models, mathematical analyses, or economic terminology that require an advanced degree in economics to understand. Complex theories (for example, Arrow's Impossibility Theorem, Goodhart's Law, and Lucas' Critique) are included throughout the discussion with non-technical jargon. This book is written for a reader who has an interest in happiness and a curiosity for how economists have approached the subject in their thoughts and research.

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How Markets Fail: The Logic of Economic Calamities. CASSIDY, JOHN. New York, N.Y.: Farrar, Straus and Giroux, 2009. Pp. 390. $28.00.

John Cassidy is a journalist and author. As a university student, he studied economics at Oxford. Cassidy is a frequent contributor to *The New Yorker*, often writing on economics and business. *How Markets Fail* is an impressive discussion of both economics and business activity. The book is divided into three distinct parts: (1) a discussion of conventional market economics; (2) a discussion of a broader and more realistic economics that acknowledges market failure; and (3) a discussion of the real estate and credit bubbles and the Financial Crisis of 2007-2009.

The first section of the book discusses the conventional economic theory that is based on the perfect competition model. In this model, many buyers and many sellers, each small in size, trade a standardized product. Each buyer and each seller possesses perfect knowledge of market prices, and all resources can easily enter or exit the market. Within this model both resources and products are allocated efficiently.

In perfect competition, prices are determined in the market by supply and demand. These prices serve as signals to producers and consumers and coordinate production and consumption. Arguing from first principles, in other words the assumptions of the perfect competition model, the ideal way of organizing an economy is through private enterprise and competitive markets.

In section two Cassidy discusses a more realistic approach to the study of markets, and he calls this approach "reality-based economics". "Reality-based economics" encompasses a number of developments in

economics including game theory, the economics of hidden information, experimental psychology, and behavioral economics.

Examining the first of these developments, modern game theory evolved from the work of John von Neumann and Oskar Morgenstern. A game can be illustrated as the interaction between duopolists. It incorporates the principles of uncertainty and dependence on the actions of the other firm. In the second development hidden information or unequal information problems exist in many markets, and they are discussed in the work of both George Akerlof and Joseph Stiglitz. Unequal information creates problems for market participants on the side of the market with less information. For example, in the real estate market, the buyers of homes have less information than the sellers of homes.

In the third development of "reality-based economics", the experimental psychologists Danial Kahneman and Amos Tversky have noted that people often fall back on rules of thumb, unsubstantiated beliefs, and evidence from small samples in solving problems. Behavioral economics, the fourth development, has emphasized the importance of hubris and "disaster myopia" in corporate decision making while also illustrating the importance of shortsightedness and procrastination in savings decisions by consumers.

Given the imperfections that exist, Cassidy emphasizes the possibilities for less than ideal performance of markets or market failure. He lists several sources of market failure including: negative spillovers or negative externalities, uncertainty and imperfect information, monopoly or oligopoly power, public goods, and "rational irrationality".

In the case of negative spillovers, the activity of an individual or firm produces negative side effects that adversely affect other individuals. During the summer of 2010, the oil spill in the Gulf of Mexico provided a vivid and tragic example of a negative spillover. The second source of market failure arises from the fact that the future is uncertain. Thus, it is difficult to assign probabilities to future events, and it is also difficult to predict the timing of future events. A third source of market failure is monopoly or oligopoly power. The monopolist restricts output and charges a higher price — raising price above marginal cost and creating a less efficient outcome.

An additional source of market failure is public goods. In the case of a public good, the utilization of the good by one person does not preclude others from utilizing the same good. Secondly, when a public good is

made available, it is difficult to prevent people from using the good without paying for it. In most cases governments provide public goods, such as streets, bridges, and parks, and the goods are paid for through taxes.

The last source of market failure emphasized by John Cassidy is "rational irrationality". In "rational irrationality" following one's own rational personal interest leads to an irrational common or societal outcome. Cassidy uses the recent events in the real estate and credit markets to illustrate this concept in the third section of the book.

The boom in the real estate market was unprecedented as most major cities across the United States participated. There was a significant increase in housing prices during the 1990s. This was followed by a spectacular increase in prices beginning in 1999 and extending to the market peak in the summer of 2006. A number of factors contributed to the boom including: low interest rates, real estate speculation, policy measures by the federal government to promote home ownership, new types of home loans including interest only loans, lower requirements for individuals to qualify for home loans, lending to people with poor credit histories (subprime loans), and securitization.

The lowering of overall lending standards was a key element in the real estate and credit booms. Pressure to increase profits and market share led mortgage lenders such as Countrywide Financial Corporation to lower their lending standards. Loans with lax income verification requirements, loans with low initial monthly payments, and interest only loans were popular with many borrowers, and resulted in increased mortgage sales. As lending standards fell and lenders extended loans to people with poor credit histories, many of the mortgages were classified as subprime mortgages. Mortgage lenders were following their economic self interest and contributing to the real estate and credit bubbles.

Although lenders kept some of the loans they initiated on their books, many loans were passed to Wall Street firms for securitization. These firms bundled mortgages and converted them into mortgage securities or mortgage bonds. Prior securitizations involved prime mortgages, but as the boom continued firms securitized subprime mortgages. These securities were then sold to investors. Wall Street firms generated profits from the securitization process, while fueling the real estate and credit booms.

The turning point, where the boom turned to the initial stage of the crisis, was the decline in housing prices in the third quarter of 2006. This

was followed by the mortgage security crisis in the summer of 2007 and the complete loss of the market for asset-backed commercial paper issued by structured investment vehicles (SIVs) in the late summer and fall of 2007.

The collapse of the "off-balance-sheet entities" or shadow banking system occurred at the end of 2007 and the beginning of 2008. The crisis then spread throughout the financial industry. Firms pulled back, sold assets, and reduced their leverage. The sale of assets led to further declines in asset prices. A financially devastated Bear Stearns was sold to JPMorgan Chase in March of 2008. The failure of Lehman Brothers and the rescue of AIG followed in September of 2008. With a financial meltdown pending, Ben Bernanke (Federal Reserve Chair) and Henry Paulson (Treasury Secretary) went to Capital Hill on September 18, 2008 to ask for funds for a banking industry bailout. In the midst of the crisis "rational irrationality" was at work again, as Wall Street firms sold assets in the middle of a decline in asset prices. They were attempting to protect firm interests while contributing to the financial market collapse.

John Cassidy presents a thoughtful discussion of markets and market economics. In economics and economic policy, as in most areas of human affairs, our challenge is to discover and hold the middle ground. Persistent fervor will always inhabit the edges, both left and right, and special interests will pursue their own agendas, but cooler heads must prevail. On a daily basis, real world markets work well to provide an abundance of goods and services. We see this in our market places and in the level of real GDP. But these markets are not perfect, and there is a need for government involvement to deal with the imperfections and help us avoid the consequences of market failure.

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