

Lecture Notes: Feminism & Demography

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1. Abigail Smith Adams

1.1. Her Life

In 1764, in Britain's Massachusetts colony, Abigail Smith was 20. She had had no formal education at all: girls weren't worth it. She married a man she had known for five years: the up-and-coming 30-year-old lawyer John Adams, future President of the United States.

Children rapidly followed their marriage: Nabby (1765), John Quincy (1767), Sukey (1768, died at 2), Charles (1770, died at 10), and Thomas (1772). There was then, probably, a miscarriage or two or three from 1774-6. 1777 saw Elizabeth,

stillborn). There may have been another pregnancy or two afterwards—but I suspect not: I suspect they stopped. Abigail Smith Adams spent five years pregnant. She was rich enough that she, perhaps, hired a wet-nurse for her children, but somebody or somebodies nursed her children for perhaps fourteen more years. She or other women were thus eating for two for nearly two decades to raise the next generation of Adamses: that was a substantial biological energy load.

1.2. Her Letter

In 1776 Abigail Smith Adams wrote a famous letter to her husband in which she begged him to write laws providing women with legal personality in the new revolutionary country, the United States of America, he was trying to create through the Revolutionary War he was so strongly committed to:

Remember the Ladies, and be more generous and favourable.... Do not put such unlimited power into the hands of the Husbands.... Such of you as wish to be happy willingly give up the harsh title of Master for the more tender and endearing one of Friend. Why then, not put it out of the power of the vicious and the Lawless to use us with cruelty and indignity with impunity?... Regard us then as Beings placed by providence under your protection and in imitation of the Supreme Being make use of that power only for our happiness...

John Adams thought this was a great joke:

I cannot but laugh.... Your letter was the first intimation that another tribe, more numerous and powerful than all the

rest, were grown discontented. This is rather too coarse a compliment, but you are so saucy, I won't blot it out. Depend upon it, we know better than to repeal our masculine systems.... We have only the name of masters, and rather than give up this, which would completely subject us to the despotism of the petticoat, I hope General Washington and all our brave heroes would fight...

Read the letter entire, and you learn that Abigail Smith Adams:

- (1) ran John Adams's Boston-Braintree household and property operations while he played on the political stage;
- (2) dealt with death and disease of children and neighbors that were omnipresent, with "our Neighbour Trot... striped of two lovely children in one week...", "Becky Peck they do not expect will live out the day...", "your Brothers youngest child lies bad with convulsion fitts...";
- (3) was desperate for news of what was going on in the wider world, for "I wish you would ever write me a Letter half as long as I write you.... Where your Fleet are gone? What sort of Defence Virginia can make against our common Enemy? Whether it is so situated as to make an able Defence? Are not the Gentry Lords and the common people vassals? Are they not like the uncivilized Natives Brittain represents us to be?...";
- (4) warns him to be very, very careful of the Massachusetts rebels alliance with teh slaveholders of Virginia, for "the passion for Liberty cannot be Eaquelly Strong in the Breasts of those who have been accustomed to deprive their fellow Creatures of theirs...";
- (5) begs for at least some fig leaf of legal protection from abuse

- and brutality for her sisters; and, of course,
- (6) is desperately hoping that more of her children not join the shades in their graves: “our own little flock... My Heart trembles with anxiety for them...”

I do not think her husband reacted well to her concerns.

A very talented, very energetic, very capable woman. But not worth teaching: she can't spell. And she was confined by all those around here to a much narrower sphere of life than she could have occupied—and patronized by her husband to boot.

That was the life of even a powerful and privileged woman before and even well through the middle of the Long 20th Century.

2. Women & Market-Economy Work

2.1. Before 1900

Whenever society allowed women out of the narrow motherhood-and-domestic-handmaid role, women took advantage. We see this in Massachusetts with the coming of the industrial revolution in the first half of the 1800s, and with the manufacturers' desire to find a workforce that would work reliably without requiring the wages they would have needed to pay to pull strong men away from their farms. The merchants and manufacturers of Lowell settled on unmarried young women.

In 1840, in Lowell Massachusetts, unmarried young women (16-30) made up one quarter of the city's industrial workforce.. They were expected to attend church. The mills would "not employ anyone... known to be guilty of immorality". But otherwise, in boom times at least, they were desperate for young female workers. for whom working in the Lowell mills was a way to get out from under the thumbs of their fathers, a way to acquire a larger dowry, and a way to have some extra freedom to be their own boss before marriage.

They took to it like ducks to water. And when the Lowell mills went into bust in recession, they tried to organization themselves to share hour cutbacks and resist wage declines.

Marx and Engels were somewhat right: the market had little tolerance for high patriarchy when eroding it could gain them profits, and an enthusiastic but not too expensive labor force. And so it became patriarchy's foe to a certain extent.

2.2. Women's Work since 1900

In 1900 in the United States paid male workers outnumbered paid female workers by a margin of perhaps four to one (although census procedures undercounted the number of women whose work products were in fact sold on the market, and economists' procedures have acted to minimize the economic value of within-the-household production). By the end of the twentieth century the paid labor force was nearly half female.

In 1900, the bulk of female workers in the census-counted,

formally-paid segment of the labor force were unmarried. Some 43.5 percent of single women greater than fifteen years old were in the officially-counted labor force—41.5 percent of white and 60.5 percent of nonwhite women. By contrast, only 3.2 percent of married white women (and 26 percent of married nonwhite women, for a national average of 5.6 percent) participated in the labor force. In 1920 only 4 percent of married white women around 30 worked: by 1980 nearly 60 percent of married white women near 30 worked. Labor force participation by married nonwhite women near 30 rose less, but from a higher base and to a greater level: from approximately 33 percent in 1920 to 72 percent by 1980.

From at least one perspective, economy-wide averages of labor force participation among women understated the magnitude of the social and economic changes in progress. Women born around 1920 reached adulthood around 1940 and were sixty in 1980. The labor force participation rate of those who were married rose from roughly 15 percent when they were 20 to approximately 45 percent when they were 50. By contrast their younger sisters born around 1960 already had a 60 percent labor participation rate (among those married) when they were 20—and every sign is that married women's labor force participation rises with age.

The large increase in female labor force participation in the twentieth century has not been accompanied by any rapid closing in the earnings or wage gap between male and female workers. Although various sources report substantial rises in female relative to male wages across the nineteenth century, and some rise in relative wages up to as late as 1930, since 1930

female wages have remained roughly sixty percent of male wages.

2.3. Sources of the Earnings Gap

One source of the failure of female relative earnings to rise throughout the middle years of the twentieth century is the rapid expansion in female labor force participation. Rapid expansion in labor force participation means that at any moment a relatively low share of the female labor force has high experience. Because firms pay more for experienced workers—both because experienced workers are more productive and because the promise of regular pay increases along a well-established career track can serve as a powerful way to motivate employees—the relative lack of experience of female workers lowers their relative wage.

A second source was the relatively constant degree of occupational segregation by sex. In years between 1900 and 1960, roughly two-thirds of female labor force would have had to change occupations in order to produce the same distribution across occupations as for the male labor force. Occupational segregation has fallen somewhat since the end of the 1960s, but it is still the case that women are concentrated in a set of occupations that are relatively low-paid.

A third source is women's failure to possess, when they go to the labor market, characteristics that employers value, or valued. Women back at the start of the twentieth century had little opportunity for formal education. And they had little opportunity to gain economically-valuable skills through

informal education and on-the-job training as well. Women at the start of this century by and large were employed only in tasks that were relatively easily and quickly learned, and in which the benefits of experience on productivity were slim. But conditional on these factors, Claudia Goldin estimates that the gap between what a group of women were paid at the start of this century and what a group of men with similar experience and education would have been paid is relatively small.

The path of within-the-household technological advance also worked to the benefit of the typical woman over 1870-2016: dishwashers, dryers, vacuum cleaners, improved chemical cleansing products, other electrical and natural gas appliances, and so on, especially clothes-washing machines—all these made the tasks of keeping the household clean, ordered, and functioning much easier. Maintaining a nineteenth century, high-fertility household was a much more than fulltime job. Maintaining a late twentieth century household could become more like a part-time job. And so much female female labor that had been tied to full-time work within the household because of the backward state of household technology became a reserve that could now be used for other purposes. And, as Betty Friedan wrote in the early 1960s, women who sought something like equal status could find it only if they found “identity...in work... for which, usually, our society pays.” As long as women were confined to separate, domestic, occupations which the market did not reward with cash, it was easy for men to denigrate and minimize.

2.4. Disparate Impact

By contrast, today—and for most of the past half-century—the gap between what women are paid and what men are paid are typically due less to differences in women's and men's experience, education, and other job-relevant characteristics than to what is apparently wage discrimination: simply paying women less than men. Goldin traces the emergence of such wage discrimination to the development of the large modern firm with its personnel department. Before the development of the large, bureaucratic firm the market provided substantial insulation against discrimination to women. Before there were personnel policies, the labor market was relatively close to a spot market in which one could change jobs at will suffering little penalty: thus should any one firm begin to discriminate—to pay women less for the same work than men—women would have the opportunity to vote with their feet for some other, less- or non-discriminatory employer.

By contrast, as Goldin writes, once firms had established personnel departments with centralized human resource policies:

Wages, hours, benefits, and the other components of the earnings package were no longer just part of the market-clearing mechanism of the labor market. They were the means by which workers were bonded to firms, and were used to sort workers by ability or quit propensity, and to elicit appropriate effort by different types of workers.... Firms found it profitable to have occupational ladders.... [F]irms often used sex as a sign of shorter expected job tenure.... By segregating workers by sex into two jobs

ladders (and some dead-end positions) firms may have been better able to use the effort-inducing and ability-revealing mechanisms of the wage structure...

In other words, if you do not expect the typical woman to remain on the job for long enough to value the regular wage increases that come with good efficiency reports and loyalty to the firm, it is a waste of money to reward the atypical woman who does remain on the job with such increases in pay.

This is not to say that all discrimination against women in wages—past or present—has a rationale in terms of the policies of a profit-maximizing firm. Groups of male workers fearing competition from an expanded supply of workers had an incentive to try to bar women from their occupation. And there is prejudice: on the part of male workers, employers, and customers.

3. The Long Road to Modern Feminism

3.1. Modern Feminism's Late Arrival

From today's perspective, the most surprising thing about the economic transformation of women's role was how very long it took. The birth rate had fallen to its post-World War II average level by the 1920s. A large clerical and retail sector in which physical strength was completely irrelevant had emerged by the early years of this century. And female education had taken hold in the United States even before the twentieth century began. Yet barriers to women's employment proved pervasive and powerful up until the last years of the twentieth

century: hours of work that assumed that workers worked full-time posed—and still pose—difficulties; discrimination that was pervasive until the last few decades of the century; sociological pressures that held that certain occupations were inappropriate for women; firm personnel policies that not just restricted but prohibited the employment of married women.

In the long run it was federal government action that eroded away the framework of restrictions and customs that kept women's economic role from expanding. The 1964 Civil Rights Act prohibited discrimination in employment on the basis of race, color, religion, national origin, or sex. Claudia Goldin concludes her book on the gender gap by pointing to:

the convergence between men and women in the percentage graduating from college... we can forecast the future by observing the experiences of young cohorts today, and these experiences give us ample ground for optimism...

3.2. Was There a Logic to Male Supremacy?

Why male supremacy so firmly established itself back in the Agrarian Age is something that is not obvious to me. Yes, it was very important to have surviving descendants. Yes, attaining a reasonable chance of having surviving descendants to take care of one in one's old age meant that the typical woman spent 20 years eating for two: pregnant and breastfeeding. Yes, eating for two is an enormous energy drain, especially in populations near subsistence. Yes, Agrarian Age populations were near subsistence—my great-grandmother

Eleanor Lawton Carter's maxim was "have a baby, lose a tooth" as the child-to-be leached calcium out of the mother to build her or his own bones. And she was an upper-class Bostonian, born in the mid-1870s. Yes, breastfeeding kept women very close to their children, and impelled a concentration of female labor on activities that made that easy: gardening and other forms of within-and-near-the-dwelling labor, especially textiles. Yes, there were benefits to men as a group from oppressing women—especially if women could be convinced that they deserved it:

Unto the woman he said, 'I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children; and thy desire *shall be* to thy husband; and he shall rule over thee'...

But surely even in the Agrarian Age a shift to a society with less male supremacy would have been a positive-sum change? Women as equal participants in society, rather than just chattels, classified as a little bit above slaves and cattle, can do a lot. We—optimistic—economists have a strong bias toward believing that people in groups will find ways to become, collectively, more productive and then to distribute the fruits of higher productivity in a way that makes such a more productive social order sustainable.

But apparently not.

3.3. High Polygyny

Gross gender inequality in the age human societies that flourished between -5000 and -2000 is literally inscribed

in our genes.

It is an elementary fact of our genetics that there is a small proportion of our genome—the mitochondrial DNA genome—that we inherit only from our mothers. Thus we can trace descent back through the exclusively female line, and by looking at the amount of mutations and genetic divergence in a human population today in that portion of the genome, determine the effective female population size of the human race back in the past all the way back to mitochondrial Eve: the woman who is the mother's mother's mother's... mother's mother's mother of us all.

And it is an elementary fact of our genetics that there is a small proportion of every male's genome—the y-chromosome genome—that we inherit only from our fathers. Thus we can trace descent of males back through the exclusively male line, and by looking at the amount of mutations and genetic divergence in a human population today in that portion of the genome, determine the effective male population size of the human race back in the past all the way back to y-chromosome Adam: the father who is our father's father's father's... father's father's father of us all.

When we do this, we find something going on between the years -5000 and -2000 according to our calendar.

Those who study the evolution of the genome see rough balance in the survival of mitochondrial and Y chromosomal lineages up to -5000. They see rough balance in the survival of mitochondrial and Y chromosomal lineages since -2000. But

from -5000 to -2000, however, they see 15 female mitochondrial lineages survive for every single male Y chromosomal lineage that survives.

The effective female population size becomes much much much larger than the effective male population size, and then they resume the rough equality that they had had before the year -5000 and since the year -2000. But in between, well, the overwhelming bulk of women are having daughters who have daughters... whose daughters' daughters' daughters are among us. A smaller percentage of men are. Only a small proportion of men breed, and then their sons breed and their sons breed, so that the chain is such that their sons'... son's sons are us.

This would seem to mean that -5000 to -2000 saw substantial polygyny for a few men, and non-reproduction for others. It also means the inheritance of male reproductive advantage: that if your great-grandfather had the resources to have more than one wife, the odds were higher that you were at the top of the inequality pyramid and had the resources to have more than one wife as well. Patriarchal reproductive inequality was in that age both substantial and inherited.

This is high polygyny: one man, many wives—and lots of men with no wives and little sexual access to women. This is the Biblical Patriarch Jacob: 13 children with two wives and two concubines. Jacob and Leah's children were Reuben, Simeon, Levi, Judah, Issachar, Zebulun, and Dina; Jacob and Rachel's children were Joseph and Benjamin; Jacob and Zilpah's children were Gad and Asher, and Jacob and Bilhah's children

were Dan and Naphtali. And somewhere in the neighborhood there were three men—unnamed—who were without wives, and without children. Leah, Rachel, Zilpah, and Bilhah's mitochondrial DNA lineages were passed down. The three nameless men's y-chromosome lineages were not: only Jacob's was.

Maintaining polygyny for a number of generations requires great social pressure and great societal inequality among men. It also requires a great deal of subservience among women. Back in the age -5000 to -2000, women were, to a substantial degree, property: the property of their fathers, and then of those in the patriarchal polygynous network who gained control over them. And back in the age -5000 to -2000, a great many men were without resources, for the overwhelming majority of men would, if they had resources to deploy to attain any form of social power, would have chosen to use those resources to marry. And yet many of them could not do so.

This age of super-patriarchy stands out in our genetic record. The social structures and institutions to support it are not there before -5000 and do not persist since -2000.

What was human life and human inequality like back in this patriarchal age? What brought it on? What made it come to an end?

What was life like for women in those 3000 years?

3.4. Gender Inequality in the Agrarian Age

Even after the end of the age of high polygyny, gender inequality was fierce and vicious.

A good deal of it was the result of the fact that humanity in the agrarian age found itself under the Malthusian hammer: because our technology was good enough for us to dominate nature, only disease and near-starvation kept our numbers in check.

The disease burden—and the fact about human biology that we are very close to the edge, trading off in evolutionary terms bigger brain sizes against difficulties in childbirth—meant that being female before modern medicine was not for sissies.

Consider the queens of England in the generations from Henry IV to Victoria. There were 32 queen in those years. Five of them—Catherine Parr, Jane Seymour, Elizabeth of York, Mary de Bohun, and let's throw in Victoria's cousin and more senior in the succession, Crown Princess Charlotte—died in childbed. This is a 16% childbed mortality rate for the most cosseted women in England. There was, back in the agrarian age, a 2% chance that each baby you had would kill you—and an extra 1% chance that you would be carried off while caring for that child when he or she suffered from the diseases that made infant mortality so high.

This Malthusian era biological load greatly constrained typical women's lives. And men took great advantage.

Moreover, there was an energy burden. Growing a baby is hard, energy intensive work. Nursing a baby is hard, energy intensive

work as well. The typical agrarian age woman spent perhaps 20 years eating for two. And that was a substantial energy drain.

Moreover, the fact that we are mammals meant that whatever other activities a mother with young children undertook, they could not take her too far from the still-nursing for too long.

Hence women's work became textiles, gardening, cooking, in home production where the task has stable state, so you can lay it down at any time and pick it up again half an hour later without degradation of the job.

Even today our societies have not figured out how to balance the mammalian special role of women with gender equality in careers. Even in a place like Denmark, women who have been mothers have a 7% lower employment probability, conditional on being employed they work 7% fewer hours for pay, and conditional on being employed and on their hours they receive 7% less per hour of work.

4. Demography as the Trigger

4.1. From Eight to Two Typical Pregnancies

The bio-demographic underpinnings of the cultural pattern of high male supremacy had begun to erode even before 1870. But it was over 1870-2016 that these underpinnings dissolved utterly. Reductions in infant mortality, the advancing average age of marriage, and the increasing costs of child raising together drove a decrease in fertility.

Before, limitations in artificial birth-control technology and the human drive to make love had biased female humans toward high fertility. Moreover, biological pressures were reinforced by sociological ones. Ancestor-respecting cultures gave disrespect to the dead who did not have living descendants to honor them. Nearly all cultures predicated any degree of social power when —if—one was aged to the existence of one's living descendants. Those with no living descendants could, usually without any sociological penalty, be left to fend for themselves and eventually starve. Or elderly women could be burned as witches.

In a world under the Malthusian hammer, only $\frac{3}{4}$ of even late-stage pregnancies will deliver a live birth, and only $\frac{1}{2}$ or so of infants will survive to age 5. Thereafter mortality drops severely: $\frac{4}{5}$ of those alive at age five will survive to adulthood, and (including the effects of early death) they will then average $\frac{3}{4}$ of a fully extended reproductive cycle. That means that if you want to have an average of two of your children survive to reproduce fully, you need to start nine visible pregnancies. Moreover, the number of children who survive to adulthood nearly follows a Poisson distribution: even with nine visible pregnancies, there is a fifteen percent chance that you will fail to have grandchildren survive to adulthood.

There were countervailing sociological pressures. Institutions that enforce a late—mid- or late-twenties—start to full sexual activity lead to better Malthusian equilibria with higher standards of living, better nutrition, less horrific infant and early childhood mortality, and less of a biological childbearing load

on the typical woman. But it was not until the coming of well-nourished industrial society, of public health with its very sharp decline in infant mortality, and of effective artificial means of birth control that childbearing truly became a free choice rather than a biologically or sociologically imposed near-necessity.

The consequences were major.

The number of years the typical woman spent eating for two fell from twenty—if she survived her childbed—down to four, as better sanitation, much better nutrition, and more knowledge about disease made many pregnancies less necessary for leaving surviving descendants, and as birth control technology made it easier to plan families. And, after exploding in the Industrial Age, rate of population growth in the industrial core slowed drastically. The population explosion turned out to be a relatively short run thing. Human population growth rapidly headed for zero long-run population growth.

The demographic transition drops typical pregnancies from eight to two. Birth control allows for planning when to have children. Literacy gives women knowledge. The underlying ideology of equality makes demands for women's suffrage, and expanded women's roles, hard to resist: the tree of Jefferson yields unsuspected fruit.

4.2. Where Are We Going?

You can perhaps wonder about where all this is going: in today's America, it appears that women are expected to do well more than half the childcare, all of the childbearing, all of

the nursing, most of the housework, and still have equal careers in paid employment outside the home. Are these expectations simply another twist on patriarchy? To what extent are they consistent with women's being at the door of the realm of freedom?

In America, the wage gap between full-time women and men has gone from 67% in 1979 to 25% today. The share of women seeking paying outside-the-home jobs has gone from 30% to 60%. The gap between men's and women's labor force participation rates has gone from 55%-points to 10%-points.

Moreover, the current female wage gap is primarily a paid-work-interruption childbearing gap. Women without interruptions in their employment career earn almost as much as men. American women are now receiving educational credentials at a greater rate than men.

We would not say, as far as gender and its roles are concerned, that inclusion has progressed to the point where things are fair. We are not even sure what "fair" would mean here, exactly.

But there has been enormous progress in treating people as beings of equal significance.

I see the centrality of the *economic* and the extraordinary upward leap in prosperity as the principal news that the future will remember from the history of the Long 20th Century, and the coming of feminism as one of—a very important one of—its ramifications. But I am male. If I were female, would I see the demographic transition—the shift of the typical woman's

experience from one of eating for two for twenty years (and of having one chance in seven of dying in childbed) to eating for two for four years—and the rise of feminism as the biggest news?