sector.¹ The impact of the crisis in the area of social dialogue is dealt with in a separate paper.

1.1. Findings of previous International Labour Organization (ILO) reports

The ILO has published two prior reports which concern the financial crisis' impact on education in the form of SECTOR Notes² and a paper presented to the 310th Session of the Governing Body.³ The former employed data from national statistics bureaux to tabulate changes in education sector employment from 2007 to 2008 in 26 European Union (EU) and nine non-EU countries for which data were available. On aggregate, educational employment had increased by 2.8 per cent, but fell in ten countries, nine of which were in the EU. More recent data from the United Kingdom indicated a 12 per cent decline in newly qualified teachers in 2009 as compared to 2008 levels. The note also highlighted changes in other benefits in certain countries (e.g. Islamic Republic of Iran, Ireland, Italy, Peru, Switzerland) attributable to the crisis. The paper also found that economic stimulus measures had been employed in numerous contexts to shore up educational expenditure and, in some cases, prevent lay-offs or quality degradation.

The latter Governing Body paper found educational budgets, like other public sectors, under significant fiscal strain. As such, educational budgets faced reductions in 2010–11, primarily in personnel expenditures (e.g. jobs, salaries and other benefits). While overall employment of educational personnel grew, for a sample of over 50 countries and territories, the augmentation was minimal (0.3 per cent) and several nations recorded net declines from 2009 to 2010. There was also some evidence that pointed to the hiring of unqualified supply and temporary teachers to meet personnel needs, enrolment increases and budget constraints. In addition, terms and conditions of employment had deteriorated in some countries: remuneration freezes and declines relative to the cost of living had occurred in some countries; pensions were sacrificed in others; and capital expenditure line items had been deferred. Higher education and research appeared to be particularly

¹ It should be noted at the outset that the methodology employed here is exploratory rather than causal: we do not seek to empirically estimate the impact of the crisis on various educational indicators. This is largely due to data constraints (i.e. availability of recent data from 2010–11 for a limited number of countries).

² ILO: *Impact of the global economic recession on education*, SECTOR Notes (SECTOR, July 2009).

³ ILO: *Update of sectoral aspects in the context of economic recovery: Education and research*, Governing Body, 310th Session, Geneva, 2011, GB.310/STM/4, fourth item on the agenda.

vulnerable to expenditure constrictions, with staff redundancies, salary freezes, increased class sizes and reduced service access. Finally, the paper noted the discernible lack of social dialogue and partnership to negotiate the financial and structural implications of budget reductions in the education sector.

1.2. Findings from UNESCO crisis monitoring activities

UNESCO conducted four surveys in 2009 to ascertain the impact of the financial crisis on education. The first, a quick survey of 50 countries, was designed to understand the effects of the crisis on governments' educational budgets.⁴ Among its findings was that many governments, mostly developed and middle-income countries, opted to increase budget deficits through stimulus spending which provides a better platform for protecting educational spending. On the other hand, low-income countries (LICs) were unable to afford extra stimulus spending and thus were more reliant on international aid flows. As such, two general country situations emerged vis-à-vis educational spending trends: (1) marginal expenditure growth compared to previous years; and (2) budget declines in 2009 relative to 2008 levels. For LICs with high enrolment growth rates, either of these two fiscal situations (i.e. negative or marginal growth) yielded reductions in per-pupil expenditure and cuts in school running costs. However, there were no clear signs at the time of the survey to indicate that education had faced more drastic cuts than other government expenditure categories. Indeed, educational spending increased its share of the total government expenditure in many countries and across all regions.

A second survey conducted in November 2009⁵ consisted of 12 country case studies to provide further analysis of the crisis' impact on particular countries' educational systems and their policy responses. Overall, all countries analysed experienced an economic slowdown in 2009, but while government revenue decreased and aggregate spending was cut, education budgets remained relatively resilient in most contexts. Stimulus measures undertaken in the examined countries were generally employed to bolster capital, rather than recurrent expenditures. When budgets were cut (even after accounting for ODA), teachers' wages tended to be protected more than other expenditure line items, as did overall spending on the primary phase. Higher education and Technical and Vocational Education and Training (TVET) were more likely to be subject to budget cuts, as these subsectors require more non-salary and capital expenditures. Four government responses were implemented in reaction to these fiscal events. Middle-income countries with fiscal capacity (e.g. Armenia, Egypt, Thailand) employed counter-cyclical measures through increased expenditure or borrowing and, in some cases, drew on reserves. Other countries (e.g. Argentina, Ghana, Mexico, Mongolia, Thailand) implemented or reinforced targeted social protection policies for the most vulnerable households during the crisis. Other countries (e.g. Republic of Moldova, Egypt) used the crisis as an opportunity to focus on and improve cost-efficiency, governance and relevance. Finally, budget cuts were distributed across all subsectors in some countries.

⁴ UNESCO: *The impact of the global crisis on public education expenditure, No. 1: Findings from the UNESCO Quick Survey*, Working Document for UNESCO staff (Paris, 2009).

⁵ UNESCO: *The impact of the global crisis on public education expenditure, No. 2: Evidence from 12 country case studies*, Working Document for UNESCO staff (Paris, 2009).

The third and fourth surveys were community surveys conducted in the Democratic Republic of the Congo ⁶ and Mongolia. ⁷ In the former, most schools, both public and private, rely on fees for the majority of capital and running costs, including teacher salaries. As such, the decline in household revenue in 2009 directly impacted school operations. While schools implemented a “fee waiver” at the beginning of the 2009–10 academic year to offset tuition/entrance fees, households were forced to sell assets or reduce other consumption in order to supplement non-tuition fee expenditure. In addition, many children attending pre-primary were taken out of school and over-age children in primary and secondary phases dropped out to engage in income-earning activities for the household.

In Mongolia, schools’ operational budgets were cut, including those for instructional materials, salaries, administration and maintenance. The frequency with which schools requested household fees or financial contributions therefore increased in order to bridge the gap between governmental allocations and the schools’ running costs. At the same time, household income fell, particularly for vulnerable groups, and thus student drop-out and absenteeism, due to fee non-payment and child labour increased. The “requests” from schools reportedly increased tensions between schools and households, as well as between teachers and students; in some cases, households had to take out bank loans to subsidize school costs. The survey also found that teachers were also required to purchase instructional materials out of pocket, which accounted for approximately 10 per cent of teachers’ monthly income. Like households, the number of teachers relying on salary loans from banks reportedly increased.

1.3. Findings from the 2009 CEART Tenth Session

Though the Tenth Session of the Joint ILO–UNESCO Committee of Experts on the Application of the Recommendations concerning Teaching Personnel (CEART) in 2009 did not explicitly analyse the economic crisis, several issues were argued to have been exacerbated by the crisis and are thus germane to the current paper. The CEART recognized that, while education sector employment had generally expanded since 1970, growth had slowed since 2000 and had not kept pace with enrolments, particularly in developing countries and sub-Saharan Africa. This has caused an estimated worldwide shortage of 10.3 million teachers needed to achieve Education for All (EFA) by 2015; the figure is substantially higher if the number of untrained contract teachers is considered. Educator salaries have also fallen in real terms or relative to other occupations requiring similar skill levels. In some cases, late or non-payment of salaries is a significant problem. The CEART also noted a general downward trend in class sizes, though pupil–teacher ratios (PTRs) vary widely between and within national contexts. No significant trend was observed vis-à-vis hours of work required of educators.

⁶ UNESCO: *L’impact de la crise sur la scolarisation en République démocratique du Congo* (Mar. 2010).

⁷ UNESCO: *Community survey: Impact of crisis on education. A case study of Mongolia* (Paris, 2010).

2. Government finance, ODA and education expenditure

2.1. Government finance

The economic crisis that began in late 2008 has resulted in a profound drop in global economic growth, falling to 4 per cent in 2011 from 5.1 per cent in the previous year, and is projected to decelerate further over the medium term. As a result of the prolonged recession, the ILO estimates that nearly 27 million new jobseekers have been added to the global unemployment figure of almost 171 million prior to the crisis, and this number is expected to rise as new entrants into the labour market seek gainful employment.⁸ In response, many nations sought to maintain or increase expenditure (i.e. through stimulus measures) despite reduced revenue and, in so doing, increased national debt levels to stimulate demand and growth. Developed and emerging upper-middle income economies were on better financial footing to sustain such stimulus measures while lower-income countries relied to a greater extent on external finance. A survey of 43 countries by Education International (EI) in 2009⁹ revealed that only ten countries did not employ economic stimulus measures in education in response to the crisis; this finding was echoed by a separate survey conducted by UNESCO.¹⁰ In a follow-up survey of 25 Organisation for Economic Co-operation and Development (OECD) countries conducted in 2010, 11 reported stimulus measures directed toward the education sector.¹¹ As aggregate growth has remained tepid, however, higher relative debt and expenditure levels have put increasing pressure on governmental budgets¹² and stimulus spending is being cut back, especially in LICs.

2.2. Overseas development assistance (ODA)

Given an uncertain recovery and the fiscal hole in the budgets of LICs, international aid is arguably more important than ever for attaining the Employment for All goals and the Millennium Development Goals (MDGs). The Oxfam study mentioned in the previous section also analysed the fiscal space available to finance MDG spending in 56 LICs.¹³ According to their findings, 59 per cent of LICs had no space to increase domestic spending and 57 per cent had critical levels of debt which precludes further borrowing. Thus, the primary means of financing MDG expenditure must be through aid grants as all

⁸ ILO: *Global Employment Trends*, 2012, pp. 15–16.

⁹ Education International (EI): *The global economic crisis and its impact on education* (Brussels, 2010).

¹⁰ UNESCO: *The impact of the global crisis on public education expenditure, No. 1: Findings from the UNESCO Quick Survey*, Working Document for UNESCO staff (Paris, 2009).

¹¹ D.V. Damme and K. Karkkainen: *The impact of the economic recession and fiscal crisis on education in OECD countries*, OECD Education Working Papers, No. 56 (Paris, 2011).

¹² A.K. Shiotani: “Education and economic crises”, in *Current Issues in Comparative Education*, Vol. 12, No. 2 (2010), pp. 3–4.

¹³ K. Kyrili and M. Martin. *The impact of the global economic crisis on the budgets of low income countries*, Oxfam International, 2010.

countries analysed had space to absorb further aid.¹⁴ According to the 2011 EFA Global Monitoring Report, however, ODA stagnated in 2009¹⁵ and the OECD pointed to a shortfall of US\$20 billion in 2010.¹⁶ Aid targets in line with the Paris Declaration of 2005 (i.e. doubling by 2010) were missed by approximately \$16 billion. Programmable aid, which constitutes two-thirds of overall ODA and is more important to governmental budgetary planning in that it is predictable, showed only diminutive increases in 2009 from 2008 levels and plateaued in 2011.

2.3. Impact on education budgets

The above trends impact educational expenditure in a variety of ways. Brumby and Verhoeven¹⁷ have estimated the evolution of educational expenditure from 2000 to 2013 in lower, lower-middle and upper-middle income countries as well as regional aggregates; these estimates are tabulated in **figure 1**. Prior to the crisis, the highest growth rates in educational spending were seen in East Asia and the Pacific, Europe and Central Asia and Latin America and the Caribbean, and most notably in upper-middle income countries. From 2008 to 2010, growth in educational expenditure remained stagnant or fell in most regions (except the Middle East and North Africa and South Asia) and country income groups from 2008 to 2010 compared to average budget allocation increases from 2000 to 2008. The largest falls in growth rates after 2008 occurred in upper-middle income countries and Europe and Central Asia. Growth in educational budgets is projected to rebound in 2011–13, but mostly in middle-income countries, East Asia and the Pacific, Europe and Central Asia and Latin America. Growth in LICs, South Asia and sub-Saharan Africa is projected to increase during 2011–13, but at a lower rate than other regions.

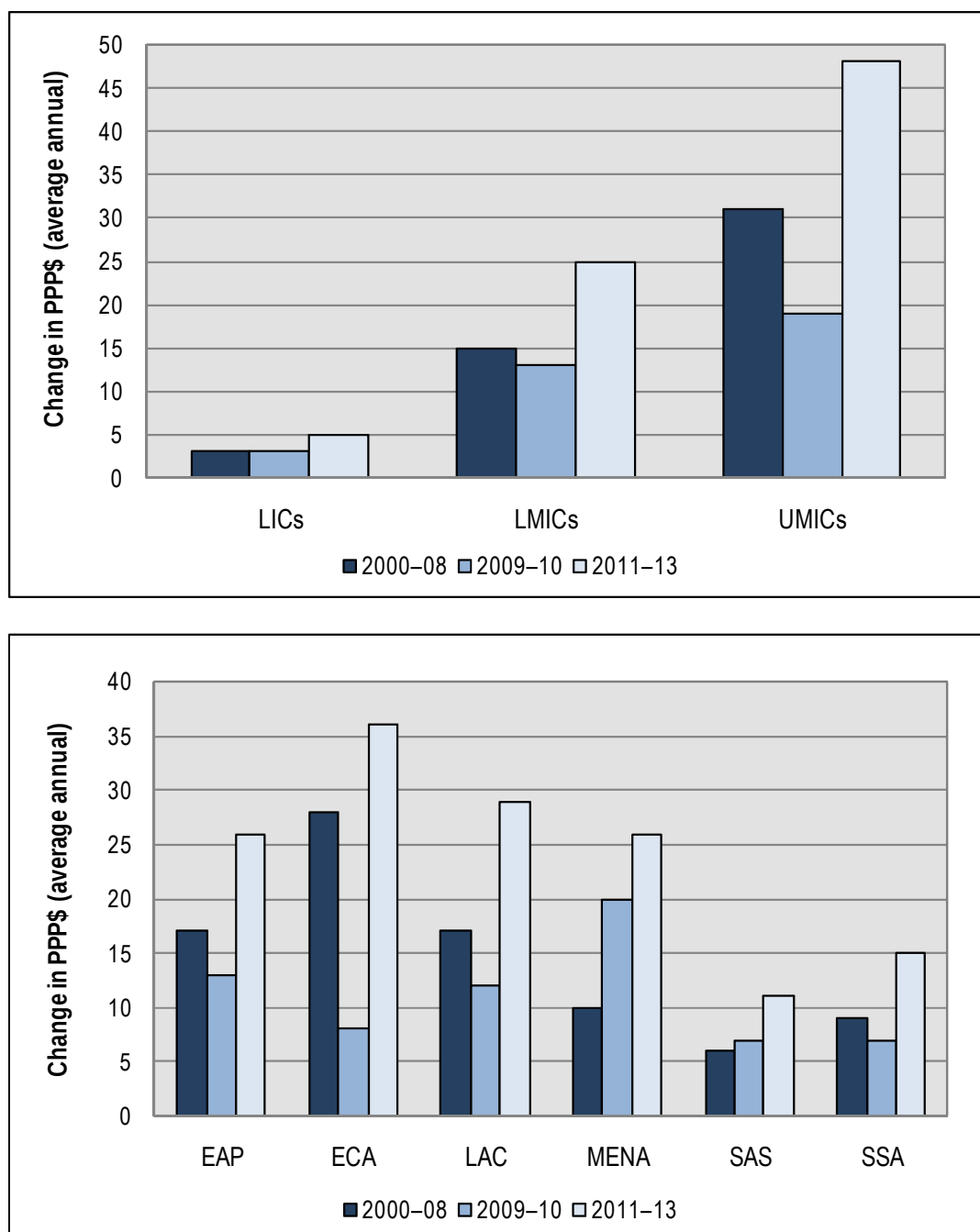
¹⁴ Additionally, 43 per cent of countries could increase borrowing.

¹⁵ UNESCO: *The hidden crisis: Armed conflict and education*, EFA Global Monitoring Report 2011, (Paris, 2011).

¹⁶ OECD–Development Assistance Committee: *International Development Statistics: Creditor Reporting System* (Paris, OECD–DAC, 2010).

¹⁷ J. Brumby and M. Verhoeven: “Public expenditure after the global financial crisis”, in O. Canuto and M. Guigale (eds): *The day after tomorrow: A handbook on the future of economic policy in the developing world* (Washington, DC, World Bank, 2010).

Figure 1. Change in educational expenditure, 2000–13



Note: Regions not UN regional designations. LICs = low-income countries; LMICs = lower-middle income countries; UMICs = upper-middle income countries. EAP = East Asia and the Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SAS = South Asia; SSA = sub-Saharan Africa.

Source: J. Brumby and M. Verhoeven, 2010.

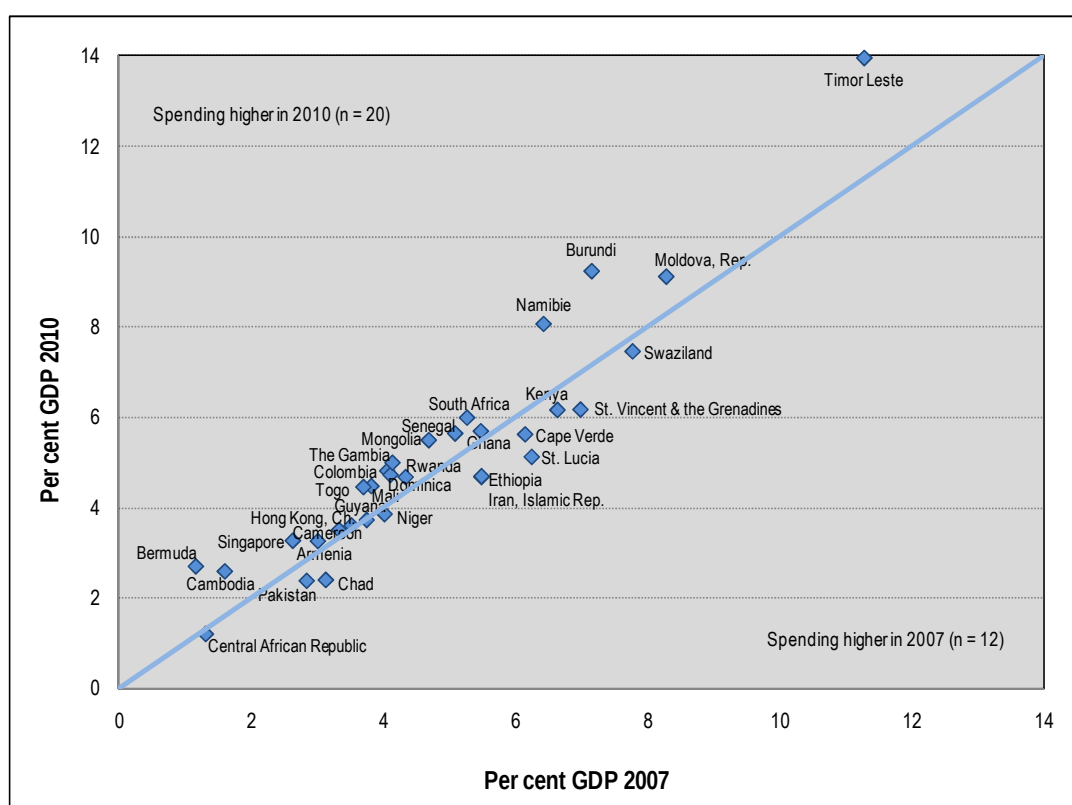
Though not reflected in **figure 1**, education has fared poorly compared to other MDG categorical spending; it was cut from 2008 to 2009 while expenditure on health, infrastructure and agriculture increased.¹⁸ While educational spending in most regions was scheduled to rebound subsequently, expenditure levels in 2010 remained lower than they were in 2008, except in Africa and countries with International Monetary Fund (IMF)

¹⁸ Kyrili and Martin, 2010, op. cit.

programmes. Health, infrastructural and agricultural sectors, on the other hand, all reported higher spending in 2010 than in 2008.

Given the reduction in GDP growth since 2008, we would expect educational expenditure to increase as a proportion of GDP in most countries, unless spending cuts were to a greater magnitude than reductions in growth. **Figure 2**, below, shows the change in educational spending relative to GDP in 32 countries for which data are available for 2007 and 2010. The figure also features a reference line ($y = x$) that shows whether spending was greater in 2007 or 2010; points above the line indicate that spending increased as a ratio of GDP (or GDP per capita) from 2007 to 2010 and points below the line highlight a relative spending decrease. The aforementioned supposition (that expenditure would increase relative to GDP in most cases) fits the data presented here; increases are seen in 20 countries (62.5 per cent).

Figure 2. Changes in education expenditure as a percentage of GDP, 2007–10 (32 countries)



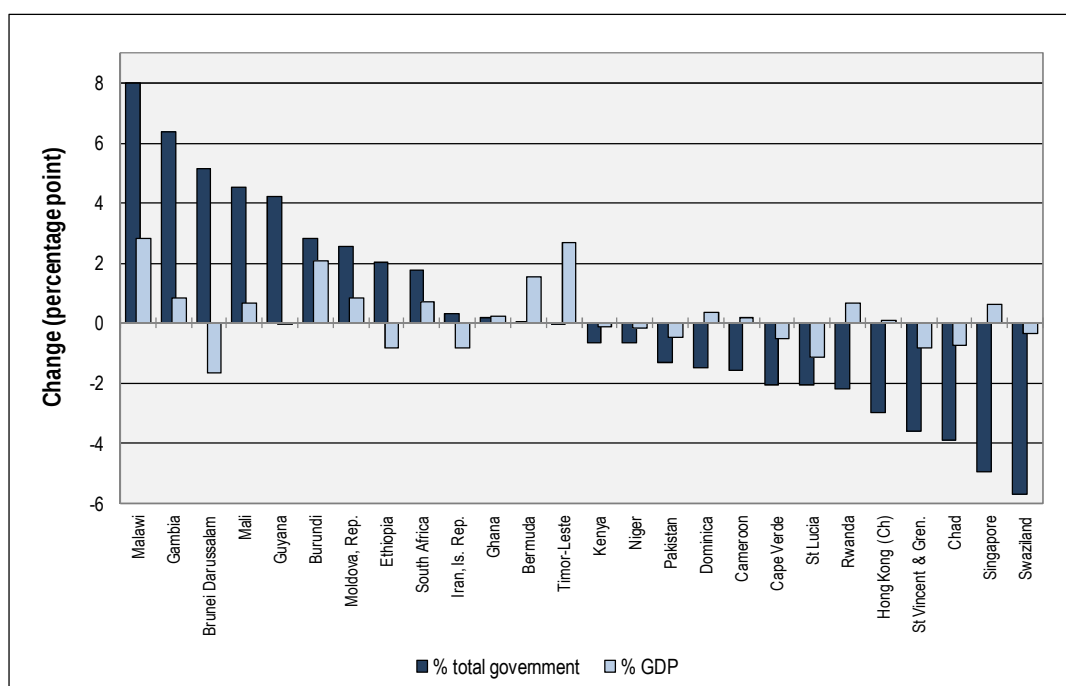
Source: Author's calculations based on UNESCO Institute for Statistics (UIS) database.

It is notable, however, that expenditure decreased relative to GDP in 37.5 per cent of the sample, which suggests significant cutbacks in education spending in some contexts. Most countries that have experienced reductions in allocations to education relative to GDP are low- or middle-income (nine out of 12); the only upper-middle income countries which have decreased educational spending relative to GDP are the Islamic Republic of Iran, St Lucia and St Vincent and the Grenadines. Particularly problematic is that allocations to education have fallen in some already low-spending countries: Central African Republic (1.31 to 1.19 per cent of GDP); Pakistan (2.84 to 2.37); Chad (3.13 to 2.39); and Niger (4.02 to 3.85). Educational spending has increased in some emerging upper-middle income countries, however, South Africa allocated 5.27 per cent of GDP in 2007 to education and 5.99 in 2010.

While educational budgets can fluctuate relative to GDP for changes in both spending and GDP growth, expressing education expenditure as a proportion of total governmental

spending providing a better picture of how education spending has been protected in the wake of the crisis. Employing the same UNESCO Institute for Statistics (UIS) data set, **figure 3** presents changes in educational spending from 2007 to 2010, both as a proportion of GDP and total governmental expenditure for 26 countries with available data on both indicators.

Figure 3. Educational expenditure 2007–10, as a percentage of GDP and total government spending (26 countries)



Source: Author's calculations based on UIS database.

Figure 3 shows that while evolutions relative to GDP are mixed since the economic crisis (education spending increased as a percentage of GDP in 13 countries, decreased in 12 and did not change in one), the proportion of total government expenditure allocated to education fell in more than half of countries in this subsample (14). These trends differ across country contexts, however. In both Guyana and Hong Kong, education spending remained proportionately constant relative to GDP, but the percentage of overall government spending that it consumed rose in the former and fell in the latter. This suggests that education was protected *relative to other expenditures* in Guyana more so than in Hong Kong. Indeed, for countries where the allocation to education fell as a percentage of the government expenditure (54 per cent of countries), it was not protected relative to other categories. Further, education expenditure fell relative to GDP and as a percentage of total government spending in eight countries (31 per cent of the sample)¹⁹ from 2007 to 2010. These findings, though not representative of all countries due to limited data, are similar to other studies which state that education budgets have fallen, or have been cut, in numerous countries, not universally but according to national contexts.²⁰

Such drops or irregularities (e.g. late school allocations) in educational expenditures have real and palpable effects on both teachers and schools. For instance, 450 schools around Valencia, Spain, are currently at risk of closure because they have not received any

¹⁹ Cape Verde, Kenya, Niger, Pakistan, St Lucia, St Vincent and the Grenadines, Chad, Swaziland.

²⁰ Kyrili and Martin, 2010, op. cit.; UNESCO, 2009 and 2011, op. cit.

funding from the local authority in six months and thus cannot pay for essential services such as electricity and water.²¹ The closure of these schools would effectively put thousands of educators and administrative staff out of work and leave 250,000 pupils without a learning institution. Schools in other autonomous regions of Spain, such as the Balearic Islands and Castile, have also experienced difficulties due to non-payment from local authorities.

3. Teacher employment and recruitment

The aggregate evolutions discussed above are experienced differentially across subcategories of education expenditure. With regard to teacher employment and recruitment, it is widely recognized that, while educational employment has expanded since 1970, growth rates have slowed since 2000 and recruitment has not kept pace with demand. Indeed, to meet universal primary education alone an additional 1.9 million primary teachers will be required, over half in sub-Saharan Africa.²² Taking post-basic levels into consideration raises the number of teachers needed to an amount over ten million. As the crisis and continued economic downturn have directly impacted education budgets, new recruitment and employment growth have been affected in some contexts. A recent survey of EI member organizations²³ revealed hiring freezes in Canadian colleges and universities, as well as the postponement of initiatives designed to reduce PTRs in New Zealand. In Ireland, rural community schools with less than four teachers and 86 pupils will be rationalized beginning in 2012²⁴ and hundreds of teaching posts in the most disadvantaged schools are scheduled to be made redundant over the next three years.²⁵ Not all evolutions have been negative, however. Funds from the American Recovery and Reinvestment Act of 2009 in the United States were used by many school districts to stave off lay-offs or create new teaching posts in 2010.²⁶ Nevertheless, more than two-thirds of recipient districts had exhausted stimulus funds by 2011–12 and many were expecting subsequent cuts of teaching positions; 57 per cent of districts envisaging cuts in 2011–12 planned to cut teaching staff (see also **box 1**).

²¹ EI: *Spain: Public sector financial crisis pushes schools to the brink of closure* (Brussels, 16 Jan. 2012).

²² UNESCO, 2011, op. cit.

²³ EI: *The global economic crisis and its impact on education* (Brussels, 2010).

²⁴ S. Cottrel: “Save our small schools by applying good practice rather than cuts”, *Irish Times*, 29 Dec. 2011.

²⁵ As of the time of writing, this decision is being reviewed by the Ministry of Education. Teacher Solidarity: “Irish protests against teacher cuts”, <http://www.teachersolidarity.com/blog/irish-protests-against-teacher-cuts/> [accessed 6 Feb. 2012].

²⁶ Center on Education Policy (CEP): *Strained schools face bleak future: Districts foresee budget cuts, teacher layoffs, and a slowing of education reform efforts* (Washington, DC, 2011).

Box 1
Responses to fiscal shortfalls in the United States: Saving, then cutting jobs

The American Recovery and Reinvestment Act of 2009 (ARRA) distributed US\$80 billion in federal stimulus spending during 2009–10 and was intended to avoid lay-offs and stabilize education budgets. In 2010, school districts also received \$10 billion in additional stimulus spending to save or create jobs during the 2010–11 school year. A recent nationally representative randomized evaluation of ARRA funds found that 75 per cent of districts receiving ARRA funds used it to save or create teaching jobs.

However, most districts had exhausted ARRA funds by the 2010–11 school year and many were facing renewed personnel cuts. Indeed, 61 per cent of districts expecting budget cuts in 2011–12 envision overall personnel reductions and 57 per cent plan to cut teaching posts.

A secondary impact of reduced government revenue and stimulus funding has been the Budget Control Act of 2011, designed to reduce the national budget deficit and debt. The Act triggers sequestration (reduction) in 2013 national spending, then downward revisions to statutory limits on discretionary spending from 2014 to 2021. One half of fiscal savings will originate in non-defence federal programmes. A recent analysis by the National Education Association (NEA) estimated that 71,000 jobs of teachers and support staff will be at risk of loss if sequestration is triggered in 2013.

Source: CEP: *Strained schools face bleak future: Districts foresee budget cuts, teacher layoffs, and a slowing of education reform efforts* (Washington, DC, 2011). NEA: *Impact of the Budget Control Act's across-the-board reductions* (Washington, DC, 2011).

Recent data from OECD databases sheds light on pre- and post-crisis teacher recruitment trends in 29 member and non-member partner countries from 2000 to 2009 (see **figure 4**). Two trends are shown for each country. The first dark bar shows the average annual percentage change in teacher numbers from 2000 to 2008. A second light bar shows the percentage change in teacher numbers from 2008 to 2009 and is disaggregated by education level (e.g. pre-primary, primary, secondary and tertiary). The figure shows that in some (though not all) countries recruitment trends have significantly diverged from those seen between 2000 and 2008: growth in teacher numbers fell after the onset of the crisis in 12 countries with data available and 11 others saw recruitment increase after 2008. However, this general trend belies stratification across school levels and, in some countries, there is wide variation in recruitment growth in pre-primary, primary, secondary and tertiary teaching staff.

In most countries, contractions or freezes in teacher recruitment growth have been concentrated in the secondary phase (Brazil, Chile, Czech Republic, France, Germany, Hungary, Ireland, Italy, Japan, Netherlands, Poland, Russian Federation, Slovakia, United Kingdom), though tertiary (Brazil, France, Hungary, Ireland, Russian Federation, Sweden), primary (Belgium, Czech Republic, Netherlands, Norway, Poland, Portugal) and pre-primary (France, Germany, New Zealand, Switzerland) have been targeted in other national contexts. On the other hand, many countries report above-average growth in pre-primary (Australia, Belgium, Brazil, Chile, Finland, Iceland, Italy, Poland, Slovakia, Spain, Turkey, United Kingdom, United States) and tertiary phases (Australia, Belgium, Chile, Czech Republic, Germany, Iceland, Japan, Netherlands, New Zealand, Norway, Poland, Slovakia, Switzerland, United States) from 2008 to 2009.

It is clear that no discernible trend emerges from the data presented in **figure 4**; recruitment freezes and cuts were not universal phenomena (at least as of 2009), though neither was increased growth in recruitment rates. Rather, post-crisis personnel decisions

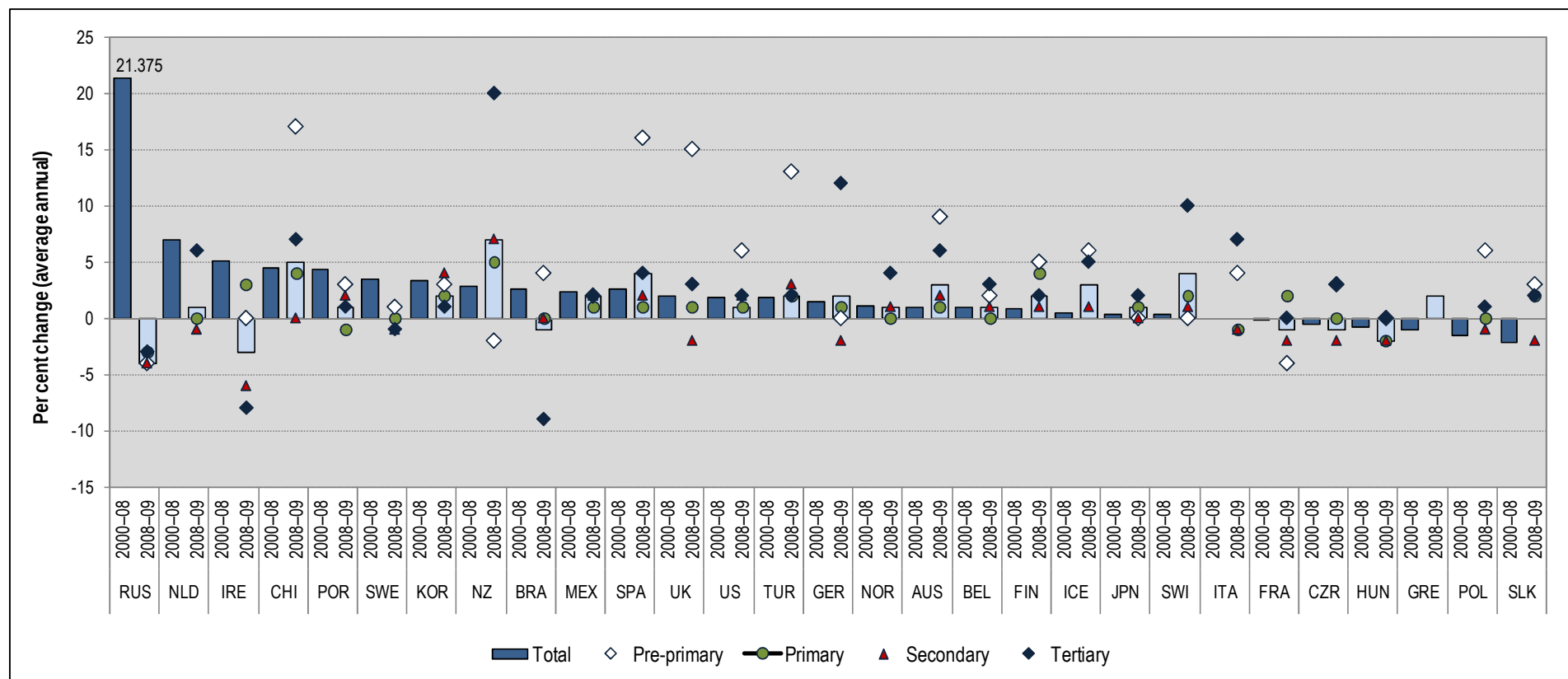
appear to be country-specific, a finding that parallels subsequent reports from OECD countries.²⁷

In comparison, emerging economies have generally been able to augment teacher recruitment rates in specific sectors throughout the crisis.²⁸ Turkey, for example, increased recruitment of pre-primary teachers by over 50 per cent after 2008 relative to pre-crisis levels, and more than doubled recruitment rates in secondary TVET (2.2 to 4.9 per cent). Growth of pre-primary staff recruitment in Brazil and China rose from 1.5 and 2.5 per cent, respectively, before the crisis to 3.9 per cent afterward. Brazil has also dramatically increased secondary TVET teacher recruitment; rates grew from 0.9 per cent per year over 2000–08 to 9.2 per cent in 2009. South Africa, for whom expanding secondary provision and participation is a priority, increased recruitment of secondary teaching personnel from 1.9 per cent during 2000–08 to 11.6 per cent in 2009. Chile recorded higher growth in general recruitment after the crisis than before, particularly in tertiary institutions.

²⁷ D.V. Damme and K. Karkkainen: *The impact of the economic recession and fiscal crisis on education in OECD countries*, OECD Education Working Papers No. 56 (Paris, 2011).

²⁸ Data for this paragraph originates from UIS databases. The Russian Federation represents the only exception to this trend; recruitment for the secondary phase did not differ significantly before and after the crisis while overall recruitment fell.

Figure 4. Trends in teacher recruitment (29 countries): per cent change in 2000–08 and 2008–09

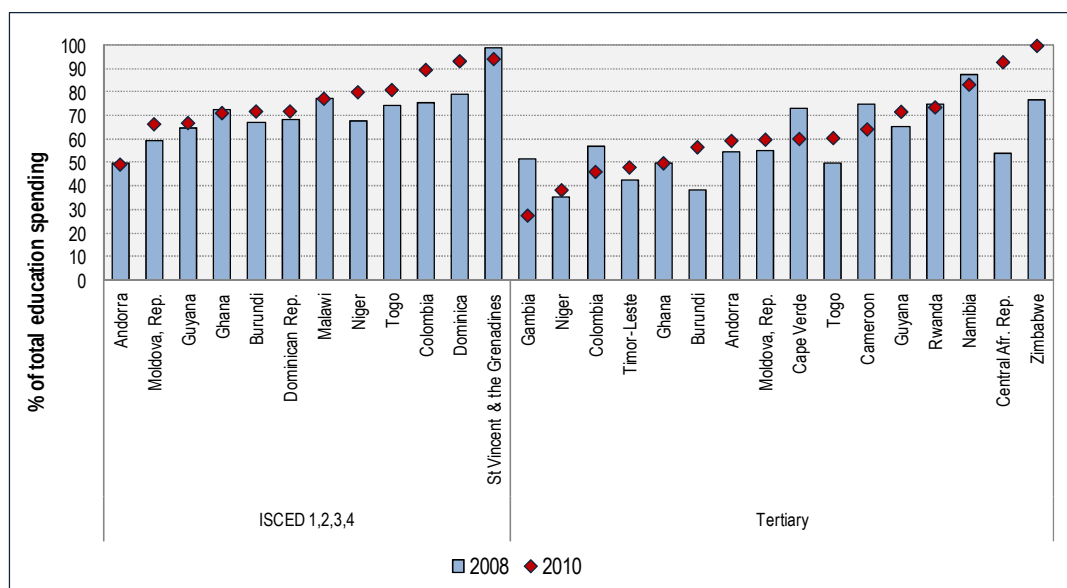


Source: Author's calculations based on OECD database.

4. Teacher salaries and pensions

On balance, teacher salaries have proven to be more resilient than other budget line items in countries experiencing budget freezes or contractions,²⁹ which is significant given the large proportion of overall education expenditure allocated to personnel costs. Recent data from UIS databases attest to this. **Figure 5** depicts the proportion of total education spending allocated to teacher remuneration before and after the crisis in 20 countries with data available.

Figure 5. Expenditure on public educator salaries 2008–10 (20 countries)



Note: Baseline data from 2008 or nearest available year (2000 for Togo; 2007 for Guyana and St Vincent and the Grenadines; 2009 for Cape Verde, Niger, Timor-Leste and Zimbabwe). Latter year = 2011 for Malawi and Rwanda.

Source: Author's calculations based on UIS database.

On average, OECD countries spend 58 per cent total education expenditure on educator staff remuneration (63.2 per cent of current expenditure, which is 92.1 per cent of total) in non-tertiary phases and 39 per cent in the tertiary phase (42.6 per cent of current expenditure, which is 90.9 per cent of total) in 2008.³⁰ These average values should not be seen as ideals, but rather indicate a typical balance between teacher remuneration and other current and capital expenditures in advanced economies. In low- and middle-income countries, staff remuneration typically consumes a higher proportion of total spending. As teacher and staff remuneration increases, other necessary inputs such as teaching and learning materials, classroom construction, professional development infrastructure maintenance and research and development can become “crowded out” by personnel expenditures.

In **figure 5**, only two countries, Andorra and the Republic of Moldova, are at or below the OECD average in the non-tertiary phases in 2007 (i.e. ISCED 1–4) and Niger and Burundi allocate similar levels of tertiary spending to teacher remuneration. In 2010,

²⁹ UNESCO: *The impact of the global crisis on public education expenditure, No. 2: Evidence from 12 country case studies*, Working Document for UNESCO staff (Paris, 2009).

³⁰ OECD: *Education at a Glance 2011* (Paris, 2011), p. 278.

only Andorra in non-tertiary phases, as well as Gambia and Niger in the tertiary phase, allocate similar levels of resources to teacher remuneration as OECD countries. The figure also highlights that teacher compensation also consumed a higher percentage of total expenditure in 2010 than in 2008 for all countries save Andorra, Ghana and St Vincent and the Grenadines in ISCED 1–4 (i.e. nine out of 12 countries) and Colombia, Cape Verde, Cameroon, Gambia, Namibia and Rwanda in tertiary (i.e. ten out of 16). This can be viewed as a “positive” outcome from the perspective of teachers’ salaries in that they have proven to be relatively resilient in a context of fiscal prudence and consolidation.

However, such relative increases in resource allocation toward remuneration (and, in effect, away from other expenditures) in countries where it already consumes a high proportion of total expenditure, while not unexpected given that wages react more slowly to cyclical downturns than other expenditures,³¹ also indicates a “crowding out” of other essential current and capital line items. According to available data, while teacher remuneration appears to have been protected *relative to other expenditures*, resources have become increasingly scarce for other spending categories which directly influence conditions and quality of teaching and learning. Indeed, in contexts where teacher remuneration consumes greater than 90 per cent of total expenditures, there is essentially no fiscal space to, for example, expand provision by constructing and maintaining buildings or classrooms, increase access to relevant technology, update curriculum, finance professional development, or facilitate research and development in tertiary institutions.

Despite general resilience in teacher salaries in education budgets, it should be noted that salaries have fallen relative to GDP since 2000, a trend which holds despite the fall of national GDP in 2009.³² Moreover, direct reductions or freezes as a result of the crisis have been found in some countries. In Peru, for example, where the education budget was cut 2.8–3.0 per cent, teacher salaries and pensions were frozen despite an increase in the cost of living.³³ Teachers and support staff have also experienced reductions in salaries and allowances in Japan, Latvia and Mongolia.³⁴ The IMF also advised on public sector wage bills or ceilings in a number of low- and middle-income countries between 2009 and 2011 (see **box 2**), a practice which tends to undermine the professionalism and financial viability of teaching as a vocation, particularly where teacher pay is relatively or absolutely low.³⁵

³¹ OECD, 2011, op. cit.

³² OECD, 2011, op. cit.

³³ EI, 2010, op. cit.

³⁴ EI, 2010, op. cit., B. Barakat et al.: *The impact of the economic crisis on labour and education in Europe*, Vienna Institute of Demography Working Papers (Vienna, June 2010).

³⁵ R. Rowden: *Impacts of IMF policies on national education budgets and teachers: Exploring possible alternatives and strategies for advocacy* (Brussels, EI Research Institute, 2011).

Box 2
IMF advice on wage bills 2009–11 (42 countries)

Countries advised to cap/cut wages (n = 35): Algeria, Barbados, Belarus, Belize, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Comoros, Democratic Republic of the Congo, Côte d'Ivoire, Georgia, Ghana, Grenada, Iraq, Jordan, Kiribati, Latvia, Libya, Lithuania, Republic of Maldives, Mali, Marshall Islands, Mauritius, Morocco, Paraguay, Philippines, South Africa, Sri Lanka, St Kitts and Nevis, Tonga, Vanuatu, Zambia, Zimbabwe.

Countries advised to increase wages (n = 7): Angola, Gambia, Lao People's Democratic Republic, Malawi, Mozambique, Sierra Leone, Suriname.

Source: UNICEF: *Prioritizing expenditures for recovery with a human face: Results from a rapid desk review of 86 recent IMF country reports*, Social and Economic Policy Working Briefs (New York, Apr. 2010). UNESCO, 2011, op. cit.

Recent surveys from UNICEF and the OECD have provided further empirical evidence on salary fluctuations in some countries as a result of the crisis. Reports from UNICEF country offices found that the salary levels of primary school teachers had eroded considerably in real terms from 2007 to 2009 in ten out of 15 countries with data available.³⁶ Of these, teacher pay had fallen by over 20 per cent in the Democratic Republic of the Congo, Madagascar, Myanmar, Sudan and Yemen. In addition, salary payment delays have worsened since 2009, particularly for rural teachers, in Bulgaria, Comoros, Kazakhstan, Mali, Republic of Moldova, Senegal and Yemen. In OECD countries, spending reductions on teacher salaries were attributed to the crisis in Hungary, Iceland and Ireland in all phases from pre-primary to adult education and training, with upper secondary, tertiary and vocational education and training particularly affected.³⁷ On the other hand, of 25 countries surveyed, only Australia and New Zealand employed stimulus spending to increase expenditures on primary and secondary teacher remuneration.

There have been indirect impacts on teacher remuneration in some contexts as well. A community survey conducted by UNESCO in the Democratic Republic of the Congo in 2009³⁸ found that expenditure reductions have led to teachers being required to purchase instructional materials out of their own pockets. UNESCO estimated that these materials amount to approximately 10 per cent of teachers' monthly salaries, an additional financial burden which has dramatically increased the number of teachers living on salary loans from local banks. In Lebanon, diminutive nominal wage raises for teaching staff have not kept pace with rising inflation and the cost of living: real pay levels have been eroded by more than 80 per cent since 2006, according to a spokesperson for the League of Public Secondary Teachers.³⁹ In both of these cases, inadequate remuneration has the potential to increase teacher absenteeism and yield professional dissatisfaction.

Some countries, however, have adopted innovative strategies to ameliorate educator remuneration. The LINK programme, piloted in 2008 in 22 peri-urban and rural schools in the Dedza district of Malawi, provided schools with approximately €2,900 each through

³⁶ UNICEF: *Protecting salaries of frontline teachers and health workers*, Social and Economic Policy Working Briefs (New York, Apr. 2010).

³⁷ D.V. Damme and K. Karkkainen: *The impact of the economic recession and fiscal crisis on education in OECD countries*, OECD Education Working Papers, No. 56 (Paris, 2011).

³⁸ UNESCO: *L'impact de la crise sur la scolarisation en République démocratique du Congo* (Mar. 2010).

³⁹ EI: *Lebanon: Teachers unions strike over insulting wage rise* (Brussels, 20 Dec. 2011).

the Direct Support to Schools programme.⁴⁰ Among other uses, recipient institutions employed funds to pay teachers to teach in double shifts and work on building maintenance and rehabilitation. The programme was expanded to include 52 schools in 2009.

Teacher pensions also represent a significant proportion of the education expenditure and have clearly been on the budget reduction agendas of many countries after the crisis and continuing economic downturn. Governments have proposed plans to cut public teacher pensions (as well as those in other sectors) in, for example, Greece, Ireland, Italy, Portugal, Spain and United Kingdom. In Greece, recent budgetary actions proposed by the EU and the IMF would reduce educator pensions by 25 per cent.⁴¹ Public sector pension reforms in the United Kingdom will cut pensions by up to 25 per cent and will require increased contributions from workers in the amount of £2.8 billion by 2014–15.⁴² Such actions not only degrade the overall conditions of work and employment for current teachers in the short term, but may also engender the long-term effect of substantially reducing the attractiveness of the teaching profession for high-ability candidates in the future.

5. Other conditions of teaching and learning

5.1. Pupil–teacher ratios (PTRs)

The ratio of pupils to teachers directly impacts educational provision and quality.⁴³ While empirical evidence relating pupil–teachers to educational outcomes (e.g. test scores) is mixed, it seems clear that substantial decreases in PTRs from, say, over 50 pupils per teacher to 20 can be considered a positive evolution in the conditions of teacher employment and classroom learning. On aggregate, global PTRs in pre-primary remained more or less constant from 2000 to 2011 (20.8 pupils per teacher in 2000 to 20.9 in 2011) while primary and secondary levels registered minute declines (from 25.3 to 24.8 in primary and from 18.6 to 17.5 in secondary, respectively). Despite these relatively constant ratios worldwide, **table 1** depicts drastic changes that have been recorded in some countries since the onset of the economic crisis of 2008.

⁴⁰ H. Kruijer: *Learning how to teach: The upgrading of unqualified primary teachers in sub-Saharan Africa* (Brussels, EI, 2010).

⁴¹ EI: *Greece: Teachers on strike against austerity* (Brussels, 12 Oct. 2011).

⁴² EI: *UK: Teachers lead largest strike in over thirty years* (Brussels, 30 Nov. 2011).

⁴³ Data on actual class size were not available at the time of writing. Country aggregates reported here do not allow for urban–rural decompositions, which are often substantial in scale. For more detail, please see the 2012 CEART background paper: *Terms and conditions of employment of teachers in relation to teacher shortages and EFA*.

Table 1. Per cent change in pupil-to-teacher ratio in selected countries, by education level

Pre-primary		Primary		Secondary	
Country	% change	Country	% change	Country	% change
Chad	9.7	Dominican Republic	5.9	Rwanda	11.5
Ghana	8.9	Sao Tome and Principe	3.6	Nigeria	10.7
Ethiopia	8.5	Djibouti	3.0	Dominican Republic	3.7
Saint Kitts and Nevis	6.4	Tajikistan	2.5	Grenada	3.7
Cambodia	5.0	Benin	1.8	Nicaragua	2.2
Niger	3.9	Nicaragua	1.0	Kyrgyzstan	1.9
Eritrea	1.7	Afghanistan	0.7	Niger	1.7
Djibouti	1.4	Syrian Arab Republic	0.4	Colombia	1.5
Nicaragua	1.2	Anguilla	0.3	Ghana	1.3
Belize	0.8	San Marino	0.1	Aruba	0.7
China, Hong Kong	0.7	Algeria	0.1	Uzbekistan	0.7
Guatemala	0.7	Kyrgyzstan	0.1	Tajikistan	0.6
Algeria	0.6	Viet Nam	0.0	Guyana	0.5
Bosnia and Herzegovina	0.5	Lebanon	-0.1	Burundi	0.4
Azerbaijan	0.4	Mauritania	-0.1	Uganda	0.3
Congo	0.4	Cambodia	-0.1	Qatar	0.2
Aruba	0.4	Morocco	-0.1	Panama	-0.1
Montenegro	0.3	Ukraine	-0.2	Burkina Faso	-0.1
Bahrain	0.2	Mauritius	-0.2	Belize	-0.1
Ukraine	0.1	Pakistan	-0.2	San Marino	-0.1
Uzbekistan	0.1	Serbia	-0.2	Costa Rica	-0.1
Cameroon	0.0	Cameroon	-0.2	Lebanon	-0.2
Lebanon	0.0	Republic of Moldova	-0.2	Cuba	-0.2
Mali	-0.1	Azerbaijan	-0.3	Myanmar	-0.4
Syrian Arab Republic	-0.1	Kazakhstan	-0.3	Guatemala	-0.6
San Marino	-0.1	Belize	-0.4	Saint Lucia	-0.7
Costa Rica	-0.1	Andorra	-0.4	Serbia	-0.7
Barbados	-0.1	Barbados	-0.5	Cape Verde	-0.7
Republic of Moldova	-0.2	Aruba	-0.5	Armenia	-0.8
Occupied Palestinian Territory	-0.2	Qatar	-0.5	Mauritius	-0.8
Myanmar	-0.3	Cuba	-0.5	Republic of Moldova	-1.0
Anguilla	-0.4	Georgia	-0.5	Kuwait	-1.1
Kuwait	-0.4	Myanmar	-0.6	Kazakhstan	-1.2
Colombia	-0.4	Dominica	-0.7	Dominica	-1.2
Mauritius	-0.4	Cape Verde	-0.7	Saint Kitts and Nevis	-1.3
Andorra	-0.4	Kuwait	-0.7	Occupied Palestinian Territory	-1.7
Tajikistan	-0.5	Togo	-0.8	Mozambique	-1.8
Grenada	-0.5	Panama	-0.8	Albania	-2.0

Pre-primary		Primary		Secondary	
Country	% change	Country	% change	Country	% change
Guinea	-0.5	Equatorial Guinea	-0.8	China, Macau	-2.7
Senegal	-0.5	Mongolia	-0.9	Ethiopia	-3.2
Kyrgyzstan	-0.5	Guyana	-0.9	Bolivarian Republic of Venezuela	-3.5
Panama	-0.5	Mali	-1.0	Timor-Leste	-9.2
Saint Lucia	-0.6	Costa Rica	-1.1	Central African Republic	-23.8
Dominican Republic	-0.7	Burkina Faso	-1.2		
Kazakhstan	-0.7	Ghana	-1.2		
Mongolia	-0.8	Occupied Palestinian Territory	-1.2		
Serbia	-0.8	Colombia	-1.3		
Guyana	-0.8	Lesotho	-1.3		
Albania	-0.9	Uganda	-1.3		
China, Macau	-0.9	China, Hong Kong	-1.4		
Dominica	-1.1	Guatemala	-1.5		
Viet Nam	-1.1	Republic of Maldives	-1.6		
Cape Verde	-1.2	United Rep. of Tanzania	-1.6		
Vanuatu	-1.3	Guinea	-1.9		
Republic of Maldives	-1.7	Saint Kitts and Nevis	-2.0		
Antigua and Barbuda	-1.9	Antigua and Barbuda	-2.1		
Morocco	-2.0	Niger	-2.1		
Cuba	-2.4	China, Macau	-2.2		
Samoa	-3.1	Zambia	-2.5		
Togo	-3.2	Congo	-2.7		
Madagascar	-3.2	Senegal	-2.8		
Bolivarian Republic of Venezuela	-3.3	Saint Lucia	-2.9		
Benin	-5.1	Rwanda	-3.1		
Uganda	-14.6	Bolivarian Republic of Venezuela	-4.0		
Nepal	-16.4	Eritrea	-5.0		
		Albania	-5.2		
		Mozambique	-5.5		
		Grenada	-6.5		
		Chad	-6.8		
		Madagascar	-7.0		
		Nepal	-8.2		
		Ethiopia	-8.2		
		Timor-Leste	-12.3		
		Central African Republic	-15.9		

Overall, pre-primary, primary and secondary PTRs have risen in 22 (33.8 per cent), 12 (16.7 per cent) and 16 countries (37.2 per cent), respectively, for which data are available. This indicates that conditions of teaching and learning have, by this measure, deteriorated in some contexts. Additionally, PTRs have risen by more than one pupil per teacher in the pre-primary phase in nine countries, in six for the primary phase and in nine countries for the secondary phase, many of which are among the world's poorest countries.⁴⁴ Particularly large increases (i.e. over five pupils per teacher) have been registered in Chad, the Dominican Republic, Ethiopia, Ghana, Rwanda and St Kitts and Nevis. Moreover, these countries tended to have PTRs that were substantially higher than average already in 2008 and thus could ill afford such increases. For example, Benin's primary PTR increased from 44.9 to 46.4 from 2008 to 2011, more than double the global average, and the pre-primary PTR in Chad and Ghana rose to over 35 and 44 pupils per teacher, respectively, during the same period.

These empirical findings suggest that: (1) teacher supply is not matching demand generated by increasing student numbers; and (2) the widely recognized global teacher shortage is neither static nor universal, but highly dynamic and country specific. Thus, both inter and intra-national research and monitoring, vis-à-vis teacher supply and education demand, is required as countries continue to negotiate the fiscal consequences of the crisis.

5.2. Teacher education and training

An adequately trained teaching corps is indispensable to both supporting teachers as professionals and providing an environment conducive to learning for all pupils. There is evidence that the crisis has had an impact on teacher training and professional development in some countries. In high-income and OECD countries, this impact has been mixed. In Finland, a statutory day of professional development for teachers was postponed while public investment in further teacher training was increased.⁴⁵ In Ireland, professional development and other teacher supports designed to complement the implementation of a new primary curriculum have been scaled back. Over 50 per cent of school districts reporting educational budget cuts in the United States in 2010–11 and 2011–12 have or will reduce allocations for staff professional development.⁴⁶

Emerging economies, however, have relatively greater capacity to maintain and increase teacher training in the wake of the crisis. India is a case in point, and has increased both teacher recruitment and the number of trained teachers and support staff from 2009 to 2014 (see **table 2**). While the number of primary teachers benefitting from in-service training fell in 2010–11 compared to 2009–10, the scale of training for secondary, Central Board for Secondary Education (CBSE) and volunteer teachers is projected to increase from 2009 to 2014. Further, the amount allocated to pre-service training institutes is scheduled to increase from US\$65 million to \$238 million over the same period (despite a slight reduction in 2011–12).

⁴⁴ Countries with increases of more than one pupil per teacher in pre-primary: Cambodia, Chad, Djibouti, Eritrea, Ethiopia, Ghana, Nicaragua, Niger, St Kitts and Nevis. Increases of more than one pupil per teacher in primary: Benin, Djibouti, Dominican Republic, Nicaragua, Sao Tome and Principe, Tajikistan. Increases of more than one pupil per teacher in secondary: Colombia, Dominican Republic, Ghana, Grenada, Kyrgyzstan, Nicaragua, Niger, Nigeria, Rwanda.

⁴⁵ Damme and Karkkainen, 2011, op. cit.

⁴⁶ CEP, 2011, op. cit.

Table 2. India teacher recruitment and training trends, 2009–14

Action	Success indicator	2009–10 (actual)	2010–11 (actual)	2011–12 (target)	2012–13 (projected)	2013–14 (projected)
Teacher recruitment	Additional elementary teachers	60 000	83 083	130 000	130 000	130 000
Pre-service training	Funds to teacher training institutes (US\$)	\$64.8M	\$79.4M	\$71.5M	\$198.6M	\$238.3M
In-service training	Elementary teachers	4.1M	2.6M	3.8M	3.8M	3.8M
	Secondary teachers	–	100 000	180 000	200 000	200 000
	Principals/headmasters	–	–	18 000	20 000	20 000
	CBSE teachers	–	20 000	45 000	50 000	50 000
Other training	Key resource persons, master trainers	1 000	6 000	32 000	40 000	60 000
	Voluntary teachers	–	100 000	120 000	150 000	200 000

Note: Success indicator measured in number (n) of teachers and staff recruited or trained, except where indicated.

Source: Department of School Education and Literacy (India), 2011.

LICs, in comparison, tend to face a dual-headed problem in this regard; they generally have lower proportions of teachers that are adequately trained and increasing enrolments. Thus, in order to meet the MDGs and EFA goals, they must simultaneously recruit more teachers to meet pupil demand, while redressing the gap of quality educators supplied by national training institutes, local governing authorities or NGOs. This difficulty is evident in Malawi, which will require 19,000 more primary teachers by 2017 (*in addition* to those required to replace retirees) in order to decrease its PTR in that phase from 97 to 60.⁴⁷ The Initial Primary Teacher Education programmes in six teacher education colleges produce approximately 3,800 new qualified teachers per year, well short of the requisite numbers to sufficiently lower the PTR. To fill this gap, the Government piloted a small-scale recruitment and training programme for volunteer auxiliary teachers in 22 peri-urban and rural schools (LINK) in 2008⁴⁸ and a national Open and Distance Learning (ODL) programme in 2009.

In 2005, estimates of unqualified primary teachers in Nigeria ranged from 44.9 to 54 per cent, depending on the data source, and there were approximately 74.8 pupils per qualified teacher.⁴⁹ After several unsuccessful attempts to upgrade unqualified teachers from the previous Grade 2 teaching certificate (TC2) to the National Certificate of Education (NCE) qualification considered as a minimum requirement in 2010, the Government introduced a compulsory two-year fast-track programme to train two large cohorts of teachers. From 2007 to 2010, over 52,000 primary teachers were trained through a combination of face-to-face sessions, instructional modules and integrated school experiences conducted in their communities and schools of service. However, concerns remain over the low enrolment in the programme and hence the potentially large number

⁴⁷ Kruijer, 2010, op. cit.

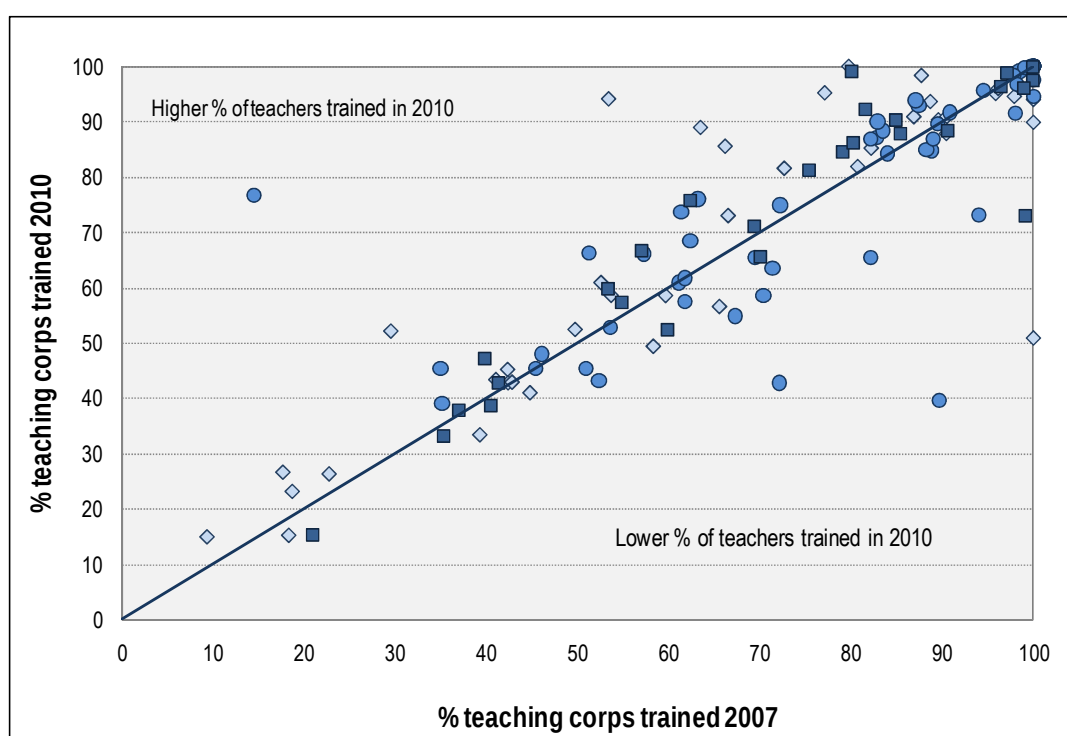
⁴⁸ Expanded to 52 schools in 2009.

⁴⁹ Kruijer, 2010, op. cit.

of “unqualified” teachers still teaching, as well as whether the quick upgrade will be the initial part of a professional training continuum for teachers.

Figure 6 highlights the evolution in the proportion of the teaching corps that is formally trained in 65 low-, middle- and high-income countries (see the appendix for tables). The figure compares the percentage of trained teachers in 2007–10 levels; if the proportion of trained teachers remains constant from 2007 to 2010, data points representing individual countries will be plotted on the reference line ($y = x$). If, on the other hand, the proportion of teachers who are formally trained increased, data points lay above the line. The inverse is true if the relative level of trained educators has fallen. While the definition of a “trained” teacher is not static across countries or over time, mapping trends in the percentage of teachers who are deemed adequately trained provides insight into the quality of teaching and learning in educational systems and, perhaps, given countries’ human resource responses to the financial crisis and fiscal scarcity (e.g. hiring less-qualified and therefore less-expensive teachers).

Figure 6. Percentage of teaching corps trained, 2007–10 (65 countries)



Note: $\diamond$ = pre-primary; $\circ$ = primary; $\square$ = secondary. Baseline values taken from 2007 or closest available year.

Source: Author's calculations based on UIS database.

From **figure 6**, it is clear that the majority of countries have either retained or augmented the percentage of trained educators within their respective teaching corps; most data points cluster close to or lie above the reference line. However, it is also evident that the proportion of trained teachers has fallen dramatically in some contexts. Indeed, this proportion has fallen by over one percentage point in 11 countries⁵⁰ for pre-primary

⁵⁰ Anguilla, Armenia, Bahrain, Benin, China (Macau), Eritrea, Mali, Mauritius, Mongolia, Nicaragua, Senegal.

teachers, 18 countries⁵¹ for the primary phase and nine countries⁵² for the secondary phase. This phenomenon has impacted some countries more than others, in particular, the proportion of trained educators has fallen in Mongolia across all three phases, in Macau, China, for pre-primary and primary phases, in Nicaragua for pre-primary and secondary, and in Niger and Swaziland for primary and secondary. Substantial declines have been recorded in Benin for the pre-primary phase (100 per cent of teachers trained in 2007, versus 51 per cent in 2010), Benin and Ethiopia for the primary phase (72 and 90 per cent of teachers trained in 2007, versus 43 and 39 per cent, respectively, in 2010) and Swaziland for the secondary phase (99 per cent in 2007, versus 73 in 2010). In some cases, such as Benin where the proportions of trained pre-primary and primary educators have been halved since 2007, these declines may be due in part to changing national norms of “adequate” training. Nonetheless, significant reductions in the relative levels of adequately trained educators might also be due to concerted efforts to reduce personnel expenditures by firing trained (i.e. more expensive) teachers while hiring less-adequately prepared (and less expensive) teachers, or simply cutting back on teacher training programmes while expanding the teaching corps. In any case, this represents a decline in the quality of teaching and learning in some contexts.

It can also be argued that stagnation in the proportion of trained teachers poses problems for quality education provision, given the mostly positive growth in teacher recruitment discussed above. In this case, while the proportion of untrained educators remains static, the gross number of untrained teachers is increasing. By this measure, 36 of 65 countries (55.4 per cent) have seen the percentage of trained teachers decline or stagnate since 2007.⁵³

Different trends manifest here according to country income status: most countries with declining or stagnating percentages of trained teachers are low- or lower-middle income countries (20 out of 36), though upper-middle and high-income countries constitute a significant minority (16 out of 36). Perhaps more importantly, high-income countries constitute a disproportionately large share of countries with declines or stagnation (19.4 versus 16.9 per cent of the overall sample). Low- and middle-income countries, on the other hand, constitute 83.1 per cent of the overall sample, but make up only 80.6 per cent of all countries with declines or stagnation in trained teachers. While this extrapolation cannot be generalized to non-sample countries, it does suggest that high-income nations have been more likely than their low- or middle-income counterparts to not expand teacher training in the period 2007–10.

6. Conclusions and policy implications

The analysis above does not point to a universal rule for countries’ experiences or policy responses based on income status. Rather, it appears that the decision to cut or protect education expenditure is neither universal across categories of countries nor across all sub-sectors of education within country systems. Section 2 has shown, for example, that most countries in which education spending has decreased as a percentage of GDP are

⁵¹ Antigua and Barbuda, Barbados, Benin, Cameroon, China (Macau), Congo, Dominican Republic, Equatorial Guinea, Ethiopia, Grenada, Guinea, Lesotho, Mongolia, Niger, Qatar, Rwanda, Swaziland, United Republic of Tanzania.

⁵² Aruba, Dominica, Grenada, Mongolia, Nicaragua, Niger, Nigeria, Panama, Swaziland.

⁵³ This count does not include countries whose percentage of trained teachers did not change but is higher than 95 per cent.

low- or middle-income. Data in section 3 on teacher employment and recruitment highlighted that approximately half of OECD and partner countries had curtailed recruitment rates since 2008, while most emerging economies were able to sustain or increase recruitment during and after the crisis. Regarding teacher education and training, section 5 suggests that the proportion of trained teachers was more likely to fall in high-income countries than in their middle- or low-income counterparts during the crisis and that training was significantly expanded in some emerging countries (e.g. India). On the other hand, PTRs were more likely to increase in low- and lower-middle income countries during the crisis.

Nevertheless, for each of these “rules” there is at least one contradictory finding and, in the absence of complete data for all countries, it is difficult to construct a set of convergent, easily-digestible “trends” that emerge from the crisis vis-à-vis the educational indicators analysed above. On the contrary, this paper echoes other research which suggests that the crisis’ impact on any given educational system depends partially on overall national finances and economic policies, country-specific norms and values, and the pre-crisis state of the education sector.

This assertion notwithstanding, several policy implications emerge from this paper and are highlighted below.

- (1) Many countries responded to the crisis by increasing budget deficits through stimulus measures or maintaining public expenditure despite falling revenue. This initial response differs from that of previous crises, but budget pressure from recession and slow growth is causing governments to rollback stimulus spending and, in some cases, cut social expenditure. This is a short-sighted means to balancing government budgets that does not recognize education’s role in economic growth and social development. Educational stakeholders, especially international organizations and teachers’ unions, will need to continue articulating the economic and social reasons why education should be upheld as a long-term investment.
- (2) Teachers’ salaries have proven more resilient than other education budget line items, but education systems should strike an appropriate balance between capital and recurrent expenditures. This will inherently depend on national contexts and the needs of a given educational system. Remuneration that is at least on par with that of other professions is essential to attract highly skilled individuals into the teaching profession, but it is not a sufficient condition to retain them. For example, while low teacher pay has been linked to absenteeism, low spending on teaching materials has, in some cases, forced teachers to pay for these items out of their own pockets. Both of these spending patterns undermine the professionalism of teachers and their conditions of service, but it does not follow that countries must choose the lesser of two evils. Given current budget pressures, governments and social partners will have to collectively take intelligent and informed decisions about education expenditures that support teachers and their practice.
- (3) Social dialogue, as comprehensively conceived by the ILO, has been little used to devise policy responses to the economic crisis and continued downturn. More often than not, teachers’ unions and professional organizations’ roles in labour mediation and policy formation are consultative rather than true partnerships. This approach should be reconsidered if governments and educational stakeholders are to find innovative and lasting solutions to current financial challenges that work for, and are valued by, communities, schools, teachers and children. Indeed, the brief examples of New Zealand, South Africa and Spain, cited in section 6, attest to this potentiality.
- (4) Innovation is key to policy responses to the crisis. Fiscal pressure on educational budgets necessitates cost-effective reforms and interventions to existent challenges.

Governments and educational partners need to increase recruitment rates by making teaching an attractive and financially viable profession, but also provide incentives for teachers to teach in traditionally under-served areas (e.g. rural locations). Teacher education and training systems should be made more flexible to accommodate and train educators who are unlikely or unable to attend national training institutes, which may include distance learning or decentralizing teacher education and training. In this sense, the crisis can be used as an opportunity to redefine and reorient the structures of educational systems.

- (5) Prior commitments to ODA and international aid to education should be taken seriously. Though many high-income and emerging economies have had fiscal space to support significant stimulus spending, LICs generally do not have the capacity to do so and are hence reliant on international assistance to bolster social development spending. This aid should be both reliable and flexible, and in line with the five principles of the recent Fourth High-Level Forum (HLF-4) on Aid Effectiveness (i.e. local ownership, alignment of development programmes around a country's development strategy, harmonization of practices to reduce transaction costs, avoidance of fragmented efforts and the creation of results frameworks).
- (6) Funding for educational systems (which includes capital for teacher salaries, professional development and school maintenance) does not just originate from within the educational sector (i.e. governmental allocations to education), but is contextualized in the overall set of government macroeconomic and social development policies. Thus, analyses of educational expenditure cannot simply be concerned with whether overall and subsectors of educational budgets are rising or falling, but also with the aggregate "policy space" in which the education budget operates. Does policy space support and reward the development of a system of teaching and learning of good quality through forward-looking macroeconomic and labour market policies? The case of Latvia, which reformed its teacher remuneration schedule in 2009 following drastic wage bill cuts, shows that countries can use the economic crisis and continued downturn as an impetus for innovation. In the wake of the crisis, Latvia eschewed the traditional input model of financing teacher salaries and has encouraged local autonomy at the municipality and school levels to determine and vary teacher base salaries according to numerous performance-related factors (including, but not limited to, learning outcomes).⁵⁴

⁵⁴ M. Hazans: Teacher pay, class size and local governments: Evidence from the Latvia reform, *IZA Discussion Paper Series*, No. 5291 (Bonn, Institute for the Study of Labour, 2010). See also L.E. Nordstrum: "A Sisyphean Complex? Economic and cost constraints in filling teacher quantity and quality gaps", in R.E. Moon (ed.) *Teacher education and the challenge of development: A global analysis* (Routledge, forthcoming).

Appendix

Percentage of teachers trained 2007–10 in selected countries (tables for figure 6)

Country	2007	2010	% change
Pre-primary			
Benin	100.0	50.8	-49.2
Mongolia	100.0	89.9	-10.1
Eritrea	65.5	56.5	-9.0
Bahrain	58.3	49.3	-9.0
Mauritius	100.0	94.0	-6.0
Nicaragua	39.2	33.3	-5.9
Anguilla	44.7	40.9	-3.8
China, Macao	97.9	94.6	-3.3
Senegal	18.2	15.1	-3.2
Armenia	90.4	87.8	-2.6
Mali	59.6	58.5	-1.1
China, Hong Kong	95.9	95.1	-0.8
Niger	96.1	96.0	-0.1
Morocco	100.0	100.0	0.0
United Arab Emirates	100.0	100.0	0.0
Aruba	100.0	100.0	0.0
Colombia	100.0	100.0	0.0
Cuba	100.0	100.0	0.0
Andorra	100.0	100.0	0.0
Cameroon	42.8	42.8	0.1
Kyrgyzstan	42.3	42.7	0.4
Azerbaijan	90.5	90.9	0.4
Republic of Moldova	89.6	90.3	0.8
Costa Rica	80.7	81.8	1.1
Panama	41.0	43.3	2.3
Barbados	49.7	52.4	2.7
Grenada	42.3	45.1	2.8
Tajikistan	82.2	85.2	3.0
Guinea-Bissau	22.7	26.2	3.5
Bolivarian Republic of Venezuela	86.9	90.9	4.0
Syrian Arab Republic	18.6	23.0	4.4
Myanmar	53.6	58.5	4.9
Viet Nam	88.7	93.6	5.0
Belize	9.3	14.8	5.5
Brunei Darussalam	66.5	73.0	6.5
Guyana	52.5	60.9	8.3

Country	2007	2010	% change
Nepal	72.6	81.5	8.9
Cape Verde	17.6	26.5	8.9
Cambodia	87.7	98.3	10.7
Dominican Republic	77.1	95.2	18.1
Ethiopia	66.2	85.5	19.4
Occupied Palestinian Territory	79.7	100.0	20.3
Togo	29.5	52.1	22.6
Belarus	63.5	88.9	25.5
Congo	53.4	94.1	40.7
Primary			
Ethiopia	89.7	39.4	-50.4
Benin	72.2	42.6	-29.5
Swaziland	94.0	73.1	-21.0
Guinea	82.1	65.2	-16.9
Antigua and Barbuda	67.3	54.8	-12.5
Barbados	70.4	58.5	-11.9
Qatar	52.3	42.9	-9.4
Lesotho	71.4	63.4	-8.0
Rwanda	98.1	91.5	-6.6
Equatorial Guinea	51.0	45.3	-5.7
United Republic of Tanzania	100.0	94.5	-5.5
Cameroon	61.8	57.4	-4.4
China, Macao	88.9	84.7	-4.2
Grenada	69.5	65.3	-4.1
Dominican Republic	88.3	84.9	-3.4
Mongolia	100.0	97.6	-2.4
Congo	89.0	86.8	-2.2
Niger	98.2	96.7	-1.5
Anguilla	53.6	52.7	-0.9
Dominica	61.1	60.8	-0.3
Belize	45.5	45.2	-0.3
Saint Kitts and Nevis	61.8	61.6	-0.2
Azerbaijan	100.0	100.0	0.0
Mauritania	100.0	100.0	0.0
Morocco	100.0	100.0	0.0
Occupied Palestinian Territory	100.0	100.0	0.0
United Arab Emirates	100.0	100.0	0.0
Aruba	100.0	100.0	0.0
Colombia	100.0	100.0	0.0
Cuba	100.0	100.0	0.0
Andorra	100.0	100.0	0.0

Country	2007	2010	% change
Mauritius	100.0	100.0	0.0
Costa Rica	89.5	89.5	0.0
Ukraine	99.8	99.9	0.1
Belarus	99.8	99.9	0.1
Pakistan	84.0	84.2	0.2
Viet Nam	97.8	98.3	0.5
Cambodia	98.4	99.1	0.6
Panama	90.8	91.6	0.8
Myanmar	99.0	99.9	0.9
China, Hong Kong	94.6	95.6	1.0
Senegal	46.0	47.9	1.8
Nicaragua	72.2	74.9	2.6
Guinea-Bissau	35.1	38.9	3.8
Brunei Darussalam	82.8	87.1	4.3
Saint Lucia	82.1	86.8	4.6
Bolivarian Republic of Venezuela	83.5	88.4	4.9
Tajikistan	87.4	92.9	5.5
Kyrgyzstan	62.4	68.4	6.1
Eritrea	87.1	93.8	6.7
Cape Verde	82.9	90.0	7.1
Guyana	57.3	66.1	8.8
Chad	35.0	45.3	10.3
Nepal	61.4	73.7	12.3
Mozambique	63.2	75.9	12.8
Nigeria	51.2	66.1	14.9
Togo	14.6	76.7	62.1
Secondary			
Swaziland	99.2	73.1	-26.1
Nicaragua	59.9	52.6	-7.4
Niger	20.9	15.3	-5.6
Nigeria	70.0	65.5	-4.5
Aruba	98.9	96.2	-2.7
Mongolia	100.0	97.6	-2.4
Panama	90.6	88.3	-2.2
Grenada	35.3	33.2	-2.1
Dominica	40.5	38.7	-1.8
Occupied Palestinian Territory	100.0	100.0	0.0
Cuba	100.0	100.0	0.0
Colombia	96.4	96.4	0.0
Belize	36.9	37.8	0.9
Antigua and Barbuda	41.3	42.9	1.6

Country	2007	2010	% change
China, Macao	69.5	71.2	1.7
Myanmar	97.1	98.8	1.7
Costa Rica	85.5	87.9	2.4
Guyana	54.9	57.4	2.5
Dominican Republic	84.9	90.2	5.4
Kyrgyzstan	79.1	84.6	5.6
Cape Verde	75.5	81.3	5.8
Bolivarian Republic of Venezuela	80.3	86.2	5.8
Rwanda	53.4	60.0	6.6
Saint Kitts and Nevis	39.8	47.1	7.3
Eritrea	57.1	66.8	9.7
Brunei Darussalam	81.6	92.2	10.6
Mozambique	62.4	75.9	13.5
Armenia	80.2	99.2	19.1
