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Capital Controls and Corporate Investment Behavior

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1. Introduction

In Chapter 2 of this book, Manuel Guitián reviews the role of controls on capital flows in the postwar development of the global economy. In essence, he suggests that government attempts to restrict capital flows, either by restricting rates of return or erecting barriers to the flow of capital, fall within the “international financial code of conduct” established after World War II. Such financial code of conduct norms were established at Bretton Woods in response to the central challenge of the time—“to insure the integration of war-ridden and restricted economies into an orderly international economic system.”1 On the surface, the challenge of providing for an orderly integration of the economies of formerly communist countries into the global economic system may seem similar in character to that of the postwar problem.

This chapter accepts the challenge of integration, but rejects the assumption that capital controls are the most effective policy prescription for the achievement of this objective. Basic elements of the global economy and global social structure have changed so dramatically since the 1950s that the prescriptions of that time are not only outmoded for today, but are potentially destructive. At a minimum, national policymakers must consider a number of more pervasive though indirect consequences of capital controls. These include effects on national comparative advantage and on industrial and ownership patterns of the future.

The international policy norms adopted at the end of World War II were based on a vision of a world economic system that consisted of relatively independent, sovereign nations. The ability of each regime to offer independ-
ent and autonomous social and economic policies was to be protected and prosperity was to be provided from within. Economic integration was to be accomplished primarily through international trade in goods and commodities. The need for capital controls to protect this vision, especially with respect to retaining national policy autonomy, was necessarily accepted and acceptable. In the immediate postwar period, the assumption of policy independence and autonomy may have been reasonable.

Assumptions of independence and autonomy in today’s environment are no longer tenable, however. Capital controls ultimately depend on the government’s ability to suppress demand for a broad range of investment alternatives. Since at least the late 1970s, however, governments have found it increasingly difficult to suppress and deny the demands of savers, investors and borrowers for access to the broader range of investment and risk management products.

This explosion in demand for a variety of investment securities and for access to global capital markets has been stimulated and facilitated by tremendous advances in our abilities to access and analyze information. New technologies have stimulated demand for access to opportunities of all types including demands for new and expanded forms of employment opportunity, demands for more education and information, and even for new and more effective forms of government. In the face of these demands, governments are no longer in a position to successfully restrict access to such instruments of prosperity as education, information, and access to capital markets. Increasingly, political and social stability requires that governments facilitate institutions that support increasing prosperity, improved employment opportunities, security, and the accumulation of wealth. Further, opportunities for progress and increased standards of well-being are no longer considered absolute, but are judged by electorates in relation to the living standards in other countries. Finally prosperity, relative or absolute, can no longer be generated solely within national borders, but must rely on fully functioning interface with the global economic and social systems.

This essay demonstrates that capital controls represent an attempt to destroy linkages between national and global systems and that those linkages are essential to the creation and maintenance of national prosperity. Further, while the initial impact will certainly be negative, it is the longer term impact that will be the largest and potentially most destabilizing.

While it is true that national governments may still have some ability to manage rates of returns to capital and the volume of cross-border capital flows, it is less and less certain that a regime can achieve its objectives by exercising such control. Rather, attempts to manage the flow of capital into preferred industries or sectors and with preferred distribution effects will affect the development of national industrial structure and ownership patterns
in many unforeseen and undesirable ways. Distortions in investment and ownership patterns created by capital controls are similar to the distortions in efficiency and distribution that result from attempts to protect various sectors by restricting competition.

This chapter describes the effects of capital controls on a nation’s ability to achieve an efficient allocation of existing capital resources and to attract new capital investment. The analysis exposes the bias in ownership structure that accompanies capital controls and shows that this bias in the ownership of private enterprise becomes politically unstable over time.

These arguments lead to the conclusion that restrictive policies will obstruct rather than facilitate the transition to an efficient and globally competitive national economy. While such restrictions appear to protect domestic interests, in reality they exclude domestic producers and investors from access to essential information about the operation of the global economy. The short-term effects on the ability to attract and allocate capital will be significant, and the long-term destruction of the ability of national investors and producers to compete in a global economy is potentially disastrous.

The relationship between capital controls, the future competitiveness of national companies, and prosperity is developed below in series of steps. Section 2 frames the arguments with respect to a single policy objective—providing economic growth and prosperity. The section demonstrates that the attraction and allocation of capital are prime ingredients in the achievement of this policy goal. Section 3 describes the roles of capital markets and investor analysis in the attraction and allocation of capital and recognizes the importance of location and other factors. In this context, we review the basic elements of investment analysis that will determine the outcome of the selection decision. We focus specifically on the role of the discount rate in the investment analysis and show its impact on the magnitude of aggregate investment and on investment allocation across sectors and over time. In Section 4 we consider the impact of capital controls on the discount rate and demonstrate that controls affect local and foreign investors differently. This section presents a review of the prescriptions of modern portfolio theory and offers us important insights into the relationship between increases in risk and increases in investors’ required returns. It is the essence of these theories and perspectives that present a major challenge to those who would include capital controls as an element of growth policy.

Section 5 reviews the implications of the discount rate effects for the foundations of the national economy. By acting on the discount rate structure, capital controls affect the proportions of capital and labor, the structure of national industry and ownership, population migration patterns and future national competitiveness. Section 6 summarizes the effects of capital controls on the economy, in general, and on the relative economic position of the
local population relative to foreign owners and managers. Implications for political stability are significant.

2. Achieving Economic Prosperity

Economic growth and prosperity require the efficient allocation of sufficient amounts of capital resources. Much has been written elsewhere about the many essential institutional underpinnings that promote the attraction and efficient allocation of capital. These include institutions that support the development and protection of property rights, support private contracting initiatives, and regulatory and governance systems that encourage growth while preserving fairness and equity.2

To attract investment a nation must provide attractive opportunities for returns in the future. In addition to assessing the importance of providing an environment that increases the probability of future success, national policy must recognize direct competition from other governments that are also attempting to attract capital. In this chapter, I describe the investment analysis and decision from the perspective of the investor so that policy analysts may evaluate the effects of capital controls and other policies on future investment success. The approach recognizes that the investor is essentially purchasing both a political and geographic site. This perspective allows us to recognize essential elements of national advantage and of public policies that influence the investor’s choice of one site over another.

The approach also allows us to relate current investment requirements to future rewards and thereby demonstrate the connection between the amount of capital attracted and investors’ expectations of the probability of future economic growth and social stability.

In summary, I adopt the perspective of the investor to examine the factors that will either promote or retard the commitment of capital in a particular national setting, and given existing national physical and social endowments. My interest is in the essential underpinnings for economic growth: increasing capital resources and improving the allocation of that capital.

3. Investment Valuation and the Investment Location Decision

A Model of Investment Valuation

From the perspective of an investor, a particular location’s investment value depends on the pattern of cash flows that site can be expected to generate. The realization of each expectation depends on any number of
contingencies, unknown in the present. The levels of these uncertainties together with the expected return itself, are the two essential determinants of the present value of the investment opportunity. Those uncertainties, or risk, are captured in a discount rate, which is directly related to the level of risk.\(^3\) The higher the risk, the higher the discount rate and the lower the present value of any given expected future receipt. In essence, the discount rate translates the expectation of a future receipt into an initial present investment amount. This amount is the cash equivalent of a bet on the future opportunity. The greater the risk of the bet, the larger the discount.

In a general form, the value of an investment that will generate future returns is the sum of those discounted expected future cash flows:

\[
V = \sum E(C_f) / (1 + COC)^t
\]

where:

\[
\begin{align*}
V &= \text{the value of the investment opportunity, i.e., the present value of the future cash flows;} \\
E(C_f) &= \text{the expectation of the cash return to the investment in period } t; \\
COC &= \text{the discount rate that compensates investors for the risk inherent in the project.}^4
\end{align*}
\]

In practice, the value of direct investment opportunities is calculated with the application of a full and detailed investment valuation model, with explicit and carefully estimated expectations for future cash flow receipts. That basic form, the value for each particular cash flow, is of the form above. The overall pattern of cash flows is typically an initial outflow, usually in the early periods of the investment, with inflows expected to follow over a longer period of time. Further, the cash flows usually start at some beginning level and increase in size over time.

When we assume that growth occurs at a constant rate over time, equation (1) can be approximated by a very useful abstraction:\(^5\)

\[
V = CF / COC - g
\]

where:

\[
\begin{align*}
V &= \text{the value of the investment opportunity or the present value of the future cash flows;} \\
CF &= \text{the cash return to the investment in the current period;} \\
COC &= \text{the discount rate that compensates investors for the risk}
\end{align*}
\]
inherent in the project;

\[ g = \text{expected rate of growth of the cash flow}. \]

In this formulation, the value of the investment is determined by the initial level of the return, the expected rate of growth of returns, and a discount rate that reflects the cost of capital, or risk, for that investment. Investment values are higher where initial returns are higher, the expected rate of growth is higher, or the risk and the cost of capital is lower.

The present value analysis gives the investor the value of the investment and therefore the maximum price to be paid for that investment. The value captured by the investor is the difference between the discounted present value and the price he is forced to pay for the opportunity. Translated into an international setting where countries compete for investor resources, national policies must recognize that capital is attracted to locations where investment present values exceed investment prices by the greatest differential. Nations that offer investment opportunities with high growth expectations and low risk will be winners in the capital attraction game.

**The Basics of Discounting**

The cost of capital measures an investor’s access to the financial resources required for investment. The fact that the cost of capital is some finite number implies that financing is available at some price. That price, the cost of capital, is the return demanded by the security holders, those who provide the initial investment resources. These investors set the cost of capital, the return that they require in order to justify the commitment of funds, by comparing the risks inherent in the investment opportunity with the risks of other investment alternatives. Private investors willingly supply funds if the return expected from the present opportunity exceeds the return available on other investment opportunities of similar risk. In essence, the rate of return that is required to attract resources to a particular project or investment is determined by investors in comparison to the risk/return tradeoff reflected in the wider marketplace.

This approach highlights the role of the capital markets in resource allocation. By providing for the pricing of risk and trading of investment securities, capital markets facilitate the orderly flow of resources into projects with expected returns that more than compensate investors for the relevant levels of risk. Capital will be denied to investments with future prospects that do not surpass this risk-adjusted return.

Table 6.1 illustrates this effect of discounting on the returns and the cash flow levels required in order to provide positive value and to attract capital. Each cell indicates the discount that is applied to a cash flow to be received
TABLE 6.1 Discount Rates

<table>
<thead>
<tr>
<th>Cost of Capital</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>.91</td>
<td>.83</td>
<td>.75</td>
<td>.39</td>
<td>.15</td>
</tr>
<tr>
<td>15%</td>
<td>.87</td>
<td>.76</td>
<td>.66</td>
<td>.25</td>
<td>.06</td>
</tr>
<tr>
<td>20%</td>
<td>.83</td>
<td>.69</td>
<td>.58</td>
<td>.16</td>
<td>.03</td>
</tr>
</tbody>
</table>

at a point in the future, and to which a risk-adjusted discount rate has been applied.

In other words, the cash to be received ten years hence, and a risk that would command a 10 percent return, is worth only 39 percent of the actual amount to be received in ten years. In order to provide the required rate of return, the expected level of the future cash flows must be sufficiently high to allow for this discounting.

As a simple example, an attractive 10 percent investment of $1000 today must be expected to return at least $2564 in ten years time. The $2564, discounted at 39 percent, just offsets the initial $1000, and the investment yields just 10 percent. For a higher return, or an investment value that exceeds $1000, the future cash flow must exceed $2564.

Table 6.1 also clearly demonstrates the interaction between time and risk. Riskier investments command a higher cost of capital and cash flows are discounted more heavily the longer the time to payoff. Thus, the discounting process takes account of both time and risk simultaneously. A project that returns 20 percent is very risky indeed and the promise of a payoff in twenty years is not worth much!

These simple examples of the mechanics of discounting suggest a very powerful framework for the analysis of policies that promote economic growth. Policies that support lower discount rates promote increased investment because the present value of any given investment prospect is larger when the required rate of return is lower and capital is attracted to the support of projects with high current values. Policies that raise the required rates of return for investors, and thereby increase the relevant discount rate, retard the flow of investment capital because fewer projects in the existing pool will be capable of delivering the higher rate of return.

Cash Flow Considerations

There are several other aspects of this formulation that are more financial in nature and arise in the actual application of the formula to the global investment setting. While tangential to the main emphasis on discount rates, a complete assessment of the subject of the effects of regulation and controls
on investment valuation requires a discussion of cash flow expectations.

The regulation or restriction of cash flows is one form of controls that has become a staple in the trade policy toolkit. In Chapter 2 of this volume, Guitián describes two forms of restriction. The first type of control restricts the practice of international financial exchange. This includes the imposition of dual or multiple exchange rates and differential tax treatment of transactions. The second type of restriction places limits on the quantity of capital that may be transferred. Segregation of controls into these two types is reminiscent of the distinction between tariffs and quotas as instruments of international financial policy. Here I briefly assess the former type, exchange restrictions, and reserve the core of my analysis and discussion for limitations on ownership. That is, in this subsection I consider the effects of taxes and regulations on exchange and treat the effects of ownership limitations as the main concern of the rest of the chapter.

One common type of exchange restriction is a withholding tax on repatriated earnings or dividends. The commonly used import deposit schemes are yet another type. In this latter case the investor is required to place funds on deposit equal in amount to the cost of imports. Deposits are usually in interest-free or low interest bearing accounts and funds are released from the accounts after a year or more. A similar scheme is sometimes imposed on dividends or profits in order to force retention of profits in the country for an extended period. Again, the funds are usually invested at a lower return than that provided by the operating investment.

These restrictions are recognized in the investment valuation formula as reductions or delays in receipt of expected cash flows. The framework values expected cash flows only when they are available for application to other investment opportunities. In essence, the cash flow must not be required for reinvestment, for growth, for equipment maintenance, etc. The cash must also be “repatriatable.” In order to realize full value, the cash flow must be potentially available for application to alternative investments regardless of location, nationality, industry, or other constraint.

Both tax and quota-type restrictions on capital flows are normally enforced with requirements of special approval or negotiated tax assessment. In other words, purchases or sales of foreign assets by domestic residents are prohibited unless administrative authorization for the transaction is received. Securing authorization or approval is a costly process, and often political as well as financial capital must be expended. These costs are reflected as reductions in return and growth.

In addition, the cash flow represents a return after tax and regulatory costs. That is, the cash flow is net of any taxes—income or withholding—or any expenses that must be incurred in order to gain the full use of the cash flow.
In cases of transaction restrictions, cash flow growth or timing of receipt are altered unfavorably by controls. With a delay in receipt, forced reinvestment at lower yields or a reduction in net cash flow due to taxes or transactions costs reduces the inherent value of the investment opportunity.

As we see in Section 4, controls that restrict access to certain classes of securities not only share the negative impact on overall value, but also alter the intertemporal allocation of resources.

**Investment Valuation and the Economics of Locational Choice**

In a competitive and liberal investment market, the prices paid for investment opportunities reflect their value to investors. In a price setting or "buyers" market, opportunities abound for the purchase of investments whose investment value exceeds their price. This is the "capital shortage" environment where there are fewer entrepreneurs than opportunities for productive investment. In this case, when the value of an asset to a particular investor exceeds the price paid for that asset, the investor is said to have "created value." In a market that is more competitive—a seller's market—prices for investment opportunities are bid up by a surplus of entrepreneurs and opportunities to create value are smaller and fewer.

These dynamics have a reverse image from the perspective of the seller, usually the national government or privatization agency. Any excess of proceeds over current value or cost accrues to the seller. In periods of capital shortage, prices paid for investment opportunities are likely to be lower, with more value accruing to the investor. When there is surplus of investors, the prices paid are higher with more of the value created going to the government and relatively less to the investor.

In the absence of taxes or other restrictions on the market for investment opportunities, cash flow expectations and values will reflect locational advantages. The classical theories of trade and economic development have defined advantages in terms of more "natural" factors—access to scarce resources, low-cost factors of production, low-cost labor, or highly skilled labor, large and affluent markets, etc. From this perspective, capital will be attracted to the areas with the highest potential value, that is, with the greatest endowment of these natural factors. In addition, industrial structure will be determined by the match between the types of resources needed in an industry and the resources available locally.

Of course, these traditional theories presume some fixed factor, such as a natural resource or capital endowment, that confers the locational advantage. Most of the theorems of trade and growth derive from the assumption that this locational advantage is geographically fixed or, at least, that it is less than completely mobile.
However, information and export technologies have delivered more complicated and rewarding possibilities for investors who can now use and even create advantages that are increasingly and sometimes completely mobile. For example, with modern information transmission, the product of labor may be completely and instantaneously mobile, even if employees themselves are not.

This mobility of factors implies that, in most cases, productive investment will be attracted more by some portfolio of endowments than by some "natural" or fixed endowment advantage. These might include access to transportation, a willing and well-trained labor force, a legal and contractual infrastructure, or basic security guarantees. And these endowments are, to some extent, the product of an interaction between the social and economic structure, culture, and government of a nation.⁷

Quite often, these advantages are conferred by an efficient and effective local or national government that provides the immobile infrastructure and legal and governmental institutions that facilitate the efficient and effective operation of business. For example, national governments are increasingly realizing that global investors will not locate in countries that are unable to control crime and provide basic support for business activity.

Factor mobility and technologies that allow investors to combine resources from around the globe have become essential ingredients in competitive success. Investors recognize the importance of this kind of flexibility by placing larger amounts of investment capital and technology in locations where mobility is honored and facilitated. The succeeding sections demonstrate that national policies that attempt to constrain mobility will suffer reduced investor support. Further, policies that constrain capital mobility will also alter the intertemporal allocation of capital in ways that may commit national resources to positions of longer run competitive disadvantage.

**Intertemporal Aspects of Discount Rates and Investment Selection**

My purpose in this chapter is to consider the effects of capital controls on both the attraction and reallocation of capital resources. Examples above demonstrated the relationship between discount rates and the amount of capital supplied by investors. In this subsection, I especially review those fundamentals of discounting that determine important aspects of resource allocation.

The level of discount rates is a major determinant of the intertemporal allocation of resources. That is, in addition to determining overall investment attractiveness, discount rates also influence the allocation of funds between programs that are expected to yield returns in the short term (or require expenditures in the short term) and those that offer a longer term payoff (or
defer expenditures into the future).

When discount rates are higher, costs and revenues in the future are discounted more heavily and, therefore, have a lower impact on the current value of the project. High discount rates favor the adoption of projects with revenues to be received in the nearer term and with expenditures to be deferred to future periods. Lower discount rates shift investment decisions toward projects that promise higher growth rates relative to present earnings. Lower discount rates also favor investments that expend resources initially in favor of reduced expenditures over the longer term.

In short, when discount rates are lower, projects that require larger initial investment in exchange for future growth are preferred. When discount rates rise, investor preference shifts toward projects that minimize the initial investment and favor short-term over long-term returns.  

This relationship between discount rates, initial investment and growth finds a counterpart in classical production economics. In production economics investments are represented as expansions of scale that allow the firm to operate at a lower point on the long-run labor supply curve. An expansion matches the scale of production to the quantity of output in a way that allows an improved combination of factors, potential economies for purchasing in quantity, and increased productivity. Investments in automation are designed to substitute capital for labor or to increase labor productivity in future periods.  

From the perspectives of finance and discounting, the capital expansion reflects a decision to invest current resources as a substitute for incurring longer run expenditures. The decision accepts initial investment in exchange for longer term growth. As demonstrated above, this essential tradeoff is strongly influenced by the level of the discount rate. The lower the discount rate, the greater the willingness to invest in projects with prospects of long-term growth.

Policies that affect discount rates have clear impact on the intertemporal allocation of investment and, by extension, on future productivity and competitiveness. Lower discount rates, especially relative to other nations that are competing for global resources, attract capital in greater amounts. In addition, lower discount rates prejudice investors toward projects where nearer
policies lead to lower discount rates, which promote investments promising longer term growth, are more likely to dominate the competitive environment in the future. Countries where high discount rates bias investors against the longer term and toward the shorter term will be more advantaged in the near term, but will suffer loss of competitiveness and relative economic viability in the future.

4. Capital Controls and Discount Rates

*Diversification and Discount Rates*

In a liberal capital market, discount rates are set by investors as the rate of return they require for investment in a particular project. This rate is set in comparison with other investment alternatives and required returns are determined as compensation for the relative risks incurred in each project. Projected investment returns must exceed the hurdle or threshold rate that would compensate the investor for the diversion of funds from his/her next best investment. Investors must be persuaded that a particular project will provide returns that exceed a real and risk-free rate of interest by increments that are sufficient to compensate for expected inflation and additional risk. That is, investors shift away from growth projects as inflation and risk
Investors assess the level of risk of a project and incorporate this assessment in the discount rate they apply to that project. Modern portfolio theory's contribution teaches that this assessment is made in the context of the projects' \textit{marginal addition to the risk of investors' existing portfolios}. Further, the marginal addition of risk is less where potential investment projects are considered for addition to portfolios whose risks are reasonably uncorrelated with the risks of this project. The less the correlation between the risks of the prospective project and the risk of the existing portfolio, the less the marginal additional risk of the new project. Further, the prospective project's risks are less likely to be correlated with the current portfolio profile, the larger and more diverse is that investment profile. For instance, the risk of a project in isolation is often reduced by as much as 70–80 percent when that project is added to a portfolio of as few as 20 to 30 randomly selected securities.\footnote{10}

As with investments in financial securities, the diversification potential of an investment is often the most important determinant of that investment's discount rate. When opportunities for diversification are very high, the discount rate applied by the investor is significantly reduced. As demonstrated above, this reduction favors investment in longer term growth opportunities.

\textit{Capital Controls and Investor Diversification}

When capital controls effectively segment local from global capital markets, \textit{the ability of investors to diversify their risk may be severely limited}. Effective capital controls eliminate investors' abilities to tap the diversification potential that is inherent in any project where the controls apply. When opportunities for diversification are foreclosed, higher rates are applied to investments in infrastructure and reconstruction.

By increasing the discount rate applied to investment projects, capital controls clearly retard the flow of investment resources. However, the additional impact of capital controls on intertemporal resource allocation may be even more destructive and pervasive because the reduction in investment activity will be most intense among projects that promise higher growth. At a time when emerging countries are competing to build the basic structures of their productive and competitive systems, policies that discourage investor orientation to growth and longer term returns are clearly inconsistent with fundamental development objectives.

\textit{Capital Control Bias: Local Investor versus Foreign Investors}

One argument for the imposition of capital controls is that they prevent the release of domestic capital resources that would otherwise "flee" to more attractive projects outside the country. Rather than lose domestic capital, the
controls attempt to force application of local capital resources to local investment opportunities. Without capital controls, it is reasoned, local investment projects would be forced to compete for funding with projects abroad. The effect would be to raise the costs of capital to local investments and, in consequence, reduce the development of the local economy as fewer local investment options are exercised.

This logic neglects the effects of capital controls on the investors' range of choices and, particularly, on the degree of diversification potential that the investor enjoys. In addition, the traditional argument also ignores the differential effect of capital controls on local investors as opposed to global or foreign investors.

In practice, capital controls are more likely to reduce possibilities for diversification for local investors than they are for foreign investors. By restricting local investors' abilities to expand their portfolios into global markets, capital controls raise the cost of achieving the maximum diversification advantage. Foreign or global investors, on the other hand, suffer no similar restriction. Foreign investors' assessment of a discount rate assumes full diversification advantage because it is incremental to a globally diversified portfolio. As demonstrated above, this advantage confirms a lower effective discount rate on global investors relative to local investors. The discount rate advantage will be largest for projects with significant diversification potential.

The discount rate advantage also depends on the extent to which the local economy is linked through trade and other channels to the global economy. If the linkage is tight and the local and global economies respond in concert to economic shocks, there will be little inherent advantage to diversifying outside of the country. Local investors can get close to complete diversification with internal investments. However, if the country relies on a small number of products for economic viability, the diversification advantage is large. In the case where large shocks are experienced differently locally from globally, significant advantage to diversifying outside the country may exist. In this case, local investors are at a large disadvantage if diversification opportunities are denied them.

For any given investment possibility, the global investor will place a higher value on growth and future returns than will local investors. The global investor will outbid local investors for most projects, particularly those that promise high growth.

These dynamics will push local investors, who must earn a higher rate of return since they are not able to diversify their risks, toward projects that are riskier and offer short-term payoffs rather than growth. It is worth noting that local investors seeking higher returns will necessarily orient toward projects that offer higher returns by virtue of greater risk. Local investors will
tend to bid competitively on projects that have high overall risk and will generally be successful in bidding on projects that have high risk and low diversification potential. This means that local investors will bear a relatively high share of unsystematic risk. Investments that are less sensitive to swings in the overall market place, but highly sensitive to specific risks, will be relatively attractive to foreign investors. Local investors will be on a more level playing field with regard to the acquisition of highly cyclical investments, especially those with little specific risk and will not be routinely outbid on such projects.

5. Capital Controls and Economic Prosperity

Investment Analysis and Modern Portfolio Theory

As shown by the analysis above, capital controls may have the effect of raising the discount rate to all investors and will certainly raise rates for domestic investors above those available to global investors.11 The rate differential will be caused by controls that eliminate the opportunity for domestic investors to diversify their risk. To the extent that these controls are not applied to, or are less effective for, global investors, a discount rate disadvantage will occur. The greater the diversification potential that is denied to domestic investors, the greater the size of the rate disadvantage.

Further, the game is played out against a background of a large number of emerging countries, each realizing the importance of attracting and allocating capital efficiently. Investment opportunities in nations that eschew controls are assessed as being more valuable than those in countries that impose controls. Thus, at a time when the emerging countries are attracting investment to build infrastructure and to develop modern industrial economies, capital will flow first to countries where value is highest and constraints on capital flows are lowest. The attraction will not only be for global investors, but also for local investors. To the extent that controls are effective, local investors will have less incentive to invest locally and will respond to a large incentive to invest abroad. In fact, the strongest pull for local investment funds will be neighboring countries where investor proximity insures greater ability to monitor and control. Thus, capital controls will encourage local capital resources to flow to direct competitors for investment funds and also for industrial business.

This consideration may be especially important in the competition between smaller countries in the same geographic region. Such countries may already be in competition for funds from investors that are drawn to the region for advantages shared by all countries. In this case, capital controls will tip a large number of investment decisions away from the controlling country and the opportunity to take advantage of resources and endowments
may be lost. Further, countries that are small and close geographically may also have ties of history and culture. In this case, funds from local investors as well as foreign investors may be transferred easily from the country with controls and higher interest rates to the neighboring, uncontrolled country.

In sum, capital controls put domestic investors at a disadvantage relative to global investors. They also put local industry at a disadvantage to industry from other emerging countries.

**Capital Controls and Industrial Structure**

Classical trade and production theory assumes that the endowments and proportions of capital and labor in a country are the bases for national comparative advantage. These endowments and their application determine the industrial structure of a country, conferring, for example, a competitive advantage on firms in the service industry that locate in a relatively labor-rich country. Likewise, heavy manufacturing is favored in a country that is capital intensive or where capital is in greater supply. In this case, low population levels or low population density would not be a national disadvantage. In the longer term, labor migration may offset initial differences, but the capital-labor ratio, especially at the onset of economic restructuring activities, will certainly influence the direction of industrial development.

If capital controls render a country less capital intensive, or more labor intensive than it would otherwise be, they also will tend to deter investment in industries that require capital intensity. A lower relative investment in basic infrastructure is probably the most detrimental result. With higher discount rates, the future returns provided by investments in airports, roads, and telecommunications systems will be less valuable than with lower discount rates. Investments in education, another "capital investment" that provides returns over the longer term, will be less attractive to private investors than will be educational investments in other countries. Finally, investment in any kind of system that requires front-end expense will tend to be placed in countries without capital controls.

Investment in information technology and the design of organizational structure usually go hand-in-hand with workforce education and training. Further, it is well known that our global system is moving rapidly toward an "information-based" society with rewards going to "knowledge workers." These individuals need not only national infrastructure in information technology and education, but also complementary and enhancing private investment in this basic "human capital" formation. Without such investment, or with investment lower in these areas than it is for competing emerging nations, countries will find themselves uncompetitive in industries that require skilled employees and the use of information and organizational systems.
As we expand our understanding of “capital investment” beyond the traditional definition of machinery and into areas of information, knowledge and other “human capital,” we see that the implications of capital controls for industrial development and future national competitiveness are deep and pervasive. Not only will controlled nations find themselves uncompetitive in such traditional industries for intermediate stages of economic development as automobile and steel manufacture, but also in more advanced industries that support a high standard of living. These nations will find their industries and companies falling farther and farther behind as investment in information and education becomes the currency of the future.

Capital Controls: Industrial Ownership, Management and Control

A recent study of relative national productivity by the McKinsey Global Institute shows that the high standard of living enjoyed in the United States is due, in no small part, to U.S. managers’ efficient use of real and financial capital to meet customer preferences.12 The innumerable individual investment and operating decisions that support this efficient application of assets are strongly biased, as shown above, by the discount rate. Countries that tolerate artificially high discount rates as a cost for keeping capital in the country will force managers, owners, and workers to take the shorter term, risk averse perspective, rather than longer term perspective. Throughout the national economy, all individuals, owners and employees alike, will make choices that differ in kind and degree from their competitors abroad. For example, to the extent that global investors are evaluating projects and transacting based on common, global discount rates, their selection and decisions will reflect the other economic realities such as real costs of labor, land, technology and other factors. Local investors will have over-purchased factors that are consumed and reflected as expenses and under-purchased factors, such as technology, that embody an initial investment in exchange for longer term savings.

As shown above, this effect will be strongest among national or local investors for whom diversification opportunities are foreclosed. Local owners and managers, as well as local employees will consistently choose lower investment and lower initial spending and opt for initial payback rather than growth. Because global managers and investors will outbid locals for projects and investment goods that have high diversification potential, locals will be left with investments that are highly cyclical in nature, as well as having lower growth prospects.

Thus, capital controls will affect, indirectly but strongly, ownership and control structures of industry. Local investors will tend to own firms with relatively little investment in capital and technology and without prospects
for competitiveness in the industries of the future. Local investors, owners, and managers will be in control of industries that rely on high use of low-skilled labor. One thinks of industries such as garment manufacture and low-level assembly operations.

In stark contrast, industries or companies owned by foreigners are more likely to be globally competitive. Foreign investors will tend to own, control and manage companies that have relatively larger amounts of more modern capital and employ individuals from the emerging middle class and professional classes than will firms owned by local investors. Foreign-owned firms will be influenced by basic economics to continue investment in employee education and training and in the technology needed for future competitiveness.

In sum, by biasing the decisions of local investors, managers and employees toward the shorter term, and by conferring on foreign investors an advantage in the purchase of lower risk and higher growth investments, capital controls do deep, long-term and perhaps even permanent damage to the national structure of ownership and control.

**Capital Controls: National Resource Endowment, Population Migration, and International Comparative Advantage**

The sections above describe the long-term, pervasive and destructive effects of capital controls on patterns of investment in national industry and infrastructure and on patterns of local versus foreign ownership and control. However, as shown by Sowell (1996) and others, we can increasingly expect population migration to mitigate differences in underlying advantage and, in an abstract sense, to level out the capital/labor proportions across countries. That is, traditional trade and development theory tells us that population will migrate from areas of labor abundance and unemployment to labor scarcity.

With this tendency in mind, let us review the industrial orientation of countries that select capital controls as tools of economic policy. Investment will be relatively focused in cyclical industries that are more labor and less capital intensive and that employ less-skilled workers. To the extent that this characterization differs from the initial resource endowment balance of the country, population will tend to migrate. In countries that have relatively low population and population density, capital controls will encourage the migration of population from abroad to take up employment in the lower skilled jobs. Countries that are inherently “labor intensive” and have large and concentrated populations will provide jobs with low skill requirements, few educational and training opportunities, and low levels of compensation, and will experience labor immigration.

Not only will low-skilled and poorly educated workers migrate in search of positions, but more highly educated persons will also migrate. They will
move toward employment in companies that promise future education, opportunity, and higher compensation. To the extent that capital controls force these kinds of companies from the country, or cause them to be owned by foreigners, the more talented and educated members of the population will either migrate abroad or will seek employment in foreign-owned and managed firms at home.

Again, the indirect but pervasive effects of capital controls on population migration are negative and can be substantial.

6. Capital Controls: Summary and Political Implications

By raising discount rates, in general, and by creating a disadvantage for local relative to global investors, capital controls have a number of significant and detrimental effects. All of the effects are relative; that is, the investment patterns will be worse than they would be without controls and will compare unfavorably to patterns in countries without controls. A summary of the overall effects follows:

- Less investment locally in companies and projects that depend on a large capital base, on technology, and on highly skilled and educated employees
- Less investment in industries that have low cyclical risk and high growth potential
- Less investment in education and infrastructure
- More investment in industries that require and attract less skilled and educated employees and offer lower employee compensation
- Tendency for countries with an inherent labor shortage to attract population migration from abroad in areas of low skill, education, and compensation
- Tendency to lose ambitious and educated local population to employment in growth-oriented and high-technology industries abroad
- National productivity and efficiency decline over time as less investment is applied to real and human capital investments than is applied in competing countries

Controls will bias the structure of ownership and control such that local investors, managers and employees will be a significant disadvantage to foreign investors in the following ways:

- Employment at jobs with lower compensation and less opportunity for training and development
Ownership and management of companies that get less competitive over time, as their "short-term" orientation brings them sooner to the "mature" phase of an industry and company life cycle.

Less ownership of and investment in newer technologies and activities that are the future of the global economy.

Employment opportunities with higher compensation and greater potential for growth will be in firms that are owned and managed by foreigners.

The political implications of these biases are clear. Only the severity, extent and consequences of discontent is in question.

In recent times, we have seen strong evidence that national polity is increasingly aware of conditions of prosperity and personal freedom in other countries, especially countries deemed to be "in competition." The polity is more likely to regard as competitors countries that are closer geographically and more alike in terms of basic resources, history and culture. It is increasingly likely that national governments will be held responsible for policies that obstruct their citizens in their search for prosperity and personal freedom, especially if the conditions and results in "competing" countries are more successful.

Forecasts of specific political responses to the conditions listed above require use of models of political economy and public choice. The important contributions of the analysis presented here are that national opportunities for prosperity, growth, and competitiveness will be compromised by the imposition of capital controls. Coming at a time when basic structures and patterns are being established, these impediments will not be easily reversed. Further, ownership patterns and operating choices within the countries will reflect a seeming preference for foreigners and disadvantage for nationals that will seem to arise from both the private enterprise system in general and from public policy choices in particular. It is not too great a stretch to imagine the impact on national perceptions of fairness in a democratic system.

Notes

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  1. Guitián, Chapter 2, p. 20, this volume.

  2. For a cogent discussion of the role of institutional factors in national growth, prosperity and comparative advantage, see Olson (1996).

  3. Sweeney, Chapter 4, pp. 47–49, this volume.

  4. This valuation formulation assumes a discount rate, COC, that is constant
across periods.

5. This formulation and its derivation is described in Brealey and Myers (1991: 40–41). Also see Chapter 6 in Weston et al. (1990). An additional reference regarding the application of valuation models can be found in Higgins (1995: 278–325). In addition to the assumption of constant growth, the abstraction requires a large number of time intervals and that the growth rate be less than the rate applied as the cost of capital.

6. From the policy perspective, this implies that investment resources can arise from either foreign or domestic sources. Domestic savings, which may have previously fled the country might be returned home, or new savings stimulated from within, if the investment value is sufficiently attractive.


8. This tendency to shift investor preference away from growth projects as discount rates increase is fundamentally exponential in form. That is, as rates rise the attractiveness of longer term growth projects falls at increasingly rapid rates.

9. Investment in labor-enhancing capital is used here as an example. However, the model can, of course, be very generally applied to any opportunity to replace variable and ongoing costs with a fixed, up-front investment. Energy-saving investments are another familiar class of examples.

10. For a more complete and very accessible discussion of the effects of diversification on risk, see Fruhan et al. (1992: 407–20).

11. See Ross (1976), Lessard (1976), and Solnick (1974, 1988).


14. Influential nationals in the former Soviet republics were aware of this force of migration during the Communist era. Those in charge of national planning in the relatively labor-scare republics soon realized that to accept investment from Russia in large levels of manufacturing capital meant, not only damage to the environment, but also supporting influxes of Russian workers to take up excess employment opportunities. For nationalistic reasons, some of these planners avoided making their countries appear too attractive as sites for substantial capital investment from Russia.

References


