Consumption and Income Around the Time of Births

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Abstract. This study examines households’ financial situation around the time of births, and in particular households’ consumption behavior, using a panel of Dutch households over the period 1987–1993. Descriptive statistics show that with the arrival of children households, on average, experience a fall in income, reduce consumption and save less. The empirical results show that women leaving employment after having given birth is the principal channel through which children reduce household income. This reduction in income causes consumption to decrease with the arrival of children. We find that around the time of births a 1 percent reduction in household income yields a 0.62 percent reduction in household consumption.

Keywords: panel data, consumption, lifecycle model, fertility

JEL Classification: C23, D12, D9, J13

1. Introduction

This study examines household consumption, income, saving and employment around the birth of children. For this purpose we exploit a panel of Dutch households over the period 1987–1993. In the empirical analysis we test the hypothesis of excess sensitivity of consumption with respect to (predicted) income changes, and analyze the role of children and female employment in this relationship.

The lifecycle relationship between household consumption and income is important in the determination of aggregate saving in an economy, which determines economic growth. To gain insights in household consumption and savings decisions, many studies have investigated the empirical observation that consumption and income have similar so called hump-shapes over the working life. See, for example, Lester Thurow (1969), Keizo Nagatani (1972), Martin Browning, Angus Deaton, and Margaret Irish (1985), Christopher Carroll and Lawrence Summer (1991) and Martin Browning and Mette Ejrnæs (2002). These highly correlated hump-shapes of lifecycle income and consumption are often referred to as consumption ‘tracking’ income over the lifecycle or excess sensitivity of consumption with respect to (expected) income changes (Majorie A. Flavin, 1981, Annamaria Lusardi, 1996, Rob Alessie and Annamaria Lusardi, 1997). In a standard lifecycle model of consumer
behavior (see, for example, Robert Hall, 1978) households take into account (expected) future streams of income when making consumption decisions and consumption plans are only affected by unanticipated income shocks. Household consumption tracking income is at odds with this prediction and therefore many studies are concerned with reconciling this empirical observation by extending a standard life cycle model. Examples are allowing for liquidity constraints (Thurow, 1969, Stephen P. Zeldes, 1989), a precautionary motive (Nagatani, 1972), or non-separabilities between labor supply and consumption (James J. Heckman, 1974). We refer to Browning and Ejrnaes (2002) for an excellent discussion of these explanations.

One explanation for the hump-shape of consumption over the lifecycle that received much attention in the literature builds on the observation that the lifecycle consumption pattern appears to display a similar pattern to that of the size of the household. Roughly speaking, household consumption appears to increase when children are present in the household and to decrease when children leave the parental home. Studies such as Orazio Attanasio and Martin Browning (1995) and Orazio Attanasio and Guglielmo Weber (1995) argue that once controlled for the effect of children on consumption most of the hump-shape for consumption is removed. It appears, however, that not all of the hump-shape is removed and we still need some kind or precautionary saving motive to reconcile the data with a rational expectations model (e.g., Pierre-Oliver Gourinchas, and Jonathan Parker, 2002).

Browning and Ejrnaes (2002) go one step further and, based on a long series of cross-sections of the UK Family Expenditures Survey, argue that family composition can account for the hump-shape pattern in lifecycle consumption found in quasi-panel data. Their analysis is based on a model in which forward looking households save for future consumption needs and possible falls in income as a consequence of having children. As they discuss, this is in line with the empirical evidence in Adriaan S. Kalwij (2003) who shows that, for a sample of Dutch young couples, savings rise before births and decline thereafter. James Smith and Michael Ward (1980) reach a similar conclusion using U.S. panel data over the period 1967–1970. Smith and Ward (1980) and Kalwij (2003) do not explicitly examine the issues of a precautionary motive or if household consumption tracks income. Browning and Ejrnaes (2002) test for a precautionary motive by testing for non-linear age effects in adjusted consumption series and find no evidence for this. Without explicitly testing for it, they conclude that adjusted consumption does not track income at the beginning of the lifecycle.

Given the importance the presence of children play in explaining the relationship between consumption and income, gaining detailed insight in what happens around the time of births is crucial for understanding this demographic explanation put forward in the literature. Most previous studies use cross sectional data to examine in detail the relationship between consumption and children (e.g., Patricia Apps and Ray Rees, 2001, and Browning and Ejrnaes, 2002). When using cross-sectional data one has to assume that one can compare households with and without children. While one can do this in very sophisticated ways, this may still influence the results if these households are inherently different in their consumption behavior since, for