

国立社会保障・人口問題研究所
2011年10月27日(木) 13:30～15:00



ガムラ・スタン(ストックホルム)

ストックホルムとコペンハーゲンの 高齢者住居の視察報告



ニューハウンの運河(コペンハーゲン)

上枝 朱美

注意点

- 2国ではなく、2都市の話
- 数字は大体の数字。日本のように細かく話さない。
- 通訳を介して行われた。また私の聞き間違いや理解が不十分なところがある。

キーワード

- 高齢単身世帯
スウェーデンでは高齢者は子どもと同居ではなく、近くに住む人が多い
デンマークは、子どもが大きくなると一緒に住まない
- 認知症

スウェーデンの概要

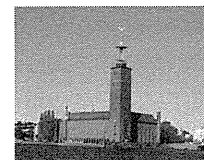
- 人口の2/3がストックホルムよりも南に住んでいる
- 移民が多い
- 290のコミューン
高齢者ケア、身体障害者・知的障害者ケア
- 21のランステイング(県、広域自治体)
医療を担当
- 中央政府 法律の制定

スウェーデンの社会保障

- 国民負担率が高い
- 18歳未満のこどもの医療費、義務教育無料
- 入院人数が短い 約5日
- 高齢者介護施設に移り住むためには、市のニーズ判定員より承認をもらうことが必要

ストックホルム市の概要

- 人口 810,120人
- 面積 209km² 21%は水
- 選択の自由
- 高い建物はほとんどない。



ストックホルム市庁舎

特別な家(介護施設とはよばない)

- 費用
 - 家賃(月額) 約70,000円
 - 食事代(日) 約1,000円
 - ケア料金(月額) 約20,000円

サービスハウス、グループホーム、デイサービス Piltädets servicehus

- 115室のアパート(賃貸契約)
- 以前は民間だったが、現在は市営
- 1部屋+台所 家賃は5,000~7,000クローナ



入居者

- 単身だけでなく、2人で住むこともできる
- 聴力障害者 現在4, 5名住んでいる
(以前は10名だったが、減少している)
- 手話を使えるスタッフがいる。
- 買い物サービス、掃除サービスなど17種類のアクティビティがある。
- 100歳以上の人も住んでいる。

設備(民間委託)

フットケア



理美容院



高齢者ホームヘルプサービスセンター Södermalms Hemtjänst



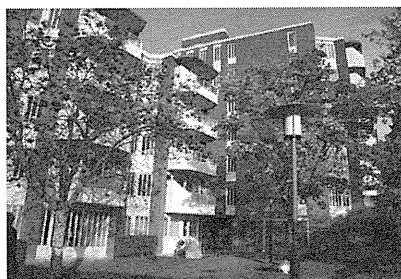
概要

- 3人のチーム 民間
- 2008年4月からスタート
- 750名のケアを240名のホームヘルパーが担当
- 4年前 多くの高齢者が栄養失調
→調理の教育をした
- 配食サービスは現在は50人のみ利用

概要(続き)

- 新しいプロジェクト: 認知症のケア
750名中103名が認知症
スタッフ全員に認知症ケアの教育
エクストラの予算を認知症の人のためにも
らう
- 質の競争、新聞に記事を書けるなど

シニア住宅 Nockeby Hus



シニア住宅 Nockeby Hus

- 1862年 設立
財源は寄付金
16名の女性が入居
- 現在 3か所
700名の男女
- 約10億クローナの資産
- その利子で運営



創設者 Charlotte von Schwerin

Nockeby Hus 入居条件

- ①62歳以上のスウェーデン国民 現在は男女
- ②75歳以前にうつること
- ③健康である
- ④教育を受けている人(常識がある)
積極的に申し込むことが必要
所長や他の施設の代表者が集まり審査

* ④の判断は難しい?

入居者の年齢

- 平均71歳で入居
- 現在の入居者の平均年齢 80～81歳
- 最高齢 104歳
- この建物は、1977年に建築
- 当時の人が7名いまでも居住

費用

- 家賃＋食費(夕食) 11,000～19,000クローナ
10%の人は家賃を一部支払う。
差額は利潤から支払い、住宅手当は利用しない
誰が家賃を全額払っていないかわからないようにしている
- 朝食・昼食、電話代、新聞代などは含まない
- 収入や資産が多い人は入れない。

レストラン



190席 15:30～18:00が夕食時間 予約もできる
夕食のとき来ていなければスタッフに連絡

スウェーデンの課題

- 離婚率が高い
 - 介護スタッフの定着率
スタッフの国籍の多様性
- その他
- 日照時間の短さと病気との関連
 - 自己責任
 - 笑顔が少ない？(他の参加者より)

デンマークの概要

- 人口 550万人
- 面積 4万3千km²
- すべての国民は 仕事、収入、家族構成にかかわらず、サービスを受ける権利を持っている。



コペンハーゲン市庁舎

コペンハーゲンの概要

- 市の特徴
 - 全国と比べて貧困者の割合が高い。
 - 1960年代後半から移り住んだ人たちが高齢化している
 - 多くの高齢者は移民
- 新しいサービス: Socializing
 - 2010年1月開始 週30分
 - 例) 話し相手、教会に同行



介護&認知症センター

Pleje-og Demenscentret Klarahus



- 介護パッケージ: どういう介護が必要かで段階が決まっている
- 在宅で週20時間を超えるとプライエムの方が安くなる。
(移動時間も介護費用に含める)
- 最近では景気がよくないので、スタッフは足りている。

認知症センター Demenscentret Pilehuset



高齢者の状況

- 約7%の高齢者が施設に入居
- 多くの高齢者は自分の家に住む
- 自宅に住む高齢者の25.4%は、市から支援を受けている
- プライエムに住む80%以上の高齢者は認知症 平均年齢 84.9歳
- すべての高齢者には在宅ケアが保障されている

仕事の理念

- Tom Kitwood (1997) *Dementia reconsidered: the person comes first*, Open Univ. Press.
- 認知症の人ではなく、認知症の人
- そのひとらしさ(パーソンフッド)

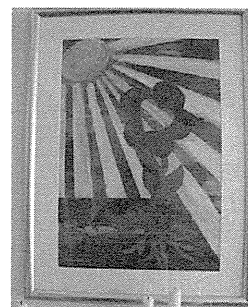


5つのニーズ

花は高齢者
太陽が照らす=スタッフが働いている

中心的ニーズは愛
そのまわりに5つの大きなニーズ
Comfort, Attachment, Inclusion,
Meaningful activity, Identity
・なぐさめ(くつろぎ)
・結びつき(愛着)
・共にいること(社会的一体性)
・たずさわること(主体的活動)
・自分であること(同一性)

根っこ
・Personality
・Health & Medicin など



建物内



デイ・ケアの部屋



ハンモック

介護ロボット Paro



建物の中の壁



予防センター Forebyggelsescenter Vanløse



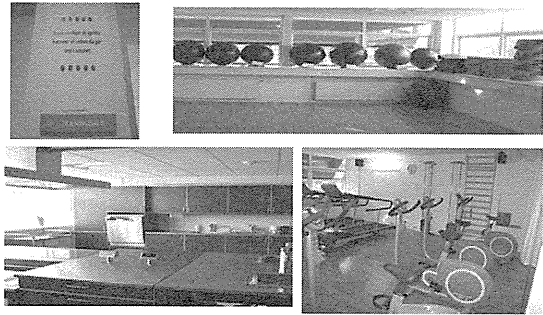
コペンハーゲンの責任

- 65歳以上の高齢者に対するケアサービスとアクティビティ
- すべての市民のために健康増進と疾病予防

ここでは

- 運動トレーニング
 - 生活習慣指導
- などを行っている。

アクティビティ



流し台の高さが調節できる

看護師の給与

- スtockホルムの地域看護師(1クローナ=12円)
月3万クローナ ボーナスなし
5週間の有給休暇
- コペンハーゲンの訪問看護師(1クローネ=14.5円)
月27,000クローネ ボーナスなし
6週間の有給休暇 土日勤務の場合、代休
週40時間働き、まとめて休暇にすることも可
資格をとるのは給料ではなく、責任のある仕事を
するため

注)通貨レートは、10月26日 三菱東京UFJ銀行

デンマークの課題

- これ以上増税できない

(参考)2011年10月1日より脂肪税導入

*脂肪税: 飽和脂肪酸を2.3%以上含むバターなどの食品に課税 飽和脂肪酸1キロ当たり16クローネ

2都市に共通

- いまの高齢者はありがたいと思っているが、若い世代はよりよいものを望む。
- 医療や介護の記録 (WEB)
- 質の向上 アンケート調査
- 介護スタッフの地位向上

その他

- 新築するのではなく、古い建物を改修して使用している
- コペンハーゲンのお店は18時に閉店
買い物客にとっては不便だが、働く人にとってはいい
- エレベーターには「閉」がない
- 自転車専用道路
- 風力発電

視察を終えて

- 高齢化が進み、人口密度の低い地域でのサービスの在り方はどうなのか。
- 就職後も研修を受け続けなければいけないが、日本の状況はどうなのだろうか。

ありがとうございました



昨年のノーベル賞受賞晩餐会と同じデザート

Research Seminar
The State of Art of
Measuring Poverty and Social Exclusion in the UK and Japan

Venue: IPSS, Tokyo

Time: January 6th, 2012 9:00~17:00

9:00-9:15 Welcome (Dr.Nishimura - Director IPSS)

9:15-10:00 Session 1

1. Poverty and Social Exclusion in Japan

-An Overview from the 1990s and Recent Policy Responses- (30 min)

Masami IWATA, Japan Women's University

Q&A (15 min)

10:00-11:30 Session 2 <Inequality in Comparative Context>

2. Is Japan more equal than the UK? (45 min including Q&A)

Danny Dorling, University of Sheffield

3. Regional inequality in UK and Japan (45 min including Q&A)

Tomoki NAKAYA, Ritsumeikan University

11:30-12:00 Lunch Catering at IPSS

12:00-13:30 Session 3 <Measuring PSE>

4. Poverty and Social Exclusion in the UK: The State of the Art (45 min including Q&A)

David Gordon, University of Bristol

Child Poverty and Social Exclusion(45 min including Q&A)

Jonathan Bradshaw, The University of York

13:30-15:00 Session 4 <Comparing Socially Perceived Necessities>

5. The Necessities of Life in the UK (30 min)

Christina Pantazis, University of Bristol

6. Public Perception of Necessities in Japan(30 min)

Aya ABE, IPSS

Discussion on comparison (30 min)

15:00-15:30 Break

15:30-17:00 Session 5 <Comparing Minimum Income Standard>

7. Comparing Minimum Income Standards: MIS in the UK (30 min)

Abigail Davis, Loughborough University

8. Applying MIS(Minimum Income Standard) in Japan(30 min)

Atsuhiko YAMADA, Keio University

Yuka UZUKI, Ministry of Education, Culture, Sports, Science & Technology in Japan

Discussion on comparison (30 min)

18:00 Welcome Dinner

Is Japan more equal than the UK?

IPSS, Tokyo, 6/1/2012

Danny Dorling

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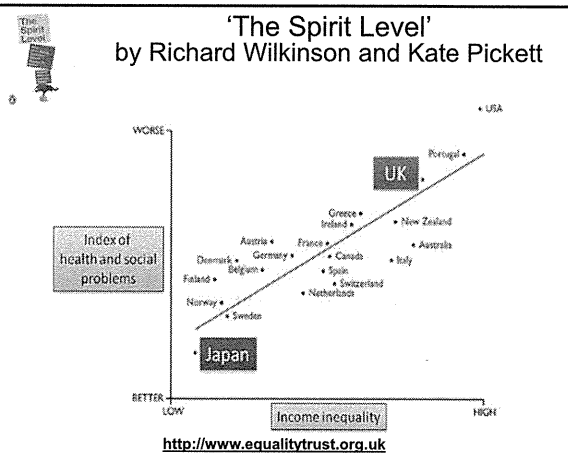
Acknowledgements

- The research presented here is based on joint work with Dimitris Ballas (University of Sheffield), Helena Tunstall (University of York), Tomoki Nakaya, Kazumasa Hanaoka and Tomoya Hanibuchi (Ritsumeikan University) which was supported by a *Daiwa Anglo-Japanese Foundation small grant (8006/8599)*.
- The *Family Resources Survey* and *Household Below Average Income* microdata were made available through the UK Data Archive.
- The *National Survey of Family Income and Expenditure* microdata were made available through the Japanese Statistics Bureau.
- The *Japanese General Social Surveys (JGSS)* are designed and carried out at the Institute of Regional Studies at Osaka University of Commerce in collaboration with the Institute of Social Science at the University of Tokyo under the direction of Ichiro TANIOKA, Michio NITTA, Hiroki SATO and Noriko IWAJ with Project Manager, Minae OSAWA. The project is financially assisted by Gakujutsu Frontier Grant from the Japanese Ministry of Education, Culture, Sports, Science and Technology for 1999-2003 academic years, and the datasets are compiled and distributed by SSJ Data Archive, Information Center for Social Science Research on Japan, Institute of Social Science, University of Tokyo.

Outline

- The Spirit Level hypothesis
- Why compare Britain and Japan?
- Social cohesion, income inequalities and well-being in Britain and Japan
- Income inequality and poverty in Britain and Japan 1989 – 2009

'The Spirit Level' by Richard Wilkinson and Kate Pickett



'The Spirit Level' by Richard Wilkinson and Kate Pickett

"Politics was once seen as a way of improving people's social and emotional well-being by changing their economic circumstances. But over the last few decades the bigger picture has been lost. People are now more likely to see psychosocial well-being as dependent on what can be done at the individual level, using cognitive behavioural therapy – one person at a time – or on providing support in early childhood, or on the reassertion of religious or family values. However, it is **now clear that income distribution provides policy makers with a way of improving the psychosocial wellbeing of whole populations.** Politicians have an opportunity to do genuine good."

(Wilkinson and Pickett, 2009: 233; my emphasis)

(p.s. Thanks to Dimitris Ballas for these early slides!)

Why compare Britain and Japan?

- Japan is a world leader in health with currently the highest life expectancy of any country (United Nations, 2011). Life expectancy in Japan first overtook that in other countries in the 1970s and has retained this ranking ever since. In addition, according to a recent study comparing self-rated health and socio-economic status in East Asia, Japan has relatively low levels of health inequality (Hannibuchi et al., 2010).
- Britain, in contrast, has a place near the bottom of the life expectancy rankings in comparison to other industrialised countries (Marmot & Davey Smith, 1989).

Why compare Britain and Japan?

- Japan and Britain have, in different ways, been at the centre of recent international academic and political debate regarding health and social equality and wellbeing in industrialised countries.
- Comparisons of Japan and Britain are pertinent to these recent debates because of their marked differences in death rates and (apparently) social inequality.
- **These differences are of particular interest because of the characteristics that these countries have in common: both are high income, island nations, dominated by world cities whose populations benefit from (different types of) universal health care.**

However, there is a catch

According to the OECD, (2011a), Japan ranks 22nd out of 31 OECD member states (in ascending order) in terms of income inequality (Gini coefficient), whereas the UK ranks 26th. Japan ranks 24th and the UK 28th in ascending order in terms of income inequality out of 34 OECD member states (OECD, 2011b: page 67). The most recent OECD report (OECD, 2011c) ranks Japan 21st and UK 25th out of 29 OECD member states.

The Catch is based on one source

- OECD, 2011a, *Social Justice in the OECD—How Do the Member States Compare? Sustainable Governance Indicators 2011*, Bertelsmann Stiftung, Gütersloh, Germany
 - OECD, 2011b, *Society at a Glance 2011 - OECD Social Indicators* (www.oecd.org/els/social/indicators/SAG)
 - OECD, 2011c, *Divided We Stand: Why Inequality Keeps Rising*, OECD Publishing. <http://dx.doi.org/10.1787/9789>
 - OECD, 2011d, *Metadata on OECD database on income distribution and poverty*, <http://www.oecd.org/dataoecd/52/30/49147697.pdf>
- The Japanese Comprehensive Survey of Living Conditions is the underlying source (6773 households in 2009). It is apparently not available as micro-data for replication.

Research agenda

- revisiting the “Spirit Level” evidence according to which Japan is a more equitable and hence harmonious society than any other industrialised country, focusing on contrasts with a country such as Britain.
- comparing social and spatial inequalities, social cohesion and well-being between Britain and Japan at different geographical levels.

Social cohesion, income inequalities, health and well-being in Britain and Japan

- The distribution of income in Japan has often been discussed as a possible explanation for high life expectancy since the 1980s (Marmot and Davey Smith, 1989) and has formed the centre of much recent debate following the publication of “The Spirit Level”.
- Before World War Two Japan had a highly unequal income distribution but the differences between rich and poor declined in the post war period (Tachibanki, 2005).
- Income inequality was lower in Japan than in other industrialised countries in the 1970s and 1980s (Buss et al, 1989; Baur and Mason, 1992).

Social cohesion, income inequalities, health and well-being in Britain and Japan

- But, social relationships and culture are often seen as direct causes of good health rather than mediating factors linking income distribution to health outcomes.
- Cultural tradition of strong ‘group-orientation’ (it is often claimed) promotes social cohesion and ‘cultural equality’, supporting psychological well being and good health among Japanese people (Marmot and Davey Smith, 1989; Horiuchi, 2011).
- **It has not been explained however why the suggested health benefits of these Japanese cultural traditions should have only become evident in the post war period.**

Social cohesion, income inequalities, health and well-being in Britain and Japan

"Britain is an unequal country, more so than many other industrial countries and more so than a generation ago. This is manifest in many ways – most obviously in the gap between those who are well off and those who are less well off. But inequalities in people's economic positions are also related to their characteristics – whether they are men or women, their ages, ethnic backgrounds, and so on"

(Hills et al., 2010)

Data

- The *Family Resources Survey and Household Below Average Income* (made available through the UK Data Archive).
- The *National Survey of Family Income and Expenditure* microdata (made available through the Japanese Statistics Bureau).

Key terms (1)

- **The median quintile ratio:** this is the median income of the richest 20 percent of the population divided by the median income of the poorest 20 percent. This ratio is also known as the ratio of top to bottom quintile medians and is widely used in the analyses of HBAI datasets conducted by the DWP.
- **The mean quintile ratio:** this is the mean income of the richest 20 percent of the population divided by the mean income of the poorest 20 percent. This is also known as the ratio of top quintile share to bottom quintile share and it was the key measure used in the Spirit Level work (Wilkinson and Pickett, 2009)

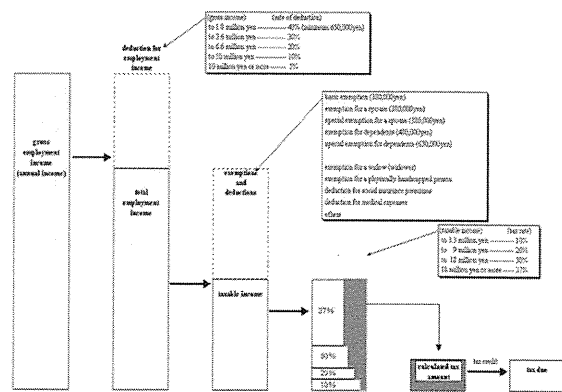
Key terms (2)

- **People on incomes less than 50% of the median gross household income:** the number of individuals living on household incomes less than 50% the median gross household income as a proportion of the total population.
- **People on incomes less than 60% of the median gross household income:** the number of individuals living on household incomes less than 60% the median gross household income as a proportion of the total population.

Comparing gross household income quintile ratios between Britain and Japan.

Inequality measure/ Year	1994	1999	2004
Median quintile ratio in Japan	3.85	4.08	3.99
Median quintile ratio in the UK	5.09	5.23	4.99
<u>Difference</u>	<u>1.24</u>	<u>1.15</u>	<u>1.00</u>
Mean quintile ratio in Japan	4.56	4.74	4.67
Mean quintile ratio in the UK	6.65	7.13	6.93
<u>Difference</u>	<u>2.09</u>	<u>2.39</u>	<u>2.26</u>

Calculating disposable income for Japan



Estimated quintile group annual disposable income in Japan (in 10,000s Japanese Yen; Source: calculated by applying tax bands on National Survey of Family Income and Expenditure)

Year	Quintile group medians					Population mean*	Median quintile ratio
	1	2	3	4	5*		
2004	191	287	365	463	655	401	3.42

Year	Quintile group means					Population mean*	Mean quintile ratio
	1	2	3	4	5*		
2004	179	286	365	465	712	401	3.97

* incomes over 2,500 were top-coded

Quintile group annual disposable income in Britain (GBP; source: Family Resources Survey/HBAI)

Year	Quintile group medians					Population mean	Median quintile ratio
	1	2	3 (median)	4	5		
Income Before Housing Costs							
2008/09	201	304	407	545	844	507	4.20
2004/05	177	262	350	465	704	426	3.98
Income After Housing Costs							
2008/09	139	243	343	474	745	433	5.4
2004/05	132	217	300	405	630	370	4.8

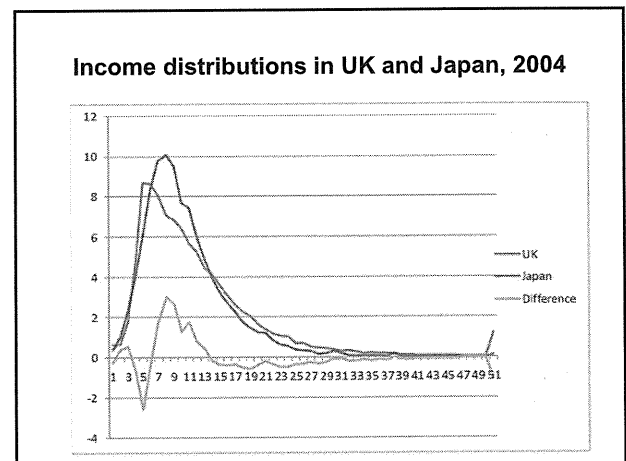
Year	Quintile group means					Population mean	Median quintile ratio
	1	2	3	4	5		
Income Before Housing Costs							
2008/09	180	304	409	550	1090	507	6.05
2004/05	161	262	350	468	890	426	5.53
Income After Housing Costs							
2008/09	110	243	344	478	988	433	9.0
2004/05	110	217	301	409	811	370	7.3

Estimated poverty rates in Japan using two measures which ignore the rich (based on gross income data from the Japanese National Survey of Family Income and Expenditure)

	50% below median	60% below median
2004	10.3	16.4
1999	10.8	17.0
1994	10.2	16.3
1989	6.4	10.1

Estimated poverty rates in Britain using two measures which ignore the rich (based on gross income data from the UK Family Resources Survey)

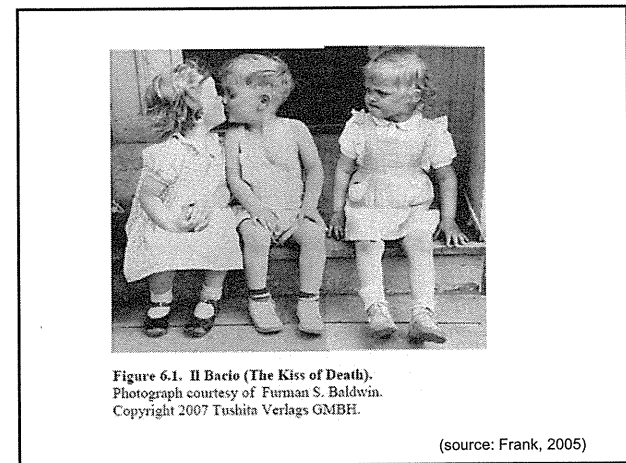
	50% below median	60% below median
2008/09	14.2	21.8
2004/05	14.0	22.2
1999/00	16.2	24.7
1994/95	15.5	24.9



Why might this matter? Happiness, respect and social comparisons

“A house may be large or small; as long as the surrounding houses are equally small it satisfies all social demands for a dwelling. But if a palace arises beside the little house, the little house shrinks to a hovel... [and]... the dweller will feel more and more uncomfortable, dissatisfied and cramped within its four walls.”

(Marx, 1847)



Positional and non positional goods

Which world would you prefer?
(prices are the same)

- A. You get \$50k a year and others get half that
- B. You get \$100k a year and others get more than double that

Positional and non positional goods

Which world would you prefer?

- C. You have 2 weeks vacation, and others have half that
- D. You have 4 weeks vacation, and others have double that

**Positional and non-positional goods
(Hirsch, 1976)**

- *Positional goods*: goods for which the link between context and evaluation is strongest.
- *Non-positional goods*: goods for which the link between social (and spatial) context is weakest.

Relative consumption and “positional arms races” (Frank, 2005)

1. People care about relative consumption, more in some domains than in others.
2. Concerns about relative consumption lead to “positional arms races,” or expenditure arms races focused on positional goods.
3. Positional arms races divert resources from non-positional goods, causing large welfare losses.
4. In Britain recently housing costs were taking up to half of incomer and were half of ‘wealth’.

Choosing between different forms of consumption

	Society A	Society B
1	Everyone lives in 4000-square-foot houses and has no free time for exercise each day.	Everyone lives in 3000-square-foot houses and has 45 minutes available for exercise each day.
2	Everyone lives in 4000-square-foot houses and has time to get together with friends one evening each month.	Everyone lives in 3000-square-foot houses and has time to get together with friends four evenings each month.
3	Everyone lives in 4000-square-foot houses and has one week of vacation each year.	Everyone lives in 3000-square-foot houses and has four weeks of vacation each year.
4	Everyone lives in 4000-square-foot houses and has a relatively low level of personal autonomy in the workplace.	Everyone lives in 3000-square-foot houses and has a relatively high level of personal autonomy in the workplace.

(Frank, 2005)

Smart for one, dumb for all

“The list of consumption items that get short shrift could be extended considerably. Thus we could ask whether living in slightly smaller houses would be a reasonable price to pay for higher air quality, for **more urban parkland, for cleaner drinking water, for a reduction in violent crime, or for medical research that would reduce premature death.** And in each case the answer would be the same as in the cases we have considered thus far.”

(Frank, 2005: 100 Dimitris’ emphasis)

Regional inequality in UK and Japan

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The State of Art of Measuring Poverty and Social
Exclusion in the UK and Japan
6 Jan 2011

Aim

- To provide a overview on regional inequalities of income in UK and Japan
 - Both countries' census do not have income variables

Outline

- A view from UK
- A view from Japan
 - Some maps of several common areal indicators
 - Depriving deprivation index
 - Geography of the rich and the poor

A view from UK taken from Danny's old papers and slides

In Britain recently geographical divides continue to grow even will social may abate.

Difference between best and worst-off districts by life expectancy (years)

Year	Difference (years)
1999	8.5
2000	8.2
2001	8.0
2002	8.5
2003	9.2
2004	10.9

Excess over average 'routine and manual' infant mortality (%)

Year	Excess (%)
1999	14.5
1997	14.0
1996	12.5
1999	13.0
2000	14.0
2001	16.5
2002	16.0
2003	18.0

Britain is a country polarising by wealth and poverty – by health – and much in between. The polarisation is more evident and most clearly continuing to rise when geographical areas are compared: *communities*.

Some new measures 1968-2005

- Core poor (people who are income poor, materially deprived and subjectively poor)
- Breadline poor (people living below a relative poverty line, and as such are excluded from participating in the norms of society)
- Asset wealthy (estimated using the relationship between housing wealth and the contemporary inheritance tax threshold)
- Exclusive wealthy (people with so much wealth to exclude themselves from the norms of society)
- neither poor nor wealthy (i.e. 'normal' or 'average' households).

Key Trends: poverty in the London conurbation 1970 to 2000

1970

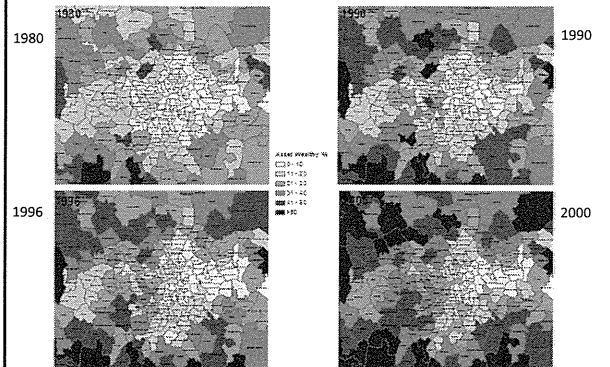
1980

1990

2000

■ Absolute Poor %
 ■ 0-10
 ■ 10-20
 ■ 20-30
 ■ 30-40
 ■ 40-50
 ■ 50-60

Key Trends: asset wealthy in the London conurbation 1980 to 2000

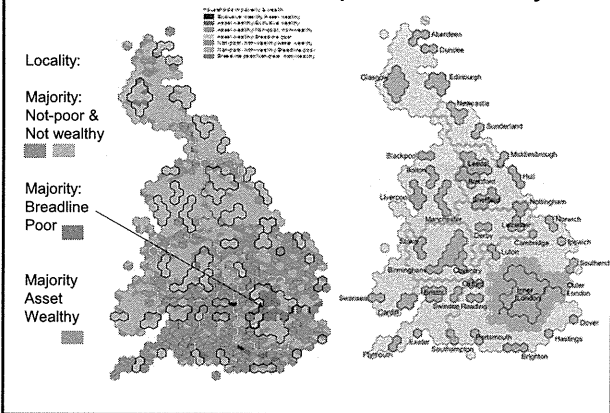


Poverty and wealth measures for Great Britain, 1970 to 2000

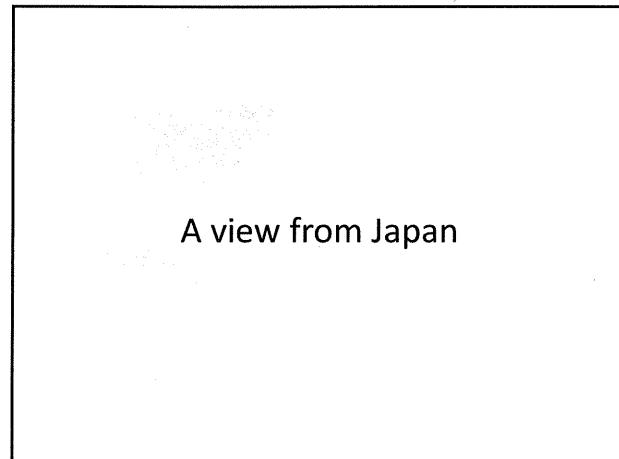
Year	% core poor	% breadline poor	% non-poor, non-wealthy	% asset wealthy	% exclusive wealthy*
1970	14.4	23.1	n/a**	n/a**	7.4
1980	9.8	17.1	66.1	16.8	6.9
1990	14.3	21.3	55.7	23.0	3.5
2000	11.2	27.0	50.4	22.6	5.6

The numbers for those interested – note average soon to be under 50%
 --- Source work for the Joseph Rowntree Foundation (published 2007)

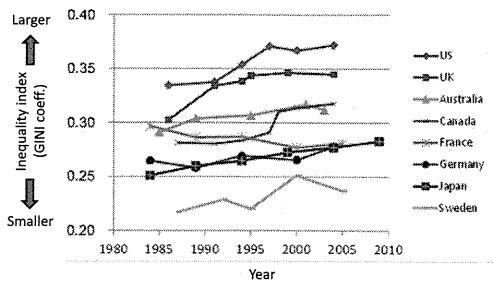
Where is it normal to be poor or wealthy?



A view from Japan

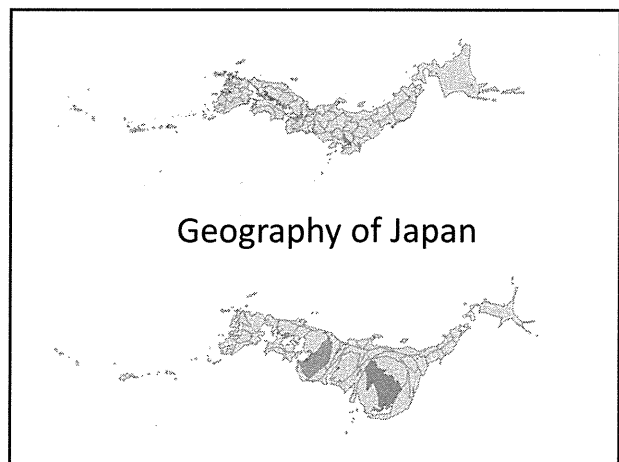


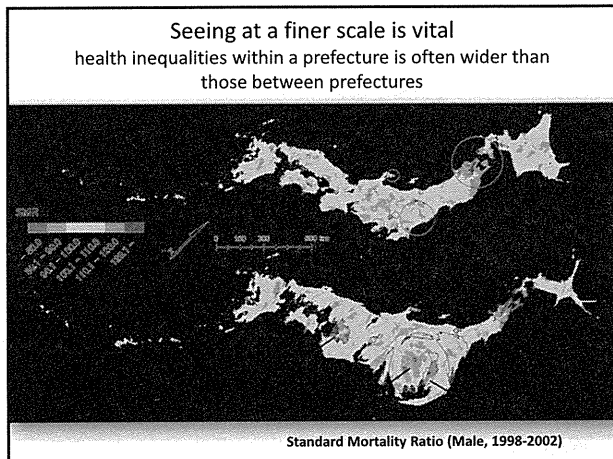
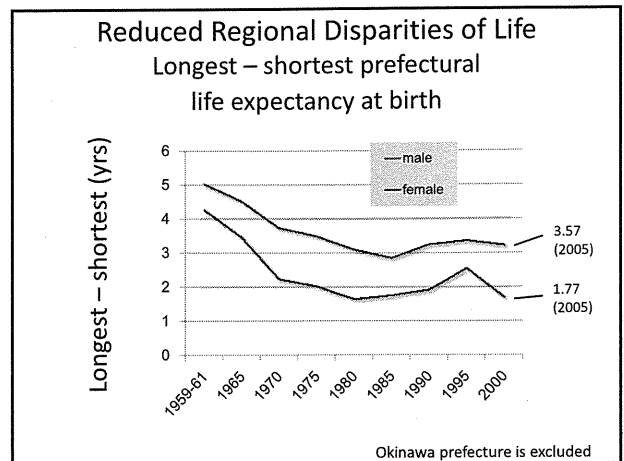
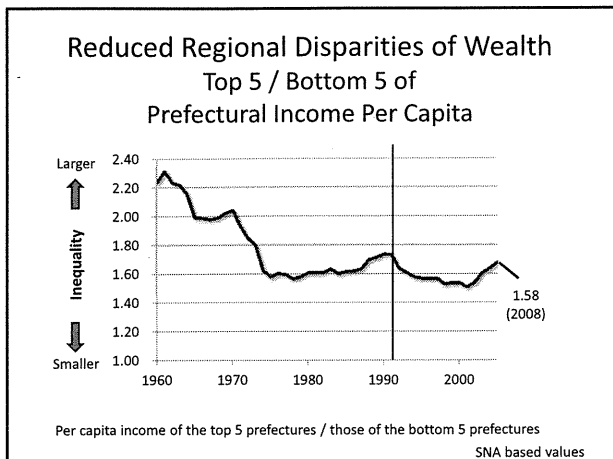
Gradual but persistent increase in household income inequality



Source: summary result of the Family Income and Expenditure Survey

Geography of Japan





Deriving areal deprivation index
in Japan at a finer areal level

David Gordon (1995) deprivation index using a synthetic model

- Estimating areal deprivation index as a weighted sum of census variables (additive assumption)
 - $$Di = \sum_k w_k Var_{ki}$$
- Find the weights which are consistent with a micro data analysis on poverty
 - Weight, $\{w_k\}$, are taken from a logistic regression model to differentiate poverty household or not at a micro data level. (cross-scale assumption)
 - Types of variables, $\{Var_{ki}\}$, should be the same both at the micro and areal level. (variable-consistency assumption)
 - Poverty should be defined at the microdata-level (poverty-definition assumption)