

### 高齢者の貧困率の増加の要因

(高齢者の中のさらなる高齢化も一因ではあるが、特に70代の)市場所得の貧困率の上昇によるものが大きい

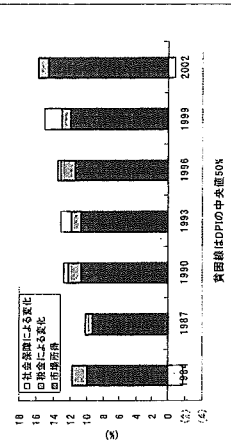
年齢層	1997年		2002年		差		税・社会保障による効果(市場所得の貧困率)	
	1997年	2002年	1997年	2002年	1997年	2002年	1997年	2002年
60代	15.12	17.64	2.92	0.54	0.43	0.58	0.80	17.64
70代	18.72	21.11	2.39	0.34	0.37	0.51	0.64	21.11
80以上	18.07	25.08	7.01	0.12	0.15	0.44	0.52	25.08
増加分合計	16.69	20.10	3.41					19.70

市場所得の貧困率 P(M)	
1997年	35.60
2002年	44.46
60代	38.12
70代	56.54
80以上	32.53
	51.87

### 子供

税と社会保障による貧困率の変化(子供)



### 子供の貧困率の上昇の要因

母子世帯の増加による上昇よりも、母子世帯以外の市場所得の貧困率の上昇による上昇が大きい

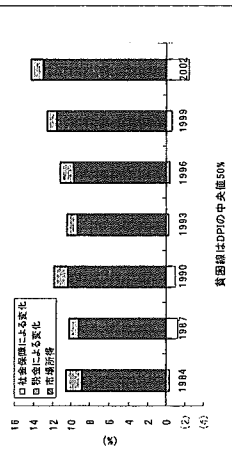
世帯類型	1987年		2002年		差		税・社会保障の効果(市場所得の貧困率)	
	1987年	2002年	1987年	2002年	1987年	2002年	1987年	2002年
母子世帯	0.023	0.043	0.216	0.091	0.091	0.091	0.091	0.091
その他世帯	0.577	0.597	-0.148	-0.050	0.021	0.021	0.021	0.021

市場所得の貧困率 P(M)	
1987年	52.3
2002年	62.30
母子世帯	9.21
1987年のP(M)で、2002年のP(M)に比べて	3.70
1987年のP(M)に比べて、2002年のP(M)に比べて	14.13
1987年のP(M)に比べて、2002年のP(M)に比べて	15.79
1987年のP(M)に比べて、2002年のP(M)に比べて	10.67

### 壮年者(20~59歳)

税と社会保障による貧困率の変化(壮年者=20~59歳)



### 壮年者の貧困率の上昇の要因

無配偶者の増加、貧困化(特に男性)

世帯類型	1987年		2002年		差		税・社会保障による効果(市場所得の貧困率)	
	1987年	2002年	1987年	2002年	1987年	2002年	1987年	2002年
有配偶男性	7.57	8.34	0.97	0.38	0.32	0.17	-0.18	8.34
有配偶女性	8.13	9.47	1.34	0.40	0.35	0.01	0.01	9.47
無配偶男性	15.14	18.75	4.81	0.11	0.17	0.16	0.23	18.75
無配偶女性	9.10	11.97	2.77	1.00	1.00	0.16	0.21	11.97

市場所得の貧困率 P(M)	
1987年	6.60
2002年	7.49
有配偶男性	8.20
有配偶女性	9.52
無配偶男性	13.99
無配偶女性	24.50

### 相対的剥奪の概念

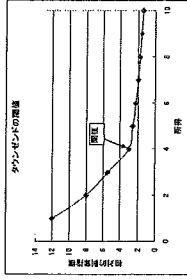
- Townsend(1979) "decent life (まっとうな生活)" をおこなない状態
- Sen (1987) "shame (恥)" "decent life with dignity (尊厳を持ったまっとうな生活)"
- 今日もっとも頻繁に使われる定義 = "exclusion from the minimum acceptable way of life in one's own society because of inadequate resources" (必要な資源の不足のために、その人の生活する社会で許容される最低限の生活をできない状態)

### 相対的剥奪とは (Relative Deprivation)

- 相対的剥奪 = 「必要な資源の不足のために、規範的に期待されている生活様式を共有できない状態をさし示す概念である」(平岡2001)
- 文字通り「相対的」概念
- 「期待される」活動や生活様式を具体的にリストアップ
- 直接に生活の質を計測 → 直感的
- 生活活動のリストが「最低限の生活」を表すものであれば、リストそのものが「剥奪線」となる(新たに剥奪線を決定する必要がない)

### タウンゼンド(1979)のオリジナル相対的剥奪指標

- 12分野(食事、健康、住居、職場環境、社会環境など)の60項目を選定。その有無を調査。
- 「ない」と答えた項目数 = 相対的剥奪指標



所得と剥奪指標の関連を分析。世帯構成ごと、ある特定の所得点(閾値、限界点)で、不釣り合いに急曲 → この点こそが貧困基準

### 相対的剥奪指標の改善

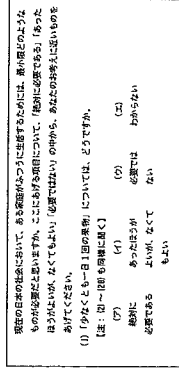
- 強制された次如 (enforced absence) と嗜好による次如 (preference) の区別
- 項目の重要性の考慮
- 恣意性の排除 (批判) 指標の構築に用いられる項目リストが研究者によって恣意的に選定されており、意味を持たない(解決方法) 項目リストの選定自体を社会に問い、客観性を確保 (社会的必需項目 = Socially Perceived Necessities)

### 社会的必需項目の概念

- 「調査の」第一として最も重要な目的は、1983年のイギリスにおいて何が許容がたい生活水準 (unacceptable standard of living) であるかについての社会的合意があるかを検証することであり、もし、合意があるのであれば、誰がその水準以下に落ちてきているのかを分析することである。この背後にあるのは、現在の世論 (public opinion) において最低限必要とされる生活水準以下にある個人は「貧困」であるという概念である。この最低限の生活水準 (必要) には、食料など生き延びるために必要な必需品のみならず、社会的役割を担い、社会に参加するために必要なアクセスなども含まれる。(Gordon & Pantazis 1997、下線は筆者)

### 社会的必需項目の構築

平成14年「福祉に関する国民意識調査」  
全国成人男女2,000人対象 (有効回答数 = 1,350)

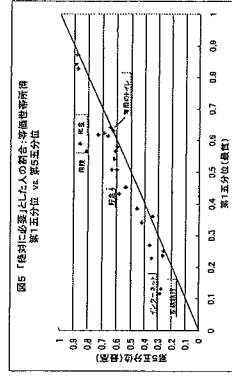


質問の目的は合意を得ることである。ある程度はついでに生活するたためは、最低限の生活水準を確保することである。この点がある項目について、「絶対に必要である」と答えた人は、必ずしも、多くてもよい。必要ではない項目から、おなじの項目に回答した割合を比べてみる。

(1) 十分な収入を得る (2) 十分な住居を得る (3) 十分な健康を得る (4) 十分な教育を得る (5) 十分な社会参加を得る (6) 十分な食料を得る (7) 十分な衣服を得る

はい (1) (2) (3) (4) (5) (6) (7) いいえ (1) (2) (3) (4) (5) (6) (7)

### 社会的合意は存在するか?





### 所得と相対的剥奪の関係(平均値)

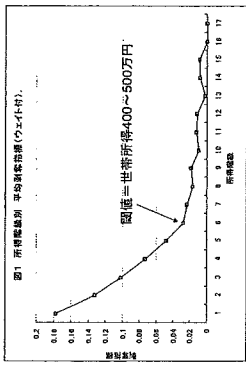


図1 所得階級別 平均相対的剥奪(ウエイト付)  
 相対的剥奪=0.1  
 所得階級1=100万円、階級2=100~200万円、階級3=200~300万円、階級4=300~400万円、  
 階級5=400~500万円、階級6=500~600万円、階級7=600~700万円、階級8=700~800万円、階級9=800~900万円、  
 階級10=900~1,000万円、階級11=1,000万円以上、階級12=1,2万円、階級13=1.5万円、階級14=2万円、階級15=2.5万円、階級17-2  
 万円以下

### 所得と相対的剥奪の関係(頻度)

表4 所得階級別 剥奪率

所得階級	サンプル数	相対的剥奪率 > 0.1	相対的剥奪率 > 0.2
1	11	100%	100%
2	3	100%	100%
3	110	74%	71%
4	220	108%	48%
5	212	90%	42%
6	188	98%	33%
7	125	84%	20%
8	125	28%	20%
9	96	20%	8%
10	101	57%	8%
11	12	59%	15%
12	13	28%	3%
13	14	15%	13%
14	15	2%	13%
15	16	6%	14%
不明	17	7%	0%
計	1520	550	34%

### 所得と剥奪の関係:現役vs高齢者(頻度)

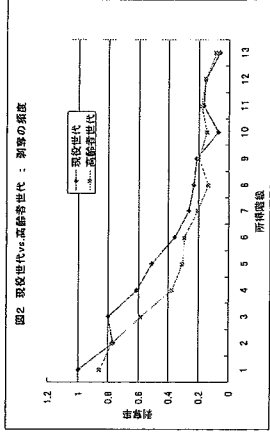


図2 現役世代vs.高齢者世代: 剥奪の頻度

### 所得と剥奪の関係:現役vs高齢者(深さ)

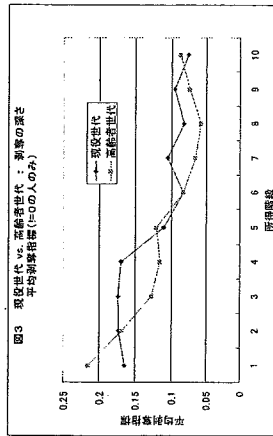


図3 現役世代 vs. 高齢者世代: 剥奪の深さ  
 平均相対的剥奪(=0.1の人のみ)

### 考察

- 相対的剥奪指標は、項目リストの選択によってその結果が大きく左右される→社会的共有される価値や規範理論に基づいたものでなければならぬ
- その点で社会的必要項目による相対的剥奪指標は重要。こうして構築された指標によってサンプルの35%が剥奪状況
- しかし、剥奪指標の絶対値の高低よりも、指標があることによって可能となる分析の結果が重要

### 考察(続き)

- 日本においてもある所得以下で相対的剥奪指標が増加する(閾値の確認)→しかし、所得データの信憑性には留意必要  
 (中年期の)婚姻関係の欠如、傷病、母子世帯など  
 ☆高齢者世帯や有子世帯は特に剥奪指標が高いわけではない
- リスクグループ=「標準的なライフコースからの逸脱者」  
 ☆リスクグループ=若年者  
 ☆所得をコントロールしても年齢が低い方が剥奪の深さと同じ所得でも、現役層の方が高齢層よりも、剥奪の頻度・深さともに大きい

### 公的扶助制度への示唆

- 日本の貧困率は確実に上昇しており、何らかの政策的介入が必要
- 特に子どもが貧困が上昇しており、機会の平等という観点からも望ましくない→①有子世帯への社会保障の原直しが必要、②母子世帯の子供も他の有子世帯と比べて貧困状態でないことが望ましい
- 障害年金、母子扶養手当など、他制度の拡充も含め、社会保障制度全体の検討が必要

### 貧困基準(生活保護基準)について

- センらのいう「尊厳をもったまともな生活」をおくることができる基準
- 相対的剥奪指標の分析は、現在の生活保護基準より高い所得に閾値が存在する可能性を示唆→さらに詳細な分析が必要

### 今後の研究の方向性

- 世帯構造を考慮した相対的剥奪指標の分析が必要→細かい設定による閾値の検証(大規模調査が必要)
- 非保護世帯と一般世帯の比較→バイアスの存在。緻密な分析が必要
- 貧困のプロセスを明らかにし、公的介入の効果を検討するためには、パネル・データの構築が不可欠(欧米諸国の殆どが整備済)

## Empirical Analysis of Relative Deprivation and Poverty in Japan<sup>\*</sup>

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### 1. Introduction

In Europe and the US, the attempts to scientifically measure poverty have become an established task of researchers. Many countries publish official poverty rates using large scale survey data, and use the statistics to examine the current economic status of the nation. However in Japan, even though the Ministry of Health and Welfare (now the Ministry of Health, Labor and Welfare) have published the low-income rate up until the 1960s, attempts to calculate the poverty and take-up rate of social assistance have been scant and disjoint. This is mainly due to inaccessibility to large scale survey data to researchers and also to a false sense of assurance that poverty, as we know it, has been eradicated in contemporary Japan. In recent years, the debate on the economic inequality has renewed the interests in poverty studies. Social policy scholars have calculated the poverty rate and the take-up rate of public assistance (Hoshino & Iwata, 1994; Abe, 2005; Komamura, 2005 to name a few). However, these studies share some limitations. One such limitation is that, even though the researchers are quite aware of the multi-dimensional nature of poverty, most of these studies used only monetary measurement of poverty, namely income or consumption level of a household. As many authors have pointed out, standard of living is determined by more than one dimension ; e.g. present amount of savings amassed from past incomes as well as, properties (home ownership, etc.), labor resources (education, talent, health condition, etc.), accumulation of human relationships. While the low income is one dimension of poverty, it does not in itself indicate the phenomena of poverty. The phenomena of poverty emerge in all aspects of life, including consumption, housing and social relationships. Therefore, low income, especially the current income, does not always indicate poverty<sup>6</sup>. Even so, most of the researchers were bound to use income or consumption data due to data limitation and the lack of clear definition on other

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<sup>\*</sup> The views and opinions expressed in the article are entirely of the author's, and do not reflect the views and opinions of the Institute or the Ministry of Health, Labor and Welfare.

<sup>6</sup> A typical case is the elderly after retirement. Though their pension income is low, some of the elderly can maintain a high standard of living by using the savings and property they have accumulated.

dimensions of poverty.

The second problem is the adequacy of the poverty standard (i.e. poverty line). Most of the Japanese studies of poverty rates have made use of statistically calculated standards such as 50 % of the sample's median value (Hoshino & Iwata, 1994; Wada & Kimura, 1998; Abe, 2005) or the public assistance standard established by the government (hereafter referred to as "public assistance standard") (Hoshino, 1995; Ogawa, 2000; Yamada, 2000; Hamamoto, 2005). The former is the formulation of the relative poverty concept, which states that individuals require a certain level of living relative to the standard of living of the entire society in order to live "without feeling shame" within that society. However, those dubious about the relative concept of the poverty have pointed out that using this method, the poverty line rises in accordance with a rise in the standard of living of the entire society and, in an international comparison, different poverty lines are used for different countries. Their claim is that the concept of the relative poverty is essentially the same as the concept of inequality and it does not indicate the distress<sup>7</sup>. The public assistance standard adopted in the latter is stipulated by the government as the minimum cost of living, and it is used to determine the eligibility of the public assistance by comparing it against the current income of the applicant. It is the closest to the Japanese official poverty line. However, it is not the sole determinant of the eligibility of getting the public assistance. Other requirements such as the amount of savings and the ability of getting a job in the labor market, and the availability of family and relatives who may provide help are all considered before determining the eligibility. The underlying idea is that not all households with incomes less than the standard are in distress. The public assistance standard is calculated to be approximately 70% of the consumption expenditure of an average worker's household, following the Standard Equilibrium Method<sup>8</sup> adopted in

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<sup>7</sup> For example, see "Overview of the Discussion at the Workshop for Social Security for the Households with Children", *Kikan Shakai Hoshō Kenkyū (Social Security Research Quarterly)*, p.130. The countervailing concept of relative poverty is the absolute poverty which uses a fixed poverty line either multilaterally or chronologically (such as "1 dollar per day"). Its determination of the poverty line is based on constant criteria guided by concepts such as the basic human needs (e.g. to obtain the required calories for survival). However, the prices for, and the package of, basic human needs vary from a country to a country, and from one time to another time. Thus, there is an argument that the absolute is also a relative concept. The relative poverty concept is more often used for countries other than developing countries.

<sup>8</sup> The public assistance is used in two ways. First, it is used to determine the eligibility. The household's income is compared against the standard. Second, the amount of public assistance amount is determined as the difference between the public assistance standard and the household income. calculation of the public assistance standard has

1984, which is based on the idea that “the minimum standard of living that should be guaranteed by the public assistance system should be treated in a relative manner in connection with the standard of living among the general public” (*Hogo no Tebiki Heisei 15 (2003) edition*, p.41). In other words, the public assistance standard is also based on the concept of relative poverty so that the criticism mentioned above is equally applicable to it. Some critics also have pointed out that the public assistance standard is too high to be used as a poverty line because of the fact that the standard of living of households receiving public assistance are sometimes higher than that of those who are not receiving public assistance (Shibata 2001).

What measurement of poverty and what poverty standard, then, would be acceptable to the majority of people in modern Japanese society? One possible answer to this question is the Relative Deprivation Index developed by Townsend (1979). Hiraoka, one of the leading social policy researchers in Japan, defines Relative deprivation as “the condition in which the expected standard of living cannot be achieved due to the lack of the necessary resources” (Hiraoka, 2001, p.155) “The expected standard of living” indicates the custom and the norm of the society in which the individual lives, and in this meaning, this concept is relative, as in the case of the monetary concept of relative poverty<sup>9</sup>. The characteristic of the relative deprivation, however, is that it explicitly specifies a minimum acceptable list of expected activities in the relevant society. Relative deprivation cannot simply be explained as another concept of inequality nor relatively low income; it is a concept that under a certain living standard (threshold), it becomes impossible to conduct activities normally expected by the society, and thus minimum acceptable quality of life cannot be achieved. In this regard, it is an absolute

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been modified over the years.

Showa 23 (1948) – 35 (1960) Market Basket Method

Calculated by adding items of clothing, food and housing required for the minimum standard of living.

Showa 36 (1961) – 39 (1964) Engel Method

Calculated by price of food that meets the nutritional requirement and multiplying with the Engel’s coefficient.

Showa 40 (1965) – 58 (1973) Disparity Reduction Method

Increasing the standard more than the growth rate of the consumer price index so that the disparity between the assisted household and the general public would decrease.

Showa 59 (1983) – Standard Equilibrium Method

The standard is modified in accordance with the estimated consumer price index of the relevant year.

<sup>9</sup> For example, items in the list used for the relative deprivation index may change in response to an increase in the standard of living of the entire society.



concept. . Compared to monetary notion of relative poverty, which defines this threshold as a certain level of income (or consumption), the notion of relative deprivation defines this threshold as a list of activities, and directly measures the quality of life. Thus, it instinctively appeals to people's vague idea of "poverty". Furthermore, as one's activities are influenced by factors beyond present income (e.g. savings or home ownership), the relative deprivation index can be said to be an index which is more closely related to the standard of living than one based on present income. Moreover, if the list of the living activities building up a relative deprivation index indicates the "minimum standard of living," poverty can be defined as living conditions that exclude any one item of the list, thereby eliminating the need to set a new poverty line (deprivation line)<sup>10</sup>.

This paper is an attempt to measure poverty in contemporary Japan using the relative deprivation concept. Even though Townsend's work on relative deprivation is widely known among Japanese social policy scholars, such attempts to apply relative deprivation concept to Japanese data has been scant. The only exception has been Hiraoka (2001), which used data on elderly in 23 wards in Tokyo to create Japanese version of relative deprivation index. It constructs the index by summing up the number of lacking items in the 20-item list, selected from five dimensions; social participation and information access; personal network; social support network; housing, and household durables. The survey revealed that 80% of the respondents lacked at least one of these items. Hiraoka (2001) also tentatively suggests the negative relationship of the relative deprivation index and the income, by showing that the index increases significantly at income less than 2,250,000 yen.. However, Hiraoka(2001)'s analysis, unfortunately, has several limitations; first, the analysis is limited to the elderly; and the second, a turning point or a vortex at which the deprivation index disproportionately rises, discovered by Townsend could not be confirmed because the sample size was limited, and third, survey was not designed for the purpose of measuring deprivation. This paper will address these limitations. The purpose of the paper is as follows. First, it constructs a Japanese version of relative deprivation index, using data from two surveys. Then, it will examine the current status and identify the risk groups for relative deprivation in Japan. In order to highlight the difference between Hiraoka (2001)'s analysis and this study, it will compare the relative deprivation for the elderly and the young. Lastly, the paper analyzes the relationship between relative deprivations and income, attempting to identify, if any, the vortex at which the relative deprivation index

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<sup>10</sup> For example, items in the list used for the relative deprivation index may change in response to an increase in the standard of living of the entire society.

disproportionally rises.

## 2. Development of a Relative Deprivation Index

The relative deprivation index originally developed by Townsend is fairly simple. Survey respondents are asked about the presence or absence of 60 items from 12 dimensions (where items are activities rather than goods, respondents are asked whether they perform or do not perform the activities) thought to be necessary for a minimum acceptable living standard. From this, a list of binomial variables is obtained by assigning 1 for “yes” and 0 for “no.” These variables are then arithmetically summed and defined as the relative deprivation index score. Aforementioned Hiraoka’s work on Japanese relative deprivation index also follows this methodology. However, there have been several major criticisms against this simple version of the index. To answer to these criticisms, the relative deprivation index has been improved and has become more sophisticated in the history of British poverty study. The major differences between the original and improved index are summarized below.

### 1) Elimination of arbitrariness

One criticism of the original relative deprivation index was that items used in the list were chosen arbitrarily by researchers and a lack of a given item did not always indicate the status of deprivation (Gordon 2000). For example, a researcher might choose refrigerator as one of the items. However, there might be a difference of opinion as to refrigerators’ being essential to live a “minimum acceptable“ way of life in society. The lack of a refrigerator sometimes may not always lower the quality of life, if, say, one lives in a society where convenience stores are ubiquitous or one lives in cold climate. It is also possible in countries or societies that a refrigerator is a luxury item and is enjoyed only by a minority of the society. The selection of items is problematic in the international comparison as well. Townsend’s original deprivation index includes items that are thought to be luxuries or not common in the Japanese context. A few examples are one-week holiday away from home and inviting friends to one’s home. Thus, in order to construct a relevant relative deprivation index, it is necessary to select items that are necessary for minimum acceptable living in each society or country. Inclusion of inappropriate items will lead to an index that is irrelevant and that will become a target of criticisms. Thus, arbitrariness in the selection of survey items must be minimized as much as possible, and blindly using the list developed in other countries must be avoided.

One way to eliminate arbitrariness is developed by Mack & Lansley (1985) and

subsequently developed by researchers in Britain (Gordon & Pantazis eds. 1997, Gordon et al. 2000). They sought to avoid this problem by letting the society select items that are considered to be necessary. By conducting a preliminary survey where randomly chosen subjects in general society were asked what items they believed were items that “all adults should be able to afford and which they should not have to do without” (Gordon et al. 2000, p.14). The method is based on the belief that while acknowledging the differences in individual preferences in each society, there exists a “consensus on what is an unacceptable standard of living” and that “a person is in ‘poverty’ when their standard of living falls below the minimum deemed necessary by current public opinion” (Gordon ad Pantazis 1997). Items judged necessary by majority of the respondents in the preliminary study are then termed “socially perceived necessities”, and they represent a poverty criteria confirmed by the society. By letting the general public choose items freely, a true objectivity is assured. When researchers use a list of items chosen arbitrarily, they are required to determine the number of items whose absence from the list would define the “deprived condition.” In other words, it is required to determine the “deprivation line;” however, the line is also arbitrary and meaningless<sup>11</sup>. Socially perceived necessities, however, are bare essentials. Therefore, even the lack of one of the items equals “less than minimum”. That is, the list itself becomes a deprivation line. This method was used for the Breadline Britain Survey in 1983 (Mack & Lanskeley, 1985), the Breadline Britain Survey in 1990 (Gordon & Pantazis, 1997) and the Poverty and Social Exclusion Survey in 1999 (Gordon et al., 2000)

## 2) Distinction of Enforced Absence and Absence by Preference

The second criticism to the original deprivation index was that no distinction was made between enforced absence and absence by individual preference (Piachaud 1981, 1987). For example, absence of meat from one’s diet, included in Townsend’s index, would not indicate deprivation if the individual was a vegetarian. A television, an item that has achieved a possession rate of close to 100%, is sometimes not possessed because of individual preference. As such, it is necessary to distinguish between absence due to individual preference and absence caused by the individual’s inability to

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<sup>11</sup> Tsakoglou (2003) uses the average of deprivation index as the deprivation line, and defines the condition of deprivation as a deprivation index that is lower than that. It is the most common method to use the average as the deprivation line considering a poverty line which is often set at 50% of median value. Practically, however, in many surveys, most of the samples obtain 0 for the deprivation index, making it impossible to get the median value. Therefore, the average is used instead.

obtain the item in spite of their need (enforced absence). To make this distinction, the questionnaire of the Poverty and Social Exclusion Survey (and earlier British surveys as well) use the wording such as “Can you afford...” So that lack of an item because the respondent “does not wish to possess” is not counted as deprivation.

### 3) Weighting of the Items

Even among those items selected as the socially perceived necessities, there are differences in the seriousness of their deprivation. For example, take a look at the “3 meals per day” and “social activity”. Both of are essential for a life in society, however, it is difficult to think their lack indicates the same seriousness. To correct this deficiency, a deprivation index which weighs the items by the degree of its importance (Proportional Relative Deprivation Scale) was developed (Whelen et al. 2002, Apospori & Miller 2003). While the original relative deprivation index is simply the sum of dummy variables indicating the presence or absence of each item, this index puts weight on each item of its diffusion rate (rate of those possessing the item among the entire sample). By doing so, items with a higher rate of diffusion are given more weight than items with a lower rate. The index is then standardized by dividing it with the sum of all weights so that the outcome is always between 0 and 1, regardless of the number of items on the list.

### 3. Data and Methods

The relative deprivation index used in this study was constructed as follows. In 2002, a preliminary study entitled *Survey of Public Perception of Welfare*<sup>12</sup>, was conducted. In the survey, the respondents were asked whether each of 28 items chosen by the research team was necessary for a family to live an ordinary life in contemporary Japanese society<sup>13</sup>. Of the 28 items, 16 items including household goods, housing amenities and conditions and social activities were marked as “necessary” in more than

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<sup>12</sup> This survey was conducted by a local company outsourced by the National Institute of Population and Social Security Research as part of the science advancement research project of Grants for Health Science, “Empirical and Theoretical Research on How Public Assistance Should Be” (Chief researcher: Reiko Goto). This survey targeted 2,000 people above 20 years of age extracted from the public nationwide by the stratified two-stage random sampling method, and the number of the respondents was 1,350 (the response rate = 67.5%).

<sup>13</sup> The actual question was as follows: What is necessary at minimum for a family to have an average standard of living in the current Japanese society? Please choose one answer among the following items, “absolutely necessary”, “better to have but not necessary”, “not necessary at all”.

50% of respondents<sup>14</sup>. These are then selected as the “Socially Perceived Necessities” (Fig.1). The list is rather short because items which were considered obviously necessary (e.g. food necessary to keep bodily functions, basic clothing)<sup>15</sup> were not included in the questionnaire to keep the questionnaire reasonably short. Thus, the list, by no means, represents the entire list of things necessary to live in contemporary Japan. It is rather a subset of all necessities. Alpha Coefficient was calculated and it was shown that the list was statistically valid. Also, by following methodology by Gordon & Pantazis (1997), it was shown that responses by different segments of the society (age groups, income class, gender, place of residence and education achievement) showed high correlation, and thus, it was concluded that there exists a consensus among the population as to what consists the “socially perceived necessities” (Abe 2004).

Following the preliminary survey, the *Survey on Living Conditions*<sup>16</sup> was conducted in 2003. The survey is an attempt to collect data for constructing an index for and measuring the extent of social exclusion in Japan (Abe 2005), and includes a range of data on the material and social deprivation of individuals (See Annex 1 for details). Especially relevant to this paper is the data on material deprivation of socially perceived necessities. The survey asked respondents whether they possess (or achieve) the items on the “socially perceived necessities” list, and if not, the reason for the lack. In order to distinguish cases in which respondents do not want to have an item because of their individual preferences from cases of enforced deprivation, the survey provided three choices for the answer for most questions; “have”, “do not have (do not want)” and “do not have (cannot afford)” and only the last choice was counted as the absence of the

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<sup>14</sup> 17 of 28 items were chosen to be necessary by more than 50% of effective responses. However the “Transportation expenses to meet friends, family and relatives” was deleted in the 2003 survey.

<sup>15</sup> The reason that the obviously necessary items were not included in the survey was that we expected the rate of those who answer “absolutely necessary” for these items would be 100%, as well as the diffusion rate of these items. No survey can cover all items required for a life in contemporary Japanese society. Therefore, considering the possibility of data deterioration from lengthening the questionnaire, we selectively chose items that lie on the borderline of necessity.

<sup>16</sup> The survey was conducted by the National Institute of Population and Social Security Research as part of a research project entitled “Empirical and Theoretical Research on Public Assistance” headed by Reiko Goto, and funded by the Ministry of Health, Labor and Welfare. It randomly sampled 2,000 male and female subjects above 20 years of age nationwide. The interview was conducted face-to-face. The number of effective responses was 1,520, and the rate was 76%. Only one respondent, either the household head or the person most familiar with the household budget (usually the wife of the head of household), was selected from each household.

item. There are, however, some items that do not allow a choice of “do not have (do not want)” since it was clearly preferable for everyone to have such items (examples of such items are “being able to save” and “being able to enrol in the public pension”). Then, each of 16 items was given a dummy variable, and was assigned 1 if the item was lacking by force (i.e. not by individual’s preference) and 0 otherwise, and weighted with the item’s diffusion rate (the rate of those possessing the item among the entire sample). A composite index score was then composed by summing the score for each item and dividing it by the sum of all weights. The resulting index score is thereby standardized, i.e. the score becomes 1 if all items were lacking by force, and 0 if none were.

$$D_i = \frac{\sum_{j=1}^J W_j d_{ij}}{\sum_{j=1}^J W_j}$$

$D_i$  = Deprivation index score for Person  $i$

$W_j$  = Diffusion rate of Item  $j$

$d_{ij}$  = Dummy variable for Item  $i$  for Person  $i$  = 1 lacking by force, = 0 otherwise

Diffusion rate of Item  $i$  was calculated in the following manner:

$$\text{DiffusionRateofItemj}(W_j) = \frac{\text{Numberof RespondentshavingItemj}}{\text{EntireSampleSize} - \text{Numberof RespondentsNotWantingItemj}}$$

Income data used for the analysis is the household income. The survey asked the respondents to fill in the sum of the after tax (and social security payments and benefits, including pensions and other social security benefits) incomes of the head of household (respondent) and his/her spouse (if any) in the increments of one million yen. Ideally, it is necessary to ask incomes of all the members of household (not only the household head the spouse) in order to accurately determine the household income. However, considering the limitations of an interview survey and the lack of information on the part of the respondents themselves<sup>17</sup>, it was believed that the most reliable values would

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<sup>17</sup> Even if the respondent knows his/her and his/her spouse’s income, he/she does not always know the income of the members of the household accurately (e.g. children and parents).

be obtained by limiting data to the income of respondents and their spouses. Equivalent household income, the value of the household income adjusted for the household size, was obtained using the equivalent scale of square root of the household size.

#### 4. Frequency and Depth of Relative Deprivation

Before going into detailed analysis of deprivation, let us briefly examine the frequency (score) and the depth of deprivation as seen from the survey data. Table 1 shows the 16-item list of socially perceived necessities and their diffusion and deprivation rate. As you can see, most of the 16 items have a diffusion rate close to 100%. However, “Being able to save money every month (25.0%)”, “Being able to enrol in life disability or sickness insurance (8.1%)”, “New underwear more than once year (7.8%)” and “Separate rooms for sleeping and dining (5.0%)” showed a relatively high rate of absence.

The depth of deprivation can be indicated by the deprivation score of each household. Table 2 shows the distribution of respondents for each score. Note for the simplicity, Table 2 shows the number of lacking items, not the weighted and standardized deprivation index as described in Section 3. The higher the deprivation score, the more items the household is deprived. Table 2 shows that 65% of households had a score of 0, indicating that they possess all 16 of the socially perceived necessities. However, 35% of households lacked at least one, 14% lacked at least two and 9% lacked more than three of the necessary items.

Table 1 Socially Perceived Necessities and Their Diffusion Rate

Socially Perceived Item	Diffusion Rate	Deprivation rate
Household Appliances	98.4%	1.5%
Microwave oven		
Heating and cooling equipment (air conditioners, gas or electric heaters, kotatsu, etc.)	99.1%	0.9%
Water heating equipment	96.4%	3.5%
Social Activities	97.2%	2.3%
Attending family and relatives' wedding/funerals/etc. (including travel and gift expenses)		
Telephone	97.9%	2.1%
Attire for special occasions (reitaku)	97.5%	2.3%
New underwear more than once a year	92.2%	7.3%
Social Security	96.2%	1.3%
Being able to go to a doctor when needed		
Being able to go to a dentist when needed	97.2%	2.3%
Being able to enrol in life, disability or sickness insurance	91.9%	3.1%
Being able to save for old age	93.9%	3.1%
Being able to save money every month	75.0%	25.0%
Housing Conditions	98.8%	1.2%
Have a toilet for the family's own use (not shared with other dwellings)	98.9%	1.1%
Have a kitchen for the family's own use (not shared with other dwellings)	97.8%	2.2%
Have a bedroom for the family's own use (not shared with other dwellings)	95.0%	5.0%
Have a bedroom different from living (eating) room		

\*Diffusion rate = the rate of those possessing the item among the entire sample minus those who do not want to possess the item

\* Deprivation rate = 100% - Diffusion rate



**Table 2 Distribution of Deprivation Score**

Score	n	%
0	990	65.1%
1	312	20.5%
2	80	5.3%
3	61	4.0%
4	27	1.8%
5	17	1.1%
6	13	0.9%
7	10	0.7%
8	6	0.4%
9	2	0.1%
10	1	0.1%
11	1	0.1%
sample size	1520	
Average	0.713	
Std.Dev.	1.403	

### 5. Identification of At-Risk Groups

This section examines who are at risk of experiencing relative deprivation. An analysis of the elderly by Hiraoka (2001) showed that the risk of falling into a condition of deprivation is greater for people without spouses than for people with spouses and for people with fewer years of education than people with more years of education. Limited to women, the social class at age 50 (husband's job category and company size) had an influence on relative deprivation in later years.

Data used in this study did not include any information on education or jobs, making it impossible to examine the relationship of education and social status to deprivation among people less than 60 years of age. However, using data such as the age of the household head<sup>18</sup>, their marital status, and household type, risk groups for the deprivation were identified (Table 3).

The relative deprivation rate by the age of the head of household was especially high for household whose head is in their 20's (53%), slightly lower for household heads in their 30's to 60's and increases a little for households whose head is greater than 70 years of age. This is an expected result since it is known that income rises with the age, and so does the household income with the age of the household head<sup>19</sup>. According to

<sup>18</sup> Accurately, it is the survey respondents' age. At survey, we asked the head of household or the spouse to respond to the questionnaire.

<sup>19</sup> Individuals in their 20's living with parents are included in the data only as the member of the household because the parent is the head of household. Only when an

the marital status, the relative deprivation rate of households whose household head is married is higher (49%) than those in which household head is not married (32%), paralleling the result of the elderly households by Hiraoka (2001). Hiraoka (2001) points to a possibility that the absence of a spouse is “a deviation from the standard life course (Hiraoka, 2001, p.170)” caused by “low social class”. It is possible that the phenomenon of relative deprivation appears in data because it is a dimension of “deviation from the standard life course”. It is also possible that because people are experiencing relative deprivation, they are likely to “deviate from the standard life course.” Comparing the relative deprivation rate of households with and without spouses by age group, households without spouses showed a higher rate of deprivation in all age groups; however, the difference for the 20’s and the 70’s and over is not significant. The possible explanation for this is that for individuals in their 20’s and above 70 years, the lack of a spouse does not represent a “deviation from the standard life course.” Further, the influence of marriage is expected to be greater for females than for males; however, the data revealed approximately the same values for both, indicating about the same risk of deprivation for male and female singles.

Several categories of people were suspected to be at risk of deprivation; and they are elderly who consistently show higher poverty rate (as calculated by comparing their income against the 50% median), the single-mother households, households with children who bear the high cost of child rearing, the households with the sick and disabled, and the single-person households. The data confirmed some of these suspicions but not others. First, single-person households showed higher relative deprivation compared with households of more than two people. In particular, 69% of elderly single households exhibited relative deprivation. The elderly households as a whole is not showing higher risk of deprivation as compared to the general population, thus being in a single-person household regardless of his/her age, not the age itself, increases the risk of deprivation. Households with children (junior high school students or younger) did not show a high rate of relative deprivation.

For households with sick or disabled individuals and single mother households, even though the sample size is small, the ratio of relative deprivation was much greater (61% and 74%) than that in general households.

These results indicate that even during the financially weak periods of one’s life course, such as child rearing age and old age, households which remain within the range of the “standard life course” were not at an increased risk of deprivation. However, households which suffered marital break-up, loss of spouse, or have sick or disabled

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individual in their 20’s is a household head or the spouse, he/she is included.

individual, the risk of deprivation becomes very high.

Table 3 Deprivation rate of Different groups

	n	Deprivation rate	$\chi^2$
Entire sample	1520	34.9%	
Low-income households (*1)	350	50.3%	47.62 ***
Age of Household Head			
20s	76	52.6%	
30s	218	32.1%	
40s	303	35.0%	
50s	358	32.1%	
60s	343	31.5%	
Over 70	222	41.0%	17.87 ***
Marital Status			
With Spouse	1239	31.6%	
Without Spouse	281	49.1%	30.79 ***
Female with spouse	401	30.2%	
Female without spouse	177	49.2%	19.20 ***
Male with spouse	832	32.6%	
Male without spouse	104	49.0%	11.47 ***
20s with spouse	54	51.9%	
20s without spouse	22	54.5%	0.05
30s with spouse	186	28.5%	
30s without spouse	32	53.1%	7.60 ***
40s with spouse	258	31.4%	
40s without spouse	45	55.6%	9.83 ***
50s with spouse	297	29.0%	
50s without spouse	61	47.5%	8.02 ***
60s with spouse	275	28.0%	
60s without spouse	68	45.6%	7.82 ***
Over 70 with spouse	169	39.6%	
Over 70 without spouse	53	45.3%	0.53
Single household (*2)	118	56.8%	27.05 ***
Single female household	74	54.1%	12.03 ***
Single male household	44	61.4%	15.16 ***
Elderly household (*3)	533	34.3%	0.10
Single elderly household	55	58.2%	13.66 ***
Single female elderly household	41	56.1%	7.75 ***
Single male elderly household	14	64.3%	5.72 **
Disabled household (*4)	67	61.2%	20.99 ***
Household with children (*5)	435	36.6%	0.76
Single-mother household (*6)	19	73.7%	12.76 ***

\*1 Households with incomes less than 50% of median income

\*2 Households with only one person

\*3 Households with household head aged more than 60 years old

\*4 Households which has one or more disabled person

\*5 Households which has one ore more children aged less than 16

\*6 Households which has one ore more children aged less than 16, and whose household head is single

## 6. Relationship between Income and Relative Deprivation

Next we examined the relationship between relative deprivation and income groups. The purpose was to determine whether the threshold value, identified by Townsend (1979) in British data and found subsequently in many other countries, could be confirmed through Japanese data. In Graph 1, the horizontal axis indicates household income (category value) and the vertical axis indicates the average deprivation index of households in the income group. As expected, the lower the household income is, the higher the average deprivation index rises. However, it is especially significant that the deprivation index rises rapidly in households with incomes lower than 4 to 5 million yen. Because of the possibility that a high index value may greatly influence income group average, we calculated the frequency of deprivation (the ratio of the respondents with a more than 0 deprivation index = relative deprivation rate) for each income group (shown in Table 4). The frequency of deprivation here also increases in the lower income groups; and groups with a less than 4 to 5 million yen income in particular show a higher frequency of deprivation. In other words, this indicates that the living standard with an income of 4 to 5 million yen is the minimum income required to have what the majority of people in present Japanese society feel as a normal life, and that the number of items required but impossible to obtain will increase as the income decreases from this line. We confirmed in the Japanese data that the group with income between 4 to 5 million yen is approximately the threshold value from which the relative deprivation index rapidly increases<sup>20</sup>.

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<sup>20</sup> We performed a similar analysis using the household equivalent income and found the threshold value as well. Considering the raw data of income is the category value and the lowering the data reliability by including a new variable such as the number of the members of household, we used the income data itself rather than the household equivalent income.