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THE EMERGENCE AND PERSISTENCE OF
THE U.S. EXTERNAL IMBALANCE, 1980-87

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AND

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The authors of this Study, Peter Hooper and Catherine L. Mann, are, respectively, Assistant Director and Economist in the Division of International Finance, Board of Governors of the Federal Reserve System. During part of the time that this study was written, Peter Hooper was a guest scholar at The Brookings Institution and Catherine Mann was on a Ford Foundation fellowship at the National Bureau of Economic Research and a member of the staff of the World Bank. The authors have written and published widely in the fields of international trade and finance.

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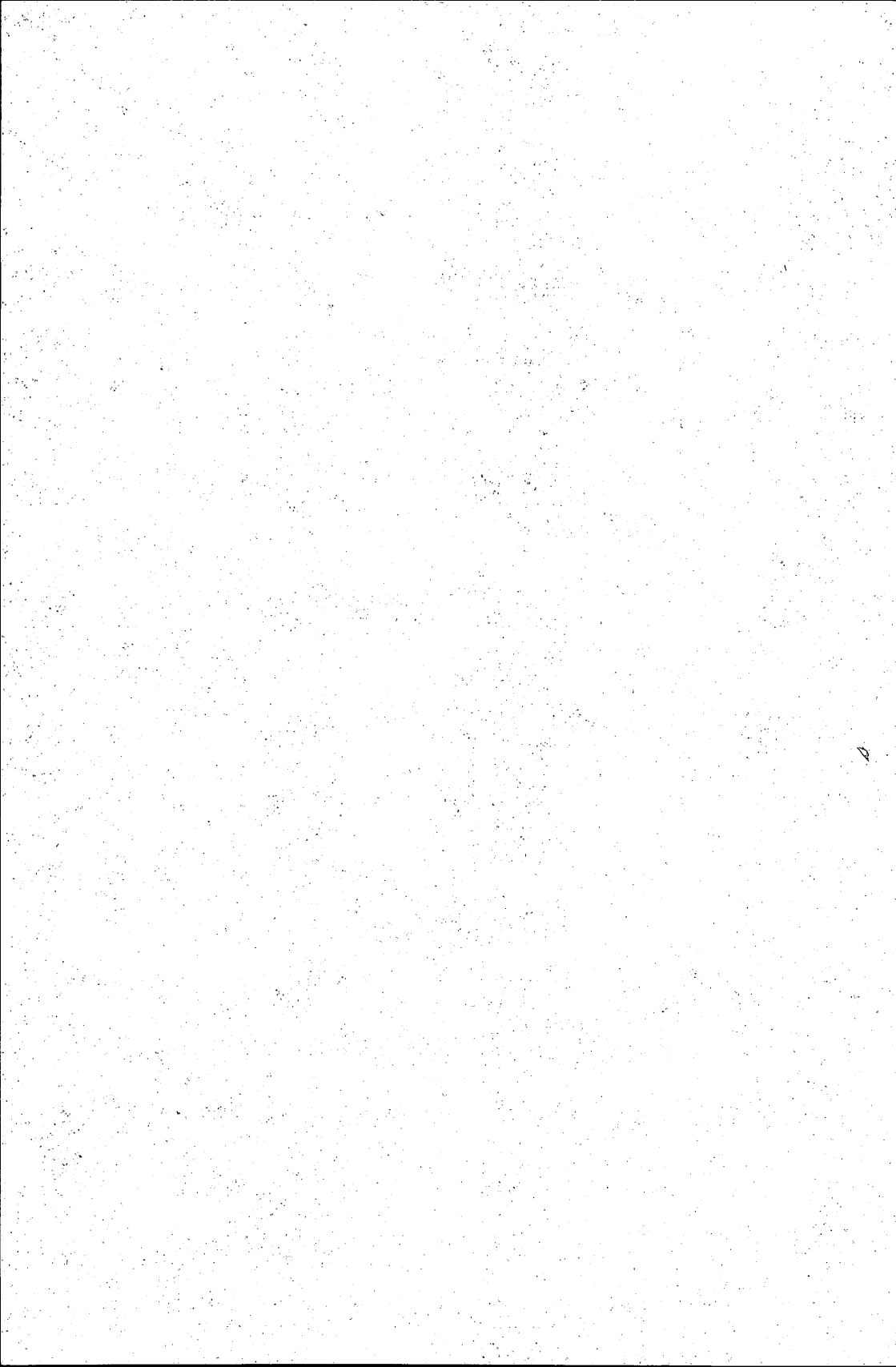
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1 INTRODUCTION AND SUMMARY

The emergence of a massive U.S. current-account deficit has been one of the most striking and troublesome macroeconomic developments of the 1980s. This study analyzes both the initial causes of this deficit and the reasons for its persistence through 1987 despite a sharp decline in the dollar between early 1985 and late 1987.

Much has been written on the causes of the deficit and, more recently, on its persistence. We begin with a review of this literature in Chapter 2. We see several distinct perspectives on the causes and persistence that are, in fact, complementary; to a certain extent, these perceptions reflect different levels of analysis from within an internally consistent model.

At one level, a number of studies have attributed the deficit to the decline in U.S. price competitiveness (associated with the appreciation of the dollar during the early 1980s), the relative strength of domestic growth in the United States, and the international debt situation. The relative importance of these factors in explaining the origin of the deficit varies across the studies, as do the roles these factors may play in resolving the deficit.

At a more fundamental level, the origin of the deficit has been attributed to shifts in U.S. monetary and fiscal policies that reduced the national savings rate while raising real interest rates, domestic growth, and the dollar, relative to other countries. Several studies blame the U.S. fiscal expansion as the major causal factor; some even claim that the external deficit will persist until the federal budget deficit is reduced. Others stress the importance of the U.S. monetary contraction in the early 1980s and exogenous shifts in international preferences for dollar assets.

While the literature focuses predominantly on macroeconomic causes, bilateral deficits with certain countries, particularly Japan, have been exam-

The views expressed in the study are the authors' and do not necessarily reflect the views of the Federal Reserve Board, the World Bank, The Brookings Institution, NBER, or other members of their staffs. This study represents a major revision, updating, and extension of a paper by the same authors entitled "The U.S. External Deficit: Its Causes and Persistence," which was originally prepared for a conference on "U.S. Trade Deficit: Causes, Consequences and Cures" at the Federal Reserve Bank of St. Louis on October 23-24, 1987, and appears in a conference volume of the same title edited by Albert E. Burger and published by Kluwer Academic Publishers of Boston. We have benefited significantly from the extensive comments and suggestions of an anonymous referee, as well as from comments and suggestions by William L. Helkie, David H. Howard, Ellen E. Meade, Jaime R. Marquez, Kathryn A. Morisse, and Lois Stekler. We also thank Virginia Carper, Lucia Foster, and Kathryn A. Larin for their excellent research assistance.

ined from the microeconomic standpoint as well. These studies find microeconomic distortions, such as financial deregulation, agricultural policy, export controls, and foreign-trade barriers, to be of secondary importance as *causes* of the deficit. However, the role of trade barriers in the *persistence* of the deficit may be more important. Because so much attention is being given to microeconomic—particularly protectionist—solutions to the deficit, we devote considerable space to microeconomic reasons for the deficit and its persistence.

Chapter 3 presents our own framework for macroeconomic and microeconomic analysis, which is general enough to encompass the various perspectives outlined in the literature review. The basic macroeconomic framework is drawn from an expectations-augmented Mundell-Fleming model. We outline the partial-equilibrium net export sector, as well as various accounting identities related to the external balance, that can be extracted from the underlying macroeconomic model. We also describe the model of exchange-rate determination that is used in our empirical analysis.

In Chapter 4 we briefly review the data on the widening and persistence of the external deficit in both real and nominal terms. This review covers trends in the overall deficit and its major trade and service-account components since 1980, as well as some details on key developments in the trade account by commodity and region and by quantity and price.

Our empirical analysis of the partial-equilibrium “causes” of the deficit—that is, the roles of relative economic growth and changes in relative prices—is presented in Chapter 5. On the basis of an analysis of conventional trade equations, we find that the change in relative prices associated with the rise in the dollar between 1980 and early 1985 was the most important partial-equilibrium factor. The relatively rapid growth through 1986 of GNP and especially domestic expenditures ($C + I + G$) in the United States, as compared with the rest of the world, also contributed significantly to the widening of the deficit through 1986. In empirical tests, we find little basis for choosing between GNP and domestic expenditures as the determinant of trade volumes, and we conclude, largely on *a priori* grounds, that a combination of the two is appropriate. Using either measure of growth, the widening of the deficit between 1980 and 1986 can be more than accounted for by changes in prices and growth in the United States relative to the rest of the world.

We also find that a conventional macro trade model that reflects the experience of the past two decades (a slightly revised version of the model documented by Helkie and Hooper, 1988) performs reasonably well in predicting the persistence of the *nominal* trade deficit through 1987. That is, the persistence of the nominal deficit can be explained for the most part by normal lags in the adjustment of trade flows to exchange-rate changes. How-

ever, the model does noticeably less well in explaining the persistence of the trade deficit in *real* terms. While the trade deficit measured in constant dollars was substantially smaller in 1987 than it would have been if the dollar had not declined from its peak (*ceteris paribus*), trade volumes were adjusting more slowly to the fall in the dollar than the model predicted. The model's prediction error reflected in part the underprediction of import volumes owing to the overprediction of import prices. Import prices rose less rapidly than past experience would have suggested, given the magnitude of the decline in the dollar, partly because of an apparent squeezing of foreign profit margins. The sluggishness of import prices also reflected to a significant degree a reduction in foreign production costs that is not adequately picked up in movements in aggregate foreign prices, and a continued sharp decline in prices of business machines, whose share in imports has been growing rapidly. We discuss the measurement of foreign costs and the merits of alternative measures of U.S. import prices at the end of Chapter 5.

In Chapter 6 we analyze the causes of the deficit at the more fundamental level of the domestic and foreign policy mix. This chapter begins with an analysis of the contribution of changes in long-term real interest rates to movements in the dollar in real terms (based on an open-interest-parity model). We find that this primary channel through which macroeconomic policies influence real exchange rates can explain much, but not all, of the longer-term movements in the dollar in real terms. We then draw on the results of simulations with a wide range of macroeconomic models in an effort to quantify the effects of shifts in policies. The simulation results suggest that the fiscal expansion in the United States and the fiscal contraction in other industrial countries during the first half of the 1980s can explain about two-thirds of the U.S. external deficit, but that they explain a much smaller proportion of the rise in the interest differential and the dollar. According to the models, the shift in relative fiscal policies alone (holding money growth at home and abroad unchanged) would have widened the current-account deficit primarily through a greater increase in GNP growth in the United States than abroad. However, when the shifts in fiscal policies are combined with the relative tightening of U.S. monetary policy that took place in the early 1980s, we can explain roughly two-thirds of both the rise in the dollar and the widening of the external deficit. The remainder of the deficit we attribute to debt problems in developing countries, to agricultural policies, to a significant appreciation of the dollar during 1984 that was not related to economic fundamentals, and to a decline in the U.S. private savings rate.

In Chapter 7 we turn to an analysis of microeconomic factors that may have contributed to the deficit and its persistence. In particular, we examine the pricing behavior of U.S. and foreign exporters and possible structural

changes in the passthrough relationship that may help to explain the persistence of the deficit. We also investigate the contribution to the external deficit of protectionist policies and other barriers to trade at home and abroad.

We find evidence of a shift in the pricing of U.S. imports and exports that has tended to dampen the effects of the dollar's decline and prolong the deficit. We suggest that barriers to trade, both at home and abroad, probably contributed only marginally to the initial widening of the deficit. However, protection abroad, along with quantitative restraints on U.S. imports and restrictions at home on U.S. exports, may have become a more significant factor underlying the recent persistence of the deficit despite the dollar's sharp decline.

In Chapter 8 we present our conclusions, as well as the implications we draw from this study of the past and present for possible courses of action in the future.

2 LITERATURE REVIEW

The magnitude of the U.S. current-account deficit is nearly matched by the volume of material that has been produced to explain its existence. Our objective in this chapter is not so much an exhaustive review of the literature as an attempt to generalize it and place it within a common framework, which is developed further in the next chapter. From this common framework we can learn how the similarities and differences of emphasis and results yielded by these analyses can generate quite different views on appropriate and effective policy for reducing the deficit.

There are three distinct but related approaches to analyzing the causes of the deficit. Two are macroeconomic in focus; the third is microeconomic. These approaches are distinct in that they can lead to different policy prescriptions, but they are related in that they are all derived to some extent from the basic open-economy IS-LM model. The approaches are distinguished by the degree to which they (a) focus on the partial-equilibrium current account per se, (b) explain the movements in the variables that are taken as exogenous in the partial-equilibrium approach by analyzing the deficit within a full general-equilibrium model, (c) focus on accounting identities that are derived from a general-equilibrium model, or (d) factor microeconomic incentives into the analysis.

One of the key factors influencing the slow adjustment of the real trade deficit appears to be the behavior of import prices. (A complete discussion occupies the last section of Chapter 5 and Chapter 7.) Therefore, much of the literature on persistence focuses on microeconomic theories of pricing strategies and evidence from industry. Pricing strategies are found to depend on strength of market demand, degree of market competition, adjustment costs, and expectations about exchange-rate movements. We review first the literature on causes, and then the literature on persistence.

The partial-equilibrium "elasticities" approach usually ascribes the widening of the deficit to the appreciation of the dollar and the differences between growth rates of economic activity in the United States and in the other industrial countries. The debt crisis is often assigned a separate role. This is partial analysis in that the movements in the dollar, the differences in economic activity, and the debt crisis are taken as given. The theoretical foundations for this approach are outlined in Laursen-Metzler (1950), which examines the conditions for a successful devaluation, and Dornbusch (1980), for example.

Authors representing this strand of the literature do not necessarily agree on the attribution of the deficit to the two major factors, dollar appreciation and growth, and so they may not agree on policy prescriptions. For

example, even though Bergstrand (1987), Bryant and Holtham (1987), Helkie and Hooper (1988), Krugman and Baldwin (1987), Marquez (1988a), Marris (1985), Reinhart (1986), and Richardson (1987) agree that the rise in the dollar accounts for most of the deterioration in the current account, they interpret this result from different policy perspectives.

The volume equations are specified differently by Helkie and Hooper (HH), Krugman and Baldwin (KB), Marquez, and Marris, who provide perhaps the most comprehensive sets of estimates. HH use GNPs as activity variables and include a proxy for secular shifts in relative supplies (which are not adequately captured in movements in relative prices) in a model of the U.S. current account, whereas KB use domestic expenditures and do not include proxies for supply shifts in a model of the partial trade balance. The result is that HH attribute substantially less of the deficit to the income growth differentials (since the GNP growth differentials were much less than the domestic-expenditure growth differentials and since the inclusion of supply proxies tends to reduce the income elasticity of demand for imports). Nevertheless, even with their specification, KB suggest that we would still be left with a sizable deficit even if the growth gap were closed. They conclude that a trend decline in the dollar is necessary to close the deficit. Bosworth (1987), commenting on KB, notes that the importance of trend terms in U.S. trade equations has been declining over time, thereby casting doubt on KB's conclusion. Hooper (1987), also commenting on KB, notes that the supply proxy in the HH model has been decelerating over time, consistent with Bosworth's findings.

Marquez uses GNP with no supply proxies in a global bilateral model of merchandise trade and attributes about two-thirds of the U.S. deficit to appreciation of the dollar and one-third to relative GNP growth. In a model of the U.S. current account (with imposed coefficients, and in which aggregate trade-volume equations are a function of GNPs and relative prices), Marris concludes that the growth gap accounts for about a fourth of the \$103 billion widening of the current-account deficit between 1980 and 1984, while the strong dollar accounts for about two-thirds. The debt crisis and the decline in net investment income account for the rest.

Bergstrand and Reinhart both estimate bilateral trade equations. Bergstrand covers bilateral trade between the United States and Canada, France, Germany, Japan, and the United Kingdom; Reinhart covers just U.S.-Japan trade. Bergstrand's results corroborate the results of HH's and KB's work. Reinhart attributes a significantly larger amount of the bilateral U.S.-Japan trade deficit to the slow growth of income in Japan relative to the United States, suggesting a greater role for jawboning the Japanese into expanding their economies.

Bryant and Holtham (BH) reflect on the results of a January 1987 Brookings workshop on the U.S. current account, which compared simulations