Section IV: International Economic Issues
Economic Instruments to Support National Security: What Has the United States Learned? What Does It Need?

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Economic policies support a wide range of U.S. national interests: prosperity and tranquility at home; stability, growth, and democracy abroad; U.S. international political influence; and U.S. national security. This paper focuses on the last of the above categories of U.S. interests—national security. It asks what experience has shown about the role of economic policy and economic instruments in promoting national security and what new capabilities or instruments Washington may wish to have in coming years.

The most recent Quadrennial Defense Review (QDR) proposed a useful way of thinking about policies intended to advance U.S. security interests. In broadest terms, U.S. national security objectives are of three sorts. The United States must respond to developments that threaten its national security interests. It must prepare now to meet threats and challenges that may appear in the future. And it must shape the international environment in a way that promotes stability and security. Economic instruments are not equally effective for all three purposes. For some purposes, Washington probably cannot expect much from economic instruments. For other purposes, though, improved capabilities and instruments may make important contributions.

Each of these objectives should be considered in turn.

Responding to Threats and Challenges

The history of the 20th century, and of all earlier centuries, for that matter, is filled with examples of nations seeking to use economic instruments—usually economic sanctions of some sort—to weaken a military opponent; to remove or reduce a security threat; or to deter, halt, or diminish the intensity of military operations. Occasionally, these economic measures have proven effective. (U.S. refusal to give Britain access to dollar credits during the Suez crisis of 1956 may be the most striking recent example.) But in many more cases, sanctions have proved ineffective in ending, containing, or reversing threatening developments
once a security crisis is actually underway.\(^1\) Recent years have seen a disappointing succession of apparent failures of economic sanctions to eliminate or to reduce security threats. Sanctions have not toppled Saddam Husayn or resulted in a clear cessation of Iraqi efforts to produce weapons of mass destruction. Years of economic isolation did not stop North Korea from seeking nuclear capabilities or from developing and exporting dangerous missile technologies. Economic sanctions against Serbia did not prevent, terminate, or obviously reduce the ruthlessness of wars in Bosnia or Kosovo. Threats of economic sanctions did not prevent India or Pakistan from developing and testing nuclear weapons.

That economic sanctions have a poor record of ending acute security crises should not be surprising. The pain caused by sanctions is typically cumulative, increasing only gradually over time. But over time, the targets of sanctions can find alternative sources of supply, ways of evading the sanctions, and other coping mechanisms. Effective sanctions also typically require broad domestic and international cooperation if they are to be effective, and the passing of time makes holding together a coalition increasingly difficult. Even if they cannot find immediate relief from the effects of sanctions, target regimes can hope that, if they hold out just a little longer, sanctions may be evaded or eased.\(^2\)

More important, U.S. policymakers are coming to realize that sanctions can sometimes be counterproductive. Too often, it is the common people who bear the brunt of broad economic sanctions against an entire country. Government officials and leaders—most often the cause of security problems in the first place—can often insulate themselves from the worst effects of sanctions. Because the national leadership controls what remains of scarce resources, its power over the common people and its ability to suppress internal opposition may actually be enhanced by sanctions. And in times of national hardship—especially when access to outside information is limited—people may rally around an otherwise unpopular national leader. In both Iraq and Serbia, it is sometimes argued, economic sanctions have served to strengthen dangerous regimes.

For both practical and moral reasons, then, sentiment in the developed world seems to be shifting away from support for broad sanctions and toward so-called “smart” sanctions that spare the general populace but target problematic leaders.


\(^2\) During the Suez crisis, in contrast, the United States was able—unilaterally—to impose immediate and severe punishment on Britain by denying access to dollar credits at a time when British foreign exchange reserves were being rapidly depleted and when Britain needed foreign exchange to pay for oil imports.
Examples of such smart sanctions are prohibitions on leaders’ travel outside their own countries and attempts to block their financial transactions or to seize their financial assets.

Can the United States make better use of economic instruments in responding to acute security crises? Probably not. The most effective and acceptable economic instruments will be those that target dangerous leaders directly. But leaders have considerable capabilities to hide their affairs among those of their people, and outsiders have seldom been successful at identifying and blocking transactions that will affect only leadership interests. Continuing commercial and financial innovation and the rapid spread of strong communications encryption, which serve legitimate national and international interests as well as those of dangerous dictators and international terrorists, will make such efforts more difficult in the future. In the global economy, no one knows if you’re a dog—or a dictator.

The bottom line, then, is that economic instruments will generally be ineffective as responses to acute security crises, and what effectiveness they do have will probably be eroded in the future. Although it will certainly remain worthwhile to pursue “smart” sanctions against dangerous leaders whenever possible, there seems little point in trying to create new capabilities or instruments for these purposes. Such capabilities—the ability by governments to delve deeply into the details of international financial transactions, for example—would bring their own dangers, which may be worse than the dangers they might help to control.

Preparing Now for Future Threats and Challenges

Although economic policies are not the most effective means to respond to current threats, they can be quite useful at preparing for future challenges. Economic policies and instruments contribute to national security by creating the broad economic capacity to support a robust military, a global political and military presence, technological superiority over potential adversaries, and sufficient domestic unity of purpose to use military interests if this should become necessary. At the moment, the U.S. economy seems supremely capable in these regards. Economic growth has been robust in recent years. And although policymakers must expect some slowing of growth in coming years, there is no reason to believe that solid growth—at rates sufficient to yield continuing meaningful improvements in living standards—cannot be sustained indefinitely. Not all Americans, of course, have shared equally in recent economic growth, but the last few years have also seen a start toward narrowing the income inequalities that emerged and grew during the 1970s and 1980s. The U.S. economy is producing technological advances at a dizzying rate, and a strong
government fiscal position has allowed the U.S. military to incorporate much of this new technology into weapon systems that far surpass anything that is available to militaries elsewhere in the world.

In short, the United States seems to be doing a good job at creating the economic conditions necessary to support a robust national security posture. There is also a general consensus about what is required to maintain this happy state of affairs: fiscal policy that does not create competition for resources between a government that needs to finance a deficit and a private sector that needs to invest; low inflation and the stable planning environment that low inflation makes possible; government involvement in economic affairs that is limited and selective—more limited and selective, policymakers are learning, than had been thought in earlier years; and avoidance of regulation and taxation that falls heavily on innovation and investment.3

More controversy surrounds the use of economic instruments to retard development of key military capabilities by potential adversaries. Recent experience demonstrates how difficult it has become—if indeed it was ever possible—to distinguish between potentially dangerous military technologies and closely related but innocent civilian technologies. Recognition that the United States maintains effective control over very few technologies anymore and that even close allies are willing to sell or otherwise transfer technologies that Washington might prefer to restrict has led to a gradual—and generally welcome—reduction of U.S. efforts to control technology exports. Moreover, because there are few effective controls today on the movements of ideas and the people who carry these ideas, any attempt to control technology transfers will amount to little more than a delaying action. The United States is also coming to realize that, in some circumstances, the best protection against foreign development of potentially troublesome technologies may be to make the services generated by such technologies easily and cheaply available. Offering global positioning, remote sensing, and space-launch services on very attractive terms may do more to slow the development of threatening capabilities abroad than will any export-control regime.

If the possibilities are limited for keeping particular technologies out of the hands of determined adversaries, then the only way to retard the development of

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3 Although there is little reason to change the general thrust of U.S. economic policy today, policymakers must recognize that the strong performance of the U.S. economy—or at least the perception that the economy is performing strongly—is characteristic of only the last decade or so. As recently as the late 1970s, there was widespread talk of U.S. economic “malaise.” And in the 1980s, some influential observers argued that the “American model” of economic organization could not sustain robust growth and that the burdens of maintaining a large military would eventually undermine U.S. prosperity.
threatening military capabilities may be to undermine a potential adversary’s overall prosperity—in the hope that the adversary will simply be too poor to make use of advanced technologies. Many will see this approach as morally questionable, however, especially since even very poor countries—Pakistan and North Korea, for example—seem to have the resources to make themselves very dangerous indeed.

It seems, then, that Washington is already doing pretty much what it should to ensure that the U.S. economy will support future national security needs. Similarly, there seems little prospect that economic instruments can effectively slow the development of threatening military capabilities abroad.

Shaping the International Environment to Promote Stability and Security

The preceding sections suggest the need for no major new economic instruments or initiatives. Economic instruments have a limited utility in responding to acute crises. And Washington already has in place the economic policies necessary to prepare for future security challenges. The situation is very different, however, with regard to shaping the international environment so as to promote stability and security. Not only is there much to be done; the United States needs a thorough rethinking of how to use economic instruments for these purposes.

Since the end of World War II, few if any of the security crises that have threatened important U.S. interests have had their roots principally in failures of economic policy. (Arguably, a flawed economic development program contributed significantly in the late 1970s to the fall of the shah, the rise of an Iranian government hostile to the United States, and the taking of U.S. diplomats as hostages.) In the just the last five years, however, economic crises in Mexico, Indonesia, Korea, and Russia could easily have degenerated into serious security crises. That they did not can be attributed more to energetic “ad-hockery” and dumb luck than to any effective precrisis shaping of the international environment. Certainly, none of these countries is immune to renewed economic troubles that could threaten further turmoil and instability. Similarly, no great imagination is required to envision economic problems triggering political and possibly security problems in Turkey, Saudi Arabia, Egypt, China, Central Asia, South Asia, and much of sub-Saharan Africa.

Can economic policies or instruments contribute to future peace and stability by heading off the economic crises that can wreck governments and societies, promote conflict over limited resources, bring ethnic tensions to a boil, or tempt neighbors to aggression? Arguably, yes—if only because ineffective or
inadequate international economic structures and institutions have clearly undermined stability in the past.

There is general agreement on the broad objectives of an effective shaping strategy:

- Reliable and sustainable economic growth throughout the nonindustrialized world, with at least some progress toward a more equitable distribution of income and wealth.
- Integration of national economies into the larger global economy on the basis of market principles—because openness and market-orientation bring material benefits, erode isolation, and encourage political pluralism, thereby reducing the power of would-be autocrats.4
- Dependable flows of investment into developing economies.
- Mechanisms for coping with inevitable crises of confidence in national economic policies and prospects.

Sadly, the only consensus possible today regarding the implementation of such a shaping strategy is that current institutions and understanding about how to achieve these objectives are hopelessly inadequate. Bitter experience has eroded U.S. faith in models of economic development assistance that support large infrastructure projects or channel large volumes of resources through government entities. What is needed is a means of working through nongovernmental channels to mobilize sufficient and substantial resources to help support small-scale projects. The problem is that no fully convincing models have yet been developed to do so.

Private investment flows can be of sufficient magnitudes to bring significant changes in productivity and living standards, and such investment may also bring a necessary discipline to avoid the pitfalls of political expediency and corruption that can plague government-directed development efforts. But experience has taught that private investment flows can be very volatile and that a sudden outflow of capital can be economically, politically, and socially devastating—so devastating that the yesterday’s orthodoxy favoring free international capital flows is now under serious attack. The danger of sudden reversals in investor sentiment is heightened because critical information about national economic policies and conditions and about the magnitude and destination of international capital flows is unavailable or of questionable

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4 These latter considerations constitute, of course, the best argument for permanent normal trade relations with China.
completeness or reliability. Without reliable and timely information, investors will sometimes imagine the worst or suddenly realize that the worst is really true and flee en masse.

Moreover, failures, in the eyes of many observers, to enact effective international protections for the natural environment or workers’ rights and to promote equitable income distribution have undermined support for market-oriented globalization.

The magnitude of capital flight in recent financial crises has shown the inadequacy of resources available to international financial institutions, and the deployment of those resources and the conditions imposed on recipient countries in return for assistance have generated serious controversy. The International Monetary Fund (IMF) is widely seen as having misdiagnosed the Asian economic crisis in 1997 and 1998 and therefore responding counterproductively. IMF support for Russia has been characterized as perpetuating misguided economic policies and a corrupt regime and postponing necessary institutional change and true reform. Indeed, the very existence of the IMF and its implicit guarantees in times of crisis may have encouraged lenders, borrowers, investors, and governments to pursue the sorts of risky strategies that eventually led to the crises. Although few in the policy mainstream are yet calling for abolition of the IMF and the World Bank, there is a growing recognition that both institutions are in need of major reform, restructuring, and redirection. Unfortunately, no consensus has yet emerged regarding the character or the objectives of such reform.

The most pressing and dangerous gap in economic policies and instruments today, then, is the lack of effective institutions and practices for promoting sustainable economic growth and minimizing the likelihood and the magnitude of future economic crises. In the absence of such policies and instruments, the United States must expect further economic crises. Some day, one of these economic crises is likely to boil over into a serious security crisis.

The problem is deeper than this, however. What is required is much more than that a group of well-informed, well-intentioned, and technically competent technocrats design new institutions, policies, and safeguards. Before these technocrats can go to work, economic actors, government officials, and international civil servants must arrive at a new, shared perception of how a truly global economy operates, what can go wrong, and what supports need to be built to sustain such an economy. Such a perception emerged from the Bretton Woods conference near the end of World War II, and out of this perception grew the IMF, the World Bank, and a general agreement on the importance of reducing
trade barriers. Today’s world is much different than the world of 1944, however, and policymakers have no similar set of guiding principles.

What Is to Be Done?

Guiding principles will not appear magically. Fortunately, much of the difficult academic and practical work needed to understand the functioning of the modern international economy is already under way. Some pieces of the necessary institutional structure can be identified today, but many questions remain.

The most pressing need today is for enlightened leadership to create a new consensus about how to shape the international economic environment. Because of its size and dominance in this economy, the United States—and therefore the next U.S. administration—cannot escape responsibility for providing this leadership. But for all its size and dominance, the United States cannot shape the international economic environment unilaterally. The needed economic institutions and policies will be international and so, therefore, must be the actions and hence the leadership that will bring them into existence.
Strengthening the International Financial System

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The last 20 years have seen dramatic instances of turmoil in international financial markets: the developing country debt crisis of the 1980s; crises in European exchange-rate arrangements in 1992–93; the Mexican financial crisis of 1994–95; the Asian financial crisis of 1997–98; and the Russian financial collapse and default in 1998. Just in the 1990s, there were four episodes of international financial “contagion,” in which financial trouble in one or a few countries “infected” others. Concerns about the sustainability of exchange-rate targets spread from one European currency to another, and eventually ten members of the European Exchange Rate Mechanism devalued their currencies in 1992–93. The Mexican crisis of 1994–95 brought Argentina to the brink of financial collapse. Banking problems in Thailand eventually undermined investor confidence in other parts of Asia. And the Russian default of 1998 triggered a subsequent devaluation by Brazil.

These episodes of financial instability brought disruption, recession, uncertainty, social conflict, and sharply increased poverty. Development efforts were interrupted. In a few cases—Indonesia is the most dramatic example—financial crises toppled governments. Fortunately, the United States has avoided serious damage in these crises, although the debt crisis of the 1980s was a close call. But it would be naïve to imagine that this country or its interests are immune to the effects of financial turbulence elsewhere. As the United States becomes more connected commercially and financially to the rest of the world, trouble abroad will have echoes—or worse—at home. And vital U.S. interests—a cohesive Europe, prosperity and democracy in Mexico, stability in Asia, market-oriented reform in Russia—have been threatened by financial crises of the last few years.

It will never be possible to eliminate financial instability completely, nationally or internationally. But steps can—and must—be taken to make crises less frequent and less severe and to manage the crises that do occur more effectively and at less cost in resources and human suffering. Doing so will require a combination of reformed national policies and more effective international institutions and
arrangements. Serious work will be required to reshape and strengthen what has become known at the international financial architecture.

Reforming National Policies

At the national level, none of the victims of financial instability was blameless. Every country adversely affected by the financial crises of the last 20 years—even countries caught up in waves of contagion—were made vulnerable to crisis by their own policy lapses. Some clear lessons about national policies have emerged from the turmoil of the last two decades.

First, financial transparency is essential. If markets are to perform their main function of directing resources to the most productive uses, market players must understand the true state of affairs. Clear, comprehensive, and timely reporting on government finances, central bank operations, the condition of banking systems, and the financial position of key nonbanking concerns is essential. An unpleasant surprise about a country’s financial circumstances is enough to start a panic. Further, when investor confidence in one country has been shaken, investors begin to worry about all the things they don’t know about other countries.

Second, current account deficits can be sustained only if the associated capital inflows finance productive investment. An inflow of capital from abroad is the necessary counterpart of a current account deficit. It is, therefore, appropriate for emerging-market economies to run current account deficits. But foreign investors will demand returns, and foreign debts must be serviced. If the initial capital flows are put to productive uses, making the necessary payments to creditors and investments will pose few problems. But if the initial capital inflows are used to pay for current consumption—financing a public-sector deficit, say—servicing the foreign debt will become increasingly burdensome and foreign investors and creditors will become reluctant to continue their financing.

Third, openness to international capital flows requires a strong banking system. Free international capital flows create many opportunities, including the opportunity to get into trouble. In particular, the freedom to incur liabilities to foreigners—particularly short-term or foreign-currency liabilities—is the freedom to incur increased risks. Banks permitted to take on higher levels of interest-rate and exchange-rate risk need closer supervision. Part of the reason that the financial crises in Mexico and Indonesia were so severe was that banks in these countries could stand neither a currency devaluation, because of their foreign-exchange exposure, nor the high interest rates necessary to defend the currency, because of their interest-rate exposure. The proper sequence of policy
actions is clear: First, create a robust bank regulatory structure; \textit{then} liberalize capital flows.

Fourth, heavy reliance by either the public or the private sector on short-term international credit is dangerous. Short-term credit is a two-edged sword. Perceiving less risk, creditors typically offer lower rates on shorter-term credits. But short-term credits must be continually rolled over. If creditor confidence is shaken, debtors may find themselves suddenly forced to make large net repayments. In recent crises, countries that have relied heavily on short-term debt—Mexico, Indonesia, Russia, and Korea (the last because of a conscious policy of encouraging short-term borrowing by the private sector)—suffered badly. Countries with policies in place to limit short-term capital inflows—such as Chile and China—fared better.

Fifth, a “fixed-but-adjustable” exchange-rate regime is an accident waiting to happen. Countries that attempt to maintain their exchange rates within specified narrow bands while reserving the right to adjust these bands at small political cost are setting themselves up to be on the wrong side of one-way bets. At the first sign of trouble, market players will short the currency. If they guess right, and the currency is devalued, they win handsomely. If they guess wrong, they simply close out their short positions, losing only some minor transactions costs. It is not hard to decide which side of such a bet to take, and few countries command the volume of reserves necessary to combat a full-scale flight from their currency. An announced fixed rate may also lull domestic banks and enterprises into a false sense of security, encouraging them to borrow in foreign currencies without considering the consequences of a devaluation. Preferable arrangements are nearer the extremes: allowing exchanges to float in response to market forces or truly fixing the exchange rate through a currency board arrangement, monetary union, or outright dollarization.

The United States can encourage “good housekeeping” by other countries through advice and assistance, through its stance in international forums, and by exerting influence through international institutions like the International Monetary Fund (IMF) and the World Bank—more on which below. Some specific U.S. policy actions could also be helpful. Adjusting the amounts of capital that U.S. banks are required to hold, \textit{for example}, to reflect the quality of banking supervision and financial reporting by the countries they lend to could constitute an incentive for borrowing nations to enact the sorts of policies that will render them less vulnerable to financial turbulence. It would also serve to reduce the vulnerability of the U.S. banking system in the event of financial trouble elsewhere. Such measures will be most effective if they are adopted not just by
the United States but also by other countries with well-developed financial systems.

**More Effective International Financial Arrangements**

It is unreasonable to expect that international financial markets will be any more self-regulating than national markets. In all advanced countries, special agencies have been created to regulate financial markets, to counteract instability, and to meet needs not well served by purely market forces. International institutions or arrangements are required to perform the same functions for international markets. Two functions are particularly key:

- **An international lender of last resort.** History provides numerous examples of herd behavior in both national and international financial markets. From time to time, large numbers of investors flock to or flee from particular classes of assets. Perfectly sound borrowers and financial institutions can be caught in market panics. Although their assets exceed their liabilities—when valued at sensible, noncrisis prices—borrowers and financial institutions can find themselves unable to roll over maturing debt and therefore unable to meet near-term obligations. Failure by one borrower to meet obligations can undermine the position of others. Thus, panics and defaults can spread. National central banks have long recognized an obligation to lend “as a last resort” to solvent banks that are victims of a run. The idea is to tide sound banks over until the panic subsides and they can regain more normal access to credit. Something similar is required for countries in the international arena. This should be the primary mission of the IMF.

- **A reliable source of finance for sustainable and socially responsible development.** Among the positive developments of the last 20 years is that many developing countries have gained access to international credit and capital markets and are able to borrow from private creditors to finance economic development. But not all developing countries enjoy such access. Moreover, this access can be cut off suddenly in times of financial turmoil, and private financing is difficult to come by for some key developmental needs that do not generate near-term or direct cash payoffs. Some mechanism is required to advocate for, to finance, and to provide technical advice relating to such developmental initiatives. These should be the principal functions of the World Bank and the regional development banks.

To perform these key functions effectively, though, both the IMF and the development banks will require some redirection.
Refocus the IMF on Its Primary Mission

The central objective of the IMF should be to assist nations to regain access to private international credit markets. To achieve this objective, the IMF will need to provide short-term financing for countries that temporarily lose access to international financial markets, to encourage these countries to make the macroeconomic reforms necessary to regain market access, and when necessary to facilitate workouts between debtor countries and their creditors. Unfortunately, in recent years the IMF has assumed or been given much broader responsibilities: managing the transformation of formerly socialist economies; encouraging far-reaching structural reform in emerging-market economies; and protecting the poor from the consequences of ill-conceived macroeconomic policies and the financial turmoil that these policies cause.

These are all, of course, laudable objectives. But in pursuing these broader objectives, the IMF has been diverted from what should be its principal task. In particular, the pursuit of extraneous objectives has required the IMF increasingly to intrude into the details of national policymaking, calling for changes in institutions, tax structures, income distributions, social safety nets, competition policy, subsidy programs, and many other matters. Because they find this level of IMF involvement in national policymaking unwelcome, some countries may delay seeking help, allowing a crisis to deepen. By demanding wide-ranging policy adjustments, the IMF may also undermine local political processes, fostering resentment of and resistance to other, quite appropriate, IMF policy recommendations, and decreasing the level of “ownership” by national governments in beneficial reforms. And worst of all, IMF prescriptions for major structural changes may turn out to be flawed. There is fair consensus about the sorts of macroeconomic policies and financial market regulation required to allow a country to regain access to international credit markets. Policies to reduce poverty, to protect the environment, or to build a market-oriented economy are much more controversial, however, and the chance for error is correspondingly greater. The IMF should limit the conditions it imposes on borrowing countries to matters that directly and immediately relate to access to international credit markets—macroeconomic policy, debt management, and regulation of and reporting on financial institutions.

Programs to achieve major structural changes in an economy also require considerable time and resources. In pursuing its broader agenda, the IMF has found itself in recent years making larger loans at longer maturities through an increasingly complex collection of credit facilities. By sticking to its primary function of providing temporary support to countries seeking to regain access to other credit markets, the IMF should be able to reduce its need for resources.
Create Incentives for Sound National Policies

The IMF can strengthen incentives for national governments to adopt the sorts of policies noted above that will make their economies less vulnerable to international financial turmoil. In particular, the IMF should regularly monitor and publicly report the degree to which individual nations meet internationally accepted standards for prudent financial management, regulation of national financial systems, and transparent reporting of key economic information. Nations that meet these standards should be granted preferred access to IMF credit in the event of trouble; such access could include expedited decisions to make IMF credit available, less onerous conditions (appropriate since the policies of such countries will already be generally satisfactory), and perhaps even preferential interest rates. Conversely, IMF policy should be to refuse credit for the purpose of supporting fixed-but-adjustable exchange-rate regimes. Countries that pursue such policies should recognize that they will receive no support from the international community.

Force Private Creditors to Share the Pain

Financial crises seldom arise purely as a result of flawed policies on the part of borrowers. The private creditors and investors behind over-large, ill-considered, or poorly used capital flows must share some of the blame. When a crisis comes, the full burden of adjustment should not fall on the citizens of the borrowing country. Neither should official lenders like the IMF and industrialized-country governments provide the credit—and assume the associated risks—so private creditors or investors can close out their positions without losses. Ways must be found to ensure that private creditors and investors participate in the resolution of financial crises.

The huge rescue packages assembled by the IMF, the World Bank, and industrialized-country governments in response to the Mexican and Asian crises have arguably encouraged reckless borrowing and lending by suggesting that official lenders can and will bail out creditors and debtors if a sufficiently large or politically significant country finds itself in trouble. Indeed, these huge packages have made governments and government-backed institutions lenders of first rather than last resort. Private creditors have hung back, avoiding negotiations with debtors until the public-sector rescue packages are in place. In the future, the IMF should renounce extraordinary credits to individual countries, sticking to formally agreed-upon credit limits. Although IMF policies cannot limit bilateral lending by national governments, establishing clear limits on credit that will be available may help to disabuse creditors of the notion that they will be
bailed out if they lend imprudently. A case might be made for extraordinary financing in the event of a broad financial contagion that poses a systemic risk to the global financial system. Clear criteria should be established in advance, however, perhaps involving some supermajority of votes from IMF members, before these extraordinary measures are implemented.

Care must also be taken to make sure that particular classes of creditors do not receive preferential treatment in a crisis. Private bondholders are particularly problematic in this regard. Today, unanimous agreement of all bondholders is usually required for any adjustment in the terms of a particular bond issue. Because there are potentially thousands of these holders, achieving the necessary unanimity is a practical impossibility. Thus, there is little chance to reschedule payments on bonds or to reduce principal amounts in response to a crisis. In recent crises, equity holders have seen their assets seriously devalued, banks have been persuaded to reschedule debts, and official creditors have provided the liquidity to avoid default on bonds. For the most part, private bondholders have emerged unscathed from these crises.¹

This situation could be ameliorated by including so-called “collective-action clauses” in new international bond issues. These clauses allow some specified subset of bondholders—perhaps those accounting for a qualified majority of the bonds outstanding—to agree to changes in terms. Negotiations with a small number of large stakeholders then become possible. The rub is that a country unilaterally attaching such clauses to its bond issue might find itself paying higher interest rates or shut out of international bond markets entirely. For precisely this reason, such clauses are rare today.

The IMF can reduce this disincentive by including collective-action clauses among the prudent debt-management policies that qualify countries for preferential access to IMF credit. The knowledge that a country enjoys ready access to IMF credit should reassure investors and at least partially offset whatever interest premium is associated with a collective-action clause. Industrialized countries with good credit ratings might contribute to the acceptability of such clauses by adding them to their own bond issues.

In the past, private creditors have sometimes found their hands strengthened in negotiations with debtor countries by IMF policies that have required debtors to be current in their debt service to qualify for IMF credit. A preferable policy might be for the IMF to “lend into arrears” when a debtor country has adopted sound policies and is engaged in good-faith efforts to reach an accommodation

¹The exception, of course, was the Russian financial crisis, in which bondholders lost heavily.
with its private creditors. Private creditors should not be permitted to hold a
debtor country hostage by blocking access to IMF credit.\(^2\)

Finally, the IMF should not discourage efforts by debtor countries to reach
accommodations with private creditors by making IMF credit too attractive.
Consequently, IMF lending should be at penalty rates, rates higher than what a
debtor would expect to pay to private creditors in noncrisis times.

**Refocus the Development Banks**

Just as the IMF should stick to its primary mission, so too should the World Bank
and the regional development banks focus their financial and intellectual
resources on their primary missions: encouraging development initiatives that
cannot be supported adequately by private-sector finance. This will mean
concentrating development-bank lending in countries that do not have access to
private credit markets and on programs that are essential to development but
will not in the near term generate the cash flows necessary to service a private
debt—social infrastructure, institution building, education, environmental
protection, poverty reduction, health services, improving the status of women,
and so forth. The hallmark of development-bank lending should be reliability
and dedication to long-term developmental objectives. Development bank
resources, therefore, should not be raided to support short-term crisis
management.

True focus on doing what private-sector credit cannot will almost certainly bring
about a reallocation of development-bank lending, away from the large middle-
income developing countries—China, Brazil, India, and Russia, for example—
that enjoy access to private credit markets, and toward the poorer countries that
do not. Also required will likely be some shifting away from conventional
lending and toward concessional lending—at long terms and low interest rates,
with a large grant component—of the sort undertaken by the International
Development Agency. Moreover, because the private sector can now provide
many of the financial resources required for development, the development
banks should place increased emphasis on providing the technical assistance
necessary to make good use of both private and official funds.

\(^2\) IMF “lending into arrears” during the late 1980s and early 1990s is sometimes credited with
having encouraged banks to agree to debt reductions as a part of the Brady Plan.
Trade Policy: A Turning Point

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U.S. trade policy, from the 1930s onward, periodically has taken some detours but for the most part has moved toward liberalization of trade in goods and services—as part of a larger global trend toward ever freer movement of goods, people, and capital.

Most informed opinion credits this trend toward openness as a principal reason for the unparalleled U.S. prosperity of recent years. Yet, during this period of full employment, steady growth, and low inflation in the United States, support for traditional trade liberalization has waned. The next president will lack even the congressional authority—so-called “fast-track” negotiating authority—to conclude major trade negotiations without having every provision of a final trade deal subject to congressional revision. This absence of presidential negotiating authority, lost in 1994, has prevented the United States and its World Trade Organization (WTO) partners from even contemplating any major multilateral initiatives such as the Kennedy Round, Tokyo Round, and Uruguay Round of tariff and trade negotiations, which lowered tariff and nontariff barriers on a wide range of goods and services.

In Congress, the once bipartisan consensus on behalf of liberalized trade eroded over the course of the 1990s. Any vote for trade liberalization, as with the North American Free Trade Agreement and the 1999 vote for permanent normal trade relations (PNTR) with China, has had to be accompanied by intense horse-trading and lobbying prior to final passage. And President Bill Clinton, since losing fast-track authority in 1994, was unable to regain it.

Background

Trade protectionism generally receives a large measure of blame for the global economic depression of the 1930s. After the election of President Franklin Roosevelt, his secretary of state, former Senator Cordell Hull of Tennessee, moved actively to shift toward liberalization. World War II interrupted normal trade among nations, but at its end, Presidents Harry Truman and Dwight Eisenhower continued the Roosevelt administration’s commitment to
liberalization. On the European continent, former adversaries France and Germany and their partners formed what is now the European Union (EU), dedicated to removing trade barriers within Europe and on a reciprocal basis with partners outside Europe. A major point of departure came in 1962 with the passage of President John Kennedy’s historic Trade Expansion Act. This law, supported broadly by both political parties and by both business and labor, gave the president authority to undertake major new multilateral negotiations within the General Agreement on Tariffs and Trade (GATT), the WTO’s predecessor. Several years later, President Lyndon Johnson successfully concluded the ensuing Kennedy Round of trade negotiations.

For two decades, other multilateral negotiations followed and were successfully concluded. In the 1990s, however, U.S. trade policy, and the domestic political climate surrounding trade policy, underwent change. President George Bush began and President Bill Clinton received congressional approval for the North American Free Trade Agreement (NAFTA). Such an agreement had been discussed for many years and had been proposed politically in the late 1970s by then—California Governor Jerry Brown, but it had never been considered seriously, or reached the stage of a national initiative, until President Bush and Mexican President Raul Salinas agreed to propose one. Canada, without enthusiasm, agreed to go along with the deal. A North American free trade area had not previously been taken seriously for two reasons: the disproportionate levels of economic development and protection among the three North American countries, and prior U.S. commitments to a global—rather than regional—model of trade liberalization in which all countries, rather than those within a single region, would lower their barriers to each other. The EU, it was agreed, would stand as a regional exception because of the movement toward political as well as economic unity implicit in its founding. No other regional grouping of countries had proposed that it would proceed beyond traditional economic, financial, and commercial cooperation.

NAFTA, once ratified, changed the equation; various Latin and Caribbean, Asian, and African countries began to propose blocs, groupings, and preferential trade deals. Many U.S. and European leaders have also proposed a U.S.–EU free trade area. The conceptual problem with all such regional deals and groupings is that by definition they create benefits for those countries in on the deal and discriminate against those on the outside. Central American and Caribbean countries, for example, immediately sought redress against the newly formed NAFTA, from which they were excluded.

NAFTA, moreover, set a precedent for linkage between trade liberalization and other policy areas not traditionally linked to trade policy or negotiations.
NAFTA’s provisions for “adjustment assistance”—that is, financial assistance, job training, and retraining for industries and workers directly affected by trade deals—were accompanied, for example, by largely unenforceable side agreements addressing labor and environmental problems that might ensue from NAFTA. To secure congressional approval of NAFTA, the Clinton administration overpromised the treaty’s financial and economic benefits. Then, once a favorable vote was secured, it failed to follow-up on labor, environmental, and other assurances that had been given—in particular to U.S. industries and workers who would be directly affected. Within a year of passage, the Mexican peso collapsed, the Mexican economy went into recession, and a U.S.-led bailout had to be mounted. All of these factors helped to create a new domestic climate in which domestic American unions in particular, whose workers would be affected by future trade deals, have insisted that such deals include labor, environmental, and other provisions in their main body, not in side agreements.

This issue came to a head in December 1999 at the WTO meeting in Seattle. Labor-led demonstrations were joined by environmental, “consumerist,” and even anarchist groups blaming the WTO per se for a host of global problems generally unrelated to trade policy. The protesting groups further charged that the WTO was an undemocratic organization that was making unilateral, preemptive decisions about the global economy. Developing-country representatives to the Seattle meeting were outraged, as they believed that demands that they meet U.S. environmental and labor standards were ill-disguised means to discriminate against their products. Advanced-country representatives were equally outraged because they knew the WTO to be among the most transparent and responsive of international bodies in which governments meet to set rules and settle disputes: Almost all WTO members have consultative procedures similar to those in the United States, where the president’s trade representative must respond to labor, business, agricultural, consumer, congressional, and other advisory bodies formally constituted to give their input on issues affecting them. A few weeks later, many of the same demonstrators appeared at International Monetary Fund and World Bank meetings in Washington, D.C. It was becoming clear that, although workers and unions in specific industries had specific grievances about the dislocations caused by international trade, they had triggered a more general protest, involving a far wider spectrum of groups and interests, about the general process of economic and financial globalization.

Attempting to hold off such pressures, the Clinton administration has instituted a number of actions, such as the imposition earlier this year of punitive tariffs
against foreign steel producers, which have partially satisfied domestic interests but which have exacerbated tensions with trading partners.

Thus, entering 2001, the new president will face a domestic political struggle to maintain a consensus behind liberalized trade, and he will struggle abroad to settle a number of disputes about trade, tax, investment, and other issues tabled by partners having grievances about various U.S. policies.

2001: What to Do

Needless to say, the pressures being felt in 2000 concerning issues of globalization would be felt many times over if the global and U.S. economies were to go into recession. Thus at the earliest possible moment—and before the domestic climate deteriorates further—it will be imperative that the next president send clear and unmistakable signals about his intentions and goals.

1. Rebuild Domestic Consensus

Clearly, little will be possible without domestic support for liberalized trade policies. Such support was generated for approval of NAFTA, the Uruguay Round deal, and China’s trading status, but only with great difficulty. House Democrats, in particular, have become accustomed to voting against the president on such issues, as they have instead responded to constituent groups important to them in their districts. Congressional Republicans, in turn, have in some numbers made common cause with congressional Democrats on human rights–related issues which, as is the case with environmental and labor standard issues, traditionally have not introduced into trade negotiations.

A new consensus needs to be built on three suggested elements. First, new programs of education, job training and retraining, and adjustment assistance must be proposed for U.S. workers directly hurt by changing trade patterns. These must be undertaken in the knowledge that high-value, high-wage, high-tech jobs are where the United States has international comparative advantage and that low-value, low-wage, low-tech jobs inevitably will be taken by offshore competitors. The new administration must confer in particular with organized labor in designing, promoting, and enacting an action program that makes proper investments in the upgrading of the country’s human and physical capital. Unions and workers should not feel that, if they are not present-day winners in globalization, they are condemned to be permanent losers.

Second, the new president actively should seek congressional reauthorization of fast-track trade-negotiating authority. Without this authority, no major new
global negotiation can be undertaken. Instead, the United States will find itself a
party to a series of bilateral and multilateral disputes around discrete issues such
as tax subsidies and foodstuffs grown with hormones.

Third, the president must make clear that environmental practices, labor
standards, antitrust policy, consumer safety, human rights practices, and other
issues are important to the United States and should be addressed
internationally. But he must make clear that these are not to be linked with trade
negotiations per se but are to be taken up independently in other international
negotiations. Otherwise, no major multilateral negotiation can be attempted—
our rich and poor partners will simply refuse to come to the table—and no
progress will be possible either on non-trade issues.

2. Return to Fundamentals

U.S. trade policy, until NAFTA, was based on the durable premise that global,
rather than regional or bilateral, trade liberalization was the surest and fairest
way to remove barriers to trade. Since NAFTA, however, a proliferation of
initiatives has been proposed outside the global system, including free-trade
areas in Latin America, the Asia–Pacific, and between the United States and the
EU. Preferences have been enacted for African countries and are proposed for
others.

These latter initiatives, in their own way, are a form of New Protectionism. If and
when an international economic downturn may come, each regional grouping
could turn inward, closing its markets to other regional groupings and to those
individual countries that might be on the outside entirely.

If a global economic and financial system is to be successful, its central
component must be the freest possible movement of goods, services, people, and
capital across national borders. There will be exceptions to that principle, of
course. Rapid capital flight, based on financial speculation, may lead on occasion
to the imposition of limited capital controls. Extraordinary immigration waves
can be enormously destabilizing and must be controlled. Some nations lacking in
capital or natural resources will have difficulty over the long term developing
any meaningful comparative advantage in a global economy. Over time, the
United States must seek to integrate these resource-poor countries into a broader
context. Yet, these instances should be seen, after all, as exceptions to the rule of
openness.

The next task of the new administration, after securing renewal of negotiating
authority, should be to propose to the global community a new round of
negotiations with an objective of reaching “zero protection” over time on the
broadest possible range of products and services. There could then follow a new round of negotiations—involving many countries, such as China, absent in prior negotiations—to far outreach the prior rounds successfully completed in the 1960s, 1970s, and 1980s.

A new Millennium Round, combined with genuine efforts to build a skilled and upgraded domestic workforce, could engage the same commitment in 2001 that Presidents Kennedy and Johnson secured from all parts of U.S. society around the Trade Expansion Act of 1962 and in the subsequent Kennedy Round. It could provide leadership toward making globalization not the target of demonstrators fearing the future but, rather, a dynamic and positive path toward better lives for the people of all countries and regions.

Ted Van Dyk, a visiting scholar at Claremont Graduate University and senior fellow at UCLA, has been active in trade policy, in and out of government, since the early 1960s.
A Guide for the Next International Energy Crisis

James T. Bartis, RAND

Introduction

This paper is intended to serve as a strategic framework for governance during a major international energy crisis, defined as a situation in which the nation’s economy is imperiled by rapid and steep rise in energy prices or unavailability of fuels or power, or both. The focus is on crises that might occur during the course of the coming year, so that the emphasis herein is on action during the crisis, as opposed to the longer-term measures that can diminish the possibility or adverse effects of an energy crisis.

Two types of energy crises can be distinguished. Most threatening to U.S. national security and the U.S. economy is an international energy crisis caused by the loss to the world petroleum market of significant supplies from one or more major producing nations. The scope of this paper is limited to these international crises. The second category consists of domestic energy crises caused by a failure of the domestic energy infrastructure. Domestic energy crises are highly likely over the next few years and could impose serious hardships on consumers and businesses in particular regions. When they occur, widespread public dissatisfaction and calls for government action will be likely. Unfortunately, the same infrastructure problems that cause domestic energy crises are likely to seriously impede the U.S. ability to respond to international energy crises.

Sometimes the United States can find itself in what is referred to as an energy pseudo-crisis, which is characterized by a rapid and steep rise in energy prices but does not threaten the economy or national security. While this paper does not address the recent pseudo-crisis, we note that it is an important problem and represents a challenge to national governance, especially when combined with a domestic energy crisis.
Petroleum Fundamentals

Fossil fuels—oil, gas, and coal—represent 85 percent of energy consumption within the United States.¹ For an international energy crisis, the relevant fuel is oil. In the United States, oil is the predominant fuel, representing 39 percent of total energy used and more than 97 percent of fuel used for transportation. Current oil use is at record levels, spurred by a combination of a decade of relatively low oil prices, a booming economy, population growth, and increasing demand for transportation fuels, especially gasoline. Unfortunately, oil production in the United States is not what it used to be. In the lower 48 states, crude oil production peaked in 1972. Including Alaska, total U.S. production peaked in 1985. Meanwhile, U.S. demand for oil has consistently increased, with the exception of a dramatic decrease following the Iranian oil crisis of 1979–80. Today, about 52 percent of U.S. petroleum needs are met by oil imports.² For the foreseeable future, say the next 15 to 20 years, it is difficult to conceive of a situation in which U.S. dependence on foreign supplies will not grow to between 60 and 70 percent. So while the United States now imports about 10 million barrels a day, analysts anticipate that imports will climb by about 50 percent over the next 15 to 20 years.

But from a domestic perspective, there is also some good news. The energy intensity of the U.S. economy has dropped significantly. Compared to 1973, energy use per dollar of gross domestic product (GDP) has dropped by almost 40 percent, and oil use per dollar of GDP has dropped by nearly 50 percent.³ This fact explains why the petroleum price increases of 2000 are not putting the U.S. economy, nor the economies of any of the developed nations, into a tailspin.

An important indicator of the role of petroleum prices in the domestic economy is the ratio of petroleum acquisition costs—domestic wellhead costs plus import costs—to GDP. In 1980, petroleum acquisition costs represented 5.8 percent of GDP. By 1999, with average prices at about $16 per barrel of crude, petroleum costs were only 1.2 percent of GDP. Even assuming year 2000 average petroleum acquisition costs are as high as $32 per barrel, the acquisition cost to GDP ratio will be only 2.3 percent. Simple math shows that only when oil trades at about $80 per barrel will petroleum acquisition costs reach the percent of GDP at which

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¹ Almost all of the remaining 15 percent are accounted for by nuclear power (8 percent), hydroelectric power (3.5 percent), and wood (2.9 percent).
² Domestic petroleum production includes crude oil, lease condensate, and natural gas plant liquids, and imports include net imports of crude oil and petroleum products.
³ These two decreases in energy intensity are measured in real dollars and thereby exclude the effects of inflation.
the United States will need to consider seriously the effects of oil markets on the national economy.

Both the U.S. economy and U.S. national security are dependent upon the economic health of America’s major allies and trading partners. The United States is but one participant in a global economy, and oil is a global commodity. Today world consumption and production of crude oil is running at record levels: 68 million barrels per day (bpd)\(^4\) were produced during July 2000. For the foreseeable future, demand for petroleum will likely continue to increase, with developing nations responsible for about two-thirds of new demand. A special problem with developing countries is the high oil intensity of their economies—on average twice the oil use per dollar of GDP compared to the United States.\(^5\) With the exception of the few developing nations that are large oil producers, increases in world oil prices have a much larger adverse effect on developing nations.

The Organization of Petroleum Exporting Countries (OPEC) members\(^6\) produce about 40 percent of the world’s oil and hold more than 77 percent of the world’s proven oil reserves. Perhaps more relevant is the fact that OPEC nations are responsible for about 60 percent of world trade in crude oil and refined petroleum products. Because of the recent resurgence of petroleum demand from Asia, surplus production capacity is minimal. For example, fourth quarter 2000 surplus capacity of all OPEC members is estimated at 2.0 million bpd, with about 60 percent of this surplus controlled by Saudi Arabia.\(^7\)

### Prospects for an International Energy Crisis

Can an international crisis occur over the next few months? Table 1 lists the 20 largest oil producing countries in the world. While this list includes a number of stable democracies, it also includes nations that are not politically stable or that openly espouse anti-Western agendas. With worldwide surplus production capacity of just over 2 million bpd, it is evident that the loss of a comparable amount of production will initiate an international energy crisis.

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\(^4\) International Petroleum Data, Table 1.1, Energy Information Administration, U.S. Department of Energy. This refers strictly to crude oil and lease condensate. Oil production figures often also include natural gas liquids.

\(^5\) The United States is not the standard. The oil intensity of Western European countries averages about 30 percent lower.

\(^6\) OPEC members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.

In the Middle East, only Saudi Arabia has sufficient exports to cause, by acting alone, a serious international energy crisis. At current production levels, Iran or Iraq can cause market turmoil, a sharp increase in prices, and plenty of angst, but acting alone, neither can yet cause a serious international energy crisis. Prices would rapidly rise, but a consequent small reduction in oil demand combined with the activation of surplus production capacity would likely reduce prices to acceptable levels—that is, under $40 per barrel—until new production capacity could be brought on line. On the other hand, one can imagine situations in which adequate surplus production is not quickly activated or one or more other producers add to the supply shortfall by cutting back their petroleum exports.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>BPD (000s)</th>
<th>Rank</th>
<th>Country</th>
<th>BPD (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Saudi Arabia</td>
<td>8,390</td>
<td>11.</td>
<td>United Arab Emirates</td>
<td>2,320</td>
</tr>
<tr>
<td>2.</td>
<td>Russia</td>
<td>6,494</td>
<td>12.</td>
<td>Nigeria</td>
<td>2,180</td>
</tr>
<tr>
<td>4.</td>
<td>Iran</td>
<td>3,750</td>
<td>14.</td>
<td>Canada</td>
<td>2,005</td>
</tr>
<tr>
<td>5.</td>
<td>Norway</td>
<td>3,395</td>
<td>15.</td>
<td>Indonesia</td>
<td>1,490</td>
</tr>
<tr>
<td>6.</td>
<td>China</td>
<td>3,280</td>
<td>16.</td>
<td>Libya</td>
<td>1,425</td>
</tr>
<tr>
<td>7.</td>
<td>Venezuela</td>
<td>2,960</td>
<td>17.</td>
<td>Algeria</td>
<td>1,250</td>
</tr>
<tr>
<td>8.</td>
<td>Mexico</td>
<td>2,876</td>
<td>18.</td>
<td>Brazil</td>
<td>1,120</td>
</tr>
<tr>
<td>10.</td>
<td>United Kingdom</td>
<td>2,510</td>
<td>20.</td>
<td>Egypt</td>
<td>810</td>
</tr>
</tbody>
</table>

**Table 1**

Petroleum Production of the World’s Largest Oil Producing Nations
(July 2000)

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**Responding to an International Energy Crisis**

Perhaps the most important consideration in developing strategic alternatives for responding to an energy crisis of international proportions is recognizing the role of the marketplace in adjusting petroleum supply and demand. The role of government then becomes a combination of accelerating the market response, assisting in adapting to higher energy prices, and appropriately responding if national security is unduly threatened. Beyond a military reaction, possible government actions fall into three categories: (1) enhancing supply, (2) reducing demand and (3) addressing economic disruptions and hardships.

Selecting response options depends on the extent of the oil supply disruption, the prospects for international cooperation, and the importance of confidence-
building measures both domestically and internationally. Table 2 presents each of the response options discussed in this paper and identifies each option as essential, deserving serious consideration, or as unlikely to be available.

Supply Options

Because an international energy crisis results from a sudden lack of crude supplies, the obvious first step in responding is to minimize the supply shortfall. This task becomes much easier if OPEC members and, in particular, Saudi Arabia are able and willing to cooperate fully. Within 30 to 60 days, most of the world’s surplus production capacity of nearly 2.5 million bpd can be activated. Two million bpd of this total is controlled by OPEC member nations, with the Saudi share currently at 1.2 million bpd. Also, some of the Middle East OPEC member nations, especially Saudi Arabia, contain oil fields that are unique in that significant new capacity can be brought quickly into production and delivered to the world petroleum market. These two measures alone—activating surplus capacity and quickly opening new OPEC production capacity—offer the most efficient near-term response to an international energy crisis. For a supply shortfall of less than 3 million bpd, these two measures, combined with a moderate decrease in demand in response to higher prices, may be a sufficient response. For these reasons, in responding to an international energy crisis, the highest priority should be given to securing the full cooperation of Saudi Arabia and other members of OPEC.

During prior crises, the major oil companies have demonstrated their willingness to cooperate with the U.S. government. In particular, oil producers have been able to obtain a production surge by operating their wells, albeit briefly, at levels beyond best engineering practices for long-term reservoir management. A productive government role here is to provide oil producers with timely information regarding oil supplies and demand.

The only other measure capable of having an immediate effect on petroleum supply and prices would be to draw on the strategic petroleum reserves held by the United States and other oil-importing nations of the Organization for Economic Cooperation and Development (OECD). The U.S. Strategic Petroleum Reserve (USSPR) currently contains 570 million barrels of crude oil. This reserve is stored in man-made salt caverns located along the Gulf of Mexico in Louisiana and Texas. While tempting, calling upon the USSPR should be limited to major

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9 On September 22, 2000, President Bill Clinton directed the secretary of energy to remove 30 million barrels from the reserve over a period of 30 days in response to low inventories of distillate fuels, especially heating fuel.
international energy crises in which a U.S. planned release is fully coordinated with reserve releases by other OECD members. The USSPR is not designed for frequent access, which can compromise the physical integrity of the salt caverns. Moreover, calling upon petroleum reserves prematurely may leave the OECD members highly vulnerable to a major international energy crisis.

**Table 2**

Strategic Options for Responding to an International Energy Crisis

<table>
<thead>
<tr>
<th>DISRUPTION SIZE</th>
<th>Less than 3 million bpd</th>
<th>More than 3 million bpd</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEC COOPERATION</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SUPPLY OPTIONS</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td>Activate surplus production capacity</td>
<td>E</td>
<td>X</td>
</tr>
<tr>
<td>Open new OPEC production capacity</td>
<td>E</td>
<td>X</td>
</tr>
<tr>
<td>Draw on Strategic Petroleum Reserve</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>Open near-term non-OPEC capacity</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>Accelerate/enhance long-term production</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>DEMAND OPTIONS</td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>Promote fuel switching</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>Promote energy conservation</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>Accelerate long-term energy conservation</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>Accelerate long-term fuel switching</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>ECONOMIC STABILITY</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Fiscal/monetary policies</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Domestic economic relief</td>
<td>O</td>
<td>E</td>
</tr>
<tr>
<td>International economic relief</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Key: E—essential option, O—for serious consideration, and X—unlikely to be available.

For a shortfall of less than 3 million bpd, accessing the OECD member strategic petroleum reserves should be considered as a complement to production enhancement measures by cooperating OPEC members. For crises in which adequate OPEC cooperation is lacking or if petroleum supply shortfalls are large, accessing OECD strategic reserves is an essential measure.

Other supply options cannot be implemented quickly enough to alleviate supply shortfalls directly, but they may be useful in building confidence, stabilizing oil markets, and securing the cooperation of OPEC member states. This category includes measures to accelerate the completion of oil production capacity that is currently being developed. Here the objective is on new capacity that can be brought on line within 12 to 18 months. However, for this effort to be successful, it must extend beyond domestic U.S. production and look at opportunities worldwide, including in cooperating OPEC members.
A second, longer-term option consists of measures to accelerate and enhance non-OPEC oil production significantly. These measures include increased research and development of advanced petroleum exploration and production technologies, government actions to improve the profitability of petroleum production, increased access to potential production sites, and reduced regulatory burdens. All of these options have a long-term payoff well beyond the time span of an energy crisis.

Examples that fall into this last category are almost always raised in the context of an energy crisis, although the successful pursuit of any would have no effect on the crisis beyond building confidence and serving as a threat to OPEC members who are not cooperating. Options include such highly controversial measures as opening coastal waters and a portion of the Arctic National Wildlife Refuge to exploration and production, enhancing access to public lands in the lower 48, providing tax incentives to domestic oil production, and providing relief from environmental regulations. Some of these measures, especially research for advancing state-of-the-art practices in petroleum exploration and production, may serve to prepare the United States for future energy crises. However, what is not clear is the extent that any of the more controversial measures will have a significant effect on world oil supplies.

**Demand Options**

The increase in petroleum product prices during an international energy crisis will cause demand to decrease. Because of the larger role of petroleum in the economies of developing as compared to industrialized nations, the greatest immediate decrease will almost surely be from developing nations that are oil importers. At crude oil prices below $50 per barrel, a significant, quick reduction in U.S. petroleum demand is unlikely. At prices beyond $50 per barrel, the amount of immediate demand reduction is highly speculative.

The only quick response options are fuel switching and energy conservation. With regard to near-term fuel switching, opportunities are limited. Over the past decade, natural gas use has slowly increased despite uncertainties regarding its continued availability at competitive prices and the adequacy of the natural gas distribution system to meet growing demand.\(^\text{10}\) The backup fuel for natural gas during the winter high demand periods is distillate fuel oil, and it is unlikely that natural gas would be available for fuel switching during the home heating

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\(^{10}\) The increase in demand for natural gas has been driven by superior environmental performance and, until recently, highly competitive prices as compared to either coal or petroleum.
season. For the remainder of the year, many oil-using industrial facilities in the United States are capable of immediately switching to natural gas, but an extensive and quick switch to natural gas may push the entire natural gas production and delivery infrastructure beyond its limits.

In the electric utility sector, coal and nuclear power plants are now operating at full capacity. There is no significant excess coal- or nuclear-generating capacity that can displace natural gas from power generation and allow that displaced natural gas to substitute for petroleum. Because of the large energy inputs to alcohol fuels, switching from petroleum to alcohol fuels is unlikely to offer anything more than a trivial saving of petroleum and could result in additional pressure on tight natural gas supplies.

With regard to energy conservation, many measures can be taken, but the quick-response measures generally involve changing lifestyles and doing business differently. Examples include modifying indoor temperatures, carpooling, using public transportation, and telecommuting.

Most of the opportunities to switch fuel or conserve energy will be driven by the higher prices for petroleum and natural gas that will occur during an international energy crisis. An essential role for government will therefore be to ensure that the government itself is not unduly impeding market-driven reductions in demand. Effective means of expediting market response vary by region, and this is an area in which close cooperation between the federal and state governments is important.

In developing a demand-side response portfolio, an important consideration is the image that it projects at home and abroad. For example, if the energy crisis is politically motivated and the supply shortfall is less than 3 million bpd, it may not be in the U.S. national interest to publicly emphasize modifying lifestyles and business practices. If the crisis requires a demand-side response, a number of potential federal measures can promote fuel switching and conservation. The biggest problem is that, once adopted, some of these measures—such as tax incentives and relief from environmental regulations—may well outlast the crisis.

It is unlikely that government actions can have a significant effect on demand reduction during a crisis, beyond the natural market incentive caused by higher prices. Nevertheless, a government response may be important for rallying the nation and displaying national and international leadership.

Over a longer time horizon, there are major technical opportunities to reduce petroleum demand significantly. Government acceleration of longer-term
energy-conservation or fuel-switching opportunities, including research and development, may be good energy policy and demonstrate leadership and political resolve, but such measures will not take the nation out of a major energy crisis.

**Economic Stability**

An international energy crisis will fundamentally alter the flow of dollars in the overall national economy. In a sense, it is as if a large new and additional tax were suddenly placed on individuals and businesses, with different business sectors, groups, and regions paying differing amounts—and indeed, some businesses and individuals would gain. From the U.S. experience during the 1970s and early 1980s, it is evident that a sudden and large increase in energy prices can contribute to high inflation and high unemployment. Over the past 15 or so years it appears that the United States has made considerable progress in controlling both inflation and unemployment, especially through monetary policy. In any significant international energy crisis, it is essential that national economic policymakers be fully appraised of the nature of the crisis and that appropriate monetary and fiscal measures be implemented. The key here is restraint, because once a crisis hits, there will be political pressure to take measures that will be economically unwise. This happened during the 1973 crisis when price controls were placed on petroleum and natural gas. It took years of effort to remove these controls and to regain the efficiency of free markets.

A major energy crisis will cause fuel prices to rise to such an extent that consideration must be given to government relief for those individuals and families unable to pay the additional costs required for home heating or basic requirements for transportation and electric power. These problems are highly regional and seasonal and may be considerably amplified because of growing limitations within the domestic energy infrastructure. Close cooperation with state governments is required to formulate assistance policies and programs and to assure timely implementation. There will also be pressure for extensive regional and industry sector assistance that goes beyond charity or disaster relief and toward permanent subsidy.

For completeness, the United States should also consider assistance and relief for developing nations during an energy crisis. Existing multilateral aid organizations provide an infrastructure for timely action. It is also appropriate to seek participation of cooperating oil-exporting nations.