

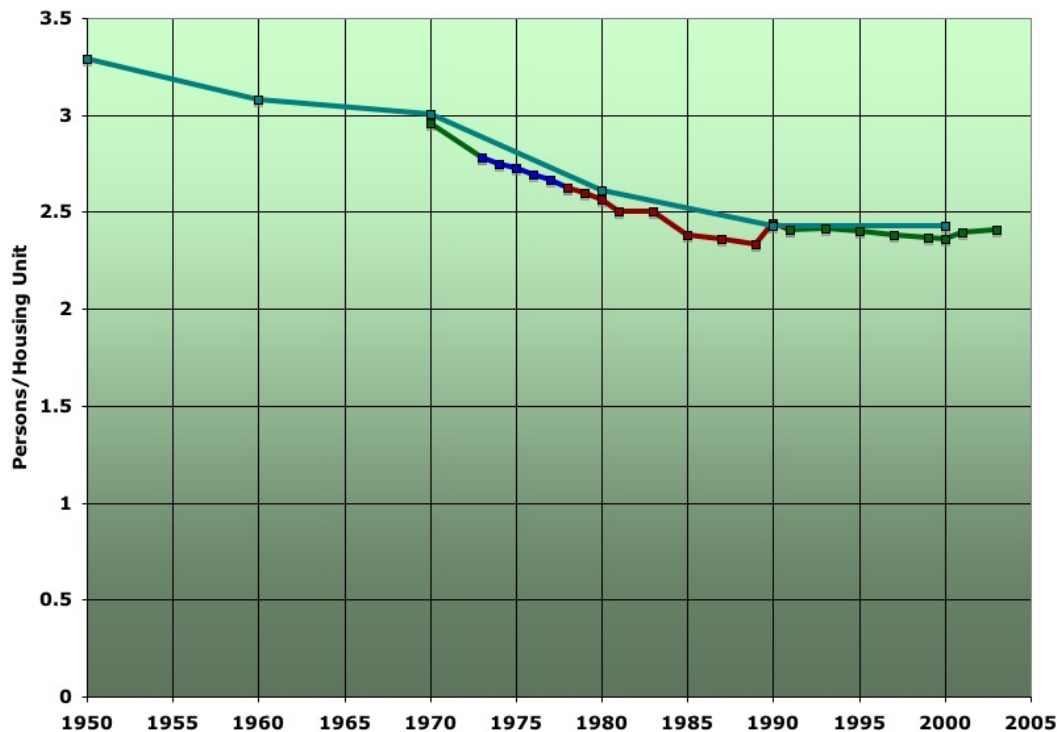


Can Shrunk Families be Reflated?

Posted by [Stuart Staniford](#) on November 12, 2007 - 11:15am

Topic: [Sociology/Psychology](#)

Tags: [family size](#), [original](#), [peak oil](#) [[list all tags](#)]



Number of people/housing unit, 1950-2003, from two sources. Click to enlarge. Source: [Department of Housing and Urban Development](#) for housing unit statistics, and US Census Bureau estimates via [Texas State Library and Archives](#) for population. Teal line uses housing unit estimates from Census Bureau [Decennial Census of Housing](#), which doesn't quite match the HUD numbers, but the trend seems much the same.

I've argued elsewhere that the most important step we can take to solve our peak oil/climate change problems is to [improve the fuel efficiency of vehicles](#). This is likely to be [vastly more effective](#) in the near term than [trying to ramp up public transit](#) (at least in the US - the considerations are rather different in Europe and Asia).

But in this piece, I want to take on the societal change that seems to me to have the second most powerful potential to help us adapt to declining oil availability. This is particularly true if the declines turn out to be larger than increased fuel efficiency alone can manage. I'm going to argue that if we put our minds to it, there is potential for us as a society to increase the average size of households again, by both promoting the stability of nuclear families and promoting extended families living together under one roof. This is an agenda that

- Can be framed in an emotionally positive manner, instead of the doom, gloom, and energy

taxes typical of thinking on these issues

- Has the potential to appeal to both liberals and conservatives
- Can make a big contribution to solving our problems over the course of a few decades.
- Is likely to happen anyway, but could happen more and faster if we make conscious efforts to do it.

In fact, it's quite hard to come up with an American societal problem that would **not** be helped by promoting family stability. At the very least:

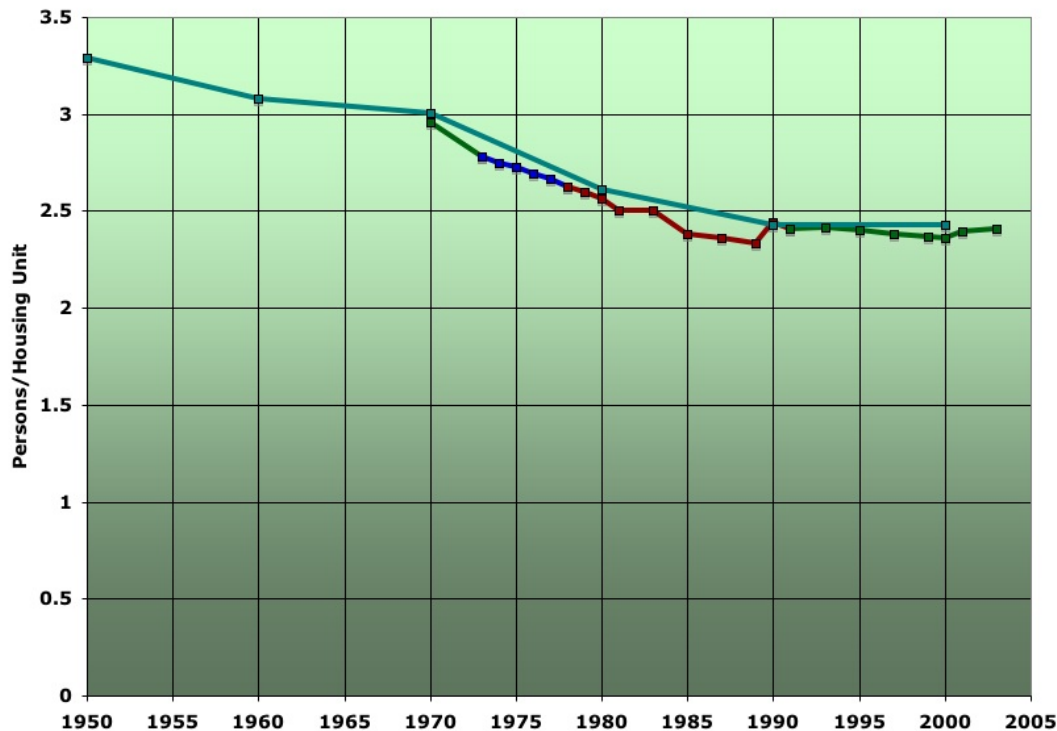
- Increased household size will increase the density of population, which reduces the amount of transportation energy required for that population to get around.
- It improves the utilization of heating/cooling/lighting energy, meaning we wouldn't need as much of that either.
- It means our economy would have to spend less on building more housing and cars over coming decades, which would improve our ability to pay the enormous costs required to care for the baby boomers as they age.
- Boomer medical costs would probably be lower for if more seniors were living with their families.
- Kids would do better if their families stayed together, and if they had grandparents more involved in their lives. That would reduce the stress on schools, and improve the supply of future human capital to American society, helping the US to stay competitive in a globalizing world.
- There would be less need for abortion if too-young potential parents a) had more adult involvement in their lives making them less likely to get in trouble, and b) were part of an extended family that could support any children they did nonetheless have.
- Public transit and walkable transit-oriented neighborhoods will be more feasible if population density is higher because family size is larger.

And finally, unlike most other potential solutions to our problems, families staying together and/or moving in together does not require huge financial investments that will be hard to afford during what is likely to be a difficult economic climate in the next decade or two. Thus it has the potential to be a wedge big enough to matter.

Before we go on, I'd just like to stress that I'm **not** advocating encouraging larger families by increasing the birth rate. That would be directly counter-productive. Instead, I'm advocating encouraging the existing families to cluster together more, so that fewer houses are required to house the same number of people. I'm also **not** advocating that anybody be forced to do anything they don't want to. Instead I'm advocating that we try to change our culture and encourage people in this direction. I'll be more specific later.

It's going to take several posts to develop these ideas. Today I just want to quickly review some evidence of how we got to the small household size of today. Here's the headline graph again, which shows the last sixty years or so of declining persons per household.

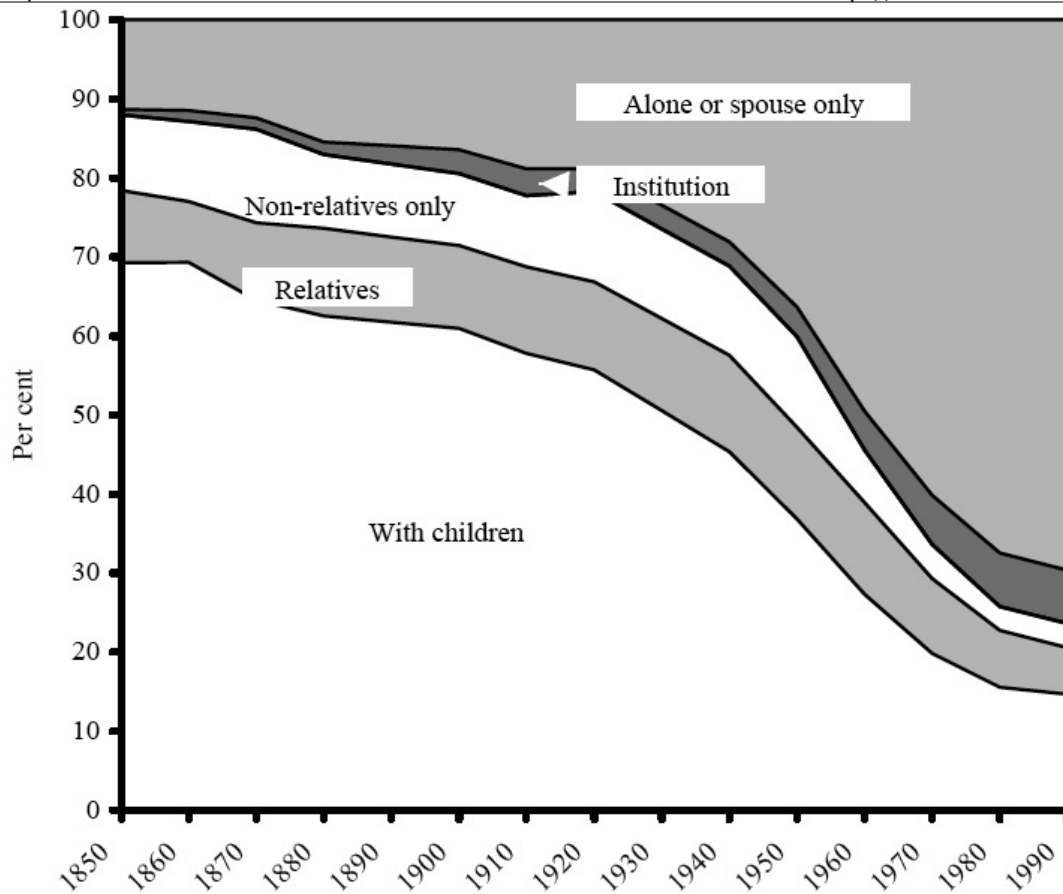
.



Number of people/housing unit, 1950-2003, from two sources. Click to enlarge. Source: [Department of Housing and Urban Development](#) for housing unit statistics, and US Census Bureau estimates via [Texas State Library and Archives](#) for population. Teal line uses housing unit estimates from Census Bureau [Decennial Census of Housing](#), which doesn't quite match the HUD numbers, but the trend seems much the same.

That data began in 1950, but the trend has been going on a lot longer and started at a larger average family size. I've relied heavily on the work of [Steven Ruggles](#), a social scientist at the University of Minnesota who has been data mining past census data for several decades now, and drawing some interesting conclusions.

For example, this next graph shows where elderly persons were living from 1850-1990.

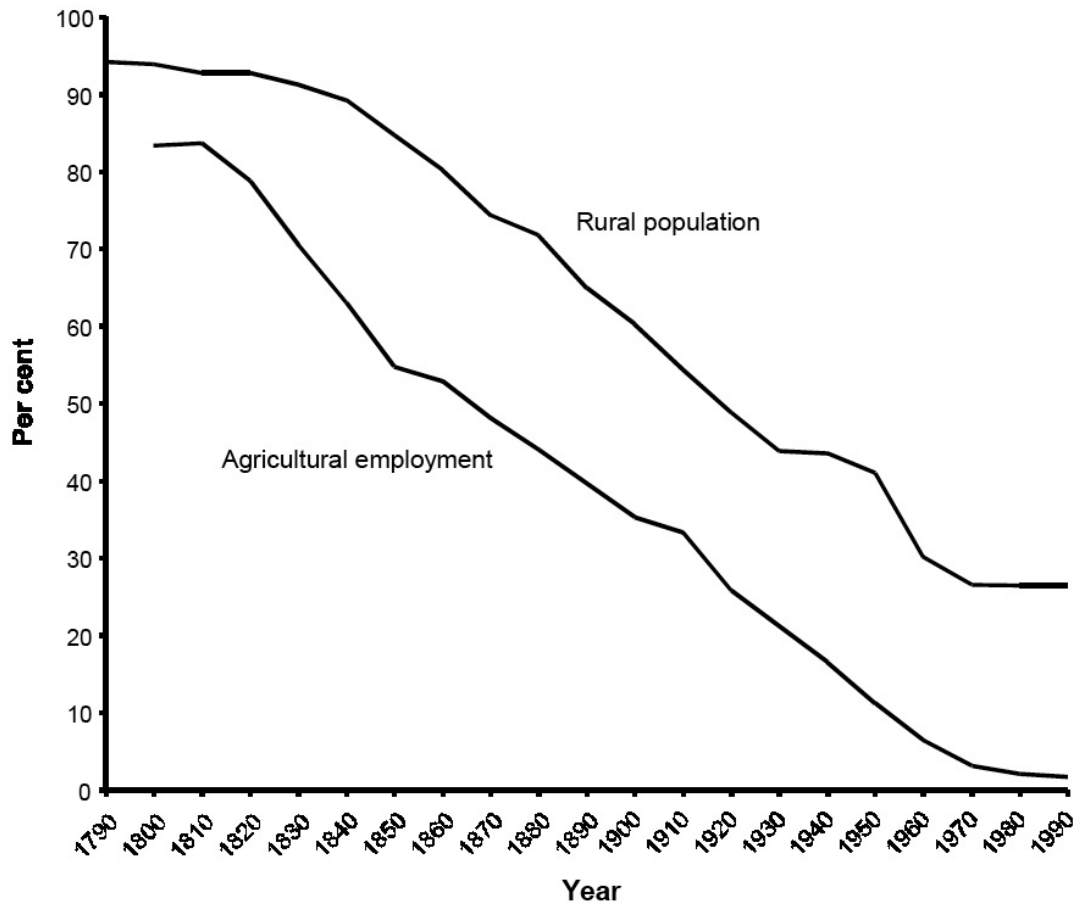


Distribution of living arrangements: elderly white individuals and couples in the United States, 1850-1990.

Source: Fig I of [S. Ruggles, *Living Arrangements and Well-Being of Older Persons in the Past*](#).

As you can see, in the 19th century, it was pretty much standard for elderly people to live with their relatives, usually their children. This does not mean that all families had elderly people in (since life expectancy was lower), but generally elderly people did not live alone. Over the course of the 19th century, there was a gradual tendency to elderly people living alone, and this accelerated in the early twentieth century, and then really took off after the second world war. Now, only a relatively small fraction of the elderly live with their families. However, this trend reached saturation towards the end of the twentieth century and has now begun to slightly reverse (more on this later).

It seems to be generally accepted by historians and demographers that this social change was an effect of the industrial revolution and the rise of wage-based labor as the main occupation, rather than people living on the farm. The next graph shows the decline in agricultural employment and rural population from 1790-1990.



Per cent of population rural and per cent of the labour force employed in agriculture, 1790-1990. Source: Fig XI of [S. Ruggles, Living Arrangements and Well-Being of Older Persons in the Past](#).

The effect of the [Industrial Revolution](#) is clear. It began in Britain in the late eighteenth century and spread fairly quickly to the US by the end of the eighteenth and beginning of the nineteenth century. By the end of the nineteenth century, the US was the world's largest industrial power. Rural employment declined correspondingly.

It's interesting to note that the early stages of the industrial revolution in the US were powered by wood. By 1850, when coal first showed up, agricultural employment had already fallen below 60% of the labor force, and wood use didn't peak until around 1870. The US had a lot of forests, so it made sense to burn them in the new [Watt steam engines](#) (patented 1769) for quite a while.

US primary energy consumption by fuel source, 1630-2005. Source: [US EIA, Energy Perspectives](#).

In [this paper](#), and an [update here](#), Ruggles uses regressions over the geographical and temporal patterns of family structure and prevalence of wage labor to argue fairly convincingly that it was the availability of industrial jobs that undermined the traditional multi-generational family. As he summarizes the prior situation:

In the nineteenth century multigenerational families were usually formed when one child remained in the parental home after reaching adulthood to work on the family farm or business, with the anticipation of eventually inheriting it. Even though most households did not include multiple generations at any given moment, the great majority of families went through a multigenerational phase if the parents lived long

enough. The multigenerational family was a normal stage of the pre-industrial family cycle. Families were typically multigenerational only for a brief period, after the younger generation reached adulthood and before the older generation died. This multigenerational phase nevertheless played an essential role in the functioning of the pre-industrial family economy. It ensured continuity of the labour supply on farms and for other traditional livelihoods and provided economic security in old age. The two generations were interdependent; the elders needed their children to continue to operate the farm, but as long as the elders held the property they were ultimately in control. With the replacement of the pre-industrial family economy by a wage-labour system, the incentives for multigenerational families disappeared.

and the process of change:

Between 1950 and 1970, the income of the elderly doubled, but the income of the younger generation rose even faster. In constant dollars, the income gap between the elderly and their children grew rapidly. In 1950, persons in their 30s and 40s made an average of \$4,900 more than persons aged 65 or older, in 1990 dollars; by 1970, the gap had grown to \$10,000. Even more dramatic was the growing disparity in education between the younger generation and the older one. In the early twentieth century, when secondary education was expanding gradually, the younger generation was only slightly better educated than their elders. In 1925, the elderly had an average of only 1.1 fewer years of schooling than did their children. With the rapid rise of secondary education after the turn of the century, however, that education gap expanded dramatically: by 1960, the elderly had an average of 3.0 fewer years of schooling than did their offspring.

The author contends that the growing disparity in income and education between elderly parents and their children had profound implications for generational relations. The traditional authority of the patriarch had depended largely on control over economic resources. But the authority of the older generation—women as well as men—also depended on respect for their knowledge and experience. In the rapidly changing world of the mid-twentieth century, longevity no longer was the key to useful knowledge. The younger generation increasingly regarded their elders as relics of a bygone age.

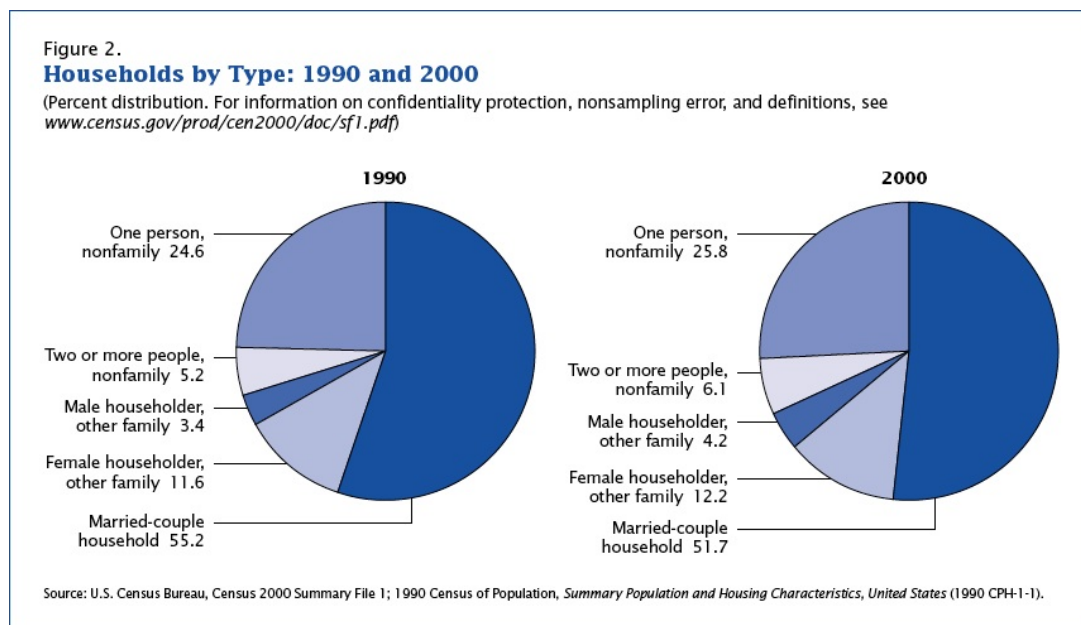
The growing educational and economic gap between generations compounded the decline in the authority of the old. It also meant a dramatic expansion of economic opportunity for the young. The generation that reached adulthood after the war had unprecedented success early in life, especially in contrast to their Depression-era parents.

Social gerontologists have consistently argued that the decline in residence of the elderly with their children reflects the preferences of the elderly. This argument has its roots in the pioneering surveys carried out in 1957, 1962 and 1975 by Ethel Shanas, in which the elderly consistently maintained that they did not want to move in with their children (Shanas, 1962, 1968). The elderly say that they do not want to be a burden to their children. When the elderly do live with their children, they are now usually dependants of their children, a living arrangement that is considerably less attractive than the dominant position of the elderly in the nineteenth-century family.

There has been much less attention paid to the preferences of the younger generation,

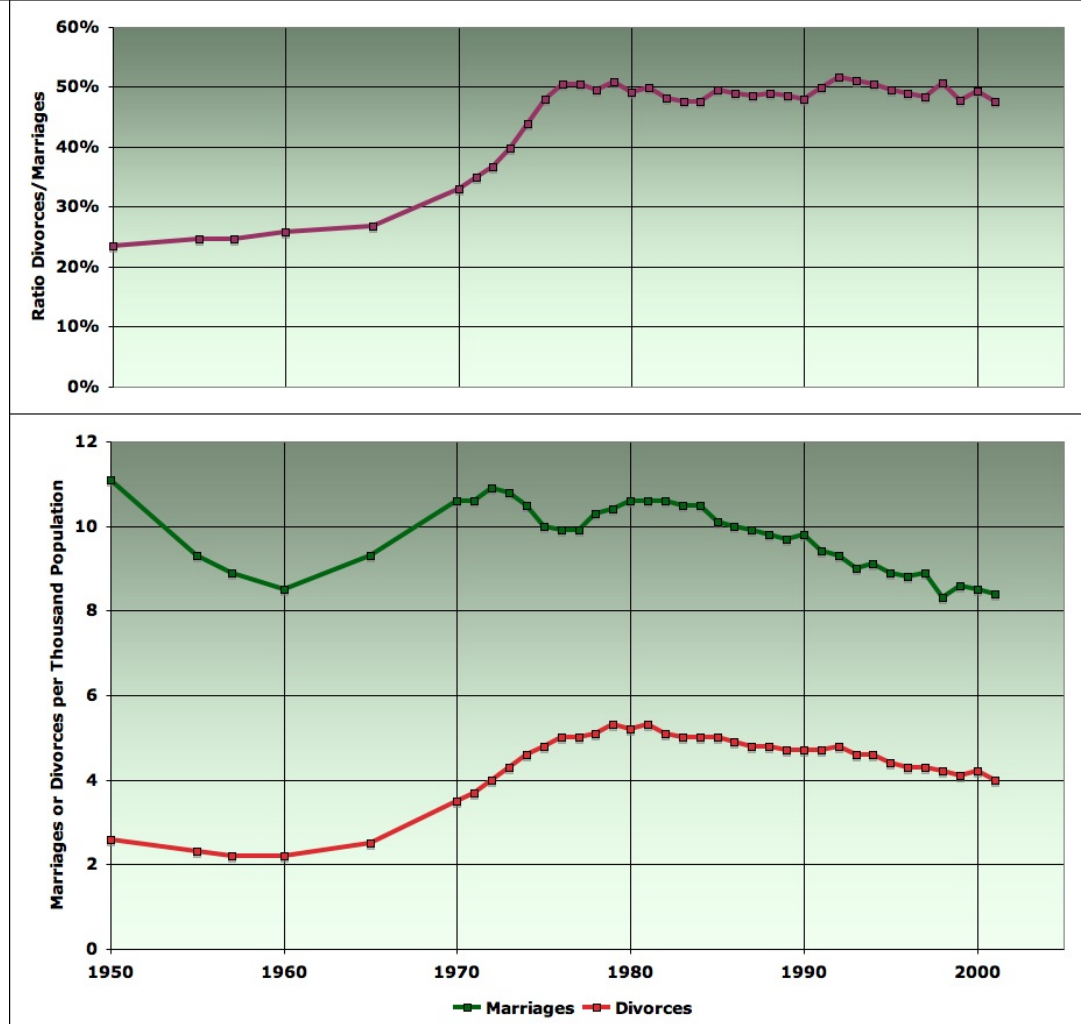
but they are clearly just as reluctant to live with their parents as their parents are to live with them. The rise of secondary and higher education eroded the remaining economic incentives for the younger generation to defer to their elders. In the mid-twentieth century, after most people had begun to work for wages and agriculture had become a minor sector of the economy, young people often found jobs through parents or other family connections. The growing gap in education between generations meant that the younger generation sought higher-status jobs, and their parents often could not help. The increased pace of social and economic change in the twentieth century, compounded by the growing differences in education level, led to a growing cultural gap between the generations. Thus, the residential preferences of the young may have shifted even more dramatically than did those of the old.

Although the early stages of household size decline in the industrial revolution were driven by the demise of the extended family household, the later stages have been driven by increasing fragmentation even of the nuclear family. The following snapshot from a US Census publication gives an idea of the shift between 1990 and 2000, which is microcosm of what's been going on for the last fifty years:



Summary of changes in household composition 1990 and 2000 US Censuses. Source: Figure 2 of [Tavalia Simmons and Grace O'Neill, Households and Families: 2000](#).

As you can see, the number of married couple households decreased by 4 percentage points over that timeframe. For another view, here's the number of marriages and divorce per thousand population from 1950-2001.



Bottom: number of marriages and divorces per 1000 population per year, United States, 1950-2001. Top: ratio of divorces/marriages each year (this does not equal the lifetime risk of a marriage ending in divorce, but is an indicator of the relative popularity of divorces). Source: #83 in [Chapter 2 of the statistical abstract of the United States for 2004](#).

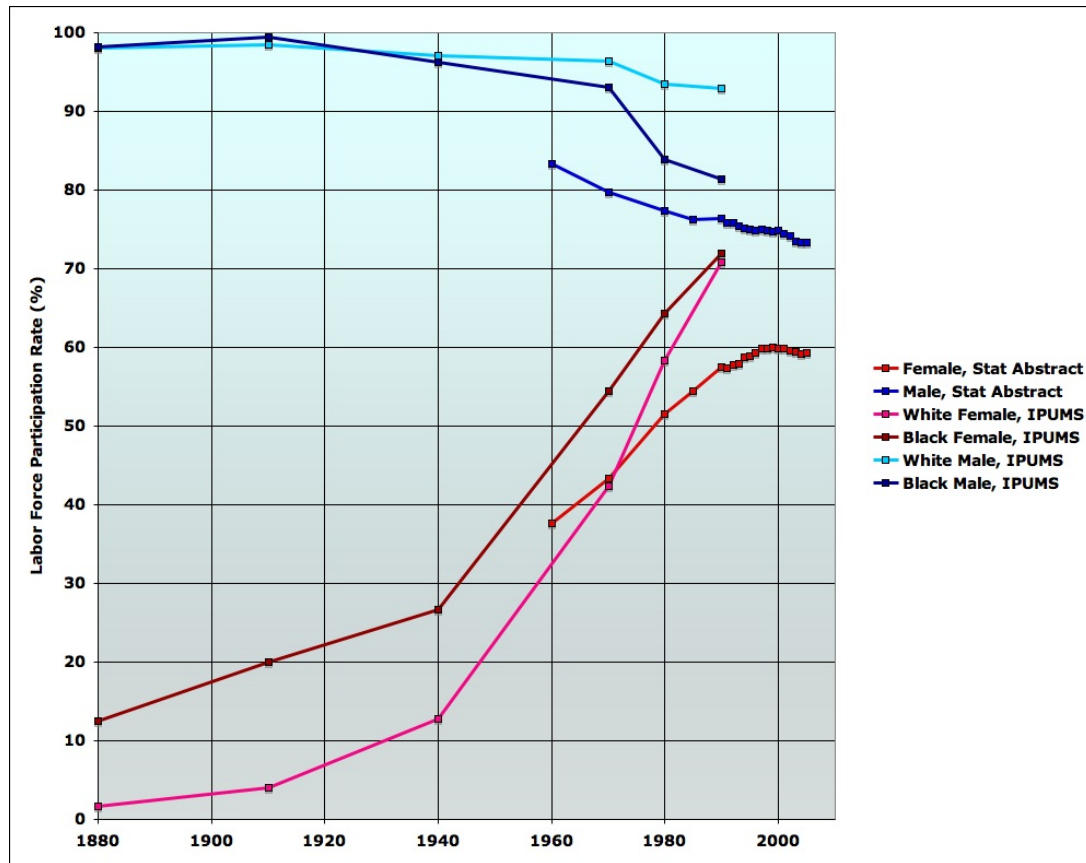
As you can see, most of the rise in divorce occurred during the 1960s. However, there is at least circumstantial evidence that the cause was broadly the same as the reason for the demise of the multigenerational household - greater economic opportunities lowered the cost of getting divorced. In particular, [Ruggles again](#)

From 1880 through 1940, the rise in nonfarm employment was the most important contributor to the increase in the predicted frequency of divorce or separation. After midcentury, however, nonfarm employment was saturated. Since 1940, the most important variable by far has been rising female participation. The effect of female participation was especially dramatic in the period 1940-1970 when female participation increased from 13% to 42%.

In general, he argues that divorce probability is positively correlated with female employment, and negatively correlated with male income. This is something that would probably come as no surprise to a sociobiologist.

It appears to me that there's an overarching narrative here about the effect of industrial development on families. The industrial system gradually ended up employing everybody it

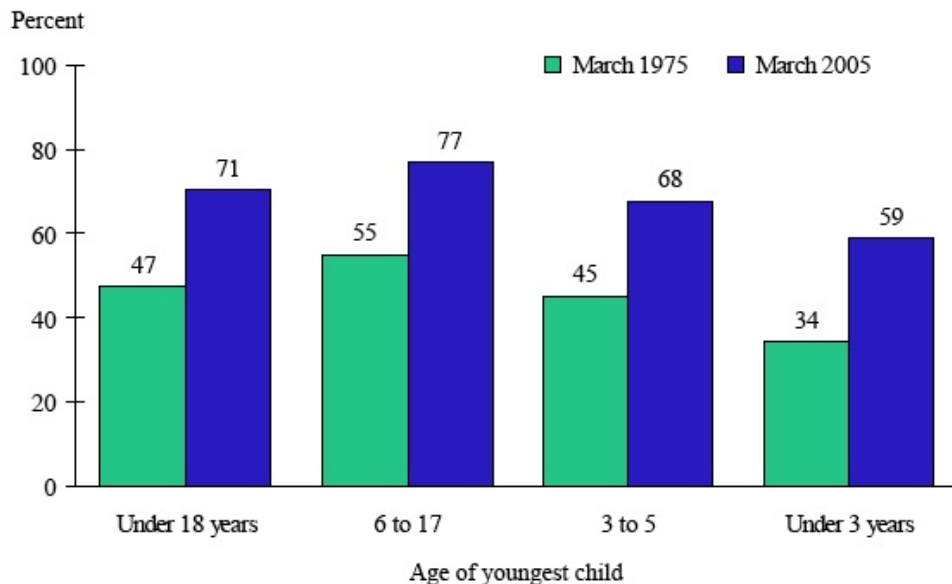
could, and as it did so, this facilitated the break-up of families into smaller and smaller units. In particular, if you go back up to the graph of rural employment I showed above, it starts to get close to zero in the second half of the twentieth century, which is precisely when female employment starts to explode:



Labor participation rates of men and women 1880-2005. Source: Bureau of Labor Statistics Current Population Survey via [Statistical Abstract of the United States, 2007](#), and [Ruggles, The Rise of Divorce and Separation in the United States, 1880-1990](#) for IPUMS data. The reason for the discrepancy between the two sources is not presently known.

As the system runs out of rural men to bring into the industrial labor force, it begins employing women. The big rise starts after 1940, though the resulting divorce wave doesn't come until the 1960s (as the pressure on families is formally ratified with the introduction of no-fault divorce laws). Eventually, this trend reaches into all corners of the labor force: by now even a majority of mothers of babies and toddlers are working:

Chart 6-3. Labor force participation rates have increased dramatically among mothers over the past 30 years



SOURCE: Bureau of Labor Statistics

Labor participation rates of mothers of children of various ages, 1975 and 2005. Source: [Bureau of Labor Statistics](#).

That concludes this very quick introduction to how we got to today's small families. In future posts, I'd like to look at the energetic cost of small household size, the nascent trends in the last decade to move back to larger families again, and the potential for these trends to increase and help with our various problems.

Finally, it's worth noting that I am certainly not a social scientist and may have missed important points or trends in the literature. Anyone who knows better should feel free to point that out in comments.



This work is licensed under a [Creative Commons Attribution-Share Alike 3.0 United States License](#).