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UNIVERSALISM AND TARGETING: AN INTERNATIONAL COMPARISON USING THE LIS DATABASE

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1. Introduction

In combating poverty, whether or not to design a universal program or a targeted program has been a perpetual dilemma. As early as 1971, Marmor (1971) suggested 6 criteria for comparing alternative income maintenance programs: adequacy, stigma, equitable efficiency, incentive effect, program cost and political support. Thirty years later, these criteria remain as key concerns for policy makers and there has been no consensus as to what type of system is more effective in efforts to alleviate poverty. This dilemma needs to be reviewed now that many countries are turning towards more targeted systems in response to rising social spending. In 2001, the International Social Security Association published a book entitled *Targeting Social Benefits: International Perspectives & Trends*, in which Gilbert (2001) states:

> Thus, over the last decade many social welfare policies have been redesigned to narrow the scope of recipients by targeting benefits through means tests, income tests, claw-back taxes, diagnostic criteria, behavioral requirements, and status characteristics.

As suggested by Gilbert, the question is no longer just which is better, a universal program or a means-tested program?, but rather that of who should be targeted and how?. Means testing is one way of targeting. However, on top of the means test, more and more stringent eligibility criteria have been put in place and thus created a demarcation between the "deserving" poor and the "non-deserving" poor. For example, single-mother households, which tend to be the target of anti-poverty policies in many countries, might have a higher possibility of getting out of the poverty as compared to other households of the same poverty level that are not typically targeted.

To further complicate matters, it is hard to grasp the universality or targeting of a country's social security system, because in most countries, the social security system is composed of many programs and while some programs are designed to be universalistic others are targeted (or means-tested)[1]. Therefore, to assess the universality of a country's entire system, it is necessary to examine how its constituent programs interact and compliment each other.

The objective of this paper is to conduct an international comparison of the "universality" and "targeting" of social security systems. The paper first defines "universality" as it will be discussed in the following pages. The paper then presents an

[1] For example, in Japan, fairly universal pension and medical insurance programs are supplemented by a means-tested public assistance program for the poor and a means-tested child allowance.

outline of methodologies used in assessing the universality and categorical targeting of the poor. Two methodologies are employed. The first builds on the work of Beckerman (1979) and examines how positive and negative net transfers are distributed using micro-data from eleven countries; the second employs a logistic regression method to estimate the effects of the initial poverty gap and categorical status of a household on its poverty outcome.

The data used are drawn from the Luxembourg Income Study (LIS) database and a micro-data from the Ministry of Health, Labor and Welfare of Japan. Although the Japanese data includes imputed values of medical services, the LIS data includes only near-cash benefits. Thus, only the in-cash and near-cash transfers such as pensions, child allowances, social assistance and food stamps are considered in the study, which presents a limitation in that it may lead to under-estimating positive transfers in countries where significant in-kind transfers (government housing, food provision, etc.) are provided. Furthermore, another noteworthy limitation is that the study also excludes indirect taxes from the negative transfer, because there are only a handful of countries in the LIS database for which such data is available, and so this may result in under-estimation of negative transfer in some countries. Yet another limitation of the study is that it does not take account of assets in determining the poverty status of a household. Even though these are serious constraints, the study is useful in understanding the degree of "universality" and "targeting" in welfare states' poverty alleviation systems.

2. Definition of "Universality"

One of the most renowned studies of welfare state typologies to use the concept of "universalism" is that of Esping-Andersen (1990). In which "(program) universalism" is defined as the percentage of the relevant population (labor force between ages 16 and 65) covered under the respective programs for sickness, unemployment and pensions (Esping-Andersen, 1990, p.71,78). However, Esping-Andersen specifically excludes income-tested social assistance programs since "none provides full citizen rights to benefits" (ibid., p.71). Thus, to cover the social assistance part of the welfare system, Esping-Andersen uses another measure called "relative importance of social assistance" defined as "means-tested poor relief as a percentage of total public social expenditure". The "(program) universalism" is an attribute associated with what he defines as "socialist regimes" while the "relative importance of means-tested welfare benefits" is

an attribute associated with "liberal regime"[2].

Both of the measures devised by Esping-Andersen essentially indicate a characteristic of the system design: the first involves the coverage of non-social assistance programs, and the second concerns the relative importance of social assistance programs where a distinction is made according to program purpose, namely, "social assistance" versus other purposes. It does not indicate how the benefits are actually distributed. Neither a high level of program universality nor a low share of means-tested programs directly implies that the benefit is distributed equally across the population. For example, a universal unemployment benefit might disproportionately distribute transfers to the poor because the unemployment rate amongst the poor tends to be higher than it is amongst the rich. By looking at the aggregated data, it is not possible to see the distributional pattern of a program, or for that matter, the way in which transfers are distributed across an entire welfare system. To do so, it is necessary to draw upon the micro-data.

Mitchell (1992) provides one of the earlier studies using micro-data. Using micro-data from the LIS, Mitchell calculated various measures including, among others, pre- and post-transfer poverty rates and progressivity of the transfer system. In this work, Mitchell does not specifically discuss universalism, but she does discusses the concept of vertical expenditure efficiency (VEE) based on the work by Beckerman (1979), whereby VEE is defined as a share of transfer received by the pre-transfer poor as a percentage of total transfer. VEE is a measure that illustrates how transfers are distributed between the rich and the poor, and thus it can also be used in evaluating universality: if a program is universally distributed, VEE will be low; and if a program is means-tested, VEE will be high.

In this paper, the concept of "universality" of an income transfer system is defined as follows: Universality is a degree of **how flat** the transfer is distributed across a population of different incomes. For example, if a transfer system distributes its transfer at a flat rate to everybody, the system is completely universal; at the opposite end of the spectrum is a completely means-tested system in which only those at a certain income or below receive transfers.

As earlier stated, the income transfer system of a country is composed of various programs such as public pension, social assistance and child allowance, and even though each individual program may be universal or means-tested, the system as a whole is often neither completely universal nor means-tested It lies somewhere in between being

[2] In his later work (Esping-Andersen, 1999), he uses two measures as the key measures associated with the "liberal" nation: "means-tested assistance as a share of total transfers" and "private pensions as a percentage of total pensions".

either completely or means-tested—it is this degree of universality that this paper seeks to address. The definition of universality beings used here, following on from Beckerman and Mitchell essentially examines how the transfer is actually distributed. For comparison, this paper will also examine universality based on Esping-Andersen's approach, focusing on system design, using available micro-data.

Two levels of "universality" are examined: one is the universality of the entire population when the population is divided into the poor and the non-poor; the other is the universality within the poor. This is done in conjunction with an examination of "categorical targeting within the poor", where "categorical targeting within the poor" is defined as the degree to which a system favors a certain category of the poor over other categories of the poor.

3. Methodology

3.1. Beckerman's Poverty Reduction Efficiency

As with previous papers, this paper uses the "efficiency" indexes developed by Beckerman (1979) as a starting point for devising an index for universality. Diagram 1 is a depiction of a transfer program constructed by Beckerman. The area denoted "D" is the post-benefit poverty gap, i.e. the poverty gap that remains after the transfer, and the area denoted "A" is the poverty gap that is reduced. Area "B" is the amount of transfer that goes to the poor in excess of reducing the poverty gap, and area "C" is the amount of transfer that goes to the non-poor. Beckerman (1979) defines "Vertical Expenditure Efficiency (VEE)" as (A+B)/(A+B+C), and "Poverty Reduction Efficiency (PRE)" as A/(A+B). Put simply, VEE is the share of net benefit (transfer) going to the poor in the entire net benefit, and PRE is the share of the net benefit actually alleviating the poverty gap in the entire benefit. Mitchell (1991) uses this concept and formularizes the post-transfer income as follows (Eq. 1). Using the LIS database, she then calculated each term for 10 OECD countries.

$P_{post} = P_{pre}$.(size ⅹ efficiency) (Eq. 1)

Where Ppost = Post-tax, transfer income
Ppre = Pre-tax, transfer income
size = amount of social expenditure
efficiency = Beckerman's poverty reduction efficiency

However, Diagram 1 is misleading in two aspects. First, it omits the possibility that the net transfer might be negative, i.e., where the pre-tax-benefit net disposable income

(solid line) is above the post-tax-benefit disposable income (broken line). Second, the model does not consider the possibility that the amount of net benefit is not always inversely proportional to income. Although the first problem can easily be solved by extending the solid and broken lines, the second is not so straightforwardly resolved. For example, in reality, poverty alleviation programs are not flawless and some families with income below the poverty line may actually suffer negative net transfers, let alone receive any positive transfers. Furthermore, if we are to include pension programs in the picture, the amount of benefits is often related to past earnings, and therefore has little connection with current income level.

Recognizing that there could be negative transfers to the poor and therefore an increase in the total poverty gap, Kim (2000) introduces a term into Mitchell's equation to represent the increase in the aggregated poverty gap (P_{inc}).

$$P_{post} = P_{pre} - (size \times efficiency - P_{inc}) \qquad \text{(Eq. 2)}$$

where

$$P_{post} = \left(\frac{D}{G}\right)$$

$$Ppre = \left(\frac{A+D}{G}\right)$$

$$size = \left(\frac{A+B+C}{G}\right)$$

$$efficiency = \left(\frac{A}{A+B+C}\right)$$

P_{inc} = the aggregate amount of poverty gap increased by negative net transfer.

Kim's equation is an improvement to Mitchell's in that it captures a reality of the tax and transfer systems. However, by aggregating the entire population's positive and negative transfers into a single equation, it omits many details, for example what share of the poor experience net negative transfers and the value of positive and negative transfers that flow to the rich.

3.2 Indexes

First, all households were divided into the categories of either "poor" and "rich" by comparing equivalized pre-tax-transfer disposable income with the poverty line. Each category was then divided into four categories according to post-tax-transfer poverty status: 1) Pre-poor -> Post-poor, 2) Pre-poor -> Post-rich, 3) Pre-rich -> Post-rich, 4) Pre-rich -> Post-poor. For example, the first category includes those households whose

income was below the poverty line both before and after tax and transfer. Next, each category is further divided into three sub-categories according to the amount of net transfer to that household: a) households that received positive net transfer, b) households that received negative net transfer, and c) households that received zero net transfer. For each category and sub-category, net transfer is calculated.

Next, the paper calculates two "universality" indexes: positive universality and negative universality. The first is the share of positive net transfer that went to the Pre-rich in the total positive net transfer. The second is the share of negative net transfer taken from the Pre-rich in the total negative transfer. The third universality index, "system universality" which is defined as the share of non-means-tested positive transfer in the total positive transfer, is also calculated.

3.3 Logit analysis

In order to evaluate the universality and categorical targeting within the poor, a simple logistic regression is performed. Using a sample of households whose pre-tax-transfer income is below the poverty line, i.e. pre-tax-transfer poor (Pre-poor), let Pi denote the probability of household i getting out of poverty after the tax-transfer, and Gi the poverty gap (= poverty line – pre-tax-transfer income) of household i. Then,

$$\ln\left(\frac{Pi}{1-Pi}\right) = b_1 + b_2 Gi + b_3 H_i \qquad \text{(Eq. 3)}$$

where Pi = probability that Poor i gets out of poverty after transfer

Gi = poverty gap of Poor i

Hi = household type dummies

Household types were divided into nine categories: single old female household, single old male households, single young female household, single young male household, household with more than one old person but no young person (Old only), household with more than one young person but no old person and no children(young only, base category), young persons household with children.young single female and child(ren) household, and other households. "Old" is defined as is those above 65, and "young", those below 65. "Children" are those under 18 years of age.

A strictly universal transfer program and a strictly means-tested transfer program are depicted in Diagram 2. If a country's overall transfer system is strictly universal, then the poverty gap of household i should be negatively correlated, and thus the coefficient

of Gi should be negative. On the other hand, if the country's overall transfer is characterized by means testing, then the coefficient for Gi should be non-significant. Moreover, if the country's transfer system is characterized by categorical targeting, for example, structured so that single-mother households or household with children are more favored compared to the base category (young only), then the coefficients for the targeted category should be positive and significant.

In accordance with the typologies suggested by Esping-Andersen, it is hypothesized that "liberal" states are characterized by low universality, and "social democratic" states are characterized by high universality.

4. Data

Data for Japan was drawn from the *The Income Redistribution Survey* (Shotoku Saibunpai Chosa) *1996* and *The Citizens' Lifestyle Basic Survey* (Kokumin Seikatsu Kiso Chousa) *Year 1998* by the Ministry of Health, Labor and Welfare[3], while data from the LIS database, Wave IV 10, was used for 10 other countries, which were chosen for inclusion in the analysis based on the availability of data on both positive and negative transfers. The 10 countries are: Australia, Canada, Denmark, Finland, Germany, Netherlands, Norway, Sweden, the United Kingdom and the United States.

Pre-tax-transfer and post-tax-transfer income are defined as below:

Pre-tax-transfer income =
Factor Income[4] + Private Pensions[5] + Child and Alimony Support

Post-tax-transfer income = Pre-tax-transfer income + Public Pension[6]
+ Other Benefits - Social Security Contributions - Income tax[7]

Child and alimony support are included in the Pre-tax-transfer income, because it could be interpreted as an individual transfer[8]. The equivalence scale is the one often used in

[3] The data was made available to the author by the Ministry of Health, Labor and Welfare of Japan, the notice number No.117 dated 3rd April 2001. .... 117 .... 13 . 4 . 3 ..

[4] For Japan.Employee Earnings, Agricultural Earnings, Business Earnings, In-home Labor Earnings, Rent Income, Interest earnings. Other earnings. For LIS.Gross wage and salaries.Farm self-employment income.Non-farm self-employment income.cash property income

[5] For Japan.Private Pensions, Retirement Benefits, Life and other insurance benefits, Private pensions. For LIS.private pensions, public sector pensions (Pensions for public employees excluding social security.

[6] For Japan.Employees' Pension Insurance benefits, National Pension benefit and other public pension benefits including Veteran's benefits, Employment Insurance benefits, Child rearing and allowances under public medical insurance, Public assistance for the poor (Seikatsu Hogo), Cash benefits, child allowance and other benefits. For LIS.Social security benefits(old age, survivor's ,etc.),Disability pay, military/vet benefits, child or family allowances, unemployment compensation, sick pay, accident pay, maternity pay, other social insurance, means-tested cash benefits, near-cash benefits (food, housing, education)

[7] Japan: Income tax and local tax, LIS: Income tax. Property tax, other direct taxes and indirect tax (consumption tax) are available in the Japanese data, but not in LIS, and therefore not included here.

[8] Child and Alimony support is not in the Japanese data, however the transfer in this category is expected to be

LIS studies.

$$EquivalenceScale = \left(\#\,adults + \#\,children \times 0.7\right)^{0.7}$$

The poverty line is defined as 50% of the median DPI. The use of such a statistical measure as a poverty line has caused some arguments. For one, the established "official" poverty lines in many countries often differ from 50% of median DPI . Some have argued for using an absolute poverty line adjusted by purchasing price parity across nations (Kenworthy, 1999). However, no index has conclusively proven to be better than any other in conducting international comparison. In this paper, "50% of median DPI" is used on account of the measure's simplicity and widespread usage.

5. Empirical Results

5.1 Poverty Outcome and Universality

Tables 1 through Table 5 summarize the findings from the first section of the analysis. Poverty outcomes are shown in Table 1, and Table 2 and 3 detail who receives and who pays out the transfer. More specifically, Table 2 shows the percentage share, in household numbers, of households' net transfers and poverty status. Over all, slightly above 50% of all households in the sample received negative net transfers, while slightly below 50% received positive net transfers. Of the households that received negative net transfer, most are in the "Pre-rich Post-rich" category. This is consistent with the spirit of redistribution associated with a welfare state. However, there are also those households that are in the "Pre-poor Post-poor" and the "Pre-rich Post-poor" category which received negative net transfer. Although the share of such households is generally small, it is not insignificant. For example, in Japan, Germany and the United States, households that were poor to begin with and became poorer comprise 4.6%, 4.3% and 2.6% of all households respectively. Regarding the households that received positive net transfers, looking at the right-hand side of Table 2, it is interesting to note the compositional variation across countries. The share of "Pre & Post-poor" relative to the share of "Pre-poor Post-rich" indicates the proportion of poor households that received positive net transfer which were actually lifted out of poverty. In all countries except Australia, Canada, Japan and the United States, those households that were lifted out of poverty have a much larger share of transfers than those that remained in poverty. In the United States, the share of households remaining in poverty is larger than that of those lifted out of poverty. However, the United Kingdom, which like the United States is a country

negligible.

labeled as a "liberal" state, does not share this feature. However, an international comparison must be made with a care, because the data does not include indirect taxes. For a country in which significant negative transfers are made through indirect tax, the share of households that experience negative net transfers will be under estimated while the share of households with positive net transfers will be over estimated.

Table 3 shows the amount of net transfer aggregated by net transfer and poverty status. The two main "Social Democratic" states, Sweden and Norway, are characterized by a low negative net transfer to both the "Pre & Post-poor" and the "Pre-rich Post-poor", and a high positive net transfer to the "Pre-poor Post-rich". Germany shares similar characteristics, except that it also shows the largest negative transfer for the "Pre-rich Post-poor". The "liberal" states, the United States, United Kingdom, Australia and Canada, are characterized by large positive transfers and fairly low negative transfers to the "Pre & Post-poor". However, there is variation within "liberal" states in terms of the amount of positive net transfer to the "Pre-poor Post-rich" category. The United Kingdom and Australia have transferred a fairly large amount to this group, which might lead one to speculate that transfers to the Pre-poor actually lifted them out of poverty; in contrast, the United States has transferred comparatively little to this group, which might lead one to conclude that a relatively smaller share of the Pre-poor were provided with sufficient transfers to lift them out of poverty.[9]

Another interesting finding is the existence of households that were made worse off because of a negative transfer. In the "Pre & Post-poor" category the Netherlands, Japan and Denmark have large net negative transfers, which contributed to the widening of the poverty gap for these households. For Denmark, the United Kingdom and Japan, there are also some net negative transfers to "Pre-rich Pre-poor". This result is disturbing, especially if one considers the fact that the data does not account for the effects of indirect taxes, another large source of negative transfer.

5.2 Positive, Negative and System Universality

Table 4 shows the universality indexes. The left column shows the "System Universality", the share of non means-tested positive transfer as a percentage of total transfer. This is close to the concept of what Esping-Andersen (1990) calls the "relative importance of social assistance". In all countries, the bulk of positive transfers are not

[9] One of the possible explanation of this finding is the depth of poverty. It could be that the poverty in the United Kingdom and Australia is "shallower" than that in the United States, and, therefore, a relatively small transfer is sufficient to change a household's status from "Pre & Post-poor" to "Pre-poor Post-rich". However, given data that suggest the average poverty gap in the United States is lower than in the UK or Australia (Table 6), this explanation seems unlikely.

means-tested, but there is some cross-national variation, ranging from 0.79 (United Kingdom) to 0.98 (Japan). The variation more-or-less follows Esping-Andersen's welfare state typologies; "liberal" states such as the United Kingdom and United States have smaller share of non-means-tested transfer as opposed to "Social Democratic" or "Conservative" states. The middle column shows the "Positive Universality", the share of positive net transfer going to the Pre-tax-and-transfer Poor among the households that received positive net transfer. In all countries, a large portion of the positive net transfer goes to the Pre-poor, and relatively smaller portion, to the Pre-rich. Thus, even though countries provide the most transfers through universal (not means-tested) programs, in actuality, the poor get relatively more than the rich. Graph 1 shows the relationship between the "system universality" and the "positive universality" indexes; overall, no relationship between the two universality indexes is evident. For example, Japan and Sweden both show very high "system universality", however, while Japan transfers 34% of its positive transfer to the Pre-rich, Sweden transfers only 16%. Furthermore, the United States and Denmark both have relatively low "system universality": the United States transfers 26% to the Pre-rich, and Denmark, only 11%. Indeed, the correlation between the two universality indexes is 0.064, showing a weak relationship between how the transfer programs are designed and how much transfer actually goes to the poor. However, it does suggest there are two groups of countries. Among each group, a positive correlation between the two universalities exists (Graph 2). The right column shows the "negative universality", the share of negative net transfer going to the Pre-rich among the households who received negative net transfer. Japan and Germany show relatively low negative universality, compared to other nations. Graph 3 shows the relationship between "positive universality" and "negative universality". There does not appear to be any relationship between the two.

5.3 Logit Analysis

The descriptive statistics and the result of the estimation are shown in Table 6 and 7. In all eleven countries except Norway, the coefficient for the poverty gap ($_{.2}$) is negative and significant. This indicates that in almost all countries, the amount of the poverty gap has some effect on the household's probability of getting out of poverty through government transfer. Thus, there is some evidence of the universal character in almost all countries. However, the marginal effect at the mean differs quite significantly across the nations surveyed. Larger marginal effects at the mean are seen in the United States, Canada and the United Kingdom. Smaller marginal effects are observed for Norway, Sweden, Denmark, and to some extent, Germany and Japan. The middle countries are

Finland, the Netherlands, and Australia. According to the model, these results suggest that the United States, Canada and the United Kingdom are more "universal" while Norway, Sweden, Denmark and Japan are more "means-tested". This conclusion does not fit the typologies of Esping-Andersen, nor the results from Section 5.2. How could this be?

One explanation is that the model only measures the universality within the poor. The smaller effects only indicate that the probability of getting out of poverty is the same for a very poor household and a household just below the poverty line, taking into account of different household types. For this to happen, a system either 1) provides benefits in accordance to the poverty gap of a household, or 2) provides a flat rate benefit that is adequate to lift even the poorest out of the poverty. For 2) to be valid, the poverty gap reduction rate must be high. The estimation results alone say nothing about the overall probability of a poor household getting out of poverty. For this, we need to turn to the results from Table 1. The poverty gap reduction rates for Norway, Sweden, Denmark and Germany are quite high. Also from Table 1, Sweden, Norway and Germany provide only a small portion of their positive transfers through means-tested programs. Thus, it is likely that these countries have managed to transfer the benefits to the poor, through a system that is basically universal in its design, but is generous enough that even the poorest can get out of poverty. Japan is an interesting case. Japan also has a small marginal effect of $_{.2}$, showing that the poverty gap has small effect on the poverty gap, and a high system universality, as with Sweden, Norway and Germany. But, Japan's poverty rate reduction rate is very low, indicating, within the poor, Japan's transfer system is strictly means-tested. The United States, Canada and the United Kingdom show a relatively large marginal effect of $_{.2,}$ indicating that the initial poverty gap in those countries has strong influence on the final poverty outcome. As the three countries have fairly low system universality, and a moderate positive universality, it can be said that these countries employ transfer systems with significant means-tested components, but the transfer amount is not in accordance of the poverty gap of a household.

Next, looking at the estimation for the household-type dummy variables, several interesting observations can be made. The base category for household type dummies is "household with more than one young person but no old person and no children", for example a working generation couple without children. The odds ratio in Table 7 represents the ratio of odds of getting out of poverty for that particular household type and for the base category. The odds ratio for "Old Only" households (households containing only those aged above 65), the coefficient is positive and significant in all countries. This is not surprising since the pension program is the largest portion of

government transfer in most countries. The marginal effect for this category is fairly large for the United States, Japan, Canada, Australia and the United Kingdom, and fairly low for Finland, Sweden, Netherlands, Denmark and Norway. What is interesting is the difference between coefficients for “single elderly woman” and “single elderly man”. For both of them, the coefficients are positive and significant for almost all countries. However, in all of the countries except for Japan and the United States, the marginal effect for (single elderly) women are higher than that for (single elderly) men. Especially in Japan, the difference is large, indicating a gender bias in Japan’s pension system.

The estimates for single young men and women are mixed. For all countries except the United States, the United Kingdom and Canada, the coefficients for these groups are negative and significant, showing that single men and women are less likely to get out of poverty than a couple (without children or elderly in the household), among young generations. For the United States, the United Kingdom and Canada, the trend was reversed.

The estimate for “young household with children (excluding single-mother households)” is interesting in that it gives the country’s “family friendliness”. Interestingly, despite the fact that many countries have policies and programs to help the families with children, none of the coefficients (except Sweden) turned out to be positive and significant. The coefficient for Sweden is positive and significant, but its magnitude is rather small. Others are mostly negative and significant, indicating that given same poverty level, families with children are less likely to get out of poverty than families without children. The marginal effect of being a family with children is the lowest in Japan, followed by Germany and the Netherlands.

The same story can be told about the “household with a single woman with children”. The estimation shows positive and significant coefficient for the Netherlands only. Among the rest, except for the United Kingdom and Finland, all other countries’ coefficients are negative and significant, indicating that a single-woman household with children is less likely to receive transfers that will raise it above the poverty line than a couple without children. However, the marginal effect is fairly small, except for Japan and Germany. For Japan, the marginal effect of being a single-woman household with children is about the same as that for the rest of young household with children (i.e. a couple with children). For the United States, the marginal effect is much smaller for a single-woman household with children than a couple with children, indicating programs aimed at single-mother households such as AFDC and TANF are making enough difference to differentiate the two.

6. Conclusion

The study continues the works of Beckerman, Mitchell and Kim in the analysis of "distributional pattern" of welfare states. It uses the concept of "universalism" defined as a degree of how flat the transfer is distributed across a population of different incomes. First, by using micro-data from eleven countries, the paper calculated "Positive", "Negative" and "System" universality indexes. Simple logistic regression method were then used to estimate the effects of universalistic and categorical determinants of a poor household on its poverty outcome.

The result shows a greater variation of welfare states typologies than that of Esping-Andersen. First, it showed that countries differ greatly in the composition of households by net transfer status and pre and post tax transfer poverty status. Some countries are notable in the fact they incur a small, yet not insignificant negative net transfer to the Pre-poor. There also seems to be no apparent relationship between the "system universalism" and "positive universalism", even though the "liberal" states have lower system universality compared to other nations, and among them, a positive correlation between the two universalities exists.

Second, the estimates from the logistic regression indicate that in all eleven countries, the initial poverty gap has some influence on the final poverty outcome, indicating a "universalistic" character. However, some countries, notably the United States, Canada and the United Kingdom, are more universal within the poor, meaning within the poor, the size of the initial poverty gap is has a large effect on the probability of getting out of poverty. The estimates also indicate that the probability of getting out of poverty differs greatly depending on the household structure. Households composing of only old persons (either single or multiple) are in general more likely to get out of poverty than a young couple without children. There are some variations in the magnitude of the marginal effects. In all of the countries except Japan, a single old woman has larger marginal effect than a single old man of getting out of poverty. In all countries except Sweden, Norway and Canada, a young household with children is less likely to get out of poverty than a young household without children. Similarly, in all countries except Norway, Finland and the United Kingdom, a single-mother household is less likely to get out of poverty than a young household without children. These results suggest that in all countries under the study, "categorical targeting" within the poor is a state of a fact.

The paper examined various "universalities" using the micro-data. The findings

suggest that the orientation of a transfer system's design, in terms of either a universalistic or means-test based structure, has little bearing on how the transfers are actually distributed across a population. Furthermore, transfers to the poor are characterized by a significant degree of "categorical targeting". Thus, households with the same poverty level have different probabilities of getting out of poverty depending on the household structure. These findings suggest that the analysis of poverty alleviation policies and programs needs to pay attention to details other than poverty gap or a poverty status of a household.

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Diagram 1 Beckerman's Poverty Reduction Efficiency

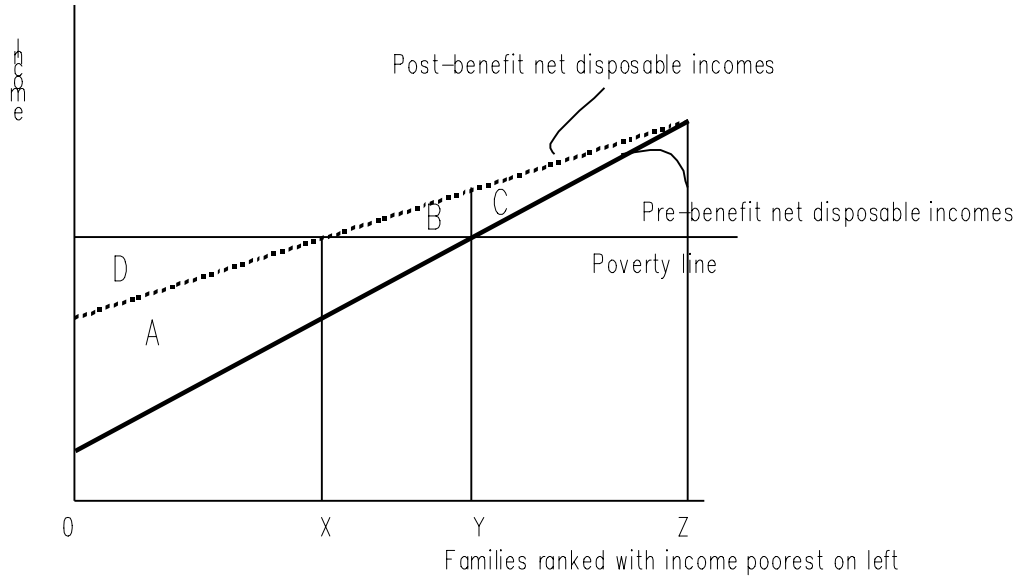


Diagram 2 Means-tested program vs. Universal Program

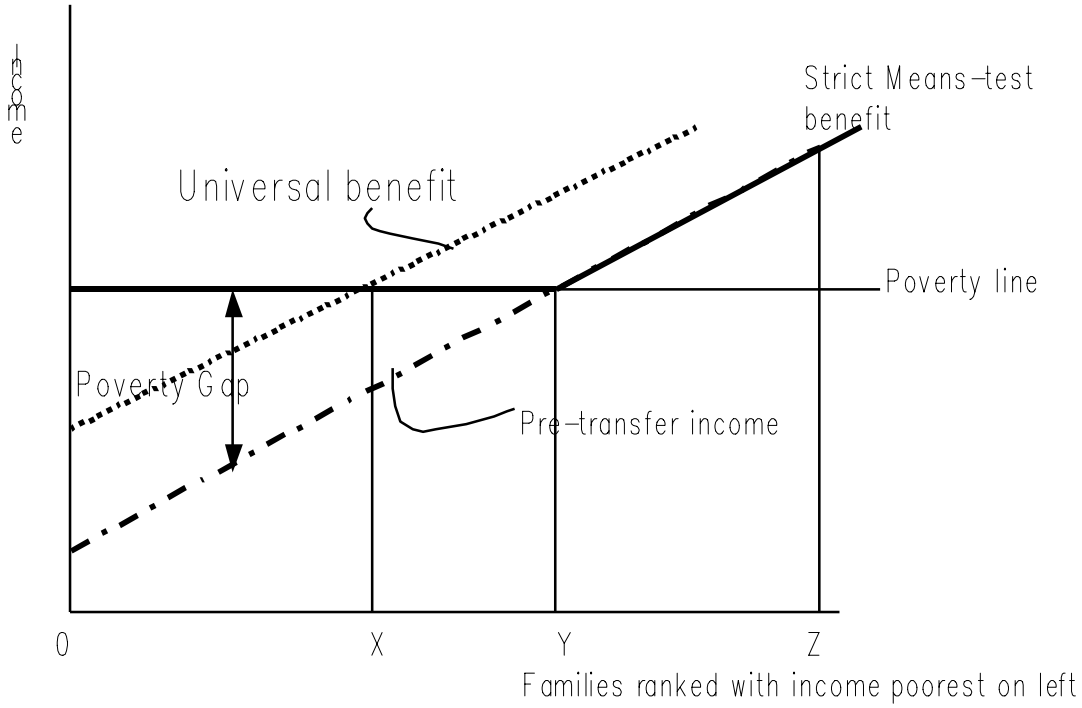


Table 2 %Share, in numbers of households, of households by Net Transfer and Poverty Status (%)

		Households which received Negative Net Transfer				House-holds with no net transfer	Households which received Positive Net Transfer			
Country	Year	Pre&Post Poor	Pre-Poor Post-Rich	Pre-Rich Post-Poor	Pre&Post Rich		Pre&Post Poor	Pre-Poor Post-Rich	Pre-Rich Post-Poor	Pre&Post Rich
Australia	1994	0.8		0.1	58.6	4.2	9.3	19.0		7.9
Canada	1997	0.6		0.4	55.5	0.1	11.5	17.2		14.8
Denmark	1997	2.1		1.0	55.1	0.8	4.8	26.9		9.2
Finland	1995	0.4		0.2	57.6	0.2	4.2	19.4		18.1
Germany	1994	4.3		1.2	52.7	1.5	6.3	25.5		8.6
Netherlands	1994	0.8	n/a	0.4	58.2	1.6	6.5	23.7	n/a	8.8
Norway	1995	0.7		0.5	52.8	0.6	5.1	27.5		12.9
Sweden	1995	1.5		0.6	42.8	0.2	6.9	32.9		15.0
UK	1995	1.1		0.3	48.5	0.4	9.4	26.2		14.1
US	1997	2.6		1.0	61.0	1.1	13.1	11.3		9.8
Japan	1996	4.6		2.2	60.1	1.8	7.1	11.3		12.9

Source: Calculated from "Shotoku Saibunpai Chosa 1996"(Japan) and LIS (Other countries)

Table 3 Amount of Net Transfer as %of Total Net Transfer, by Net Transfer and Poverty Status (%)

		Households which received Negative Transfer				Households which received Positive Transfer			
		Increase in Poverty Gap				Decrease in Poverty Gap			
		Pre&Post Poo	Pre-Rich Post-Poor		Pre&Post Rich	Pre&Post Po	Pre-Poor Post-Rich		Pre&Post Rich
Country	Year	Decrease below Pov line	Decrease below Pov line	Decrease above Pov line	Decrease above Pov line	Increase below Pov line	Increase below Pov line	Increase above Pov line	Increase above Pov line
Australia	1994	-0.03	-0.01	-0.01	-22.90	2.22	5.17	1.98	1.11
Canada	1997	-0.04	-0.05	-0.07	-20.89	1.89	3.37	2.44	2.37
Denmark	1997	-0.23	-0.29	-0.38	-38.28	0.89	7.92	4.82	1.66
Finland	1995	-0.10	-0.04	-0.08	-22.87	1.46	6.83	5.29	3.73
Germany	1994	-0.03	-0.03	-1.27	-29.59	1.83	9.43	8.34	3.23
Netherlands	1994	-0.74	-0.02	-0.04	-32.24	1.25	7.41	5.56	2.44
Norway	1995	-0.06	-0.04	-0.06	-20.53	1.30	9.57	6.32	2.90
Sweden	1995	-0.11	-0.04	-0.08	-20.76	1.25	9.89	10.37	4.04
UK	1995	-0.04	-0.19	-0.21	-20.27	2.57	6.61	3.71	2.58
US	1997	-0.05	-0.05	-0.09	-24.90	2.06	2.11	1.86	2.10
Japan	1996	-0.24	-0.10	-0.20	-12.79	1.09	2.58	2.17	3.02

Source: Calculated from "Shotoku Saibunpai Chosa 1996"(Japan) and LIS (Other countries)

Table 4 Universality

Country	Year	System Universality: Share of non means-tested as % of total positive transfer	Positive Universality: Share of positive transfer going to Pre-Rich as % of total positive transfer	Negative Universality: Share of negative transfer taken from Pre-Rich as % of total negative transfer
Australia	1994	0.94	0.11	1.00
Canada	1997	0.88	0.24	0.99
Denmark	1997	0.87	0.11	0.98
Finland	1995	0.84	0.22	0.99
Germany	1994	0.93	0.14	0.96
Netherlands	1994	0.90	0.15	0.98
Norway	1995	0.96	0.14	0.99
Sweden	1995	0.97	0.16	0.99
UK	1995	0.79	0.17	0.98
US	1997	0.87	0.26	0.99
Japan	1996	0.98	0.34	0.96
Average all		0.90	0.18	0.98
Std. Dev.		0.06	0.07	0.01
Correlation		0.06		
			-0.21	

Source: Calculated from "Shotoku Saibunpai Chosa 1996"(Japan)
and LIS (Other countries)

Table 5 Net Transfer to Each Household Category

Co	Year	Pre&Post Poor	Pre-Poor Post-Rich	Pre-Rich Post-Poor	Pre&Post Rich
Au	1994	2.19	7.14	-0.02	-21.78
Ca	1997	1.85	5.81	-0.12	-18.52
De	1997	0.66	12.74	-0.67	-36.63
Fir	1995	1.37	12.12	-0.12	-19.14
Ge	1994	1.79	17.78	-0.09	-26.37
Ne	1994	0.51	12.97	-0.06	-29.91
No	1995	1.24	15.89	-0.10	-17.63
Sw	1995	1.14	20.26	-0.12	-16.71
UK	1995	2.53	10.32	-0.40	-17.69
US	1997	2.01	3.97	-0.14	-22.80
Ja	1996	0.85	4.75	-0.30	-9.77

Source: Calculated from "Shotoku Saibunpai Chosa 1996"(Japan)
and LIS (Other countries)

Table 6 Descriptive Statistics

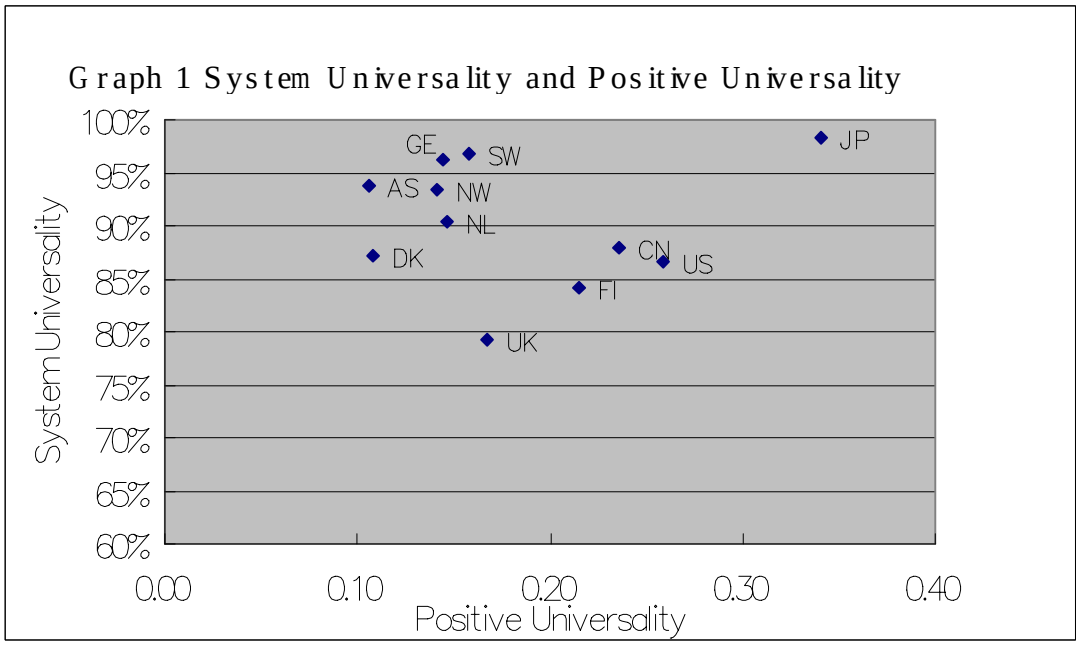
Average	Japan 1998	U.S. 1997	Sweden 1995	U.K. 1995	Norway 1995	Germany 1994	Canada 1997	Australia 1994	Netherlands 1995	Denmark 1997	Finland 1995
Poverty gap	0.669	0.672	0.696	0.772	0.686	0.827	0.705	0.844	0.771	0.814	0.597
Std. Err.	0.360	0.340	0.359	0.298	0.308	0.272	0.376	0.548	0.290	0.342	0.324
Single Old Female	0.156	0.193	0.224	0.196	0.280	0.316	0.179	0.163	0.194	0.238	0.197
Std. Err.	0.363	0.394	0.417	0.397	0.449	0.465	0.383	0.370	0.394	0.426	0.397
Single Old Male	0.034	0.048	0.073	0.051	0.072	0.045	0.047	0.060	0.045	0.078	0.027
Std. Err.	0.180	0.214	0.260	0.221	0.249	0.208	0.212	0.238	0.207	0.269	0.163
Single Young Female	0.072	0.080	0.171	0.071	0.118	0.086	0.086	0.107	0.133	0.163	0.150
Std. Err.	0.259	0.271	0.377	0.257	0.323	0.280	0.281	0.309	0.339	0.369	0.357
Single Young Male	0.059	0.064	0.231	0.075	0.142	0.074	0.095	0.106	0.110	0.203	0.213
Std. Err.	0.236	0.245	0.422	0.263	0.349	0.261	0.293	0.308	0.313	0.402	0.409
Old only (>2)	0.206	0.135	0.140	0.146	0.168	0.161	0.127	0.130	0.128	0.108	0.066
Std. Err.	0.405	0.342	0.347	0.354	0.374	0.368	0.333	0.336	0.334	0.310	0.249
Young only	0.122	0.095	0.031	0.109	0.047	0.089	0.137	0.132	0.171	0.066	0.118
Std. Err.	0.328	0.294	0.174	0.312	0.211	0.285	0.344	0.339	0.377	0.248	0.323
Young with kids	0.077	0.175	0.055	0.146	0.048	0.075	0.150	0.143	0.092	0.052	0.115
Std. Err.	0.266	0.380	0.229	0.354	0.213	0.264	0.357	0.350	0.290	0.221	0.320
Single Young Female w/kids	0.023	0.108	0.049	0.135	0.073	0.054	0.087	0.069	0.055	0.049	0.061
Std. Err.	0.149	0.311	0.216	0.341	0.261	0.226	0.282	0.253	0.228	0.215	0.239
Other households	0.251	0.102	0.025	0.075	0.052	0.099	0.093	0.090	0.072	0.044	0.053
Std. Err.	0.433	0.302	0.155	0.264	0.222	0.299	0.290	0.286	0.259	0.204	0.224
Sample size	8611	14391	6181	2512	2698	1774	10860	2520	1596	4573	1527

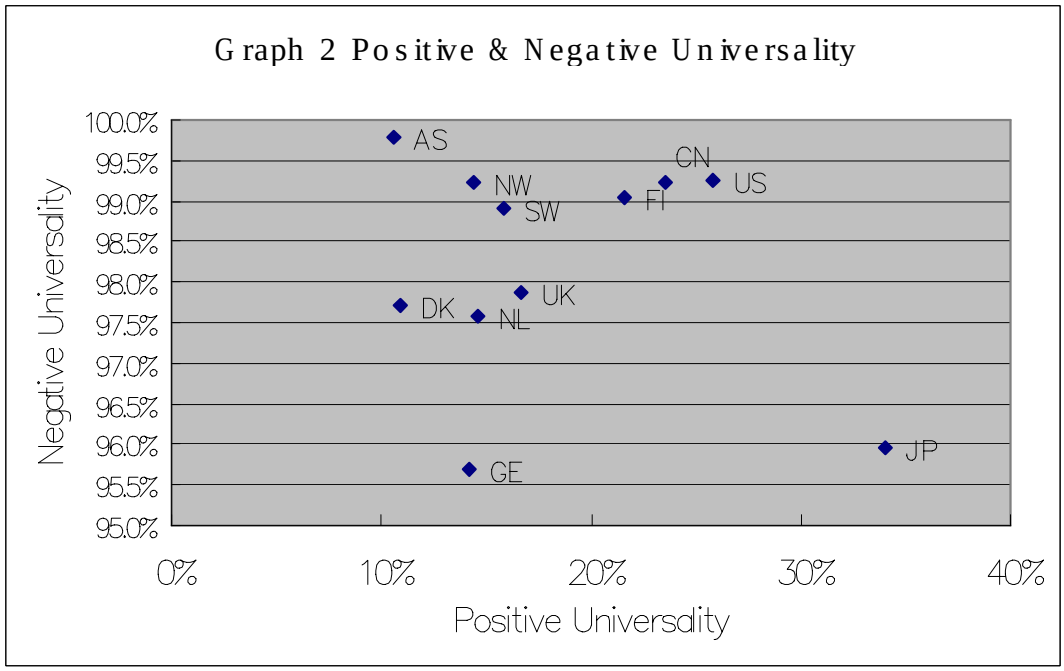
Source: LIS, Kokumin Seikatsu Kiso Chousa 96

Table 7 Logit Model Regression : Estimation of Coefficients

	Japan 1998	U.S. 1997	Sweden 1995	U.K. 1995	Norway 1995	Germany 1994	Canada 1997	Australia 1994	Netherlands 1995	Denmark 1997	Finland 1995
Poverty gap	−0.359 ***	−2.751 ***	−0.444 ***	−1.691 ***	−0.234	−0.595 **	−2.483 ***	−1.037 ***	−0.849 ***	−0.341 ***	−1.922 ***
Std. Err.	0.081	0.087	0.135	0.193	0.245	0.300	0.112	0.157	0.231	0.116	0.260
Odds Ratio	0.70	0.064	0.64	0.18	0.79	0.55	0.08	0.36	0.43	0.71	0.15
Marginal Effect at mean	−0.09	−0.636	−0.04	−0.32	−0.02	−0.08	−0.49	−0.25	−0.14	−0.04	−0.24
Household Type Dummies											
Single Old Female	0.663 ***	2.437 ***	1.756 ***	1.621 ***	2.101 ***	1.139 ***	4.933 ***	1.315 ***	2.468 ***	2.934 ***	1.581 ***
Std. Err.	0.092	0.102	0.250	0.190	0.305	0.306	0.187	0.184	0.370	0.226	0.420
Odds Ratio	1.94	11.437	5.79	5.06	8.17	3.12	138.82	3.72	11.80	18.80	4.86
Marginal Effect	0.16	0.540	0.12	0.23	0.14	0.14	0.47	0.28	0.25	0.20	0.14
Single Old Male	1.197 **	2.793 ***	1.633 ***	1.828 ***	2.236 ***	1.201	4.528 ***	1.000 ***	3.262 ***	2.887 ***	1.131
Std. Err.	0.140	0.128	0.335	0.314	0.523	0.819	0.308	0.237	0.671	0.341	0.785
Odds Ratio	3.31	16.332	5.12	5.82	9.35	3.32	92.61	2.72	26.11	17.94	3.10
Marginal Effect	0.29	0.558	0.09	0.21	0.10	0.12	0.31	0.21	0.21	0.14	0.10
Single Young Female	−0.647 ***	0.359 ***	−1.368 ***	0.967 ***	−0.741 ***	−0.624 *	0.436 ***	−0.135	−0.458 **	−0.171	−0.754 ***
Std. Err.	0.118	0.130	0.191	0.220	0.261	0.297	0.136	0.190	0.218	0.145	0.268
Odds Ratio	0.52	1.432	0.26	2.63	0.48	0.54	1.55	0.87	0.63	0.84	0.47
Marginal Effect	−0.14	0.086	−0.18	0.15	−0.08	−0.10	0.08	−0.03	−0.08	−0.02	−0.11
Single Young Male	−1.642 ***	0.379 ***	−1.413 ***	0.677 ***	−0.850 ***	−0.942 ***	0.131	−0.412 **	−0.259	−0.347 **	−0.207
Std. Err.	0.167	0.142	0.187	0.215	0.252	0.341	0.137	0.194	0.261	0.140	0.264
Odds Ratio	0.19	1.460	0.24	1.97	0.43	0.39	1.14	0.66	0.77	0.71	0.81
Marginal Effect	−0.30	0.091	−0.18	0.11	−0.10	−0.17	0.03	−0.10	−0.04	−0.04	−0.03
Old only (>2)	1.834 ***	3.299 ***	3.351 ***	1.714 ***	3.799 ***	2.236 ***	5.434 ***	1.197 ***	1.565 ***	4.115 ***	1.373 **
Std. Err.	0.090	0.110	0.363	0.216	0.511	0.409	0.299	0.194	0.270	0.517	0.585
Odds Ratio	6.26	27.041	28.52	5.55	44.65	9.35	229.00	3.31	4.78	61.23	3.95
Marginal Effect	0.43	0.641	0.15	0.23	0.17	0.20	0.42	0.26	0.17	0.17	0.11
Young with kids	−2.587 ***	−0.861 ***	0.381 *	−0.718 ***	0.071	−1.385 ***	0.088	−0.560 ***	−1.257 ***	−0.332 *	−0.565 **
Std. Err.	0.211	0.104	0.226	0.177	0.267	0.273	0.104	0.180	0.228	0.181	0.252
Odds Ratio	0.08	0.423	1.46	0.49	1.07	0.25	1.09	0.57	0.28	0.72	0.57
Marginal Effect	−0.39	−0.180	0.03	−0.15	0.01	−0.27	0.02	−0.14	−0.26	−0.04	−0.08
Single Young Female w/kids	−2.968 ***	−0.294 ***	−0.549 **	0.242	−0.065	−2.119 ***	−0.216 *	−0.506 **	0.797 ***	−0.258	0.214
Std. Err.	0.458	0.114	0.242	0.180	0.291	0.592	0.124	0.212	0.318	0.184	0.360
Odds Ratio	0.05	0.745	0.58	1.27	0.94	0.12	0.81	0.60	2.22	0.77	1.24
Marginal Effect	−0.38	−0.066	−0.06	0.44	−0.01	−0.45	−0.04	−0.13	0.10	−0.03	0.02
Other households	0.904 ***	1.805 ***	0.863 **	1.381 ***	1.385 ***	1.335	2.414 ***	0.883 ***	0.588 **	1.433 ***	0.382
Std. Err.	0.079	0.108	0.351	0.250	0.349	0.507	0.133	0.212	0.272	0.261	0.434
Odds Ratio	2.47	6.078	2.37	3.98	3.99	3.80	11.18	2.42	1.80	4.19	1.47
Marginal Effect	0.22	0.421	0.06	0.19	0.08	0.13	0.28	0.20	0.08	0.09	0.04
Intercept	−0.497 ***	0.182 **	2.017 ***	1.587 ***	1.126 ***	1.508 ***	0.683 ***	0.851 ***	1.343 ***	0.964 ***	2.680 ***
Std. Err.	0.076	0.085	0.194	0.210	0.240	0.307	0.097	0.185	0.236877	0.150	0.240
Log Likelihood	−4906.2	−7062.3	−2383.7	−1290.9	−983.0	−692.6	−4203.0	−1548.3	−755.7	−1886.4	−646.0
Psudo R2	0.1710	0.272	0.2422	0.1503	0.2449	0.2188	0.4288	0.1002	0.1864	0.2191	0.1404
Sample size	8611	14391	6181	2512	2698	1650	10860	2520	1596	4573	1527

Source: LIS, Kokumin Seikatsu Kiso Chousa *** 1% **5% *10% (*) dy/dx is for discrete change of dummy variable from 0 to 1.. Base: Young generation only households


Graph 1 System Universality and Positive Universality
System Universality
100%
95%
90%
85%
80%
75%
70%
65%
60%
GE
SW
JP
AS
NW
NL
CN
US
DK
FI
UK
0.00
0.10
0.20
0.30
0.40
Positive Universality


Graph 2 Positive & Negative Universality
Negative Universality
100.0%
99.5%
99.0%
98.5%
98.0%
97.5%
97.0%
96.5%
96.0%
95.5%
95.0%
AS
CN
NW
US
FI
SW
UK
DK
NL
JP
GE
0%
10%
20%
30%
40%
Positive Universality