domestic interest rates and a loss in foreign reserves, and unless subsequent economic conditions turned out exceptionally favorably, a devaluation would likely ensue.

This scenario captures aspects of the EMS crisis that erupted in September 1992. Notice that reserve losses certainly accompany a crisis, but they are not the factor that triggers it and not the factor that ultimately leads the authorities to devalue. Even a version of the model without multiple equilibria suggests that negative output shocks can trigger devaluations. If such shocks are persistent (contrary to the assumption made above), higher interest rates and reserve losses will tend to precede realignment (1). Persistent output shocks can also throw the economy from a configuration with a sole equilibrium into one with several.

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If speculative currency crises are a manifestation of possible multiple equilibria, an obvious barrier to understanding them is the lack of any convincing account of how and when market expectations coordinate on a particular self-fulfilling set of expectations.

More generally, we have no more than an inkling of the factors that cause speculative attacks to occur on some days rather than on others. Obvious economic and political tensions can endure for some time before an attack occurs, with the proximate cause of the attack some seemingly trivial event that takes on significance only when viewed as the culmination of a series of signals concerning the economies involved and the resolve of their authorities. Thus, one can make cogent arguments as to why uncertainty over the Maastricht Treaty's future led to currency turbulence in the second half of 1992, but why was Black Wednesday not Black Tuesday or Black Thursday? To explain this timing (if indeed there is an explanation), one must postulate a model in which the market's response to a series of informative signals ultimately precipitates a crash. Caplin and Leahy (1994) explore such a model in the context of industry investment, but its heavy reliance on private information makes a direct extension to the foreign exchange market context problematic. More work on this problem is needed and under way.

The models developed in section 2 raise the basic question whether the crises they portray result from "fundamentals" or from "purely" self-fulfilling expectations. This dichotomy is a false one. The fundamental factors in these models are the dynamic-consistency problems implied by the preferences and constraints of governments. The constraints themselves are endogenous through their dependence on market expectations, and this critical endogeneity, combined with the authorities' inability to adhere to preordained rules, leads to multiplicity. Institutions that tie authorities' hands can eliminate the multiplicity problem. Absent such institutions, however, and given official objectives, the danger always exists that expectations produce equilibria in which the authorities prefer to abandon their prior exchange rate targets.

(1) Drazen and Masson (1993) present some empirical evidence supporting this mechanism as a component in determining the credibility of EMS exchange-rate commitments.