KEY POINTS

• Social protection indicators are significant predictors of health outcomes. Using maternal mortality ratio, child mortality rate, and children-under-5 mortality indicators, the 22-country study reveals a strong positive relationship between social protection spending and health outcomes.

• Social assistance spending is associated with better child health outcomes in low- and middle-income countries in Asia. Social assistance programs may have more value for the health of the poor and the vulnerable, especially when social insurance systems (or lack thereof) fail to provide effective access value for health services and other risk protection.

• As social protection programs in Asia are heavily driven by social insurance, integrating social assistance principles in social insurance systems may need to be explored so that social protection programs can have greater value to the health of the poor.

• Adjusting for women beneficiaries, increase in social protection spending is associated with improvements in child health outcomes.

In Asia, Does Higher Social Assistance Spending Mean Better Health?

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INTRODUCTION

Recent estimates show that half of the world’s poor live in Asia, or about 451 million people live on less than $1.90 a day (Ferreira et al. 2015). In the health context, this means more than 451 million people would generally rely on government-provided health services if needed. This is largely because the poor have huge limitations in their ability to pay for their needed health services (Xu et al. 2003). Since many low- and middle-income economies in Asia rely on out-of-pocket payments when using health services, many are exposed to catastrophic impacts of health spending (Kwon et al. 2012). These out-of-pocket spending can be reduced by shifting payments through health insurance schemes. Low- and middle-income countries in Asia and the Pacific are in the high time now in terms of expanding social protection programs, with efforts geared to boost both its depth and breadth of coverage (ILO 2014a; ILO 2014b).

Social protection programs are schemes designed to safeguard families from both expected (pregnancy, retirement, etc.) and unexpected (diseases, disabilities, unemployment, etc.) life events. These programs are generally in the form of (i) social insurance (SI), (ii) social assistance, and (iii) labor market programs (ADB 2011). Social insurances are contributory schemes where families or individuals pay a specified premium to be eligible for pension (retirement), sickness benefits, death claims, and others. More specific to health is social health insurance—unlike other social insurance schemes, only covers health-related incidents and protects individuals and families from

1 Countries (and income classification) included in the study are Bangladesh, Cambodia, Kyrgyz Republic, Nepal, Tajikistan (low-income), Armenia, Azerbaijan, Bhutan, Georgia, India, Indonesia, Lao People’s Democratic Republic, Mongolia, Pakistan, Philippines, Sri Lanka, Uzbekistan, Viet Nam (low- to middle-Income), People’s Republic of China, Malaysia, Maldives, and Thailand (upper middle-income).
financial risks related to fees for use of health facilities. On the other hand, social assistance programs are noncontributory social protection schemes targeted at the most vulnerable. These can be in the form of cash transfers for the poor, discounted or free health services in government facilities, and many others. Social assistance programs come in various forms and designs depending on country conditions and priorities. For instance, social assistance programs may focus on women because of high maternal mortality ratio, like the case of integrating maternal health in the conditional cash transfer programs of the Philippines and Indonesia (World Bank 2012, Usui 2011). On a different note, labor market programs are aimed toward increasing the productiveness of individuals. Programs in labor market include development of educational programs to address skills gap, job matching and/or jobs generation, and other passive labor market policies aimed at protecting new mothers, antidiscrimination directions for women, and many other more (ADB 2001). All these combined, compose the social protection programs in a given country. These programs add to families and individuals as additional collective resource.

Throughout the world, the relationship of social protection and improvements in health outcomes is still an area that needs to be explored. This is, of course, despite the recognition of the important contribution of social protection policies and programs to economic growth and development (ILO 2014b). The most important contribution of social protection programs to health includes its added resource value to families and individuals that increases or will most likely increase income levels (World Health Organization 2012). Wilkinson and Pickett (2006) argued that health is highly associated to differences in income—that health outcomes follow inequities in distribution of resources (e.g., poor health outcomes among low-income families). Moreover, getting sick does not only have impact to households because of health care costs. Productivity can also be affected and can have broader effects to family welfare. Gertler and Gruber (2002) recognized this and have seen the importance of social protection programs—not only in terms of protecting households from direct health costs but also from its impact to household consumption.

Low- and middle-income countries in Asia are still in the early stage of reforms to improve social protection. Many, if not all, are yet to achieve universal coverage. In many Asian countries, social protection programs, like social insurance, remain concentrated in the formal economy—often leaving many of the poor uncovered. In such cases, those who have no means of accessing social insurance schemes can benefit from social assistance programs available in each country. Especially for the poor, social assistance programs may provide important access to services, such as when free medical services are given and/or employment programs are specifically crafted for them (e.g., work for cash programs for the poor). In this respect, social assistance may have more value for the poor and those who need health services most but could not have access due to financial barriers.

Bradley et al. (2011) had successfully drawn data relating social protection expenditure to health outcomes using reports from the Organisation for Economic Co-operation and Development countries. In this study, they found out that social protection spending of high-income countries is significantly associated to improvements in health outcomes. This supports theoretical assumptions in literature saying that social policies that care for people are the best investment for health (Chung and Muntaner. 2006; Conley and Springer. 2001; Navarro et al. 2006). Generosity of social protection programs also seems to matter for health as these collective resources add to individual and/or family resources (Lundberg et al. 2008, Wagstaff and Doorslaer 2000).

Using the latest data on social protection in Asia, this study hopes to explore the potential association of social protection spending and health outcomes in low- and middle-income Asian economies. At a macro level, this study intends to shed light on the potential importance of both health and nonhealth-related social protection programs in improving health outcomes. This is with the recognition of the need for further studies in this area as data becomes available in the years to come.

METHODS
Study Design and Sample
A cross-sectional analysis of data from 22 low- and middle-income Asian countries was done to find out the potential association of social protection spending and health outcomes. Data used was derived from the 2012 Asian Development Bank-supported social protection indicator and the 2015 World Health Statistics Report. High-income Asian economies (Japan, Republic of Korea, and Singapore) were not included in the analysis because compared to its low- and middle-income Asian neighbors, social protection programs in these countries have already reached universal coverage. Moreover, due to data limitations, countries in the Pacific region were also not included.

Social Protection Spending Data
In order for the authors to determine the extent of social protection spending in each of the 22 Asian countries, the social protection indicator was used (ADB. 2011). The social protection indicator is an aggregate indicator reflecting the percentage of per capita spending of each country related to social protection programs (Figure 1). This indicator considers both the expenditure and beneficiaries of social protection programs that include programs classified as social insurance, social assistance, and labor market programs. This study uses social protection indicator of the 22 low- to middle-income Asian economies collected in 2012. Aside from the general aggregate of social protection spending, specific indicators for social insurance, social assistance, and social protection spending adjusted to women beneficiaries will be utilized.
In Asia, Does Higher Social Assistance Spending Mean Better Health?

Figure 1: Social Protection Programs in Asia and the Pacific

![Diagram showing Social Protection Programs]


Data shows that the social insurance indicator reflects the per capita spending of countries for social insurance. In most of the countries included in this study, social insurance schemes are often pension-centric with others allowing for specific benefit schedule such as compensation of maternity cases, disabilities, and/or hospitalization. Countries with social health insurance may also have higher social insurance spending indicator since it is also accounted as part of the country’s social insurance spending. While not all countries in the sample have existing social health insurance schemes, the indicator reflects both health insurance and nonhealth-related social insurance spending. In Asia, social insurance spending is predominantly driven by pension spending (McKinley and Handayani 2013).

Alternately, the social assistance indicator reflects the total amount of money spent on a variety of social assistance programs (and beneficiaries) in a country. Social assistance programs include conditional cash transfers, medical assistance programs (social service discount given in hospitals, vouchers, etc.), and other programs directed to the poor, children, pregnant women, and others. Unlike in social insurance where specific forms are known (e.g., pension and health), social assistance programs are very much diverse in Asia. The access value of social assistance to specific services may also be higher in the context of low- and middle-income communities where universal coverage is yet to be achieved.

Health Outcomes

For this study, the authors used three health outcomes which focus on indicators related to maternal and child health. First of these health outcomes is the maternal mortality ratio which reflects deaths from maternal causes occurring in a country on a specific year. Since maternal mortality ratios are sensitive to health system performance, low access to health services that lead to deaths at home (or in other places) would reflect higher maternal death rate. The second health outcome used is the infant mortality rate which was also used in the study because deaths occurring among infants less than 1 year old may be associated to many factors, including nutrition and sickness. High infant mortality rates and poverty are often associated especially if the quality of care for infants is jeopardized because of limitations in family income (Brooks-Gunn and Duncan 1997). The last health outcome used is the children under 5 mortality indicator. Like infant mortality, most deaths occurring in children under 5 may be associated with socioeconomic indicators. Further, these indicators were selected because of their sensitivity to health and nonhealth programs and interventions. Maternal and child health benefits are often included in social insurance and social assistance packages.

Health outcome indicators used are from the 2012 and 2013 database of the World Health Organization (2015) as these indicators are already standardized for cross-country comparison.

Analysis

This study used multiple linear regressions to test different models exploring the potential association of social protection spending of countries and health outcomes. As health outcomes may also be associated to country spending for health, per capita health expenditure was also controlled (Cevik and Tasar 2013; Filmer and Pritchett 1999). Interaction variables are used to determine the
specific influence of social protection indicators per unit of change of per capita health spending in each country. In this paper, four models were used to examine the components of social protection spending that are mostly associated to better health outcomes.

Results

Among the 22 countries included, a mean spending of 3.2% of gross domestic product per capita was accounted for social protection programs. Included in this percentage are expenditure related to insurance payments (pension and social health insurance), social assistance programs, and other labor-market related programs. Social protection programs in Asia are heavily driven by social insurance spending (mean of 2.2%) compared to social assistance which only comprise at least 0.9% (mean) of gross domestic product per capita. Adjusting to gender, a mean of 1.4% of social protection program benefits women directly in the sample. Table 1 and Figure 1 show a more detailed summary of the indicators used.

Table 1: Social Protection Spending in 22 Countries in Asia, 2012

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of SP spending per capita (SPI)</td>
<td>3.2% (2.3%)</td>
<td>0.59%</td>
<td>9.31%</td>
</tr>
<tr>
<td>Percentage of SI spending per capita (SI)</td>
<td>2.2% (1.8%)</td>
<td>0.30%</td>
<td>7.51%</td>
</tr>
<tr>
<td>Percentage of SA spending per capita (SA)</td>
<td>0.9% (0.7%)</td>
<td>0.10%</td>
<td>2.44%</td>
</tr>
<tr>
<td>SPI (Women)</td>
<td>1.4% (1.1%)</td>
<td>0.13%</td>
<td>4.40%</td>
</tr>
</tbody>
</table>

SA = social assistance, SI = social insurance, SPI = social protection indicator.

In terms of health spending in 2013, countries included in the sample spent an average of $391.9 per capita. These include spending from both government and private sources. The average life expectancy (both sexes) is at 71 years. Comparing this to the average life expectancy of other high-income Asian economies, it is expectedly lower (e.g., 82 years in the Republic of Korea in 2013). An average of 28 infant deaths and 34 children under 5 deaths per 1,000 population in 2012 was accounted in the sample. Maternal deaths, conversely, account for an average of 93 deaths per 100,000 live births. More details are shown in Table 2.

Testing the binary relationship of variables (Table 3), social protection indicators are found to be significant predictors of health outcomes. Especially for overall social protection and social insurance, relationships to health outcomes are significant across all the selected health outcome indicators. Per capita health spending is also strongly associated to better health outcomes in the sample.

DISCUSSION

Our analysis suggests the significant positive relationship of social protection spending, particularly on social assistance, to improvements in child health outcomes. Looking further into details, social protection spending in general (total social insurance, social assistance, and labor market program spending) have potential association to better infant and child health indicators (Table 4). This finding supports existing literature where both health and nonhealth-related interventions are recognized contributors to improvements in health outcomes (Bradley et al. 2011, World Health Organization 2012). However, because of important data limitations, it is recommended that this relationship be further tested as data becomes available over time. More effective reporting and collection of social protection spending in Asia should lead to more robust analysis of this relationship, further guiding health and social policies that make social protection programs.

Dissecting the relationship further, results suggest that social assistance in the context of Asia seems to influence health outcomes more compared to social insurance related spending. This is despite the fact that social insurance programs account for the majority of social protection spending (Table 1). The insignificant contribution of social insurance in the sample countries may be due to its current pension-centric and pro-rich status with fewer beneficiaries as compared to existing social assistance programs (McKinley and Handayani 2013). Further in the sample, low- and middle-income Asian countries with health insurance schemes are also yet to achieve universal coverage.

The stronger association of social assistance spending to improvements in child health outcomes in Asia may provide an important insight about how social protection strategies are currently being implemented in the region. Social assistance,
### Table 3: Binary Analysis

<table>
<thead>
<tr>
<th>Social Protection Indicator</th>
<th>Infant Mortality</th>
<th></th>
<th>Children Under 5 Mortality</th>
<th></th>
<th>Maternal Mortality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef. (SE)</td>
<td>p Value</td>
<td>Coef. (SE)</td>
<td>p Value</td>
<td>Coef. (SE)</td>
<td>p Value</td>
</tr>
<tr>
<td>Overall Social Protection</td>
<td>-12.42 (3.54)</td>
<td>&lt;0.05</td>
<td>-16.53 (4.39)</td>
<td>&lt;0.05</td>
<td>-65.12 (13.19)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>SP - Social Insurance</td>
<td>-9.08 (3.07)</td>
<td>&lt;0.05</td>
<td>-11.91 (3.87)</td>
<td>&lt;0.05</td>
<td>-56.72 (9.89)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>SP - Social Assistance</td>
<td>-9.00 (3.52)</td>
<td>&lt;0.001</td>
<td>-12.50 (4.35)</td>
<td>&lt;0.05</td>
<td>-37.27 (15.64)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>SP - Women</td>
<td>-12.02 (2.45)</td>
<td>&lt;0.001</td>
<td>-15.76 (3.01)</td>
<td>&lt;0.001</td>
<td>-51.76 (10.85)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Total health expenditure per capita</td>
<td>-15.10 (3.31)</td>
<td>&lt;0.001</td>
<td>-19.60 (4.14)</td>
<td>&lt;0.001</td>
<td>-68.75 (13.80)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

SE = standard error, SP = social protection.

Source: Authors.

### Table 4. Multivariate Analysis of Different Social Protection Indicators on Health Outcomes of 22 countries in Asia

<table>
<thead>
<tr>
<th>Model</th>
<th>Infant Mortality</th>
<th></th>
<th>Children Under 5 Mortality</th>
<th></th>
<th>Maternal Mortality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient (SE*)</td>
<td>p Value</td>
<td>R²</td>
<td>Coefficient (SE*)</td>
<td>p Value</td>
<td>R²</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>8.91 (5.10)</td>
<td>&lt;0.1</td>
<td>0.59</td>
<td>12.04 (5.88)</td>
<td>&lt;0.1</td>
<td>0.63</td>
</tr>
<tr>
<td>Social Protection Indicator (log)</td>
<td>-52.67 (27.21)</td>
<td>&lt;0.1</td>
<td>-71.72 (31.12)</td>
<td>&lt;0.05</td>
<td>-43.62 (97.54)</td>
<td>0.66</td>
</tr>
<tr>
<td>Per capita Health Expenditure (log)</td>
<td>-20.83 (7.51)</td>
<td>&lt;0.05</td>
<td>-26.97 (9.24)</td>
<td>&lt;0.05</td>
<td>-42.02 (21.96)</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>4.10 (6.2)</td>
<td>0.523</td>
<td>0.54</td>
<td>5.89 (7.96)</td>
<td>0.469</td>
<td>0.57</td>
</tr>
<tr>
<td>SI Indicator (log)</td>
<td>-25.10 (35.01)</td>
<td>0.483</td>
<td>-35.91 (44.27)</td>
<td>0.469</td>
<td>-36.41 (79.16)</td>
<td>0.651</td>
</tr>
<tr>
<td>Per capita Health Expenditure (log)</td>
<td>-15.10 (5.61)</td>
<td>&lt;0.05</td>
<td>-19.76 (7.40)</td>
<td>&lt;0.05</td>
<td>-37.65 (14.57)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>8.25 (3.03)</td>
<td>&lt;0.05</td>
<td>0.62</td>
<td>10.91 (3.41)</td>
<td>&lt;0.05</td>
<td>0.66</td>
</tr>
<tr>
<td>SA Indicator (log)</td>
<td>-47.60 (17.54)</td>
<td>&lt;0.05</td>
<td>-64.22 (19.62)</td>
<td>&lt;0.05</td>
<td>-54.67 (69.82)</td>
<td>0.444</td>
</tr>
<tr>
<td>Per capita Health Expenditure (log)</td>
<td>-10.24 (3.30)</td>
<td>&lt;0.05</td>
<td>-12.25 (3.96)</td>
<td>&lt;0.05</td>
<td>-63.50 (14.84)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Model 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>9.41 (4.91)</td>
<td>&lt;0.05</td>
<td>0.71</td>
<td>12.63 (4.61)</td>
<td>&lt;0.05</td>
<td>0.74</td>
</tr>
<tr>
<td>SPI Women (log)</td>
<td>-57.80 (22.00)</td>
<td>&lt;0.05</td>
<td>-77.56 (25.04)</td>
<td>&lt;0.05</td>
<td>-29.51 (92.96)</td>
<td>0.755</td>
</tr>
<tr>
<td>Per capita Health Expenditure (log)</td>
<td>-9.95 (4.13)</td>
<td>&lt;0.05</td>
<td>-12.73 (4.98)</td>
<td>&lt;0.05</td>
<td>-42.64 (11.84)</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

* Robust SE

The natural logarithm of social protection indicators and total health expenditure per capita was used in the model.

SA = social assistance, SE = standard error, SI = social insurance, SPI = social protection indicator.

Source: Authors.
particularly in countries where universal insurance coverage is yet to be achieved, may have more value for the poor and the vulnerable (Barrientos 2011). More likely, these programs may be providing an important access to services targeted to those who are most in need. However, due to data limitations, this relationship needs to be tested over time. The result is also not suggestive of the predominance of social assistance programs over social insurance. Social assistance, in the context of low- and middle-income Asia, may just be more efficient at the time data was collected, especially in terms of benefiting the poor and vulnerable. In a sense, social assistance can be viewed as a temporary “patch” that increases access of the poor and the vulnerable to important health and social services available. More needs to be done to explore how countries can more effectively provide social protection schemes that will have impact on economic growth and health improvements.

Another angle that should be noted is the mixing of social assistance and social insurance programs in countries. In the Philippines and Indonesia for example, insurance premiums of cash transfer beneficiaries are also subsidized making the cash transfer beneficiary a recipient of both social assistance and social insurance schemes (Tabuga and Reyes 2012, World Bank 2012). It may also be important to note the potential integration of social protection programs in countries which may also influence the impact of social assistance programs (Barrientos 2011). In this case, social insurance may also be complementing the benefit of social assistance interventions (e.g., economic impact of cash transfers plus added protection from social health insurance). Many Asian countries are now moving toward improving their insurance subsidy schemes for the poor, and the identification of a target population (e.g., proxy means test) is often borrowed from eligibility rules as used in social assistance programs. This potential integration or synergy can and may be an important component of the observed positive association of social protection spending and improved child health outcomes.

We also saw significant association of social protection spending to improvements in child health when data are adjusted for women beneficiaries. This is another area that should be explored in the future since there can be more in gender equity in social protection that needs to be examined. For instance, family-based membership (for social insurance) is quite strong in Asia, although this does not automatically mean women are included. Typical designs of insurance schemes in Asia require women to be legally married to their insured husband for them to be considered as dependents. This however, is void whenever women are identified as the heads of households or when social assistance programs directly target women. Evidence also supports that when cash transfers or other social protection programs are directed to women, more benefits in health and education can be accrued (Holmes and Jones 2010).

In general, the results suggest that there can be a potential and important relationship between social spending and better health outcomes. Further studies should be encouraged to test if the relationship will hold over time as data becomes available. Other studies exploring the impact of policies integrating social protection programs may also be explored as this area can potentially influence future discussions related to social protection design. Nonetheless, this study supports the significant contribution of both health and nonhealth-related social protection programs to health outcome improvements.

CONCLUSION

The result of this study acknowledges the importance of social protection programs in health. It adds value to the work countries are engaging to improve social protection services, regardless of how many different schemes one country has. The strong association of social assistance programs to better child health outcomes also shows the need to look into this potential relationship further. If insurance systems are failing to cover the poor and the vulnerable, including the financial risks associated to health care use, then social assistance may have more value in health. The potential integration of social protection schemes in countries may also provide more explanation and insights for the positive significant association of social assistance spending and child health outcomes. The study outcomes may also challenge traditional social insurance systems, particularly if membership is concentrated highly on the formal sector—those who have the capacity to pay for their premium—and less on the poor. Integrating social assistance principles in social insurance systems—allowing subsidies for the premium of the poor—could partially resolve the pro-rich status of social insurance systems and would allow further integration of social protection programs. This is important because the poor, among all individuals in varying income strata, are most vulnerable to socioeconomic and health risks hence they should be protected.

REFERENCES


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