Master's Thesis of Public Administration

Social Protection in Asia

- Cluster Analysis of the Disaggregated Social Protection Index -

아시아의 사회 보장:
개별 형태의 사회 보장 지수에 대한 클러스터 분석

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Graduate School of Public Administration
Seoul National University
Public Administration Major
Albin Ringstad

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Kwon, HuckJu

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Graduate School of Public Administration
Seoul National University
Public Administration Major

Albin Ringstad

Confirming the master's thesis written by
Albin Ringstad
December 2015

Chair _____ Kum, HyunSub (Seal)
Vice Chair _____ Jörg Michael Dostal (Seal)
Examiner _____ Kwon, HuckJu (Seal)

Abstract

Social Protection in Asia: Cluster Analysis of the Disaggregated Social Protection Index

Albin Ringstad
Public Administration Major
Graduate School of Public Administration
Seoul National University

The aim of this thesis is to cluster the countries in Asia based on their social protection. For that end, the Social Protection Index has been disaggregated into different indicators. This has previously been impossible but due to the Asian Development Bank's data collection, this has now become available, and thus used in this thesis. It is important for researchers and policy makers alike to understand and learn from the countries in Asia. It is also important to extend the scope beyond East Asia and look at Asia in its entirety. The database contains detailed information on social protection in most countries of Asia. In order to use the index for clustering purposes, it has been disaggregated into three indicators. Firstly, it measures the coverage of social protection. Secondly, it measures the average expenditure per beneficiary adjusted to the relative poverty line. Finally, it measures gender spending by dividing the total amount of social protection spent on women by the total amount spent on men. The three indicators

serves as the variables in a hierarchical cluster analysis using Ward's method. The results for the cluster analysis is displayed through dendrograms that are further analyzed, in order to cluster the countries over time.

At first all cases are clustered into two clusters, a "High-Performing Cluster" and a "Low-Performing Cluster". Further within these clusters the worst- and best performing clusters are identified for each year. The countries that move between the high and low performing clusters are given special attention, to understand why they move. Moreover, over the three years the results are generalized, and the analysis partially reinforce the clusters geographical belongingness, with one or more exceptions per area.

Further, this study explores the importance of coverage, gender spending, and depth: both in terms of justice, and in societal outcome. It shows how depth only can be understood through the coverage indicator. Thus, it also serves as critique to the Social Protection Index, which do not take this into account. The results also shed light on the importance of gender spending. It shows that although the other indicators may not be improving, the gender spending indicator account for some of the major changes throughout the years analyzed. Finally, the thesis suggests a way forward for social protection in region. It also suggests a global data collection mechanism in order to both expand the scope of countries, but also to enable researchers to look over a longer time period.

Keywords: Social Protection, Asia, Social Policy, Welfare, Justice, Cluster Analysis

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I. Introduction

Social protection is becoming more important in the social policy discourse. In Asia, countries spread broadly in their respective focus on social protection. This not a surprise, since Asia is as diverse as it is big, and the level of development varies greatly, both among and within countries. In the current discourse, Southeast- and East Asia is the most frequently discussed area by scholars of public policy. However, that does not mean that the other regions are less important, and the scope has been expanded by scholars such as Sharkh and Gough (2010), who looks at all developing countries, in respect to social policy. They classified 61 developing countries based on their regime type through clustering analysis. However, there is an absence of studies looking at all of Asia, and its social policy output. This thesis addresses that specific knowledge gap.

Studies of public policy on Asia, especially on East and Southeast Asia, has often has been on topics such as democracy, new public management and good governance. Most arguments are along the lines of 'democracy is good', 'big state apparatus is bad' and 'good governance is good'. What this research is concerned with is not about regimes or governance, but the policy outcome they produce, especially social protection. Of course, regimes are important, but what matter to citizens in their daily life are policy outcomes. Thus, in this research I will examine the policy outcomes of Asian countries, especially social protection outcomes, using cluster analysis. It will show how the governments are performing in social protection, and will eventually show which governments are doing better or worse.

Traditionally, it has been asserted by many western scholars that the rapid growth of East and Southeast Asia has been without the development of social policies, for the sake of development. However, Hort and Kuhnle (2000) show that Asian countries introduced social policy programs at a lower level of development than of the European countries. Moreover, the growth period between 1985-95 was not only economic growth, but also a growth of social policy programs, which continued even after the 1997 financial crisis. Further, they argue: "expansion of state welfare responsibility is more evident than efforts to reduce or dismantle state welfare responsibility" (Hort & Kuhnle 2000: 1). Kwon (2005) further explains how, for instance, South Korea and Taiwan adapted more inclusive social policies when they were hit by the Asian financial crisis. In this thesis, I explore further what this 'responsibility' has led to, using the concept of social protection, and how does this differ among the countries in Asia.

Social policies are not something that only has developed in East and Southeast Asia; it can be seen all throughout Asia. For instance, a welfare state was introduced as early as in the 1930s in Sri Lanka. Further, other countries in South Asia such as Nepal, India, and Pakistan introduced social policies in the two coming decades. It is a misconception that welfare basically only exists in western countries, as it can be found both in Asia and in, for example, Latin America (Köhler 2015). Nevertheless, this thesis does not explore the different welfare states of Asia, it moves on to one of the pillars of welfare, social protection.

Social protection is one of the most important areas of public policy, in which states protect the populations from different kinds of risks. In this

thesis this concept will be explored and utilized through the Social Protection Index. There are many definitions of social protection, but the Asian Development Bank (2015c) defines it as follows:

> *"[Social protection] consists of policies and programs designed to reduce poverty and vulnerability by promoting efficient labor markets, diminishing people's exposure to risks, and enhancing their capacity to protect themselves against hazards and interruption/loss of income."*

Social protection is something that has been increasingly important in the development discourse. Traditionally it was viewed as expensive and ineffective, but recently scholars view it as necessary to help individuals cope with risk, to eradicate poverty and boost sustained economic and human development (Holtzman *et al.* 2003), which can be seen as the responsibility of the states. In order to analyze the policy outcomes in the area of social protection, this search will use the Social Protection Index. The Social Protection Index is an index developed by the Asian Development Bank in order to gather data on social protection in the Asia Pacific region (Asian Development Bank 2015c). The reason for using the Asian Development Bank is due to their extensive effort in compiling data for the region.

In terms of methodology, this research will use cluster analysis. By clustering countries in Asia based on social protection it is possible to explore the differences and similarities of social protection. To cluster the Social Protection index, it has to be disaggregated into smaller factions.

Using that, it is possible to see how the countries differ amongst themselves and over time, and whether or not the outcome is sticky. Further, this cluster analysis will show how countries are performing without imposing a priori judgment. It is important for policy makers and researchers alike when they are to prescribe the future direction of Asia and the counties within. Clustering in this way has to advantages in respect to the SPI, it gives the indicators a real value rather than a composite value, and it takes gender spending into account.

The thesis also tests the more 'established' regions of Asia (East, Southeast, South, Central, and Pacific) to see whether or not it is feasible to consider them in that way in terms of social protection. Grouping countries together without asking why is apparent in the literature and is shown below. For instance, in ADB's (2013) report on the Social Protection Index they make the same groupings as described. However, often by a clustering approach, the established models are reinforced, but with a different approach, and thus the result is to make previous research more theoretically sound. Nevertheless, cluster analysis may also provide an alternative way of classifying the analyzed units. Therefore with the possibility of 'reclustering' Asia, we may learn that we need to look at Asia with new glasses. This thesis will look at how clusters are formed in Asia, and also consider their stickiness. It will be done at the same time as the governments performance is being analyzed.

Further, beyond clustering the countries, this thesis will take a look at societal outcome. It explores what happens in terms of living conditions as

countries move from one cluster to another. The discussion is both short-term, by looking at human well being, and long-term, by discussing justice. Thus, the question is not only which governments are performing better or worse, but it is also a question about which governments are more just and unjust. Finally it considers a way forward for social protection in Asia.

Clustering Asia in terms of social protection is important in order for both scholars and decision makers to understand the differences of this dynamic continent in order to adopt strategies for the betterment of the countries analyzed, and for countries in general. It is also the task of researchers to supply the public with information that will enhance their understanding of the world so that they can be a part of making it better. Further, by enlarging the 'conventional' scope of social protection to all of Asia, developing countries from all over the world can also learn from the Asian examples, and use it for their own development, at the same time as more developed countries can learn from the developed countries in the the analysis. Moreover, it stands in contrast to studies studying only the developing world, by combining both developed and developing countries into the analysis. Ultimately using a global social protection index would have been optimal, for a bigger scope, but that idea remains a farfetched. Fortunately, the Asian Development Bank is doing what should be done globally in Asia, by compiling the Social Protection Index.

In Asia, there are many developing countries. Having the focus on social policy is different from many other approaches, which tend to focus on simply the notion 'economy first'. With this thesis I show the other side

of development. Social policies are important tools in development, but as noted by Lee (2007), they will not be successful if they are subordinate to the economy. Further, by clustering the countries in Asia based on the disaggregated Social Protection Index, this thesis sheds light on the state of the art of social protection, and why Asia looks the way it does, and what powers are in force to create the reality in which more than half of the world's population live in.

II. Literature Review

This chapter covers the relevant literature on Asia. The starting point is a brief review of the recent developments of Asia. From there the focus shifts into social welfare with focus on social protection and an outlook of clustered Asia. The discussion starts region-based and then moves on to a more case-by-case approach. Finally the agenda is turned towards Asian welfare regimes.

Central Asia has undeniable become more visible on the radar of most people in recent years, not at least since 9/11, and has since not often being portrayed in the must lucrative way. Collins (2002) argues that in the discourse, emphasis have been overly put on democratic transition. Instead she points out that there are many authoritarian regimes left in the wake of the Soviet Union, and these should also be understood. She further shows how Kyrgyzstan had a democratic experiment, where as Kazakhstan, Turkmenistan and Uzbekistan turned to authoritarianism. Tajikistan instead fell into civil war. However eventually all states in the region more of less shifted into authoritarianism. Most Central Asia shares the fact that throughout their history, long before the Soviet rule, they were, and many still are, clan-based societies. Although these countries were doing better than some Southeast Asian and African countries after the fall of the Soviet Union, economically speaking, democratic transitions were not expected of the region, but happened in some cases. An example is Kyrgyzstan and there have been movements for democracy in Afghanistan. However, due to the clan-based societies, they remain sensitive for political instability (Collins

2002).

South Asia constitutes a different example. Sri Lanka remains the welfare state in the South. Bangladesh, Bhutan, India, Pakistan, and Nepal are all lagging behind. It is nevertheless a massive region, which inhabits a large part of the world's population. Its rich in religion, and it is the birthplace of Buddhism, but also includes Hindus, Christians, Muslims and many minorities. Many of the South Asian countries have experienced colonialism. After gaining independence, it has been hard for many governments to keep the countries functioning properly. Further, until today, the colonial privileges still prevail (Bose & Jalal 2001).

Further, South Asia has become one of the least integrated regions in the world. This has happen even though they share a common history, culture, amongst other, security challenges in the area prevail. Thus, although shared history, history has become what caused many of the issues, which have resulted in extremely low regional trade. Kher (2012) listed several reasons for difficulties in the area. Firstly, the India-Pakistan relations. Secondly, the lack of a common threat. Thirdly and fourthly, are protectionism and lack of comparative advantages, respectively. The final area has been geographical dependency. The latter's showcase is Nepal, which dependency on India is well documented. However, it is a region that would benefit greatly from deeper cooperation. Historically, this was the case. South Asia used to be loosely connected, but with the growth of religion, the countries have drifted apart over time (Gupta *et al.* 2002).

East Asia is a region with less tension than South Asia, but neither tension-free. Nevertheless, in terms of social protection East Asia is doing

well, with Japan being the most prominent example in all of Asia. South Korea is just a few steps behind and China is on the rise. Is has been shown that since the Asian Financial Crisis, regionalism has been strengthened (Emmers & Ravenhill 2011). However, both South Korea and China have strained relations to Japan due to the Japanese colonization period. Nevertheless, after the Asian financial crisis, the development of social policy has been pointing upwards.

Southeast Asia is a region with very different contemporary histories. For instance, parts of Southeast Asia have been colonialized by many; the Dutch, the Americans, the French, and the Spanish. Although this difference, ASEAN have emerged from this heterogenic region. ASEAN has with its non-intervention has survived since its founding 1967, and plays a big part in Southeast Asian regionalism. It has further the regionalism has reached out to ASEAN plus 3. Thus, now sometimes Southeast Asian regionalism might also includes East Asia.

The Pacific is harder to get a grip on as it consists of many islands in the Pacific Ocean, which are often small, and all different. For instance, the Marshall Islands ranks as number seven on the Social Protection Index where Nauru, Vanuatu, and Papa New Guinea, all end up at the bottom five ranking 31, 33, and 35 respectively. Although these are originally volcanic islands, there are essentially three types. The first type is the complex serpentine formations, which tend to have more natural resources. Secondly, there are the high volcanic structures, which have some resources, but much smaller than the first group. The last group is the coral atolls, which are flat and without much resources (Fairbarn *et al.* 1991).

The latter are the islands that are put in additional risk due to climate change. Further, as these sets of islands are so different, geography plays a big role. For countries with numerous islands dispersed over a large area will struggle more in providing social services and develop the economy. One can imagine the immense task covering the entire population with welfare benefits where some people live on islands that are almost inhabited. These countries have also experienced colonization, although most covered by the social protection index have gained independence. Also in the early 2000s literacy rate was unusually high, due to developments in the 90s. Generally, these islands remain dependent on aid from other countries (Fairbarn *et al.* 1991).

The point of the section above was to introduce Asia as continent of complexity and diversity, but that there are similarities to be found. In terms of social protection, excluding East Asia, the countries score very differently among the different regions. At this point, let us consider the differences of the regions, using 2008 as the reference year, and consider the 34 countries for which data are available in the Social Protection Index (Asian Development Bank 2015c). In central Asia, Afghanistan ranks as number 22 at the same time as Kyrgyzstan ranks second. In South Asia, Pakistan is 32rd, while Sri Lanka is 11th. In Southeast Asia the lowest rank is Laos (30th) and highest is Malaysia (8th). In the Pacific the two examples are Papua New Guinea at the last place, and Palau as number 6. However, it should be mentioned here that the SPI is hard to fully comprehend without further information, which is elaborated on when the critique of the SPI is presented.

As noted, Asia has often been grouped in different ways. The habit of grouping is as old as the human race itself. Expressed differently, people have since long ago been preoccupied with the task of clustering. By considering Asia, the way this region generally is described is: East Asia, South Asia, Southeast Asia, Central (and West) Asia, and the Pacific.

Most of these clusters have fairly high growth rates, especially in Southeast- and South Asia. East Asia naturally has a lower growth rate due to it being comparatively more developed than the rest of Asia. A region currently struggling is Central Asia due to the Russian economy and the energy prices, and although growth rate in many cases remain around six percent the inflation is at a similar level. In the Pacific we find similar development, and is to be expected of the pacific economies (Asian Development Bank 2015b). Nevertheless, these issues are likely to pass, and with the overall growth one could imagine that there is a future for social policy development. As mentioned, economic difficulties could provide the opportunity for improving countries, especially in terms of social policy. The demand for social policies often increase as the risks are growing.

Although we have seen progress throughout Asia, which has led to a better livelihood for many people, the development has not been equal. By looking at aggregate it is easy to present the development as great, and a major contributor to that is China. However, behind the curtain of economic development many people remain in the same position. It is true that many governments do provide essential services, but the quality and the access of these services vary much among and within the countries. An example of this could be the fact that for instance Sri Lanka and Vietnam

have close to 100% enrollment in primary school, but West and South Asia have the second lowest expected years of schooling in the world, following Sub-Saharan Africa. Indeed, there are vast differences among countries that do not show in the aggregated data. However, it is not only region aggregates that disguises country performances, the same can be said for within countries. An example of that is that in 2006/2007 in Pakistan; among the lowest quintile only 36.9% received skilled antenatal care, as compared to 91.9% in the highest (Asian Development Bank 2013). There is thus a need to try to go deeper into understanding Asia from different angles. This research does not go deep into 'within-country-specifics', but focus on country aggregate and social protection disaggregates. These are, on the other hand, quite specific.

On the bright side, we have seen much development of the 'Asian Tigers', and the second tier of developing countries such as Thailand, Malaysia and Indonesia. Although these countries have experienced significant improvements, less could be said about countries such as Cambodia, Nepal, Burma, among others (Tang 2000). However, as these results were reported in 2000, much has happened since, and as will be shown later, for instance, Cambodia is one of the countries that throughout 2008-2010, move from a cluster consisting of worse performing countries to a cluster containing high performing countries. On the other hand, the optimistic outlook on Malaysia does not seem to hold over time, although Indonesia and Thailand are fairly consistent high performers.

Another issue has been that although there has been poverty reduction, there has also been a rise in inequality. Further it has been

asserted that the emerging income inequality has lowered the effect of growth on poverty reduction. One way of analyzing this is to see whether the bottom quintile still enjoys the same income share (Balakrishnan *et al.* 2013). This issue is becoming an increasingly important for many countries across Asia. As Kanbur *et al.* (2014: 6) have argued,

> *"Not only does inequality dampen the poverty reduction impact of growth, it can also affect growth itself, through a number of economic, social, and political mechanisms".*

Further increasing inequality has a worsening effect on the quality of institutions. Thus, coverage of social protection is important an important factor in analyzing this.

Nevertheless, although many governments have take a rights-based approach to many basic needs, these rights are often not fulfilled by developing countries, which many times can be an effect of low government revenue (Asian Development Bank 2013). Furthermore, if corruption is high, and revenue is low, it is hard for governments to get out of what has been called the low-trust-corruption-inequality trap. This trap works as a vicious cycle in which governments can barely do anything to get out, since they cannot raise more revenue due to the low trust and high corruption – its citizens are simply not willing to pay taxes, which makes it almost impossible to improve the situation (Rothstein 2011). Getting out of the vicious cycle is essential, but a question out of the scope of this thesis, and is a topic worthy of its own discourse. Nevertheless, there are ways

forward, and are considered in the discussion chapter. The way governments view the basic needs is clearly connected to the performance of their social policies.

Nevertheless, in order to spend money, governments must collect revenues. The Asian Development Bank (2015) shows that Developing Asia is collecting less than Latin America and the Caribbean, OECD, and the World on average. Developing Asia has been catching up, but is not yet there. It is out of the scope of this thesis to describe how to succeed. However, some suggestions are given in the discussion chapter. The point being made here is that revenues seem to be increasing, and that is a good sign for social protection.

Governance is naturally important in the study of public policy. However, the private sphere is the other pillar of society, and the growth of domestic companies is important. By looking at the percentage point of firms having a checkings/savings account, we learn that surprisingly the Pacific is on top with approximately 95 percent followed by East Asia on 92 percent. The list follows with Central-, South-, and Southeast Asia, with only the two latter being under the median, but also under the Sub-Saharan African median (Ayyagari & Beck, 2015). There is a clear difference since the difference between East Asia and Southeast Asia is 15 percentage points, which arguably could be due to the differences in the economies, where for example, Southeast Asia is more dependent on tourism than other regions.

Gender inequality in Asia remains a big problem, and may hinder development, and is clearly a problem for social protection and welfare. For

instance, if a country provides private welfare rather than public welfare, due to women being to a lesser extent on the job market, they have to rely on their husbands or their parents. This clearly makes them more vulnerable. It may also lower the quality of life since some may not be able to live up to their full potential, and instead are trapped within the family, regardless of their own intentions. Not to mention that gender equality is also recognized as a human right, and has become one of the human development goals (Kabeer 2005). That is not to say that women are the only victims of gender inequality, but it is the case for almost all scenarios. However, if one considers the bigger picture, it could also be seen as a disadvantage for the society itself, because a large proportion of the population are not capable of doing what they would do the best, or what they want to do the most, and that leads to a less efficient society. Thus, this thesis stresses the importance of gender equality by including a gender indicator in the cluster analysis.

Looking at the situation of children also explains differences among countries. Asia has done a remarkable job in making more children attend school, but the expected years of schooling greatly differs among the regions. In 2010 Central Asia had the longest expected years of schooling, followed tightly by East Asia and the Pacific, and with West and South Asia having three to four years shorter with 10 years of schooling (Asian Development Bank 2013). However, unfortunately most aspects of schooling does not feature in the social protection index.

On a country level, many countries are changing. The Asian financial crisis seems to have been a critical juncture for social protection, at least in

East and Southeast Asia. In the case of Indonesia, the government was forced by international institutions to adopt more comprehensive social protection. At first it was ineffective, but as time passed Indonesia learned its lesson, and social protection has been greatly improved. A point worth noting is that the start of the reforms was due to the emergency that the crisis brought on. However, fortunately the new policies later went from being temporary to institutionalized (Kwon and Kim, 2015).

Aid has also played a big part in Asia. Throughout time, aid policies have gone from being universalistic to generally be more targeted. One of the reasons for that has been to help the vulnerable rather the state. Further, in a neoliberal fashion, the state was not supposed to carry out these tasks, but it instead became the work of NGOs (Mkandawire 2005). However, this development has been contested. In a report to a government expert group on aid policies, Rothstein and Tellerman (2015) had five suggestions that differ from what has been described above. Thus, if Swedish aid policy is to enhance human well-being, then the following should be the focus:

> *"a) a functioning and legitimate system of taxation, b) a merit-based system of recruitment and promotion of civil servants, c) universal and free education, d) gender equality in the public sphere, and e) a professional national audit agency whose results are made publicly available" (Rothstein and Tellerman 2015: 7).*

The above recommendations would enhance the quality of government and its capacity to carry out successful policies in the future. The important

point here is that there is no consensus on how development from the aid perspective should be done. It also shines light on the fact that social protection can play if provided by the state, as they have the potential of reaching out to the entire population.

Nevertheless, it should be clear at this point that the continent contains both problems and opportunities. The discussion will now continue with a more pure focus on welfare research, and the sometimes lack of. As will be shown, there is a lot of focus on welfare, but a shortage of comparative studies on entire Asia. Focus has mainly been on East and Southeast Asia, but these are rarely compared with the rest of Asia.

As noted, traditionally there has been little comparison of all welfare states in Asia. However, one essential question to address before going into the cases is the question of the welfare state itself. Alber (1998: 451) defined it as "a polity in which state responsibilities extend beyond the mere maintenance of internal order and external security for the well being of citizens". As this definition makes clear, it is something diffuse, which has been interpreted differently among the countries of the world, thus it looks different in each country. That is the starting point for the following discussion.

Kwon (1997) argued that although Japan and South Korea fits within Esping-Andersen's (1990) concept of three worlds of welfare capitalism, it does not tell the full picture. Thus, he suggests an 'East Asian welfare model'. He further argues that using the comparative methods of social policy analysis; one can find new comparative perspectives. Further, as the title entails, it is both possible and necessary to go beyond the European

welfare regimes (Kwon 1997). However, it may also be as necessary to go beyond the East Asian welfare model, and look at Asia as a whole. There have been several attempts in classifying countries and put them into the 'three worlds of welfare capitalism' but consensus in how has not been found.

There are many that assert that countries in Asia actively sought welfare development throughout the economic growth period. Hort and Kuhnle (2000) has shown that it was done during the developmental area, and Kwon (2005) has further showed how both South Korea and Taiwan has adopted more inclusive social policies after the Asian financial crisis, caused by the increase of unemployment. Singapore and Hong Kong have adapted other strategies, due to them being hubs for international trade and finance. The success of South Korea and Taiwan could have been due to the fact that social policy was not a subordinate to economic development, which is according to Lee (2007), the way that East Asian cases that succeeded. Further, he argues that integration of the two is the key element by including social policy into development by merging social policies to both meet the needs of growth and meeting the societal needs. Unfortunately, Taiwan and Hong Kong are exempt for the analysis, due to no data being collected for both countries in the Social Protection Index.

The cases above showcase that there are at least two possible clusters of East and Southeast Asian welfare, one with Japan, South Korea, Taiwan, and possibly Thailand; and the other with Singapore, Hong Kong, and Malaysia (Cook and Kwon 2007; Kwon 2009). There seem to be two further consensuses about East Asian social policy. The first one is that East

Asia does not cluster in one, and the second that the East Asian experience is exceptional (Holliday 2000). Nevertheless, although it may be exceptional, if one looks at the policy level, they might differ a lot, and in order to group these countries together, Aspalter (2005) uses an 'ideal-typical' approach. It looks at the greater picture rather than divergence among countries in different norms. However, it is also necessary to consider the more detailed picture, which is done in this thesis. Further, there is a lack studies trying to go beyond East Asia, to consider Asia in its entirety, and see whether or not East Asia is exceptional in its Asian context. For instance, some argue that Japan, South Korea, and Taiwan cluster together, where as other may separate these countries. In this thesis, it will be shown whether or not they cluster together based on the indicators chosen.

Most of Southeast Asia, with Thailand as the exception, shares some similarities when it comes to their welfare provisions. Three main similarities are found. Firstly, the rather generous benefits for public servants. Secondly, that there are large gaps in coverage. Thirdly, the uncommon usage of public assistance mechanisms to provide welfare, which otherwise is the best way of reaching people in informal sectors (Ramesh 2000). In terms of social protection, small coverage with large benefits is one of the characteristics of clusters explored in this thesis. Further, one would imagine that in the informal sector, women are overrepresented, thus based on the argument above, one could argue that women are less likely to be covered than men. Clustering Asia based on these characteristics will show whether this holds true for Southeast Asia, or if they in fact have improved, but that those indicators are visible elsewhere.

When clustering welfare in Asia, many scholars focus on 'welfare regimes' (Esping-Andersen 1990; Gough 2004). A regime in this case, "refers to a set of rules, institutions and structured interests that constrain individuals through compliance procedures", either from above or below (Gough 2004: 22). Further, Gough set out to expand Esping-Andersen's clusters, and developed a framework for developing countries, based on characteristics of the countries. However, as the scope was extended to all developing countries, it missed out on comparing developing countries with developed countries. Sharkh and Gough (2010) carried out another analysis of a similar kind also based on regime type, with the developing world also being the scope. However, in this case they look at two time periods under the assumption that regime type is sticky over time, and their result shows that it is the general case. Their analysis consists of 65 non-OECD countries across the developing world.

Another important consideration is whether or not regime types themselves are of importance. As Kasza (2002) points out, an overemphasis on regime analysis in the welfare discourse has several problems. One of the major problems is that welfare policies are bound by their past, and thus the result of years of cumulative policy rather than the current focus. Put differently, history matters. Another issue with regime analysis is that there are a large number of actors whom act independently. In the case of welfare, the minister of healthcare will deal with health, whereas the minister of employment may be concerned with unemployment benefits. Further, one needs to consider the influence of foreign actors, where as successful policies from certain countries will be benchmarked by other

countries. Taken altogether, it is very hard to classify in terms of regimes. The suggested way forward is instead one in which the different types of policies within social policy are compared, which a more narrow approach than the current comprehensive (Kasza 2002).

However, regime analysis is often deemed necessary. Aspalter (2011) argues that one of the common approaches has been analyzing ideal-types rather than exhaustive comparisons over time. The other common approach is analyzing real-types, which by nature is more influenced by short-term development within the countries. Thus the former looks more at the generalized picture than the latter (Aspalter 2011). However, there is more information to extract from the latter than the former.

Naturally, there have been many ways to approach social policy in the literature. As shown, the main approach has been through regime analysis, and not policy output. One possible reason for that could be the lack of data on policy output. However, the Asian Development Bank (2015c) has constructed the Social Protection Index (SPI) that consists of very detailed data for Asian countries over a certain number of years. Using this data, it is possible to make a cluster analysis, not too different from the one of Sharkh and Gough, but instead of looking at regime, the data allows to cluster from policy outcome. However, in the same way as regime type can be assumed to be sticky over time, so could policy output be. As noted, this thesis will not classify countries based on regime, but rather on policy outcome. Instead of using 65 developing countries, the scope is the countries covered by the Social Protection Index, which currently is 34. Thus, the analysis of this thesis considers policy output as paramount, since

what matters is what citizens receive, rather than how they receive it.

III. Theoretical Framework

1. Social Protection

One could start the discussion on social protection by asking about its importance. From a developmental perspective, social protection plays an immense role. It can be visualized through Amartya Sen (1999:3), who argued, "Development can be seen… as a process of expanding the real freedoms that people enjoy". It is clear that expanding the freedoms that people enjoy must also expand the freedoms of the poor. Social protection is in fact one of the main ways for governments to help its citizen coping with risk. Further, it is especially important for poor people, as they do not have the means to protect themselves from various types of risks. Thus, extensive social protection policies are needed for the protection of risks.

Several variations of social protection can be pointed out. In developed countries, social protection is concerned with trying to maintain a certain living standard for all. In developing countries, social protection is more about protecting the poor and being a tool for development (Barrientos 2011). Nevertheless, as most countries analyzed in this thesis are developing, that is the perspective it shall follow, and is what is elaborated on below, using the Asian Development Bank's concept.

Social protection is about providing the basic rights for people. ILO (2011) argues that social protection plays a pivotal role in alleviating poverty, and in helping states deliver their promises taken upon themselves by ratifying the Universal Declaration of Human Rights. Further, social

protection is a win-win strategy, because it stabilizes the macroeconomics in the short run, and also helps in the long run, due to the positive effect on human development. Moreover, social protection, at the most basic level, has now been widely accepted through the Declaration internationally, but has been expanded through the following Covenants. It is now considered international law (ILO 2011).

Social protection naturally exists in all countries, however the level of contribution differs widely. In Asia it starts from the bottom at 0.005 in Papa New Guinea to 0.416 in Japan (ADB 2015). Thus, there is a vast difference. However, one should keep in mind that different countries have different preconditions, and thus cannot spend the same, and the index naturally stretches wide in a continent where the level of development is different. In the analysis, however, countries will be classified regardless of their level of development, to find what cases are more successful and less successful. Nevertheless, the classification does not consider how much they spend on social protection, but instead looks at other indicators, which are described in the following section of this chapter.

Social protection is indeed a wide term, but due to the fact that this study is based on the Asian Development Bank's (2015c) Social Protection Index, the definition by the Asian Development Bank shall be the prevalent one. However, fundamentally, the aim of social protection is "to assist individuals to transform the vicious cycle of poverty into a positive cycle of opportunities, security, and human development". On way of doing this is to "diminish vulnerability to risk, generate employment, and improve productivity and working conditions in Asia and the Pacfic" (Nishimoto &

Springer 2001: 5). Further, according to Deveroux and Sabates-Wheeler (2004: iii),

> *"Social protection describes all public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks, and enhance the social status and rights of the marginalised; with the overall objective of reducing the economic and social vulnerability of poor, vulnerable and marginalised groups".*

Moreover they argue that there are four main groups of social protection. The first group is one that views social protection narrowly by only considering welfare to the 'deserving poor'. Second is the group that sees social protection as something that would defend populations against production or consumptions shocks, by for instance hand out food in a draught area. Thirdly, there is the group that has a very wide perception of social protection. Here, areas such as education, health, micro-credit and many other aspects are included. Lastly, there is the group which does not only consider social protection as income and consumption transfer but also looks at areas such as equity, empowerment, cultural-, and social rights (Deveroux & Sabates-Wheeler, 2004). What remains clear is that in the earlier development of social protection there was no universal definition, which still holds true.

Risk is an important concept within social protection, and is also something that has various definitions. It has been argued that there are four

different risks that populations need to be protected against. The first group of risks comes from individuals' lifecycles, and includes risks such as hunger, disability, old age, and more. The second sets of risks are economic, and include unemployment, low income, among others. Third, are environmental risks, and in this category comprise natural disasters (e.g. floods, earthquakes, etc.). The final group of risks is social/governance risks. In this group, corruption, political stability, domestic violence and others are included. Although some of these risks may apply to many groups in society, the poor are the most likely to fall victim (Ortiz 2001). In 2001, the five subsectors of social protection were defined; labor market policies; social insurance; social assistance and welfare services; micro- and area based schemes; and child protection respectively (Ortiz 2001). I argue that there are several other categories that could also have been added. One of them would be a gender sub-sector. Other categories left out could be areas such as discrimination, inclusion, equality, etc. These are all important due to their effect on the vulnerable. In this thesis, not all of these topics can be covered, as the goal is to make the cluster analysis simple, yet powerful.

Nevertheless, although the deficits above, social protection remain an important tool for poverty reduction. At the beginning of the millennia, there was very little quantitative data on social protection except for the cost of different social protection programs. Therefore, Baulch *et al* (2006) created the Social Protection Index (SPI). The goal of the SPI was to enable cross-country comparisons in Asia. However, in order to compute an index of factors helping cope against risk, which is essentially what social protection is, some aspects that were too directly related with development

had to be excluded, thus areas such as education, health, and rural development was excluded. Instead it considered "direct transfers, whether in cash or kind, to beneficiaries" (Baulch *et al* 2006: 7). Because of this, policies enhancing for instance, women's rights or children's rights, which clearly work as social protection are excluded. Non-targeted programs are also excluded, because it is difficult to see whether or not they are aiding the poor. Moreover, they often fall under health, education and/or rural development (Baulch *et al* 2006), thus were already excluded. The negative side of this is that one cannot use universal policies for social protection. However, working universal social policies would surely be positive for the index as a total as well, since if implemented successfully contributes to overall development. The positive side of excluding those factors is that it instead becomes much more simple to calculate, which is one of the aims the authors had. The results should be simple to calculate, easy to reproduce and understandable to policy makers. For this end, four indicators were chosen for this index; cost, coverage, poverty targeting, and impact on expenditure. It should be noted here that although universal policies are excluded, the argument for universal policies will be elaborated on.

Nevertheless, the first attempt was deemed imperfect. For instance, in the first index, the coverage and the size of benefits were considered different indicators. The problem with these two indicators were that they are too related. It is not desirable to have a very large coverage but extremely small benefits, very large benefits but extremely low coverage (ADB 2011). The prime goal is naturally of course to have large coverage and large benefits, but for many countries that is not possible, and then a

balance would be more desirable then any other extreme. Thus these two indicators were combined into one composite indicator. That and the additional changes led to the updated SPI which is definition is the following (ADB 2011: 3):

> "***Total social protection expenditures per total reference population divided by a regional poverty line***"

Also expressed as:

> ***"(Total expenditure/Total beneficiaries) times (Total beneficiaries/Total reference population)***"

For the rest of this thesis, when SPI is referred to, it's the revised SPI by ADB (2011) that is being indicated. In terms of data it is the series from 2008, 2009, and 2010, which is the most relevant, due to having the most countries included. It is worth point out here already, that the decision of combining the two indicators did in my perspective injustice to the social protection index, and the way they are analyzed in this thesis, as will be further elaborated on below, is by actually separating them again, to fully be able to understand both.

As explained, social protection has never been a flawless concept, and can always be improved, as any other theory. Although traces of social protection can be find in both legislation, international law and in the foundations of big international organizations, it will never be fully

developed. One of the problems has been the absence of gender, or the gender question not being prioritized enough (Jones & Holmes 2011). Inclusive sustainable growth is important, and that is why one of the indicators in this thesis is a gender-based indicator that compares the female-male ration of social protection. In fact, the way that the social protection index is being interpreted in this thesis adds to the understanding of the index itself.

The financing of social protection is another problem, especially for developing countries using it as their developmental strategy. It is also difficult to reform the functioning programs in order to develop together with the country (Barrientos 2011). In other words: "The future of social policy in developing countries is bright and promising, but not yet secure" (Barrientos 2011: 3). However it was shown by Kwon (2005) that in times of crisis, governments have succeeded in expanding their social protection to the people previously not incorporated within the welfare schemes. Nevertheless, exploring Asia using the social protection as the framework, it is possible to see how both the struggle, and the opportunities have developed over time. Further, by disaggregating the social protection index, there is much information to extract and to utilize. The indicators extracted from the social protection are explained in the subsequent section.

2. Indicators

The indicators used for the cluster analysis are taken from the Social Protection Index by the Asian Development Bank (2015c). As a control

measure, the aggregated SPI serves as a comparison variable, and is included in the data but not in the cluster analysis. The full data can be found in the appendix. The discussion on the indicators stems from the ADB (2011) report, the revised edition, and is using the data set from 2008, 2009, and 2010, due to it being the most comprehensive available data.

The Social Protection Index (SPI) is interesting on its own, but for cluster purposes, is more interesting using the disaggregated indicators, and it actually improves the SPI. By disaggregating SPI it is possible to understand what it is constituted of, and this information is useful to compare countries. It is possible to disaggregate the SPI in 4 ways: 1) by depth and breadth of coverage; 2) by category; 3) by poor and non-poor; and 4) by sex. Data from the disaggregated SPI will be taken from the first and fourth sector. Why the others are excluded is also elaborated on below. Nevertheless, by using cluster analysis one can analyze the Asian countries, by using the extracted data. Below, I show that it is possible to cluster using the indicators chosen. Using Ward's (1963) hierarchical cluster analysis the homogeneity within clusters and the heterogeneity among clusters is shown in dendrograms and proximity matrices, which have been analyzed.

The two most basic indicators are the depth, SPI_d, and breadth, SPI_b. SPI_d shows the average expenditure per beneficiary adjusted for relative poverty line. SPI_b instead looks at coverage. It is a non-monetary indicator, which instead expresses coverage as percentage. For example if SPI_b=0.50 means that half of the intended population are receiving benefits. These two indicators are important in order to understand how much countries spend

per beneficiary, and how many people they succeed in reaching. These two indicators multiplied by each other is one way of calculating the SPI. This is not without problems, and is sometimes misguiding. As will be shown later: a higher SPI score is not necessarily better than a lower, it depends on SPI_b. If coverage is low, then it does not have to be positive to have a high depth, and countries with large coverage generally have lower depth. However, the problem that arises in the SPI is minimalized in this thesis due to the clustering technique.

The third indicator used for the cluster analysis is a gender indicator. The indicator SPI_{fm} divides the social protection spend on women with social protection spent on men, put differently, how much women get compared to men in percentage. A problem with this indicator is that the main driver of the SPI is social insurance. Thus, it is mainly for working people, and in many countries males are overrepresented in the labor market. Therefore, SPI_{fm} should also be seen as an indicative display of female participation in the labor force.

However, one should note that SPI_{fm} is not a good indicator for gender equality overall. It simply measures how much is spent on each sex. It only occasionally correlates with reality. For instance, in 2010, the Philippines and Sri Lanka had the highest SPI_{fm} among the countries analyzed, and as shown by Hausmann *et al.* (2010) they also top the list of gender equality of the region by looking at the Global Gender Gap Report (2015), by placing 9th and 16th respectively. On the other hand we have the case of South Korea, which is ranked 8 among the 29 countries analyzed, but globally, using the same report as above, ranks 104. That can be compared

with Armenia, which has the second worst SPI_{fm} but globally ranks 84. Whether or not these would be outliers could be discussed, but what remain true is that many of the countries in the middle of the SPI_{fm} are scattered all over the Global Gender Gap Report. It is instead important to highlight that SPI_{fm} should not be substituted for a gender equality indicator, but taken for what it is. However, it has an impact on justice, among other things, and will be elaborated on in the discussion part.

Together these three indicators explain the contents of the disaggregated SPI, and are good for clustering. The following analysis will therefore show whether or not there are regional similarities, which is to be expected within the regions of Asia, based on most literature. It will also show over time, whether the policy output is sticky or not.

Four more indicators were originally included, but they were ultimately deemed unnecessary, or unavailable. These were Social Insurance (SPI_{si}), Social Assistance (SPI_{sa}), Labor Market Policies (SPI_{lm}) and Poverty Focused (SPI_{pf}). SPI_{si} looks at different types of social insurance: pensions, unemployment benefits, health insurance, and other social insurances (maternity, disability). SPI_{sa} instead focuses on the following: elderly, health assistance, child protection, family allowances, welfare services targeted at vulnerable groups, disaster relief and assistance, cash/in-kind transfers, temporary subsidies for staple food and utilities, and land tax exemptions. SPI_{lm} are programs in the labor market such as: direct public employment programs, direct employment generation through loan-based programs, labor exchanges and other employment services, unemployment benefits (if distinct from social insurance and including retrenchment programs), and skills and

development training (ADB 2011: table 8, 20-21). These indicators explain what part of social protection they prioritize, and although most countries focus mainly on SPI_{si} the proportion differs among countries. Although these are interesting indicators in their own, by adding them focus would be shifted towards something that overemphasize the SPI. This is because Social Assistance, Social Insurance, and Labor Market Programs combined is another way of calculating the SPI, and by adding three more indicators the clusters would harder to comprehend. Instead, Ringen (2007) argues that one should try to make ones argument as simple as possible. Thus, the three indicators discussed here are excluded.

The last excluded indicator is Poverty Focus. The Poverty Focus indicator (SPI_{pf}) is an indicator that compares the SPI for the poor to the SPI for non-poor, using the national poverty rate. It shows how 'poverty focused' countries are. This indicator would add an interesting addition to the cluster analysis. However, due to lack of data, this could not be utilized. In future studies comparing the clusters to this indicator could prove important in explaining other vital aspect of SPI.

IV. Research Question, Hypothesis and Research Method

1. Research Question

The following are the research questions for this research. As this study is the first of its kind, it is largely explanatory and descriptive. However it aims to go beyond that. The questions are listed below:

- How do the countries in Asia cluster based on the disaggregated Social Protection Index? Are these clusters sticky over time?
- Are there regional tendencies among the countries in the way in the clusters?
- Which clusters perform better and worse? How does it correspond with societal outcome, both in terms of human development and justice?

2. Hypothesis

Because of the politics of Asia, the hypothesis is that the regions; East Asia, Southeast Asia, South Asia, Central Asia, and the Pacific will share their characteristics of social protection respectively and will thus cluster together regionally. For instance, one could believe that Central Asia would have similar priorities based on the Russian influence. In East Asia the

Confucianism may have an impact on their priorities and so fourth. However, if regions cluster, this thesis does not pay attention to why, it rather shows that they do.

Further, following the logic of Sharkh and Gough (2010) who show that regime type is sticky over time, the hypothesis is that the social protection outputs in most cases remain the same for the three years analyzed. However, this also means that there will be movement, just most countries will not make substantial changes. The movement of cluster-changing countries is worth analyzing further. This hypothesis is the most problematic among the ones presented here. Sharkh and Gough look at regimes, and that regimes do not change over time. However, policy outcome is something different. Nevertheless, the focus on coverage, depth and gender spending could be sticky due to regimes not changing their output much over time.

Regarding which clusters performing better and worse, the hypothesis is that East Asia performs the better, where as most South Asian and Pacific countries perform the worst. The assumption is that it is connected to the level of development. It is also a known fact that East Asia includes the most successful cases of welfare in Asia.

3. Methodology

The research method chosen to answer the questions above is clustering. Cluster analysis is simply speaking a method that aims at classifying units by taking a number of indicators to account. The origin of clustering can be dated back to the beginning of humankind. We have always been clustering

things, although perhaps not explicitly. However, as time has passed, clustering analysis has been institutionalized as a classic research method. Now, instead of simply classifying objects, it has turned into a method of organizing large sets of data (Everitt, *et al.* 2011). Clustering analysis classifies units by grouping them together into clusters. These clusters generally are supposed to maximize homogeneity inside respective cluster at the same time as it maximizes the heterogeneity among groups. The result is that units within one cluster are more similar to all countries within its own cluster compared to all others units (Wendt 2009). However, based on which clustering method chosen, this is not an absolute truth, but even when it is not true, it is not far away from the reality. Thus, in rare scenarios, units can be closer to units outside of its cluster. This problem, and solution of this in this thesis will be described below.

A central question to clustering analysis is what it actually gives the researcher. As there are many different types of clustering, and different techniques will provide different results. However, using the simplest technique to get a similar outcome is preferable. Some argue that as long as the cluster gives an answer of value to the investigator, then it is a good technique, where as others argue that it is all about finding the homogeneity and separation in and between clusters. Nevertheless, it is important to consider whether the results show the reality or remains an artifact of the chosen technique (Everitt, *et al.* 2011). For that reason, it is important to elaborate on the indicators, to show that the chosen indicators indeed show what is being investigated or not.

More than classifying, one of the main reasons for clustering have been

to break down established models of different groups, or to confirm them. For instance, Claus Wendt (2009) uses this method to cluster healthcare regimes in Europe, and his findings to some extent confirm the pre-existing assumed groups. Thus, by using a methodology previously not used for that topic, it can further reinforce the rigidity of former results. Jensen (2008) tested the 'three worlds of welfare capitalism' by clustering, and his findings show, contrary to many other scholars, that the regime analysis by Esping-Andersen remains the best. He comes to that conclusion by clustering countries several times based on different factors. On the other hand, in the research of Kautto (2002) he 're-clusters' 15 European countries, from 1990 to 1997, and in 1997 the Nordic cluster is not to be found, although Sweden, Norway, and Denmark remained at the top, Finland was absent. Thus, it did not follow the 'traditional' regime model. Clustering methods has thus been used extensively in welfare research as can be seen by the discussion above. However, clustering Asia using disaggregated SPI indicators has not been done thus far. Therefore, the analysis below will show two things, among others. Firstly it will show how Asian countries cluster. Secondly, it will test whether or not the regions of Asia remain intact, as they have been categorized in previous literature on social policy in Asia.

Stein Ringen (2007) uses another way of clustering in his book 'What Democracy is For' where he presents his index of democratic quality. In his methodology he uses eight indicators. If the score would be over his decided threshold, then that indicator would be given the value 1, and if it were below; the score would be 0. Thus, a country could get a score

between 0 and 8 depending on the results. A higher number would mean higher quality of democracy. The clusters made from that are not as statistically significant as in the research where more detailed numbers are used and less information is lost, however, a result between 0-8 speaks for itself. Nevertheless, the better the information the more persuasive the argument. Moreover, in a later part of his book he rewrites about an experiment made in the past, and there he not only clusters using the indicators on one axis, but introduces another axis with a new variable (Ringen 2007). Olli Kangas (1994) uses similar approach, where he uses clustering with three variables and one outcome. In his logic, if the number of the indicator were higher than the mean it would constitute as 1, and if lower, it would constitute as 0. The same logic was applied to the outcome. With that information, a 'truth table' was created. He further displayed the truth table as a dendrogram, which is the most common way of visualizing the results of clustering analyses. A dendrogram, a hierarchy tree, is a diagram that shows at what level of proximity different units join together in clusters, and can be created for all hierarchical cluster analyses.

As illustrated, there are several ways of conducting clustering analysis. Wendt (2009) uses agglomerative hierarchical cluster method; Kautto (2002) instead uses boxplots and Hierarchical Clustering Analysis (HCA). Jensen (2008) also uses HCA for his welfare analysis, in which he uses the Euclidian Dissimilarity Measure (EDM)[1].The obvious similarities of the two hierarchical methods are that they both create a tree of hierarchy, a dendrogram, in which the differences and similarities can be easily observed.

1) For a more thorough discussion on EDM, refer to Gower (1986)

The similarities and differences are usually referred to as similarities and dissimilarities when discussing proximity. Nevertheless, Kautto (2002) also uses k-means cluster analysis (KCA) to recheck the results. The difference between HCA and KCA is that the latter is more sophisticated. HCA is a set of methods that by using an algorithm it starts by finding the closest pair, and cluster these two. Once a cluster is made, it can never be unmade, only extended, thus hierarchical. In the second step it has three different options, and what it will do depends on the distance of units. The first option is to join two other units into a cluster. The second option would be to join one unit to an existing cluster. The third option is that it would join two clusters together. The algorithm will repeat the second step until all units are joined into one cluster, and display the results in a dendrogram and a proximity matrix. The KCA on the other hand is not as static and permits 'reclustering'. Instead of letting the algorithm work until it clusters all units, the researcher specifies how many clusters (*k*) are wanted. It starts with the computer estimating the first n cases as cluster means. To this it assigns units to the cluster closest to it. Using the new information from the clusters, it updates the cluster means, and then reassign the units. This procedure is repeated until there are no further changes to the cluster means (Gough 2001). A difference that emerge from these two strategies is that on the former one have to pick the number of clusters wanted based on the dendrogram, where as on the latter one may test a different number of k to find out which seem to overlap most with the reality. Thus, both have different bias, and it is up to the researcher to design the method. However, if it is theoretically sound, the results will

naturally follow logically. Combining techniques can also be effective in making sure that results are more valid.

There are several ways of analyzing existing clusters. One way is by following already established groups of units and examine whether the groups overlap or not by using the chosen indicators to create boxplots. Another way is by using the data to see whether it forms the already established groups or if it creates completely new groups (Kautto 2002). Although it makes sense that clusters will appear, it does not mean that all clusters necessarily are meaningful. The point of interest is not how many clusters emerge but "what we are interested in is *which* countries group together and if these groupings are relevant" (Jensen 2008: 155, italics in original). Further as Jensen argues, one has to decide the number of desired clusters. Naturally, the fewer clusters the more disparity within. Thus, one of the main challenges is to decide at what level, or layer, the clusters should be picked (Everitt, *et al.* 2011). It becomes the responsibility of the researchers, and in some cases it may be more obvious than in others. Another technique would be to explain different levels of clustering, how it changes as the clusters are made bigger, which is one of the approaches of my analysis.

As in all social science, bias is a problem and it does not escape cluster analyses. However, it may be less biased than many other ways of typologies, due it its ability to test it. For example, in welfare studies Esping-Andersen (1990) in his pioneering study classified three worlds of welfare. This rigidness of his results could be tested quite easily using different indicators of welfare in a cluster analyses. However, the decision

on what indicators to use is up to the author's discretion and may thus become a problem unless it is theoretically sound.

Another limitation in cluster analysis is that although it is a quantitative method, it does not prove causality. However, as Kangas (1994) argues, that in the same way that Esping-Andersen finds causality from his three worlds of welfare capitalism, the emergence of clusters can be interpreted causally. He further argues that one of the big deficiencies of clustering is that one change in a variable may cause one case to completely change cluster, and although one variable may change over time it does not have to mean that the country has changed that excessively.

Hawking *et al.* (1982) argue that users should be very careful in using hierarchical methods, and they should not be used if they are not clearly necessary. However, in this thesis it is deemed necessary, because it is one of the standard ways of classifying countries. Further, it has two other advantages. The first advantage is that it solves the problem of understanding SPI, by disaggregating it. Secondly, as the goal is to explore the proximity of the disaggregated Social Protection Index, using hierarchical clustering has been a method previously used for similar ends, and is thus viable.

The hierarchical method chosen for this purpose of this thesis is Ward's (1963) Method. This method recalculates cluster centroids before attempting the next stage of clustering. A problem with this method is that units that are close to each other may cluster with different groups, due to change in the cluster mean. This is an unavoidable problem, and also exists in other types of hierarchical clustering. An example of that is the case of the

Philippines, as will be shown below. One way of getting around this problem is to make use of the proximity matrix between units, to see if one can artificially make a cluster that do not appear on the analysis itself. As will be shown in the analysis, this is important for grouping, and to understand how units are interlinked, especially over time. The starting point is the analysis itself, but one has to look deeper if one is to find more connections, as conducted in the analysis part. Another way reaching the same result is by lowering and increasing the numbers of clusters, to see how cluster membership changes. Thus, by using these two approaches to add on to Ward's method a more thorough result could be found.

Instead of combining HCA with KCA to further validate the results; the time span was increased from one year to three years. As the countries are being analyzed over time, then there is no need to do both HCA and KCA for all three years. Thus, the marginal value of added KCA when looking over time is very low, and was therefore excluded. However, the original plan was to analyze one year, by using both HCA and KCA.

Moreover, originally the plan was to use seven indicators. However, after the first review of the methods, the plan changed. Instead of simply looking at one year, three years was chosen as the observation period. Further, due to lack of data, the poverty focused indicator had to be omitted. However, with the remaining indicators, the focus was very focused on the SPI itself, since breadth and depth, as well as the three indicators on social insurance, social assistance and labor market programs basically constitutes the same thing, with only the gender indicator providing additional information. In regards to that, four types of social protection

were omitted. That has led to only three indicators being used: the breadth, the depth, and gender ratio. In order words, the three indicators measures: how many of the intended beneficiaries receive benefits; how much do the beneficiaries receive; and how is this divided among gender. This is simpler, and easier to comprehend. As argued by Ringen (2007) that the simpler you can make your argument, the better, and the approach decided upon in this thesis is simpler, but the results are similar. To test the importance of the indicators, they were removed one by one respectively to see their impact, and all of the current indicators play a significant role, and are thus important in clustering the countries. Also, it is logical using these three variables, since they all represent different aspects of social protection. The addition of the gender ratio is perhaps one of the biggest contributions to the social protection index. Gender issues remain a major issue in many countries in the world, and perhaps especially in Asia, and thus adding this indicator in terms of social protection is important. It is true that the breadth indicator already shows the number of reached beneficiaries from the intended number, but it completely leaves out the gender aspect, and if one is to consider social protection, protection of women is important, and should not be neglected. Thus, together these three variables provide a simple but yet powerful way of clustering the countries in Asia.

Another point worth highlighting is the problem with analyzing countries that are developing. While countries such as Japan and South Korea may not change much in social policy over time, since their polity has reached a higher level of maturity, the same cannot be said for poorer countries with a lower level of maturity in their polity, which are inclined to be more

volatile. Thus, analyzing over three years may not be sufficient to say something about where the countries will be in ten years, but it is sufficient enough to argue why they look the way they do over three years, and draw conclusions from that.

The final consideration, when using Ward's technique, is about the individual-unit clusters. An individual cluster can be located in two types of positions, either outside all the other clusters or somewhere in between. If it is found outside, it is what generally could be labeled an outlier. If it is found inside, then it could emerge for two reasons. The first reason is that the unit is simply too different from the other clusters, and cannot be linked until a very late stage, due to large dissimilarity. The other reason if possible when the unit is rather similar one of several unit, but it is not among the most similar, as the centroid of the new clusters update, the unit itself gets further and further away from the centroid, which finally leads to it becoming its own cluster. If that becomes the case, by using the proximity matrix, I have in some cases re-added them to a cluster when generalizing for all three years.

In this thesis, by using SPSS, a statistical software, a hierarchical cluster analysis has been made. The method chosen was Ward's Technique (Ward 1963). In order to carry the analysis out, data was collected as explained above. Further, the data was standardized from -1 to +1, and then the squared Euclidian distance was measured in a proximity matrix to finally create the clusters.

Many clusters were identified, eight in 2008, seven in 2009, and nine in 2010. The data and all the cluster numbers can be found in the

appendix. Choosing the number of clusters is hard task for any investigator, but the number was based on being able to single out the individual-cluster units as well as to get to get several clusters with a decent amount of units within rather than, for example, one massive cluster, and two single-unit clusters. In short, three individual clusters were identified in 2008 and 2010 respectively, and one in 2009. There are several clusters, which do not remain intact but have small alterations throughout the three years, and some changes have been further analyzed.

The basic way of visualizing the data is through dendrograms, and are displayed below. The dendrogram was created through Ward's linkage model, and the further to the left clusters are linked the higher rate of similarity, and the more to the right, the higher the dissimilarity.

One of the findings is that there is no region that singles out as its own cluster, thus in terms of social policy discussions, discussing the regions as they were previously explained can easily be misguiding and end up with a discussion that simplifies the regions instead of seeing how different they are and instead analyze them from that perspective. However, this does not mean that there are not any tendencies for how countries have clustered over these three years, and those tendencies will be discussed. There are also several outliers, which will be further analyzed. Moreover, the proximity changers, countries that travel from one cluster to another cluster, will also be analyzed to get a better understanding of how they change over time.

The approach of the analysis is to start by looking at what we can call clustering layers. Starting with the most complex, the multi-cluster layer and

see how the clusters merge together as one move from layer to layer, from the most complex to the most simple. However, the layering technique is only possible on a year-to-year basis. Thus, firstly the clusters will be analyzed for each year respectively, before moving on to a more generalized picture for the three years altogether.

When analyzing the multi cluster analysis, there are several things to keep in mind. Firstly, the three years were not clustered together, but instead one a year-by-year basis. further, some units share a small dissimilarity, and when considering the clusters over time the dissimilarity should be taken into account, because although they do not cluster together each year, they could still be considered as cluster members. Thus, some arbitrarily formed clusters are included. However, the way these are formed is by starting from the clusters, but then considering the proximity matrices to look for further similarities or differences. In a way, over three years, the hierarchical clustering method is modified, as clusters can never be broken up in a hierarchical cluster analysis. It also slightly moves away from Ward's method, since in that method, cluster centroids are calculated, and used for the next step of clustering. Instead I combine Ward's method with a proximity matrix analysis. This strengthens the rigidity of the clusters over time. It is important to modify Ward's method for it to be properly adapted to the three-year analysis conducted. If the analysis would be for one year, this step would not be necessary.

Another methodological consideration is how to analyze the countries in the multi cluster analysis. I use two main ways of analyzing the clusters. The first way is by discussing the clusters from a country perspective, by

looking at the countries themselves as the main determinant of clusters. The other way is more focused on the characteristics of clusters, rather than the countries. Both ways have their advantages and disadvantages. The first way is more visual, since it is only based on the dendrograms and the cluster number, and is thus easier to comprehend. However, as it is a simpler way it may be oversimplified, but nevertheless functions as a good starting point to get a basic understanding of the data. Further, these two strategies produce different outcomes. The country-specific analysis tries to see similarities between countries throughout the years, where as the characteristic-specific approach finds similarities of clusters over time, regardless of the movement of units from cluster to cluster.

As noted, the characteristics-based approach is more sophisticated than the country-specific. Instead of simply cluster countries together it looks at the characteristics of clusters too objectively decide what is 'good' and what is 'bad'. By analyzing the difference among clusters in their scores of SPI_b, SPI_d, and SPI_{fm}, respectively, it is possible to make this judgment. Although it may seem biased, it is easy to visualize, and the reason of why will be elaborated on thoroughly in the discussion. Nevertheless, if one considers breadth, clearly a high value is preferred, since it means that social protection reaches the indicated beneficiaries. However, having a large depth of social protection is not necessarily better than a relatively low one. If the breadth stays the same, it depends on whether one believes that welfare provisions should be big or small to decide whether deeper is better or not. Thus, the political opinion of the reader matters at first. As will be discussed later, if welfare is justly distributed, then having larger welfare

provisions would be preferred, to the opposite. On the other end of the spectra, if almost no intended beneficiaries receive benefits, then having a large depth could be detrimental. What is argued here is that a balanced breadth/depth score is optimal, and based on the observations from the data, that is having a high breadth and a comparatively lower depth. This does not mean that it is the ultimate solution, but for the presentation of data, it will be considered to be. However, the reason for what is better and worse is explained in the discussion. Further, low breadth and high depth could be a sign of corruption, due to not many of the indicated beneficiaries receive their benefits, but those who do get it get a lot. However, the opposite does not hold true, since Singapore is generally seen as a non-corrupt country (Freedom House 2015) but in 2008 they only score medium on the breadth indicator. The gender indicator is more straightforward, since a very low score indicates all most provisions are directed to the male population, which is clearly worse for the society as a whole. However, looking at Uzbekistan 2008, if the ratio is too high, then that becomes a problem as well.

By using the dendrograms it is also possible, to some extent, to define what clusters are better, and which ones are worse by seeing where on the dendrograms they appear. The Best Performing Cluster (BPC) ends up at the bottom in 2008, and at the top in 2009 and 2010, and the Worst Performing Cluster (WPC) ends up at the opposite ends.

To illustrate the importance of the three indicators, the three following tables depict the countries in two clusters, but sorted after respective indicator. As it seem, at this point, SPI_b correlates the best with the cluster

formation, but this is only at this basic two-cluster level. Nevertheless, it shows that all indicators play a role, in different ways of clustering, and none of the above indicators are obsolete. It is important to highlight that it SPI_b is not as successful in explaining the situation when more clusters are desired. Instead, the movement of countries which change from cluster 1 to cluster 2 are better explained using SPI_{fm} rather than SPI_b. "Cluster08b", "Cluster09b", and "Cluster10b" in the tables below indicates that the countries are only clustered into two clusters.

<Table 1> SPI_b Sorted Ascending

Country	SPIb08	Cluster08b	Country	SPIb09	Cluster09b	Country	SPIb10	Cluster10b
PAP	0.00079	1	PAP	0.00214	1	PAP	0.00119	1
SAM	0.03713	1	VAN	0.05155	1	VAN	0.04285	1
VAN	0.04098	1	FIJ	0.05431	1	SAM	0.04308	1
PAK	0.05458	1	NAU	0.05778	1	PAK	0.0563	1
NAU	0.05761	1	SAM	0.07948	1	NAU	0.05999	1
AFG	0.06483	1	PAK	0.07987	1	FIJ	0.08122	1
FIJ	0.06659	1	SOL	0.08462	1	AFG	0.08754	1
SOL	0.06709	1	AFG	0.10789	1	SOL	0.10753	1
MAY	0.09356	1	MAR	0.11401	1	MAY	0.10864	1
BAN	0.11758	1	MAY	0.14277	1	MAR	0.15034	1
NEP	0.11812	1	NEP	0.15415	1	PHI	0.15586	2
MAD	0.13914	1	MAD	0.1681	1	BAN	0.16477	1
MAR	0.14331	1	BAN	0.18084	1	NEP	0.16687	1
TAJ	0.15781	1	TAJ	0.18439	1	TAJ	0.19484	1
CAM	0.18639	1	CAM	0.22529	1	PAL	0.24791	1
PAL	0.25053	1	PHI	0.23061	1	CAM	0.25331	2
INA	0.26562	1	INA	0.23773	1	ARM	0.27903	1
GEO	0.27264	1	PAL	0.25245	1	AZE	0.28798	1
LAO	0.28648	1	LAO	0.29614	1	UZB	0.32097	2
AZE	0.29877	1	AZE	0.2999	1	MAD	0.32418	2
UZB	0.31232	2	GEO	0.31405	1	LAO	0.32582	1
ARM	0.31978	1	ARM	0.32471	1	GEO	0.33503	2
PHI	0.39209	2	UZB	0.33033	1	VIE	0.66113	2
VIE	0.45939	2	SRI	0.54131	2	CHI	0.69728	2
SIN	0.5265	2	INS	0.65026	2	THA	0.72198	2
THA	0.66059	2	VIE	0.67115	2	KOR	0.79384	2
CHI	0.68799	2	MON	0.75195	2	KYR	0.9028	2
INS	0.87594	2	KYR	0.77211	2	SRI	1.09007	2
MON	0.8906	2	THA	0.77718	2	MON	1.42387	2
KYR	0.92093	2	CHI	0.79771	2			
KOR	0.93055	2	SIN	0.80177	2			
SRI	1.17228	2	KOR	0.88594	2			
JAP	1.75684	2	JAP	0.90461	2			

<Table 2> SPI_d Sorted Ascending

Country	SPId08	Cluster08b	Country	SPId09	Cluster09b	Country	SPId10	Cluster10b
INA	0.03166	1	INS	0.0679	2	LAO	0.05771	1
INS	0.04073	2	LAO	0.0892	1	CAM	0.07441	2
LAO	0.04444	1	CAM	0.09018	1	SRI	0.10461	2
SRI	0.09736	2	THA	0.15332	2	THA	0.13203	2
CAM	0.09781	1	CHI	0.17366	2	MON	0.16867	2
PAK	0.10349	1	KYR	0.19589	2	CHI	0.17544	2
THA	0.1227	2	VIE	0.20481	2	KOR	0.20171	2
CHI	0.16598	2	SIN	0.21103	2	TAJ	0.20645	1
MAD	0.16622	1	TAJ	0.21208	1	VIE	0.211	2
KOR	0.18014	2	INA	0.215	1	ARM	0.22906	1
PHI	0.18242	2	SRI	0.22412	2	PAK	0.25149	1
ARM	0.20123	1	KOR	0.22546	2	AFG	0.27054	1
JAP	0.20302	2	BAN	0.23704	1	BAN	0.30808	1
SIN	0.20923	2	ARM	0.26036	1	KYR	0.36403	2
TAJ	0.21181	1	MON	0.27381	2	MAD	0.39407	2
MON	0.23769	2	PHI	0.36767	1	GEO	0.39944	2
KYR	0.23983	2	AFG	0.43099	1	SOL	0.40438	1
VIE	0.25099	2	MAD	0.43244	1	NEP	0.4094	1
UZB	0.33072	2	GEO	0.43646	1	PHI	0.46766	2
BAN	0.34199	1	NEP	0.44414	1	NAU	0.63689	1
GEO	0.38979	1	JAP	0.45959	2	VAN	0.64041	1
NEP	0.416	1	VAN	0.47919	1	AZE	0.66369	1
AZE	0.47775	1	SOL	0.53274	1	PAL	0.67311	1
PAL	0.5133	1	PAL	0.58821	1	FIJ	0.75161	1
VAN	0.57918	1	PAK	0.58978	1	UZB	0.95095	2
AFG	0.67383	1	NAU	0.59035	1	MAY	1.36795	1
NAU	0.71061	1	AZE	0.62246	1	MAR	1.376	1
FIJ	1.03453	1	SAM	0.82769	1	SAM	1.44665	1
SOL	1.20114	1	UZB	1.03901	1	PAP	3.21616	1
MAY	1.25797	1	MAY	1.08774	1			
MAR	1.43876	1	FIJ	1.10677	1			
SAM	1.55119	1	MAR	1.46344	1			
PAP	4.5292	1	PAP	2.10817	1			

<Table 3> SPI_{fm} Sorted Ascending

Country	SPImf08	Cluster08b	Country	SPImf09	Cluster09b	Country	SPImf10	Cluster10b
NEP	0.26977	1	PAK	0.22938	1	PAP	0.29932	1
PAP	0.29964	1	SOL	0.35906	1	ARM	0.31746	1
SOL	0.39195	1	PAP	0.36778	1	SOL	0.34239	1
SAM	0.45505	1	SAM	0.44848	1	NEP	0.42699	1
PAK	0.46373	1	NEP	0.45094	1	SAM	0.44843	1
VAN	0.48654	1	VAN	0.46473	1	VAN	0.50852	1
AZE	0.57359	1	AZE	0.57856	1	KYR	0.56918	2
KYR	0.58391	2	LAO	0.59637	1	AFG	0.59529	1
FIJ	0.59431	1	FIJ	0.59713	1	PAL	0.59975	1
PAL	0.59561	1	PAL	0.59856	1	BAN	0.60582	1
BAN	0.60583	1	KYR	0.62025	2	TAJ	0.60687	1
TAJ	0.61342	1	TAJ	0.62148	1	AZE	0.61455	1
MON	0.61929	2	AFG	0.62417	1	MON	0.62508	2
LAO	0.62372	1	MAR	0.651	1	LAO	0.65	1
AFG	0.63473	1	BAN	0.65777	1	FIJ	0.65089	1
MAR	0.65084	1	MON	0.69248	2	MAR	0.65108	1
INA	0.66206	1	THA	0.6956	2	THA	0.70397	2
ARM	0.6736	1	MAY	0.71887	1	PAK	0.71636	1
NAU	0.70797	1	NAU	0.72534	1	NAU	0.7173	1
THA	0.71665	2	INA	0.75455	1	MAY	0.72754	1
KOR	0.74506	2	SIN	0.77638	2	GEO	0.79229	2
GEO	0.75045	1	ARM	0.78694	1	KOR	0.83204	2
MAD	0.75227	1	GEO	0.78873	1	MAD	0.84104	2
MAY	0.76039	1	KOR	0.79719	2	CAM	0.84623	2
SIN	0.77293	2	UZB	0.81646	1	VIE	0.88896	2
CHI	0.8625	2	MAD	0.82206	1	CHI	0.90338	2
JAP	0.86631	2	CAM	0.84727	1	UZB	0.90834	2
INS	0.871	2	INS	0.85038	2	PHI	0.92423	2
CAM	0.87745	1	CHI	0.85985	2	SRI	0.98038	2
PHI	0.91486	2	JAP	0.86464	2			
VIE	0.92295	2	PHI	0.89602	1			
SRI	0.97971	2	VIE	0.91662	2			
UZB	1.69969	2	SRI	0.96279	2			

V. Data Analysis

1. Data Outline

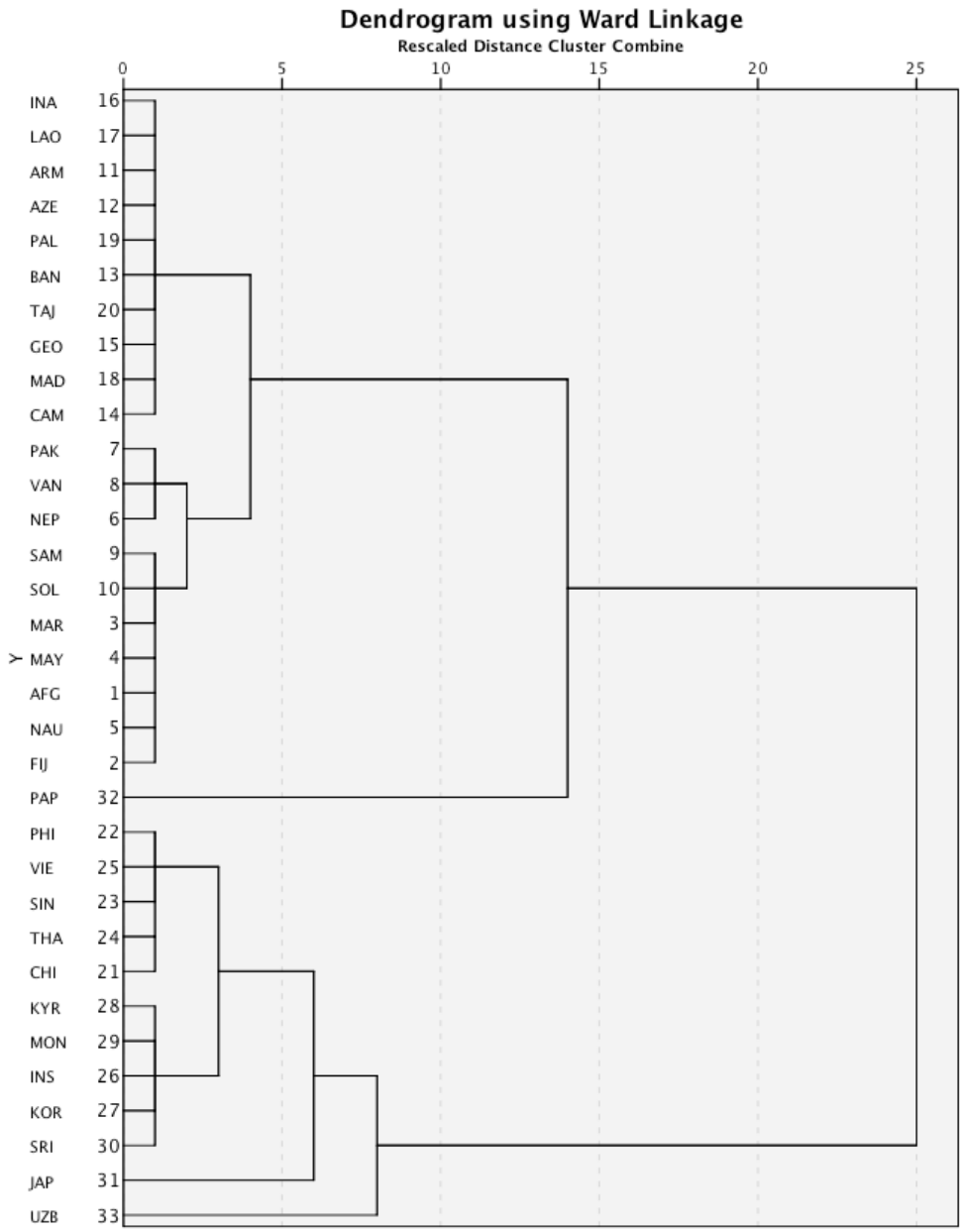
This part will look at the data through different perspectives. The first part of the data analysis is layering. Layering simply means moving from one layer to another. In this thesis the first layer is the most complex. The following layers become easier since they contain clusters with more units, which naturally become more generalized. Thus, as we go further, the more dissimilar the units within become. However, as the diversity within the groups increases, the clusters show more and more of a generalized picture. Put in other words, the higher number of layers, the bigger proximity between the two units the furthest apart. At the final step, all the countries end up in one cluster, the entire dataset.

The second part of the analysis moves on to a generalized picture of the three years, which makes layering impossible. Instead it looks at the countries over time. For this end the starting point is a two-cluster analysis to determine 'better' and 'worse' cluster, and it shows which clusters move between the two clusters. Then it moves on to a multi-cluster analysis, where the tendencies over the three years are sought by using to different approaches. Next step is to look at the countries that move, and why. Finally there are some concluding remarks about this analysis, which serves as the foundation for the discussion chapter.

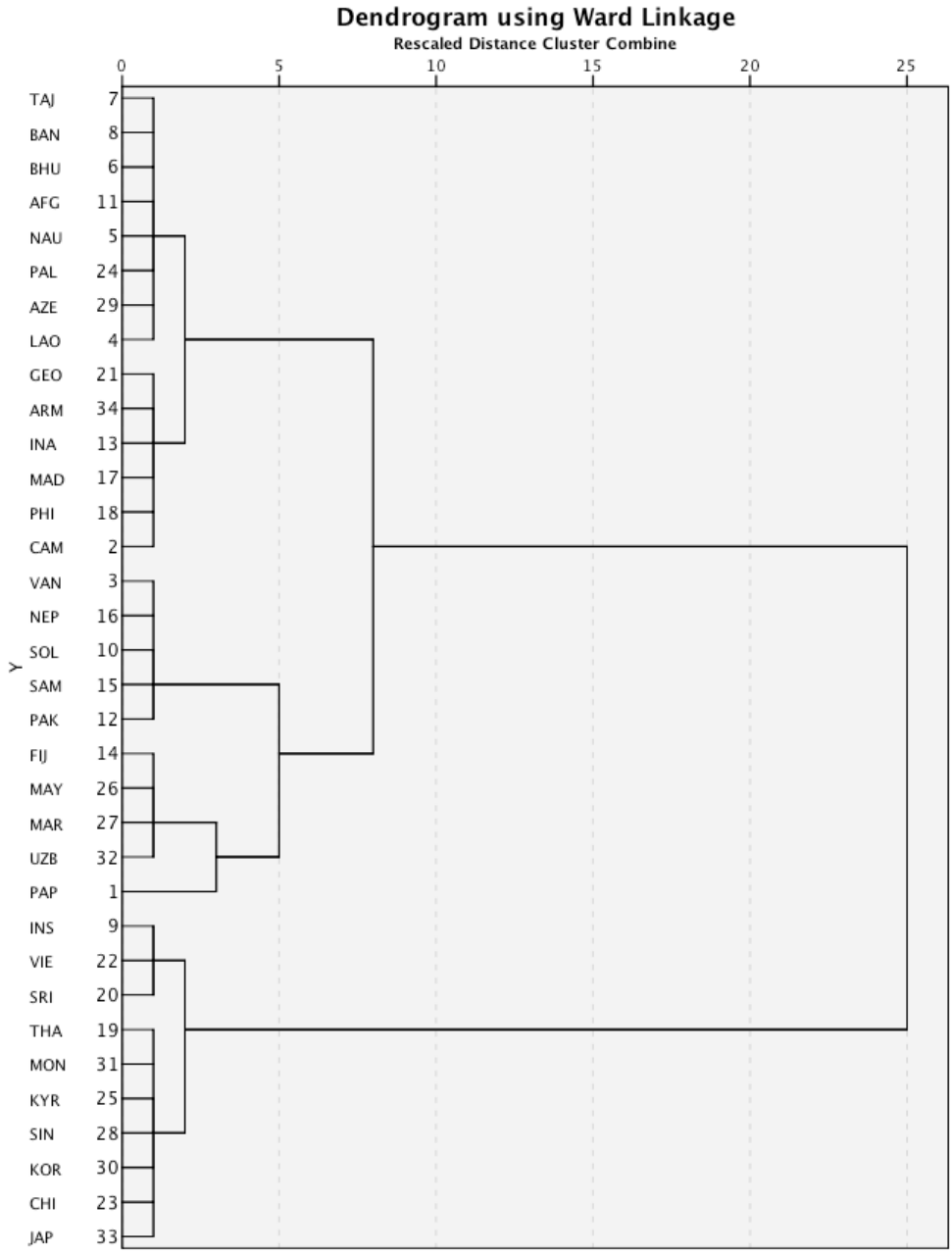
When different clusters are discussed and referred to as for example "Cluster 4, 2008", that cluster can be visualized both in the dendrogram for

2008 and in the full data, which is found in the appendix. Nevertheless, the dendrograms for the three years respectively, can be found below:

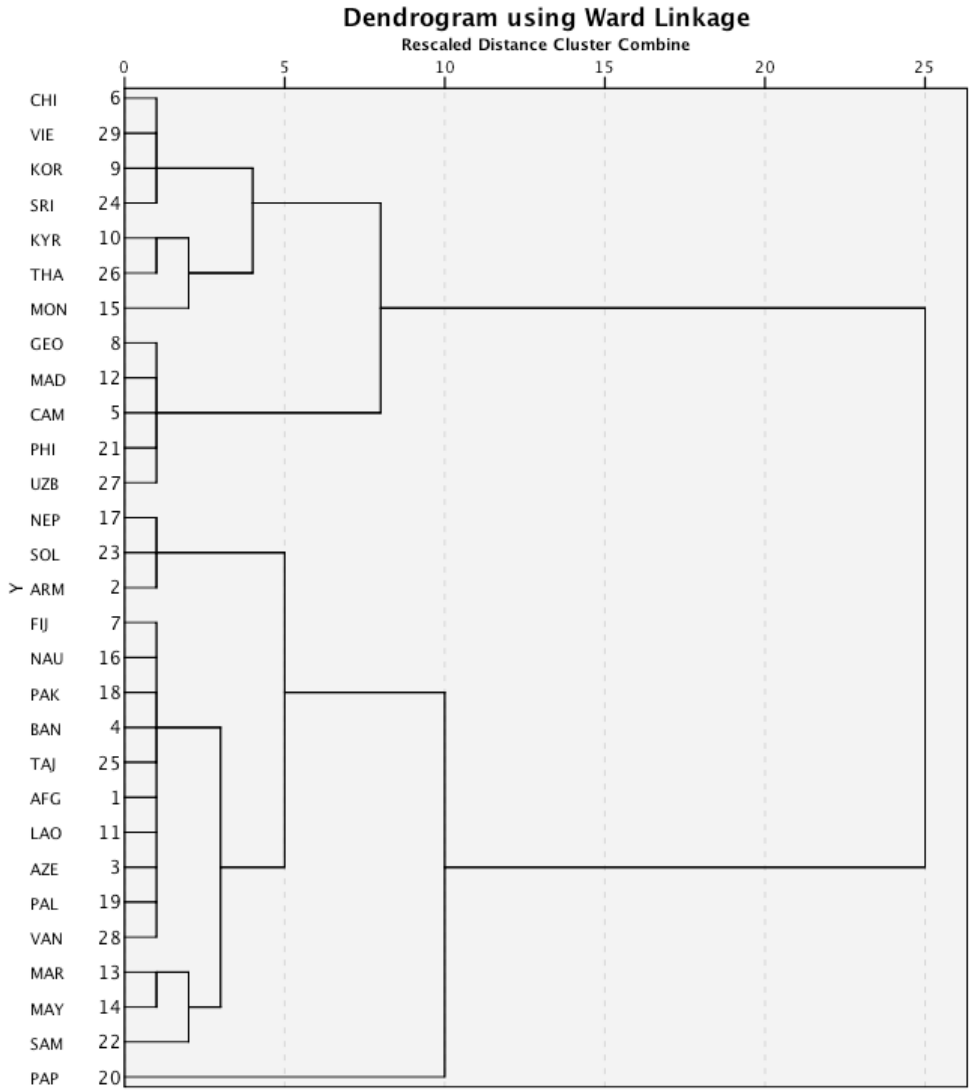
<Dendrogram 1> Dendrogram 2008



<Dendrogram 2> Dendrogram 2009



<Dendrogram 3> Dendrogram 2010



2. Layering Cluster Analysis

1) Layering Cluster Analysis 2008

In 2008, six layers can be found. The first layer has eight different clusters, where three are individual-unit clusters; Japan, Papua New Guinea, and Uzbekistan. Uzbekistan differs in 2008 from its other years, with exceptionally high SPI_{fm}. Among the multi-unit clusters, the one containing Pakistan, Vanuatu, and Nepal is identified as the Worst Performing Cluster (WPC) in 2008, with low SPI_{fm}, varied SPI_{d}, and low SPI_{b}. In the next layer, this cluster is joined by countries, which are quite similar but has higher SPI_{fm}, and is labeled 'cluster1, 2008' in the analysis. At a higher level of dissimilarity, these two clusters are joined by 'cluster 3, 2008', which is a cluster with lower SPI_{b} than the other clusters. At a very low proximity, these clusters are joined by Papua New Guinea, and together become what is referred to as the Low Performing Clusters (LPC) in 2008.

If one uses the same approach for the opposite side of the dendrogram, one could start with 'cluster 5, 2008', the Best Performing Cluster (BPC). The characteristics of the BPC are high SPI_{fm}, high SPI_{b} and medium SPI_{d}. According to the dendrogram, both Uzbekistan and Japan are outperforming that cluster, but due to them being individual-unit clusters, they are considered outliers. To further show that they are outliers, one can see that they merge with the existing clusters at a fairly high level of dissimilarity. The same could also be argued about Papua New Guinea. In the next level the BPC merges with 'cluster 4, 2008'. Together these are the two main

clusters in the Higher Performing Clusters (HPC). At a later layer, the group of clusters merges with Japan, and later Uzbekistan. It is interesting here to note that Japan does not form a cluster with South Korea. Uzbekistan on the other hand is an odd example this year, and not consistent with other years.

2) Layering Cluster Analysis 2009

The layering cluster analysis for 2009 reiterates the fact that there are more clusters among the LPC. Interestingly, there are a few numbers of countries that have moved from HPC to LPC, however, those will be discussed in a later section of this chapter. Determining HPC and LPC is fairly easy by simple analyzing the dendrograms.

In 2009 there is only one individual-unit cluster, Papua New Guinea. Although it is still considered an outlier, it merges at a relatively low dissimilarity. Using the WPC as the starting point for 2009, it can be identified as 'cluster 3, 2009'; low SPI_{fm}, low SPI_{b}, high SPI_{d}. Samoa and Solomon Island joined this cluster, differently from 2008. At the next layer, similarly to 2008, it merges with 'cluster 6, 2009', which again is similar to the previous one, except that SPI_{fm} is medium instead of low. However, at that layer the cluster had already merged with Papua New Guinea. At the next level of merging, this group merges with the combination of 'cluster 2, 2009' and 'cluster 4, 2009'. In these two groups SPI_{b} is at either low-medium or medium, and SPI_{d} is down to medium rather than high. Together these comprise the LPC for 2009.

The other main group of clusters consists of two clusters. The BPC is 'cluster 7, 2009'. In this cluster the SPI_{fm} ranges from medium to high, SPI_b is high, and SPI_d is medium. It is joined at a low level of dissimilarity with 'cluster 5, 2009', where SPI_b and SPI_d is lower than the other cluster. Together these two clusters form the HPC. A big difference from the previous year is that Philippines and Uzbekistan has disappeared from HPC and moved to LPC, and that Japan is seemingly not an outlier anymore, and is simply a part of the BPC. However, judging the proximity, and its scores, it is the still the best performing country.

3) Layering Cluster Analysis 2010

In 2010, the most changes were made from the previous years. There are several movements from LPC to HPC. Further HPC is forming more clusters in this year as compared to the former years, due to the newcomers. However, LPC still forms a large number of clusters. Again Papua New Guinea is an outlier, and at this time merges at a later stage than the previous years with the other clusters. The second individual-cluster is Samoa. It is similar to Papua New Guinea, just not as extreme. The third individual-unit cluster is Mongolia, with an extremely large coverage, together with low SPI_b, and medium SPI_{fm}.

Determining the WPC in this year is more complicated than in previous years. There are two possible candidates. The first option is 'cluster 2, 2010' with SPI_{fm}, SPI_b, and SPI_d, all low respectively. These second option is 'cluster 6, 2010', with medium SPI_{fm}, low SPI_b, and high SPI_d. To fully

determine which cluster is worse a more philosophical discussion is needed, and will follow in the discussion chapter. At this point, one could simply call both poorly performing clusters, because both clusters have low scores, but in different aspects. In terms of layering the cluster merging, the starting point of 2010 is 'cluster 6, 2010', the reason for this is due to it having merges more than the other WPC. Firstly it merges with Samoa, which is the other individual-unit cluster of this year. In the next step it merges with the big group in LPC; medium SPI_{fm}, low SPI_b and medium-high SPI_d. In the next step it merges with the first WPC, and then with Papua New Guinea. One can see that in 2010, the LPC is worse than in the previous years. The main factor causing that is the countries that moved from LPC to HPC, and thus pulling down the average score of the remaining clusters.

The BPC in this year is 'cluster 4, 2010', with high SPI_{fm}, medium-high SPI_b, and low-medium SPI_d. It firstly merges with 'cluster 5, 2010' and secondly with Mongolia, but at a higher level of dissimilarity. Finally it merges with a new group of clusters in HPC that has come from LPC the previous years.

4) Layering Conclusions

The main point of the layering analysis is to in a effective way show two distinct clusters per year, namely the BPC and the WPC, and the two different groups of clusters HPC, and WPC. The two latter will be used in the consequent section, where the scope is over the three years analyzed instead of focusing on each year individually.

The second point of this section has been to effectively explain the dendrograms. This knowledge will be used for the rest of the analysis and discussion.

The final point of the sections above was to identify the different individual-unit clusters. Individual clusters deserve some more discussions, although they often may be considered as outliers.

As shown, the number of individual-unit clusters is very limited throughout the three years analyzed. One of the reasons for that is due to the chosen number of clusters. Naturally, if the number of clusters would be 34 in this analysis, then 34 individual-units would be found. However, the goal is to group units together, and by using the dendrograms the number of clusters have been determined depending on the proximity of cluster centroids, and is displayed above. By analyzing the dendrograms, one can observe at what level units and clusters merge. Thus by analyzing at the dendrograms respectively, in 2008 and there are three clear cases of individual-unit clusters, in 2009 and 2010 only one remain. However, it also shows that clusters do exist, that there are cases without great dissimilarity.

In other words, over three years, the individual-unit clusters were Japan, Mongolia, Papua New Guinea, and Uzbekistan respectively. In 2009 Japan and Uzbekistan merged with other groups, and only Papua New Guinea remained as a single-unit cluster. In 2010, Mongolia forms it own cluster. Papua New Guinea stands out in the analysis as the worst performer in and Japan as the most superior performer. By using the proximity matrix for 2009, it is possible to single out Japan as the furthest in its cluster, with its closest member being South Korea followed by Singapore and China.

However, those countries remain fairly close to the other members of the cluster, which Japan is comparatively dissimilar to.

The case of Japan is indeed an interesting case on itself. Interestingly it reaches many more beneficiaries than intended in 2008, but goes back to near 100% in 2009. Among the countries Analyzed, it has the highest SPI, and the gender ratio is among the highest. Japan is often believed to be one of the most advanced countries on the continent. Further, the welfare structure in Japan differs from many other countries in the sense that the government borrows money from its own citizens to support its welfare provisions by ensuring the survival of small- and middle-sized companies, which are required to provide welfare for it's employees. Further, Japan does not entirely fit to cluster together with South Korea, although in some of the years the dissimilarity is not great. Thus, as some have expected, Japan singles out as the best performer.

Mongolia is its own cluster in 2010. In the two previous years, Mongolia was in the BPC. The reason for the separation in 2010 is due to SPI_b being exceptionally high, and thus differs from the other countries. In 2008 and 2009, Mongolia's score is similar, but in the last year there are drastic changes, where SPI_b is nearly doubled, and SPI_d sees a big drop. By adding more years of data, one could conclude whether or not this phenomena remains or not. However, it is not yet possible.

Papua New Guinea on the other hand serves a very different example. In all three years analyzed it has the lowest SPI. As it is a clear outlier in the analysis, and it will not be discussed as thoroughly as other countries, it is simply too different. It should merely be stated that it performs utterly

poor in social protection. The goal of this thesis is to understand the differences and similarities, and the case of social protection and development in Papua New Guinea is a case on its own. Nevertheless, what can be said about Papua New Guinea is that the gender-spending ratio remains low, the breadth is almost non-existent, but the low number of beneficiaries gains very large benefits. This can be seen as the opposite of Japan, which has a broad SPI, but not very deep, with a high gender ratio.

Uzbekistan also stands out in 2008 as a single-unit cluster. This is mainly based on its exceptionally high gender ratio, where the total social protection expenditure on women was much higher compared to the expenditure on men. Although it remains among the higher in 2009 and 2010, the ratio went down to a more common level. Nevertheless, breadth remains low.

Regardless, it is clear that not many countries form their own clusters. What that implies is that most countries share similarities with at least one other country, which is positive from a clustering perspective. From now on, the focus will be moved to the clusters identified. The main finding from this section is that countries do group together to some extent, even with a fairly large number of clusters, which in turn means that it is possible to do cluster analysis. This is further strengthened by the fact that most clusters are formed rather early in the dendrograms, rather than being formed more to the 'right' which implies that they are linked with a high dissimilarity.

3. Generalized Two-cluster Analysis

The first way of making sense of the clusters is by crudely making a two-cluster analysis, to get a first indication of where they would end up. This is, of course, highly unspecific, but gives a general idea of where they all end up. However, the attentive can easily spot the similarity of the table below and the final layers for the three years analyzed above, since it is another way of showing HPC and LPC. It is important at this point to notice that it is the same dendrograms that are analyzed for both the two-cluster analysis and the multi-cluster analysis, as well as for the layering analysis. <Table 4> depicts the two-cluster analysis. Further, using this as a starting point, much can be learned for the multi-cluster analysis. As will be shown, this line between the two main clusters serves as a foundational demarcation line for discussion.

<Table 4> Generalized Two-cluster Analysis

	Cluster08	Cluster09	Cluster10	SPI08	SPI09	SPI10
AFG	1	1	1	.04368	.04650	.02368
ARM	1	1	1	.06435	.85450	.06391
AZE	1	1	1	.14274	.18668	.19113
BAN	1	1	1	.04021	.04278	.05076
FIJ	1	1	1	.06889	.06011	.06105
INA	1	1	.	.00841	.05111	
LAO	1	1	1	.01273	.02641	.01880
MAR	1	1	1	.20619	.16685	.20687
MAY	1	1	1	.11769	.15529	.14862
NAU	1	1	1	.04094	.03411	.03821
NEP	1	1	1	.04914	.06846	.06832
PAK	1	1	1	.00565	.04711	.01416
PAL	1	1	1	.12860	.14850	.16687
PAP	1	1	1	.00359	.00450	.00381
SAM	1	1	1	.05810	.06579	.06292
SOL	1	1	1	.08058	.04508	.04348
TAJ	1	1	1	.03343	.03911	.04022
VAN	1	1	1	.02374	.02470	.02744
CHI	2	2	2	.11419	.13853	.12233
INS	2	2	.	.03568	.04415	
JAP	2	2	.	.35667	.41575	
KOR	2	2	2	.16763	.19975	.16013
KYR	2	2	2	.22087	.15125	.32865
MON	2	2	2	.21169	.20589	.24017
SIN	2	2	.	.11016	.16920	
SRI	2	2	2	.11413	.12132	.11403
THA	2	2	2	.08106	.11916	.09532
VIE	2	2	2	.11530	.13746	.13950
PHI	2	1	2	.07153	.08479	.07289
UZB	2	1	2	.10329	.34322	.30523
CAM	1	1	2	.01823	.02032	.01885
GEO	1	1	2	.10627	.13707	.13383
MAD	1	1	2	.02313	.07270	.12775

The first observation, and one of the main findings of this section, is that only five countries change from one cluster to another. The Philippines and Uzbekistan changes from cluster 2 to cluster 1 in 2009, to change back in 2010. The remaining countries: Cambodia, Georgia, and Maldives, change from cluster 1 to cluster 2 in 2010. This is another way of replicating the results of the layering analysis, with focus on only the 'changers'. Further, the changers finally all move to the second cluster, in which the SPI tend to be higher. However, it is not true that SPI is higher for all cases. An example of that is Indonesia, which has a low SPI but still remain in the second cluster. Thus, there are also other forces pulling to make these clusters. However, although countries move from LPC to HPC, one cannot conclude that they substantially change, since in 2010, all the changers make their own cluster inside HPC. That cluster is the worst among the HPC. What it shows is that the centroid of that cluster is more similar to HPC than the combined centroid of LPC.

Nevertheless, the demarcation line is a significant finding on itself, as it distinguishes 'better' clusters from 'worse'. Thus the reason for why countries change from cluster to cluster is of importance, and is discussed below.

The Philippines is the other country that changes cluster twice. The change in 2009 is not surprising, because it makes a clear drop in SPI_b, while SPI_d increases, which makes it more similar to the LPC countries. However, in 2010, the worsening continues further, but still it moves back to the original cluster, although clearly being worse than in 2008. It may seem strange for the Philippines to worsen but still move into the HPC, but

the reason behind this is simple. By looking at the data (found in the appendix), one can notice that in 2008, the Philippines do not share cluster belongingness with the other changers. However, in 2009 when the Philippines worsen, it actually clusters together with Cambodia, Georgia, and the Maldives. Thus, it make sense for the Philippines to be in that cluster. However, this scenario also highlights one of the problems with cluster analysis. As noted, as units cluster together, a cluster average is calculated to find new cluster partners, and it seems like although the Philippines are worsening, it still remain the most similar to the countries who changes from cluster one to cluster two rather than the rest of the countries in the LPC. The Philippines can thus be seen as a 'free rider' in terms of two-cluster analysis belongingness. However, the Philippines' score was not enough to lower the cluster centroid enough to merge with the LPC. The other part of the explanation for the changers is SPI_{fm} remain higher than in the other LPC countries, and thus it can clusters with the other countries where the gender ratio also is high.

Uzbekistan was considered as an outlier above. That was a simplification of the actual results. In 2008 Uzbekistan is a clear outlier, but both in 2009 and 2010 it clusters with other countries. However, in its cluster in 2009 it almost functions as an outlier, due its substantially higher SPI_d. In 2010, it is still exceptional within the cluster, together with the abovementioned country due to its high SPI_d. However, one of the key characteristics shared of this cluster, unprecedented in LPC is high SPI_{fm}.

The remaining countries that move from cluster 1 to cluster 2 in 2010 are the following: Cambodia, Georgia, and Maldives. SPI_{fm} remain

fairly similar in the former, but the two latter makes an increase throughout the years analyzed. Further the two latter also increase SPI_d in 2009, to again decrease in 2010. Nevertheless, they all share a distinct increase in SPI_b. However, SPI_b does not explain the change of cluster, since there are still many countries in the LPC with higher coverage. On the other hand, if one looks at SPI_{fm}, the five cases places themselves clearly in the HPC cluster. Nevertheless, all in all, they become more similar to the other countries in HPC, although not close enough to merge at an early stage. I.e. the dissimilarity has decreased but the proximity is not small enough to merge early. These cases will be further discussed in the discussion part of this thesis, as what makes a country move from LPC and HPC is important. However, since they merge with the HPC in a quite late stage, the importance should not be overstated, but noted that the best explaining factor to this is the gender-spending indicator.

The second finding of this section is the observation that there are two quite distinct clusters. The first one, 'cluster 2', can be labeled the East Asia Extension Cluster (EAEC), and 'cluster 1' as the non-East Asia extension cluster (nEAEC), as it naturally contains the rest. Nevertheless that's a definition based on country labels. One could also label the EAEC as the 'High-Performing Cluster' (HPC) and the nEAEC as the 'Low-Performing Cluster' (LPC). The implication is one of terminology. The EAEC is a country-based label, where as HPC is a characteristics-based label. Below in the analysis, both country-based and characteristics-based clusters will be discussed. As can be observed in the dendrograms, the nEAEC forms more clusters than the EAEC, due to diversification. For

instance, it contains Papua New Guinea, which forms a cluster on its own each year. These clusters all differ in many ways and will be further explained below.

However, when this crude clustering is made, one could believe that the SPI score is the decisive factor. However, by looking at <Table 4> it is easy to see that it is not true. Although it might contribute, the indicators play a bigger role even at this simplification of the data, which was to only divide into two clusters. Indonesia and Azerbaijan are two examples of this. If the clusters were only based on SPI they would be in the opposite clusters. Further on that point, it is clear that the Philippines, Uzbekistan, Cambodia, and Georgia do not increase their respective SPI when they move from cluster one to cluster two in 2010.

4. Generalized Cluster Tendencies

Throughout the three years analyzed, no multi-unit cluster remains perfectly intact, and some countries move from cluster to cluster, as have been shown and discussed. However, there are still tendencies among the clusters. This part will observe and analyze those tendencies. As noted, Papua New Guinea remains a single-unit cluster throughout the three years, and will be excluded from this section.

This part consists of two sections, as described in the methodology section, firstly a country-based analysis, followed by a characteristics-based analysis. Thus, analyzing the clusters from these two perspectives, one can move on to the more general discussion that follows using the results from

the two sections.

1) Country-based Clustering

This part generalizes the clusters of the three years analyzed, using the countries themselves as the starting point. Using the two-cluster analysis, all countries were clustered into two clusters. However, by looking at the dendrograms, one can easily identify several other clusters, as shown in the first layer of each year respectively. In this section the dendrograms have been used as the main cluster identifier.

The first identified cluster is an East Asian cluster, containing China, Singapore, South Korea, and possibly Japan. It is true that in 2008, Japan has more dissimilarity to countries in cluster 5, but seen over the two years observed, one can still see that they remain within a quite near proximity. Unfortunately, there is no data for Japan in 2010, but there are no indications that Japan would dramatically change if data had been available Japan can also be considered as a cluster on its own. The stability of Japan could also be argued for Singapore, which also is absent in 2010, since both have reached a high level of maturity in their social policy. South Korea shares its cluster with China in 2009 and 2010, but the proximity of China and South Korea remain small in 2008, although Korea remain closer to its own cluster, ‘cluster 5, 2008’, where as China is located in “cluster 4, 2008”. It is noteworthy to point out that Singapore and China are fairly similar in 2008 and 2009. Thus, it seem to hold true that Singapore is different from Japan and South Korea. Thus, in terms of proximity, Japan

and Singapore are quite dissimilar. Nevertheless, Sri Lanka, Thailand and Vietnam can also be included in this cluster, if one is to cluster over three years. However, this notion is not as strong, but by using the proximity matrices, one can observe that they are close, but still quite dissimilar. Although they are not East Asian countries, Sri Lanka and Thailand have relatively developed social policies, therefore one could imagine that it is why they differ from their close neighbors. However, it is a difficult task to determine whether or not they can be considered as the same cluster over the three years. Based on the literature, the case of Thailand is not a surprise, since it has been considered to lean towards the East Asian cases.

Two countries that remain near, but too far outside of that cluster are Mongolia and Kyrgyzstan. These two have relatively high social protection, and are both Central Asian countries, which have been under Soviet Control. However, they remain different from other former Soviet countries such as Uzbekistan, which seems to be undergoing transformation due to constant change of cluster. Possibly, one can consider Mongolia and Kyrgyzstan regional success cases in terms of social policy, and may not share the problems that we have seen in the countries. Nevertheless, they can be divided into two groups, which have a high degree of dissimilarity.

Nevertheless, regarding the LPC, Nepal was found to remain in the WPC each year. In two of the years it clustered together with Pakistan, Vanuatu, and Solomon Islands, respectively. However, one cannot label this cluster a South Asian and Pacific cluster, since countries from these regions appear in other clusters. It is true, however, that there is only one Central Asian country in this cluster, namely Armenia in 2010. The rest of the

Central Asian countries spread as middle countries, both in HPC and LPC. Further, Kyrgyzstan and Mongolia appear in the BPC, but as discussed above, they are among the worst of that cluster, if they are to be included.

Thus, if one is to make a generalized cluster ranking, based on regions, the following with be somewhat true from low performing to high performing: South Asia – the Pacific – Central & Southeast Asia – East Asia. However, this way of ranking is very crude, and every region has several exceptions. Nevertheless, that is the loosely found tendency. The regional classification to social protection is thus partially true.

It is delicate progress to simply look at country labels while clustering. To strengthen the results, it is possible to consider the clusters based on the characteristics, and is what follows below.

2) Characteristics-based Clustering

Instead of having the country as the starting point, one can start from the characteristics of the clusters. Based on placement of clusters, BPC/HPC and WPC/LPC were discovered for all three years respectively. These are not country-based labels, but connected to characteristics. The BPC is a high-breadth, medium-depth, and high-female-ratio cluster. To again reiterate, in 2008 Japan would be the only country in this cluster, but in since it is an individual-unit cluster, it is excluded here (together with Uzbekistan, which is excluded but would still not be the best country, but on different gorunds). Thus, the countries in BPC in 2008 are: Kyrgyzstan, Mongolia, Indonesia, South Korea and Sri Lanka (and Japan). In 2009: Thailand,

Mongolia, Kyrgyzstan, Singapore, South Korea, China, and Japan. Finally, in 2010 the countries are as follows: China, Vietnam, South Korea and Sri Lanka. None of the countries in one of these three clusters changed cluster in the two-cluster analysis, and remain high performing countries throughout the three years. In this scenario, there is no pure East Asian cluster, but South Korea stands out as the only country that stays in the HPC throughout the three years analyzed. One could believe that the same could have been said for Japan if the data would allow it. Moreover, China and Thailand join this group for 2009 and 2010, where as Sri Lanka makes a comeback in 2010 after have being left out in 2009. Although not exclusively, the HPC could still be seen as somewhat East Asia centered.

It is possible to identify a 'middle cluster' inside HPC, consisting of Mongolia and Kyrgyzstan. The 'middle cluster' is simply not the best cluster but also not the worst. However, this cluster must also be arbitrarily made, and does not occur naturally using Ward's method. However, based on consistency, this cluster can be determined. This cluster has a fairly balanced depth and breadth, but slightly lower SPI_{fm}. However in 2008 and 2009 they belong to BPC, but are not among the best scorers. In 2010 they form a cluster together with Thailand as the true 'middle cluster'.

Using a similar approach for LPC, there are some distinct clusters to be found. Generally these clusters share low breadth, medium-high depth, and low-medium gender ratio. There is only one cluster that during the three years that has a high gender ratio. Further, four among the five who moved from LPC to HPC, can be found in that cluster, and were analyzed above. However, determining a ranking of the WPC is a much more delicate

process than finding the BPC. This is because one has to value the different indicators in order to develop that argument. Some might argue that the gender ratio is important, where as others might argue that breadth is the main determinant. Nevertheless, it remains clear that a low breadth and a low gender ratio score is an underdeveloped social protection scheme, regardless of its depth.

By excluding Papua New Guinea, the worst cluster in 2008 would the one consisting of Pakistan, Vanuatu and Nepal, which scores bad on SPI_b, SPI_d, and SPI_{fm}. However, it is left for the discussion to analyze if it is for instance better with a higher SPI_d. The reason for why I argue that the abovementioned cluster is the worst performing is that in addition to the breadth and depth, the gender ratio is lower, where as it is medium for the other LPC clusters.

In 2009, the WPC cluster remains, but joined by Solomon Islands and Samoa. These two countries both lowered their depth, and increased the breadth at the same time as SPI_{fm} went down. Nevertheless, the two former indicators remain very high and low respectively. In 2010, the WPC contains Nepal, Solomon Islands, and Armenia. As noted, there is 'another' WPC in that year with a bad score, and more discussion on that can be found in a subsequent chapter.

The remaining clusters in 2008 and 2009 are similar in having low breadth, medium SPI_{fm}, but either high depth or low-medium-high depth. In 2010 the difference is that the cluster with lower depth than the other also have a few countries.

More specifically, there is one cluster among the LPCs that exists all

three years, with the following properties: Low SPI_b, high SPI_d, and medium SPI_{fm}. In 2008 it consists of seven countries, but only four and three in 2009 and 2010 respectively. Malaysia and Marshall Islands are the only members that remain in this cluster throughout the years. In 2008 the remaining low performing cluster is one that is similar to the one above, except with lower depth. In 2009 the cluster changed, because SPI_b and SPI_d slightly increased. Together with that, a few from the cluster mentioned above merged with that cluster, and the 'proximity changers' (discussed below) left. Nevertheless, in 2010, this cluster merged most of the countries in the LPC together. At that time the characteristics of the cluster had changed to low-super low SPI_b, medium-high SPI_d, with medium SPI_{fm}.

The meaning of these clusters will be further elaborated on in the discussion part. In this section the focus is more to describe the analysis rather to discuss it.

5. Analysis Concluding Remarks

This section summarizes the conclusions drawn from the analysis of the data. The analysis started with the layering analysis, and was followed by the two-cluster analysis. This identified two main clusters, the High-Performing Cluster (HPC) and the Low-Performing Cluster (LPC). In the following part it used a multi-cluster analysis for all three years by applying the Proximity Matrix analysis to Ward's method, both using a country-based approach and a characteristics-based approach.

The first main finding was the discovery and exploration of the HPC

and the LPC. These two clusters are vastly different, and can almost be seen as opposites. In the HPC most intended beneficiaries are reached, as compared to not many for the LPC. Further, in the HPC the beneficiaries receive rather smaller benefits as compared to high benefits in the LPC. There are also countries that provide small benefits among the LPC, but generally it is higher. Finally, in the HPC the social protection as divided by gender is significantly higher than in the LPC except for 2009, due to the transitional countries that moved from LPC to HPC. The second main finding is that all countries that moved from LPC to HPC had significantly higher SPI_{fm} than the other countries in LPC before moving to HPC.

The identification of BPC and WPC are important findings as well. Naturally they are similar to HPC and LPC except that the differences are significantly increased. Further, they are easy to identify, if one looks at the characteristics, rather than countries. During the layering analysis, the BPC and WPC were identified for all three years respectively.

Another important finding is related to SPI_{fm}, which accounts for the main determinant for the changers. This is interesting, and perhaps a way forward for developing countries in developing their social policy. Surely, it may be more apparent in this thesis than in real life, since this is a mere simplification, but including female participation is crucial. Nevertheless, of course there are more forces in play, but for future studies, a clear gender study on social protection should be conducted to understand the impact properly.

An important point comes from understanding the countries that went from LPC to HPC, due to potential policy lessons to be drawn. A longer

discussion on those countries, and on moving 'up' the ladder of social protection will be covered in the discussion session. Nevertheless, understanding how to achieve development in terms of social protection into a more mature state is not an easy task, which can be observed by simply looking at the world as it is today. The contributions of this thesis are some considerations of improvement based on the three indicators used for the analysis. There are more factors influencing the development, but these three are core features for decision makers to consider in order to achieve sustainable development.

The countries that change from LPC to HPC could be classified as a middle cluster, which are in between the two bigger clusters. None of these countries appear in BPC or WPC throughout the time period analyzed.

The third finding is how the different clusters are composed. However, what is left for the discussion is the discussion of 'good' and 'bad'. In order to do that, one must go forward from this analysis that is aiming to be as objective as possible, to a more philosophical based discussion on the findings. The conclusion of this analysis is more of a summary of the raw findings of the data. In the next chapter, a more philosophical discussion is presented, which starts from this chapter but goes beyond, to understand the meanings of the results presented in this chapter. It is true that the concept of 'better' and 'worse' has been used in this chapter, but real value will be added in the subsequent chapter.

On a country basis, there are several findings as well. The first finding is that Japan does not cluster with Korea. Japan seems is superior. Secondly, Thailand's social protection enables them to cluster with other

countries with advanced social protection, which confirms the findings of previous literature.

VI. Discussion

In the analysis part, different clusters were identified and discussed. However, what that chapter was missing was anchorage to the greater world. The clusters were discussed and compared to each other, exempting the discussion about what it actually means in terms of outcome. This part addresses that intentionally left gap. Thus, it goes deeper, discovering the reasons behind the meaning of the clusters. Although it is important to understand how the clusters stand amongst each other, the knowledge needs to be transformed into something greater. As this thesis started with a general approach to social protection, this part goes back to that, using the analysis as the foundational platform.

The analysis showed that social protection looks very different in many countries around Asia. However, being in one of the LPC does not have to constitute as a failure of governing. Countries have different starting points and have thus different maturity of their social policies. Therefore, one cannot say that Japan's government is doing better than the government of Bangladesh without looking deeper. What matters is how countries perform over time rather where they can be found if pinpointed at some point in history. That is the reason why the countries in this thesis are analyzed over three years rather than simply once. Nevertheless, it turns out that three years may not be enough. However, as was shown in the analysis, changes do sometimes occur, but limited in scope, but there are certain tendencies. As more data becomes available, the time span should be expanded, but based on current conditions, the time span has been

maximized. Moreover, although one cannot say what government is doing better, it is possible to say which cluster has better social protection.

Nevertheless, this discussion has several distinct features. It starts with discussing the indicators, which leads on to a more general discussion of social protection. One of the topics that it leads into is regarding justice, and the other being development. Further, the outcome of the social policies is an important aspect that has thus far been neglected. Nevertheless, outcome is a complicated matter, and it could be measured in several ways. However, and attempt to explain social outcome is presented below. The explanation includes both human well-being indices such as the Human Development Index and considerations about fairness.

1. Social Protection and Gender Equality

During the analysis, the 'best' and 'worst' clusters were identified. I will here discuss what these terms mean. In the analysis, best and worst was arbitrarily decided without much priori consideration of what it actually means. Nevertheless, the starting point of discussion will come from the gender perspective. The importance of gender equality has been long known. For instance, it was the third goal out of eight among the millennium development goals (UN 2015). Although gender equality is important in achieving many of the other goals, it was decided to be an end itself, which shows the importance as judged by the international community. Further, the goal is also about female empowerment, "the ability to make choices" (Kabeer 2005: 13). It is true that the social protection ratio for

gender is not the same as gender equality. It is merely a way of measuring it within this concept. Needless to say, SPI_{fm} gives an estimate about the gender ratio within the SPI. However, it does not display women's ability to make choices, the empowerment of women, but if women are not getting much social protection, their right to make their own choices is clearly infringed. The problem of SPI_{fm} can be visualized easily. For instance, South Korea sores high on SPI_{fm}, but gender inequality is actually comparatively low (Hausmann *et al.* 2010). Nevertheless, the indicator remains an important factor in social policy, because of what it describes.

To develop the SPI gender indicator further, it can be compared to SPI_b. For instance, two countries that have a similar breadth could have significantly different SPI_{fm}. This is the case of Kyrgyzstan and South Korea in 2008. They both have an SPI_b over 0.9, but Kyrgyzstan's SPI_{fm} is 0.58 compared to South Korea's 0.72. If these are compared, one could hypothesize that the rate of female beneficiaries would be lower than the rate of men in Kyrgyzstan compared to South Korea. Nevertheless, this is not concluded by the analysis, and should be instead researched for future studies. However, the combination of these indicators can indeed raise such suspicions. If one is to rank these countries based on the information given above, then naturally South Korea should be considered superior. If the breadth had been low from the start, these suspicions would not be raised to the same extent. However, the more developed the country is, the more one would expect women to be included in the society, and their share of social protection should thus be higher.

The importance of the gender indicator could also be understood by

simply theorizing about the SPI itself, excluding the SPI_b from the discussion. In 2009 Maldives and Nepal has a very similar SPI, which only differs by 0.004. Thus, in terms of SPI, they could be considered equal. However, when looking at the gender ration we can see that Maldives' SPI_{fm}=0.82 where Nepal's SPI_{fm}=0.45. Clearly Maldives social protection is more justly distributed, as there is less gender bias. Thus, in this thesis, contrary to if one would simply look at the SPI or SPI_b and SPI_d, these two countries do not belong together. In fact, they cluster together several layers later in the merging process.

A last consideration about adding the gender indicator, and what implications that has to the clusters. I tested clustering both with and without SPI_{fm}, and while it may be true that the gender indicator does not have a great impact on the HPC and LPC, it works as a diversifier. For instance, in 2008 it changes the WPC from nine countries to only three. The reason is naturally that the spending on women in that cluster is substantially lower in the WPC in 2008. The same phenomena can be observed each year. Further, the five countries that changed from LPC to HPC only did so when adding the gender indicator. Thus, the gender indicator plays an important role for further understanding the clusters. Although not the main determinant, the impact it has to the cluster analysis remain important.

2. Social Protection and Coverage

The number of beneficiaries out of total reference population is clearly an important aspect of social protection, and in any social policy discourse. If coverage is low, then the social protection is near to absent. There is not much discussion needed on that. However, the interesting part is *how* it matters rather than if it is important. This can be related to many arguments depending on what school of thought one comes from. The importance of high coverage in my opinion comes from the Quality of Government theory. It is a theory that looks at what the state ought to do, and how to judge the performance. It looks at policy outcome rather than policy forming. What the state then ought to do is to justly distribute its resources (Rothstein 2011) i.e. distribute its resources impartially. Although the focus on social protection in this thesis differs from Quality of Government, it shares some similarities. One being that it does not look at policy formation. In this analysis, all types of regimes are analyzed; from democratic Japan to communist China, and to the authoritarian rule in Uzbekistan. Secondly, although breadth is not the same as justly distributing resources, they touch upon each other. For instance, there can be no just delivery of social protection if only a small portion of the intended population enjoy benefits. However, it is important to note that although coverage is high, it does not necessarily mean that the quality of government is high, because resources could still be distributed unjustly. Neither SPI_b nor SPI_d can explain the fairness of distribution. However, the bigger the coverage the more likely it is to be impartially distributed.

Further, SPI_{fm} is clearly more in the direction of justice.

Another point to note is that having high breadth does not equal universal social protection. For instance, universal health care is not to be included into SPI at all (Asian Development Bank 2011). Thus, the SPI says less about what type of welfare regime it is, and instead simply shows how many percent out of the intended beneficiaries that receive benefits. In poorer countries, social protection is more likely to be targeted to smaller groups. That becomes an issue when one wants to determine which is a better social policy scheme. To visualize the problem one can first consider the problem of free lunches for school children. Let us imagine a scenario, which we call 'situation A', in which the scheme was universal, and they reach 80% of the target reference population. Let us then imagine a second scenario, 'scenario B', in which the target population is the very poorest, and they reach a success rate of 95%. Which scenario is better? In scenario B, there could be many students going hungry that would be covered by scenario A. Thus without additional information we are unable to determine which one is better. Nevertheless, in the SPI, 'scenario B' will always be better than 'scenario A'. However, if both scenarios would have a success rate of 100%, then it would be up to each and every individual to determine which solution is the best. Whether or not universal policies would stand better in SPI is debatable, but it seems logical to think that if the scope is universal, it is harder to reach 100%. However, that does not mean that universal policies are worse. What instead can be said about universal policies is that if the country has the capacity of carrying out universal policies impartially, it could actually be administered more easily

than targeted policies, due not having to test possible beneficiaries to see if they qualify for a particular program, and thus the cost could actually go down (Rothstein 2011). However, the argument goes the other way as well. If the target population is very small, then surely it is likely to be cheaper. Further, adopting universalistic policies without trust it is very hard. One of the main problems are free-riders. If trust is low, people may think that there are many abusing the situation, and how can governments raise money to prove that it is effective if none believes in it? It has also been shown that social trust pre-dates universal policies, and cannot survive without it (Bjørnskov & Tinggaard Svendsen 2012). The question here is whether one believes that social trust must pre-date extensive social policies or whether sound social policies can increase social trust. However, there are surely ways of increasing social trust in society, and it seems simplistic to argue that it must pre-date universal social policies. Dostal *et al*. (2014) for instance propose several steps for the South Korean government to move from a low-trust society into a high-trust society following the aftermath of a ferry-disaster, learning from the experiences of Sweden. Whether or not social trust often pre-dates the creation of the welfare state traditionally is perhaps asking the wrong question. Regardless, as new types of welfare states are in the making, especially in Asia, new ways of building trust can be invented. Rothstein and Uslaner (2005) argued that trust is caused by two factors, income equality and equality of opportunities. Also, they argue about the difficulty of introducing universal welfare policies in low-trust societies. They further argue, "trust, inequality, and corruption are sticky, none of them changes much over time" (Rothstein & Uslaner 2005: 65).

Although universal policies may be impossible at some stages of development, increasing social protection is not. Further, there have been attempts in trying to install universal policies, such in the case of Mexico, shortly elaborated on below. However, by building trust, there is a way forward.

However, as noted, in SPI, universal healthcare have been excluded. This can in fact be doing injustice to the social policy discourse, and social protection alike. For instance, in Mexico a universal health care reform was initiated, and has since been serving as a successful case in showing that it is possible to do, even without being a developed country (Knaul, *et al.* 2012). Thus, the Asian Development Bank should consider enlarging the scope of its social protection index.

The discourse of social policy has often been that is simply to protect the poor from vulnerability, and this is in many cases how the SPI is constituted. However, although it is not a perfect example, it may be the best one on the table, but there are several extensions to be made to improve it further, and should be the task of researchers in the future.

Lastly, it is important to highlight the ability of SPI_b to validate the other indicators, especially SPI_d. Simply speaking, the higher the coverage, the more intended beneficiaries receive some sort of protection, and that is the starting point for having efficient institutions, and can be developed further, to also be able to redistribute resources impartially. As will be discussed below is the importance of SPI_b when it comes to interpreting SPI_d.

3. Social Protection and Depth

Among the countries in the analysis there truly is a big spread among how much is spent per beneficiaries; i.e. the total spending divided by total number of expenditure, normalized by the relative poverty line (Asian Development Bank 2011). It ranges from as low as 0.03 (India in 2008) to 4.5 (Papua New Guinea in 2008). It should be noted at this point that the numbers itself is not as important without relating it to $SPI_{b,}$ even though the number itself still says something about the countries. It was hinted in the analysis part that there might be a connection between corruption and depth. However based on Freedom House (2015), this connection does not exist. There are some countries with high depth, such as Malaysia and Samoa, with relatively low corruption. At the other end of the spectrum there are countries like Laos and Cambodia who has very low depth and high corruption. However, the countries with low corruption can mainly be found scattered among the middle together with some high corruption countries.

As the clusters show, SPI_b and SPI_d, varies greatly. Let us consider a thought experiment of justice, with two clusters with fairly low breadth. One cluster has a high depth, the cluster of Malaysia, Marshal Islands, and Samoa, in 2010. For the meantime lets label the cluster lBhD (low breadth, high depth). The other cluster has low depth, the cluster of Nepal, Solomon Islands, and Armenia, and label it lBlD (low breadth, low depth). In terms of SPI, lBhD would score much better, since if these two scores are multiplied; the result is the SPI. However, does this necessarily mean that

lBhD has a better social protection than lBlD? How does this relate to the society? SPI is supposed to show how states protect the most vulnerable in society, but it is a very static score that does not consider future development. Coming from a more philosophical point of view, in my perspective the lBlD may in a way be more just in terms of its social protection. Surely, none of these countries can be consider just, but if choose between Scylla and Charybdis, my pick is lBlD. The reasoning behind is the fact that due to low SPI_b the welfare provisions will be highly unjust, but then giving the small amount of beneficiaries a substantial amount of money would amplify the injustice.

A second thought experiment could also be conducted. This time the two clusters are the two ones in HPC in 2009. The first one being a medium-high breadth, low-medium depth cluster, and the second a high breadth, medium depth cluster. For simplicity, let us imagine that both clusters have high breadth. In this case, as contrary to the other thought experiment, having higher SPI_d does not mean that the cluster is more unjust. Whether or not it means more just is a highly political question, which welfare-advocates, such as myself, would argue that it would make it more just. Again, this goes back to the Rawls' (1971) perspective of maximizing the position of the people who are the worst off in the society. Moreover, if social protection is to helps the vulnerable, giving them more seems like the better option.

Thus, SPI_d plays a different role depending on SPI_b. Higher depth does not necessary mean a better society, and thus SPI can be misguiding when looking at some countries. This flaw should be corrected or highlighted in

the discussion of the Asian Development Bank's Social Protection Index. However, changing the indicator and the index based on this is a hard task.

The problem of SPI_d actually highlights the importance of clustering using the variables instead of simply focusing on SPI. By clustering, this problem disappears due to the way countries are classified. Thus, the clusters in this thesis takes this factors into account.

4. Social Protection and Societal Outcome

It is important to understand the implications these clusters have for the societal outcome. By looking at the Human Development Index (UNDP 2015), it is clear that most countries have increased their HDI throughout the years analyzed, and the countries that changed from LPC to HPC does not stand out as significant cases. Using the data available from UNDP, sorted ascending lowest to biggest change in HDI score is shown below. The white cells are LPC, the light gray cells are HPC and the dark gray are the 2-cluster analysis changers.

<Table 5> Human Development Index (UNDP 2015)

	HDI08	HDI09	HDI10	2010-2008	SPImf10
SOL	0.506	0.5	0.489	-0.017	0.34239
PAK	0.536	0.545	0.526	-0.01	0.71636
PAL	0.772	0.773	0.768	-0.004	0.59975
KYR	0.617	0.617	0.614	-0.003	0.56918
ARM	0.722	0.717	0.72	-0.002	0.31746
GEO	0.73	0.735	0.733	0.003	0.79229
PHI	0.648	0.647	0.651	0.003	0.92423
SAM	0.683	0.689	0.688	0.005	0.44843
TAJ	0.591	0.592	0.596	0.005	0.60687
UZB	0.643	0.645	0.648	0.005	0.90834
MAY	0.76	0.761	0.766	0.006	0.72754
MON	0.665	0.668	0.671	0.006	0.62508
CAM	0.564	0.566	0.571	0.007	0.84623
KOR	0.874	0.876	0.882	0.008	0.83204
FIJ	0.712	0.717	0.721	0.009	0.65089
VAN	0.608	0.616	0.617	0.009	0.50852
SRI	0.725	0.728	0.736	0.011	0.98038
THA	0.704	0.708	0.715	0.011	0.70397
PAP	0.467	0.474	0.479	0.012	0.29932
VIE	0.617	0.622	0.629	0.012	0.88896
MAD	0.675	0.686	0.688	0.013	0.84104
LAO	0.533	0.543	0.549	0.016	0.65
CHI	0.682	0.693	0.701	0.019	0.90338
AZE	0.724	0.736	0.743	0.019	0.61455
AFG	0.43	0.437	0.453	0.023	0.59529
NEP	0.501	0.513	0.527	0.026	0.42699
BAN	0.515	0.527	0.593	0.078	0.60582

One can quickly conclude that the 'changers' do not seem to have made a more remarkable change throughout these three years. Nevertheless, it is worth pointing out that it is the only group where no country worsened their HDI score. A possible conclusion is that the clustering analysis in this thesis cannot predict the betterment of society in terms of HDI. Another possibility could also be that some of the indicators of HDI cannot be changed that rapidly from changing the social protection provisions. Thus, the scope needs to be extended, by looking at a bigger time frame. Regardless, by looking at the three countries that improved HDI the most strengthens the argument that it is not casual relation between SPI and HDI, since those countries have not made substantial improvements in their social protection. A problem with Bangladesh and Afghanistan is the inconsistency in their SPI, where both countries increase their scores to 2009 and decrease again to 2010. However, HDI is still constantly increasing. Further, if one looks at Solomon Islands, which is the only country with a substantial decrease in HDI, it actually increased its SPIb and lowered its SPId, which indicates a betterment of their social protection. In this case the data might be misguiding since in 2008, Solomon Islands had substantially higher HDI than other years. If there reference point would be 2007, the score would have been 0.483, and in 2010 it would have seen an improvement of 0.006 rather than the decrease. Nevertheless, Asia is a continent on the rise, in many ways, and that may explain the HDI-increase rather than the expansion of social protection.

There is also a problem with the HDI that may cause it not to be fully reflected as the countries improve in this cluster analysis. The problem is

the lack of a gender equality-indicator. Thus, Alkire and Foster (2010) designed the 'Inequality-Adjusted Human Development Index' to address this problem, to add the missing variable. However, a gender indicator is still absent, and is something that this thesis is trying to shed light on. It would make more sense to look at development from a gender perspective, as well as the other perspectives. For instance, what can one say about two cases with the same score of HDI if in one country the men get a lot more than women?

What this thesis instead can show are indications in terms of fairness in what directions societies are heading. Thus, the results should be taken into account for long-term improvement rather than direct improvement. Surely there are many ways how one can improve the society by introducing new policies. In the words of Köhler (2015: 8):

> *"Given the disparate outcomes and the very poor human development situation in most Asian countries – as well as the low levels of government expenditure devoted to the social sectors – perhaps one can summarize: the Asian developmental welfare state models are a work in progress, worth noting, especially for their intent"*

In that respect, the policy output is sometimes on par with societal outcome. Ultimately, it is the societal outcome that matters, but when looking at this short time frame, policy output may be more important. Nevertheless, throughout this period the countries with the most remarkable improvement in HDI are the WPC, who also stand for the most worsening.

Whether or not societal outcome lags behind social policy output should be considered in future research.

The question of whether to protect a few with large benefits or to help most people with small benefits remains a central question in this discussion. In my perspective, the duty of the government is to ensure a certain standard for all. The idea dates back to Rawls' (1971) perspective on justice, which is about maximizing the position of the person who is the worst off. That is the role of welfare, and it should help the people who are the worst off. However, for social protection to be able to do that, both SPI_b and SPI_{fm} are important. SPI_d should of course not be extremely low, and often, the higher the better, as long as most people are covered. One important consideration coming from this perspective more than how the society should look but also how development can be considered. If the government is to maximize the position of the worst off, then development could be seen as the process of improving the situation of the underprivileged. Thus, social protection plays a vital part.

A question not fully answered at this point is whether or not policies that address these issues ought to be universal or selective. It was touched upon previously, but the debate remains. Mkandawire (2005) argues that the discourse has moved from a universalistic approach in the 70s and 80s, to a more selective approach at the end of the 20th century. The argument has been that with limited resources, the deserving poor should be targeted rather than the entire population. However, on the other hand there are those saying that universal policies themselves does not have to be more expensive, because first of all, there is no need to have a large monitoring

body, since benefits are given to all. Further, if trust is high enough, then universal policies may generate support, because all people feel that they are gaining something, and not just giving (Rothstein 2011). Regardless, the government does not always have the luxury of choosing, as in the case of Indonesia, where the cash transfer policies were enforced by international organizations (Kwon 2015). However, it is the choice of the government how to develop it further.

Maximizing the position of the one who is the worst off can also be connected to Sen (1999), in his discussion of development as freedom. By improving the situation of the most vulnerable, they are given the freedom to live their own lives. However, Sen's argument goes much deeper about freedom, and although social protection might make it better, it does not include all the freedoms that Sen speaks of. I am merely using his terminology from the developmental perspective presented in this thesis, while for instance, neglecting political rights. The reason for that is that this way of analyzing cannot determine what type of regime is doing what, it analyzes based on the given indicators, regardless of the way of governing.

Thus, the link between social protection and development may not be the most apparent, but by comparing the figures of SPI with level of development there is a lot to observe. However, as discussed above, it all depends on what perspective one view development from. My argument stems from the Rawlsian perspective, which is linked to both Rothstein's impartial institutions and Sen's development as freedom. As noted, social protection plays an important role in ensuring the protection of vulnerable people. Thus, social protection can be used as one of the indicators for the

level of development. Further, as it turns out, the changes observed between all the countries changing big cluster, with the exception of Cambodia, is an increase in money spent on women compared to men. In Cambodia, the rate remains the same. However, it is only the Philippines and Uzbekistan that lowers SPI_b, the rest increases it. When it comes to SPI_d it gets lower among all the changers, except for the case of Philippines. Uzbekistan was an odd case, and one could further argue that the Philippines may not truly belong in the new cluster. However, as cluster centroids are calculated, it could be the case that the Philippines get to 'tag along' the other countries to HPC due to it still being its closest neighbor.

However, the idea of expanding the state and ensuring the protection of citizens is not a new idea. By regarding welfare rights as fundamental rights, the state would do well in increasing corporate taxes and introduce a progressive income tax rate rather than selling off state assets, which often tend to move the monopoly fromm the state into the hand of private owners. In a country where the majority of wealth is distributed among a minority of people, the state would do well in ensuring the assistance to both the urban and rural poor. Thus,

"an effective state must increase the social value of public and state enterprises, including their capacity for employment generation and the role they can play in ensuring equal and fair access to goods and services" (Greenfield 2000: 183-184).

Further, it has been showed that significantly improving social protection

is both possible and has been done in East and Southeast Asia, and even during times of economic crisis (Hort and Kunhle 2000; Cook and Kwon 2007).

Finally, it is worth reiterating that the countries that change from LPC to HPC follow the trend of improving the indicators in order to cluster together with countries that have comparatively high SPI_b, low SPI_d, and high SPI_{fm}. This has been shown, both by using the data available and through discussion. Thus, if a country wants to increase their social protection, these may work as guidelines. Two of the indicators make intrinsic sense to improve, which are SPI_b and SPI_{fm}. Clearly, increasing those will make it better for many people. As discussed before, SPI_d is more complicated. If there is a broad coverage, then increasing it makes sense, but less sense when SPI_b is low.

VII. Conclusion

The goal of this thesis has been to go beyond the 'thee worlds of welfare capitalism' to instead explore the Asian world of social protection, by clustering countries together using three variables. The following variables were used: SPI_b, the coverage of social protection compared to the intended population; SPI_d, the benefits received by the beneficiaries; and SPI_{fm}, the spending on women compared to the spending on men. The thesis has shown that the different regions discussed in most Asian discourse partially hold, but with many reservations. Thus, reclustering Asia may not be the best idea, but it is important to not take them for granted when discussing Asia. The results are quite sticky, but there are cases that change their cluster belongingness. Further, based on the characteristics of clusters, several clusters were found and discussed, and are naturally more sticky in nature than the country-based clusters. The analysis also showed that it was possible to divide the countries into two clusters, the HPC and the LPC. This is an essential demarcation line, and the five countries that cross the line have been analyzed. These cases show the importance of the gender ratio indicator. Among these five cases, the Philippines is considered a free rider in terms of cluster belongingness, since the country actually was worsening, but moved from LPC to HPC. The research also determined the WPC and BPC for all three years respectively, at the same time as a general WPC and BPC was established for the entire time period

As noted, on a country-basis, there are some tendencies when it comes to ranking the continent's region. However, as there are many exceptions,

and each region has one of several odd cases that dilute the picture. For instance, South Asia was identified as the worst region, but Sri Lanka is among the top performers. What remains true is that no East Asian country can be found among the LPC. Thus, to answer the question if there are regional tendencies, the answer is *partially*. There are regional tendencies, but with many reservations. However, this partial reappearance of structures does indeed seem to be sticky over time.

There are three important cases to highlight at this point. The first one is the case of Japan. It was shown that Japan does not cluster that well with South Korea, and is the most superior case. Further, it conforms that Thailand is among the better performing countries within Asia. The third case is Singapore, and this thesis reinforces the fact that Singapore is at a different level than South Korea and Japan. It was showed that it was more similar to China. However, all these countries share a fairly low dissimilarity compared to many of the other countries in the analysis.

Central Asia was shown to be a very diverse region. Both Mongolia and Kyrgyzstan perform very well at the same time as Armenia and Afghanistan performs very poorly. It does not seem to be much consistency in this region. Future research should focus on this region to explore why these vast differences have occurred.

The notion that welfare only has been developed in East Asia is proven untrue. By considering the HPC we can see that it has extended to more countries than simply East Asia. However, East Asia seems to be one of the existing well functioning welfare state clusters, but that does not mean that all other countries lag behind. Also, understanding Asia as has been

commonly done is misguiding. It is important to look at the countries from the perspectives of coverage, depth, and how much is spent on women contrasted to men. This does not explain the social protection of the countries fully, nor does it prescribe the ultimate way forward. Modestly, this thesis has grouped countries together based on these indicators, and has understood the differences between the different clusters. To prescribe a universal way forward is impossible, due to the countries being vastly different. Instead, this thesis has showed that countries with a higher coverage and with a more balanced spending on gender perform better, and perform in a fairer way. Therefore, countries not being able to give benefits to the intended beneficiaries would do well in introducing institutions that justly distribute the benefits as they should be distributed. Getting there should be the focus of both social protection and development in the years to come.

It is also important to reiterate that this thesis has not focused on the political regimes themselves. It has gone beyond this, and simply looks at how social protection three pillars of social protection. Further, the amount of money spend on social protection, is in a way captured in SPI_d but the monetary value is less important in this thesis. Instead, based on the priorities of the three indicators, they have been classified. Thus, a country that spends more on social protection could in theory have been in a 'worse' cluster than a country that spends substantially less, although this is not generally the case. In future studies, one could focus on the regimes and add it to the analysis itself, to try to understand what type of regime provides what type of social protection provisions.

Further, in this cluster analysis, SPI_b was considered a key indicator. Not only does it help in understanding the other variables, it is also one of the key areas where improvements can be made. Already in 2003 the Asian Development Bank (2003: 24) argued that "Generally in South Asia, Southeast Asia, and the Pacific most of the debate has focused on expanding coverage and identifying financing sources to fight poverty and provide long-term protection to the population". As this analysis is carried out a few years after the abovementioned report, we can see that the issue regarding coverage remains. Together with the gender issue, these were the main objectives for improvement (Asian Development Bank 2003). Thus, this thesis set upon itself to use two indicators, together with the additional depth of social protection to carry out the cluster analysis.

To elaborate further on SPI_b, there are two more points to make. Firstly, without SPI_b it is not possible to know whether or not SPI_d is working towards a more just society or not. This is based on the argument that it is more unjust to spend a lot on the beneficiaries, if they only are a small portion of the intended beneficiaries. In that case it may be less unjust to spend less on the small percentage of people receiving the benefits that many should have received. Secondly, with the absence of SPI_b although not as explicit, the type of gender (in)equality cannot be established. If SPI_b is high, and the spending on men is much higher, then we can conclude that women are not intended beneficiaries. If SPI_b is lower, then the same reason could still be valid, but it remain more uncertain.

Thus, the importance of SPI_b also showed that the SPI-index itself has

a major flaw. Thus, another main finding is a critique of the index itself. The basis is the discussion above, that a different breadth score means that the value of the depth is different. However, one way of getting around this is by using clustering methods, as in this thesis. Moreover, using this way of classification, countries that are similar have been clustered together, and this is sometimes very different from how they would rank simply using SPI. However, on the other hand, it shows the usefulness of SPI, due to the possibility of disaggregating it. Thus, by clustering as in this thesis, the index is used more accurately. Thus, researchers should keep this in mind when discussing the SPI. Clustering the disaggregated SPI gives much more depth to the information provided, and is because of that more functional.

The importance of SPI_b has been stressed, but it would be untrue to point out SPI_b as the only contributor. Coverage has been widely discussed in the literature, and remains important here as well, but one of the big contributions of this thesis is the inclusion and emphasis on $SPI_{fm.}$ It adds the dimension of gender as a monetary value in percentage. It adds another layer of justice to the analysis that has far too often been neglected in the literature. For the development of countries, gender is an important aspect to consider, and the inclusion of gender to this analysis has given more insight to where countries position themselves throughout the years analyzed. Moreover, in this analysis, by clustering both with and without SPI_{fm} it was showed that it works as a good diversifier. It separated clusters into smaller fractions, and it is the indicator responsible for the countries that change from LPC to HPC. To develop the social policy discourse further, studies that mainly focus on gender should be conducted.

However, this analysis could also be improved by future studies. To make the results more rigid, both the span of time and countries should be expanded. However, the problem of expanding the number of countries is that social protection is measured differently around the world, and there is no database collecting similar data for all countries. Thus, agencies like the UNDP should consider creating a worldwide social protection index, as it would help achieve their goals. The same could be said about the time span, the longer the better, but it is currently not possible. Assuring the continuation of data collection by the Asian Development Bank is essential for this end. However, with this study being its first of this kind, the foundation that has been laid out throughout the thesis should be further developed, to get more sophisticated results. The results of this thesis should be further tested by using the same framework as presented in this thesis, but at the same time changing some of the indicators, or by apply a regime analysis on the cluster analysis.

The societal outcome of the social protection provisions is important, but due to lack of data, one cannot conclude anything at this stage. It should be further researched how social protection reveals itself as societal outcome. However, my argument is that promoting better social protection leads to a better society, but it is much more complex than simply seeing it appear at the same time as social protection improves. In poor countries changes has to be made that fosters trust, and together with new norms, better welfare states can be constructed. Thus, societal outcome was also expressed in terms of justice, and it became clear which clusters were more just than others. Focusing on justice in social protection might in the

long-term work for a better society.

Finally, by improving SPI_b and SPI_{fm} vulnerable people get better chances in life, and that will in the long-term lead to more well-being. Thus, this thesis modestly suggests a way forward by improving coverage and ensuring equal social protection for women. By having that focus, development will be more just. Ultimately, it will lead to a better society, for everyone.

VIII. References

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IX. Appendix

The tables below contain the data for all countries throughout the three years analyzed. In the tables, 'Cluster08a' would indicate that it is the category multi-cluster number, where as 'Cluster08b' would indicate that it is the cluster number for the two-cluster analysis.

<Appendix 1> Data and Cluster Belongingness, 2008

Country	SPI08	SPId08	SPIb08	SPImf08	Cluster08a	Cluster08b
AFG	0.04368	0.67383	0.06483	0.63473	1	1
ARM	0.06435	0.20123	0.31978	0.6736	3	1
AZE	0.14274	0.47775	0.29877	0.57359	3	1
BAN	0.04021	0.34199	0.11758	0.60583	3	1
CAM	0.01823	0.09781	0.18639	0.87745	3	1
CHI	0.11419	0.16598	0.68799	0.8625	4	2
FIJ	0.06889	1.03453	0.06659	0.59431	1	1
GEO	0.10627	0.38979	0.27264	0.75045	3	1
INA	0.00841	0.03166	0.26562	0.66206	3	1
INS	0.03568	0.04073	0.87594	0.871	5	2
JAP	0.35667	0.20302	1.75684	0.86631	6	2
KOR	0.16763	0.18014	0.93055	0.74506	5	2
KYR	0.22087	0.23983	0.92093	0.58391	5	2
LAO	0.01273	0.04444	0.28648	0.62372	3	1
MAD	0.02313	0.16622	0.13914	0.75227	3	1
MAR	0.20619	1.43876	0.14331	0.65084	1	1
MAY	0.11769	1.25797	0.09356	0.76039	1	1
MON	0.21169	0.23769	0.8906	0.61929	5	2
NAU	0.04094	0.71061	0.05761	0.70797	1	1
NEP	0.04914	0.416	0.11812	0.26977	2	1
PAK	0.00565	0.10349	0.05458	0.46373	2	1
PAL	0.1286	0.5133	0.25053	0.59561	3	1
PAP	0.00359	4.5292	0.00079	0.29964	7	1
PHI	0.07153	0.18242	0.39209	0.91486	4	2
SAM	0.0581	1.55119	0.03713	0.45505	1	1
SIN	0.11016	0.20923	0.5265	0.77293	4	2
SOL	0.08058	1.20114	0.06709	0.39195	1	1
SRI	0.11413	0.09736	1.17228	0.97971	5	2
TAJ	0.03343	0.21181	0.15781	0.61342	3	1
THA	0.08106	0.1227	0.66059	0.71665	4	2
UZB	0.10329	0.33072	0.31232	1.69969	8	2
VAN	0.02374	0.57918	0.04098	0.48654	2	1
VIE	0.1153	0.25099	0.45939	0.92295	4	2

<Appendix 2> Data and Cluster Belongingness, 2009

Country	SPI09	SPId09	SPIb09	SPImf09	Cluster09a	Cluster09b
AFG	0.0465	0.43099	0.10789	0.62417	4	1
ARM	0.8545	0.26036	0.32471	0.78694	2	1
AZE	0.18668	0.62246	0.2999	0.57856	4	1
BAN	0.04278	0.23704	0.18084	0.65777	4	1
BHU	0.0354	0.30984	0.1175	0.7022	4	1
CAM	0.02032	0.09018	0.22529	0.84727	2	1
CHI	0.13853	0.17366	0.79771	0.85985	7	2
FIJ	0.06011	1.10677	0.05431	0.59713	6	1
GEO	0.13707	0.43646	0.31405	0.78873	2	1
INA	0.05111	0.215	0.23773	0.75455	2	1
INS	0.04415	0.0679	0.65026	0.85038	5	2
JAP	0.41575	0.45959	0.90461	0.86464	7	2
KOR	0.19975	0.22546	0.88594	0.79719	7	2
KYR	0.15125	0.19589	0.77211	0.62025	7	2
LAO	0.02641	0.0892	0.29614	0.59637	4	1
MAD	0.0727	0.43244	0.1681	0.82206	2	1
MAR	0.16685	1.46344	0.11401	0.651	6	1
MAY	0.15529	1.08774	0.14277	0.71887	6	1
MON	0.20589	0.27381	0.75195	0.69248	7	2
NAU	0.03411	0.59035	0.05778	0.72534	4	1
NEP	0.06846	0.44414	0.15415	0.45094	3	1
PAK	0.04711	0.58978	0.07987	0.22938	3	1
PAL	0.1485	0.58821	0.25245	0.59856	4	1
PAP	0.0045	2.10817	0.00214	0.36778	1	1
PHI	0.08479	0.36767	0.23061	0.89602	2	1
SAM	0.06579	0.82769	0.07948	0.44848	3	1
SIN	0.1692	0.21103	0.80177	0.77638	7	2
SOL	0.04508	0.53274	0.08462	0.35906	3	1
SRI	0.12132	0.22412	0.54131	0.96279	5	2
TAJ	0.03911	0.21208	0.18439	0.62148	4	1
THA	0.11916	0.15332	0.77718	0.6956	7	2
UZB	0.34322	1.03901	0.33033	0.81646	6	1
VAN	0.0247	0.47919	0.05155	0.46473	3	1
VIE	0.13746	0.20481	0.67115	0.91662	5	2

<Appendix 3> Data and Cluster Belongingness, 2010

Country	SPI10	SPId10	SPIb10	SPImf10	Cluster10a	Cluster10b
AFG	0.02368	0.27054	0.08754	0.59529	1	1
ARM	0.06391	0.22906	0.27903	0.31746	2	1
AZE	0.19113	0.66369	0.28798	0.61455	1	1
BAN	0.05076	0.30808	0.16477	0.60582	1	1
CAM	0.01885	0.07441	0.25331	0.84623	3	2
CHI	0.12233	0.17544	0.69728	0.90338	4	2
FIJ	0.06105	0.75161	0.08122	0.65089	1	1
GEO	0.13383	0.39944	0.33503	0.79229	3	2
KOR	0.16013	0.20171	0.79384	0.83204	4	2
KYR	0.32865	0.36403	0.9028	0.56918	5	2
LAO	0.0188	0.05771	0.32582	0.65	1	1
MAD	0.12775	0.39407	0.32418	0.84104	3	2
MAR	0.20687	1.376	0.15034	0.65108	6	1
MAY	0.14862	1.36795	0.10864	0.72754	6	1
MON	0.24017	0.16867	1.42387	0.62508	7	2
NAU	0.03821	0.63689	0.05999	0.7173	1	1
NEP	0.06832	0.4094	0.16687	0.42699	2	1
PAK	0.01416	0.25149	0.0563	0.71636	1	1
PAL	0.16687	0.67311	0.24791	0.59975	1	1
PAP	0.00381	3.21616	0.00119	0.29932	8	1
PHI	0.07289	0.46766	0.15586	0.92423	3	2
SAM	0.06292	1.44665	0.04308	0.44843	9	1
SOL	0.04348	0.40438	0.10753	0.34239	2	1
SRI	0.11403	0.10461	1.09007	0.98038	4	2
TAJ	0.04022	0.20645	0.19484	0.60687	1	1
THA	0.09532	0.13203	0.72198	0.70397	5	2
UZB	0.30523	0.95095	0.32097	0.90834	3	2
VAN	0.02744	0.64041	0.04285	0.50852	1	1
VIE	0.1395	0.211	0.66113	0.88896	4	2

국 문 초 록

본 논문의 목적은 아시아 국가를 그들의 사회 보장에 기반하여 클러스터 분석을 실시하는 것이다. 이를 위하여 본 연구는 사회 보장지수를 서로 다른 개별 형태로 나누었다. 기존에는 이와 같은 방법을 활용하는 것이 불가능했지만 아시아개발은행(Asian Development Bank)이 수집한 자료 덕분에 가능해졌으며 따라서 본 논문에서 해당 자료를 활용한 분석을 실시하였다.

아시아 지역 국가들을 이해하고 그들로부터 배우는 것은 연구자들과 정책 형성자들에게 중요하며, 동아시아를 넘어 아시아 전체로 이해의 범위를 넓히는 것 역시 중요하다. 따라서 본 연구에서는 아시아 지역 대부분의 사회 보장지수를 포함시켰다. 분석의 대상인 사회보장지수는 다음과 같은 특징을 가지고 있다. 첫째, 사회 보장 지수들은 사회 보장의 범위를 측정한다. 둘째, 사회 보장 지수는 상대적 빈곤선에 위치한 수혜자들에 대한 평균 지출을 측정한다. 마지막으로, 여성에 대한 총 사회 보장 비용 대 남성에 대한 총 사회 보장 비용을 비교한, 성별에 따른 지출 역시 사회 보장 지수에 포함되어있다. 이 세 지표는 계층적 클러스터 분석을 사용하는 Ward의 분석에서 변수로 활용되었다. 클러스터 분석에 대한 분석은 계통도(dendrogram)을 통해 나타내었으며 이를 기반으로 국가들에 대한 시계열적 클러스터 분석을 실시하였다.

본 연구는 먼저 모든 사례들을 “고성과 클러스터”와 “저성과 클러스터”로 묶었다. 이후 해당 클러스터들 중에서 각각 연도에서 “최고 성과 클러스터”와 “최악 성과 클러스터”를 분류했다. 분석 대상 국가들 중에서 “고성과 클러스터”와 “저성과 클러스터” 간 이동이 있었던 국가는 이동 원인을 찾기 위한 분석이 추가적으로 행해졌다. 또한, 최근 3년간의

결과를 일반화하여 분석을 실시한 결과, 지역당 한 두 개의 예외를 제외하고 클러스터의 지리적 인접을 부분적으로 강화한다는 결과를 발견하였다..

추가적으로, 본 연구는 정의(**正義**)와 사회적 산출물 측면에서의 보상과 성별에 따른 지출, 상대적 빈곤선에 위치한 수혜자들에 대한 지출의 중요성을 탐구하였다. 해당 분석은 빈곤선 이하의 수혜자들에 대한 지출이 어떻게 보상 지표를 통해서만 이해할수 있는지를 보였다. 이 역시 사회 보장 지수에 대한 비평으로 작용할 수 있으나 이를 고려하지는 않았다. 또한, 분석 결과는 성별에 따른 지출의 중요성을 조명했다. 다른 지표가 개선되지 않는 상황일지라도 분석에 포함된 기간 동안 성별에 따른 지출 지표가 중대한 변화를 일으켰다. 마지막으로, 본 논문은 사회 보장이 앞으로 나아가야 할 길을 제언했다. 더불어 본 논문은 아시아 지역을 넘어 전 세계를 대상으로 이와 같은 데이터를 구축할 필요가 있을 뿐만 아니라 연구자들로 하여금 장기간에 걸친 데이터를 활용활 수 있도록 할 것을 제안한다.