Hoffman, Philip T., Gilles Postel-Vinay, and Jean-Laurent Rosenthal. *Dark Matter Credit: The Development of Peerto-Peer Lending and Banking in France*. New Jersey: Princeton University Press, 2019. 320 Pp.

Is a formal banking system necessary for economic growth? And if so, how did Europe manage to prosper before the proliferation of banks in the nineteenth century? These are precisely the questions that Philip Hoffman, Gilles Postel-Vinay and Jean-Laurent Rosenthal address in the captivating book *Dark Matter Credit*. The authors demonstrate that peer-to-peer lending and shadow banking may provide an alternative explanation for the success of European countries prior to the spread of large-scale banking systems. *Dark Matter Credit* focuses on France, which, as the authors explain "has long been considered a laggard in developing banks" (p. 1).

Dark Matter Credit sheds light on the size and structure of the private lending market in France during the interwar years, as well as the intricate evolution of the financial system in France during this time. The term "Dark Matter" denotes the vast private credit market that was previously undocumented in France, just as dark matter, which makes up 85 percent of the universe, cannot be directly observed. The authors estimate that in 1740, one-third of French households had access to the shadow credit system and total debt in France amounted to 15.8 percent of GDP, which is large even by modern standards.

As we have come to expect from Hoffman, Postel-Vinay and Rosenthal, they provide ample evidence in the book to support their claims. The authors introduce a new data set of nearly 240,000 individual loans from a sample of 99 French credit markets for six years: 1740, 1780, 1807, 1840, 1865, and 1899. They document the meticulous collection of their data in chapter one and Appendix D.

A central focus of the book is on notaries, financial intermediaries who facilitated exchange in private lending in lieu of a banking system. While notaries emerged in the Middle Ages to record oral contracts, notaries eventually evolved into intermediaries that served as lawyers, financial

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advisors and real estate brokers. In the shadow credit market, notaries still assisted illiterate clients, but they also authenticated collateral and provided information about creditworthiness.

The authors chronicle the evolution of the private lending market throughout major episodes of French history, from Old Regime France (chapters one and two) to immediately after the Revolution (chapter three) and throughout the nineteenth century (chapters four to eight). In chapters one and two, the authors document the changes in the private lending market during the Old Regime, including urban centralization of lending as well as the rise of obligations—loans that did not usually specify an interest rate—over annuities—loans that specified a set of payments but no repayment date.

Chapter three documents the turmoil of the French Revolution, including both the beneficial institutional changes as well as the harm from inflation and the end of venality, the latter of which diminished the demand for notary services. In all, the authors conclude that the Revolution "set lending back in France, not because it delayed the arrival of credit markets but because it traumatized markets that had been thriving" (p. 82).

In chapter four, the authors propose that notaries were well-suited to "overcome the thinness of the debt market" (p. 120) and the resulting information asymmetry problem through the development of notary networks. The authors develop a model in which notaries make referrals of creditworthy lenders and borrowers to other notaries through a network, thereby facilitating exchange in a thin market. Each notary has the incentive to refer quality clients or face the penalty of being ostracized from other network notaries for being unreliable. This model is consistent with the growing role of notaries both before and after the Revolution.

Chapters five and six document the rise of notarized letters of exchange and commercial banking in the nineteenth century. In chapter seven, the authors explore the role of commercial banks as complementary to notaries with the former specializing in commercial loans and the later in business mortgages. Finally, chapter eight details the profound rise of prices in the credit market at the end of the nineteenth century. During the previous century and a half covered in the book, interest rates were virtually constant.

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Dark Matter Credit undoubtedly presents a better understanding of French financial development during the eighteenth and nineteenth centuries. Nevertheless, readers unfamiliar with the other work of Hoffman, Postel-Vinay and Rosenthal on the complex institutional history of France may be tempted to draw hasty conclusions from the book to apply to developing countries today. The authors explicitly discourage such inferences in their conclusion (chapter nine), yet discussion in the book on the intricate institutions that influenced France during this time period is, perhaps unavoidably, underprovided.

Overall, I highly recommend *Dark Matter Credit* for business and economic historians of various backgrounds and disciplines. Hoffman, Postel-Vinay and Rosenthal expertly combine "the economist's thirst for systematic data with the historian's desire to tap a wide variety of quantitative and qualitative sources" (p. 231). The book is an excellent guide for conducting and presenting archival research in a manner that clearly explains the process without getting lost in the numbers.

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Wright, Robert, E. Financial Exclusion: How Competition Can Fix a Broken System. Great Barrington, MA: American Institute for Economic Research, 2019. 454 Pp.

In 2018, I had a conversation with economic historian Price Fishback who mentioned to me that Robert Wright had been having a hard time placing a recently completed manuscript on financial discrimination in American economic history. I was somewhat surprised at this revelation as Wright has written many authoritative works on American financial history with which I was familiar and to whose quality I could testify. Fishback also appeared surprised as he pointed out that the work was of great quality (as I expected). It was when the American Institute for Economic Research (where the current reviewer is a senior fellow)