Chapter 1
Incorporating Culture and Competition for Status into Quantitative Financial Epidemiology Models

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ABSTRACT
This chapter extends the financial epidemiology literature as it applies to the acquisition of consumer debt. A recent manuscript provided a very simple model to illustrate how conspicuous consumption within a community (in the vernacular, “keeping up with the Joneses”) can lead to situations where a contagion of financial insolvency may occur (Friesner, McPherson, & Hackney, 2014). However, that model simply illustrates the feasibility of modeling both conspicuous consumption and financial contagions in a single framework. It does not explicitly incorporate most of the epidemiological, socio-cultural, and psychological factors that drive decisions to use debt to finance conspicuous consumption. In this chapter, the authors build a much more detailed model of financial epidemiology that includes (or can be extended to include) most of the salient ecological characteristics advanced by financial economists (neoclassical or heterodox) and epidemiologists. The model can be used to illustrate specific characteristics that promote (or inhibit) consumer behavior that pushes the household into financial exigency. The results can therefore provide a more informative basis for policy makers to reduce the prevalence of bankruptcy or other financial insolvency within a community as a whole.

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INTRODUCTION

The economic recession that began in 2008 fundamentally changed how many financial economists and policy-makers viewed the valuation, provision and resolution of credit and debt (Agarwal, Skiba, & Tobacman, 2009; Agarwal & Mazumder, 2010; Agarwal, Amromin, Ben-David, Chomsisengphet, & Evanoff, 2010; Li, White, & Zhu, 2011). While most experts agree that economic systems require a high degree of inter-connectedness between economic agents, most financial economic models assume that individual agents, especially consumers seeking to finance major expenditures, behave atomistically and take existing financial conditions, cultural norms and attitudes towards risk as given (White, 1998; White & Wang, 2000; White, 2007a,b). This allows for relatively tractable theoretical and empirical models, since any factors taken as given (including those identified previously) need only be included in models as (presumably static and exogenous) control variables.

Heterodox economists, especially Original Institutional economists (OIEs), have critiqued mainstream economists for minimizing the evolutionary role that these socio-cultural and psychological factors play in decision-making (financial or otherwise) for the better part of a century (egalbraith, 1929] 1961). While a few exceptions exist (Buenstorf & Cordes, 2008; Cordes, 2009), OIEs can also be criticized for failing to appropriately and formally model their theories. Most examinations of financial insolvency in the OIE literature are verbal and/or descriptive in nature (Waller, 2001; Adkisson & McFerrin, 2005; Pressman, 2006; Frank, 2010; Murray, 2010; Starr, 2010). While it is useful for policy-makers to understand very generally how evolutionary socio-cultural and psychological forces shape decisions, it is difficult to enact meaningful policies without having very specific guidance as to whether a particular policy proposal will accomplish its intended purpose while minimizing the likelihood that it spawns unintended consequences.

As the recession worsened between 2008 and 2009, financial economists began to notice very strong community-based economic effects. For example, in real-estate markets, the formation of pricing bubbles, depressed home values and foreclosures tended to cluster in specific communities (Gangel, Seiler, & Collins, 2013; Seiler, Lane, & Harrison, 2012; Seiler, Seiler, Lane, & Harrison, 2012). Similarly, consumer bankruptcy filings (and especially filings within a particular filing chapter: 7 or 13) tended to disproportionately occur within specific neighborhoods or culturally-based communities (Sullivan, Warren, & Westbrook, 1997; Hackney, McPherson, & Friesner, 2010a,b). Some foreclosures and bankruptcy filings could be tied to traditional causes; for example, the closure of a major source of employment within a community. However, a significant portion of both types of default could not be directly tied to traditional causes. Because the one common denominator that could be identified was the connection to a community, these trends were frequently termed “social contagions,” since the growth of foreclosure and/or insolvency appeared to be transmitted within the community much like a communicable disease (Gangel, Seiler, & Collins, 2013; Seiler, Lane, & Harrison, 2012; Seiler et al., 2012).

Not surprisingly, financial economists began searching for tools to incorporate these socio-cultural and psychological effects into their empirical and theoretical models. One source of evolutionary mathematical and statistical modeling can be found in the epidemiology literature (Guo, Li, & Shuai, 2006; Li & Shuai, 2009). While most epidemiological models are effective at describing trends and movements across populations (i.e., from healthy to infected individuals), they need to be adapted to incorporate behavioral