Chapter 1
Identity in Economics, and in Context

Unique identification today is as much about money as was the wide adoption of last names centuries ago. Governments around the world adopted identity schemes to enable census and taxation. Today businesses are creating and using new identity systems in order to enable commerce. Identity allows for the creation and pricing of risky contracts. Victims of identity theft often wonder, “how can person I never knew in a state I have never visited create a debt with a bank with whom I have never done business, and which now I am expected to pay?” The creativity of such identity thieves knows no bounds. They can use identity to steal money, goods, or services. They can also use an identity to commit other forms of fraud against unrelated individuals, firms, or governments. Sometimes the schemes are simple—like using a stolen credit card to buy a laptop or an insurance number to steal healthcare. Other schemes are far more complex, involving an ecosystem of intermediaries. The factors that created this situation and the resulting challenges that must be addressed to extricate us are the focus of this book.

The economics of identity drive everything we discuss in the forthcoming chapters. The root causes and solutions start with simple questions, like how much is it worth to have an identity, to know someone else’s identity, or to protect your own? Technology often disguises these core economic issues.

Current investments in identity management are targeted at increasing the speed at which human-readable identity information can move through data and financial processing systems. The result will likely be an even greater explosion in identity theft. However, there is another option: privacy-enhancing, hardware-based, fraud-preventing credentials. Yet this second option is expensive and threatens the traditional business models and practices of many firms from banking to data aggregators. Adopting the second option requires clarifying the profound confusion of identities, which work for humans, and credentials, which work for networked computers.

Identity is built and constructed within an economic context. Anyone who has ever left the office for the sidelines of a kid’s soccer game knows what it means to changes shoes and economic roles on the way. In each sphere we might introduce ourselves differently (Vice President Jones to Jenny’s Mom). Likewise, going
from work to the bar indicates the switch from productive employee to indulging consumer.

At some times and in some places, the identity “Professor” or “employee” is relevant. In others, it may be “patient,” “customer,” or “parent”. Each of these corresponds to economic and social roles. “Treasurer of the Parent Teacher Organization” may indicate a trusted volunteer who will likely not leave a job worth far more that the possible spoils of a stolen PTO treasury or a person poor in funds but rich in trust and time. Identities can be specific or general, and defined by role and context. For example, consider the incredibly specific and simultaneously generic, “darling”. Identity is defined by context. A global identity, while intriguing to some, could be both remarkably dangerous and somewhat useless.

Even people with the most focused lives—those who publicly identify themselves either through their employment or parenthood—have private interests within which they use different identities. Employees rarely pay mortgages through the office accounting system, and peace in marriage can be grounded on separate checking accounts.

Changing jobs results in a new identity in the modern sense of the word. A change in position may result in a different credit limit and different privileges on different networks. A change in jobs frequently means a new place to live, with an entirely new set of identifiers sharing soft magnetic charges in an old wallet. Park Street Video and the Science Museum memberships are discarded for Horizon Video and the Discovery Museum along with the disposal of the old employee ID. Some things may not change with the new job, like retirement account or even frequent flyer membership. Linking the steady essentials to the transient creates economic risks. Some of us always pay our credit card bills on time. Linking the resulting right to get a new card with a telephone number allows someone to use the transient to access the constant—by getting a cell phone and pretending to be someone else.

In terms of identity and authentication, a change in professional affiliation results in a change in authorization in some contexts but not in others. When can that be a problem? It can be difficult to fully understand the risks associated with keeping information linked or discarding it. The risks of keeping all the information around, and the risks of deleting information are both very real. Sorting all credit card numbers and associated PINs in a single computer file enables a quick recovery in the case of a lost wallet. Many self-help books about managing your finances recommend it. For example, Microsoft Money will help manage accounts. Yet the existence of this handy file increases the risk of loss, and makes possible a larger loss in the case of a lost laptop. Keeping no records of credit card numbers and not writing down PINs decreases the risk of wholesale loss, and are recommended computer security practices. However, this also increases the difficulty of recovery if there is a loss. In fact, since many users do not keep such records, credit card companies sometimes authenticate individuals on the basis of a Social Security number thereby opening one path to fraud (using a false SSN) to address a good security practice (unique PINs and codes that are never recorded). The risks are cumulative and sometimes quite subtle until the worst case casts ugly highlights on the costs.