Is Leaving Home a Hardship?

David C. Ribar *
Department of Economics
University of North Carolina at Greensboro
Greensboro, NC 27402 USA
and Institute for the Study of Labor (IZA)
Bonn, Germany
dcribar@uncg.edu

January 2014

Abstract: The transition of young adults from their parents' homes to other living arrangements is a major life-course milestone. Although the causes of nest-leaving have been extensively researched, only a few studies have examined changes in young adults' well-being that immediately precede and follow these transitions. This study uses the Household, Income and Labour Dynamics in Australia survey to document trajectories of financial hardships, nutrition, and other outcomes among Australians who left their parents' homes between the ages of 18 and 25 years. The study estimates multivariate fixed-effects models that compare outcomes before and after nest-leaving transitions to mitigate the effects of confounding characteristics. Men and women report increased financial hardships in the years that they leave home and in the first few years that follow, including going without meals and needing to ask friends and family for financial help. Women additionally report missing utility and housing payments.

JEL Classification: J12, J13
Keywords: Youths, nest-leaving, financial hardships, nutrition

Introduction

The road to adulthood has many milestones. In modern societies, these include completing schooling, initiating a career, moving to a new household apart from parents, and possibly forming a family. Besides incorporating many specific attainments, Hogan and Astone (1986) have pointed out that the road to adulthood is age-graded; that the road can bend depending on culture, cohort, and circumstances; and that the milestones are inter-related, involve elements of intentionality, and are consequential. This paper investigates the circumstances that precede and follow one milestone—young adults moving from their parents' homes into residences of their own, or nest-leaving.

Nest-leaving has been studied extensively, though mostly as an outcome.[1] Studies have considered the consequences associated with unusual transitions, such as running away from home (e.g., Tucker et al. 2011, Young et al. 1983), leaving foster care (Collins 2001 and Stein 2006), early parenthood (Hoffman 1998 and Smock and Greenland 2010), and leaving home late (Billari and Tabellini 2011). However, only a few studies have directly examined the possible consequences associated with normative nest-leaving.

Differences in well-being associated with co-residence and non-co-residence are central to rational-choice explanations of nest-leaving. Theoretical economic models by Ermisch (1999), Manacorda and Moretti (2006), McElroy (1985), Rosenzweig and Wolpin (1993) and others rely on comparisons of well-being, as represented by utility functions, inside and outside the parental home. Direct preferences regarding co-residence and independent living enter the utility functions in several models, but incomes and implied consumption opportunities enter as well.

---

[1] The relevant studies literally run from A-Z; examples include Avery et al. (1992), Cobb-Clark and Ribar (2012), Ermisch (1999), Flatau et al. (2007), Giannelli and Monfardini (2003), Goldscheider et al. (1993), Rosenzweig and Wolpin (1993, 1994), Whittington and Peters (1996), and Zorlu and Mulder (2011).

Empirical research has incorporated elements of young people's opportunity sets, such as house prices (Ermisch 1999), tuition costs (Rosenzweig and Wolpin 1993), public assistance generosity (Rosenzweig and Wolpin 1994), or labor market conditions, but has rarely investigated their assessments of well-being.

This study uses 2001-2009 data from the Household, Income and Labour Dynamics in Australia (HILDA) survey, an annual longitudinal survey of youths and adults from more than 7,000 households, to document the year-by-year trajectories of financial hardships, nutrition, and other outcomes among Australians who left their parents' homes between the ages of 18 and 25 years. The study estimates multivariate fixed-effects models that compare outcomes before and after nest-leaving transitions for the same individuals to mitigate the effects of confounding characteristics.

The HILDA is especially well-suited for this analysis because it treats all household members who are 15 years of age and older as adults for interview purposes, gathers detailed economic and well-being information from all the adults in a household, and continues to gather the same indicators on a yearly basis, even after people move out of their original households.

The Australian context is also interesting. Typical nest-leaving ages fall between the early extremes of northern European countries and the late extremes of southern European countries. Flatau et al. (2007) document that median home-leaving ages were stable at about 19 years for women and 20 years for men for Australians born between 1952 and 1976. However, ages have risen with more recent birth cohorts. Australia also provides modest means-tested support through the Youth Allowance program, starting as early as age 16. Over the period that I study, youths who were 16 or 17 years old and living at home could receive a maximum of just over $5,000; co-resident young adults, including students, who were 18 years old or older could

receive a maximum of approximately $6,000, and young adults who were living independently could receive a maximum of approximately $9,200 (Ryan 2013b). Although some Australians travel to pursue tertiary education, co-residence with parents is also common among college students. Cobb-Clark (2008) provides a thorough overview of nest-leaving in Australia.

My study makes other contributions. First, it carefully relates young adults' reports of hardships to the timing of their nest leaving, distinguishing among specific years before and after the transition. This allows me to examine whether hardships appear in the year immediately preceding a transition (possibly prompting the transition) and whether hardships diminish the longer a young adult lives apart. Second, I estimate longitudinal fixed effects models to mitigate possible biases associated with unobserved heterogeneity. Finally, I extend the analyses to include nutritional outcomes and global measures of financial well-being and satisfaction. These analyses not only help to corroborate the reports of hardships but also indirectly indicate whether hardships might be balanced by positive aspects of independent living.

Previous Studies

There are many reasons why leaving home could create hardships for young people. Co-residence can be a valuable in-kind transfer. Co-resident youth get the services of a home, often at a below-market rent or free. The simple change from paying little or nothing for housing to paying the full market cost would reduce the income available for other consumption and reduce well-being. In addition, parents often supply food, pay for utilities, and provide other goods. Many of these goods are non-transferable and tied to co-residence.

Why leave then? One possibility is that the departure is involuntary because the youth is kicked out or the parents' home is lost. More frequently, however, exits are voluntary. White

(1994) grouped explanations of voluntary nest-leaving into three broad categories—life course, macro-structural, and rational choice/exchange perspectives—which each have implications for people's well-being following home-leaving and differences across groups. Life course explanations place nest-leaving within several other age-related outcomes, including school completion, career initiation, and family formation, that encompass young people's transitions to adult roles. Norms for independent living and privacy strengthen as children age; however, nest-leaving can occur before other life course milestones are reached, leaving young people vulnerable to hardships. From this perspective, women may be especially susceptible to hardships as the age norms for women's school completion and career initiation are similar to men's but the age norms for their nest-leaving are earlier.

Macro-structural influences include the availability and pay associated with young people's employment, the cost of housing, the generosity of social supports, and the demographic contexts of young people and their parents. Changes in these conditions, such as the run-up in Australian housing costs from 2000-2010 and the deterioration in the Australian job market following the global financial crisis in 2008, can contribute to hardships. Differences in pay or opportunities available to men and women could lead to differences in nest-leaving and hardships.

Rational choice and exchange theories (Ermisch 1999, Manacorda & Moretti 2006, McElroy 1985, Rosenzweig & Wolpin 1993) posit that young people compare their overall well-being, including their subjective valuations of their own consumption and of their autonomy and privacy, associated with co-residence and independent living and choose the arrangement that maximizes well-being. Parents may also make and condition financial and non-financial transfers in alternative arrangements, depending on their own motivations. For example, parents who are

4

motivated by altruism or who value their own privacy may make transfers to adult children living independently. Alternatively, parents who value their children's companionship or the services that adult children provide may offer transfers to encourage co-residence. Although these models predict that nest-leavers' overall well-being should increase, it is possible that *financial well-being* could decrease, if for instance children greatly value autonomy. Well-being could also decrease if there are unanticipated changes in children's nest-leaving circumstances.

A few empirical studies have examined the economic and well-being circumstances of nest-leavers. Card and Lemieux (2000) found that U.S. and Canadian young adults living apart from their parents were over-represented in poverty. Young adults living independently had higher wages and own incomes than young adults co-residing with parents, but those resources did not make up for the loss of parents' incomes. Haveman and Knight (1999) similarly found that young men in the U.S. were more likely to have own above-poverty incomes if they lived apart from their parents. U.S. women were also more likely to have own above-poverty incomes if they lived alone but less likely to have such incomes if they lived in a couple arrangement.

Aassve et al. (2007) examined annual longitudinal data for 13 European countries and found that poverty and deprivation were generally higher for young adults in the year immediately after they left home than in the year before or for other young adults who remained at home. The associations were especially large for Scandinavian countries, which had the earliest average home-leaving ages, and for transitions into single-person arrangements than for couple arrangements. Parisi (2008) focused on four southern European countries and found that leaving home to enter couple living arrangements increased young people's risks of entering poverty in Portugal and Spain but not Italy and Greece.

Halleröd and Westberg (2006) compared individual income and deprivation trajectories

for Swedes who were initially interviewed at ages 19-25 years and subsequently re-interviewed at eight-year intervals. Young adults who were living apart from their parents in the first interview reported higher individual incomes but also higher levels of deprivation than their stay-at-home peers. Incomes for the nest-leavers and stayers grew at similar rates over the course of the panel, but trajectories of deprivations converged.

Billari and Tabellini (2011) analyzed data for Italian men aged 33-38 years and found that later home leaving lowered men's subsequent incomes, indicating that there may be consequences from remaining with parents too long. Billari and Tabellini (2011) and Manacorda and Morretti (2006) also examined young adults' reported life satisfaction and found that this was generally not correlated with nest-leaving.

Of particular relevance to this study, Ryan (2013a) used data from the HILDA to investigate how Australians' reports of financial stresses, financial satisfaction, sense of prosperity, and life satisfaction changed with different life course events. He found that co-residing adults reported feeling more prosperous, experiencing fewer stresses, but also feeling less overall satisfaction than adults in other living arrangements.

This review points to several important gaps. First, except for the studies by Aassve et al. (2007) and Parisi (2008), studies have not carefully linked well-being outcomes to the timing of nest-leaving. Instead, nest-leavers have simply been compared with other young adults. Second, the two studies that have considered timing have only examined outcomes that immediately precede and follow the nest-leaving transition. This can lead to misleading results if either of these years is unusual—for instance, if deteriorating circumstances prompt nest-leaving. Third, none of the studies has estimated fixed effects models that can mitigate possible biases from unobserved characteristics. My study addresses these gaps.

Analysis Data

The data for this analysis come from the 2001-2009 waves of the HILDA survey, an annual national longitudinal survey that began with interviews of 13,969 "adult" members (people 15 years and older) from 7,682 Australian households living in private dwellings in 2001 (Summerfield et al. 2012). The HILDA survey has followed members of the original households even when they move out from those households. Each wave includes an interview about the entire household, interviews with each adult member, and written self-completion questionnaires for the adult members, which ask about demographic, economic, well-being, and other characteristics. Retention has been high—66 percent of the adults interviewed in 2001 were re-interviewed in 2009 and 55 percent had participated in every wave up to that point.

Several features of the HILDA survey are ideal for the present study. First, the survey initiates interviews with household members when they turn 15 years of age, meaning that the sample includes youths prior to the time that most are at risk of leaving their parents' homes. Second, each wave includes household roster, relationship, and residential change information that let me identify youths' nest-leaving transitions. Third, young adults continue to be subjects and are asked similar questions after they move out on their own; thus, their experiences in their new living arrangements can be examined and compared. Fourth, the survey records many of these measures each year, which allows me to construct trajectories of outcomes relative to year in which nest-leaving occurs. Finally, the large sample size and long panel length provide numerous transitions to examine, even though the study population is constrained to a relatively narrow age range. The sample size also allows me to disaggregate the analyses by gender and to distinguish among several types of nest-leaving destinations (e.g., transitions into living arrangements with romantic partners).

The analysis population consists of young people who were at risk of making an initial transition from their parents' homes into an adult-only living arrangement between the ages of 18 and 25 and young adults from this group who were in the first five years of their first adult-only living-apart spell. I form the analysis dataset by first drawing annual records for original and continuing sample members from the 2001-2009 waves of the HILDA survey who were 30 years of age or younger.[2] I drop annual records for people who were living with relatives other than their parents, step-parents or legal guardians; records when people become parents; and records for youths who leave home prior to age 18. I also drop records for young adults who are initially living apart from their parents, records once children return to their parents' homes, and records once a continuous spell of initial co-residence ends and the duration of any first spell of living-apart can no longer be reliably determined. Further, the analysis only considers nest-leaving transitions that occur between the ages of 18 and 25 years. For young adults who are observed to leave home within that window, the analysis includes all of the available records prior to and up to five years following the transition. For young adults who are observed to leave home after age 25, the analysis includes all of the available records up to age 23. For youths' whose initial co-residence spells are right-censored before age 25, the analysis includes all of the available records except for the last.

In most of the analyses, observations are organized relative to the observed or inferred home-leaving date. Records that describe youths two or more years prior to an observed nest-leaving transition and records from the right-censored co-residence spells are grouped into a single category. Other records that describe youths immediately before or any time after a nest-

---

[2] The data were extracted using PanelWhiz v4.0 for Stata, written by Dr. John Haisken-DeNew (john@panelwhiz.eu). Haisken-DeNew and Hahn (2010) describe PanelWhiz in detail and Hahn and Haisken-DeNew (2013) discuss its application to Australian data sets.

leaving transition are grouped by specific year: one year before, year of, one year after, two years after, etc. Distinguishing between observations that immediately precede a nest-leaving transition and observations from earlier years helps to determine whether changes in economic circumstances and well-being might contribute to nest-leaving. Distinguishing between observations at different durations after nest-leaving helps to determine how long changes in well-being last.

The HILDA survey used a probability-based sampling design, had differential initial response rates, and has experienced differential attrition rates. Summerfield et al. (2012) report that attrition was worse among younger, single, unemployed, and low-wage subjects, making the issue especially salient for this study. The HILDA includes sampling weights to make some types of analyses representative of the initial survey universe. However, the construction of this study's analysis data set (e.g., the use of an unbalanced panel) does not conform to these standard schemes. Because of this and because I focus mostly on multivariate, fixed-effects results (Solon et al. 2013), my empirical analyses do not use sampling weights. The attrition patterns and selection criteria should lead to an analysis sample that is more advantaged and less prone to hardships than the general population of young Australians.

Demographic Characteristics, Activities, and Economic Resources

To establish the context for Australian nest-leaving, I begin the empirical analysis by documenting the average demographic characteristics, activities, and economic resources of young Australians in the years before and following their initial nest-leaving transitions in Table 1. Average characteristics for observations that preceded the transition by two or more years are reported in the first column. Averages for observations a year before the transition are reported in

the second column; averages for the year of the transition are reported in the third column, and so on. The table's top panel describes men, and the bottom panel describes women.

[Table 1 about here].

The average age of nest-leaving in the analysis sample is 20.8 years for men and 20.5 years for women. Thus, despite omission of very early and late transitions and the use of unweighted data, the nest-leaving ages are similar to those reported by Cobb-Clark (2008) and Flatau et al. (2007).

The estimates in the second row indicate that few young Australians who are living with their parents co-reside with romantic partners. However, just under one quarter of the nest-leaving transitions for men in the sample and just over one third of the transitions for women are into couple co-residence arrangements, and the incidence of couple co-residence increases with the duration apart from parents. In interpreting these figures, it is important to recall that the analysis sample drops observations for young people once they become parents, so the incidence of couple co-residence in the general population is likely higher.

The opposite age pattern appears for full-time school enrollment. In the sample, 58.9 percent of men and 68.5 percent of women are full-time students two or more years before leaving home. The rates fall to 37.1 percent for men and 41.4 percent for women in the year before the transition, to 24.1 and 26.0 percent in the year of the transition, and lower thereafter. The estimates confirm that only a modest number of initial transitions out of parental homes in Australia involve attending school.

About two-thirds of the sample members who co-reside with parents and are at least two years away from a nest-leaving transition are employed. Employment rates increase 13 percentage points in the year before nest-leaving and increase further as young adults live apart

from their parents. Rates of economic inactivity, defined as being neither in school nor employed, are low in the sample. Omitting young adults who are parents from the sample likely reduces the measured rates of inactivity, especially among women.

The next rows of Table 1 describe young adults' economic resources, starting with their annual disposable household incomes, which include all private sources of income and public transfer income for all household members and are adjusted for taxes (see Summerfield et al. 2012). For this analysis, the incomes have also been expressed in 2009 Australian dollars, using the Consumer Price Index for all consumption groups weighted across eight capital cities. Consistent with expectations, household incomes are high when young adults co-reside with their parents and those parents' incomes are part of the resource measure. Average household incomes plummet when young adults move out but recover steadily as they live apart.

The next rows of Table 1 list the trajectories of young adults' own inflation-adjusted disposable incomes. Average own incomes grow steadily over the years in the table. As with the results from other countries reported by Card and Lemieux (2000), Halleröd and Westberg (2006), and Haveman and Knight (1999), young Australians living apart from their parents have more economic resources of their own even as their households have fewer resources overall.

One feature of the policy context for young Australians is the availability of means-tested support through the Youth Allowance program. For young men, the average transfers are modest, rising from just under $1,000 two or more years before leaving home to just under $2,000 immediately after leaving home. The incidence of public transfer receipt for young men (not shown in the table) is about one fifth two or more years before leaving home and about one third immediately after leaving home. For young women, the average public transfer amounts and incidence are somewhat higher.

The HILDA records private transfers from parents separately from youths' disposable incomes as part of a "windfall" income measure that also includes other irregular sources of income, such as inheritances. The next rows in the table list averages of the windfall measure. As with public transfers, the average windfall amounts are modest, reaching a little over $1,000 after youths leave home. Separate estimates (not shown) reveal that transfers from parents account for most of the windfall amount.

The next rows list averages for the resource measure that is used for the remainder of the paper. I start with the household disposable income amount but make two adjustments. First, I add the HILDA *household* windfall income amount, mainly to account for parental transfers.[3] The household windfall measure differs slightly from the individual measure in that the household measure omits transfers from resident parents. Second, I use the Australian Bureau of Statistics methodology to equivalize the income measure for household composition.[4] The figures indicate that equivalized household incomes are similar for youths two or more years before leaving home and youths in the year preceding a transition but fall by about a third in the year of nest-leaving. Average equivalized incomes remain low in the following year but recover to approximately their former levels two years after the transition and subsequently surpass those levels.

Taken together, the estimates from Table 1 provide little evidence that young Australians, on average, are pushed out of the nest by poor economic conditions—at least as measured in the year immediately preceding their transitions. Instead the average trajectory is characterized by reduced school commitments, stronger work attachment, higher personal economic resources,

---

[3] My findings are not sensitive to this adjustment; analyses using only the household disposable income amount produce similar results.
[4] The method applies weights of 1.0 for the first household adult, 0.5 for each additional adult, and 0.3 for each child under the age of 15.

and steady household resources. However, young Australians do appear to suffer a drop in total and equivalized household incomes, on average, when they move out of their parents' homes. The drops in equivalized incomes are relatively brief.

Financial Hardships

Annual incomes may not fully capture people's well-being. Household needs differ with household size and composition as well as with other characteristics, such as the members' health and capabilities. Well-being also depends on the cost of goods and on the resources being devoted to consumption and savings. It can also depend on the time allocations of household members and on the distribution of resources among them. Following Aassve et al. (2007), Halleröd and Westberg (2006), and Ryan (2013a), I investigate financial hardships.

The self-completed questionnaires for the first nine HILDA waves each asked about seven hardships that people might have experienced since the start of the calendar year "because of a shortage of money." These include whether the respondent:

- "Could not pay electricity, gas or telephone bills on time;"

- "Could not pay the mortgage or rent on time;"

- "Pawned or sold something;"

- "Went without meals;"

- "Was unable to heat home;"

- "Asked for financial help from friends or family;" and

- "Asked for help from welfare/community organizations."

As with Cobb-Clark and Ribar (2012), I sum indicators for affirmative responses to form an index of financial hardships. The index is the study's principal measure of economic hardships,

although I also examine specific hardships. The analyses of hardships are necessarily limited to person-year observations for which self-completed questionnaires were returned.

Table 2 lists estimation results for the summary hardship measure. The four columns on the left side of the table list estimates for young men, and the four columns on the right list estimates for women. The first columns for men and women list conditional means of the summary measure. As with Table 1, I estimate means for young adults relative to their nest-leaving year. I also estimate means for young adults who had not left their parents' homes but were living in couple relationships or were full-time students and means for young adults who had left home and were in these circumstances. These last four categories are presented because youths attending school or living with a partner might have unique circumstances, such as reduced earnings opportunities for students or advantages from household specialization, economies of scale in household production, and increased capacity for risk-sharing (Becker 1981) for couples.

[Table 2 about here].

Estimates from Table 2 reveal that the average number of hardships reported by young adults who are living with their parents and who are at least two years away from moving out is very low (0.28 for both men and women). The count of reported hardships jumps markedly in the year before a nest-leaving transition and jumps again in the year a transition occurs. For men, the average number of hardships increases in the next year but decreases thereafter. For women, the average number of hardships continues to climb into the third year after moving out. The average number of hardships reported by women living apart from their parents is generally higher than the number reported by men. Young adults living in couples but also with their parents report more hardships than unattached young adults living with their parents. Young students living

apart from their parents report more hardships than non-students.

The next columns of the two panels list coefficient estimates and standard errors from Ordinary Least Squares regressions of the count of hardships reported by youth i in year t (h_{it}) on a matrix of indicators for the time preceding or following a nest-leaving transition (T_{it}, the reference category consists of youths who are two or more years away from moving out) and matrices of couple and student status before (B_{it}) and after (A_{it}) nest-leaving. Let ε_{it} denote an error term. The regression model is

$$h_{it} \; = \; \beta_0 \; + \; \beta_T \, T_{it} \; + \; \beta_B \, B_{it} \; + \; \beta_A \, A_{it} \; + \; \varepsilon_{it} \tag{1}$$

where β_0 is an intercept and β_T, β_B, and β_A are matrices of coefficients.

For men, hardships reported in the year preceding a transition, the year of a transition, and one to three years following a transition are greater than and statistically distinguishable from those reported two or more years before a transition. Young men who are full-time students living with their parents report fewer hardships than young men who are not students. The other coefficient estimates for young men are not statistically distinguishable from zero.

For women, the coefficients for the year before a transition and for all the years following a transition are positive and statistically significant. Women living in their parents' homes with romantic partners report substantially more hardships than unattached women living with their parents, but the coefficient is imprecisely estimated. Women who are full-time students living with their parents report slightly fewer hardships than non-students. Women living apart from their parents in couple arrangements report fewer hardships than women living alone.

The next columns in the left and right panels of Table 2 report coefficients and standard errors from two-way (individual and year) fixed-effect models. Let μ_i be a time-invariant, person-specific unobserved term that affects the incidence of hardships, and let δ_t be a year-

15

specific unobserved term. I assume that the error term from my previous regression model can be decomposed $\varepsilon_{it} = \mu_i + \delta_t + e_{it}$ (where e_{it} is a transitory error) and that the model can be rewritten

$$h_{it} = \beta_T{}^* T_{it} + \beta_B{}^* B_{it} + \beta_A{}^* A_{it} + \mu_i + \delta_t + e_{it}. \qquad (2)$$

The principal advantage of specification (2) is that the time-invariant term can account for characteristics, including family and cultural background, initial schooling, personal attitudes and abilities, age relative to nest-leaving, and sample strata that could confound the estimated relationship between reported hardships and nest-leaving. The year-specific term can account for country-wide economic conditions, policies, and norms that might also influence these outcomes. Fixed effects approaches are not a panacea—time-varying omitted variables could still lead to spurious associations. However, the methods can eliminate many potential confounders.

The regression results change substantially when controls for fixed effects are included. For men, the coefficients on the times relative to nest-leaving become smaller or more negative, and only the coefficients on the nest-leaving year and the first year after remain statistically different from zero. For women, all the coefficients on times relative to nest-leaving become smaller, but all of the coefficients associated with living apart from parents remain positive and significant. For men and women, the coefficients on full-time student status prior to leaving home also become smaller in magnitude and lose their statistical significance. For women, the coefficient on full-time student status after leaving home becomes larger and statistically distinguishable from zero.

The final columns from the left and right columns of Table 2 report results from two-way fixed effects regressions that also include a matrix, X_{it}, of time-varying controls for equivalized

real household income, the number of household members, and the person's employment status.[5] Each of the included measures represents a possible intermediating variable between living arrangements and hardships. The regression model can be rewritten

$$h_{it} = \beta_{T}^{**} T_{it} + \beta_{B}^{**} B_{it} + \beta_{A}^{**} A_{it} + \beta_{X}^{**} X_{it} + \mu_{i}^{**} + \delta_{t}^{**} + e_{it}^{**}. \qquad (3)$$

The estimation results from the models with the time-varying controls are similar to the results from the simpler fixed effects models. Several of the coefficients for men become slightly stronger, with the coefficients on the year immediately preceding the nest-leaving transition, two years after the transition, and full-time student status each becoming marginally significant. For women, the coefficients corresponding to four and five years after the nest-leaving transition become marginally insignificant.

The results from Table 2 indicate that young adults report more financial hardships after they leave their parents' homes. For men, the increased hardships are temporary and disappear by the end of the study's observation window—five years after moving out. Women report larger and more sustained increases in hardships after moving out than men. Women who move into couple arrangements report fewer hardships than women living alone, while women who are full-time students after moving out report more hardships.

The summary hardship measure counts the incidence of seven items. Butterworth and Crosier (2005) showed that these items could be validly summed into a single index; however, it is worthwhile to examine how nest-leaving is associated with particular problems.[6] Table 3 lists coefficients and standard errors from two-way fixed-effect linear probability models with the same controls as regression model 3 (the final columns from the previous table). Results for men

---

[5] The model uses a two-part linear spline in the log of equivalized household income with a knot at 10, which is near the log value for the half the median income in Australia.
[6] For example, Bray (2001) and Breunig and Cobb-Clark (2005) distinguished between "cashflow" and "hardship" items.

appear in the top panel, and results for women appear in the bottom panel.

[Table 3 about here].

For men, the principal hardships that accompany nest-leaving involve asking friends and family for financial help and going without meals. Men who move out of their parents' homes and into couple arrangements also report more missed utility payments but fewer skipped meals. Women living apart from their parents also report needing to ask friends and family for help and skipping meals. However, women nest-leavers also report more often missing utility payments and missing mortgage and rent payments. Women who move into a couple arrangement report fewer incidents of asking friends and family for help, going without heat, and going without meals. Women nest-leavers who are full-time students report more incidents of missing utility payments and asking friends and family for help. In general, the results show that the earlier associations between living arrangements and strains are not artifacts of one particular type of hardship but rather involve multiple hardships.

Nutrition

The preceding results indicate that young Australians living apart from their parents report a higher incidence of going without meals. Food is a necessity, and meal-skipping may signal a large drop in overall consumption. Missed meals also connote possible nutritional inadequacies and perhaps even hunger. However, Bhattacharya et al. (2004) and others have shown that reports of food hardships do not necessarily translate into nutritional deficiencies. The 2007 and 2009 waves of the HILDA survey, which asked adults about their food consumption, allow me to investigate nutrition directly. In particular, the survey asked about the number of days in a usual week that people ate vegetables and fruit and about the number of

servings on the days they ate these items. In addition, it asked adults how often they usually ate 12 types of foods and about the type milk that was usually consumed, the use of salt, and the amount of alcohol.

I use these data to form three nutritional indices. The first was developed by Cobb-Clark et al. (2012), who assigned one point each to: consuming fruit weekly, consuming vegetables weekly, consuming low-fat or skimmed milk, and consuming fried potatoes less than once a month. The second measure is derived from the more comprehensive Dietary Guideline Index (DGI, McNaughton et al. 2008). The full DGI has 15 items which each take values between 0 and 10. The HILDA asks about nine of these items: consumption of fruits, vegetables, protein, starches and grains, milk, salt, sugary foods, alcohol, and extra foods. For each of these items, I match the possible responses to the scale and form an index that ranges from 0 to 90. Appendix A provides more information about the components. An issue with both of these indices is that they combine positive consumption amounts (e.g., eating fruits and vegetables) with avoidance measures (e.g., avoiding whole milk). To address this, I form a third measure that just contains the four positive consumption items from the DGI: the consumption of fruits, vegetables, proteins, and starches/grains.

Because the food questions are only asked twice, I cannot examine the associations between nest-leaving and nutrition in the same detail as hardships. Instead, I form dummy variables for nest-leaving that take on values of zero if the young adult has been continually co-residing with his or her parent up to that year and one if the person is in his or her first living-apart spell (observations are dropped if neither condition is met). I further restrict the analysis to young adults who were co-residing with parents in 2007. My analysis is effectively a difference-in-difference estimator that compares changes in food consumption from 2007 to 2009 for young

19

adults who moved out to changes in food consumption for young adults who continued to co-reside with parents.

Let n_{it} be a nutrition measure, P_{it} be a vector that contains an indicator for living apart from parents and interactions of this indicator with couple and student status, X_{it} be a vector of observed variables, and m_i, d_t, and u_{it} be person-specific, year-specific, and transitory error terms. I estimate models of the form

$$n_{it} = \gamma_{\mathrm{P}}\, P_{it} + \gamma_{\mathrm{X}}\, X_{it} + m_i + d_t + u_{it} \qquad (4)$$

separately for men and women and report results in Table 4.

[Table 4 about here].

The first column of Table 4 lists results from models that replicate the earlier analysis of going without meals but using the 2007-2009 data set and specification (4). As with the previous estimates, the coefficients indicate that men and women are more likely to skip meals after they leave home, though the coefficient on nest-leaving falls short of being significant for women.

The next column lists results for the four-item eating index that Cobb-Clark et al. (2012) used. Men who move out of their parents' homes and are neither students nor in a couple arrangement are estimated to have worse nutrition than men who continue to live with their parents. However, men's couple and student status after leaving home are both associated with better nutrition. Women who leave home are also estimated to have worse nutrition but the results are not statistically significant.

Results for the approximation of the DQI are listed in the third column. The results for men are similar to those from the previous column, but the coefficient on nest-leaving is insignificant. For women, none of the coefficient estimates is significant. Results for the sum of the four positive consumption items from the DQI follow in the fourth column. Once again, a

20

negative coefficient for nest-leaving and positive coefficients for couple and student status after nest-leaving—all significant—are estimated for men. For women, the coefficient on couple status after moving out is significantly negative.

The HILDA also asked adults in 2007 and 2009 about the number of days that they usually ate breakfast. Results from versions of specification (4) that use breakfast days as the dependent variable are listed in the last column of Table 4. For men, none of the coefficients is statistically significant. Women who are students living with their parents report eating breakfast on fewer days than those who are not students. Nest-leaving, however, is not significantly associated with breakfast consumption.

Satisfied?

The preceding analyses have been framed in terms of particular problems and outcomes. However, the HILDA also asks adults questions about their general well-being. The answers to these questions can provide insight into how respondents might interpret the other hardships. Following Manacorda and Moretti (2006), the answers may also tell us whether respondents see positive aspects, possibly from values associated with autonomy and independence, in their living situations.

One question prompts subjects, "given your current needs and financial responsibilities, would you say that you and your family are…" and asks them to respond along a six-outcome scale from "very poor" to "prosperous." The advantage of this question is that it allows respondents to put their economic situation in the context of needs and responsibilities. The first column of Table 5 lists coefficient estimates and standard errors from adjusted two-way fixed effects models that are specified like equation (3) (i.e., the same specifications used in the 4th

and 8th columns of Table 2 and throughout Table 3). The results differ markedly for men and women. The coefficients on time relative to nest-leaving are all positive for men, though only the coefficient on the third year apart from parents is statistically significant. In contrast, women in the year before, year of, and year following nest-leaving report feeling poorer. Men who are living apart from parents as students or in a couple arrangement report feeling poorer. Women who are students—living with or apart from their parents—also report feeling poorer.

[Table 5 about here].

The HILDA survey also asks adults about their satisfaction with several aspects of their lives, with possible responses that range from "completely dissatisfied" (=0) to "completely satisfied" (=10). One aspect is the subjects' "financial situation," and the second column of Table 5 lists coefficient estimates from two-way fixed effects models of the responses. Young men living apart from their parents express more financial satisfaction than men living with their parents. Men who are full-time students living with their parents also express more financial satisfaction than non-students. The coefficients on time relative to nest-leaving are all insignificant for women. Women who are living with a romantic partner after leaving home express more financial satisfaction, while women who are full-time students after leaving express less satisfaction.

The next column lists results from models of satisfaction with "the home in which you live." Men express less satisfaction with their home situations in the year before moving out, suggesting a motivation for leaving the nest. However, they express even less satisfaction *after* moving out. Women also express less satisfaction with their home situations after moving out. They also express strong dissatisfaction if they are co-residing with parents but are in a couple arrangement and if they are students living apart from parents.

22

The final column lists results from models of a general question, "all things considered, how satisfied are you with your life?" As with the home situation question, men express less life satisfaction in the year before leaving home. However, there are no statistically distinguishable differences in satisfaction for men in the years after leaving home. The coefficients all of the living arrangement variables for women are also insignificant.

Conclusion

Young Australians' self-reports indicate that, on average, leaving home is a hardship. In the year that they leave their parents' homes and for several years after, young Australians report more frequently going without meals and needing to ask friends and family for financial help. In addition, young women report more frequently missing utility and housing payments.

Other evidence corroborates these reports. Although nest-leavers' average personal incomes are higher than those of young adults who continue to co-reside with their parents, nest-leavers' average total and equivalized incomes are substantially lower in the first few years after moving out. Young adults also express less satisfaction with their housing situations after leaving their parents' homes, and young men appear to have worse nutritional outcomes.

There is also evidence of gender differences. Young women report bigger increases in hardships when they move out than men and report increased hardships for more years. Young women also express a greater sense of poverty than men. The reports by women and men also differ by the type of destination living arrangement, with couple arrangements ameliorating reported hardships among women but with full-time student status compounding them.

Comparability in these analyses is enhanced through the availability of repeated, longitudinal observations for the youths and the estimation of fixed-effects regression models.

This technique nets out the influences of permanent characteristics, such as family and cultural backgrounds, abilities, and attitudes, that might be related to people's nest-leaving and hardship experiences. Caution is still warranted, however, in applying causal interpretations because the techniques do not account for possible influences from time-varying unobserved characteristics.

My analysis has focused on "normative" nest-leaving—transitions from continuous "with parent" living arrangements that occur between the ages of 18 and 25 years, that do not involve moves into other relatives' homes, and that do not involve the youths becoming parents themselves. This focus runs the risk of painting too rosy a picture of the nest-leaving process. And consistent with this focus, the young adults report no significant changes, on average, in their life satisfaction.

However, this focus serves important purposes. Methodologically, it further increases the comparability of the transitions being studied. While the evidence points to dissatisfaction (especially among men) with household and life satisfaction in the year prior to exit, there appears to be no change in the average household incomes and only modest changes in other circumstances just before nest-leaving. If anything, the evidence suggests increasing capabilities in the form of more employment, fewer schooling commitments, and higher own incomes at $t-1$.

Conceptually, we also learn from investigating normative changes. Normative does not imply costless. In a short-run static perspective, rational nest-leaving could well involve hardships if these are balanced against personal and/or societal valuations of independence and autonomy. In a longer-run dynamic perspective, there could be initial costs associated with independent living that set the stage for later gains and more generally for the transition to successful adulthood. The focus on normative nest-leaving, which necessarily abstracts from some unusually harmful transitions, casts a light on the value associated with autonomy. The

reports of hardships indicate that autonomy does have a price.

References

Aassve, Arnstein, Maria A. Davia, Maria Iacovou and Stefano Mazzuco. 2007. *European Journal of Population* 23(3-4):315-38.

Avery, Roger, Frances Goldscheider and Alden Speare Jr. 1992. "Feathered Nest/Gilded Cage: Parental Income and Leaving Home in the Transition to Adulthood." *Demography* 29(3): 375-88.

Becker, Gary S. 1981. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Bhattacharya, Jananta, Janet Currie and Steven Haider. 2004. "Poverty, Food Insecurity, and Nutritional Outcomes in Children and Adults." *Journal of Health Economics* 23(4): 839-62.

Billari, Francesco C. and Guido Tabellini. 2011. "Italians are Late: Does It Matter?" in John. B. Shoven, ed., *Demography and the Economy*. Chicago: University of Chicago Press.

Bray, J. Rob. 2001. "Hardship in Australia: An Analysis of Financial Stress Indicators in the 1998-99 Australian Bureau of Statistics Household Expenditure Survey." Occasional Paper no. 4. Canberra: Department of Families, Housing, Community Services and Indigenous Affairs.

Breunig, Robert and Deborah A. Cobb-Clark. 2005. "Understanding the Factors Associated with Financial Stress in Australian Households." *Australian Social Policy 2005*: 13-64.

Butterworth, Peter and Timothy Crosier. 2005. "Deriving a Measure of Financial Hardship from the HILDA Survey." *Australian Social Policy 2005*: 1-12.

Card, David and Thomas Lemieux. 2000. "Adapting to Circumstances: The Evolution of Work, School, and Living Arrangements among North American Youth." In David G. Blanchflower and Richard B. Freeman, eds., *Youth Employment and Joblessness in Advanced Countries*. Chicago: University of Chicago Press.

Cobb-Clark, Deborah A. 2008. "Leaving Home: What Economics Has to Say about the Living Arrangements of Young Australians." *Australian Economic Review* 41(2): 160-76.

Cobb-Clark, Deborah A., Sanja C. Kassenboehmer and Stefanie Schurer. 2012. "Healthy Habits: The Connection between Diet, Exercise, and Locus of Control." Working Paper no. 15/12. Melbourne: Melbourne Institute of Applied Economic and Social Research.

Cobb-Clark, Deborah A. and David C. Ribar. 2012. "Financial Stress, Family Relationships, and Australian Youths' Successful Transitions from Home and School." *Review of Economics of the Household* 10(4): 469-90.

Collins, Mary E. 2001. "Transition to Adulthood for Vulnerable Youths: A Review of Research and Implications for Policy." *Social Service Review* 75(2): 271-91.

Ermisch, John. 1999. "Prices, Parents, and Young People's Household Formation," *Journal of Urban Economics* 45(1): 47-71.

Flatau, Paul, Ian James, Richard Watson, Gavin Wood and Patric H. Hendershott. 2007. "Leaving the Parental Home in Australia over the Generations: Evidence from the Household, Income and Labour Dynamics in Australia (HILDA) Survey." *Journal of Population Research* 24(1): 51-71.

Gianelli, Gianna C. and Chiara Monfardini. 2003. "Joint Decisions on Household Membership and Human Capital Accumulation of Youths: The Role of Expected Earnings and Local Markets." *Journal of Population Economics* 16(2): 265-85.

Goldscheider, Frances, Arland Thornton and Linda Young-DeMarco. 1993. "A Portrait of the Nest-Leaving Process in Early Adulthood." *Demography* 30(4): 683-99.

Hahn, Markus H. and John P. Haisken-DeNew. 2013. "PanelWhiz and the Australian Longitudinal Data Infrastructure in Economics." *Australian Economic Review* 46(3): 1-8.

Haisken-DeNew, John P. and Markus Hahn. 2010. "PanelWhiz: Efficient Data Extraction of Complex Panel Data Sets. An Example Using the German SOEP." *Journal of Applied Social Science Studies* 130(4): 643-54.

Halleröd, Björn and Annika Westberg. 2006. "Youth Problem: What's the Problem? A Longitudinal Study of Incomes and Economic Hardship Among Swedish Youth." *Acta Sociologica* 49(1): 83-102.

Haveman, Robert and Brian Knight. 1999. "Youth Living Arrangements, Economic Independence, and the Role of Labor Market Changes: A Cohort Analysis from the Early 1970s to the late 1980s." Discussion paper no. 1201-99. Madison, WI: Institute for Research on Poverty, University of Wisconsin.

Hoffman, Saul D. 1998. "Teenage Childbearing Is Not So Bad After All…Or Is It? A Review of the New Literature." *Family Planning Perspectives* 30(5): 236-39, 243.

Hogan, Dennis P. and Nan Marie Astone. 1986. "The Transition to Adulthood." *Annual Review of Sociology* 12: 109-30.

Manacorda, Marco and Enrico Moretti. 2006. "Why do Most Italian Youths Live with Their Parents? Intergenerational Transfers and Household Structure." *Journal of the European Economic Association* 4(4): 800-29.

McElroy, Marjorie B. 1985. "The Joint Determination of Household Membership and Market Work: The Case of Young Men." *Journal of Labor Economics* 3(3): 293-316.

McNaughton, Sarah A., Kylie Ball, David Crawford and Gita D. Mishra. 2008. "An Index of Diet and Eating Patterns Is a Valid Measure of Diet Quality in an Australian Population." *Journal of Nutrition* 138(1): 86-93.

Parisi, Lavinia. 2008. "Leaving Home and the Chances of Being Poor: The Case of People in Southern European Countries." *Labour* 22(Special issue): 89-114.

Rosenzweig, Mark R. and Kenneth I. Wolpin. 1993. "Intergenerational Support and the Life-Cycle Incomes of Young Men and Their Parents: Human Capital Investments, Coresidence, and Intergenerational Financial Transfers." *Journal of Labor Economics* 11(1 part 1): 84-112.

Rosenzweig, Mark R. and Kenneth I. Wolpin. 1994. "Inequality among Young Adult Siblings, Public Assistance Programs and Intergenerational Living Arrangements." *Journal of Human Resources* 29(4): 1101-25.

Ryan, Chris. 2013a. "Responses to Financial Stress at Life Transition Points." Occasional Paper no. 41. Canberra: Department of Families, Housing, Community Services and Indigenous Affairs.

Ryan, Chris. 2013b. "Student Income Support and Education and Training Participation in Australia." Unpublished manuscript. Melbourne: Melbourne Institute of Applied Economic and Social Research.

Smock, Pamela J. and Fiona R. Greenland. 2010. "Diversity in Pathways to Parenthood: Patterns, Implications, and Emerging Research Directions." *Journal of Marriage and the Family* 72(3): 576-93.

Solon, Gary, Steven J. Haider and Jeffrey Wooldridge. 2013. "What are We Weighting For?" Working paper no. 18859. Cambridge, MA: National Bureau of Economic Research.

Stein, Mike. 2006. "Research Review: Young People Leaving Care." *Child and Family Social Work* 11(3): 273-79.

Summerfield, Michelle, Simon Freidin, Markus Hahn, Peter Ittak, Ning Li, Ninette Macalalad, Nicole Watson, Roger Wilkins and Mark Wooden. 2012. *HILDA User Manual – Release 11*. Melbourne: Melbourne Institute of Applied Economic and Social Research.

Tucker, Joan S., Maria Orlando Edelen, Phyllis L. Ellickson and David J. Klein. 2011. "Running Away from Home: A Longitudinal Study of Adolescent Risk Factors and Young Adult Outcomes." *Journal of Youth and Adolescence* 40(5): 507-18.

White, Lynn. 1994. "Coresidence and Leaving Home: Young Adults and Their Parents." *Annual Review of Sociology* 20: 81-102.

Whittington, Leslie and H. Elizabeth Peters. 1996. "Economic Incentives for Financial and Residential Independence." *Demography* 33(1): 82-97.

Young, Robert L., Wayne Godfrey, Barbara Matthews and Gerald R. Adams. 1983. "Runaways: A Review of Negative Consequences." *Family Relations* 32(2): 275-81.

Zorlu, Aslan and Clara H. Mulder. 2011. "Ethnic Differences in Leaving Home: Timing and Pathways." *Demography* 48(1): 49-72.

Table 1. Economic and demographic characteristics of young adults in the years before and after leaving home

	\leq-2	-1	0	1	2	3	4	5
				Year relative to leaving home				
				Young men				
Age	18.3	19.8*	20.8*	21.9*	22.9*	24.0*	24.9*	25.8*
Couple relationship (%)	0.6	1.4	22.7*	29.9*	32.4*	40.2*	40.0*	40.0*
Full-time student (%)	58.9	37.1*	24.1*	17.8*	14.8*	10.2*	7.1*	6.7*
Employed (%)	62.6	76.9*	82.4*	87.8*	90.3*	92.1*	92.9*	93.3*
Inactive (%)	8.7	10.1	9.4	5.9	5.7	3.9*	4.7	3.3*
Household size	4.3	4.1*	1.5*	1.5*	1.6*	1.6*	1.5*	1.6*
Real HH disposable income ($000)	90.8	94.3	34.3*	40.3*	47.2*	53.3*	59.5*	63.7*
Real indiv. disposable income ($000)	9.5	16.6*	22.7*	27.9*	33.4*	37.1*	42.2*	42.8*
Real indiv. public trans. income ($000)	0.8	1.3*	1.4*	1.8*	1.6*	1.4	1.6	1.3
Real indiv. "windfall" income ($000)	0.5	0.5	1.1	1.4	0.8	0.9	0.9	0.3
Equiv. real HH disp. + WF inc. ($000)	38.7	40.1	27.0*	32.7*	37.3	41.6	47.3*	48.9*
Observations	3,517	415	415	254	176	127	85	60
				Young women				
Age	18.1	19.5*	20.5*	21.5*	22.4*	23.4*	24.2*	25.6*
Couple relationship (%)	0.4	2.9*	36.4*	41.7*	46.5*	49.6*	52.4*	57.7*
Full-time student (%)	68.5	41.4*	26.0*	26.1*	24.1*	21.3*	13.1*	1.9*
Employed (%)	66.2	79.0*	81.2*	84.4*	85.6*	87.4*	86.9*	96.2*
Inactive (%)	6.4	7.9	11.9*	9.4	7.0	7.1	9.5	3.8
Household size	4.3	4.0*	1.6*	1.6*	1.7*	1.7*	1.5*	1.7*
Real HH disposable income ($000)	94.4	88.6	36.1*	44.6*	50.8*	53.9*	56.8*	72.4*
Real indiv. disposable income ($000)	7.7	13.5*	19.5*	24.4*	27.7*	28.9*	33.4*	38.4*
Real indiv. public trans. income ($000)	0.9	1.4*	1.7*	2.0*	2.3*	2.2*	2.1*	1.4
Real indiv. "windfall" income ($000)	0.7	0.7	1.1	1.2	0.8	0.6	0.5	0.02*
Equiv. real HH disp. + WF inc. ($000)	41.2	41.5	27.2*	35.9	36.9*	39.0	42.8	51.0*
Observations	3,048	420	420	276	187	127	84	52

Notes: Unweighted estimates from the HILDA survey for youths who were "at risk" of leaving home for the first time between ages 18 and 25.
* Statistically different from mean in two or more years before home-leaving (first column) at 0.05 level.

Table 2. Means and regression coefficients for trajectories of financial hardships before and after leaving home

	Young men				Young women			
	Conditional Mean	Unadjusted OLS	Unadjusted FE	Adjusted FE	Conditional Mean	Unadjusted OLS	Unadjusted FE	Adjusted FE
Two or more years before leaving	0.28	.	.	.	0.28	.	.	.
One year before leaving	0.48	0.16***	0.08	0.10*	0.46	0.14***	-0.004	0.001
		(0.06)	(0.06)	(0.06)		(0.05)	(0.05)	(0.05)
Left home	0.77	0.33***	0.23**	0.24**	0.85	0.66***	0.46***	0.39***
		(0.10)	(0.09)	(0.10)		(0.11)	(0.09)	(0.13)
One year after leaving	0.86	0.43***	0.36***	0.39***	0.86	0.70***	0.49***	0.43***
		(0.11)	(0.10)	(0.12)		(0.13)	(0.10)	(0.14)
Two years after leaving	0.70	0.28**	0.13	0.18*	0.92	0.78***	0.49***	0.44***
		(0.13)	(0.11)	(0.11)		(0.15)	(0.13)	(0.16)
Three years after leaving	0.65	0.23*	0.11	0.17	0.95	0.83***	0.51***	0.45***
		(0.14)	(0.12)	(0.12)		(0.16)	(0.13)	(0.16)
Four years after leaving	0.66	0.24	-0.01	0.07	0.94	0.83***	0.38**	0.32
		(0.16)	(0.13)	(0.14)		(0.20)	(0.18)	(0.20)
Five years after leaving	0.39	-0.03	-0.13	-0.04	0.75	0.68***	0.39**	0.35
		(0.12)	(0.14)	(0.14)		(0.23)	(0.19)	(0.21)
Couple before leaving	0.48	0.07	0.06	0.05	0.89	0.51	0.50	0.53
		(0.21)	(0.20)	(0.20)		(0.34)	(0.37)	(0.38)
Full-time student before leaving	0.23	-0.17***	-0.06	-0.07*	0.27	-0.08**	-0.02	-0.03
		(0.04)	(0.04)	(0.04)		(0.03)	(0.04)	(0.04)
Couple after leaving	0.72	0.03	0.12	0.14	0.64	-0.44***	-0.30***	-0.25**
		(0.13)	(0.11)	(0.11)		(0.12)	(0.09)	(0.10)
Full-time student after leaving	0.91	0.20	0.19	0.17	1.01	0.05	0.23**	0.20*
		(0.13)	(0.12)	(0.12)		(0.13)	(0.10)	(0.11)

Notes: Unweighted estimates from the HILDA survey for 1,202 men (4,175 person-years) and 1,102 women (4,066 person-years) who were "at risk" of leaving home for the first time between ages 18 and 25. Observed controls include employment, household size, and a two-part spline in log equivalized real augmented disposable household income. Robust standard errors in parentheses.
* Significant at 0.01 level.   ** Significant at 0.05 level.   *** Significant at 0.01 level.

Table 3. Fixed effect regression coefficients for trajectories of specific hardships

	Missed utility payment	Asked friends, family for help	Missed mortgage, rent	Pawned or sold something	Went without heat	Went without meals	Asked local org. for help
				Young men			
1 year before	0.01	0.06**	-0.01	0.01	0.002	0.02	0.01
leaving	(0.02)	(0.03)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Left home	-0.02	0.07*	0.02	0.03	0.03**	0.09***	0.02
	(0.03)	(0.04)	(0.02)	(0.03)	(0.01)	(0.03)	(0.02)
1 year after	0.03	0.12***	0.07***	0.05	0.02	0.09***	0.01
leaving	(0.03)	(0.05)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)
2 years after	-0.003	0.06	0.03	0.01	0.001	0.06**	0.01
leaving	(0.04)	(0.05)	(0.02)	(0.03)	(0.01)	(0.03)	(0.03)
3 years after	0.02	0.05	0.01	0.02	0.001	0.08***	-0.02
leaving	(0.04)	(0.06)	(0.03)	(0.03)	(0.01)	(0.03)	(0.02)
4 years after	-0.01	-0.01	0.06	-0.01	-0.01	0.04	0.01
leaving	(0.05)	(0.07)	(0.04)	(0.04)	(0.02)	(0.03)	(0.03)
5 years after	-0.03	-0.002	0.01	-0.03	-0.02	0.05	-0.03
leaving	(0.06)	(0.07)	(0.04)	(0.03)	(0.02)	(0.03)	(0.02)
Couple before	-0.01	0.07	0.06	0.003	0.002	0.005	-0.07
leaving	(0.07)	(0.13)	(0.06)	(0.01)	(0.00)	(0.01)	(0.05)
FT student	-0.002	-0.03**	-0.01	-0.01	0.0001	-0.01	-0.01
bef. leaving	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Couple after	0.08***	0.07*	0.03	0.02	-0.02	-0.06**	0.0003
leaving	(0.03)	(0.04)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
FT student	0.04	0.13***	0.02	-0.01	-0.01	-0.01	-0.02
after leaving	(0.04)	(0.04)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Observations	4,232	4,240	4,228	4,228	4,226	4,226	4,216
People	1,207	1,206	1,205	1,206	1,206	1,207	1,206
				Young women			
1 year before	0.003	0.01	-0.02	-0.01	-0.001	0.005	-0.002
leaving	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Left home	0.10**	0.17***	0.06*	-0.004	0.01	0.04	-0.01
	(0.04)	(0.05)	(0.03)	(0.02)	(0.01)	(0.03)	(0.02)
1 year after	0.10**	0.14**	0.09***	-0.003	0.03**	0.07**	-0.02
leaving	(0.05)	(0.06)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)
2 years after	0.12**	0.12**	0.08**	0.01	0.03	0.08**	-0.001
leaving	(0.05)	(0.06)	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)
3 years after	0.22***	0.11*	0.07**	0.02	0.01	0.07*	-0.06**
leaving	(0.06)	(0.06)	(0.04)	(0.02)	(0.02)	(0.04)	(0.03)
4 years after	0.11*	0.11	0.06	0.04	0.03	0.01	-0.06*
leaving	(0.07)	(0.08)	(0.05)	(0.04)	(0.03)	(0.04)	(0.03)

5 years after leaving	0.10 (0.07)	0.01 (0.08)	0.13** (0.06)	0.02 (0.04)	0.02 (0.02)	0.07 (0.05)	-0.03 (0.04)
Couple before leaving	0.10 (0.07)	0.03 (0.15)	0.05 (0.08)	0.20** (0.10)	0.07 (0.06)	0.09 (0.09)	0.01 (0.01)
FT student bef. leaving	-0.02 (0.01)	-0.02 (0.02)	0.001 (0.01)	0.0001 (0.01)	0.003 (0.01)	0.0003 (0.01)	-0.001 (0.01)
Couple after leaving	-0.02 (0.04)	-0.10*** (0.04)	-0.03 (0.03)	0.01 (0.02)	-0.03** (0.01)	-0.07*** (0.02)	-0.01 (0.02)
FT student after leaving	0.07* (0.03)	0.12*** (0.04)	0.03 (0.03)	0.004 (0.02)	-0.02 (0.01)	0.02 (0.03)	-0.03 (0.02)
Observations	4,104	4,105	4,096	4,096	4,095	4,092	4,092
People	1,104	1,103	1,103	1,102	1,103	1,103	1,102

Notes: Unweighted estimates from the HILDA survey for youths who left or were at risk of leaving home for the first time between ages 18 and 25. Regressions include controls for employment, household size, a two-part spline in log equivalized real augmented disposable household income, and person and year fixed effects. Robust standard errors in parentheses.
* Significant at 0.01 level.   ** Significant at 0.05 level.   *** Significant at 0.01 level.

Table 4. Fixed effects regression coefficients for eating outcomes

	Went without meals	Cobb-Clark et al. (2012) eating index	Approximate Diet Quality Index	Approximate DQI (positive outcomes)	Days ate breakfast
			Young men		
Full-time student before leaving	0.0004	-0.133	0.413	0.266	0.186
	(0.016)	(0.091)	(1.161)	(0.645)	(0.223)
Left home	0.131**	-0.498**	-3.346	-3.074*	-0.370
	(0.066)	(0.217)	(2.341)	(1.575)	(0.610)
Couple after leaving	-0.027	0.970***	7.779**	3.799*	0.589
	(0.083)	(0.297)	(3.660)	(1.997)	(1.031)
Full-time student after leaving	-0.003	0.994***	8.505***	5.522**	-0.312
	(0.088)	(0.312)	(3.002)	(2.221)	(0.969)
Observations / persons	696 / 348	722 / 361	672 / 336	686 / 343	732 / 366
			Young women		
Full-time student before leaving	0.032	-0.126	-1.685	-0.503	-0.430**
	(0.022)	(0.091)	(1.038)	(0.637)	(0.199)
Left home	0.075	-0.189	-1.428	2.446	-0.329
	(0.053)	(0.201)	(2.484)	(1.610)	(0.599)
Couple after leaving	-0.062	-0.136	0.698	-3.782**	0.341
	(0.053)	(0.199)	(2.615)	(1.745)	(0.614)
Full-time student after leaving	0.092	-0.025	0.751	2.560	0.296
	(0.088)	(0.253)	(2.905)	(2.387)	(0.834)
Observations / persons	724 / 362	748 / 374	698 / 349	708 / 354	752 / 376

Note: Unweighted estimates from the 2007 and 2009 panels of the HILDA survey for young adults who were 17-23 years old and at risk of leaving home for the first time in 2007. Regressions include controls for employment, household size, a two-part spline in log equivalized real augmented disposable household income, and person and year fixed effects. Robust standard errors in parentheses.
* Significant at 0.01 level.   ** Significant at 0.05 level.   *** Significant at 0.01 level.

Table 5. Fixed effect regression coefficients for trajectories of satisfaction outcomes

	Prosperity given needs & finances	Satisfied with finance situation	Satisfied with home	Satisfied with life
		Young men		
One year before leaving	0.05 (0.04)	0.12 (0.12)	-0.23** (0.09)	-0.22*** (0.07)
Left home	0.09 (0.08)	0.51*** (0.20)	-0.40** (0.18)	-0.07 (0.12)
One year after leaving	0.14 (0.09)	0.38* (0.22)	-0.67*** (0.20)	-0.16 (0.13)
Two years after leaving	0.12 (0.09)	0.38* (0.23)	-0.54** (0.21)	-0.15 (0.13)
Three years after leaving	0.25** (0.11)	0.73*** (0.26)	-0.56** (0.24)	-0.18 (0.16)
Four years after leaving	0.13 (0.10)	0.82*** (0.25)	-0.49* (0.26)	-0.01 (0.17)
Five years after leaving	0.02 (0.12)	0.58** (0.27)	-0.66** (0.31)	0.03 (0.17)
Couple before leaving	-0.01 (0.15)	0.00 (0.34)	0.06 (0.47)	0.42* (0.25)
Full-time student before leaving	-0.02 (0.03)	0.16* (0.09)	0.12* (0.06)	0.03 (0.05)
Couple after leaving	-0.16** (0.07)	0.06 (0.16)	-0.13 (0.17)	-0.02 (0.09)
Full-time student after leaving	-0.21*** (0.08)	-0.28 (0.18)	-0.23 (0.17)	-0.02 (0.09)
Obs. / people	4,336 / 1,217	5,043 / 1,275	5,040 / 1,275	5,047 / 1,276
		Young women		
One year before leaving	-0.09** (0.04)	-0.10 (0.13)	-0.05 (0.09)	-0.07 (0.06)
Left home	-0.15* (0.08)	0.18 (0.23)	-0.32* (0.19)	0.03 (0.13)
One year after leaving	-0.20** (0.09)	-0.10 (0.23)	-0.34* (0.20)	-0.04 (0.14)
Two years after leaving	-0.14 (0.10)	0.10 (0.25)	-0.39* (0.20)	-0.14 (0.14)
Three years after leaving	-0.13 (0.11)	0.27 (0.29)	0.01 (0.22)	0.11 (0.15)
Four years after leaving	-0.16 (0.14)	0.38 (0.32)	-0.00 (0.28)	0.15 (0.16)
Five years after leaving	-0.16 (0.14)	0.40 (0.33)	0.08 (0.31)	0.03 (0.18)

Couple before leaving	-0.05 (0.18)	0.58 (0.37)	-0.74* (0.40)	0.14 (0.24)
Full-time student before leaving	-0.06** (0.03)	-0.11 (0.10)	-0.04 (0.07)	0.00 (0.05)
Couple after leaving	0.04 (0.07)	0.32* (0.17)	0.07 (0.16)	0.09 (0.09)
Full-time student after leaving	-0.12* (0.07)	-0.52*** (0.16)	-0.34** (0.17)	-0.11 (0.09)
Obs. / people	4,168 / 1,117	4,612 / 1,146	4,609 / 1,144	4,612 / 1,146

Note: Unweighted estimates from the HILDA survey for youths who were at risk of leaving home for the first time between ages 18 and 25. Regressions include controls for employment, household size, a two-part spline in log equivalized real augmented disposable household income, and person and year fixed effects. Robust standard errors in parentheses.
* Significant at 0.01 level.   ** Significant at 0.05 level.   *** Significant at 0.01 level.

Appendix A. Approximation of the Dietary Guidelines Index

The DGI (McNaughton et al. 2008) has 15 items; information on nine of these items was gathered in the 2007 and 2009 wave of the HILDA.

Fruit. The HILDA asked about the number of days on which fruits were eaten and the number of servings on those days. Multiplying the responses, I form measures of the usual number of weekly servings and set the fruit component of the DGI to 10 if two or more servings are eaten per day, 5 if one serving is eaten per day, and 0 if less fruit is eaten.

Vegetables. The HILDA asked similar questions about the consumption of vegetables, which I use to form a measure of weekly vegetable servings. It also asked about the usual consumption of legumes, with possible responses of never, less than once a month, 1-3 times per month, once per week, 2-4 times per week, 5-6 times per week, once per day, and two or more times per day. I convert the responses to weekly amounts using either the numbers or mid-points on the scale. The vegetable component of the DGI is set to 10 if the sum of weekly vegetable and legume consumption is five or more and decremented by two points for each fewer serving.

Meat. The HILDA asked usual frequency of consumption questions (similar to the legume question) about red meat, poultry, and fish. I create the meat component of the index as a sliding scale that takes on a maximum value of 10 if the combined consumption is daily or higher.

Cereals. The HILDA asked usual frequency of consumption questions about breads, pastas/noodles, and breakfast cereal. I form sliding scales that take maximum values of 10 if men's daily consumption is six or higher or women's daily consumption is four or higher.

Type of milk. The HILDA asked about the type of milk that is usually consumed. The milk component of the index is set to 10 if low-fat, skim, or skinny milk is usually consumed and

set to zero otherwise.

Salt. The HILDA asked "How often do you add salt to your food after it is cooked?" I set the salt component to 10 if the response is rarely/never and zero if salt consumption is higher.

Sugary foods. The HILDA asked about consumption of confections and ice cream. I set this component to 10 if consumption is less than daily and to zero otherwise.

Extra foods. The HILDA asked about the consumption of pastries, snacks, and fried potatoes. I set this component to 10 if combined daily consumption is less than three for men or 2.5 for women and to zero otherwise.

Alcohol. The HILDA asked about the number of days on which alcoholic drinks are consumed and the number of drinks on those days, which I use to form estimates of the average number of drinks consumed daily. The component is set to 10 if drinks per day is less than two for men or one for women and to zero otherwise.