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# Understanding Inequality and Intergenerational Mobility — in Hong Kong

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# Outline

- 1 Intuition, Fact and Theory
- 2 Inequality and Intergenerational Mobility in the US
- 3 Individual Income Inequality
  - Wages, Lifetime Earnings, Productivity and Returns to Schooling
  - Labor Force Participation and Welfare
- 4 Household Income Inequality
  - Marital Sorting, Single Parenthood and HK as Top 10 Divorce Destination
- 5 Household and Individual Income Inequality Compared
- 6 Inequality and the Poverty Line
- 7 Inequality and Intergenerational Mobility in Hong Kong
- 8 Divorce, Public Rental Housing and Intergenerational Poverty
- 9 Early Childhood Intervention and Parenting
- 10 Housing Subsidies should focus on Homeownership



# Politics and Analysis

- In pre-industrial societies, inequality, poverty and intergenerational mobility were not political issues
- Today they are
- The popular press has interpreted them as a product of unequal power relations between capital and labor, rich and poor, inherent to capitalism, made worse by cronyism, and communism is not immune
- My lecture is to tell another narrative, show why mine is empirically compelling, and reassess the options for a new policy strategy



- I will give a long narrative on Hong Kong, but to make it compelling I shall also tell a short one on the United States
- But first a word of caution about narratives, which in social sciences are too often elevated into the exalted status of theories claiming too much dignity
- To be a theory it has to confront facts, explain them, and make correct predictions, until then theories are fiction; entertaining perhaps, but true only by coincidence



# Theory and Fact

- A fact without a theory
  - is like a ship without a sail,
  - is like a boat without a rudder,
  - is like a kite without a tail,
  - a fact without a theory is as sad as sad can be,
  - but there is one thing even more sad,
- it is a theory without a fact



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Here are some key takeaways



# Key Takeaways (Slide 1)

- Measured income is unequal for many different reasons, considerable proportion is noise, especially household income
- Individual income inequality has been rising because of underinvestment in education and lack of inflow of quality human capital
- Individual income has not grown very much in the past 20 years except among the top 30%



# Key Takeaways (Slide 2)

- In the past two decades around 3% of the population have decided not to work for no reason (most likely because of more generous welfare benefits)
- Minimum wages has no effect on reducing household income inequality and have negligible effects on alleviating poverty
- Household income inequality has been rising because of rising single parent households





# Key Takeaways (Slide 3)

- Divorce rates are 50% higher among tenants than homeowners
- Remarriage rates are much higher for men than women
- Our public rental housing program, their allocation criterion in particular, creates incentives for low-income families to divorce
- Creating additional housing demand and ...



# Key Takeaways (Slide 4)

- Broken families probably worsen intergenerational mobility, especially among low-income single parent families
- Many of these families are concentrated in the public housing estates, and is likely to continue to be the case unless....
- Policy interventions to enhance mobility and alleviate poverty must occur when the children are very young – head start programs



# Key Takeaways (Slide 5)

- Subsidized housing programs should be anchored on homeownership not rental units
- Public rental housing are operated at a loss that could not even cover development costs
- They require huge public subsidies with serious fiscal consequences for the future
- Public ownership units can cover development costs and generate public revenues because land premium can be partly recovered



# Inequality and Intergenerational Mobility

- Is inequality and intergenerational upward mobility related?
- We know measured income inequality has risen in the last 30 years in many societies
- We know much less about what has happened to intergenerational mobility
- Many intuitively believe that the two must be related
- What is yours?

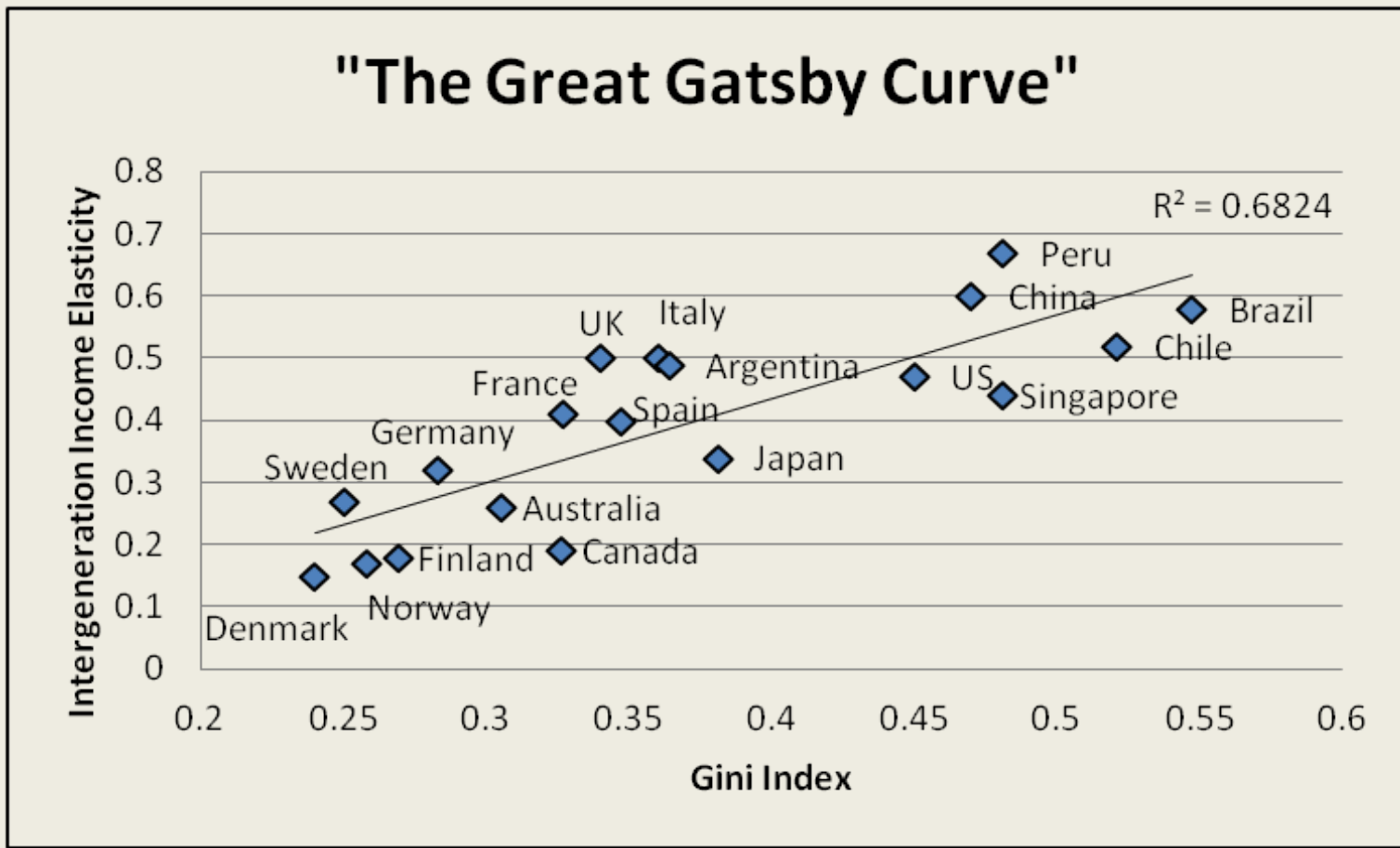


# Little Mobility $\Leftrightarrow$ More Inequality?

- If your parents are rich then you will be rich too then there will be little upward mobility
- This is the same as saying the intergenerational income elasticity is high
- Do you also intuitively think that with little upward mobility then it must increase income inequality?
- So is the intergenerational income elasticity positively correlated with measured income inequality?



# A Fact Without a Theory

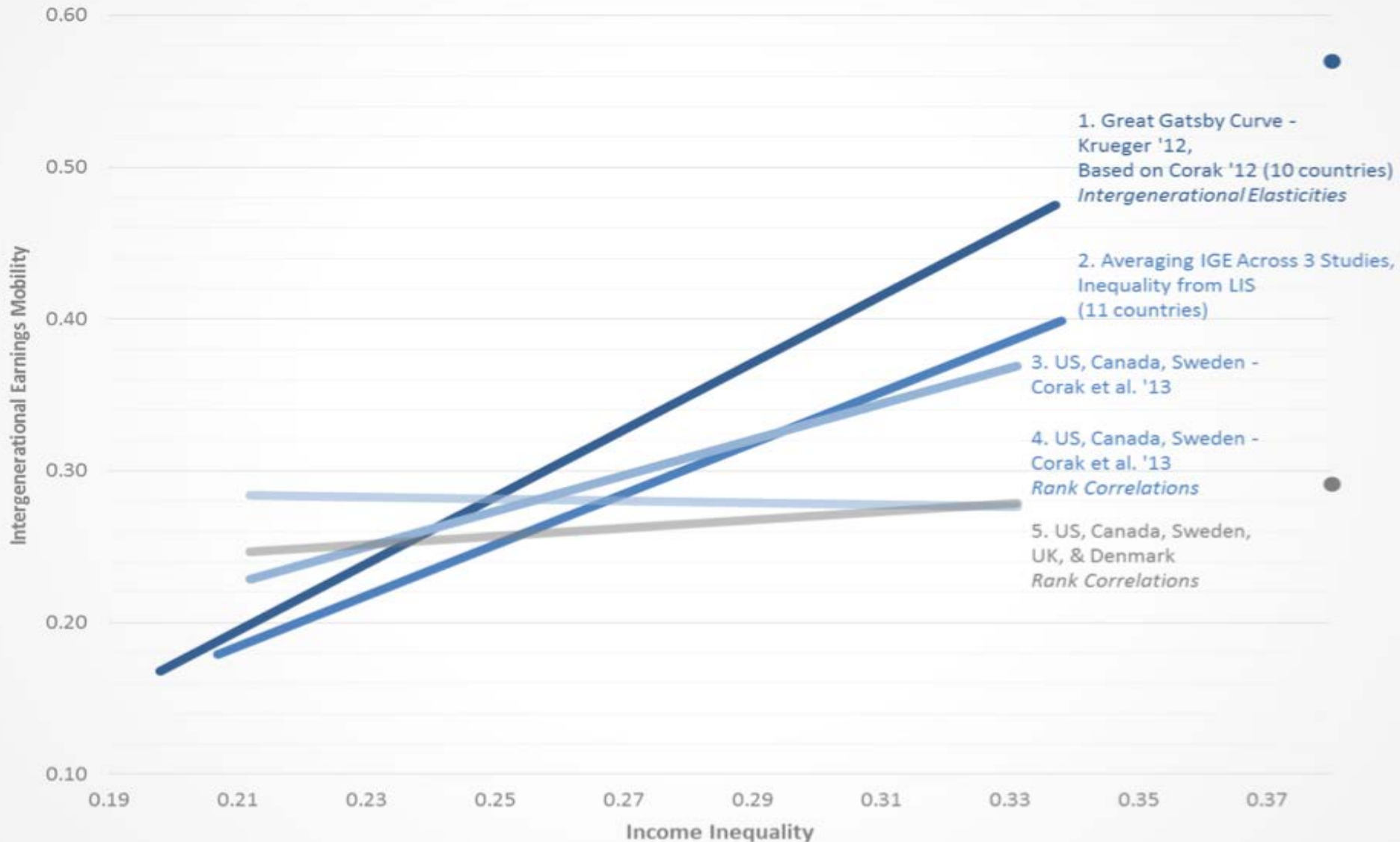




# Intuition, Facts and Theory

- Is your intuition now confirmed by “facts”?
- The positive correlation is sensitive to what countries are included and to how you measure income elasticity and income inequality

# Collapse of the Great Gatsby Curve



From Prof Alan Krueger , Chair, US Council of Economic Advisors, Jan 2012





- The correlation you observed is actually meaningless because you should really be looking at what happens to inequality over time in these countries when intergenerational mobility increases or decreases, and you have to explain why it happens
- Without a theory you really have learned nothing from the “facts” you just saw
- You have claimed what the data couldn’t show



# Our Narrative Begins in the US

- Let us take a look at the best available study from the US (by Raj Chetty, et al., 2014) to help fix ideas
- Growing public perception that intergenerational mobility has declined and income inequality has risen in the US
- Analyze trends in mobility for 1971-1993 birth cohorts using administrative data on more than 50 million children and their parents

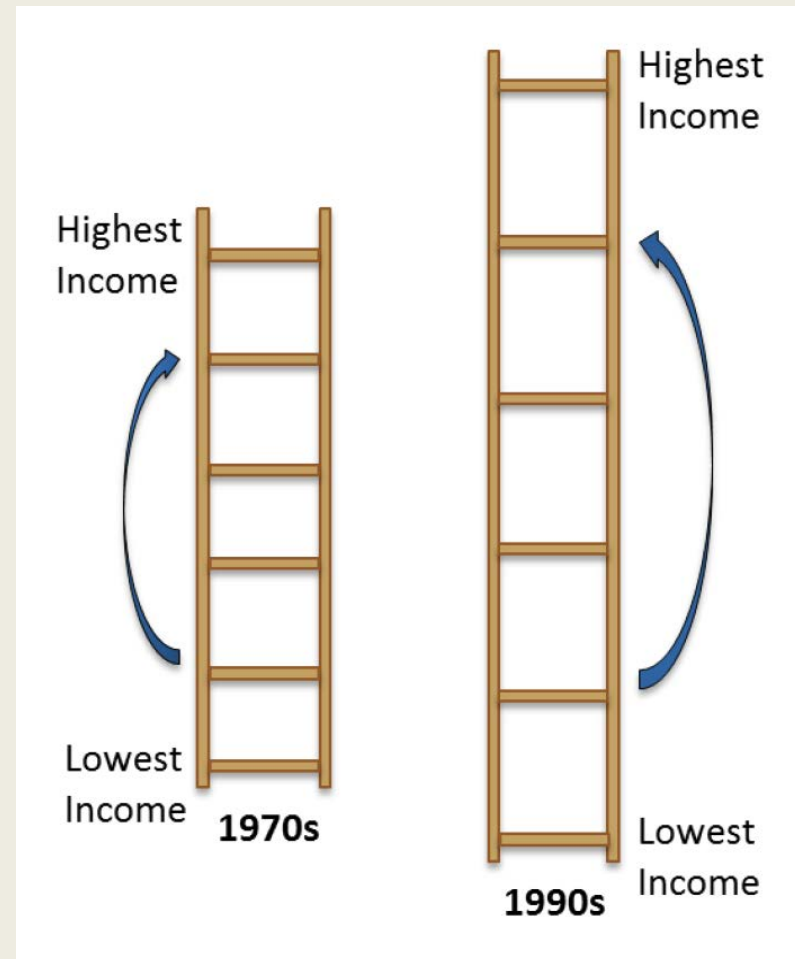


# Two main empirical results

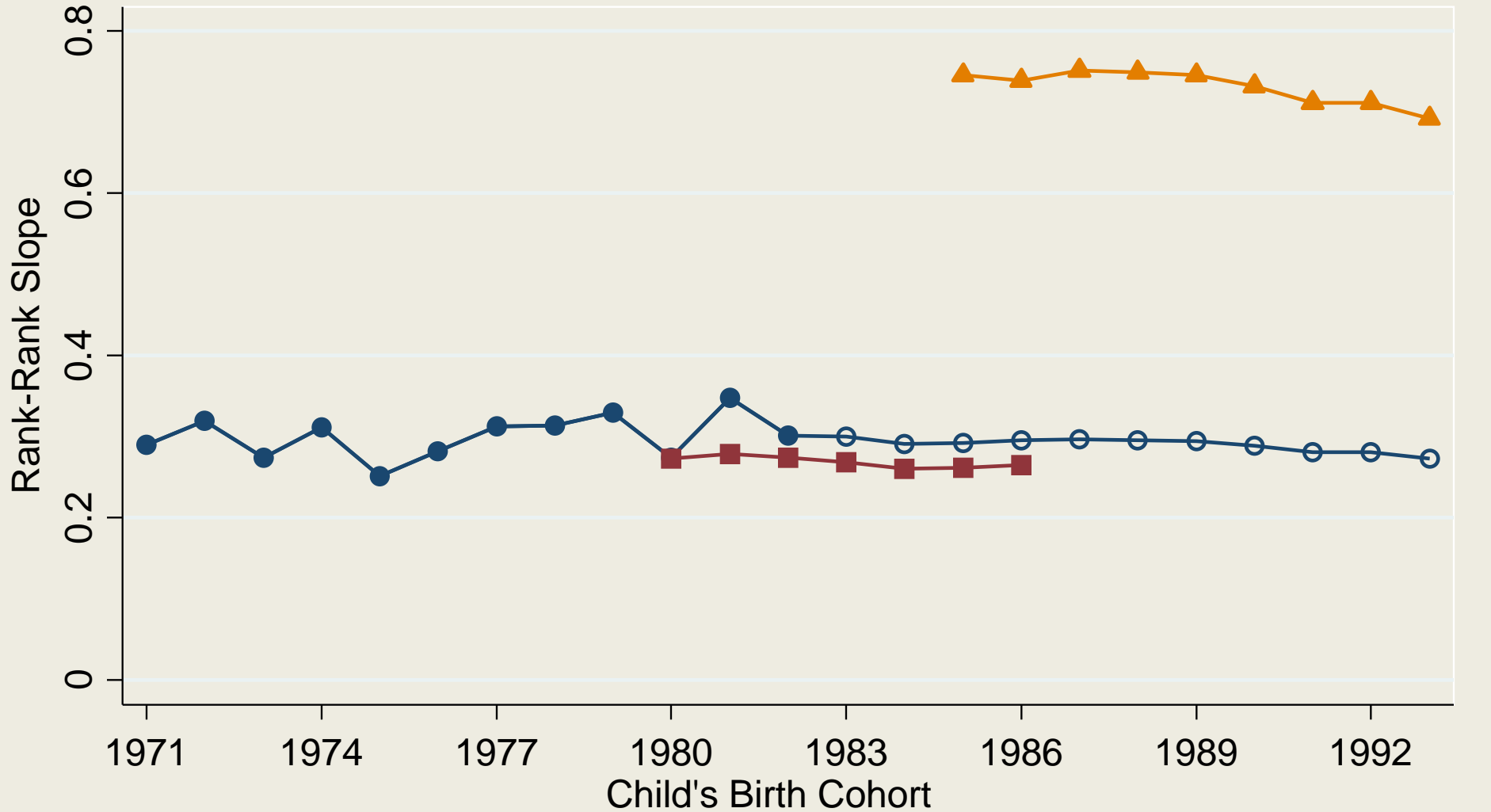
- Income inequality has increased over time
  - Consequences of the “birth lottery” for the parents to whom a child is born are larger today than in the past
- Relationship between parent and child percentile ranks in income is unchanged
  - Chance of moving from bottom to top fifth of income distribution no lower for children entering labor market today than in the 1970s

# Changes in Income Ladder in the US

- The rungs of income ladder have grown further apart (income inequality has increased)
- ....but number of steps children have to climb from lower to higher rungs have not changed

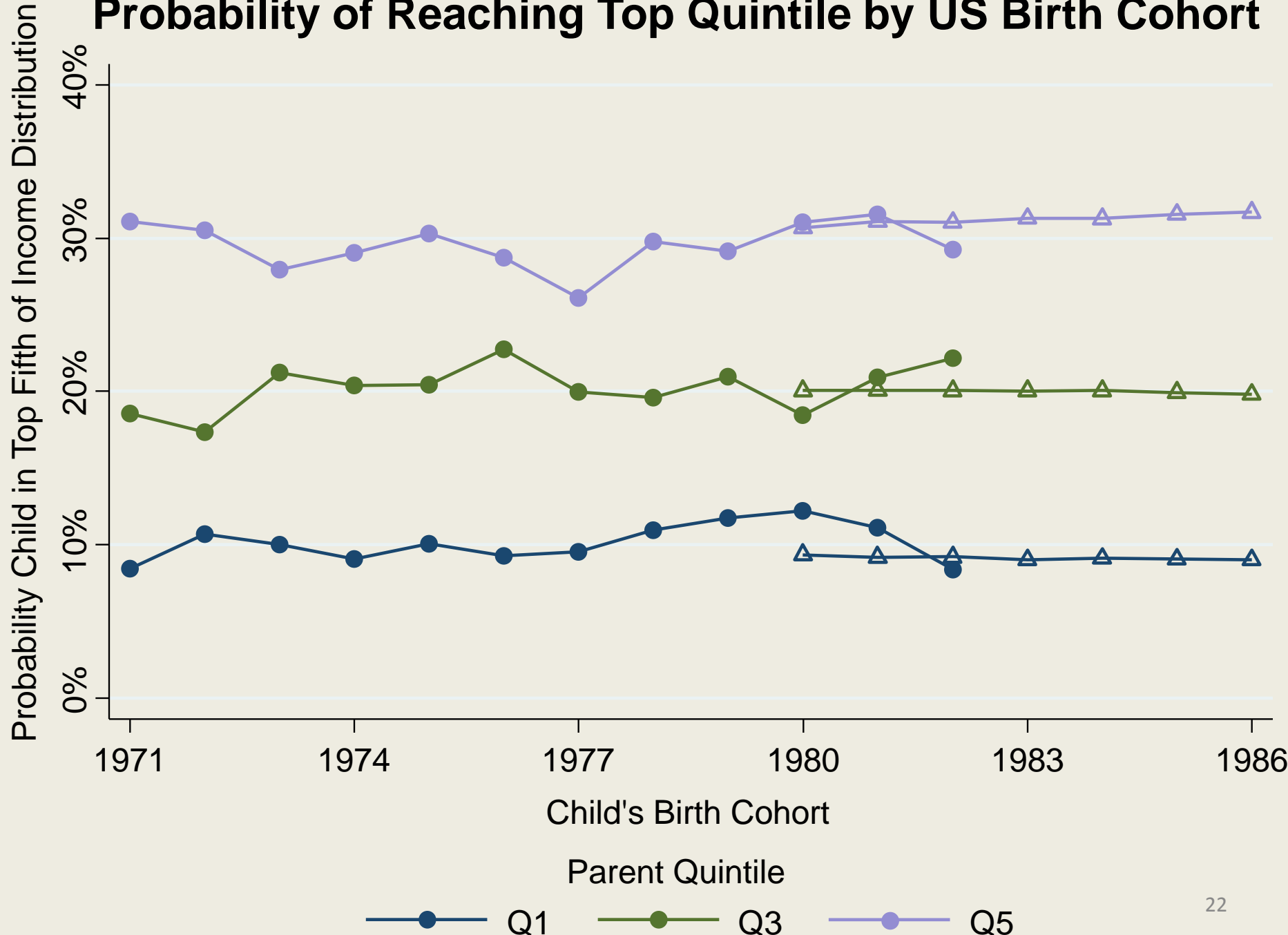


# Intergenerational Mobility Estimates for the 1971-1993 Birth Cohorts



- Income Rank-Rank (Child Age 30; SOI Sample)
- Income Rank-Rank (Child Age 26; Pop. Sample)
- Forecast Based on Age 26 Income and College Attendance
- College-Income Gradient (Child Age 19; Pop. Sample)

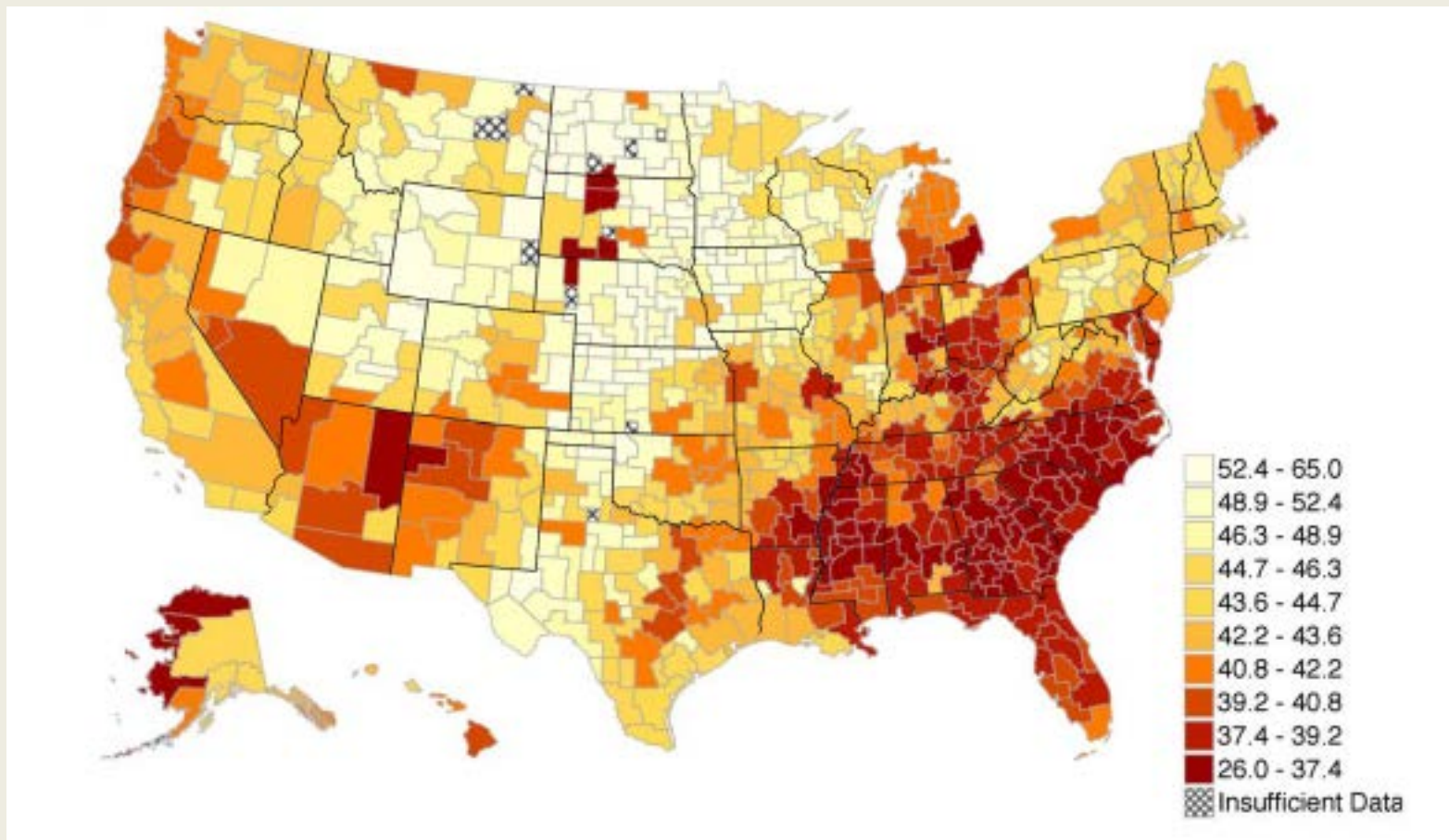
# Probability of Reaching Top Quintile by US Birth Cohort





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# Geography of US Intergenerational Mobility



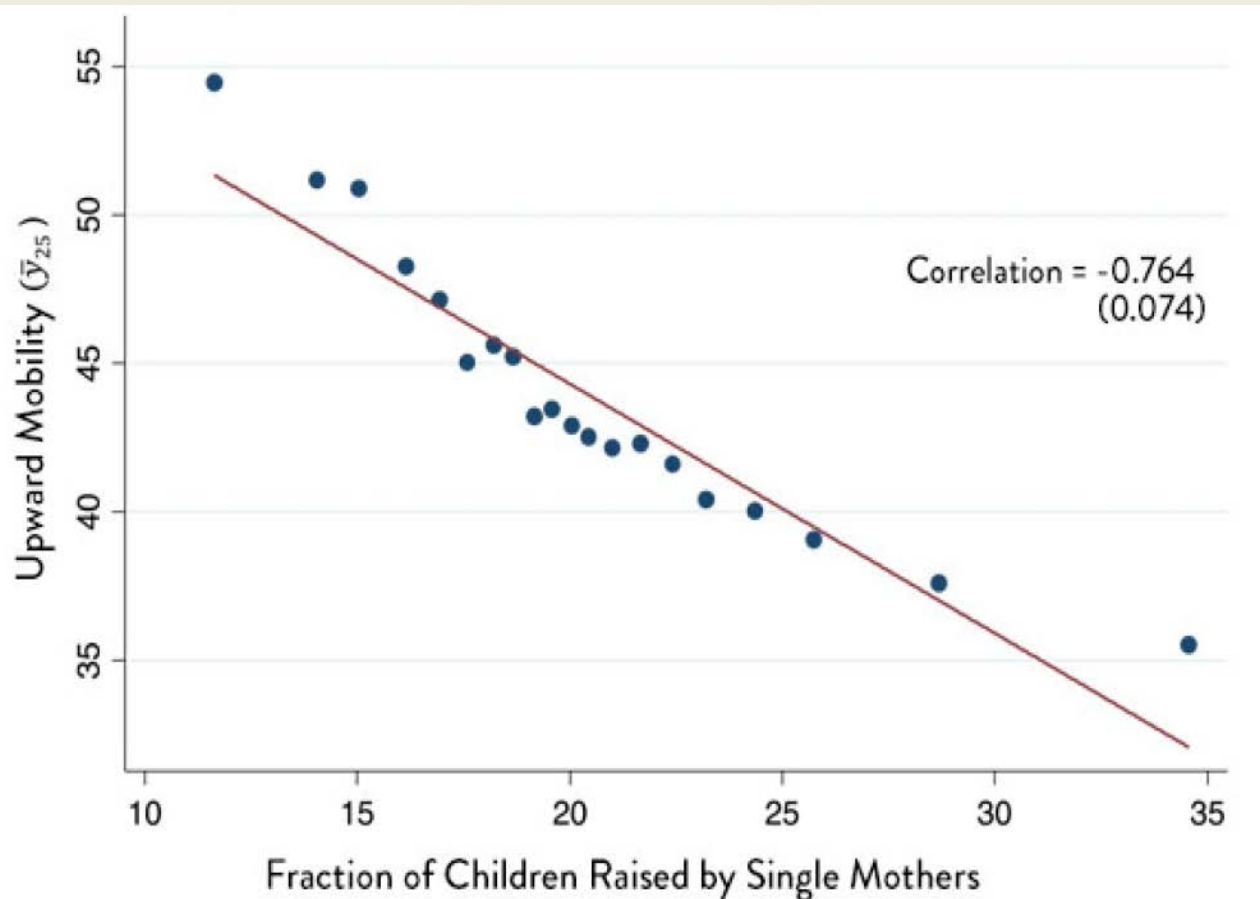


- **Segregation.** Upward mobility is significantly lower in areas with large, heavily segregated African-American populations. The study notes that whites in these areas also have low upward mobility rates.
- **Inequality.** Factors that erode the middle class hamper intergenerational mobility more than the factors that lead to income growth in the upper tail.
- **Quality of education.** Areas with higher test scores and lower dropout rates do better.
- **Social capital.** Strong community social networks and community involvement contributes to the community's upward mobility rates.
- **Family structure.** The percentage of single parents in a community is the strongest predictor of upward mobility. Children of married parents also have higher upward mobility if they live in communities with fewer single parents.





# Upward Mobility by Share of Single Mothers in the Community



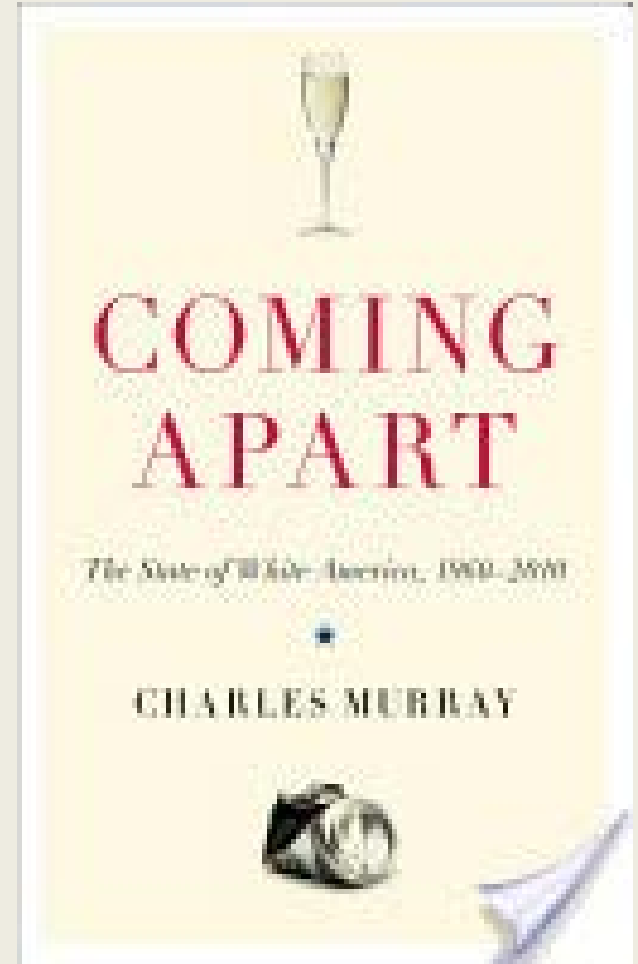
Source: Chetty, et al., 2014



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# The State of White America, 1960-2010

If the low-income high  
divorce families are sinking  
then how can upward mobility  
still be unchanged in the US?  
The high-income families are  
staying together and their  
children are doing even better:  
**Story of Fishtown and Belmont**





# What Determines Individual Income Inequality?

- What is individual labor earnings
- Earnings = Wage x Hours worked per period
- Inequality of wage rates and hours of work affect inequality of earnings
- **Wage rate depends on productivity**  
*(education, soft skills, health)*
- **Hours worked per year depends on incentives**  
*(wage rate, other sources of income, taxes, welfare subsidies, health, macroeconomic conditions, ability to work with others)*



# Lifetime Earnings

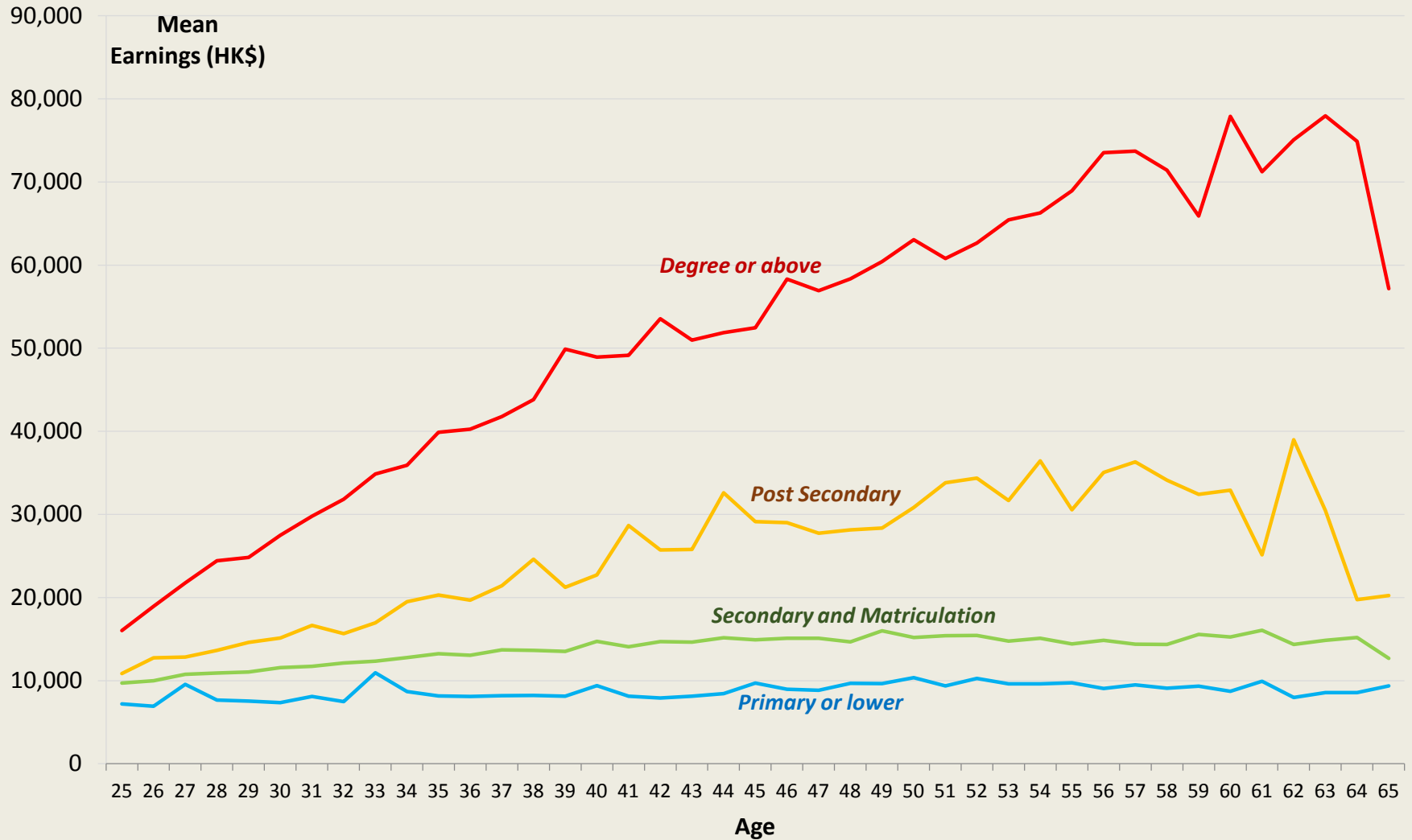
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- Earnings at a point in the life cycle or over a lifetime?
- What is a person's true economic position? Who is rich? Who is poor?
- A cross-section measure of individual income takes a snapshot at a moment in time
- Crucially it fails to control for age and schooling
- Can a snapshot be representative of a lifetime's earnings?
- Households are even more complicated and are at different stages of their life cycle
- Schooling is generally a much better measure of lifetime earnings of an individual and the household



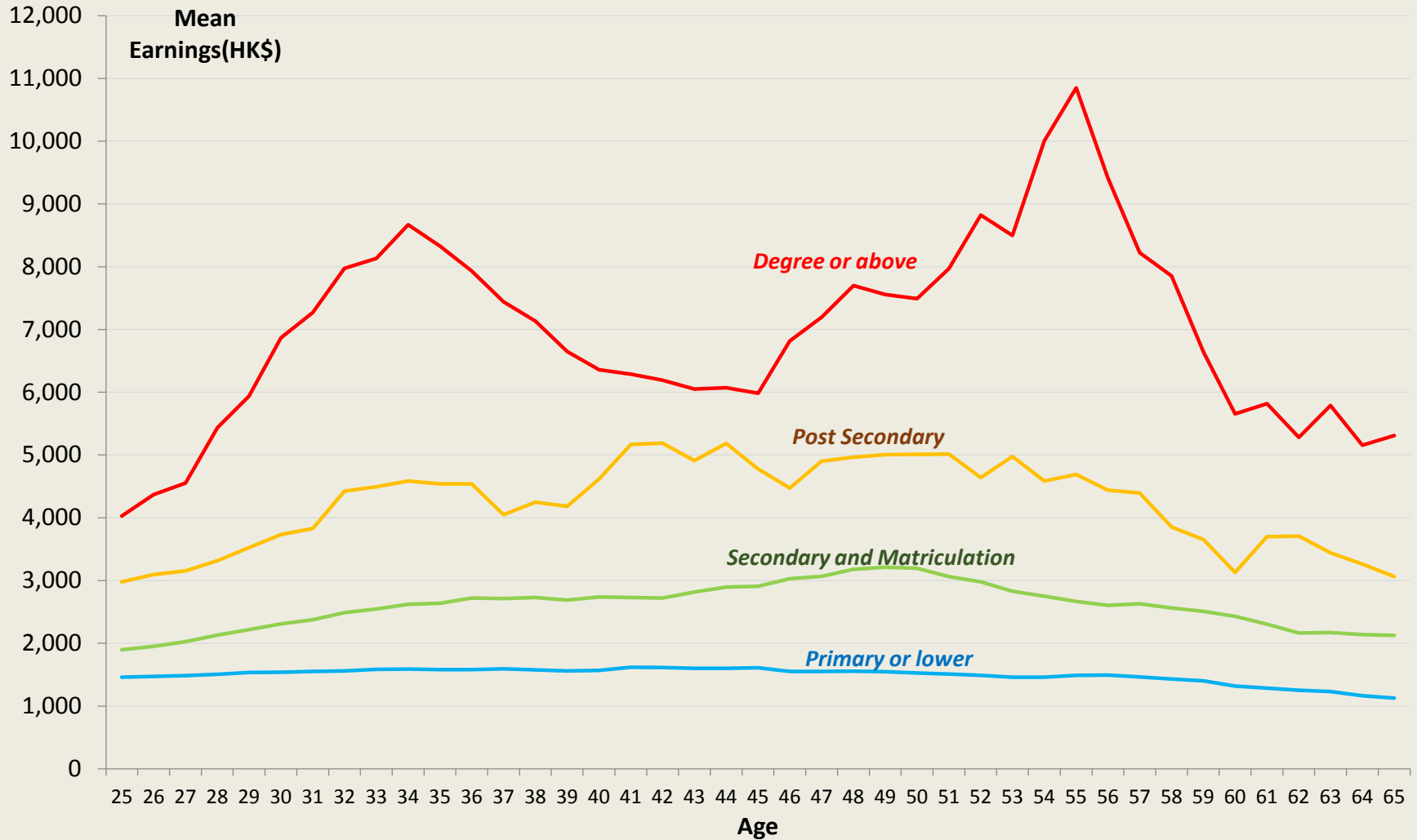
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# Hong Kong – Mean Earnings by Age, 2011





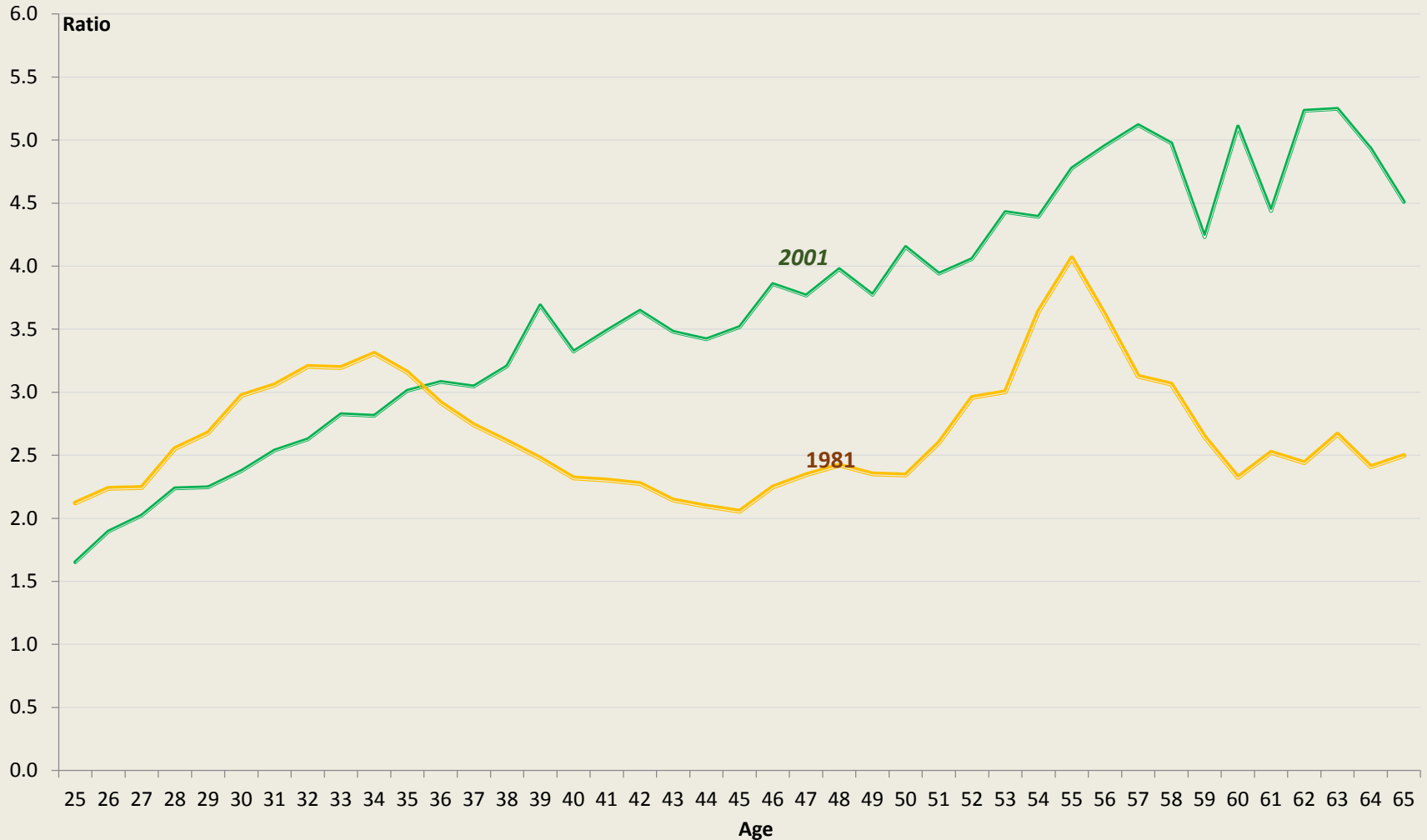
# Hong Kong- Mean Earnings by age, 1981





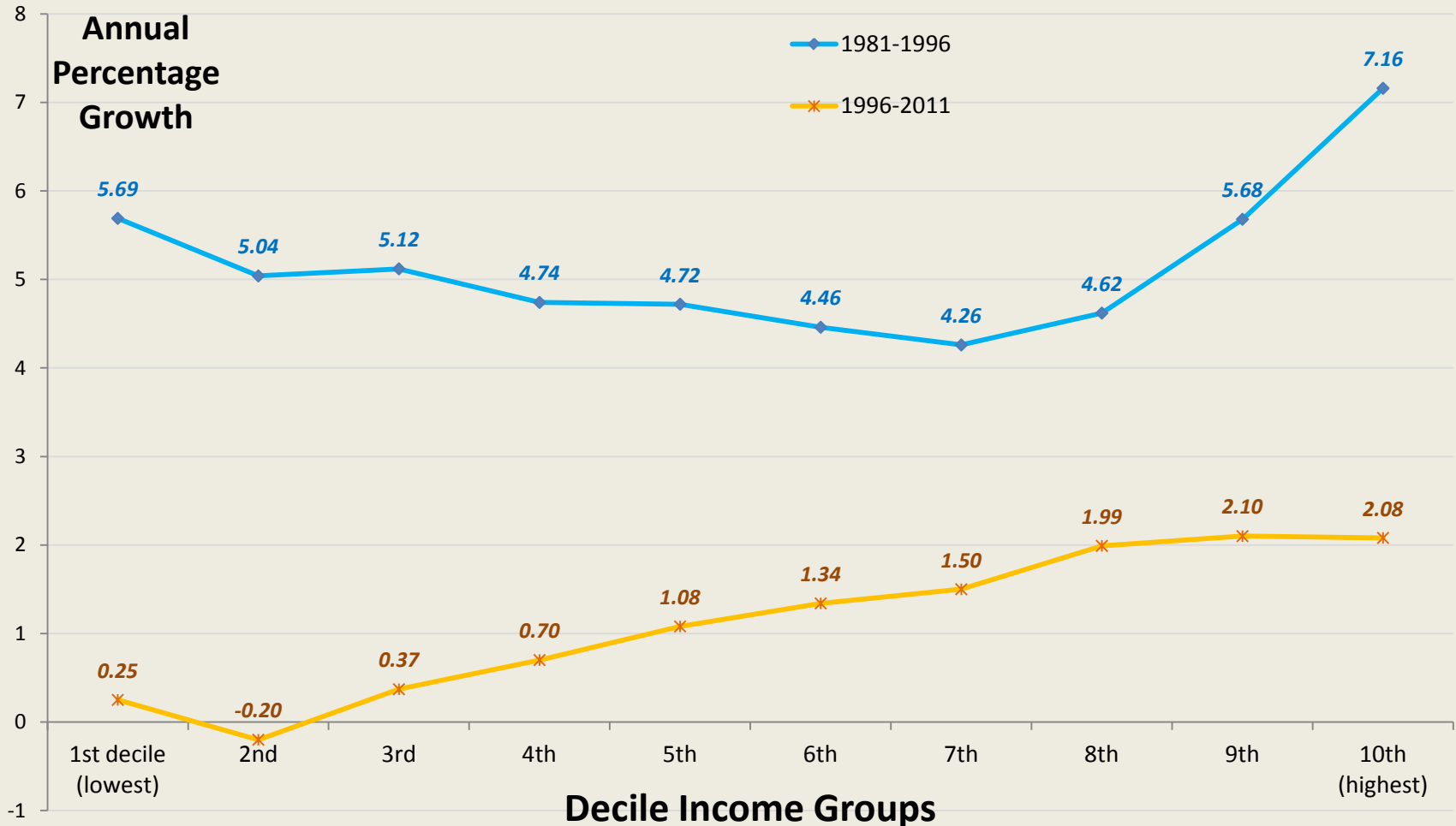
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# Hong Kong - Earnings of degree graduates divided by secondary and matriculation students, 1981 & 2011





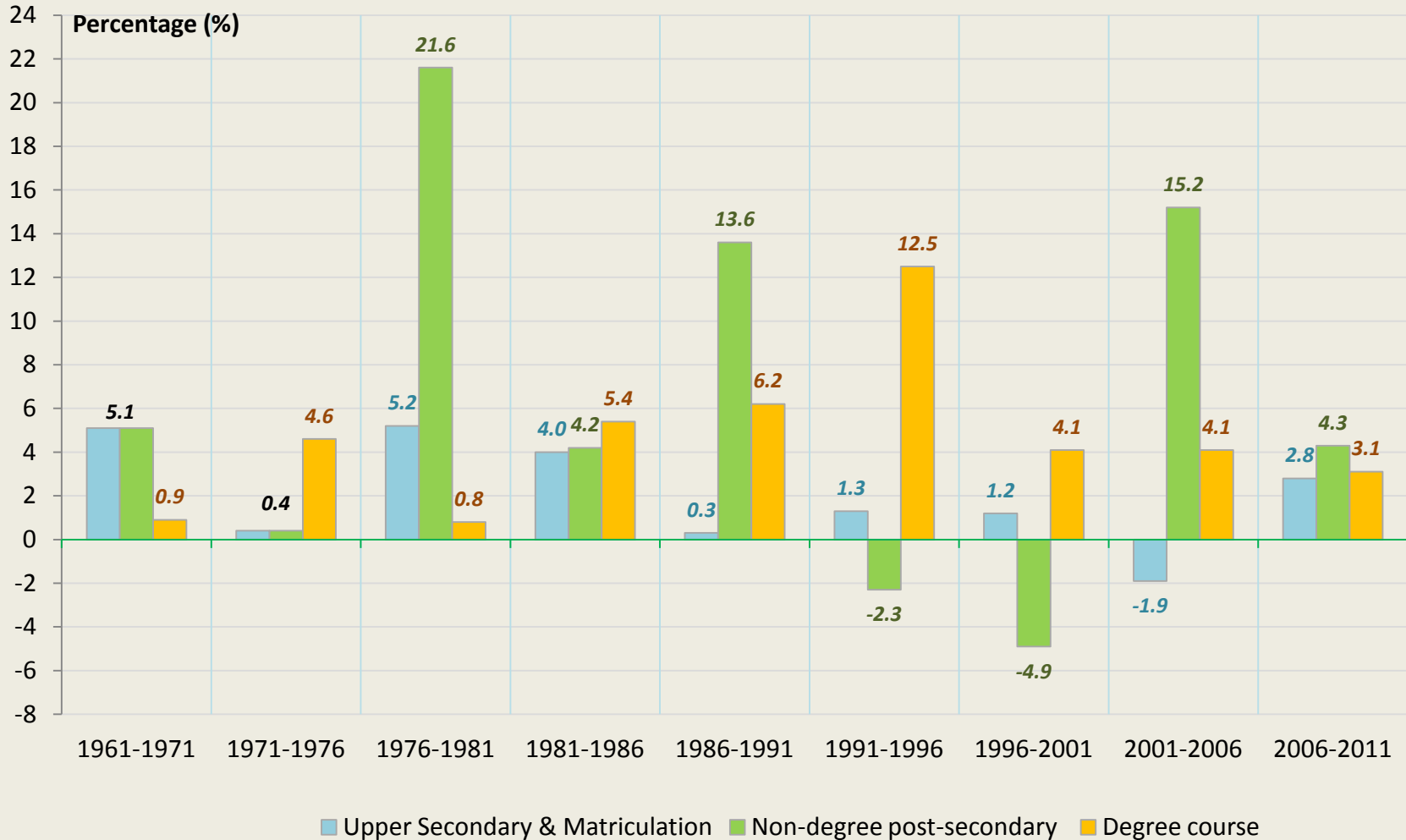
# Annual Percentage Growth of Real Median Monthly Individual Income by Decile Groups (1981-2011)





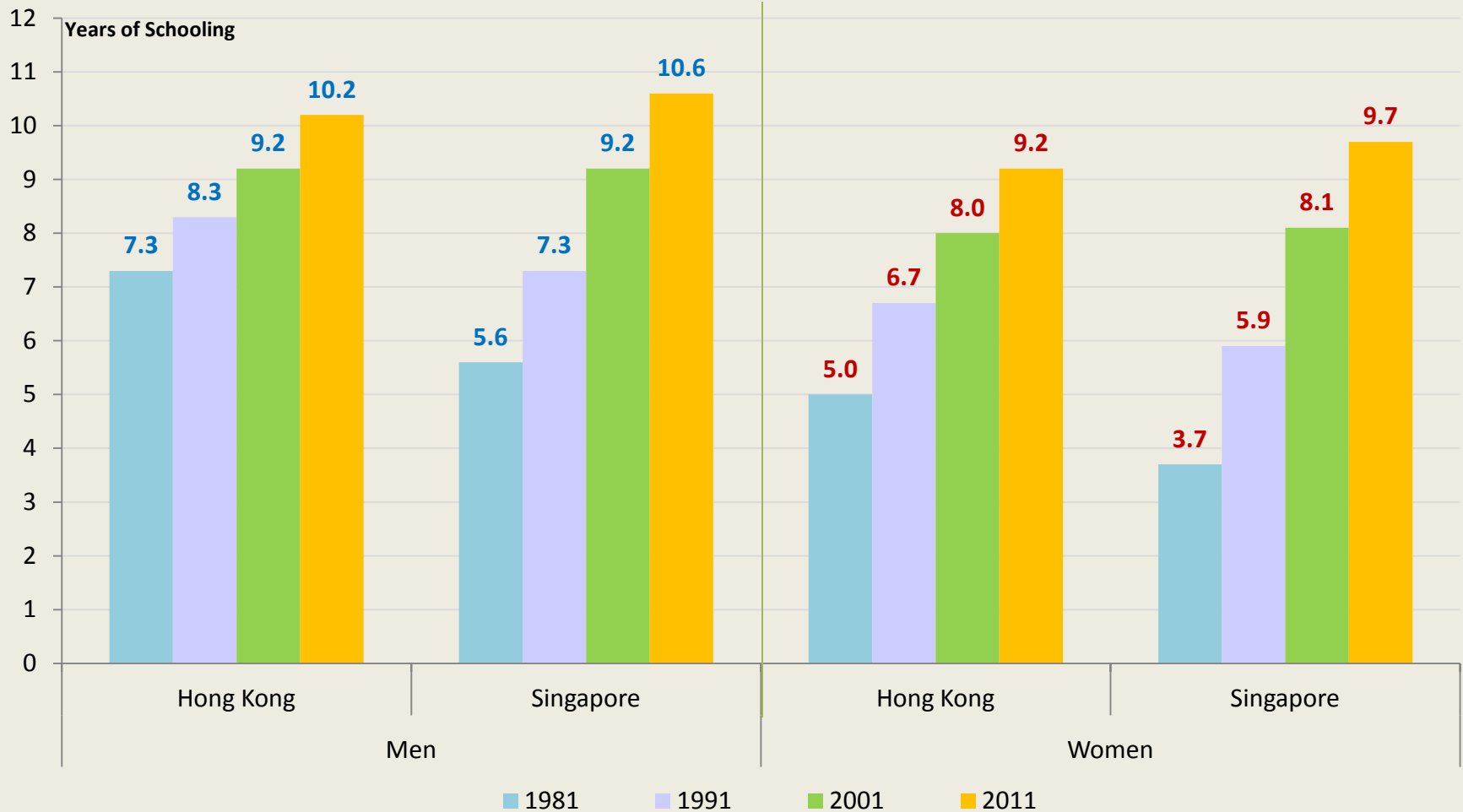


# Annual Percentage Increase in Population Aged 15+ by Education (1961-2011)



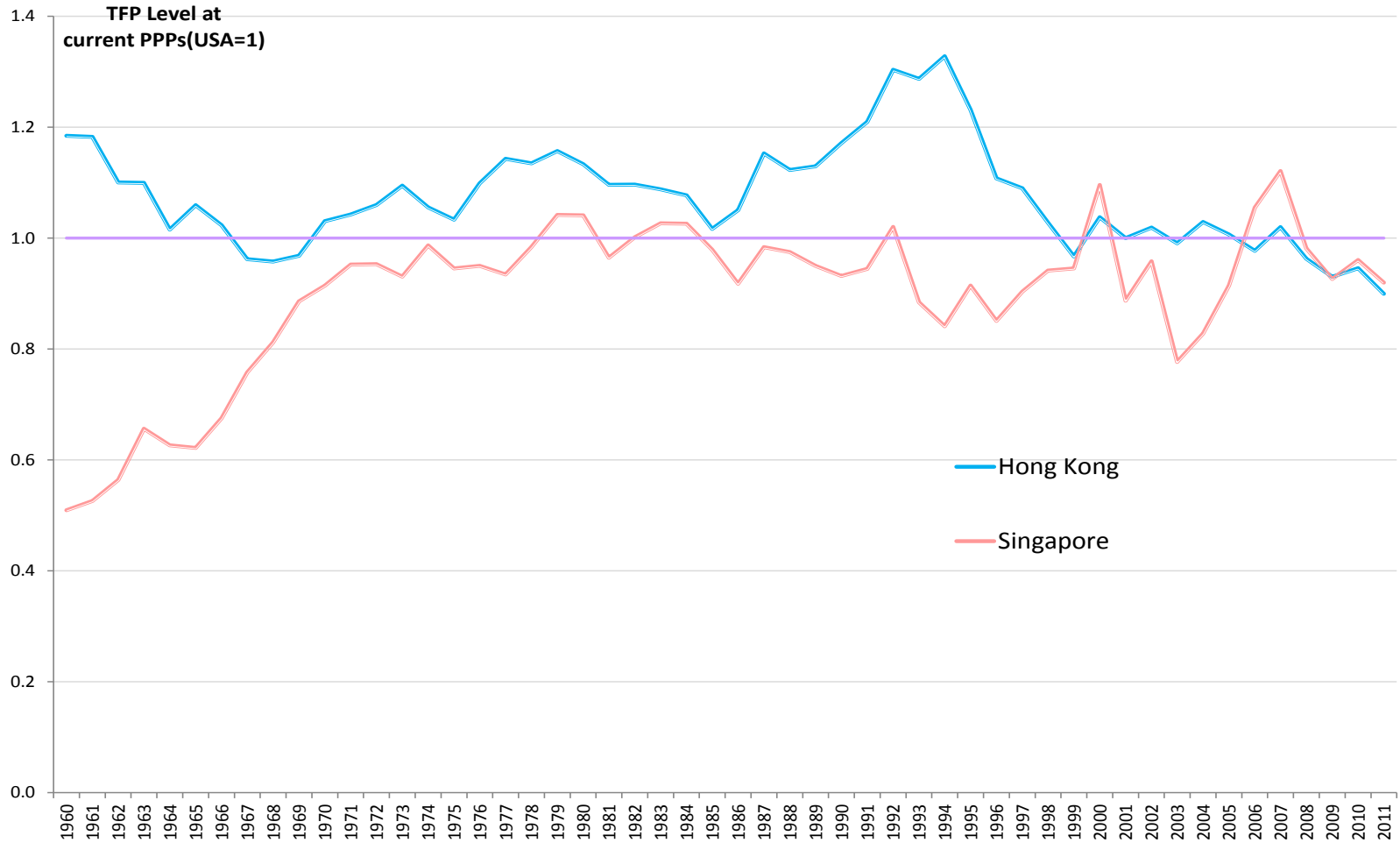


# Average Years of Schooling in Hong Kong and Singapore (aged 25+)



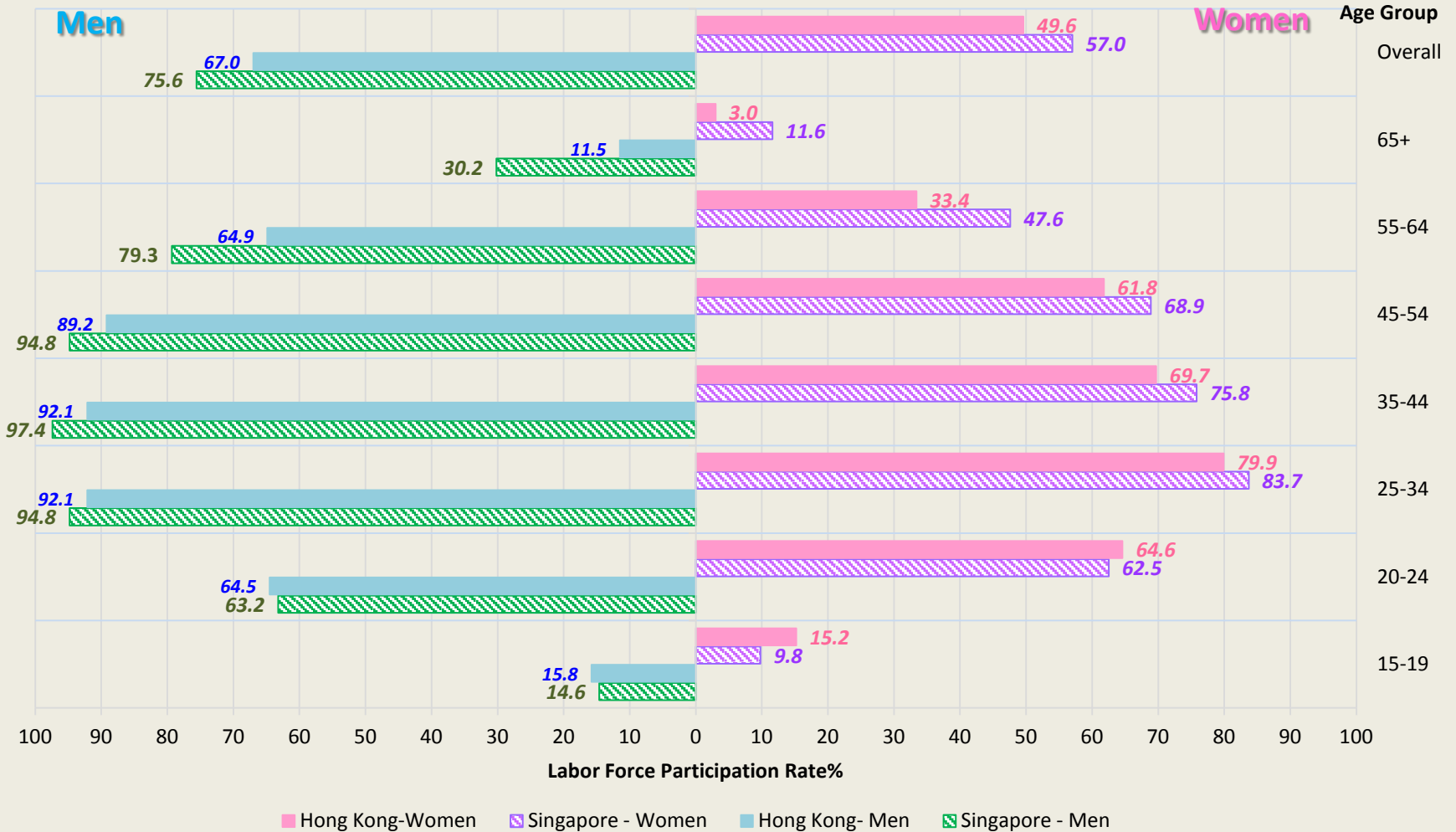


# Total Factor Productivity in Hong Kong and Singapore 1960-2011



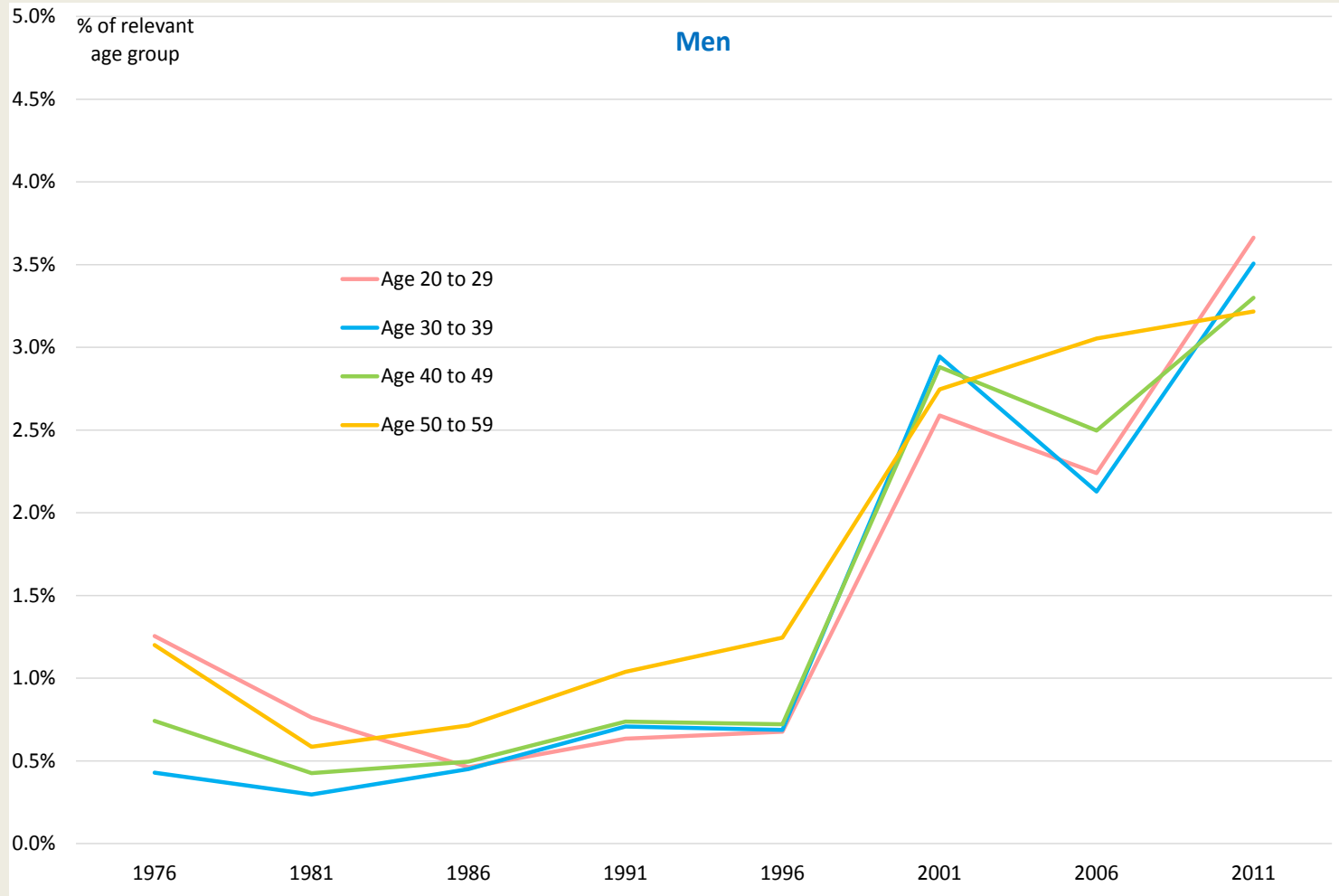


# Labor Force Participation Rates in Hong Kong and Singapore 2011 (in %)



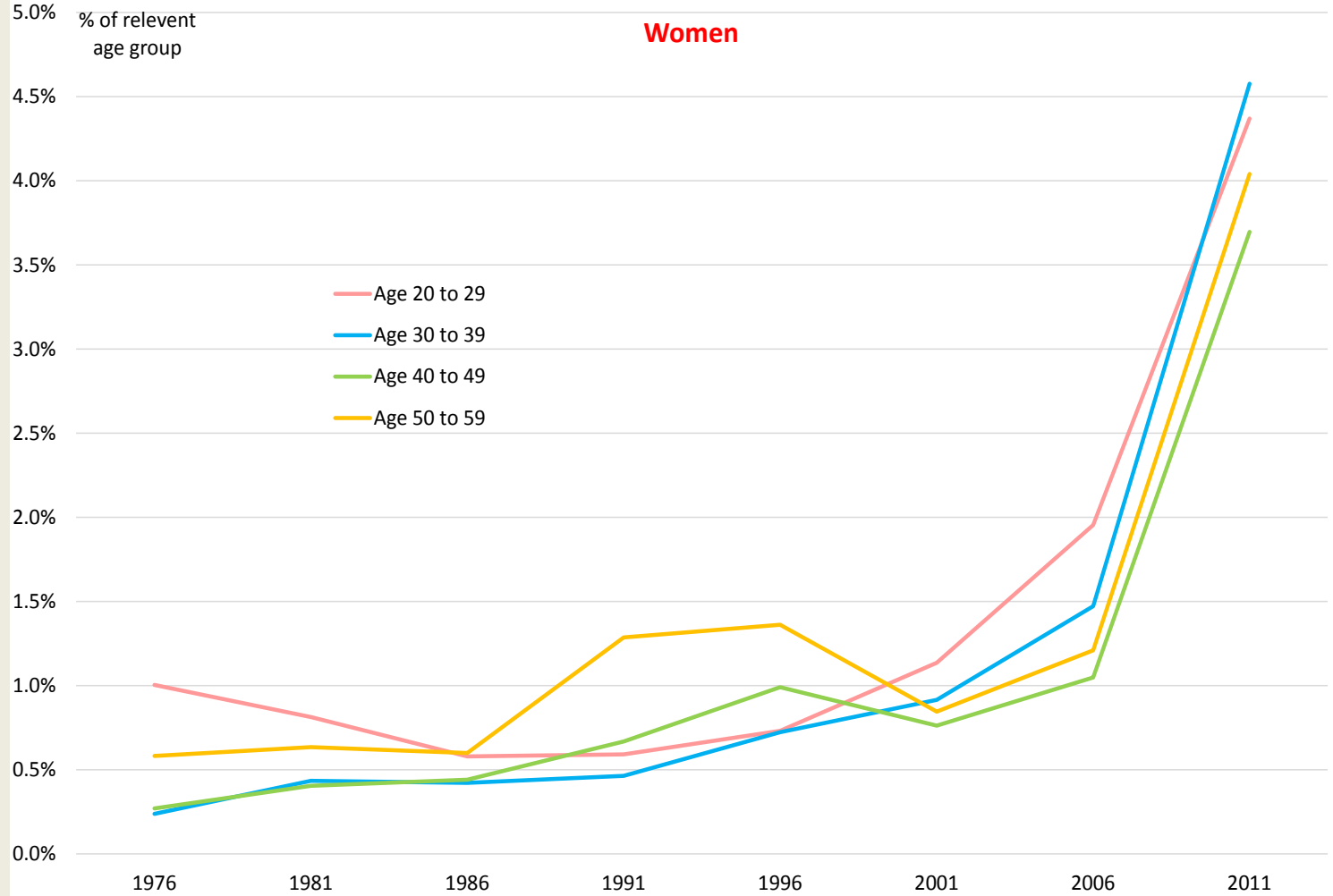


# Percentage of Men not in the Labor Force for No Compelling Reason by Age



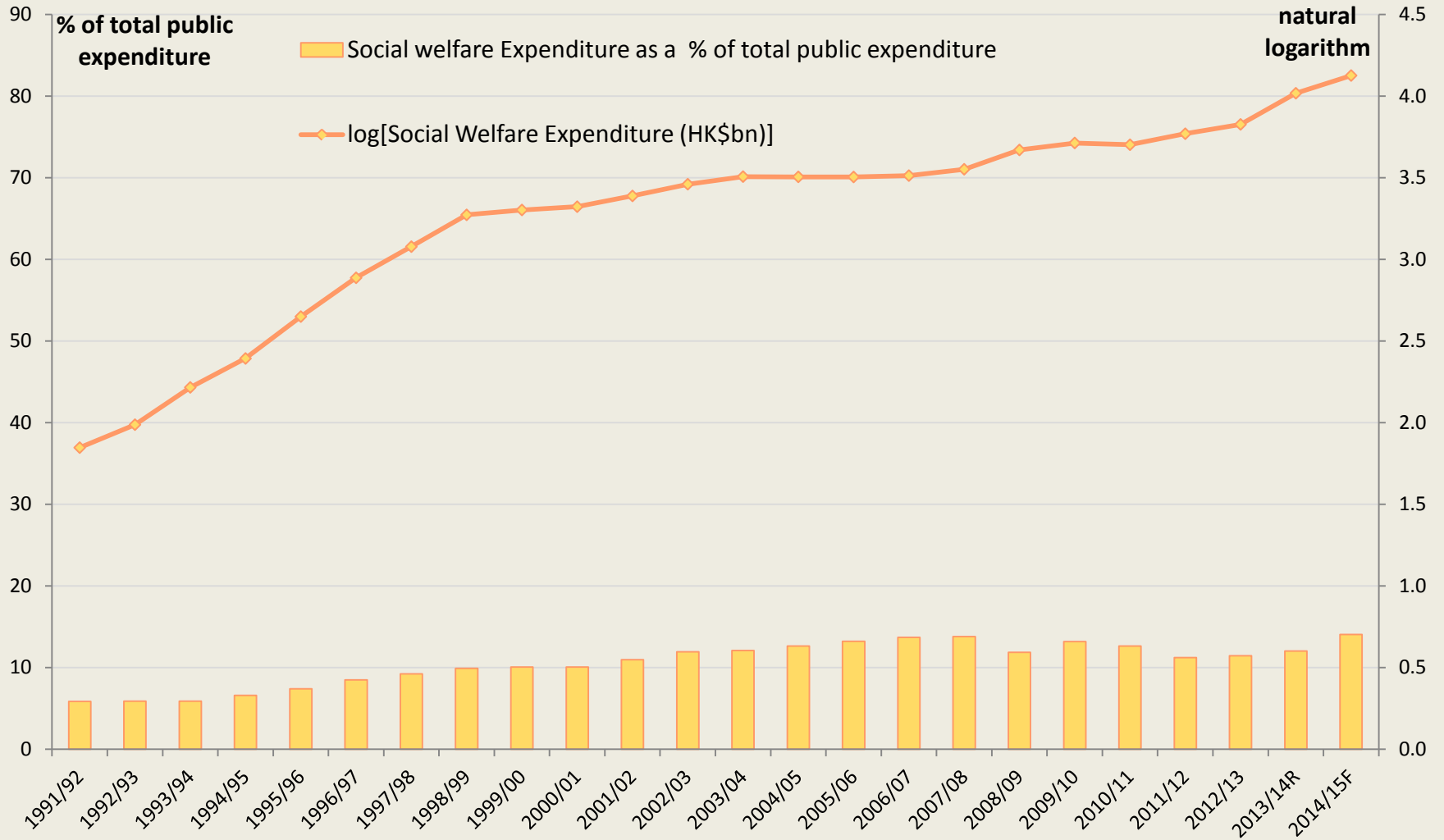


# Percentage of Women not in the Labor Force for No Compelling Reason by Age





# Social Welfare and Public Expenditures





# Household Income Inequality

- Household earnings is the sum of the earnings of individual members
- Depends on each member's earnings, i.e., wage rate and hours worked
- Household size matters. Whether members work matters. Who marries who matter. Who divorces matter.
- Why? And how has this changed over time?
- All these factors affect household earnings inequality



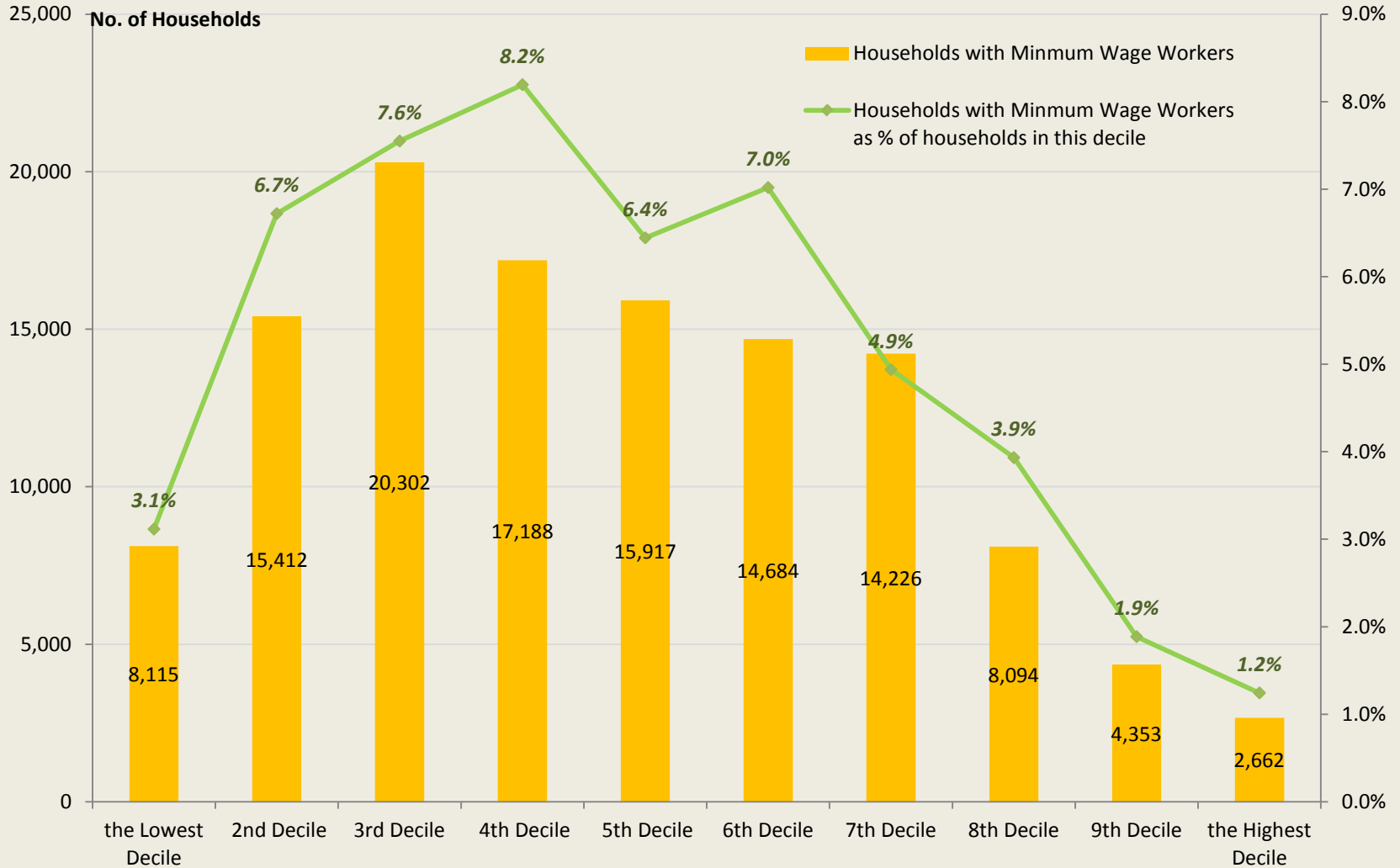


# Do Minimum Wages Reduce Inequality?

- Here is an example of a theory without a fact
- Minimum wages are introduced to help poor families
- Will it do so? What is your *intuition*?
- What proportion of the minimum wage workers are in low-income households?



# Number of Households and Households with Minimum Wage Workers by Income Deciles 2011





# Marital Sorting

- Educated men marries educated women
- More women became well educated over time and therefore more working women
- Over time households with well educated couples become a two-income family
- $M:100+W:50 \Rightarrow HH:100$ ;  $M:100+W:75 \Rightarrow HH:175$
- Households with less well educated couples remain a one-income family
- $M:60+W:30 \Rightarrow HH:60$ ;  $M:60+W:45 \Rightarrow HH:60$



- 50 years ago most women did not work, even well educated women
- Today more well educated women work, but many of the less well-educated still do not work
- Household earnings inequality therefore increases even if individual earnings inequality do not

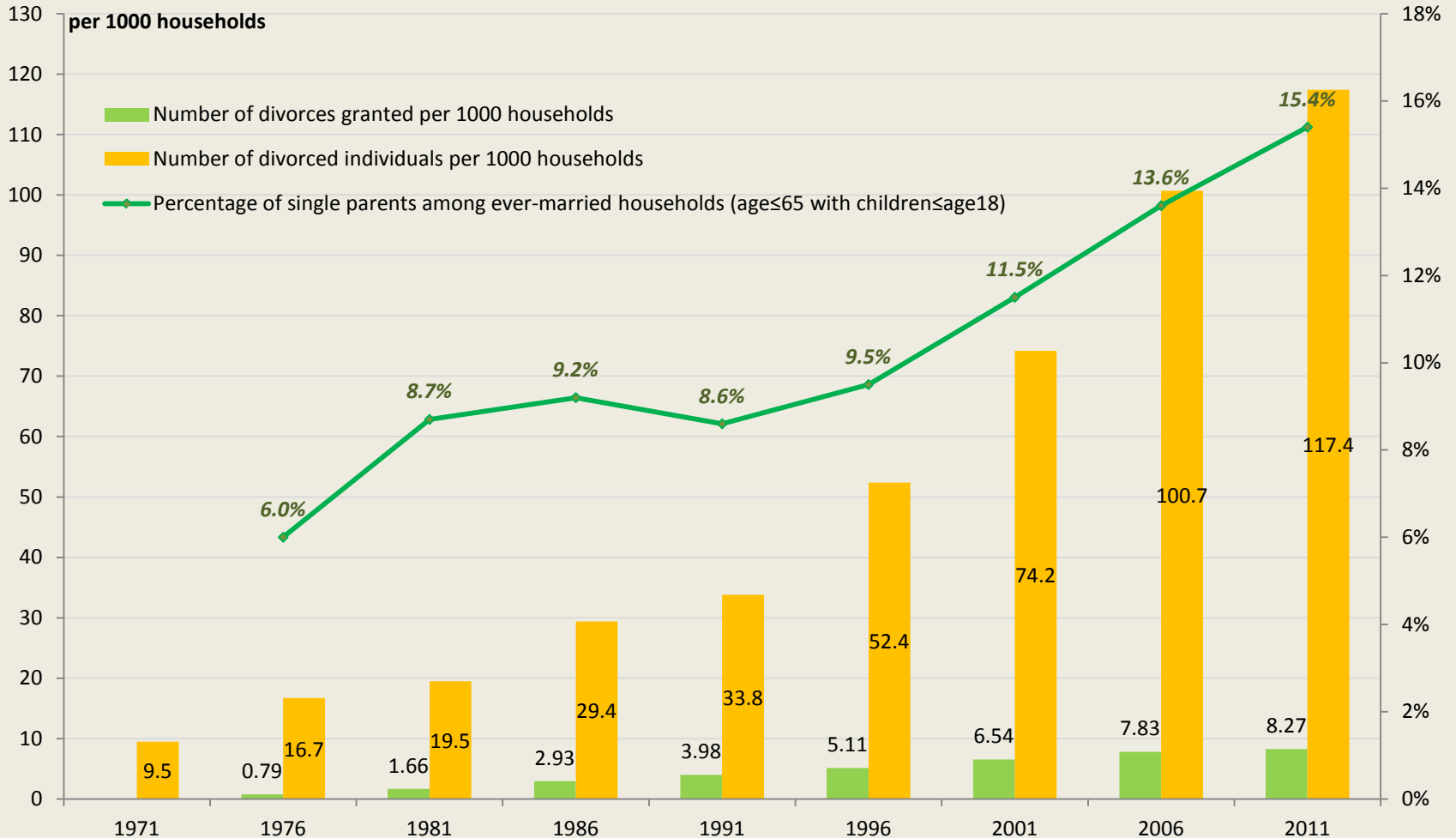


# Single Parenthood

- Divorces have increased rapidly in HK
- Higher among low-income families
- Consider two households:
  - Family R  $\Rightarrow$  M=100 W=100 Total=200
  - Family P  $\Rightarrow$  M=50 W=50 Total=100
  - Average household income = 150
- Now Family P divorces
  - Family R  $\Rightarrow$  M=100 W=100 Total=200
  - Family P1  $\Rightarrow$  M=50
  - Family P2  $\Rightarrow$  W=50
  - Average household income = 100 inequality widens



# Rising Incidence of Divorce 1971-2011



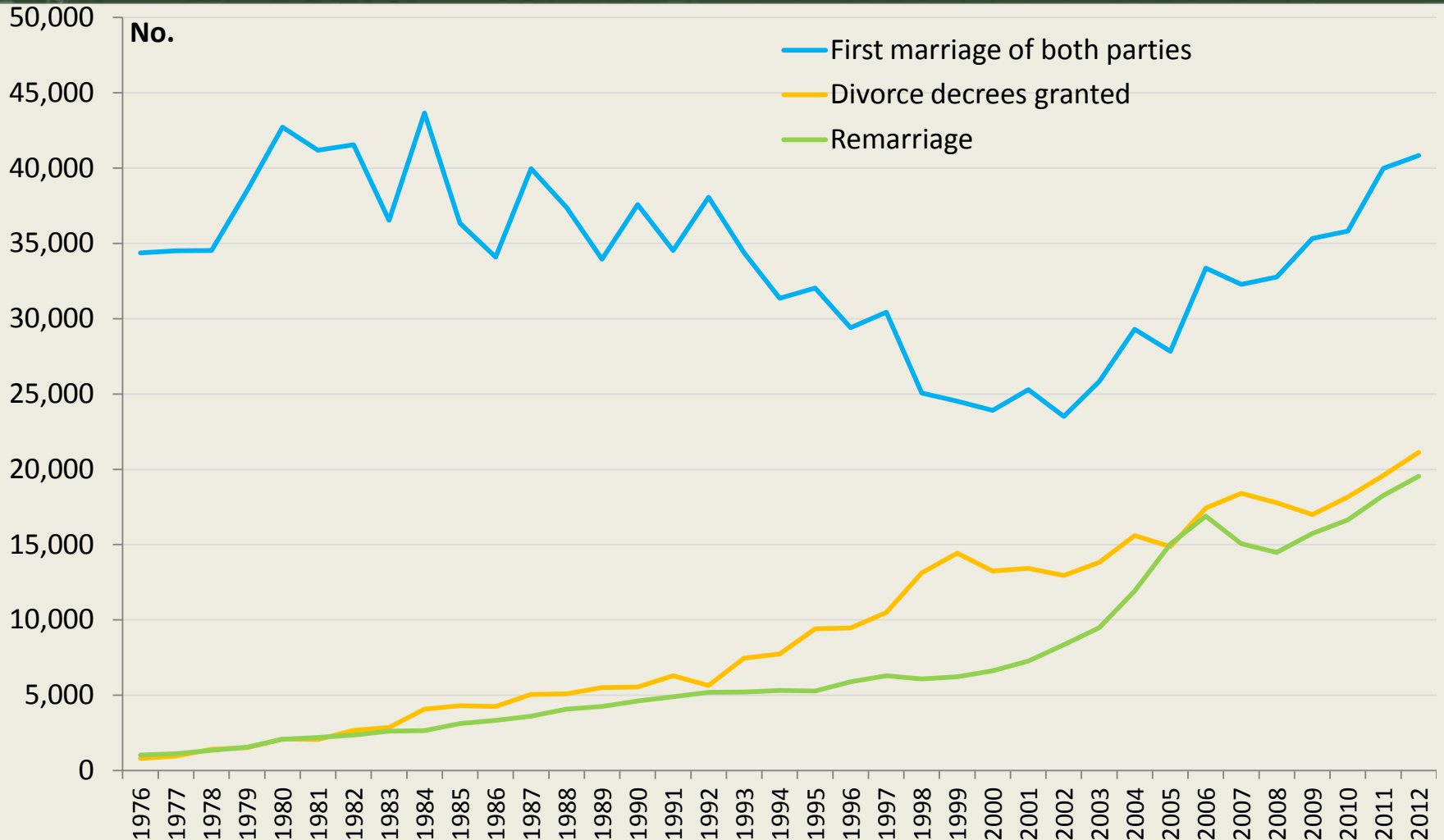


# HK Divorce Rate among Top 10 in the World

• Russia	4.8	Switzerland	2.8
• Belarus	4.1	Ukraine	2.8
• USA	3.6		
• Gibraltar	3.2	<b>Hong Kong</b>	<b>2.9</b>
• Moldova	3.1		
• Belgium	3.0	China	2.0
• Cuba	2.9	UK	2.0
• Czech Rep	2.9	Singapore	1.5



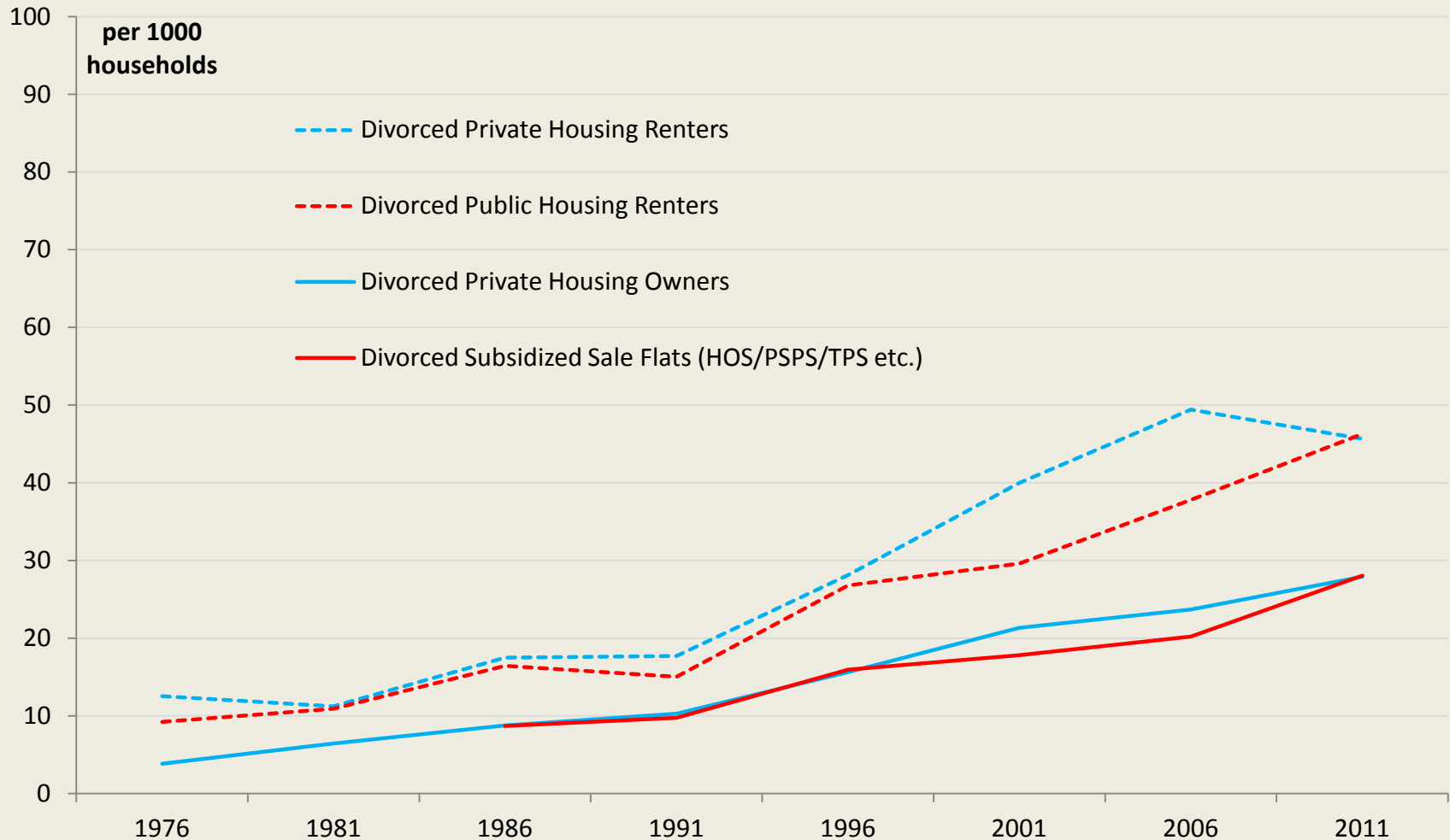
# First Marriages, Divorces and Remarriages





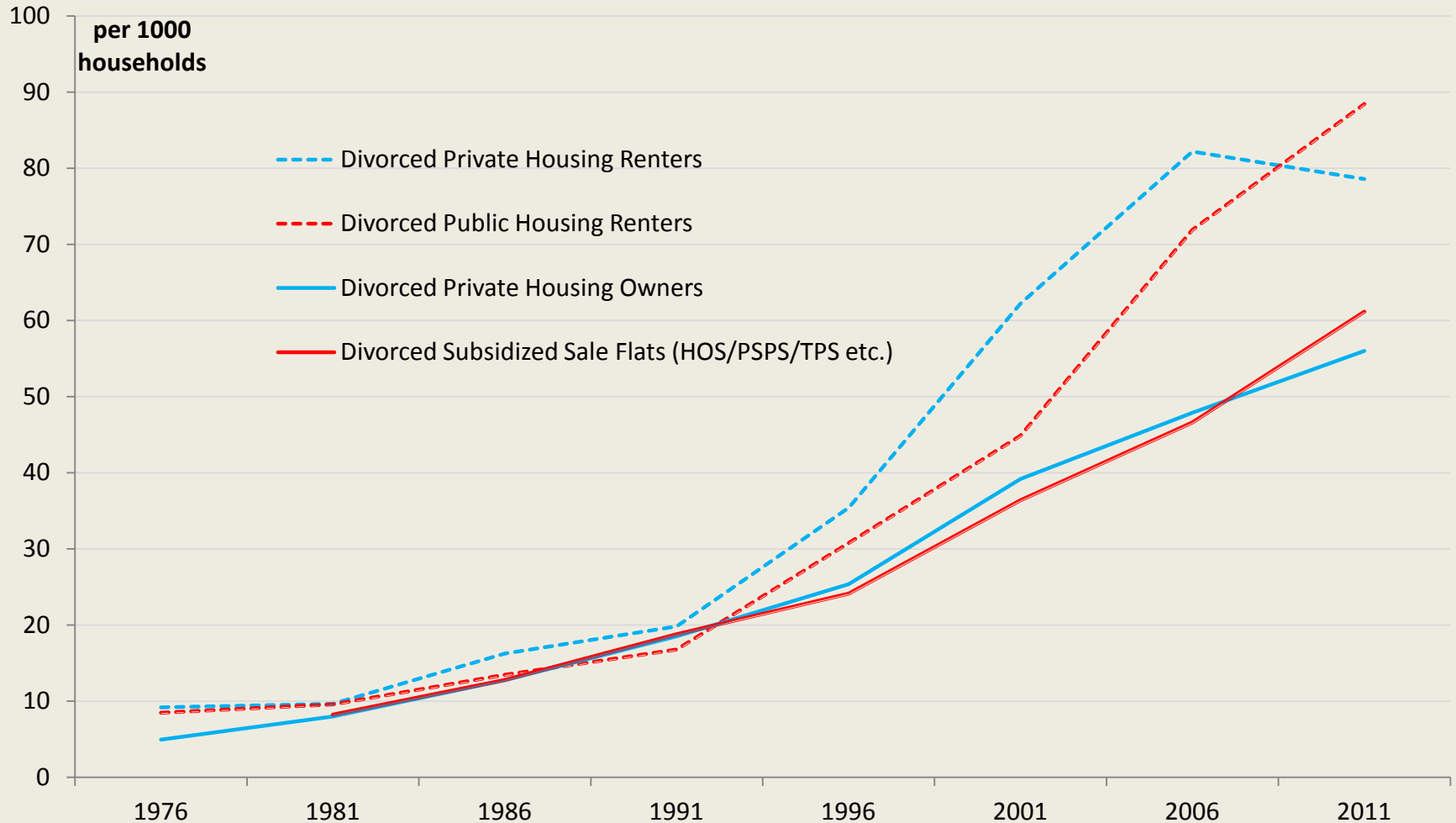


# Number of Divorced and Separated Men per 1000 Households by Housing Tenure





# Number of Divorced and Separated Women per 1000 Households by Housing Tenure





# Housing Tenure of Divorced Men and Women ('000s)

Marital Status and Sex	Year	Public Renter	Private Renter	Subsidized Flats	Private Owner	Total
Divorced men	1991	8	5.9	1	5	21
	2001	21	15	6	13	56
	2011	41	19	11	21	92
Divorced women	1991	9	7	2	11	29
	2001	33	24	11	25	92
	2011	78	33	23	42	176

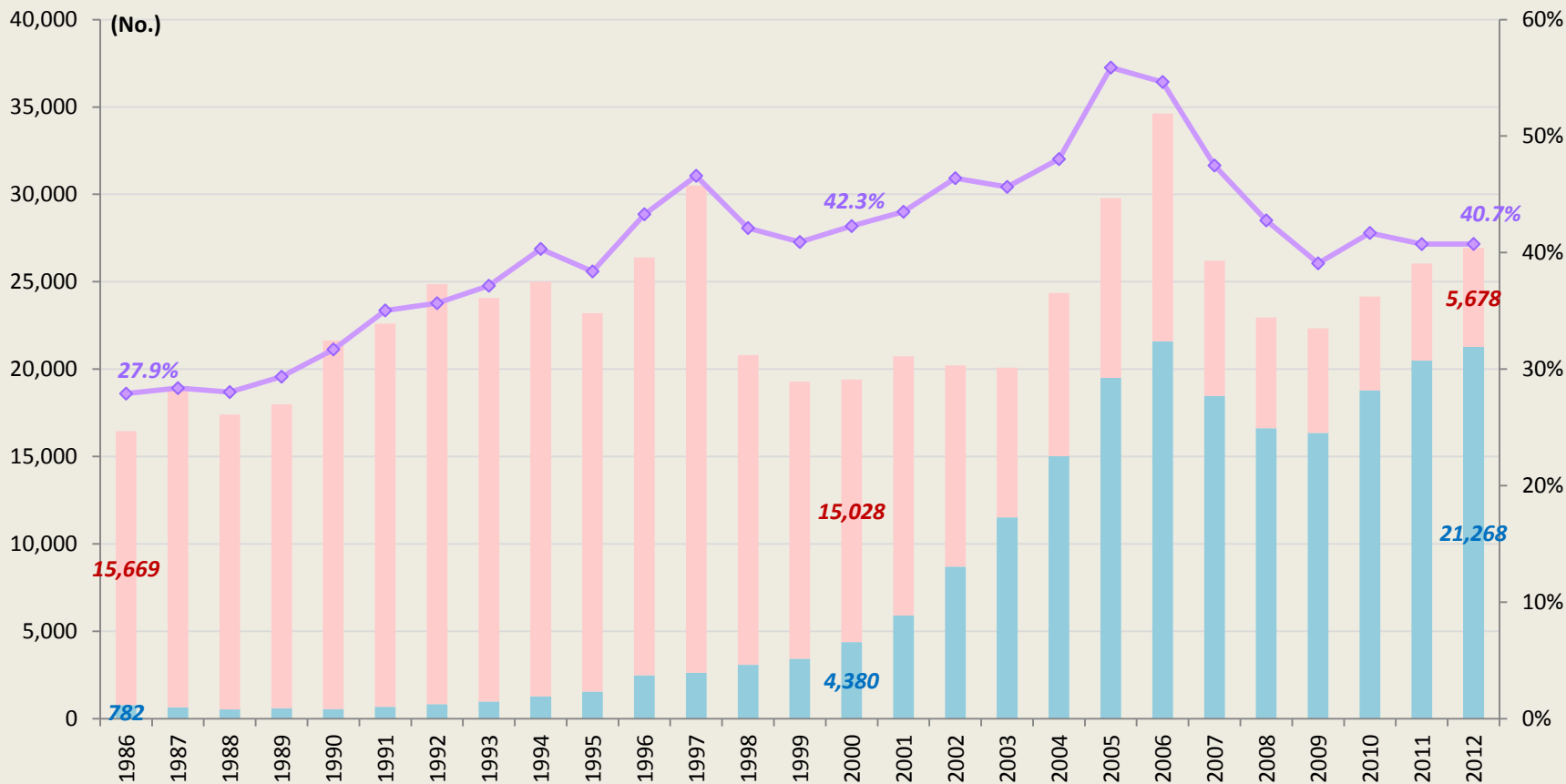


# Why are there More Divorced Women than Men?

- Cross-border brides
- After China's opening many low income single men living alone (some in caged homes or sub-divided units) can enjoy family life
- This has increased the demand for public rental housing
- For almost two decades, 40% of marriages involving a HK resident is a cross border one



# Cross border marriages in China and HK



Number of Marriages registered in China (estimated) - Successful Applicants of Certificate of Absence of Marriage Records (CAMR) for the purpose of marrying in the mainland of China

Number of Marriages registered in HK - Bridegrooms or brides from the mainland of China

Bridegrooms or brides from the mainland of China (Marriages registered in HK or China as % of total number of Marriages registered in HK and China)



# Are Recent Immigrants More Likely to Divorce?

- No.
- Multiple regressions of divorce rates of men and women on years of arrival of recent immigrants over 0-5,6-10, 11-15,16-20 year intervals show their divorce rates are significantly lower
- Recent immigrants more likely to stay married
- Stories of fake marriages among recent immigrants are probably exaggerated
- However, in 2006 and 2011 those who live in either public or private rental housing are about twice as likely to be divorced



# Divorce Rates among Recent Immigrant Men Regression Effects

	1976	1981	1986	1991	1996	2001	2006	2011
Divorce rate	0.011	0.012	0.016	0.016	0.025	0.033	0.042	0.048
Immig05	16%	-22%	-7%	-34%	-52%	-81%	-48%	-55%
Immig10		-70%		-47%	-65%	-73%	-45%	-52%
Immig15					-23%	-49%	-44%	-66%
Immig20					-81%	-39%	-30%	-43%
Private owner	-96%	-67%	-66%	-74%	-78%	-103%	-112%	-88%
Public owner		-1232%	-97%	-85%	-92%	-123%	-134%	-84%
Public renter	-103%	-52%	-36%	-40%	-31%	-43%	-36%	5%



# Divorce Rates among Recent Immigrant Women Regression Effects

	1976	1981	1986	1991	1996	2001	2006	2011
Divorce rate	0.008	0.009	0.015	0.019	0.031	0.048	0.068	0.079
Immig05	8%	-55%	-63%	-73%	-102%	-111%	-86%	-53%
Immig10		-7%		-52%	-45%	-42%	-78%	-29%
Immig15					-37%	-11%	-33%	-31%
Immig20					-11%	-27%	-18%	-18%
Private owner	-61%	-41%	-50%	-53%	-82%	-108%	-103%	-80%
Public owner		-62%	-70%	-57%	-103%	-116%	-107%	-67%
Public renter	-82%	-59%	-74%	-65%	-65%	-54%	-13%	17%





# Duped? Abused? Taken advantage of, probably, but surely exaggerated





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# Who is Duping Who?





# Intergenerational Mobility in HK

- Regress percentile rank of schooling attainment of 25-29 year old men and women, who live with parents, against their mother's or father's percentile rank of schooling attainment (holding constant sex alone)
- Estimated coefficient has declined over 1976-1986, but has been quite stable during 1991-2011
- Lower estimates for 1991 and 1996 probably reflect the effects of emigration ahead of 1997
- Men have a lower schooling attainment than women



- More variables were included into separate multiple regressions
- Schooling attainment of individuals are lower if they live with a single parent
- Schooling attainments are lower if they themselves are recent immigrants, but the effect of whether parents are recent immigrants is weak
- Schooling attainment is lower if they live in public rental housing, but higher if parents are homeowners



# Relationship between father and child percentile ranks in schooling

	1976	1981	1986	1991	1996	2001	2006	2011
Father school	0.430	0.375	0.336	0.254	0.265	0.312	0.303	0.318
Father school	0.389	0.347	0.313	0.227	0.234	0.266	0.253	0.264
Male child	-5.07	-4.54	-4.22	-5.41	-6.41	-5.58	-5.12	-4.30
Parent Immig05	15.52	-2.42	-4.53	-5.83	1.37	-7.77	-3.65	-4.33
Child Immig05	-	-4.63	2.17	-10.8	-6.38	-12.9	-16.5	-5.53
Private owner	5.21	5.86	7.75	6.26	5.68	5.82	4.91	4.46
Public owner	-	15.0	11.6	3.87	5.07	1.70	-0.13	-0.16
Public renter	-9.40	-4.75	-0.48	-1.90	-1.93	-3.99	-6.51	-7.75
Single father	-5.51	-6.04	-5.29	-6.80	-7.84	-4.90	-5.78	-2.62
Single mother	-2.82	-4.08	-4.01	-3.75	-4.00	-4.76	-5.36	-3.64

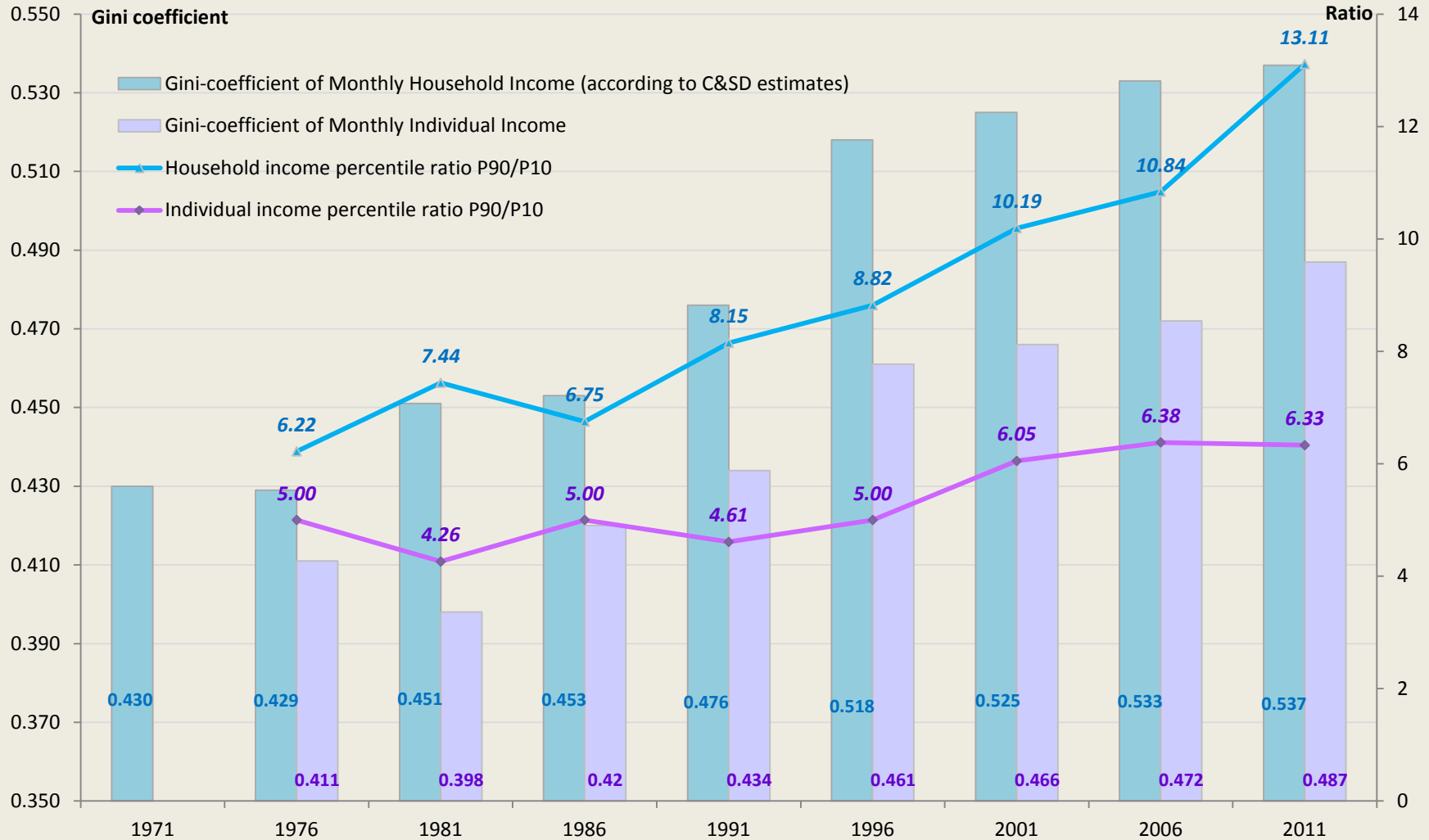


# Relationship between mother and child percentile ranks in schooling

	1976	1981	1986	1991	1996	2001	2006	2011
Mother school	0.421	0.370	0.326	0.279	0.261	0.307	0.298	0.293
Mother school	0.384	0.343	0.303	0.252	0.232	0.267	0.252	0.240
Male child	-4.84	-4.33	-4.50	-5.13	-6.29	-5.55	-4.91	-4.35
Parent Immig05	9.81	-2.34	-4.55	-5.94	-0.24	-6.93	-3.36	-3.03
Child Immig05	-10.2	-4.51	2.27	-11.1	-6.37	-13.7	-18.1	-5.99
Private owner	5.56	5.98	7.98	6.01	6.05	5.87	5.66	4.14
Public owner	-	12.9	11.7	4.00	5.62	2.07	0.84	-0.73
Public renter	-9.02	-4.67	-0.23	-1.64	-1.39	-3.84	-5.47	-7.89
Single father	-5.84	-6.95	-5.59	-7.25	-8.26	-5.52	-6.84	-3.22
Single mother	-1.47	-2.74	-3.41	-3.23	-3.41	-4.49	-5.19	-3.48



# Household and Individual Income Inequality





- Should we be worried?
- About what?
  - Inequality?
  - Intergenerational mobility?
- Individual earnings inequality has increased over time, but not by a lot
- Household earnings inequality has risen by more
- Intergenerational upward mobility has not changed very much over time





What is to be done?

*Vladimir I Lenin*



# It Pays to Invest in Early Education

- Nobel economist James Heckman evaluated numerous programs and concluded that early interventions makes a huge difference
- IQ becomes more difficult to change after 10
- Other factors like conscientiousness and motivation also play a huge role
- When it comes to the matter of forming skills, parenting is critical
- Alfred Marshall, in his *Principles of Economics*, remarked “The greatest capital that you can invest in is human capital, and, of that, the most important component is the mother.”



# Head Start Programs for Promising Youth without Means

- Some kids grow up in one of the worst circumstances financially, living in some of the worst ghettos, and still they succeed
- They succeed because an adult figure, typically a mother, maybe a grandmother, nourishes the kid, supports the kid, protects the kid, encourages the kid to succeed
- Some body or some program has to spend time with the kid; it is a time intensive activity
- This overcomes the bad environment he was born into



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# A Toddler can Barely Walk Unassisted after One Year A Foal can Stand Up to Feed One Hour after Birth





# Throwing Money at It Does Not Always Work

- What the US *War against Poverty* was doing 50 years ago was to give people money to change poverty and hopefully raise the standards of the next generation
- But it didn't seem to have done much good
- What we failed to understand was that the real poverty was parenting (or an equivalent substitute spent using time)
- Of course, when the kid is starving and doesn't get any food, then of course money would matter, but this is not what we are facing today here



- So what we are getting now is kids growing up in a new form of child poverty
- That new form of child poverty is actually threatening their ability to go to school, their willingness to learn, their attitudes and their motives
- That's a major source of worsening intergenerational mobility and poverty



# How Housing Policy Can Lower Divorce Rates, Improve Intergenerational Mobility and Reduce Poverty

- Homeownership encourages the poor not to divorce
- Poor children get a better deal
- Why concentrate the poorest in Public Rental Housing estates where divorce rates are highest
- Better role models in a mixed neighborhood is good for children's development
- A city of homeowners is less politically divided
- Today's median household income is \$20000 plus, the poor can never become homeowners unless the property market collapses permanently



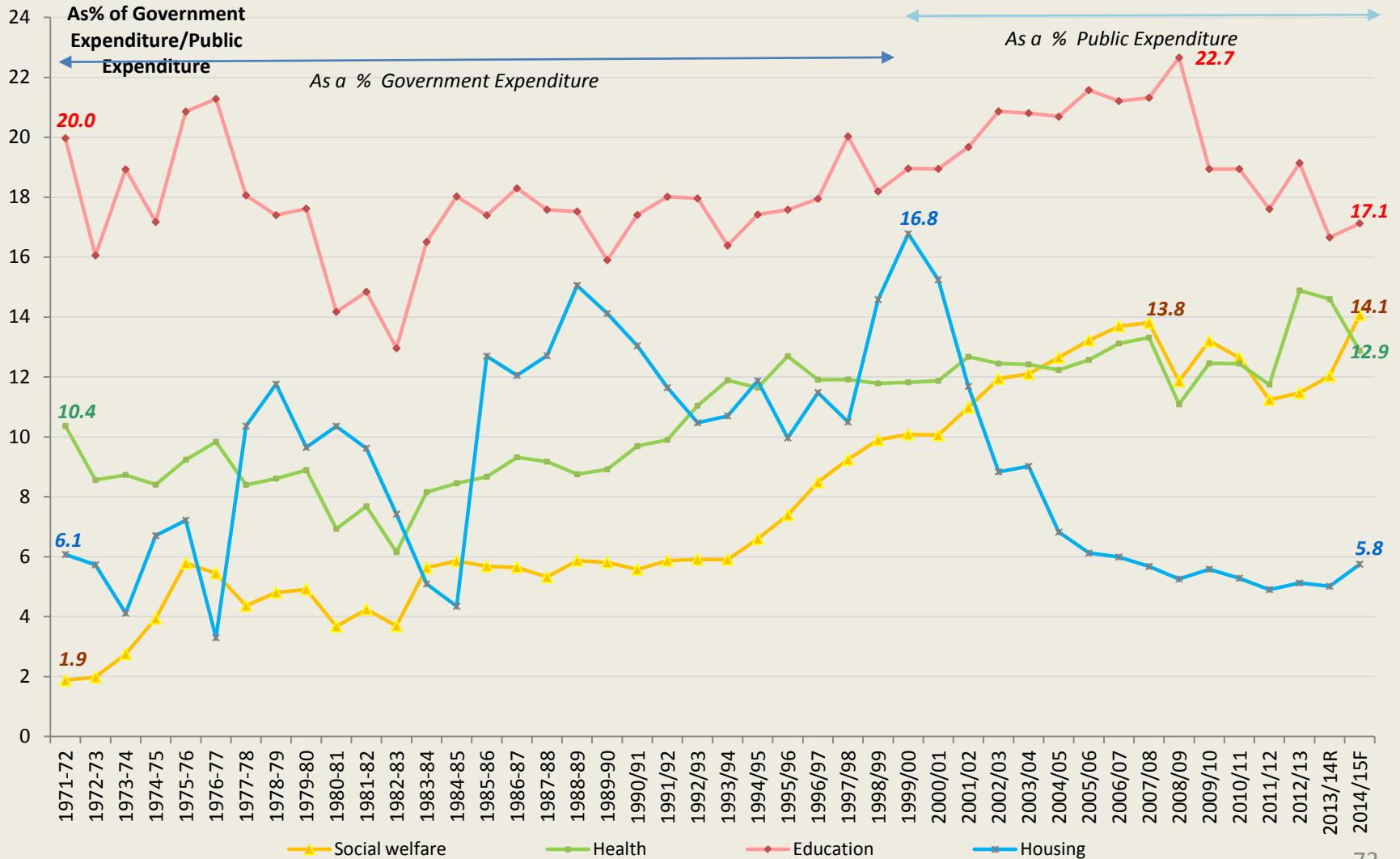
# How Housing Strategy Can Lower Divorce Rates, Raise Intergenerational Mobility and Reduce Poverty?

- Current housing strategy will push our the fiscal budget further into deficit
- Historically for every 4 PRH units we build we also build 2 HOS units
- 1 of the HOS units is allocated to PRH households the other to low income private sector renters
- PRH units incur recurrent losses and have to be financed by profits from sale of HOS units



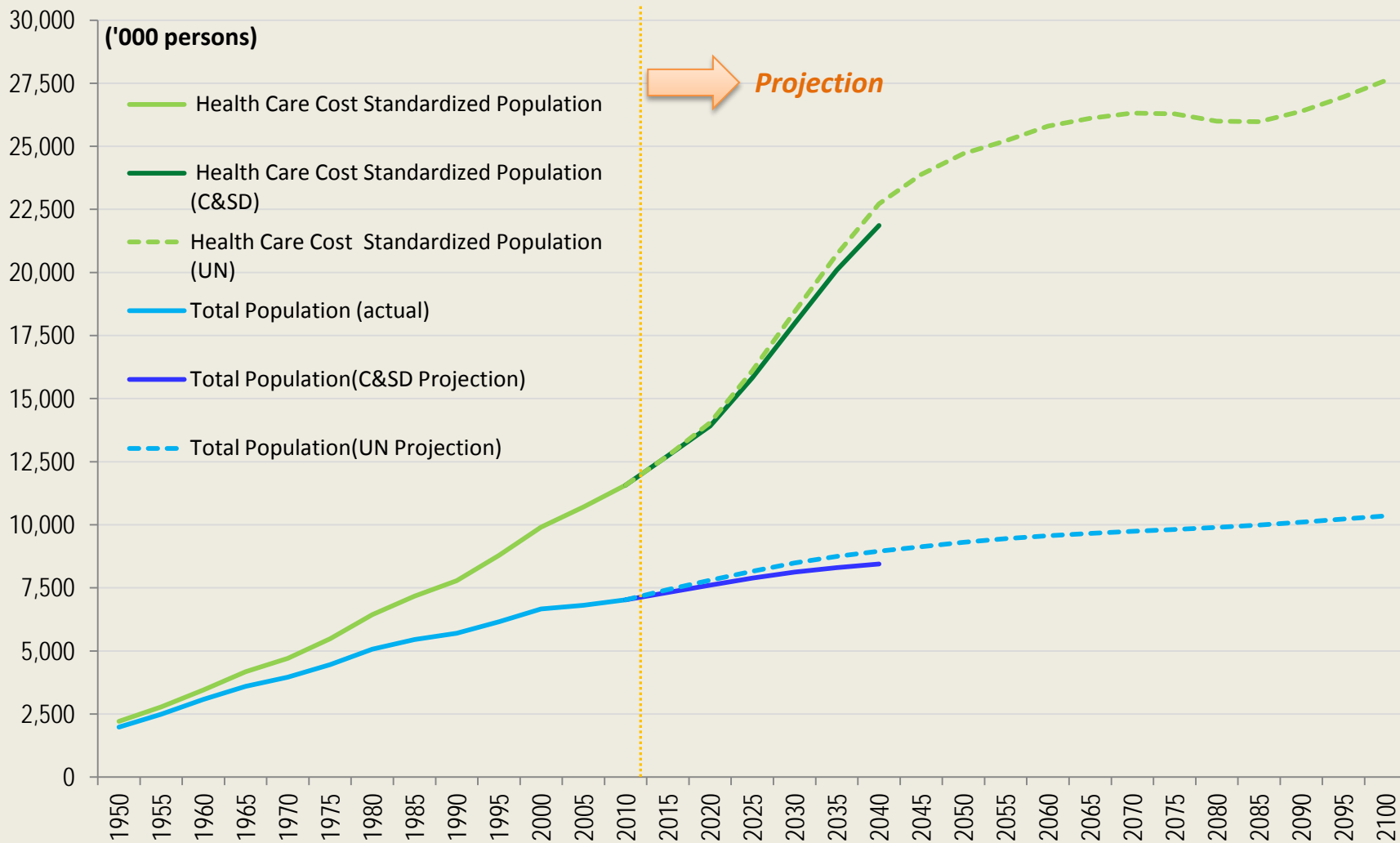


# Percentage Shares of Housing, Education, Health and Social Welfare in Government or Public Expenditure, 1971/72-2014/15





# Actual and Projections of Population Numbers and Health Care Cost Standardized Population Numbers 1950-2100





# Public and Private Health Expenditure Projection (2012-2041)

- Public health expenditure will explode in the future
- Projections from 2012-2041 are as follows:
- Optimistic scenario 2.9% to 5.8% of GDP
- Pessimistic 2.9% to 7.2% of GDP
- It depends on costs rising as they have done so in the past
- Increasing the supply of health and medical care personnel will help hold down costs



# Re-orient Subsidized Housing Strategy

- Re-orient our housing strategy towards subsidized homeownership scheme (SHS) for low-income families
- Similar in nature to Singapore's HDB
- Land premiums on SHS units must be discounted to affordable levels benchmarked against income



# Subsidized Homeownership Scheme (SHS)

- Unify PRH, TPS and HOS units into a single SHS scheme
- Convert existing PRH, TPS and HOS units into SHS
- Convert PRH into SHS scheme via a revised TPS
- Reduce exorbitant land premium for HOS and TPS units to converge on SHS units
- Allow no restrictions on resale after 5 years on open market
- Permit redevelopment rights



# 80% Homeownership by 2023

	2011 (Census)		2013 Q1 (GHS)		10-year Housing Strategy (2013/14 - 2022/23)	2023	
	Domestic Households (No.)	%	Domestic Households (No.)	%		Domestic Households (No.)	%
<b>Homeownership Rate %</b>	<b><u>52.1%</u></b>		<b><u>51.4%</u></b>			<b><u>82.8%</u></b>	
<b>Private Housing</b>	<b>1,251,713</b>	<b>52.8%</b>	<b>1,278,200</b>	<b>53.6%</b>	<b>188,000</b>	<b>1,466,200</b>	<b>51.3%</b>
Private Owners	855,980	36.2%	866,400	36.3%	127,432	993,832	34.8%
Private Renters	395,733	16.8%	411,800	17.3%	60,568	472,368	16.5%
<b>Public Housing</b>	<b>1,098,507</b>	<b>46.4%</b>	<b>1,089,700</b>	<b>45.7%</b>	<b>282,000</b>	<b>1,371,700</b>	<b>48.0%</b>
Subsidized Owners	377,615	15.9%	360,100	15.1%	-	360,100	12.6%
Subsidized Renters	720,892	30.4%	729,600	30.6%	-	<b>729,600</b>	<b>25.5%</b>
Unsold TPS	63,042	2.7%	59,006	2.5%	-	59,006	2.1%
Built before 1997/98	370,106	15.6%	358,550	15.0%	-	358,550	12.6%
Built 1997/98- 2012/13	287,744	12.1%	312,044	13.1%	-	312,044	10.9%
<b>Subsidized Homes Scheme (SHS)</b>	-	-	-	-	-	-	-
Built 2013/14- 2022/23	-	-	-	-	<b>282,000</b>	<b>282,000</b>	<b>9.9%</b>
Temporary Housing	18,580	0.8%	18,300	0.8%	-	18,300	0.6%
<b>Total</b>	<b>2,368,800</b>	<b>100.0%</b>	<b>2,386,200</b>	<b>100.0%</b>	<b>470,000</b>	<b>2,856,200</b>	<b>100.0%</b>



ENDOWED  
PROFESSORSHIPS

**Happy Ending by 2023**

**Thank you**