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Hegemonic Stability Theory and Economic Analysis:
Reflections on Financial Instability and the Need
for an International Lender of Last Resort

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Charles Kindleberger is rightly regarded as the father of the theory of hegemonic stability, the argument, developed most fully in The World in Depression 1919-1939 (University of California Press, 1973), that the instability of the world economy between the wars reflected the absence of a dominant power willing and able to stabilize the international system. The world economy lacked an international lender of last resort, according to Kindleberger, with the ability and desire to stabilize intrinsically unstable international markets; the result was the worldwide financial crisis of 1929-31 and the economic slump of the 1930s. This argument has left a conspicuous imprint on the field of international relations. What its author originally intended as an interpretation of a specific historical episode was generalized subsequently into a theory that has been applied to virtually every setting in which nations interact.

In intellectual life as in Newtonian mechanics, to every action there is an equal and opposite reaction. So there was a reaction against Kindleberger's interpretation of interwar experience and to attempts to generalize it to other times and places. Political scientists like Keohane (1984) questioned the analytical underpinnings and empirical applicability of the thesis. Economic historians challenged Kindleberger's interpretation of interwar experience, arguing that

the instabilities of those years reflected inadequate international economic cooperation and historically-specific imbalances in the world economy rather than any failure of hegemonic leadership.¹ Experts in money and finance rejected the notion that markets are intrinsically unstable and need to be stabilized by an international lender of last resort. To the contrary, they argued, economic theory in general and efficient-markets theory in particular powerfully supports the presumption that markets are intrinsically stable, efficient and smoothly operating and that contagion effects are negligible. When markets malfunction, they do so because of moral hazard and related problems that arise from last-resort lending and other forms of intervention by governments, not from the absence of such intervention.²

Having previously criticized Kindleberger on the first of these grounds (that the Great Depression resulted from the inadequacy of U.S. leadership), here I defend him on the second. I argue that recent developments in financial theory provide rigorous microeconomic foundations for the fragile, volatile and crisis-prone forms of market behavior identified in Manias, Panics and Crashes and invoked in The World in Depression as an explanation for interwar events. It is incorrect to assert, as is often done, that economic theory in the form of the efficient-markets hypothesis provides no basis for such concerns. From this stand point, whether the problems of market instability identified by Kindleberger are best redressed by hegemonic leadership or international cooperation is a secondary question. It is first necessary to establish that economic theory is in fact consistent with the financial instabilities emphasized by Kindleberger, with the prevalence of contagion across markets and national borders, and with the need for international

¹ My "take" on this question is in Eichengreen (1992).

² See Bordo and Schwartz (1996).

economic management.

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It is tempting to initiate discussion of financial instability by asking whether markets are rational. This is the core question of Manias, Panics and Crashes. But I would argue that this is not the most illuminating way of posing the issue. Market participants have strong incentives to make full use of all available information. Money managers, for example, are generously compensated for the performance of the funds they manage and harshly penalized for performing poorly. And making full and efficient use of all the relevant information is what we mean by rational behavior.

The more interesting question is whether the incentives rational agents possess to adapt their behavior to that of other market participants can result in herding behavior which in turn provokes sudden changes in market sentiment, crashes and financial crises. Casual observation suggests a number of circumstances where investors have an incentive to follow the herd. One classic example is the self-fulfilling bank run problem.³ Imagine a bank that has invested in long-term projects sufficient to pay interest to its depositors and still earn a profit if those projects are allowed to run to maturity, but which suffers a financial loss if it is forced to liquidate those investments early. If no one lines up outside the bank to withdraw his funds, the bank remains solvent and is able to pay high returns to its depositors. But if a queue forms outside the bank, it is in the interest of other depositors to join it, since the last depositors to withdraw will be left

³ A large theoretical literature has grown up around the phenomenon of "self-fulfilling bank runs," following Diamond and Dybvig (1983).

empty handed. The resulting "run" can force the bank into insolvency even if it would be profitable and solvent otherwise.

A second example is the self-fulfilling debt-run problem.⁴ Imagine a country -- call it Mexico -- that has \$20 billion of foreign-currency-denominated debt and only \$8 billion of foreign reserves.⁵ So long as investors continue to hold its debt, that \$8 billion and the country's foreign exchange earnings suffice to maintain service indefinitely, yielding investors a handsome return. But if investors as a group demand that their bonds be cashed in for foreign exchange, the government has only enough reserves to satisfy 40 per cent of them, and the rest are left holding the bag. Hence, as soon as some investors begin to liquidate their holdings, others have an incentive to do likewise. The fact of a run can force default on a government that would remain solvent in its absence.

⁴ Here the seminal contribution is Calvo (1988).

⁵ In fact, the *tesobonos* issued by the Mexican government in 1994 were foreign currency-indexed, not foreign-currency-denominated. But my story does not depend critically on this; one can easily enough tell stories of self-fulfilling debt runs in which the debt is denominated and pays interest in domestic currency.

A third example is the self-fulfilling exchange-rate-crisis problem. Imagine a European central bank (call it the Bank of England) that is happy to peg the exchange rate indefinitely, trading the costs of unemployment now for the benefits of an enhanced reputation for pursuing policies of price stability later and possibly qualifying for participation in Europe's monetary union. In the absence of an attack on its currency, this tradeoff is acceptable. But if investors begin to sell sterling, forcing the Bank of England to raise interest rates, they may tip the balance by raising the costs of pegging (in terms of unemployment now) relative to the benefits (in terms of an enhanced reputation later). A British government which was happy to peg sterling prior to the attack is equally happy to float it afterwards. (Recall the reports of Norman Lamont singing in the shower the morning after Black Wednesday.) Knowing this, other investors will have an incentive to join in bear speculation when it starts. Their speculative attack can prove self-fulfilling.⁶

Each of these illustrations is a special case of a more general class of models of rational herding. (In the discussion that follows I draw on Devenow and Welch (1996), which may be the best survey of this literature to date.) Models of rational herding in which everyone makes the most efficient possible use of the information available to him or her but in which the "madness of crowds" nonetheless prevails are typically built on one of three effects. The first is payoff

⁶ The seminal contributions to the literature on this subject are Flood and Garber (1984) and Obstfeld (1986). These models are applied to the 1992 crisis in the European Monetary System by Eichengreen and Wyplosz (1993). One can readily see how the 1994 Mexican crisis can be interpreted in this light. This is not to suggest that Mexico was simply a self-fulfilling crisis and that all was well in terms of fundamentals. There are good reasons to think that the fundamentals were out of line, and that a correction, in the form of a devaluation, was called for. My point is not to deny this but to suggest that the Mexican crisis also had self-fulfilling features.

externalities, in which the payoffs to an agent adopting an action increase in the number of other agents adopting the same action. Second are principal-agent models in which managers, in order to preserve or gain reputation when markets are imperfectly informed, prefer to "hide in the herd" in order not to be easily evaluated, or to "ride the herd" in order to prove their quality. Third are models of information cascades, in which agents infer information from the actions of others and optimally act alike.

The bank run scenario is an example of models with payoff externalities. Whether I can get my money out of the bank depends on how many other depositors try to do so first. The debt-run and self-fulfilling balance-of-payments crisis scenarios are also examples of situations with payoff externalities. Yet another example is models in which payoff externalities drive information acquisition -- agents will find it worthwhile to acquire information only when other agents do so.

In the second class of models, rational herding is caused by principal-agent problems. Managerial evaluation is often based on relative, not absolute, performance. People typically judge their mutual fund manager by how well he does relative to his competitors, for example. A manager may therefore prefer to mimic others, ignoring his own private information, to avoid being revealed to be of low ability. The simplest set-up in which this behavior can arise is one in which informative signals received by better managers are correlated but uninformative signals received by worse managers are not. Then when a manager invests in an ex post bad security, this reveals his low ability only if the other managers did not invest in the same security. If enough managers opt for a particular decision, even the better managers may do the same instead of risking being the only manager undertaking what turns out to be an poor investment ex post.

(Those who chart the predictions of economic forecasters will know that they too display a tendency to herd, with their forecasts clustering around one another's, presumably for analogous reasons.)

In the third class of models, herding is driven by information externalities (known also as cascades). The idea is that agents gain information from observing previous agents' decisions, to the point where they may be led to rationally ignore their own private information. For example, an investor with positive private information about the Mexican public finances may be swayed to sell *tesobonos* anyway if he sees that 18 investors have just sold them (the negative information in the 18 sales may outweigh his private positive information). Subsequent investors will have an incentive to act alike even though everyone is aware that the 19th investor's decision to sell conveyed no additional information. This model can explain clumping on an incorrect decision (universal herding), fragility (in which a little bit of public information can reverse long-standing cascades because cascades can arise after only very little information has been publicly aggregated), and strong dependence on initial conditions (in the present context, on the first few investors' decisions to sell).

Thus, rational herding can arise in a wide variety of circumstances. It is not necessary to believe in payoff externalities; instead one can believe in principal-agent problems or information cascades. It is not necessary to believe in investor irrationality in order to get manias, panics, crashes, crises and contagion in the absence of large changes in fundamentals. The implication is that financial markets will tend to be volatile and erratic. Large market movements -- crises for lack of another term -- can occur in response to very little new information. A small change in initial conditions -- a mild change in sentiment on the part of a few investors, for example -- can

create an information cascade which leads to massive sales of a financial asset. Crises can cascade across borders, destabilizing the international financial system.

These are circumstances in which multiple equilibria can arise -- one equilibrium in which the Mexican government is liquid and solvent, for example, and one equilibrium in which it is not. And not all of those equilibria are equally good. This creates a prima facie case for intervention to keep markets from shifting from the good to the bad equilibrium. Counterarguments can be mounted against such intervention, on grounds of moral hazard, for example. The point is that they cannot be mounted on the grounds that the efficiency of markets prevents crises and crashes unprovoked by "fundamentals" from happening in the first place.

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Kindleberger's interpretation of the interwar economic crisis and by implication the theory of hegemonic stability have been criticized on several grounds. Economists and economic historians of the free-market persuasion have not hesitated to challenge his characterization of financial markets as fragile, volatile and susceptible to crisis and contagion, and have leapt from there to the conclusion that international-lender-of-last-resort intervention is the problem, not the solution. The implication, it would appear, is that the motivation for the debate over the theory of hegemonic stability is fundamentally misplaced.

I have argued here that this is a misreading of theory as well as evidence. Developments in economic analysis since Kindleberger's contributions in the 1970s have provided firm microeconomic foundations, rigorously grounded in rationality and self-interested behavior, for the historical phenomena he describes. Scholars continue to debate how these problems have

been most effectively met and whether or not historical experience is supportive of the theory of hegemonic stability. My point is to reassure social scientists who till these fields that this debate remains as timely and relevant as ever.

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