Empirical Evidence in the Study of Labor Markets:
Opportunities and Challenges for a New Household Survey

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Abstract: Many of the key issues confronting modern societies are closely tied to labor market outcomes: What factors contribute to the persistence of poverty and deprivation? Why does long-term unemployment damage re-entry prospects into labor markets? Along which dimensions is economic inequality increasing, and to what extent should we be concerned about these trends? To what degree is inequality transmitted within families across generations? Why does race play such an important role in economic success in the U.S.? How are male-female differences in economic outcomes shifting over time? In this essay we suggest that a well-designed survey that follows individuals *within households* over a long horizon is crucial for sorting some facets of these questions. We provide some thoughts about how a future household survey should be designed for the purpose facilitating high-value research in empirical labor economics.

1. Introduction

Economic trends in the U.S. over the past decades serve as a salient reminder to labor economists that there is much about our subject matter that we do not understand. We begin our essay by enumerating several labor market phenomena for which current empirically-substantiated theories provide only incomplete reasoning—deficiencies in understanding, unfortunately, that are often in domains that will be at the center of policy debates in the coming years. For the sake of brevity, we restrict our attention to just a few examples:

Unemployment and Non-Participation. With the Great Recession, we have seen the re-emergence of high levels of unemployment. As Krueger, Cramer, and Cho [40] document, not only has there recently been a sustained increase in unemployment in U.S. labor markets, but there has also been an unprecedented surge in the share of those unemployed who have been without employment for long periods (e.g., over 26 weeks). This rise in long-duration unemployment is troubling along many dimensions: in contrast to short-term unemployment, long-term unemployment is likely to cause greater hardships for families, and the long-term unemployed often find it difficult to reestablish gainful employment.

An important part of the cyclical pattern of employment is on the participation margin [25]. More generally, there exist long-term trends of increasing non-employment (or

"inactivity") for demographic groups that have traditionally had very high levels of employment. We return to this issue in some detail below.

Inequality in Labor Markets. Turning to a development that has been has been in the making over several decades, labor markets have been generating generally-increasing levels of inequality—as the real earnings of high-skill workers have increased relative those of lower-skill workers. One common way of assessing this rising inequality is to compare the relative earnings of college graduates and high-school graduates. In 1980, this premium was 0.25 log points for men who worked full time, a gap which increased to 0.52 log points by 2010; and comparable increases were seen among women [14]. Similar evidence on this rise in inequality comes from an examination of various features of the *distribution* of wages or earnings. Acemoglu and Autor [6] provide a broad overview of the evidence, showing, for example, that among both men and women, the growth in earnings at the 10th percentile since 1980 has been much slower than growth at the 90th percentile. Prominent work by Thomas Piketty, Emmanuel Saez and their co-authors famously demonstrates an especially sharp rise in income in the top one percent in the U.S. and elsewhere (see, e.g., [57] and [7]).

There are three elements of the rise in labor market inequality that have properly received particular attention in the literature. First, an increase in the *instability* of earnings has been a substantial part of the story of rising inequality. As Fitzgerald, Gottschalk, and Moffitt [26] demonstrate, transitory variance in male earnings rose substantially in the 1970s and 1980s and has remained high relative to earlier periods, thereby accounting for 31 to 49 percent of the cross-sectional variance (depending on the time period).[1] Second, there has been concern about *inequality of opportunity*, i.e., the extent to which inequality is transmitted from one generation

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[1] Similar evidence is given in recent work by Lochner and Shin [46].

to the next. Perhaps the rapid rise in labor market inequality experienced over the past few decades would be less troubling if it were accompanied by increasing intergenerational mobility. In fact, recent evidence in such papers as Lee and Solon [44] and Chetty, et al. [21] suggests that over the past few decades, trends in intergenerational mobility have been flat. Third, work by Card, Heining, and Klein [18], conducted in the German context, indicates that one key factor in rising inequality might be shifts in establishment-specific wage-setting behavior. As they note, in Germany "increasing plant-level heterogeneity and rising assortativeness in the assignment of workers to establishments explain a large share of the rise in inequality" (p. 967).

The Persistence of Racial Inequality. An enduring feature of inequality in the U.S. is racial disparity. African-Americans earn substantially less than their white counterparts and have lower levels of connectedness to labor markets, as indicated by higher rates of non-participation and unemployment. While most of the black-white wage gap can be accounted for by racial differences in skills acquisition measured at young ages, the same is not true for differences in non-employment (see [53] and [59]). A particularly troubling trend is that over three decades, 1970 through 2000, the average annual weeks of work by African-American men declined, and this deterioration occurred in all large U.S. metropolitan areas [13]. African-American workers were hit particularly hard by the Great Recession; according to Krueger, et al. [40], in 2012 African-Americans constituted 10 percent of the employed in the U.S. but 22 percent of the long-term unemployed.

An important consequence of the disproportionately poor labor market outcomes for African-American adults is a high level of racial disparity in the family circumstances of children. Among children aged 8 to 12 in large U.S. cities, the ratio of the median household income for African-American children and the corresponding median for white children is

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typically in the range of 0.3 to 0.5 [13].[2] Moreover, there is no large city in the U.S. that showed

a meaningful improvement in this racial disparity metric from 1970 through 2000. To the extent

that children who grow up in poverty have relatively weaker opportunities to build human

capital, these vast differences in family circumstances can be expected to lead to continued

persistence in racial economic inequality.

  The Changing Role of Gender in U.S. Labor Markets. The role of gender in labor

markets has evolved in extraordinary ways over the past several decades. Women are now

playing a more central role in these markets—as evidenced by substantial increases in labor force

participation in general and by an increasing presence in such high-profile professions as law and

medicine. While women still generally earn less than men, that gap has been declining over

time. A substantial portion of the remaining gender wage gap among well-educated individuals

in the labor market can be accounted for by differences in college major and subsequent

occupational sorting (e.g., women are more likely to major in education and nursing) and by

differences in labor market attachment as measured by continuous labor force participation over

one's career [12]. In a particularly insightful analysis of gender inequality in U.S. labor markets,

Goldin [31] shows that gender wage gaps are highest in professions that have high rewards for

working long hours (e.g., law) and lowest in professions in which earnings increases linearly

with work hours (e.g., pharmacy).[3]

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[2] As another way of showing the disparity, in a typical U.S. city (like St. Louis) the income distribution of
households with children is so dissimilar that a child at the *median* of African American household income would be
at the *12th percentile* of household income distribution of corresponding non-Hispanic white children.

[3] Landers, Rebitzer, and Taylor [41] provide one theoretic argument for the emergence of long work-hours in law
firms, and give empirical evidence suggesting that work-hour norms might create particular hardship for women.
Gicheva [28] shows that individuals who supply unusually long work hours early in their careers experience
relatively higher wage growth, and demonstrates that her results account for part of the gender wage gap. Goldin
and Katz [31] find that gender wage gap has become quite small in pharmacy, a profession that they therefore deem
to be highly egalitarian.

An interesting recent development among young people in the U.S. is that in some important ways young women are faring *better* than young men in terms of building human capital—a possible harbinger of further gender shifts to come [32]. Fortin, Oreopoulos, and Phipps [27] show that since the 1980s female high school students have shown a marked improvement relative to male students. Similarly, in a comparison of ability measures for young people (mostly teenaged individuals) tested in 1980-81 and in 1997-98, Black, Charles, Ryan, and Schofield [11] find significant improvement for women relative to men.[4]

Local Labor Markets. Adding an additional layer of complexity to the overall picture is the fact that labor market outcomes vary substantially across cities and regions along each of the four dimensions we have just highlighted:

   (1) *Local Unemployment.* A poorly-understood feature of unemployment is that the unemployment rate varies substantially across local labor markets, and that these differences are long-lived. Kline and Moretti [39], for instance, show that in 2008 the unemployment rate was 14.6 percent in Flint, MI, compared to 2.6 percent in Iowa City, IA. They demonstrate persistence in such variation; there is a high correlation between local unemployment rates in 1990 and 2008.

   (2) *Local Inequality Trends.* Labor-market inequality rose markedly in every large U.S. city from 1980 through 2010—as measured by the college earnings premium (relative to high school)—but changes occurred in different ways across cities [15]. In Detroit, for instance, the real wage of college-educated men was flat over the three decades, while the real wage of high-school educated men plummeted 30 percent. By way of contrast, in New York the real wage of men with high-school education remained

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[4] Also relevant is work by Bertrand and Pan [10] showing that boys seem to suffer disproportionately from living in "broken families" in terms of the development of non-cognitive skills.

constant, while the real wages of college-educated men increased by 30 percent. Similar variation across cities pertained for women. As for the intergenerational transmission of inequality, Chetty et al. [21] show large regional variation in upward mobility, with particularly low upward mobility for pockets in the Southeastern U.S.

(3) *Local Racial Inequality.* A large literature demonstrates that racial disparities vary across cities and regions, and that this variation has had important economic consequences. For example, as of 1940, the black-white wage gap was much higher in Southern cities than in cities outside the South [16], which likely contributed to high migratory flows of African-Americans out of the South. Also, Cullen and Wright [24] show striking regional variation in improvements in occupational status among African-Americans since the Civil Rights Act of 1964. As a third example, Charles and Guryan [19] show that variation across location in racial prejudice contributed in a substantial way to the racial wage gap.

(4) *Local Variation in Female Employment.* A somewhat less well-known feature of local labor markets is the degree to which female participation varies across cities. For example, in 2000, among one large group of women—high-school educated, married, non-Hispanic white women, aged 25 to 55—the employment rate was 79 percent in Minneapolis but only 52 percent in New York [14]. Similar cross-city variation is observed among college-educated women. These patterns in local female employment rates have persisted for decades.

While our profession has many theoretical innovations designed to shed light on the phenomena we have listed above, we have been less successful in accumulating persuasive empirical evidence for the purpose of settling on the most fruitful theoretical formulations and

estimating key parameters. There is a great deal that we do not understand. In the sections of

the essay below we discuss the types of data that seem most promising for studying labor market

behavior, and we suggest that a carefully designed household-based panel study could prove to

be a crucial source for shedding additional light on many of the important open questions in

labor economics.

2. Sources of Data for Studying Labor Economics

The highly-selective set of references we have cited thus far serve to illustrate the wide

range of data labor economists are currently using to understand labor-market trends.

A natural starting place for thinking about data used to study U.S. labor markets is the

Current Population Survey (CPS), a Bureau of Labor Statistic (BLS) survey best known as the

data source used to generate the monthly unemployment rate estimates. Given that the CPS is a

labor market survey, it is not surprising that the survey collects many items relevant to the study

of labor markets, including education, labor force status, work hours, and earnings. Nor is it

surprising that these data have been used extensively to study a huge variety of topics in labor

economics.[5]

In labor economics, the use of *U.S. Decennial Census* data and *American Community*

Survey (ACS) data is similarly ubiquitous. These data are useful for tracking long-term trends in

the labor markets, as the Census began to collect income data on the "long form," which was

administered to a large subset of the public every 10 years from 1940 through 2010. The large

samples are invaluable for providing basic comparisons in outcomes across locations. As of

2010, the long form was no longer administered; the Decennial Census now makes exclusive use

of a very short form that gathers only such basic information as the number of people living at a

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[5] While the CPS has its origins in the 1940s, it is typically used to trace labor market outcomes over time only back
to the 1960s, when the data collection effort became more consistent across years.

residence, along with relationship, sex, age, Hispanic origin, and race data. The ACS has thus replaced the long form as a source of data relevant to the study of labor markets; in addition to basic demographics, it collects educational attainment, disability status, work activity, income, etc. An important advantage of the ACS program is that data are gathered annually rather than once every 10 years. Survey samples are very large (3.5 million addresses were targeted in recent surveys), though smaller than the long-form samples created by the Decennial Census.

Among the papers cited above, Census and ACS data are used extensively. For instance, Krueger, et al. [40] rely heavily on the CPS in their analysis of long-term unemployment; Kline and Moretti [39] use Census/ACS data to document variation in unemployment across local labor markets; and in work with various co-authors, we use Census/ACS data to study the evolution of inequality in local labor markets [15], variation in female labor supply across cities [14], and the role of location in evaluating trends in black-white earnings disparity [16]. Many of the papers we cited above use both the CPS and Census/ACS. For example, Goldin and Katz [30] and Acemoglu and Autor [6] use both sources in their studies of evolving inequality in labor markets (and use other data sources as well). A number of other papers use CPS and/or Census/ACS data to set the backdrop for research that proceeds primarily with other data.

An increasingly important stream of labor market studies analyze *administrative data* that was not originally collected for the purpose of conducting research. One such source is tax records. For instance, the research program on intergenerational mobility in the U.S. of Raj Chetty and his co-authors uses a dataset built from millions of federal income tax records of the Internal Revenue Service (IRS), including individual tax returns (e.g., 1040 forms) and information provided by employers (e.g., W-2 forms). Chetty, et al. [21], [22] then supplement these records with a wide array of other sources. Piketty and Saez's [57] important research on

inequality at the high end of the income distribution similarly relies on data from the Internal Revenue Service, stretching back to the beginning of the modern U.S. income tax in 1913. A second example is the use of *establishment-level administrative data,* as in the analysis of shifting wage inequality in Germany by Card, et al. [18], who use the "Integrated Employment Biographies" (earnings records from the German social security system).[6]

Other sources of data used in labor economics include such *specialized sources* as surveys collected for purposes other than general labor-market studies, or (typically small) surveys generated by the researchers themselves. Often these "specialized sources" are used in combination with data from the other mainstream data sources. Four examples from among papers cited above are Landers, et al. [41], who surveyed lawyers in two large firms about facets of their working conditions; Goldin and Katz [31], whose research on the unusually egalitarian profession of pharmacy makes use of various waves of the Pharmacist Workforce Survey; Charles and Guryan [19], who use data on racial attitudes from the General Social Survey (GSS); and Black, et al. [12], whose study of male-female wage disparity among the well-educated relies primarily on the National Survey of College Graduates (NSCG). Goldin's [29] study on trends in gender differentials in earnings relies on a variety of specialized sources, in addition to Census/ACS data.

The final source of data for the study of labor market decisions comes from *longitudinal surveys.* Longitudinal data are invaluable for the scientific study of human behavior because at any point in time an individual's outcomes are the consequence of opportunities and decisions

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[6] More generally, economists have produced a substantial amount of research using matched employer-employee data, including the seminal work by Abowd, Kramarz, and Margolis [3]. The Longitudinal Employer-Household Dynamics (LEHD) program at the U.S. Census Bureau provides vast resources, including files that are integrated to create the Quarterly Workforce Indicators (QWI). See Abowd, et al. [4] for a description, and Abowd and Vilhuber [5] for an example of research utilizing the QWI.

from the past and expectations about the future. If we want to build empirical evidence about the forces that motivate behavior, there is no getting around the necessity of studying choices and constraints over the life course, and this entails the use of longitudinal data. Unfortunately, most of the data sources we have mentioned to this point—including the Decennial Census, ACS, and CPS—are at best repeated cross-sectional data, making it difficult to study dynamic aspects of individual decision-making.[7]

There are two longitudinal data programs in the U.S. designed to be broadly applicable to the study of labor market behaviors. First is the *National Longitudinal Survey (NLS)* program of the BLS: currently there is active data collection from cohorts of young people initiated in 1979 and in 1997 (the *NLSY79* and *NLSY97*, respectively), and from biological children of women in the NLSY79 cohort in the *NLSY79 Children and Young Adult* survey.[8] NLSY data include a vast array of elements designed for social scientists studying labor market activity and other life-course events. For example, there is an extensive set of variables on family background (household environment, parental characteristics, etc.), human capital accumulation (results for various achievement tests, details about schooling, transcript records, etc.), and family relationships and fertility. A particularly important feature of the data is a complete lifetime record of all labor market activity: researchers can trace start and stop times for jobs, schooling, spells of unemployment and labor market non-participation, etc.

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[7] Sometimes dynamic analysis can be undertaken even with data that are collected and organized primarily as repeated cross-sections. For instance, the CPS data collection protocol entails interviewing respondents for four months, dropping them for eight months, and then interviewing them again for four additional months. By matching cross-sections, it is possible to analyze individual-level short-run dynamics, though there are many challenges and concerns, outlined, e.g., in Peracchi and Welch [56]. As another example of the blurred distinction, some surveys collect retrospective data (e.g., the NSCG collects retrospective data on labor market activity), thereby allowing some life-course analysis.

[8] The NLSY79 follows a sample of individuals who were aged 14 to 22 when they were first surveyed in 1979. The NLSY97 respondents were ages 12 to 17 when they were first surveyed in 1979. Discontinued surveys in the NLS program are the Surveys of Young Women and Mature Women (NLSW), which initiated data collection in 1967 and 1968, and Surveys of Young Men and Older Men (NLSM) who were first surveyed in 1966.

The second longitudinal data source is the *Panel Study of Income Dynamics (PSID)*—an on-going longitudinal program that follows *households*. This study was launched in 1968, and as McGonagle, Schoeni, Sastry, and Freedman [48] note, it is now "the world's longest-running household panel survey." The PSID is the primary data source for thousands of studies, many of which focus on topics in labor economics.[9] As McGonagle et al. [48] discuss, the original 1968 sample was comprised of approximately 18,000 individuals living in approximately 4800 households. These individuals, who were considered to have the "PSID gene," were subject to subsequent interview, even as many moved from their original households and formed their own households. Furthermore, children of the original respondents then became part of the study. Over time, as the sample thereby expanded, some families were dropped. On the other hand, to improve the national representativeness of the survey, some families were added who had immigrated to the U.S. after 1968. As of 2009, there were over 23,000 individuals in the study.

Like the NLSY, the PSID has extensive social and demographic content, and an array of variables that facilitate the study of economic behaviors, including employment, earnings, income, consumption expenditures, pensions, health insurance, and so forth. We highlight two obviously attractive features of the PSID: First, because of the study's focus on *households*, the data are valuable for studying joint household decision-making (e.g., as in Stephens' study [65] of the impact of a husband's job loss on dynamic labor supply of the wife). Second, because the study follows families *across generations*, the PSID has been used extensively to investigate the intergenerational transmission of socio-economic outcomes.

Several of the papers cited above use the NLSY79 and NLSY97, and these serve nicely to illustrate the crucial importance of *longitudinal* data for the purpose of studying some aspects

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[9] Yet another longitudinal study, which focuses exclusively on the older population, is the Health and Retirement Survey (HRS). This survey is exceptionally valuable for the purpose of evaluating later-life labor market decisions.

of labor market behavior: Gicheva [28], as a first example, sets out a model in which unusually long work hours supplied early in one's career serves as a credible market signal of a desired trait (an unusual willingness to work hard), which in turns leads to above-average success later in one's career. The NLSY79—which collects work hours and wage data over the life course—provides just the type of data necessary to test Gicheva's model.[10] As a second example, Neal [53] and Ritter and Taylor [59] are interested in the extent to which black-white differences in lifetime wage and unemployment outcomes can be traced back to differences in skills acquisitions early in life. These studies exploit a unique feature of the NLSY data—that most respondents took a skills assessment (the Arms Force Qualifying Test or AFQT) when they were still quite young. Researchers can then ask how these skills relate to employment outcomes over the life course.[11] As a third example, in on-going research, Black, Charles, Ryan, and Schofield [11] compare data from the NLSY79 and the NLSY97 to examine gender gaps in cognitive test scores and educational attainment, finding a substantial improvement in the relative performance of women across the two cohorts.

Turning to the PSID, we note that these data have been crucial to the development of two strands of research we highlight above. First, the PSID is the primary data source for important papers on the transitory variance of earnings by Moffitt and Gottschalk [49], Shin and Solon [63], Lochner and Shin [46], and many other scholars.[12] Second, much of the extant literature on

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[10] Gicheva [28] also makes effective use of a "specialized source," a panel survey of registrants for the Graduate Management Admissions Test (GMAT) to provide additional evidence on her question.

[11] For additional detail on the AFQT, see [35]. Much of the black-white wage gap is accounted for by AFQT differences, but less of the black-white employment gap. These findings are roughly consistent with an efficiency wage model of unemployment set out by Ritter and Taylor [59], which predicts that the black-white wage gap among similarly-skilled workers should be 0, while that black-white unemployment gap will, under plausible circumstances, be positive. Another recent paper that uses AFQT measures in the NLSY79 is Lang and Manove [42], who test a model of statistical discrimination and educational sorting.

[12] While the PSID has been the primary source of data for the study of earnings volatility in the U.S., Shin's work [64] using the NLSY79 is important because it demonstrates an important consistency of results across the two surveys, which adds to the face validity of work conducted with either survey.

the intergenerational transmission of inequality uses the PSID, including notable work by Gary

Solon and co-authors (see, e.g. [44], and references therein). Finally, by using the PSID,

Attanasio and Pistaferri [8] are able to document an increase in inequality from 1980 through

2010 not only in income but also consumption.

As we have already mentioned, the PSID and NLSY programs produce samples that are

much smaller than the Census/ACS, making these datasets less useful for describing outcomes

across the many local labor markets in the U.S. On the other hand, both programs have

provisions that allow researchers to access restricted data that provide detail about locations in

which respondents grew up and currently live. There are many examples in which researchers

have made creative use of these data to study important issues related to local labor markets.[13]

The key advantages of longitudinal design are, obviously, the ability to study individuals

over long periods of their lives and to estimate models that posit dynamic elements to behavior.

Also, compared to most other commonly-used data sources in the U.S., the NLS and PSID

provide a much larger array of detail about individuals' lives. Yet another potential advantage is

the ability to assess the accuracy of responses. To illustrate the issue, in a paper with Seth

Sanders [17] we highlight serious problems with the measurement of higher education in the

Census and CPS, especially among women and immigrants.[14] This particular form of

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[13] To illustrate, we mention just two examples that make use of confidential versions of the NLSY79: Kennan and Walker [38] have seminal work on migration decisions. An important study by Moretti [50] evaluates the social return to education by looking for spillovers from college education in local labor markets.

[14] The biggest problem is that many individuals misinterpret the meaning of a "professional degree." The intended interpretation by the Census/CPS is a post-college degree such as a JD or MD. Many individuals list themselves as having a "professional degree" if they have professional certification in some post-high school endeavor, such as cosmetology. This misclassification is more common among women than men, and is more common among immigrants than native-born individuals.

measurement error is much less likely in a longitudinal data program that follows individuals through the education process.[15]

Having noted key advantages of data from longitudinal surveys, it seems fair to mention also one potentially important drawback—the problem of attrition, which can accumulate into a serious problem when a survey is fielded over a long span. Olsen [55] discusses the problem, with particular focus on the NLS program. As he notes, cumulative attrition among early NLS cohorts was quite problematic, especially among young men and among African Americans, but the NLSY79 has experienced substantially better success. The NLSY97 is similarly faring better than the early NLS cohorts, though it is not keeping pace with the retention standard set by the NLSY79.[16] Schoeni, et al. [61] provide a recent overview of retention in the PSID, and provide a comparison of non-response to other surveys. They also provide evidence about the degree of representativeness of the PSID, after 40 years of data collection.[17]

3. An Example: Studying "Labor Market Inactivity" using Available Data Sources

To reiterate our key point from the last section, empirical evidence about labor markets comes from a variety of sources, and to create a clear picture or test key hypotheses about labor market phenomenon, it is often necessary to use multiple sources. In an effort to portray how the primary general sources for labor-market research in the U.S. differ in terms of their value for

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[15] For instance, in the NLSY97 individuals give yearly updates to all educational activity. In addition the program has collected transcript data for individuals attending institutions of higher education, providing fine-grained detail about educational attainment.

[16] According to Olsen [55], at the time of cancellation of the two original men's cohorts, in the early 1980s, the final retention rate (correcting for mortality) were 75 percent for the Mature Men and 67 percent for the Young Men. Similarly calculated retention rates for NLSY cohorts remain at the present time above 80 percent. See MaCurdy, Mroz, and Gritz [47] for earlier detailed work on the nature of attrition in NLSY79.

[17] Earlier work by Fitzgerald, Gottschalk, and Moffitt [26] highlights the general problem of sample attrition in PSID. By 1989, cumulative attrition in the PSID led to the loss of approximately 50 percent of the original 1968 sample. Attrition was shown to be concentrated among respondents with relatively low socio-economic status. Nonetheless, these authors suggested that "despite the large amount of attrition, we find no strong evidence that attrition has seriously distorted the representativeness of the PSID through 1989, and considerable evidence that its cross-sectional representativeness has remained roughly intact."

addressing various facets of a labor market problem, we proceed in this section to look at one concern that has been the focus of considerable attention—the rise in "labor market inactivity," particularly among individuals in prime working ages.

The topic of rising labor market inactivity has been the focus of a great many studies over the past two decades. For instance, in an important early contribution that makes good use of the CPS data, Juhn [36] documents a substantial decline in the employment-population ratio—a simple measure of labor market activity—from 1967 to 1987 for black men and white men in all age categories. Figure 1 updates the overall trends in the employment-population ratio among men aged 20 and older, estimated using CPS data, for white and black men over the last 40 years, while Figure 2 provides comparable evidence for women.[18] Figure 1 shows that in broad terms the decline in the male employment-population ratio, discussed by Juhn, has persisted as a long-run trend. As for women, Figure 2 shows that the secular rise in female employment rates peaked in 2000. Thereafter, employment-population ratios have declined for both white and African-American women.

To get a sense of how other data sources can shed light on the surprisingly high rates of labor market inactivity in recent years, we turn to the ACS, NLSY79, and PSID. For the analysis that follows we focus on individuals in their 30s and 40s. We choose these ages because they are consider prime earnings years—generally after the completion of formal education, and prior to the age of retirement for most individuals. As a practical matter, our focus on these ages makes

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[18] This analysis illustrates how readily accessible CPS data have become for tracking labor market trends. In generating these graphs, we used the FRED system from the Federal Reserve of St. Louis (http://research.stlouisfed.org/fred2/) accessed on April 14, 2014.

it possible to effectively use the NLSY79 cohorts for evaluating recent outcomes, since many respondents were in their 40s in recent available rounds of the survey.[19]

The starting point of our investigation focuses on an important idea in labor economics—the interconnectedness of labor supply of individuals *within households.* Consider, for example, a two-person household (e.g., spouses) in which the couple behaves according to a collective model of household maximization.[20] Further, suppose that each person has a quasi-fixed participation cost (e.g., a commuting cost). Then the resulting household budget constraint is non-convex, but analysis of labor supply behavior is nonetheless reasonably straightforward [14]. Among the predictions that emerge in this model are the following: (1) a decrease in the market wage of one individual in the household increases the relative desirability of non-participation for that individual, *and* (2) the attractiveness of non-participation is relatively higher when the individual's *spouse* has stronger employment prospects.

To see the logic outlined in the previous paragraph, consider work decisions of married men during the Great Recession. Many of these men faced sharply reduced wages (or potential wages) in the labor market, which doubtless contributed to declining work activity.[21] Worse yet, husbands and wives typically work in the same local labor markets, so often both faced poor labor market prospects. Having said that, workers in some professions were largely insulated from broader trends. For example, if the demand for healthcare is roughly independent of the business cycle, employment prospects of college-educated nurses are likely far more stable than

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[19] Cross-tabulations and regressions presented below were implemented using Stata version 11 on an Intel Core i7-2620M laptop running at 2.70 GHz with 8 GB of memory, running Windows 7 Professional 64-bit operating system. The cross-tabulation and logistic regression commands are native to Stata, and marginal effects were computed using the margins package.

[20] Chiappori [23] sets out the collective household model. See Black, et al. [14] for a formal presentation of the static two-person model of labor supply we use here, and a discussion of the dynamic case.

[21] Notice, from Figure 1, the particularly sharp decline in the employment-population ratio among men during the Great Recession and its aftermath. (The dates for the recession are sometimes given as December 2007 to June 2009.)

for college-educated individuals trained in other professions. If so, our theory predicts that during the Great Recession, men married to college-educated nurses are more likely to be non-participants in the labor market than comparable men married to college-educated women who are not nurses.

Notice that to test the argument above, we need a dataset with the following characteristics: (1) The dataset must be very large. While nursing is a large occupation (with employment of more than 2.7 million in 2012), nurses comprise less than two percent of employed individuals, so large samples are needed if we want to focus specifically on households in which one spouse is a nurse. (2) The data must provide at least basic employment outcomes, such as employment status and earnings, for individuals *within households*. (3) The data must allow us to identify nurses among both the employed and the non-employed. (To be clear, it is not sufficient to have data that asks current occupation only of people who are working.) Fortunately, ACS data meet all three requirements: samples are very large; we have earnings and employment data for individuals within households; and, beginning in 2009, the ASC collected *college major*. Thus, we can potentially create a consistent definition for a particular class of workers—married college-educated women who majored in nursing—that can be used for both employed and non-employed individuals.

Table 1 provides our analysis. For men aged 40 to 49 married to women whose highest level of education is a bachelor's degree in nursing, the rate level of non-employment in the 2009 ACS is over nine percent. In contrast, for men married to a non-nursing degree holder, non-employment is less than seven percent. Obviously, additional analysis would be required to refine our inferences, but we view this general line of inquiry as quite important. In any event, our primary goal here is to demonstrate the extraordinary value of the ACS for undertaking this

kind of empirical work; for many issues labor economists study, data from the very large

household-based ACS are invaluable.

We next look at the issue of non-employment among individuals aged 40 to 49 from a

completely different angle, using data from the NLSY79. In general, the value to an individual

of having a job depends on that individual's skills, so we might expect high-ability workers to

have higher lifetime employment than their lower-ability counterparts. As we have already

noted, one important feature of the NLSY79 is that the data include test results from the AFQT,

completed by respondents when they were young. Many scholars have shown that skills

acquisition in childhood and youth, as measured by the AFQT, serves as an important antecedent

to subsequent outcomes, including labor market success.[22]

With this in mind, we divide respondents in the NLSY79 into terciles by performance on

the AFQT (low, medium, and high), and calculate for each tercile employment rates in 2006

(when individuals were aged 41 to 49). Panel A of Table 2 gives results for six demographic

groups: black, Hispanic, and white by gender.[23] Within each demographic group, there are

strong differences in labor market activity across the terciles. Comparing the "low" and "high"

AFQT groups, we see that differences in employment rates are on the order of 0.15 to 0.20—

very large gaps indeed. These patterns are particularly apparent in Figure 3, which gives a

graphical presentation of results.

As we have said, one factor contributing to the patterns in Table 2 may be the *earnings

potential* of high- versus low-ability individuals. After all, there is evidence that the market

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[22] The reasoning might go like this: people who have a relatively high stock of useful skills when they are young are likely to also have a relatively high stock when they are in their 40s. This presumably happens via a number of channels. Some components of ability are likely persistent over the life course; relatively skilled young people might find it easier than their less-skilled counterparts to acquire yet more skills (indeed, young people with high AFQT scores are relatively more likely to attend college); and high-skill individuals are probably disproportionately likely to find jobs that provide opportunities for on-the-job skills acquisition.

[23] Our demographic classifications are standard, but somewhat arbitrary. Blacks and whites are non-Hispanic.

return to skills has been increasing over time (e.g., [46]); many individuals with very low skill levels may simply not be able to form productive matches in the labor market. Having said that, it is quite likely that differences in the value of marginal product across the three skill groups is *not* the whole story when it comes to employment. As we have emphasized, labor supply decisions are interconnected across people within households. And, as Panel B of Table 2 and Figure 4 show, AFQT is strongly related to household structure (as indicated by marital status) later in life. The marriage rate differentials across our three groups are high; for example, for white women the "marriage gap" between the high- and low-AFQT groups is 0.17. Interestingly, Panel C of Table 3 shows that this marriage gap does *not* generally exist for *ever* entering into marriage (the exception being black men). For instance, among white women, the proportion who have *ever* been married is nearly identical across the three terciles (and is very high, in the 0.91 to 0.93 range).

An analysis of the life-course circumstances and behaviors that lead to the patterns in non-employment and marital stability given in Table 2 is far beyond the scope of our essay. We do think that such an inquiry could be interesting.[24] Our main point here continues to be that research on many economic outcomes—in this case non-employment of people during prime-age work years—can benefit greatly from creatively-conceived longitudinal data collection programs.

Our final set of empirical observations comes from the PSID. This extraordinary dataset follows families over many decades—allowing for an exploration of intergenerational aspects of economic behavior. Thus, in our context, we can ask the following question: is the recent labor-market inactivity of young men connected in any way with their fathers' labor-market inactivity,

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[24] For an insightful analysis of divorce that uses the NLSY79, see Light and Ahn [45].

experienced decades earlier? As we have already noted, the PSID has been widely used to

understand the intergenerational transmission of various socio-economic outcomes (e.g., on the

income mobility, [44], and on the intergenerational transmission of wealth, [20]). Here we

undertake a very simple descriptive analysis. Using a sample of more than 700 men aged 30 to

39, drawn from the PSID, we ask if labor market *inactivity* (defined as not working for a reason

other than being in school) observed in recent years is related to inactivity by the individual's

father during the father's prime earnings years (ages 25 to 50).

To be more specific, we estimate a logistic regression in which the dependent variable is

1 if the individual is observed to be inactive during 2007, 2009, or 2011, and 0 otherwise. In our

first specification, reported in column (1) of Table 3, key regressors are indicator variables for

the father being inactive for 1-2 years or 3 or more years when he was aged 25 to 50. We also

included an indicator variable for race (1 if black). We notice a striking relationship—a high

correlation between a father's labor market inactivity and labor market inactivity of his son

(observed many years later). Column (2) suggests that this relationship is not being driven

simply by the father's educational attainment. A son whose father's education was above the

high school level was much less likely to be inactive, but having controlled for education, we

still see a strong correlation with the father's labor market inactivity. Column (3) shows that this

correlation persists even if we control for son's education. This last result is interesting because

it suggests that the mechanism linking a father's inactivity and son's inactivity may not simply

be a matter of highly-educated fathers having highly-educated sons. Also, when we control for

age of father at son's birth (column 4), this does little to change our results.

A great deal more work would be required to trace the behavior pathways that lead to

interesting relationships that we observe here. Clearly, a household panel survey, such as the

PSID, is invaluable for pursuing this sort of inquiry. Importantly, PSID data include location (which we have not used here), and these data could be used to distinguish spatial and familial linkages, allowing the analyst to disentangle sources of intergenerational commonality.

4. Why a New *Household* Survey?

Our central message, to this point in our paper, is that empirical evidence about labor market behavior necessarily comes from a variety of sources. So why is it important that one of those sources be an on-going *household* survey? We have already outlined the general answer to this question: Many economic outcomes depend on individuals' past constraints and decisions and expectations about the future, so *longitudinal* data are important. Furthermore, important parts of our lives often play out in families; decisions are interconnected with others in our households, and this interconnectedness extends over lifetimes. In short, *many aspects of human behavior can be empirically evaluated only with data collected from households over time*.

While we hope that the examples we have given above provide a clear rationale for our contention about the value of a household survey, we think it is worth expanding on this claim. We do so by providing a partial accounting of the ways in which families matter for outcomes that are related to labor-market behavior:

Families serve as an important provider of insurance. Family members stand as an important source of insurance—helping each other out through periods of poor health or unemployment, providing transfers to smooth consumption or to start a business, and playing a role in providing shelter. On this last point, for example, Kaplan [37] shows "that the option to move in and out of the parental home is a valuable insurance channel against labor market risk, which facilitates the pursuit of jobs with the potential for high earnings growth." Zaber [67]

links parental generosity toward a child to that child's subsequent willingness to have the parent

co-reside in the child's own household when the parent is elderly.

Families serve as producers of cognitive and non-cognitive skills. As Chris Robinson

[60] discusses in this volume, much of the extraordinary important process of human capital

accumulation occurs within households. Of course, schooling decisions for children are

generally made by other household members, typically parents; families play a crucial role in the

acquisition of lifetime skills, both cognitive and non-cognitive.[25]

More generally, families set up individuals for future success. As we have discussed,

there are many channels by which lifetime success is transmitted across generations. Many of

these processes obviously occur at the family level.

Many economic decisions can only be understood in the context of the family. In Section

3 above we provide a brief analysis in which we show that during the Great Recession, labor

market participation decisions of men were related to their wives' specific form of human

capital. More generally, the idea that households make collective decisions about labor supply is

an important theme in labor markets.[26] Of course, labor supply is only one of many decisions

that are linked across household members; other such decisions include consumption, human

capital accumulation, and migration. In the case of migration decisions, family ties can

potentially bind people to seemingly sub-optimal choices, inducing people to remain in places

with relatively poor local labor markets [38].

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[25] See the important recent work by James Heckman (e.g., [34], and the references therein).
[26] Among the important papers on this topic is Stephens' [65] compelling empirical work using the PSID. This work is distinctive in showing the value of a longitudinal household survey to take a complete accounting of joint lifetime labor supply.

An overview of the many hundreds of important studies on economic behavior that use the PSID underscore our central point about the value of household data for scientific research on labor market behavior (and other economic decisions).[27]

As for the need for a *new* household survey, we direct readers to analyses, such as Fitzgerald, et al. [26], on the detrimental impact of cumulative attrition in longitudinal surveys. As that paper reports, fewer than half of the family units sampled in 1968 remained in the sample as of 1989. Moreover, attritors differed from non-attritors in important ways along observed characteristics, e.g., male household heads of attritors were relatively more likely to be divorced or separated, have low labor market participation, and have a low level of education. Attrition was higher among blacks than among whites.[28] Despite best efforts, longitudinal surveys such as the PSID run the risk of becoming non-representative in ways that become increasingly difficult to deal with; a fresh household sample would provide greatly improved confidence in terms of representativeness.

In thinking about a new survey program along the lines of the PSID, it is important to acknowledge an important challenges for surveying household units: over time, households have become more unstable and ill-defined. While it is vital to researchers to have data for *families*, the sampling design itself might nonetheless sample *persons*, and then collect additional information from individuals with a predetermined relationship that the sampled person.[29]

As for the problem of attrition, there is no denying the challenges facing survey teams that hope to develop high-quality longitudinal data. As Olsen [55] points out, in the context of

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[27] McGonagle, et al. [48] provide a brief overview of the many significant empirical inquiries that use PSID data.
[28] Having noted this problem, recall from footnote 17 that Fitzgerald, et al. [26] nonetheless had positive things to say about the research value the PSID.
[29] As a referee as pointed out to us, one example of person-based sampling would incorporate the matrilineal design of the NLSY79 Children and Young Adult Survey. The initial sample would be broad (and designed to incorporate immigrant refreshers), and then the inclusion of biological children would achieve coverage of the new generation.

the NLS program, a high cost must be paid to retain respondent goodwill, which is necessary to prevent attrition: "We seek the goodwill of the respondents in three major ways: informing the respondents about survey objectives and findings, using incentive payments, and employing the mode of interview the respondent prefers" [55]. In some ways, however, the problem is even worse with a cross-sectional design. In these instances the survey team must find a way to develop the necessary rapport each time an individual is contacted—a challenging proposition, especially with telephone surveys (which indeed often have low completion rates). Moreover, building a representative sample is becoming increasingly difficult in the era of mobile phones.

5. Ideas for Making Household-Survey Data More Valuable to Researchers

In the process of writing this essay, we have developed a short list of ideas that we think might be useful in the planning of a new household survey for the purposes of studying labor market behavior:

(1) *The survey should be designed to allow links across generations.* As we have emphasized, a key issue for society is the extent to which socio-economic outcomes are transmitted across generations. It is true that recent work by Raj Chetty and his co-authors, discussed above, shows how researchers can make creative use of administrative data (tax data, in their case), along with other sources, to study the intergenerational transmission of inequality. Nonetheless, as demonstrated in many studies, rich household-level data are crucial for exploring the underlying mechanisms.[30]

(2) *There is high value in the collection of periodic assessments of various cognitive and non-cognitive traits.* As discussed above, assessments of latent individual traits (cognitive and non-cognitive) have proved invaluable in many empirical analyses in labor

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[30] See, e.g., Charles and Hurst's analysis [20], based on PSID data, of the channels that account for the correlation of wealth across generations.

economics. Such data might prove to be especially valuable in household surveys, given

the importance of families as generators of human capital. Data collected via various

tests and assessments are most valuable to researchers if they can be disseminated as *item*

responses (not just individual-level means, or means plus standard deviations) because

modern statistical techniques require the full vector of responses [62].

(3) *Data should be collected and disseminated in a way that allows researchers to explore*
local labor markets. We have highlighted some of the ways in which variation across

location can be useful for studying labor market outcomes, but we mentioned only a few

possibilities from a long list. To add two more observations: Location data potentially

allows the study of cross-location differences in policy (e.g., tax policy or educational

policy), and allows for the exploration of "neighborhood effects" (e.g., the impact on life

course outcomes of growing up in a low-income neighborhood or a high-crime

neighborhood).

(4) *There is great value in embedding questions on labor-market outcomes in a survey that*
collects an array of other life course outcomes. Labor market outcomes are closely

linked with many other outcomes in an individual's life. For example, an individual's

health and disability status has an important impact on the ability to provide value on the

job. Conversely, job loss can lead to a higher use of disability insurance or even higher

mortality [58], [66]. Thus, research can make good use of a longitudinal study that

collects data on both health and labor-market variables.

　　　　Our point concerns "economies of scope" in survey design. A well-designed

longitudinal survey can collect a vast array of data—useful for a wide range of scientific

inquiry—that would be impractical to collect even with a large number of smaller

specialized surveys. The resulting breadth of data then allows researchers greater scope

for creativity in studying links between a wide range of behaviors and outcomes.

(5) *Linking the survey to administrative records might be useful.* There are many advantages

of having data that are linked from surveys to administrative records. First, of course,

such links can be useful for validating data quality. Second, linked data can be useful for

identifying "holes" in research that relies exclusively on administrative records.

Consider, for example, work on earnings inequality that uses tax records. A well-

designed properly-implemented household survey will keep track of individuals who do

not show up in administrative records (e.g., people who do not appear in tax records

because they have no taxable income, or people who have immigrated out of the

country). The use of linked data can, in this case, allows researchers to make appropriate

corrections in inferences. Of course, users of the longitudinal survey data can benefit

from linkages to large administrative datasets, as this will typically allow for substantially

increase precision of some inferences.

(6) Finally, we believe that *there might be substantial value to a household survey that is*

*linked to **administrative firm-level data** or to a **survey of workers' employers***. To be

specific, what we have in mind here is a survey like the PSID in which individuals are

linked to an extensive linked employer-employee databases (such as the German data

used by Card, et al. [18]). Alternatively, a survey like the PSID could be supplemented

with occasional survey responses collected within the firms that employ respondents in

the PSID.

While we admit that this last idea may be impractical, it may merit further

consideration.[31] After all, most of the labor-market behaviors that are studied using

longitudinal household data are related to the *supply* of labor to the market, while labor

market outcomes depend on the *demand* for labor as well. Ultimately our understanding

of labor market outcomes depends on the extent to which we can piece together the full

pictures. We close our essay by elaborating on this observation.

One aspect of *labor supply* that we highlight in Section 3 above, in our discussion

of a two-person model of joint labor supply, is that it makes good sense to think of

workers facing a *quasi-fixed cost* to participating in the labor market (e.g., the daily cost

of commuting). Such quasi-fixed costs extend well beyond commuting, and we believe

they are exceedingly important for explaining labor market outcomes. They help explain

why a typical worker does *not* smooth labor supply across days, but rather supplies a "full

work day" (e.g., eight hours) 200 days a year, while supplying 0 hours the other 165

days. This same observation about non-smoothing is true for couples: it is very common

for one person in a household to work full-time while the other person supplies no market

labor. The presence of quasi-fixed costs explains also why retirement for many people

entails an abrupt transition from a high level of labor supply to supplying 0 labor.

There is a great deal of evidence that *quasi-fixed costs* play a similarly important

role for firms, i.e., on the *demand* side for labor. To give a specific simple example,

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[31] While linking a household survey to firms, and to firm surveys, might seem impractical, it is important to note that matched employer-employee data are available for many countries, and have been used for important research [2]. In the U.S., the Longitudinal Employer-Household Dynamic (LEHD) program at the U.S. Census Bureau exemplifies the possibilities for linking data-collection activities [1]. The LEHD infrastructure provides the building blocks for the Quarterly Workforce Indicators (QWI) data series, which are available in both public-use and restricted-access versions [4].

In general, linked data can create risks to confidentiality. One solution is place restrictions on access and use of data, but this in turn reduces scientific value by making replication difficult.

consider a job in which a worker's daily production occurs only after one hour of preparation (e.g., when an hour of each day fishing is spent taking the boat out of the harbor, or when the first hour of a nurse's shift entails "patient handoff"). In this case a firm is obviously *not* indifferent over work hours; it would rather employ a worker 10 hours a day four days a week than employ that same worker 8 hours a day five days a week. Notice that the economic logic is precisely the same as when the *worker* faces a fixed cost to work (e.g., a commuting cost).[32] Either way, the equilibrium outcome is deeply affected by the fixed cost. For example, our firm prefers to employ full-time workers rather than part-time workers, and in the event of a down-turn, the firm would reduce employment *in workers* rather than *in hours* of existing workers (i.e., would use lay-offs rather than an hours-reduction policy, even if workers would prefer the latter).
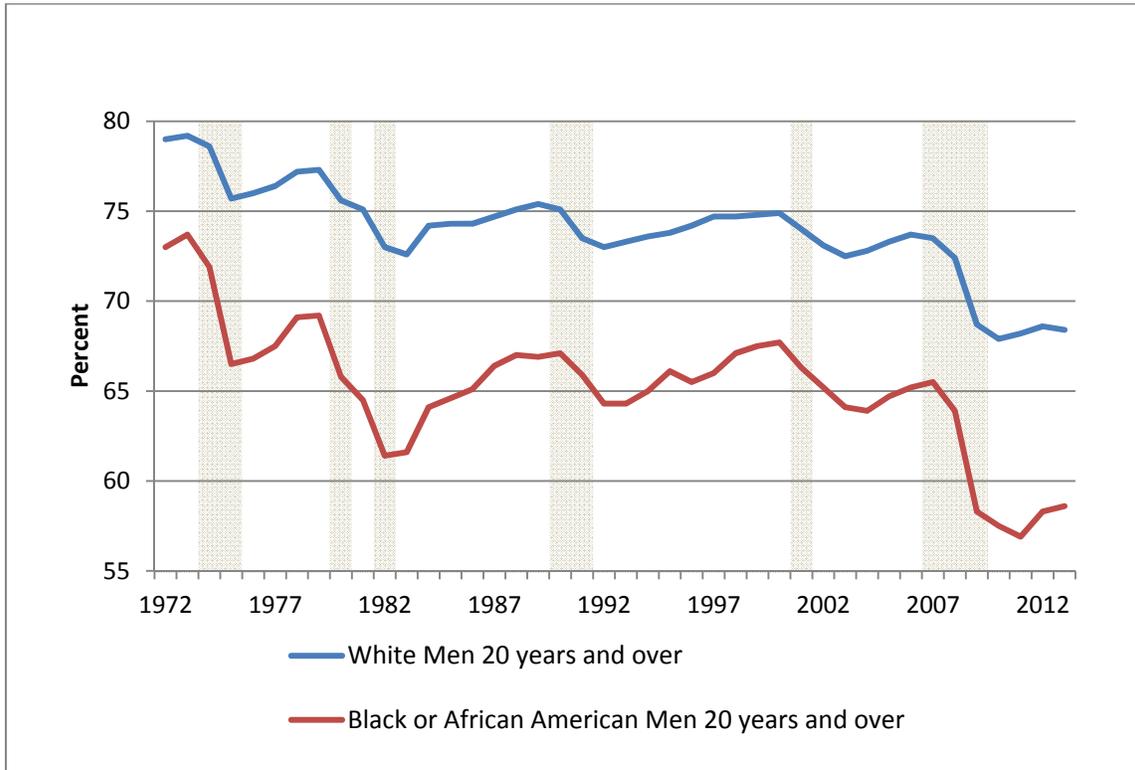
Another example of *quasi-fixed costs* arises at the hiring stage (and sometimes also when a worker is dismissed); at least since Oi [54], economists have understood that rigidities in the labor market can arise because of the costs that firms incur in recruitment, evaluation, and training of workers. In short, the process of "matching" is an expensive one. [33] Making matters worse, under conditions of asymmetric information about the firms' and workers' valuations of a job, there exists no mechanism to insure that value-added matches occur (as shown in the remarkable theorem of Myerson and Satterthwaite, [52]), so job separations can lead to sustained periods of unemployment.

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[32] Indeed, in a model with perfect information, the efficient outcome is the same whether the work or the firm faces the quasi-fixed cost.

[33] The presence of quasi-fixed costs in turn complicates the nature of employment and compensation, as Becker [9] clarifies in his seminal work on firm-specific human capital. Since this seminal work, an important agenda in economics has been to shape an understanding of how firms and workers share these fixed costs across the employment relationship. Early contributions to this literature include Mortensen [51], Lazear [43], and Hashimoto [33].
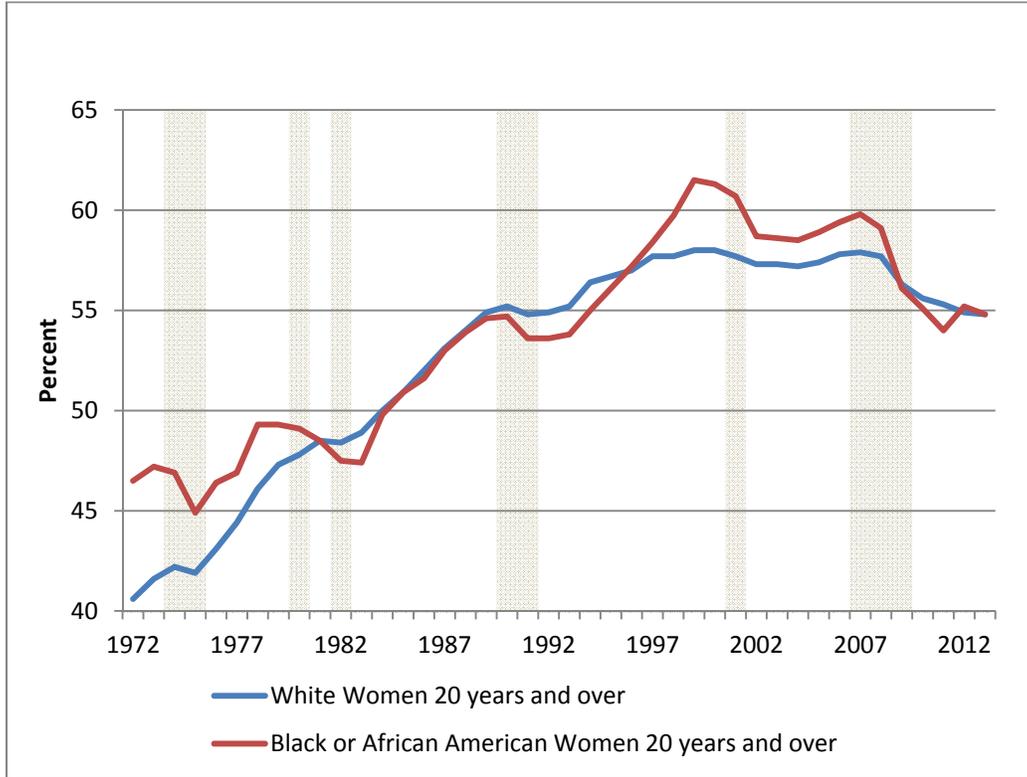
These observations lead us to believe that there might be opportunities to create a valuable resource for studying labor market behavior with a household survey that includes extensive information about employment practices *within the firms that employ respondents.* One possible way of collecting information about firms is from the household respondents themselves, and indeed this is common in surveys such as the NLSY and PSID. We are suggesting the additional steps of linking the household data to employer-level administrative data, and constructing specialized surveys designed to elucidate additional aspect of employer's personnel policies.

Figure 1. Employment-Population Ratio for Men

Shaded areas indicate U.S. recessions. Statistics are calculated from the CPS, and were taken from FRED, (Federal Reserve Economic Data) from the Federal Reserve Bank of St. Louis.

Figure 2. Employment-Population Ratio for Women

Shaded areas indicate U.S. recessions. Statistics are calculated from the CPS, and were taken from FRED, (Federal Reserve Economic Data) from the Federal Reserve Bank of St. Louis.

**Figure 3. Employment Rates in 2006 for Respondents
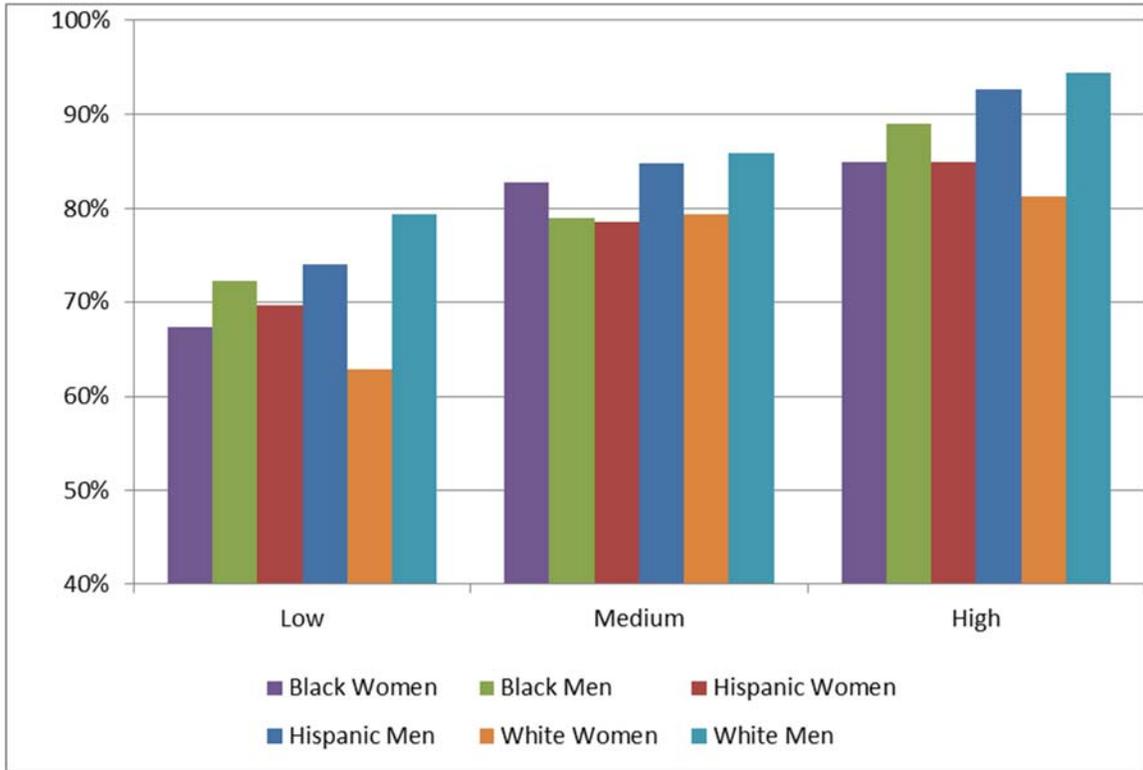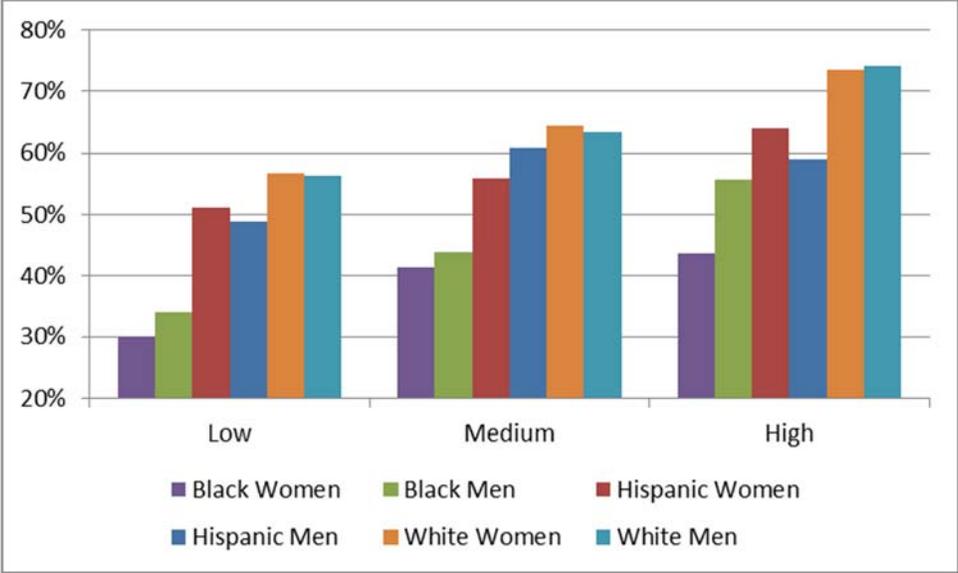Aged 40 to 49 in the NLSY79 by AFQT Tercile**

Figure 4. Marital Status for Individuals Aged 40 to 49 among Respondents in the NLSY79 by AFQT Tercile

**Table 1. The Relationship between Married Men's
Employment and Wife's College Major, Evidence from the ACS**

	Men married to a women with a nursing degree	Married to a women with a non-nursing degree
Proportion not employed	0.0907	0.0675
	(0.0071)	(0.0018)
N	2,590	29,285

Notes: Data source is the 2009 ACS. The sample is all men aged 40 to 49 who are married to women whose highest level of education is a bachelor's degree. The difference between men married to women with a nursing degree and other men is statistically significant at a 0.001 level. Standard errors (reported in parentheses) are Huber-Eicker White heteroskadastic robust standard errors. Data are weighted by sampling weights to reflect the survey design of ACS.

**Table 2. Employment and Marriage for
Respondents in the NLSY79 by AFQT Tercile**

	Black		Hispanic		White	
	Women	Men	Women	Men	Women	Men
A. Proportion employed (2006)						
Low AFQT	0.67	0.72	0.70	0.74	0.63	0.79
Medium AFQT	0.83	0.79	0.79	0.85	0.79	0.86
High AFQT	0.85	0.89	0.85	0.93	0.81	0.94
All	*0.73*	*0.75*	*0.75*	*0.81*	*0.78*	*0.89*
B. Proportion married						
Low AFQT	0.30	0.34	0.51	0.49	0.57	0.56
Medium AFQT	0.41	0.44	0.56	0.61	0.64	0.63
High AFQT	0.44	0.56	0.64	0.59	0.74	0.74
All	*0.35*	*0.39*	*0.55*	*0.55*	*0.67*	*0.67*
C. Proportion ever married						
Low AFQT	0.67	0.64	0.86	0.77	0.94	0.84
Medium AFQT	0.76	0.72	0.90	0.87	0.93	0.88
High AFQT	0.70	0.82	0.88	0.77	0.92	0.89
All	*0.70*	*0.68*	*0.88*	*0.80*	*0.93*	*0.88*

Notes: Data source is the NLSY79. Employment status is from 2006 (a year in which the survey used CPS-like questions to record employment status); an individual is denoted "employed" if he or she is either employed and currently working, or employed and on temporary leave or some other absence from active work. For employment status, there are approximately 3500 observations for men and 3800 for women. The AFQT terciles are formed by score: 0 to 22, 23 to 55, and 56 and above. Marital status (recorded biennially) is from years 1998 to 2010. In computing marital status, we limited the sample to individuals aged 40 and 49, and observations are in person-year—individuals may have multiple observations of marital status between 1998 and 2010 in which they fall in the appropriate age range. (Thus, a man whose status over 6 years is married for the first 3 years and divorced for the last 3 years, would be classified as "ever married" for all observations and the "currently married" in half of his observations.) There are approximately 17,000 person-year observations of men's marital status and 18,000 person-year observations of women's marital status.

Table 3. The Relationship between Labor Market
Inactivity of Fathers and Sons, Evidence from the PSID

Marginal Effects—in logistic regressions

	(1)	(2)	(3)	(4)
Father characteristics				
Father inactive 1-2 years	0.137**	0.126**	0.134**	0.142**
	(0.034)	(0.034)	(0.031)	(0.031)
Father inactive 3+ years	0.176**	0.157**	0.107**	0.111**
	(0.039)	(0.039)	(0.037)	(0.037)
Black	0.086**	0.070*	0.064*	0.059
	(0.031)	(0.031)	(0.030)	(0.030)
Father exactly HS grad		-0.0687	-0.050	-0.044
		(0.050)	(0.049)	(0.048)
Father attended any college		-0.132**	-0.042	-0.024
		(0.050)	(0.050)	(0.049)
Father's age at son's birth				-0.0340**
				(0.017)
Father's age at sons' birth, squared				0.0006**
				(0.0003)
Son characteristics				
Son exactly HS grad			-0.016	-0.0187
			(0.096)	(0.0973)
Son attended any college			-0.191*	-0.198**
			(0.095)	(0.0969)
Clusters (Fathers)	621	620	608	600
Observations	743	742	723	714

Clustered standard errors in parentheses: ** p<0.01, * p<0.05

Notes: Data source is the PSID. In the logistic regression, the dependent variable is "labor-market inactivity" among men aged 30-39, where "inactivity" is defined as not working due to layoff, unemployment, disability, retirement, or keeping house (while students are not included in the sample). Years of analysis are 2007 to 2011. The father's inactivity is measured from ages 25-50 (any years). Labor force status is coded at the time of interview (2007 through 2011). The omitted race designation is *non-black* (which is predominantly white), the omitted inactivity category is *no inactivity* (i.e., the father worked all years observed), and the omitted education category is *less than high school*.

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