RETIREMENT TRANSITIONS OF THE SELF-EMPLOYED

IN THE UNITED STATES AND ENGLAND

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July 2006

PRELMINARY – PLEASE DO NOT CITE OR QUOTE WITHOUT PERMISSION FROM THE AUTHORS.

Paper prepared for presentation at the "Workshop on Comparative International Research Based on HRS, ELSA and SHARE," RAND, Santa Monica, California, July 10-11, 2006.

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1. INTRODUCTION

According to data from the U. S. Bureau of Labor Statistics (BLS), 14.2 million U. S. workers, or 10.5 percent of the workforce, were self-employed in unincorporated or incorporated businesses in 2001. Since rates of self-employment rise with age, a disproportionate share of the self-employed are middle aged or older workers. Some of these older workers have been self-employed for much or all of their working careers while others have made the transition to self-employment later in their careers, often as part of the transition to retirement. Similar patterns exist among older workers in England where approximately one quarter of workers over age 60 are self-employed. Self-employment among older workers in both countries is likely to become more prevalent over time given the growing size of the older population and policy changes promoting work among older individuals.

Despite the prevalence of self-employment at older ages, there is a paucity of studies that examine the patterns the labor force transitions of older self-employed workers. Although self-employed workers are from both the bottom and top of the wealth distribution, they on average, hold more wealth than wage and salary workers yet tend to retire later than their wage and salary counterparts. Understanding the patterns and determinants of self-employment among older workers and their retirement patterns has implications for the adequacy of national savings rates and the solvency of social insurance programs such as Social Security in the United States. Moreover, some of these patterns may differ in a setting such as the U.K. or many European countries with national health insurance and other differences in the institutional features of public and private pension systems.

Table 1 shows self-employment rates by age among older workers for ten European countries, England, and the United States. The table reveals substantial heterogeneity in self-employment rates across countries, ranging from just eight percent of 50-55 year old workers in Denmark to 36 percent of such workers in Greece. The United States and England are in the middle of the range with 19 and 16 percent of 50-55 year old workers in self-employment, respectively. The table also illustrates how self-employment rates rise dramatically with age, more than doubling by ages 65 and older in virtually every country. For example, 26 percent of workers in Denmark are self-employed by ages 65 and older, 62 percent are self-employed in Greece, 40 percent in England, and 37 percent in the United States.

While some of the rise in self-employment with age is due to later-life transitions into self-employment, most of it is due to differential retirement rates between the self-employed and wage and salary workers. In many countries, public and private pension eligibility, as well as access to health insurance varies between self-employed and wage and salary workers, and these differences are likely to cause differential retirement patterns both within and across countries. By exploiting variation in these institutional features across countries, we can explore the effect of policy parameters that often cannot be studied in a single country.

In this paper, we examine how public and private pension and health insurance systems affect the retirement transitions of self-employed older workers, compared to wage and salary workers. We focus our analysis on the United States and England as these are the only countries of those shown in Table 1 for which the necessary panel data for analyzing such transitions are currently available. Specifically, we rely on longitudinal data from the Health and Retirement Study (HRS) in the United States and the English Longitudinal Survey of Ageing (ELSA). These panel data have the advantage of collecting comparable demographic, economic, and labor market data on workers in the two countries.

We begin with a brief overview of the literature relating to retirement and self-employment in the United States and the United Kingdom, and then turn to a comparison of the pension and health insurance systems in the two countries as they affect the self-employed. After describing our data sources, we provide a descriptive comparison of the self-employed and wage and salary workers in the two countries. Our analysis culminates with estimation of a reduced form retirement transition model pooling data for the two countries. The final section concludes the paper.

2. PRIOR RESEARCH ON RETIREMENT AND SELF-EMPLOYMENT IN THE UNITED STATES AND ENGLAND

A substantial literature in the United States focuses on the determinants of transitions to retirement (for reviews, see Hurd, 1990b and Lumsdaine and Mitchell, 1999). Much of this literature is motivated by the trend in the postwar period toward early retirement in the United States, attributed, in part or wholly to the increased generosity of Social Security, notably the windfall gains during the 1960s and 1970s (Costa, 1998; Hurd and Boskin, 1984; Ippolito, 1990). Recent evidence, however, indicates that labor force participation rates among older men

have stabilized or even begun to increase (Quinn, 1999; Karoly and Panis, 2004). The timing of retirement is in part determined by the incentives imbedded in the rules determining Social Security benefits, as well as employer-provided pension benefits (see Hurd, 1990b and Lumsdaine and Mitchell, 1999 for reviews and Anderson, Gustman and Steinmeier, 1999; Samwick, 1998). In the United Kingdom, Meghir and Whitehouse (1997) also found that financial incentives to retire are strongly predictive of actual retirement behavior. Likewise, other cross-national research published in a volume edited by Gruber and Wise (1999) notes that there is a strong negative correlation between labor force participation at older ages and the generosity of early retirement benefits. This study also shows that even with the limited number of observations available in cross-national studies, the effects of institutions and policies are important enough to generate convincing results.

The role of health status in affecting the timing of retirement has received extensive study, with most studies finding that workers in poor health are more likely to leave the labor force early (see the reviews by Sammartino, 1987, and Currie and Madrian, 1999). There is less consensus regarding the magnitude of the effect which can vary with the health measure used and estimation methods for addressing the potential endogeneity of health status and labor force decisions. A series of studies estimating both reduced form and structural models have also confirmed that health insurance, particularly the availability of employer-provided retiree health benefits, raises the likelihood of retirement although the magnitude of the effect ranges across studies (see the reviews by Currie and Madrian, 1999, and Gruber and Madrian, 2002). Several recent studies have found positive effects of wealth shocks such as inheritances or the run-up in the stock market in the 1990s on actual and anticipated retirement (Holtz-Eakin, Joulfaian and Rosen, 1993; Hurd and Reti, 2001; Sevak, 2002). Other factors that affect retirement timing include retirement expectations (Hurd, 1999b), job characteristics (Hurd and McGarry, 1993), and mortality risk (Hurd, Smith and Zissimopoulos, 2003).

Retirement and Self-Employment

In studying the retirement process, researchers have generally not differentiated between retirement from the wage and salary sector versus self-employment. One exception is a study by Fuchs (1982) using the United States Retirement History Survey (RHS). While Fuchs does not separately estimate models of retirement for workers by employment class, he does find that the

self-employed are more likely to continue to work—a differential of 8 percentage points—controlling for demographics, job characteristics, health status, pension coverage, and Social Security wealth. A similar result is reported by Quinn (1999) using the more recent HRS. The extent to which other determinants of retirement are different for the self-employed versus wage and salary workers remains largely unexplored, as does the distinction between long-term self-employed and those who transition later in life, possibly as part of the transition to retirement. Hochguertel's (2005) analysis of preliminary SHARE data suggests that institutional differences in labor markets and social insurance programs play a role in differential retirement behavior from self-employment and wage and salary work. His analysis does not consider the factors that predict movements into self-employment or the dynamics of self-employment at older ages.

To the extent that retirement ages are increasing, workers may spend more time than in the past in bridge jobs, and for many workers such jobs will entail periods of self-employment. Others may "un-retire" to self-employment. For example, Quinn (1999) estimates that about one third of men and one half of women will hold a "bridge job" between their full-time career job and complete labor force withdrawal. The extent to which such bridge jobs involve self-employment has received less attention in the literature. A recent study on the phenomenon known as unretirement or reverse retirement finds nearly 25 percent of HRS retirees return to work, and most do so within their first two years of retirement (Maestas, 2004; see also Benitez-Silva and Heiland, 2003). An unknown is the extent to which retirees re-enter the wage and salary workforce versus self-employment.

Determinants of Self-Employment

Research on the determinants of self-employment and transitions into and out of self-employment has largely focused on the work force as a whole, or younger workers in particular. In this literature, the choice of self-employment is sometimes viewed as driven by the positive benefits of being self-employed, while at other times, the argument is made that people are pushed into self-employment by poor job prospects in the wage and salary sector (Blanchflower and Oswald, 1998; Manser and Picot, 1999). In regression-based estimates, Fairlie and Meyer (1996) find that self-employment rates across detailed race and ethnic groups were positively related to the potential rates of return in the sector, suggesting that those who would gain the most were pulled into self-employment. A similar finding for women was reported by Lombard

(2001). Job autonomy, hours flexibility, and the ability to work a nonstandard work week are also factors cited as favoring the decision to be self-employed, especially for women (Devine, 2001; Hundley, 2001b; Lombard, 2001) and workers nearing retirement (Fuchs, 1982). At the same time, Evans and Leighton (1989) estimated that disadvantaged workers—especially the unemployed, lower wage workers, and those with a history of job instability—are more likely to become self-employed, a result consistent with the notion that "misfits" are pushed into self-employment. Self-employment rates have also been found to rise with increases in local or national unemployment rates, at least for some groups such as women (Simpson and Sproule, 1998; Schuetze, 2000), but this finding is not universal (see, for example, Blanchflower, 2000 and the studies cited therein).

Other factors that may affect the assessment of returns to self-employment include an individual's taste for (or aversion to) risk, given the greater uncertainty associated with earnings in self-employment (van Praag and Cramer, 2001). The self-employment literature also suggests that access to capital such as an inheritance is another determinant of self-employment, although prior research has tended to focus on younger workers (Evans and Jovanovic, 1989; Evans and Leighton, 1989; Holtz-Eakin, Joulfaian, and Rosen, 1994; Dunn and Holtz-Eakin, 1995, 2000; Blanchflower and Oswald, 1998). Experience with self-employment by other family members such as a spouse represents another form of "capital" that increases the propensity for self-employment (Bruce, 1999). Health insurance access has been shown to be another factor affecting self-employment rates in the United States, although the research evidence is mixed (Holtz-Eakin, Penrod, and Rosen, 1996; Madrian and Lefgren, 1998; Lombard, 2001; Wellington, 2001). In addition to these factors, studies have attributed movements into self-employment and changes in self-employment rates over time to other factors such as changes in technology and industrial mix, tax rates, and the generosity of Social Security benefits (Blau, 1987; Bruce, 2000, 2002; Gentry and Hubbard, 2000b; Schuetze, 2000).

Despite the importance of self-employment at older ages, the factors associated with self-employment transitions among middle-aged and older workers have not been a major focus of study. Bruce, Hotz-Eakin and Quinn (2000) and Zissimopoulos and Karoly (forthcoming-a) are two recent exceptions that rely on the HRS to examine self-employment behavior. Bruce, Holtz-Eakin, and Quinn (2000) are primarily interested in the role of health insurance in determining transitions to self-employment and find little evidence that having more portable health insurance

affects such transitions. They also find that transitions to self-employment among older workers are positively associated with the level of wealth. This suggests that liquidity constraints affect self-employment transitions for older workers as well as younger workers. Zissimopoulos and Karoly (forthcoming-a), based on an analysis of transitions to self-employment in five HRS waves (from 1992 to 2000), replicate the finding that such transitions are more likely for workers with higher wealth, especially for men. Men who have ever received an inheritance are also more likely to become self-employed. Controlling for wealth, pension coverage on the current job reduces the likelihood of becoming self-employed. While Fuchs (1982) found no relationship between health status and self-employment, Zissimopoulos and Karoly (forthcoming-a) estimate that men with a work-limiting health condition are more likely to move to self-employment after age 51. Zissimopoulos and Karoly also demonstrate that self-employment transitions for women are driven by a somewhat different set of factors than for men.

Most analyses of the correlates of self-employment, among all workers or just older workers, are based on U.S. data primarily because of the lack of similarly rich data for other countries. Most of the work on self-employment in the United Kingdom has relied on macro data or pooled cross-sections. No studies have specifically examined older, self-employed workers. A study by Black et al. (1996), using aggregate macro data, suggests that access to capital affects the supply of entrepreneurs. In the United Kingdom, small business loans are available at very low interest rates. Banks limit their exposure by requiring high collateral-to-loan ratios. Using this information, Black finds that as housing prices rise (and thus collateral availability), so does entrepreneurship. Based on a sample of young workers in their 20s from the U.K. National Child Development Study, Blanchflower and Oswald (1998) find that whether an individual ever received an inheritance increases the probability of self-employment. Other U.K. studies have focused on the relationship between unemployment and self-employment finding a negative correlation (Blanchflower and Oswald, 1990; Taylor, 1996).

Blanchflower (2000) provides one notable cross-national comparison of self-employment. The study pools cross-sectional micro data from 17 countries and confirms some of the correlates of self-employment found in U.S. data for workers of all ages. A second cross-national comparison of self-employment notes the growth in OECD countries of self-employment, and in several countries (Germany and Netherlands) at rates above the growth in

wage and salary work (OECD, 2000). Carrasco and Ejrnaes (2003) compare self-employment at all ages in Denmark and Spain. Focusing on male/female differentials, they hypothesize that the low incidence of self-employment in Denmark relative to Spain is a function of the availability of part-time wage employment and child care facilities.

3. INSTITUTIONAL DIFFERENCES RELEVANT FOR RETIREMENT BEHAVIOR IN THE UNITED STATES AND ENGLAND

Our analysis of data from the HRS and ELSA allow us to exploit institutional variation across the United States and the United Kingdom.[1] In this section, we review key differences in pension systems, disability insurance and other benefits, and health insurance—all features that are potentially relevant for understanding differences in retirement behavior differences by class of worker within and between the two countries.

Pension Systems

The United Kingdom's pension program is unusual in its mix of public and private provision, and in the opportunity for individuals to choose between these alternatives. The system is structured in two tiers. The first tier is provided publicly and consists of a flat contributory pension benefit, known as the basic state pension, which is augmented by a means-tested component. Because the benefit is unrelated to earnings, once contribution requirements are met, there is no further increase in pension entitlement from additional years of work or earnings growth. Benefits are available at the state pension ages of 60 for women and 65 for men, regardless of employment status.[2] In the mid 1990s, the basic state pension paid only about 16 percent of average male earnings and, because it is has been growing more slowly than male earnings, the percent of income it replaces has declined over time (Blundell and Johnson, 1997).

The second tier, which is mandatory for all employees with earnings above a certain floor, requires that individuals either belong to a second, public contributory program known as

[1] While ELSA covers England only, we discuss institutional and policy differences between the United States and the entire United Kingdom. We note the extent to which there are differences between England and the rest of the United Kingdom in the institutional and policy differences we document.

[2] The state pension age for women is scheduled to gradually increase to age 65 between 2010-2011 and 2020-2021.

the State Earnings Related Pension Scheme (SERPS) or else to join a private pension plan.[3] The plan can be of the defined benefit (DB) or defined contribution (DC) type, and can be individually purchased or collectively provided (e.g., by the individual's employer). Moreover, individuals can switch between these types of second tier arrangement during their working lifetime. Unlike the basic state pension, the level of benefits paid by SERPS, or its successor SSP, depends on the individual's earnings history, and thus may be affected by additional years of work. Like the basic state pension, there is no earnings test for SERPS or SSP. Membership in SERPS, for example, means that an individual can only receive benefits at the state pension age, whereas membership in a company-provided pension plan will typically allow retirement before the state pension age, quite often at age 60. In contrast, a member of an individually-purchased defined contribution plan (known as a 'Personal Pension') can annuitize at any time between ages 50 and 75.

The self-employed are entitled to the basic state pension as long as they have met the contribution requirements, but they are *not* eligible for SERPS or SSP. Since the self-employed typically do not have the option of participating in an occupational pension, they must contribute to some form of Personal Pension. Although some may have SERPS entitlement or an occupational pension entitlement from previous wage and salary work, the long-term self-employed are much less likely to face significant work disincentives through the pension system.

In contrast to the United Kingdom, the pension system in the United States features a single public pension program, known as Social Security. Although a private pension system exists alongside the public system, individuals do not have the option of participating in one or the other. While the public part of the U.K. system has a single state pension age (which is currently different for men and women), the U.S. system permits claiming of benefits at both early and full retirement ages, which are the same for both men and women. Currently, the early retirement age is 62 and the full retirement age is gradually rising from 65 to 67. The basic retirement benefit varies by work history and age at claiming, but has a progressive structure.

While U.K. workers are required to participate in a second tier of pension provision through their employers or via Personal Pensions, there is no such requirement in the United States. In practice, about 44 percent of workers are covered by an employer-provided pension, a

[3] A gradual replacement of SERPS by the State Second Pension (SSP) began in 2002. Once fully phased in, the latter will effectively be a flat top-up to the first tier basic state pension, being more generous to low earners than

declining share of which are DB plans. Participation in personal savings vehicles such as Individual Retirement Accounts is not mandatory. Prior to 2000, U.S. Social Security benefits received at any age were subject to an earnings test, but since then the earnings test applies only to benefits received between age 62 and the full retirement age. At present, the benefits of early retirees are reduced by $1 for every $2 earned above the annual limit ($11,280 in 2002). This stands in contrast to the United Kingdom where the earnings test was abolished in 1989.

Unlike the United Kingdom, the self-employed in the United States are entitled to participate in the public pension system. Thus, the retirement incentives arising through the public system are the same for both classes of workers. Because wage and salary workers are more likely to participate in employer-provided pensions, they are more likely to face additional retirement incentives arising from DB pensions, which feature early retirement ages that typically precede the Social Security early retirement age, but this fraction is gradually declining as employers steadily replace their DB pensions with DC schemes, such as 401(k) plans. Self-employed workers in the United States whose businesses are not incorporated are not eligible to participate in 401(k) plans, but may contribute to a Self-Employment Plan IRA, which has significantly higher contribution limits than 401(k) plans.

Disability Insurance and Other Benefits

In the United Kingdom, disability benefits are paid to the long-term sick and disabled through a contributory program known as Incapacity Benefit. Historically, benefits were taken-up widely by older nonworkers, and reforms in 1995 were intended to significantly tighten eligibility (Blundell and Johnson, 1997). For example, as of 2001, the incapacity benefit is means tested against private pension benefits. In the United States, disability benefits are available through the Disability Insurance (DI) program if an individual has worked during five of the past ten years, or through the means-tested Supplemental Security Income (SSI) program if they do not qualify for DI. Although DI benefits are not means-tested against assets and non-labor income, benefits are subject to an earnings test, whereby recipients who earn more than an indexed earnings ceiling ($740 per month in 2001) lose eligibility for continued benefits. DI benefits do not begin immediately following the onset of disability, but only after a five-month waiting period.

SERPS.

The presence of several other types of benefits that are explicitly targeted to and widely taken up by older individuals in the United Kingdom further distinguishes the two countries. Of special note is the U.K. mean-tested Income Support program, where beginning at age 60, eligibility no longer depends on demonstrating that one is actively seeking work. Furthermore, Income Support for pensioners was expanded through the Minimum Income Guarantee program introduced in 1999. In addition, individuals become eligible for a variety of other benefits at age 60, some of which are means tested. Examples include a housing benefit, savings credit (for people with low assets), winter fuel payments (not means tested), and a tax credit to offset local tax bills. Although the United Kingdom does not officially designate an early retirement age, the availability of other benefits and many occupational pension benefits beginning at age 60 means that age 60 functions as a de facto early retirement age for men (Blundell and Johnson, 1997). In the United States, means-tested income support is also available to the elderly beginning at age 65 through the SSI program, provided Social Security benefits are low enough.

Health Insurance

The provision of health insurance differs dramatically between the United States and the United Kingdom. Whereas publicly provided universal health insurance is available at all ages in the United Kingdom, nearly universal health insurance coverage through the Medicare program in the United States begins at age 65. Generally, individuals are fully insured by Medicare if they or their spouse has worked and paid taxes into the system for at least ten years. Eligibility extends equally to wage and salary workers and the self-employed, although the self-employed pay twice the contribution rate since they are responsible for both the employer and employee shares. Health insurance for the non-elderly is not universal in the United States, but is largely provided by employers who purchase insurance through a group insurance market. Although retirement benefits are available from Social Security as early as age 62, Medicare benefits are not available until age 65. For those without access to employer-based retiree health insurance, this can be a significant deterrent to early retirement. The self-employed, who typically do not have access to the group insurance market, can purchase health insurance on the individual market, but they do not benefit from the price advantage conferred by group risk pooling. Consequently, the non-elderly self-employed are less likely to have health insurance coverage.

Summary of Institutional Differences

In sum, the typical wage and salary worker in the United Kingdom participates in some kind of DB scheme, either through the state or an employer and faces retirement incentives associated with key retirement ages. In contrast, the typical long-term self-employed worker in the United Kingdom is enrolled in a DC scheme, with no such retirement incentives arising at key ages. Although they do participate in the first-tier of the public system, which does not allow benefit claiming until the state pension age, the benefit amount is unaffected by additional years of work and replaces a small portion of pre-retirement earnings. While the state pension age for men in the United Kingdom is 65, the availability of other types of public benefits facilitates early retirement at age 60. Because the self-employed face the same eligibility criteria for these other benefits as wage and salary workers, benefit availability is unlikely to have a differential effect on retirement patterns within the United Kingdom, but the availability of these benefits may serve to raise retirement rates relative to the United States.

In the United States, the differences in the retirement incentives faced by wage and salary workers and the self-employed are much less stark. Both classes of workers participate in a DB public pension system. Wage and salary workers are more likely to have an employer-provided DB plan as well, but participation in such plans is far from universal. As a class, the pension arrangements of wage and salary workers are becoming more and more similar to those of self-employed workers, as employers phase out DB plans in favor of DC plans.

The lack of universal health insurance coverage in the United States prior to age 65 suggests that health insurance arrangements are likely to play an important role in the United States, unlike the United Kingdom. Compared to the United Kingdom, job lock issues may be particularly important for older wage and salary workers who do not have access to retiree health insurance through their employer, causing them to delay retirement until they are at least within 18 months of turning 65 and thus eligible to continue their employer coverage until their 65th birthday. Because the self-employed typically purchase insurance on the individual market as it is, their health insurance coverage does not explicitly depend on whether they continue working, although the relatively high cost of individual health insurance may effectively prevent retirement prior to Medicare eligibility.

On balance, the differing institutional arrangements in the United States and United Kingdom suggest that retirement rates might be higher in the United Kingdom, and in both

countries, higher among wage and salary workers than among the self-employed. We expect some systematic effect of key retirement ages, perhaps most strongly for wage and salary workers in the United Kingdom, followed by wage and salary workers in the United States, and then the self-employed in the United States. Key retirement ages should affect the self-employed in the United Kingdom least of all, given their low likelihood of participating in any kind of DB pension, whether private or public although their potential participation in other public benefits makes the effect of key retirement age on self-employed workers in the United Kingdom somewhat ambiguous.

4. THE HRS AND ELSA DATA

This research is based on two longitudinal surveys in the United States and England designed to examine changes in labor force status, income, wealth and health among older individuals. The HRS, first fielded in 1992, is a U.S. sample of approximately 7,600 households (12,654 individuals) with at least one person in the birth cohorts of 1931 through 1941 (about 51 to 61 years old at the wave 1 interview in 1992). This biennial survey was integrated in 1998 with another biennial survey: The Assets and Health Dynamics of the Oldest Old (AHEAD) survey including 6,052 households (8,222 individuals) with at least one person born in 1923 or earlier (age 70 or over as of the wave 1 interview in 1993). In 1998, the HRS (HRS98) was augmented with baseline interviews for a sample from the birth cohorts of 1924 through 1930 (the Children of the Depression Era or CODA cohort) and 1942 through 1947 (the War Babies cohort), and was representative of all cohorts born in 1947 or earlier. In 2004, the sample was further augmented with the 1948 to 1953 birth cohorts (the Early Baby Boom). Data from years, 1992, 1993, 1994, 1995, 1996, 1998, 2000, 2002, 2004 are currently available, although this paper relies only on the 2002 and 2004 waves (comparable to the time period covered by ELSA).

The ELSA is modeled on the HRS and designed to facilitate cross-national analyses of aging by collecting comparable data on labor force transitions, health, wealth, and other demographic and job characteristics. The ELSA survey sample is drawn from respondents to the Health Survey for England (HSE). The HSE is a study conducted jointly by the Department of Epidemiology and Public Health, University College London, and the National Centre for Social Research, on behalf of the Department of Health. Approximately 12,000 respondents from three separate years of that survey (1998, 2000 and 2001) were recruited to provide a representative

sample of the English population aged 50 or over at baseline. Because the ELSA sampling source is the HSE, baseline data on respondents' health have been collected and were supplemented by collection of economic data in the first wave of ELSA in 2002. The second wave of data collection took place in 2004 and both waves of data are publicly available and used in this analysis. All waves are conducted using face-to-face interviews.

The ELSA survey instrument has been constructed to be as comparable as possible to the HRS within the constraints of institutional differences between the countries. As a result, direct comparisons between the surveys are possible in many domains of economic and health measures. The analysis is conducted using weighted data to account for any bias due to non-random non-response in ELSA and in the HRS, in addition, to account for over-sampling of subsamples. HRS and ELSA include the following measures central to our research: workforce status, including whether the individual is self-employed or not; pensions from current and previous jobs and private pensions including plan details such as normal and early retirement ages; household wealth including information on assets and their values; and earnings. The surveys also provide other pertinent information for the study of self-employed older workers: demographic, health, and job characteristics. For married couples, the surveys collect these data on both individuals. The following discussion focuses on the measures most important to our study. Because of the similarity in survey design, we focus on a description of the HRS data, noting notable differences with ELSA when relevant.

Labor Force Status and Class of Worker

In each wave, respondents are asked if he or she is currently working for pay (HRS) or did any paid work in the last month (ELSA). Changes in the variable "working for pay" is our primary outcome of interest in this study.[4] In terms of employment class, workers in each baseline interview are asked whether they are currently self-employed in their main job, and how long they have been self-employed (i.e., tenure on the current job). This information is updated at each subsequent interview wave. Retired workers are asked about the employment class of previous jobs. The respondents' answers are used to determine who is self-employed and length

[4] There are other data available to examine labor force transitions between waves including self-reports of retirement and labor force status. These measure, however tend to more subjective and may have different meanings across countries. Future work will examine changes in "usual hours of work per week," which may be considered objective and commonly defined across countries.

of self-employment. We explore other definitions of self-employment including self-employment in a second job, as well as part-time and full-time self-employment, as defined by report of self-employment income and as defined by reports of business ownership although results from this analysis are not included in this paper. The definition of self-employment used in this paper is based on a respondent's self-report of self-employment in a main job. From this information, we track labor force transitions as defined by working for pay or not and by transitions in class of worker (self-employed or wage and salary).

When examining the characteristics of the self-employed in the HRS and ELSA, we use the employment history information to classify the self-employed into two groups: those self-employed before age 50 versus those self-employed at or after age 50. Although we cannot measure total time in self-employed, the former group will capture those who are more likely to have been self-employed for much or all of their labor market career, while the latter group is more likely to capture those who become self-employed as part of a transition to retirement. Both surveys also provide information on employees: whether self-employed persons work with their spouse (HRS only) and/or other employees (HRS and ELSA). We use this information to classify the self-employed into those who have no other employees versus those who have other employees. We have found in prior work using the HRS that the self-employed with employees are more similar to wage and salary workers in terms of their access to benefits since they tend in be in larger businesses (Zissimopoulos and Karoly, forthcoming-b).

Household Wealth and Income

HRS has a comprehensive set of questions to measure household wealth. Assets were separated into the following eleven categories: other real estate; vehicles; business equity; IRA or Keogh accounts; stocks or mutual funds; checking, savings or money market funds; CD's, government savings bonds or treasury bills; other bonds; other assets; and other debt. Housing equity is collected separately. The HRS also provides information on inheritances including their value, source and timing, as well as expectations about anticipated inheritances. HRS has pioneered methods such as unfolding brackets (Juster and Smith, 1997) to improve the quality of wealth measures in household surveys, methods that have been adopted in ELSA. As a result of these data quality efforts, HRS is now widely regarded as providing the best measurement of wealth in household surveys that lack a high-income over-sample. In collecting income data,

similar methods are used. Household income in both surveys includes income from (self and spouse) labor earnings, capital, pensions, public programs and other sources.

Pensions

One focus of this study is how public and private pensions affect labor force transitions of older self-employed and wage workers. The surveys ask respondents if they have employer and/or private pensions, type of pension, normal and early retirement ages associated with these pensions, and their pension wealth.[5] In the HRS and ELSA, employer pensions are reported as being of a type where benefits are tied to age or years of service, "Type B," typical of DB plans or as being a DC type of plan, "Type A." In ELSA, respondents also report on private personal pensions, group personal pensions, stakeholder pensions, S226 plans (self-employed personal pension), retirement annuity pensions, and other retirement savings. For comparability of pensions in the United States and England, we classify all DC pensions in HRS and ELSA and the private pensions reported in ELSA as "Type A." In our analysis, we also use variation in age of eligibility for the public pension system in England and the United States, as detailed above, to understand labor force transitions.

Health Insurance

In prior research, as noted above, access to health insurance has been shown to be correlated with self-employment rates in the United States. In the United States, there is no universal coverage through the public system with the exception of individuals age 65 and older through Medicare. In the HRS, respondents are asked if they are covered by health insurance and type (employer, spouse's employer, government or other) and if this health insurance covers retirees, up to age 65. There is no parallel questioning in ELSA because the public health care system is universal.

[5] In estimating pension coverage, we rely on self-reported pension information. While an employer survey was fielded as part of the HRS in 1998 and again in 2004, response rates have been low. Analysis of self-reported and employer-provided pension data for the original cohort suggests a high reliability for the self-reported information (Rohwedder, 2003a, 2003b).

5. DESCRIPTIVE ANALYSIS OF SELF-EMPLOYMENT AND EMPLOYMENT TRANSITIONS

We begin our analysis of the HRS and ELSA data by tabulating, for the two countries, the characteristics of the self-employed versus their wage and salary counterparts. We also examine the characteristics for two subgroups of the self-employed (as defined above): those self-employed before age 50 versus those who became self-employed at or after age 50 and those self-employed without employees versus those self-employed with employees. For this analysis, we restrict the 2002 cross-sectional samples in the HRS and ELSA to workers who are ages 55 to 70 so we analyze the same age cohort in the two countries. We conclude this section with a descriptive analysis of employment transitions between the 2002 and 2004 HRS and ELSA survey waves.

Characteristics of the Self-Employed

Table 2 reports self-employment rates for workers age 55 to 70 in 2002 in the United States and England, in total and separately for males and females. Overall 22 percent of older U.S. workers are self-employed compared with 20 percent in England. In both countries, the self-employment rate is higher for men than for women, but the female-male gap in the relative odds of being self-employed is smaller for U.S. women compared with their English counterparts.

Table 2 also shows differences in the composition of the self-employed for the two countries, in total and by gender, where the self-employed are classified by age of self-employment and by the nature of self-employment. In the United States, a higher share of the self-employed is self-employed before age 50 (as opposed to at or after age 50) compared with workers in England (68 versus 57 percent). Men are more likely to be longer-term self-employed in both countries, but as with self-employment rates overall, the male-female gap in age of self-employment is smaller in the United States than it is in England. The composition of the self-employed, defined in terms of the presence of employees, is considerably different in the United States and England. Whereas 61 percent of the U.S. self-employed are in businesses with employees (other than their spouse), that figure is just 20 percent in England. Self-employed men are more likely to have employees in both countries, but the female-male gap is higher in

the United States, in part because the fraction with employees is so much lower in England, for both men and women.

To explore differences in the characteristics of self-employed workers, Table 3 provides tabulations of several key demographic and economic variables for the HRS and ELSA samples, first for wage and salary workers versus the self-employed, and then for subgroups of the self-employed defined by age of self-employment and by presence of employees. The characteristics include the proportion male, married, foreign born, and working part time; and the distribution by age group, self-reported health status, and quartiles of income and wealth (where the quartiles are defined separately for the entire HRS and ELSA samples). A comparison of the two countries overall (tabulations not shown) indicates that, compared with workers in England age 50 to 70, workers in the U.S. in the same age range are less likely to be male, married, or working part time. They are somewhat more likely to be foreign born and considerably more likely to self-report that they are in "excellent" health. They are on average older and drawn from families with higher income but not higher wealth.

For both the United States and England, compared with wage and salary workers, the self-employed are more likely to be male and distributed toward older ages. While the U.S. self-employed are somewhat more likely to be married and foreign born compared with their wage and salary counterparts, the reverse is true for England. A higher fraction of U.S. self-employed workers self-report that their health is "excellent" compared with U.S. wage and salary workers, yet self-reported health status varies little between self-employed and wage and salary workers in England. U.S. self-employed workers are also considerably more likely to work part time compared with wage and salary workers (32 versus 17 percent), whereas the share working part time is identical (35 percent) for the two groups of workers in England. Finally, the self-employed in the U.S. are distributed toward the higher end of the income and wealth distribution compared with wage and salary workers. In England, this relationship also holds for the wealth of the self-employed but not their income.

Looking at subgroups of the self-employed, the patterns are generally similar across the two countries. Compared with those who became self-employed at or after age 50, those who were self-employed before age 50 in both the United States and England are more likely to be male, older, and drawn from the highest quartile of the income and wealth distributions. They are also less likely to be working part-time. Neither being foreign born nor self-reported health

status varies much between these two groups in either country. One difference that stands out is that the longer-term self-employed in England are considerably more likely to be married—80 percent for those self-employed before age 50 versus 65 percent for those self-employed at or after age 50—whereas the share is identical for those two groups in the United States (at 75 percent).

In both countries, the self-employed with employees, in contrast with those without employees, share many of the same characteristics as those self-employed before age 50. One pattern that differs is that the self-employed with employees in the United States are more likely to be married compared with their counterparts without employees (86 versus 59 percent), while marital status is unrelated to the presence of employees among the self-employed in England. Another difference is that age is unrelated the presence of employees in both countries. Finally, the self-employed with employees in the United States are less likely to be foreign born compared with the self-employed without employees, while the reverse is true for the self-employed in England.

Given the institutional differences between the United States and England, we might expect differences in access to pension coverage in the two countries, as well as variation in the type of pension coverage and the associated behavioral incentives. Table 4 shows the pension coverage rate on the current job for wage and salary and self-employed workers in the two countries, as well as for all workers.[6] Overall, the pension coverage rate is somewhat higher for England compared with the United States: 57 versus 53 percent. The contrast is much sharper, however, by class of worker. While 39 percent of the self-employed in England are covered by a pension on the current job, that rate is just 12 percent for the self-employed in the United States. For those with a pension, the self-employed in the United States are more likely to report that they have coverage through a DB plan (22 percent in the United States compared with 3 percent in England) or to not know the plan type (13 percent versus 1 percent). In England, 96 percent of the self-employed with a pension report that it is a DC plan.

Figures 1 to 6 illustrate the variation across countries for all workers, and separately for workers by employment class, in the normal retirement age (NRA) and early retirement age (ERA) associated with their employment-based pension plan. Figure 1 shows the distribution of the NRA for all workers in the two countries, while Figure 2 illustrates the distribution of the

[6] The pension plan variables are defined for the first pension described by the respondent.

ERA for all workers. Nearly 60 percent of workers in England face an NRA of 65, while the NRA is 60 for nearly all other workers. (Less than 5 percent of English workers report an NRA other than age 60 or 65). In contrast, the NRA for U.S. workers is concentrated at four points in ascending order of frequency: ages 60 (8 percent), 55 (12 percent), 62 (24 percent), and 65 (26 percent). The other 30 percent are distributed among the other ages and in a category that reports they do not know the NRA (6 percent). Variation is evident as well in the ERA as shown in Figure 2. Again, most English workers are concentrated in a few ages in ascending order of frequency: ages 50 (23 percent), 55 (27 percent), and 60 (39 percent). Modal points in the ERA distribution for U.S. workers include ages 55 (22 percent) and 62 (25 percent).

The distribution of the NRA and ERA for the two countries are shown separately for wage and salary workers (Figures 3 and 4) and self-employed workers (Figures 5 and 6). In general, the pension retirement ages for English workers in either class are concentrated at ages 60 and 65 for the NRA and 50, 55, and 60 for the ERA. The NRA and ERA distributions remain more dispersed across multiple ages for both types of U.S. workers. However, the NRA is more likely to be at age 65 for English wage and salary workers but at age 60 for the English self-employed. Among English workers, the ERA is concentrated at age 55 for the self-employed but at age 60 for wage and salary workers. The differences in the NRA and ERA distributions are less striking for U.S. workers differentiated by employment class.

Transitions to and from Self-Employment

The longitudinal aspect of the HRS and ELSA data is used in Table 5 to explore the transitions in employment status and class of worker that occur between the 2002 and 2004 survey waves. Workers in the two surveys are classified at time *t* into three mutually exclusive and exhaustive categories: being a wage and salary worker, being self-employed, or not working (the rows of Table 5). The same three categories are defined for time *t+2* as of the next survey wave, two years later (the columns of Table 5). Results are shown first for all workers and then separately for men and women. The top panel reports results for the United States and the bottom panel for England.

Focusing first on the United States results (Table 5, panel a), about 78 percent of wage and salary workers remain in the same status two year later. That share is 75 percent for the self-employed and 94 percent for those not working. Among wage and salary workers, 3 percent

transition to self-employment over the two-year horizon, while 19 percent transition to not working, or what we refer to as retirement. Compared with wage and salary workers, a higher fraction of the self-employed in the United States switch employment classes (7 percent move to wage and salary employment) and a similar fraction (18 percent) move to retirement. These transition rates are quite similar for all workers in England (Table 5, panel b). A comparison of the transition rates for men versus women in the two countries shows that men are more likely than women to move from wage and salary work to self-employment, but only in the United States.

Figure 7 considers the age pattern in the transition to retirement (the category labeled "not working" in Table 5), for workers in the United States and England defined by employment class at time *t* (i.e., 2002). The age categories, defined as of time *t+2* (i.e., 2004), are grouped into two-year intervals (with the exception of age 64) to reduce some of the noise in the age pattern because of small cell sizes in single-year age groups. As seen in Figure 7, the likelihood of moving to retirement generally increases with age in each country for both wage and salary and self-employed workers. In England (lines plotted with solid lines and open symbols), the transition rates are higher at each age for wage and salary workers compared with their U.S. counterparts, and, in most cases, the transition rates are higher at each age for the self-employed too. For both countries, the transition rates to retirement are higher (or the same in the case of the United States) at each age for wage and salary workers compared with the self-employed. With the exception of U.S. self-employed workers, there is a discrete jump in the transition rate for those reaching age 65 or 66 by *t+2*. This is the group that turned 65 at some point during the interval. This jump is considerably larger for workers in either class in England compared with the United States. In the next section, we further explore those factors that can explain the differences in the age pattern of retirement transitions between the two countries and two types of workers.

6. REGRESSION ANALYSIS OF RETIREMENT TRANSITIONS

We model the probability of exiting the labor force (defined as not working for pay) in survey wave 2004 for four groups of workers working for pay in 2002: self-employed workers in the United States, wage and salary workers in the United States, self-employed workers in England, wage and salary workers in England. We pool all workers and the model is fully

interacted with indicators for country and class of worker. Our focus is on how age eligibility for public benefits affects the probability of exiting the labor force. To allow for a flexible age structure and for slope and intercepts shifts at the age of early and standard eligibility for public pensions we include in the model age entered linearly and squared, an indicator for eligibility for early benefits, an indicator for eligibility for benefits at the standard age and interactions of these indicator variables with age and age-squared.

In the United States, the age of eligibility for early and reduced public old age pension benefits is 62 and the age a worker may begin collecting standard benefits is 65. Another important benefit that becomes available at age 65 is health insurance coverage through the Medicare program. This eligibility may be particularly important for self-employed workers who may delay retirement until access to this benefit. Among wage and salary workers under the age of 65, 36 percent have employer provided health insurance, another 38 percent have employer provided insurance with retiree benefits until age 65, and 22 percent have insurance provided through a spouse's employer or some other source (including public sources) and no retiree benefits. Among self-employed workers under the age of 65, fewer have these benefits: 28 percent have insurance through their work, and another 7 percent also have retiree benefits, and 52 percent have insurance through another source including one's spouse and publicly provided sources. In the model we include indicator variables for these three types of insurance for workers under age 65: employer provided without retiree, employer provided with retiree benefits, and other insurance. We also interact these insurance types with the indicator for eligibility for age 65 benefits.

In England, we follow the conventional wisdom that for all practical purposes, the age of eligibility for early old age public pension benefits is age 60 for female and male workers and the standard age of eligibility is 65 for male workers. As described earlier, age 60 is not an official age for early benefits for male workers but in practice, there are many paths for early retirement through the public system at age 60.

Our underlying assumption is that workers in the United States and England have similar preferences for work and leisure. We control for many difference between workers in the U.S and England and between classes of worker (self-employed or wage and salary) that prior research has found and theory indicated effects the likelihood of exiting the labor force: sex, marital status, self-reported health status, financial and housing wealth and total household

income, having private pension benefits and type of benefit and for U.S. workers, health insurance and access to retiree health insurance before age 65 through an employer (described above). In the model, wealth and income are entered as interacted quartiles, with the second and third quartiles combined and are country specific. We include indictor variables for if the worker has a private or employer pension, and if the type is defined benefit, whether they are not yet eligible, eligible for early benefits, or eligible for standard benefits at the normal retirement age. Some employer-provided pensions have normal and early retirement ages at the ages corresponding to the public pension age of entitlement. We do not exploit the variation in private pension entitlement ages in the current model.

Public Pensions and Health Insurance

Figure 8 shows the predicted percentage of workers exiting the labor force from ages 56 to 70 based on a ordinary least squares model. All other covariates listed above are included in the model and are held at their mean values with indicators for early and standard eligibility taking on the value of one at the appropriate ages. Based on a multivariate model, we find that wage and salary workers exit the labor force in 2004, conditional on working in 2002 at higher rates than self-employed workers in both countries. We expect that in England, the self-employed would be less responsive to entitlement ages of 60 and 65 than wage and salary workers because they are not eligible for the 2nd tier benefits and the replacement rates of 1st tier benefits are small. Recall that for both tiers, eligibility ages are 60 and 65. Furthermore, wage and salary workers who opt out of the second tier often have employer provided DB plans with early and normal retirement ages of 60 and 65. In England, the percentage of wage and salary workers exiting the labor force increases from 0.18 to 0.36 at the early retirement age of 60 (including 61 because of the two year gap between survey waves, workers in 2004 that are 61 would have become eligible over the waves). The slope is flatter from the ages of 62 through 64 and then rates of exit increase sharply at the standard age of retirement for males to 0.62. The percentage of self-employed workers exiting the labor force in England is fairly constant from ages 56 to 61, increasing from 0.22 to 0.25. The percentage exiting begins to increase after age 61 to 0.36 at age 64 and then increases more sharply at age 65 to 0.50. The labor force response of self-employed workers in England to the early and standard retirement ages is less than that for wage and salary workers. Indeed, likelihood ratio tests using logistic regression reject the

null-hypothesis that the coefficients on the standard age of eligibility are zero for wage and salary workers but cannot reject the null for self-employed workers. The null is rejected for wage and salary workers for age of early benefits at the 10 percent significance level by not for self-employed workers. Thus our results support our hypothesis that wage and salary workers have larger responses to the age incentive built into the public pension system.

Overall, workers in the United States exit the labor force at lower rates the workers in England conditional on working two years before. We attribute this to the overall generosity of the public benefit system in the United Kingdom. In the United States, self-employed and wage and salary workers are part of the same the old age pension system unlike in England where the self-employed are not part of the 2nd tier of the system. In the United States, however, the standard eligibility age for pension benefits coincides with the age for public coverage of health insurance through Medicare. This may be a particularly important benefit for self-employed workers who do not have access to retiree health insurance benefits through an employer before the age of 65. In the model, we include an interaction with eligible for age-65 benefits and type (if any) of health insurance benefits in 2002. For example, workers without health insurance benefits will not have any particular incentive to wait until age 65 to retire relative to those with health insurance. Thus while we expect the effect of eligibility for pension benefits to be more similar in the United States for self-employed and wage and salary workers than in England, we may expect that differences between wage and salary workers and self-employed workers in health insurance coverage may generate a stronger effect for self-employed workers at age 65. The age-pattern of exits from the labor force is similar for both classes of workers although at all ages, wage and salary workers exit the labor force at higher rates than self-employed workers. The percentage of workers exiting the labor force rises slowly for wages and salary workers from 0.15 at age 56 to 0.20 at age 61 and then jumps slightly at the age of early eligibility to 0.25. The percentage of workers exiting the labor force rises from 0.05 at age 56 to 0.14 at age 61 for self-employed workers and increases only slightly at age 62 to 0.16. For both class of workers the percentage increases at age 65 to 0.28 for wage and salary workers and 0.18 for self-employed workers. Likelihood ratio tests reject the null that the coefficients on age of standard eligibility for wage and salary workers is zero but does not so for self-employed workers or for either class of worker at the early entitlement age.

The effect for access to health insurance benefits either through a spouse or as retiree benefits increases the percentage of self-employed workers in the United States exiting the labor force. We test for the joint-significance of health insurance before age 65 and find the coefficients are jointly significant for self-employed workers but not wage and salary workers. We graph the effects of access to retiree health insurance benefits for self-employed and wage and salary workers in Figure 9 with the following other characteristics: male, married, good health, income and wealth in the second and third quartiles and no private pension. The effect of retiree health insurance is to increase the predicted percentage of self-employed workers not working at each age 64 and younger above the probability for wage and salary workers. Until age 62, the predicted percentage of workers exiting the labor force look similar for both classes of workers in the United States and in England (Figure 9).

Private Personal and Employer Provided Pensions

Private pensions, particularly those that are defined benefit, are likely to influence the age at which a worker chooses to retire. Defined contribution plans are characterized by a lack of incentive to retire at particular ages. Approximately one-half of all wage and salary workers in the United States and England have a defined benefit pension plan through an employer. In contrast, almost no self-employed workers have defined benefit pension plans through a current job. In England, however, just under half of all self-employed workers have a defined contribution plan while in the United States, under ten percent of self-employed workers have a private pension plan. We use this variation between self-employed and wage and salary workers and workers in the United States and England to examine the extent to which private pensions, and eligibility of early and standard retirement ages of defined benefit pensions affect a worker's decision to exit the labor force in the United States and England.

For all workers, having a private pension (of any type) is negatively associated with exits from the labor force. For wage and salary workers in England, the effect is almost twice as big as for wage workers in the United States. To assist in interpreting the level effect of private pensions on workers in the United States and England and by class of worker, we graph the predicted percentage of workers exiting the labor force for male, married workers with health insurance on the current job (but no retiree benefits), good health and income and wealth in the second and third quartiles and no private pension and then for the same type of workers with

private pensions (self-employed) and for wage workers now eligible for standard benefits. We find that the difference in the percentage exiting the labor force for wage and salary workers and self-employed workers in the United States is very small when we control for type of worker (male, married etc) and constrain workers to have no private pensions but that there is little difference for workers in England (Figure 10). The level of effect of having any private pension (DC for self-employed) serves to decreases the probability of exiting the labor force for all workers but being eligible for a defined benefit pension in the United States and England and a large positive effect on the probability of exiting the labor force for wage and salary workers in both countries (Figure 11). Future work will incorporate age of eligible for normal and early private pension benefits into the model.

7. CONCLUSIONS

The differing institutional arrangements in the United States and United Kingdom suggest that retirement rates might be higher in the United Kingdom, and in both countries, higher among wage and salary workers than among the self-employed. Our regression results support this hypothesis. We expected some systematic effects of key retirement ages, most strongly for wage and salary workers in the United Kingdom, followed by wage and salary workers in the United States, and then the self-employed in the United States. Indeed, our results support the hypothesis that wage and salary workers in England respond strongly to retirement incentives provided by key retirement ages in the public system as do wage and salary workers in the United States. Statistical tests of pension incentive for self-employed workers in the England and the United States did not reject the null that the coefficients were jointly zero.

In the United States, health insurance coverage is important for understanding differences in the probability a self-employed worker and a wage and salary worker exits the labor force. We find that having access to health insurance through a spouse or having retiree benefits, which few self-employed workers have, increases the probability of exiting the labor force and when applied to self-employed workers, their rates of exit are at or above those of wage and salary workers.

In addition, being eligible for private, defined benefit pension plan, almost exclusively a characteristic of wage and salary workers in both countries, serves to exacerbate the difference in

rates of exit from the labor force in the United States and England. Movement away from DB plans to DC plans suggest that wage and salary workers in both countries may begin to look more like self-employed workers in terms of rates of labor force participation at older ages.

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Table 1—Rates of Self-Employment among Older Workers by Age in 12 Countries
(percentage)

	Age group			
Country	50 to 55	56 to 59	60 to 64	65 and above
Austria	16.1	19.9	35.1	50.4
Denmark	8.0	11.8	17.9	25.9
England	16.4	16.6	20.0	39.9
France	12.4	10.8	22.2	47.3
Germany	14.3	14.7	19.9	38.1
Greece	36.1	40.2	50.1	61.6
Italy	29.6	36.4	58.0	71.5
Netherlands	12.5	11.7	30.2	43.7
Spain	26.3	33.1	28.5	68.0
Sweden	13.3	11.5	14.5	36.2
Switzerland	17.8	24.4	33.0	59.1
United States	18.6	18.5	22.8	36.5

NOTE: Response rates differ across the SHARE countries. The rate is especially low in Switzerland (38 percent) so the figures for that country should be interpreted with caution. Percentages have been calculated using HRS, ELSA, and SHARE sampling weights.

SOURCE: Authors' calculations using HRS 2002 and wave 1 of ELSA and SHARE.

Table 2—Rates of Self-Employment and Distribution by Self-Employment Category in the HRS and ELSA
(percentage)

			Self-employed			
	All workers		By age of self-employment		By presence of employees	
County and subgroup	Wage and salary	Self-employed	Before age 50	At or after age 50	Without employees	With employees
United States	78.1	21.9	67.8	32.2	38.9	61.1
Males	73.4	26.6	69.8	30.2	18.1	81.9
Females	83.2	16.8	64.1	35.9	48.6	51.4
England	80.3	19.7	56.9	43.1	80.2	19.8
Males	75.4	24.6	60.0	40.0	78.9	21.1
Females	86.7	13.3	49.7	50.3	83.1	16.9

NOTE: Sample is individuals age 55 to 70. Sample for HRS is 4,491 and ELSA is 2,349. Percentages have been calculated using HRS and ELSA sampling weights.

SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

Table 3—Worker Characteristics by Employment Class and Self-Employment Category in the HRS and ELSA
(percent distribution)

	United States						England					
			Self-employed						Self-employed			
	All workers		By age of self-employment		By presence of employees		All workers		By age of self-employment		By presence of employees	
Characteristic	Wage and salary	Self-employed	Before age 50	At or after age 50	Without employees	With employees	Wage and salary	Self-employed	Before age 50	At or after age 50	Without employees	With employees
Male	49.5	63.8	65.9	59.9	54.6	69.3	52.7	70.3	73.8	65.1	68.4	74.0
Age group												
51 to 59	54.6	43.4	47.2	36.3	43.8	44.0	62.6	51.0	55.4	44.8	50.5	54.3
60 to 61	16.3	14.5	14.3	15.0	15.4	13.9	14.0	12.5	13.9	10.6	12.2	11.7
62 to 64	13.9	17.2	17.1	17.5	15.7	17.2	14.5	16.6	16.6	17.3	17.2	16.1
65 to 70	15.3	25.0	21.4	31.1	25.0	25.0	8.9	20.0	14.2	27.3	20.1	18.0
Married	70.5	74.7	75.4	75.1	59.4	84.6	77.0	74.1	80.1	65.2	75.1	75.7
Foreign born	8.3	8.9	8.8	9.4	10.6	7.3	6.5	6.2	6.5	6.2	4.9	8.8
Health status												
Excellent	17.1	25.3	26.5	23.4	23.1	26.6	9.0	10.9	9.8	12.3	10.9	7.6
Very good	38.0	34.7	33.5	38.0	34.7	35.4	34.3	36.7	36.3	37.4	37.5	34.0
Good	31.8	29.0	29.6	27.9	31.0	27.2	39.5	37.4	39.5	34.3	36.0	44.6
Fair	11.3	9.6	8.8	10.0	9.5	9.5	15.2	13.3	13.6	13.1	13.5	13.8
Poor	1.8	1.4	1.6	0.7	1.6	1.3	2.0	1.7	0.7	3.0	2.1	0.0
Works part time	17.1	32.1	26.7	42.1	45.2	23.7	35.1	35.2	26.7	46.5	38.6	20.4

Table 3—Continued
(percent distribution)

Characteristic	United States						England					
	All workers		Self-employed				All workers		Self-employed			
			By age of self-employment		By presence of employees				By age of self-employment		By presence of employees	
	Wage and salary	Self-employed	Before age 50	At or after age 50	Without employees	With employees	Wage and salary	Self-employed	Before age 50	At or after age 50	Without employees	With employees
Income												
Quartile 1 (low)	6.7	10.6	9.4	11.1	13.4	8.8	7.0	12.7	11.2	14.0	13.5	9.8
Quartile 2	15.8	11.8	9.8	16.0	15.6	9.2	15.1	17.5	17.5	16.5	17.7	16.2
Quartile 3	30.5	21.0	19.5	24.2	24.3	19.3	33.0	27.3	25.2	30.0	32.4	12.7
Quartile 4 (high)	47.0	56.7	61.3	48.7	46.6	62.7	44.9	42.6	46.2	39.5	36.3	61.3
Wealth												
Quartile 1 (low)	20.0	11.5	8.8	16.1	17.3	7.7	15.8	8.7	8.0	8.0	9.7	4.3
Quartile 2	28.4	13.4	11.3	17.1	16.7	11.7	26.6	16.8	15.3	19.0	21.0	3.9
Quartile 3	27.9	25.8	24.6	28.7	29.8	23.2	29.1	25.8	23.5	28.9	25.1	30.0
Quartile 4 (high)	23.7	49.3	55.4	38.2	36.1	57.3	28.5	48.7	53.2	44.1	44.2	61.8
Sample size (N)	3,484	1,007	342	652	606	374	1,889	460	200	252	81	331

NOTE: Sample is individuals age 55 to 70. Percentages have been calculated using HRS and ELSA sampling weights.
SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

Table 4—Pension Coverage by Employment Class and Self-Employment Category in the HRS and ELSA
(percent distribution)

	United States			England		
	By employment class			By employment class		
Pension measure	Wage and salary	Self-employed	Total	Wage and salary	Self-employed	Total
Has pension on current job	63.8	12.2	52.5	60.8	39.3	56.5
Pension type given that have a pension						
Defined benefit	51.1	21.5	49.6	48.1	3.0	41.8
Defined contribution	45.7	65.7	46.7	44.3	96.3	51.4
Don't know	3.3	12.8	3.8	7.6	0.7	6.7
Sample size (N)	3,450	997	4,450	1,881	458	2,352

NOTE: Sample is individuals age 55 to 70. Percentages have been calculated using HRS and ELSA sampling weights.
SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

Table 5—Employment Transitions for Men and Women in the HRS and ELSA

	Status at time *t+2*								
	All			Men			Women		
Status at time *t*	Wage and salary	Self-employed	Not working	Wage and salary	Self-employed	Not working	Wage and salary	Self-employed	Not working
a. United States									
Wage and salary	78.1	3.4	18.5	77.4	4.6	18.1	78.8	2.2	18.9
Self-employed	6.8	74.9	18.4	5.8	77.6	16.6	8.5	70.1	21.5
Not working	3.5	2.2	94.3	4.1	3.1	92.7	3.2	1.5	95.3
b. England									
Wage and salary	79.3	2.1	18.6	80.4	2.2	17.4	78.2	1.9	19.9
Self-employed	5.3	75.2	19.6	4.8	78.2	17.1	6.3	68.9	24.8
Not working	2.5	0.8	96.8	2.5	1.1	96.4	2.4	0.6	97.0

NOTES: Percentages have been calculated using HRS and ELSA sampling weights. Sample size is 9,186 for HRS and 4,700 for ELSA.
SOURCE: Authors' calculations using the 2002 and 2004 waves of HRS and ELSA.

Table 6—Regression Results for Transition to Retirement in the HRS and ELSA, Fully Interacted Model by Employment Class and Country

	United States		England	
Covariate [reference group]	Self-employed	Wage and salary	Self-employed	Wage and salary
Class of worker and country intercept	14.613	5.016	5.225	11.425
	(11.234)	(4.797)	(16.315)	(7.102)
Male	-0.029	-0.001	-0.050	-0.046***
	(0.024)	(0.013)	(0.038)	(0.016)
Married	0.021	0.003	0.047	0.014
	(0.028)	(0.015)	(0.037)	(0.018)
Age	-0.516	-0.175	-0.177	-0.417
	(0.392)	(0.168)	(0.587)	(0.256)
Age squared	0.005	0.002	0.002	0.004*
	(0.003)	(0.001)	(0.005)	(0.002)
Health status [Good or fair]				
Excellent or very good	-0.028	-0.029**	-0.047	-0.050***
	(0.025)	(0.014)	(0.033)	(0.016)
Poor	0.067*	0.043**	0.098**	0.086***
	(0.036)	(0.020)	(0.048)	(0.021)
Wealth and income quartile interactions [Wealth Q2+Q3, Income Q2+Q3]				
Wealth Q1, Income Q1	0.243***	0.068**	0.022	0.083**
	(0.062)	(0.034)	(0.092)	(0.041)
Wealth Q1, Income Q2+Q3	0.025	-0.030	-0.011	-0.034
	(0.053)	(0.020)	(0.074)	(0.027)
Wealth Q1, Income Q4	0.058	-0.126***	-0.285**	-0.039
	(0.093)	(0.042)	(0.144)	(0.044)
Wealth Q2+Q3, Income Q1	0.066	-0.018	0.053	0.093**
	(0.054)	(0.035)	(0.069)	(0.041)
Wealth Q2+Q3, Income Q4	-0.077**	-0.023	-0.038	-0.007
	(0.036)	(0.018)	(0.051)	(0.021)
Wealth Q4, Income Q1	-0.115	0.028	0.041	0.020
	(0.093)	(0.114)	(0.080)	(0.066)
Wealth Q4, Income Q2+Q3	-0.061	0.020	-0.106**	0.022
	(0.042)	(0.029)	(0.051)	(0.032)
Wealth Q4, Income Q4	-0.084***	-0.048**	-0.017	-0.006
	(0.031)	(0.019)	(0.043)	(0.022)
Pension on current job				
Has private pension	-0.082**	-0.056***	-0.134***	-0.107***
	(0.041)	(0.016)	(0.035)	(0.019)
DB, not yet eligible		-0.034		-0.039
		(0.027)		(0.033)
DB, reached early eligibility age		0.026		0.034
		(0.027)		(0.022)
DB, reached standard eligibility age		0.126***		0.079**
		(0.029)		(0.035)

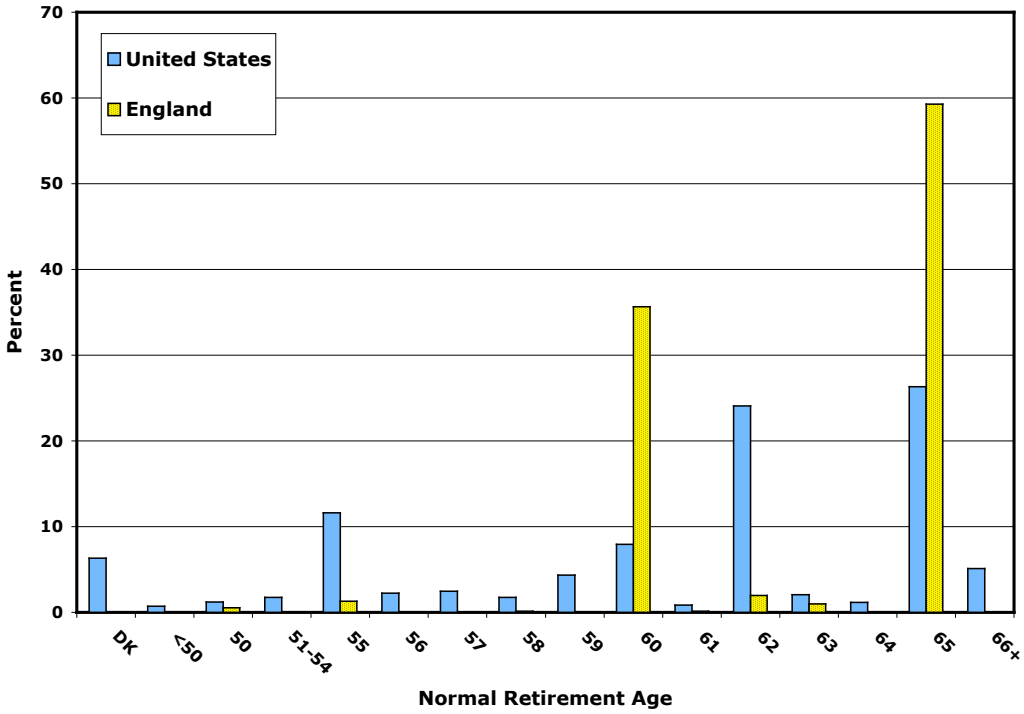
Table 6—Continued

Covariate (reference group)	United States		England	
	Self-employed	Wage and salary	Self-employed	Wage and salary
Public insurance program				
Reached early eligibility age	-48.341	4.909	-9.900	-14.616**
	(212.361)	(110.683)	(16.748)	(7.219)
Early eligibility age * age	1.610	-0.108	0.310	0.505*
	(6.744)	(3.516)	(0.597)	(0.258)
Early eligibility age * age squared	-0.013	0.000	-0.002	-0.004*
	(0.054)	(0.028)	(0.005)	(0.002)
Reached standard eligibility age	33.002	-7.685	11.383	10.466**
	(212.044)	(110.608)	(6.920)	(4.921)
Standard eligibility age * age	-1.077	0.226	-0.310	-0.285**
	(6.731)	(3.512)	(0.193)	(0.137)
Standard eligibility age * age squared	0.009	-0.002	0.002	0.002**
	(0.053)	(0.028)	(0.001)	(0.001)
Health insurance for those less than 65 [no health insurance]				
Employer HI, without RHB	0.045	-0.025		
	(0.053)	(0.028)		
Employer HI, with RHB	0.166**	0.019		
	(0.076)	(0.030)		
Other HI	0.131***	0.022		
	(0.048)	(0.028)		
Health insurance, for those age 65+ [no health insurance]				
Employer HI, without RHB	-0.018	-0.029		
	(0.035)	(0.023)		
Employer HI, with RHB	-0.041	0.099**		
	(0.116)	(0.043)		
Other HI	0.080	0.033		
	(0.054)	(0.034)		

NOTES: Results based on fully interacted model. Sample size is 8.989. Model R-squared is 0.315. Indicates coefficient is statistically significant at the ***1 percent, **5 percent, and *10 percent level.

SOURCE: Authors' calculations using the 2002 and 2004 waves of HRS and ELSA.

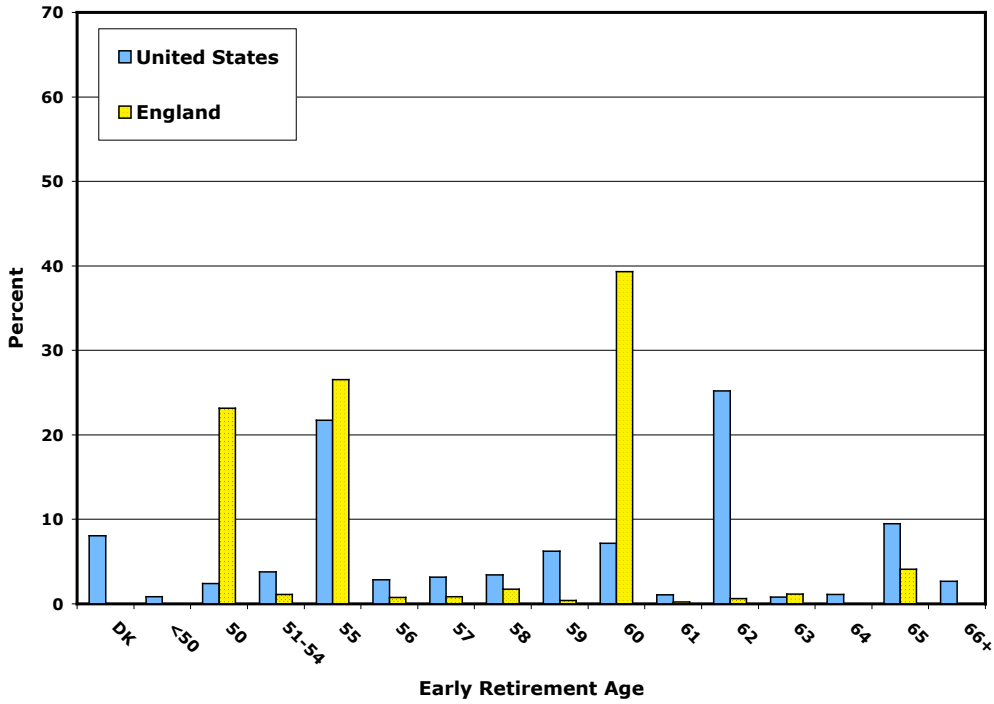
Figure 1—Pension Plan NRA for All Workers in the HRS and ELSA



NOTE: Sample is individuals age 55 to 70. Percentages have been calculated using HRS and ELSA sampling weights. DK=don't know.

SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

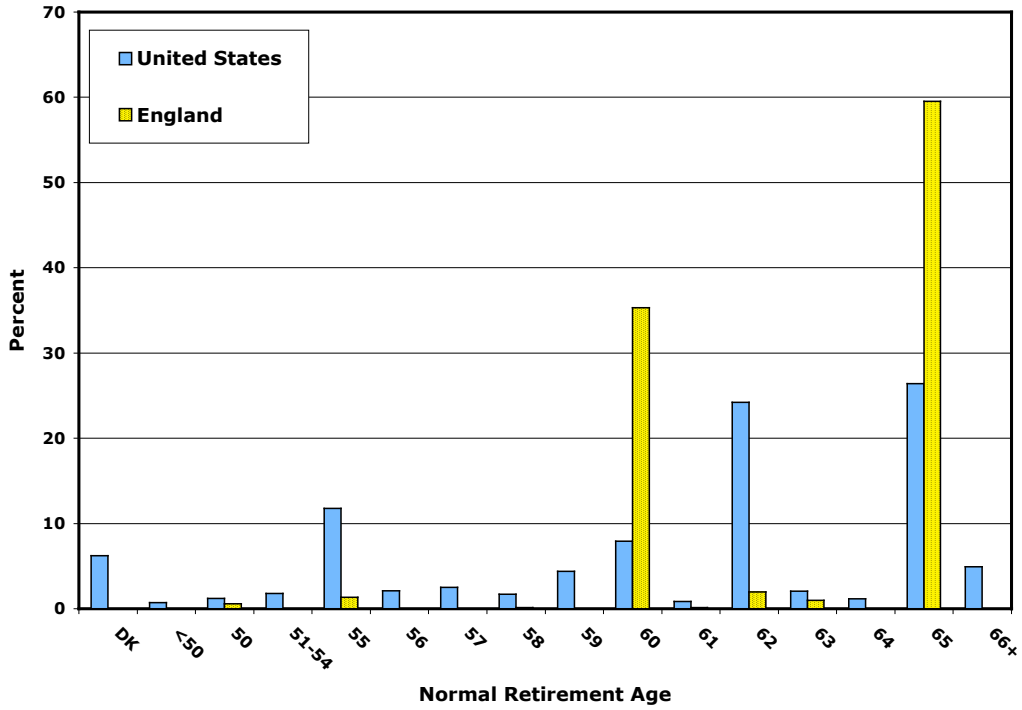
Figure 2—Pension Plan ERA for All Workers in the HRS and ELSA



NOTE: Sample is individuals age 55 to 70. DK=don't know. Percentages have been calculated using HRS and ELSA sampling weights.

SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

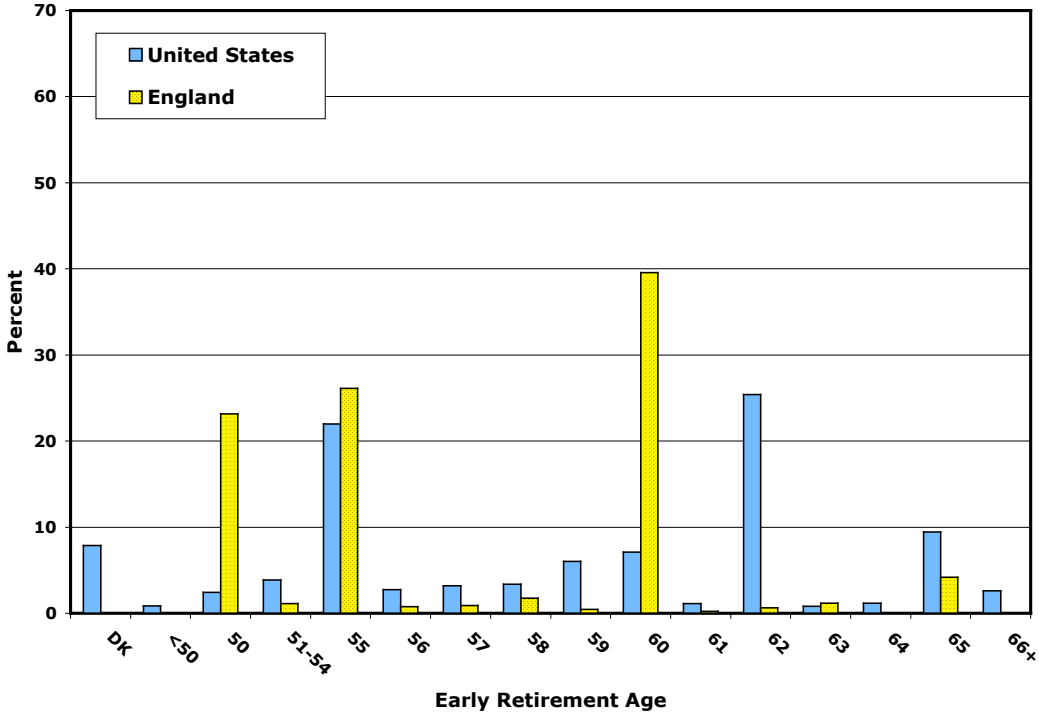
Figure 3—Pension Plan NRA for Wage and Salary Workers in the HRS and ELSA



NOTE: Sample is individuals age 55 to 70. Percentages have been calculated using HRS and ELSA sampling weights. DK=don't know.

SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

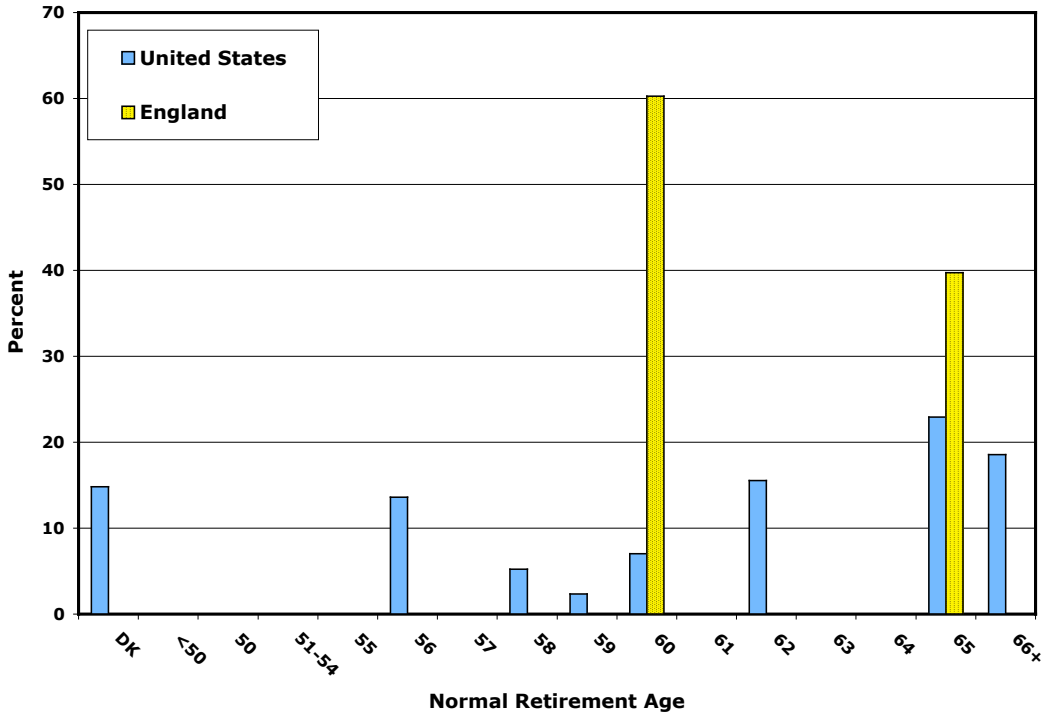
Figure 4—Pension Plan ERA for Wage and Salary Workers in the HRS and ELSA



NOTE: Sample is individuals age 55 to 70. Percentages have been calculated using HRS and ELSA sampling weights. DK=don't know.

SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

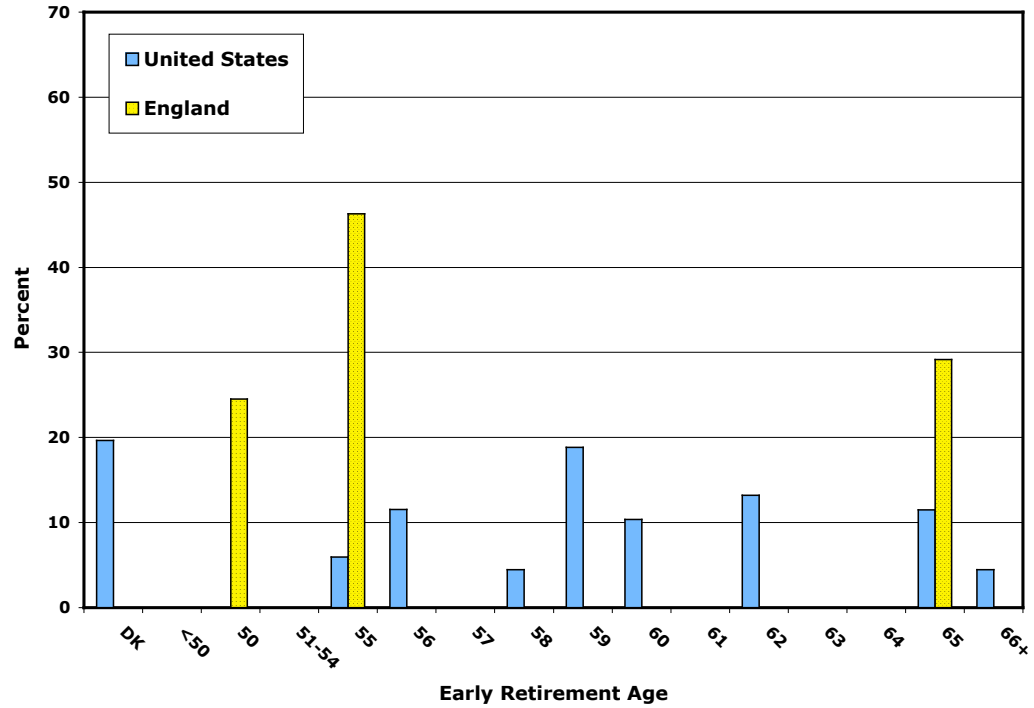
Figure 5—Pension Plan NRA for Self-Employed Workers in the HRS and ELSA



NOTE: Sample is individuals age 55 to 70. Percentages have been calculated using HRS and ELSA sampling weights. DK=don't know.

SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

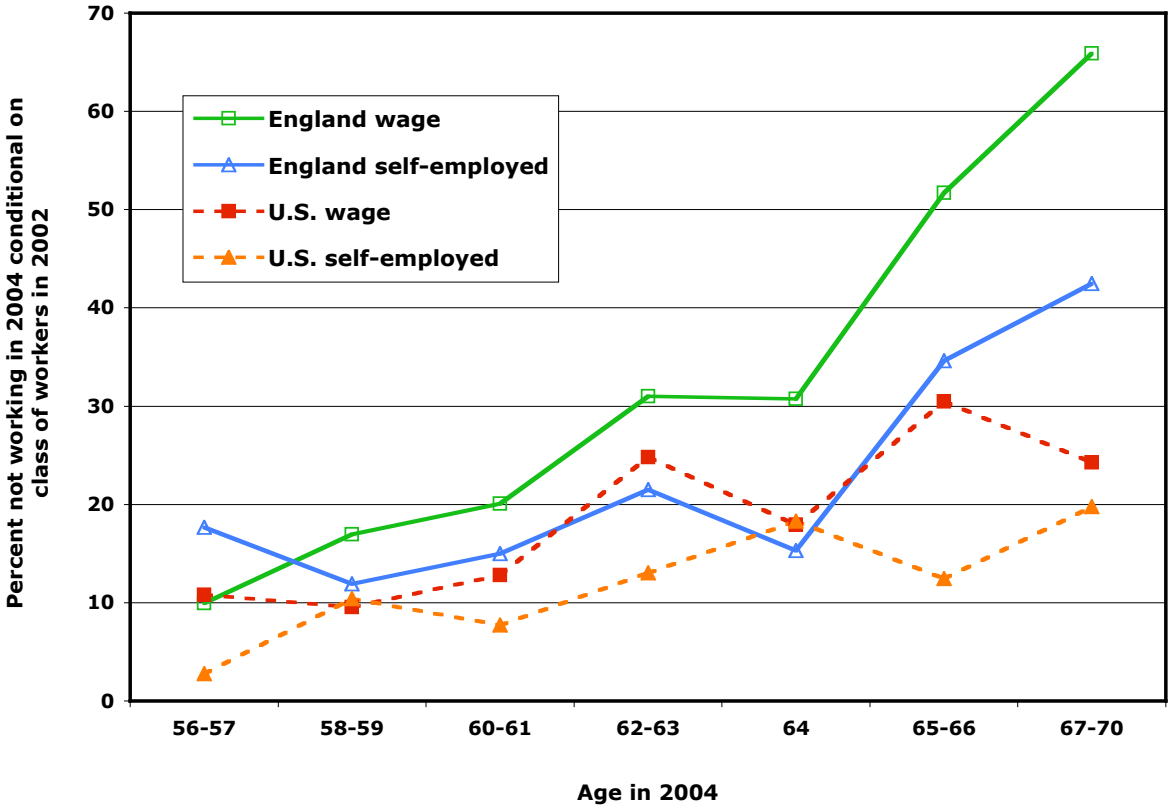
Figure 6—Pension Plan ERA for Self-Employed Workers in the HRS and ELSA



NOTE: Sample is individuals age 55 to 70. Percentages have been calculated using HRS and ELSA sampling weights. DK=don't know.

SOURCE: Authors' calculations using the 2002 waves of HRS and ELSA.

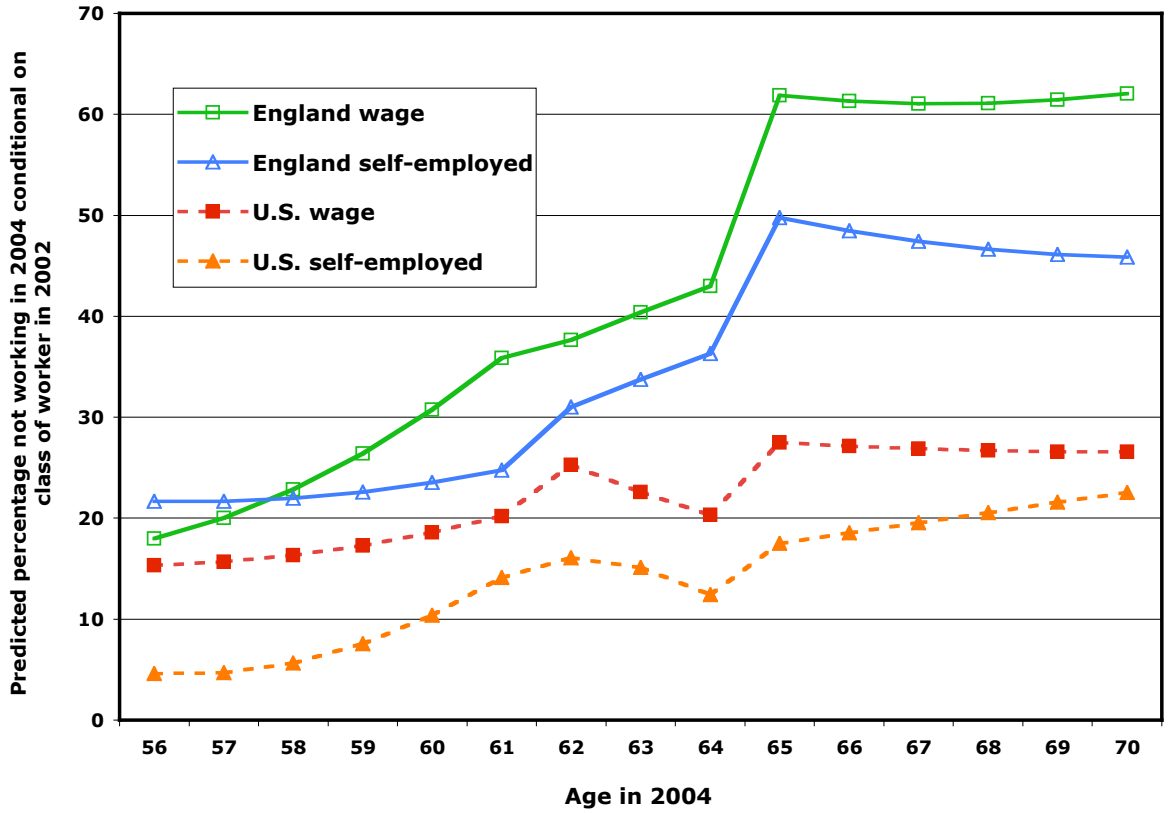
Figure 7—Probability of Transition to Retirement Between Waves by Employment Class in the HRS and ELSA



NOTE: Results are plotted for individuals age 54 to 68 in 2002. Percentages have been calculated using HRS and ELSA sampling weights.

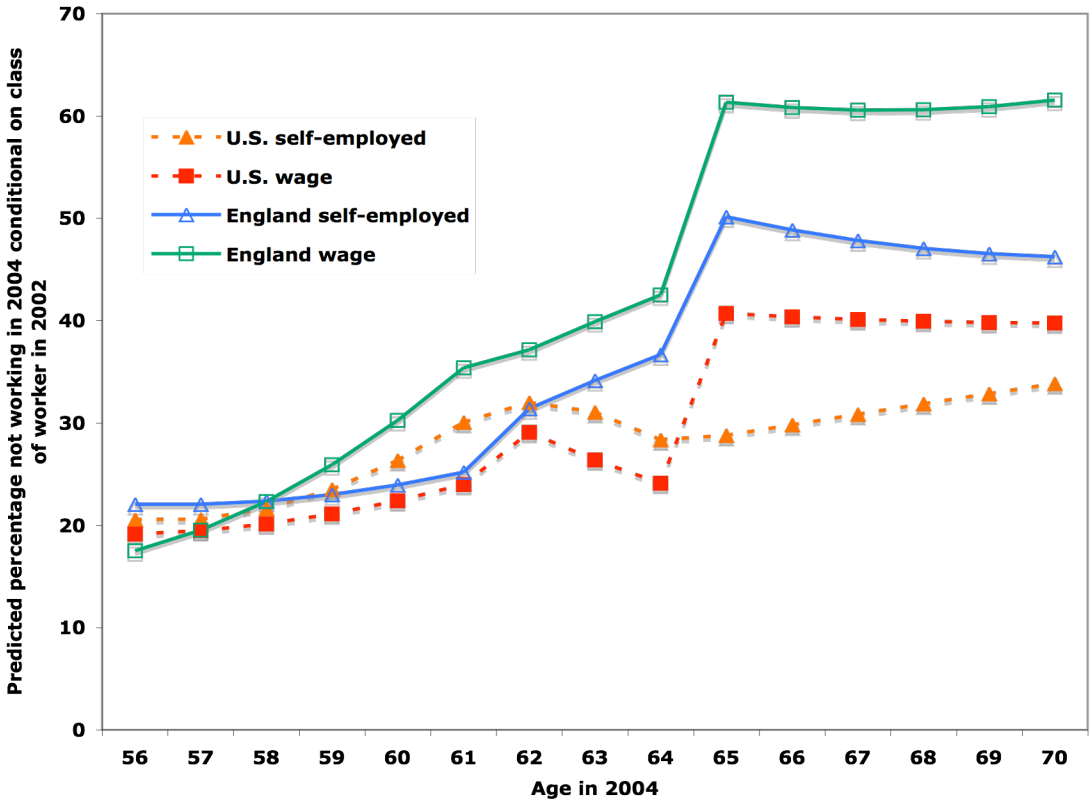
SOURCE: Authors' calculations using the 2002 and 2004 waves of HRS and ELSA.

Figure 8—Predicted Probability of Transition to Retirement Between Waves by Employment Class in the HRS and ELSA



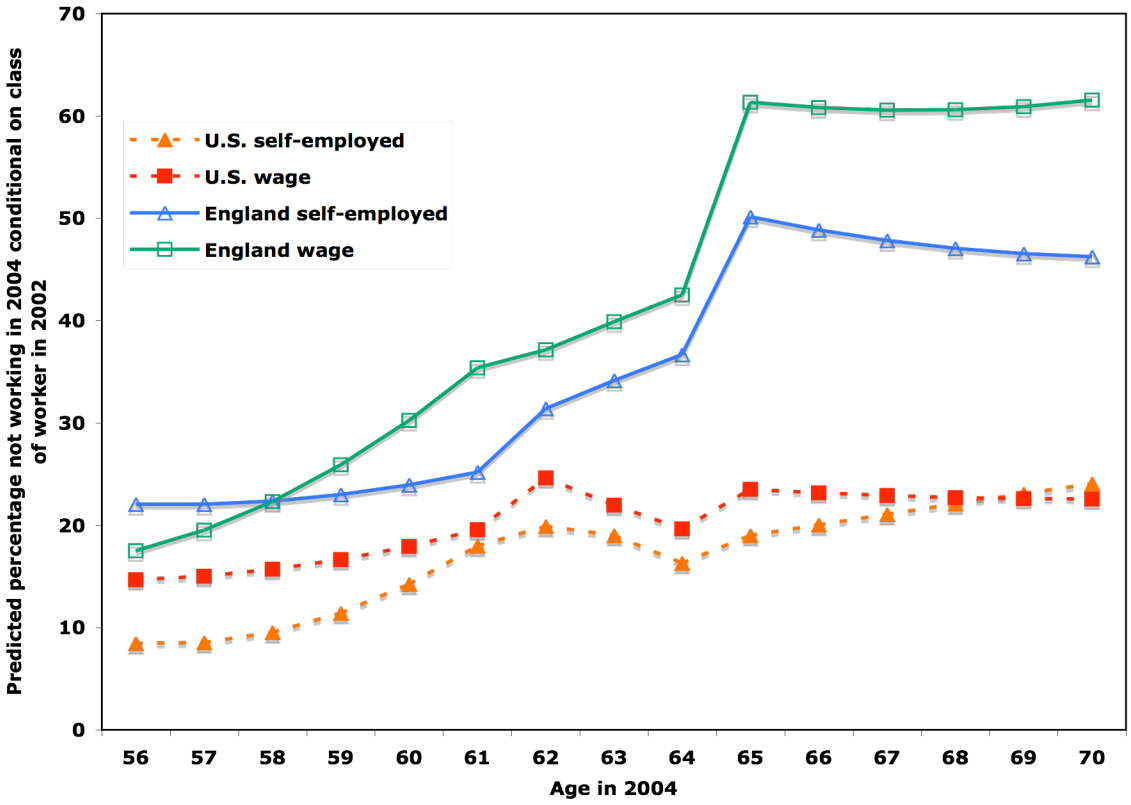
NOTE: Predicted probabilities based on regression results reported in Table 6.
SOURCE: Authors' calculations using the 2002 and 2004 waves of HRS and ELSA.

Figure 9—Predicted Probability of Transition to Retirement Between Waves by Employment Class in the HRS and ELSA: Effect of Retiree Health Insurance Benefits



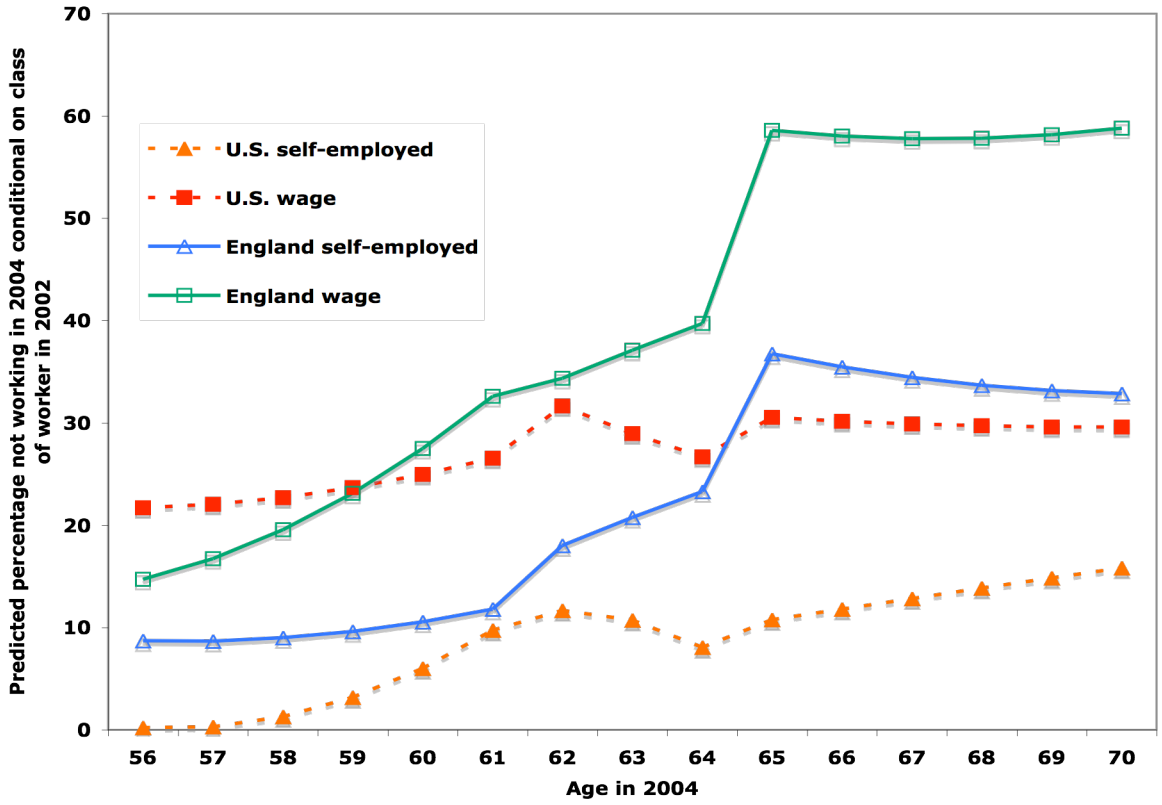
NOTE: Predicted probabilities based on regression results reported in Table 6.
SOURCE: Authors' calculations using the 2002 and 2004 waves of HRS and ELSA.

Figure 10—Predicted Probability of Transition to Retirement Between Waves by Employment Class in the HRS and ELSA: Males



NOTE: Predicted probabilities based on regression results reported in Table 6.
SOURCE: Authors' calculations using the 2002 and 2004 waves of HRS and ELSA.

Figure 11—Predicted Probability of Transition to Retirement Between Waves by Employment Class in the HRS and ELSA: Males with Private Pension Benefits



NOTE: Predicted probabilities based on regression results reported in Table 6.
SOURCE: Authors' calculations using the 2002 and 2004 waves of HRS and ELSA