



**ENTREPRENEURIAL RESPONSE TO ECONOMIC
LIBERALIZATION AND INTEGRATION:
AN INQUIRY ABOUT RECENT EVENTS IN URUGUAY
AIMED AT DEVELOPING BETTER HYPOTHESES
ABOUT ECONOMIC BEHAVIOR**

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ABSTRACT

This study outlines behavioral hypotheses drawn from actual decision-making processes. It is based on in-depth interviews with decision-makers in manufacturing enterprises in a small, relatively conservative and stable Latin American country (Uruguay) and on detailed questionnaires given to members of those firms as well as to economic agents in government, the service sector, and labor unions whose activities may have influenced the enterprises' decision-making. The paper considers the responses to major new incentives that have accompanied an ongoing process of economic liberalization and integration. It offers the tentative conclusion that while serious perception and judgment problems do not characterize all areas, where they are present they are more important than generally recognized and distort decision-making. Some important problems are difficult to ascertain ex post, and there may be serious limits to the ability to verify a number of hypotheses except by direct involvement in the decision-making process.

RESUMEN

El presente trabajo describe algunas hipótesis de comportamiento que se derivan de los procesos actuales de toma de decisiones. Está basado en entrevistas a fondo con los que toman decisiones en empresas industriales, en un país latinoamericano pequeño, relativamente conservador y estable (Uruguay) y en cuestionarios detallados entregados a miembros de dichas empresas así como a agentes económicos del gobierno, el sector servicios y a sindicatos cuyas actividades pueden haber influido en la toma de decisiones de las empresas. El trabajo toma en cuenta las respuestas a los nuevos incentivos que han acompañado al actual proceso de liberalización e integración económica. Ofrece la conclusión tentativa de que mientras la existencia de problemas serios de percepción y juicio no caracteriza a todas las áreas, allí donde se encuentran presentes adquieren más importancia de la que generalmente se les da y distorsionan la toma de decisiones. Algunos problemas importantes son difíciles de confirmar ex post, y puede haber serias limitaciones a la capacidad de verificar ciertas hipótesis excepto mediante la participación directa en la toma de decisiones.

I. The Background

A. The Objective of the Study

This study is not about Uruguay so much as it is about decision-making, and it is not so much about decision-making in a given time and place as it is an effort to develop new hypotheses about decision-making processes. The purpose, then, is to develop behavioral hypotheses that are more satisfactory (i.e., more complete) than those now available.

This first two sections provide some background about Uruguay that is useful for placing what follows in context.

Uruguay once enjoyed one of the world's highest of per capita incomes—probably higher than that of more renowned Argentina even though Uruguay's capital, Montevideo, never attained the wealth and the stature of Buenos Aires. But that was 40–50 years ago. There are differences of opinion as to why the country 'lost its way,' or, at any rate, as to what part of the decline is attributable to international factors, what part to mistakes in domestic economic policy, what part to an inadequate entrepreneurial response, and what part to other factors, which, as in the case of the previous ones, also reflect the country's institutions and underlying value systems.¹

It may now be too late to fully determine the relative importance of the various factors underlying the Uruguayan decline, but it is of special interest that at present the country is being confronted with perhaps the most important changes in economic signals since it fell from its earlier status. The objective of this study is to see if it is possible, by means of in-depth interviews and relatively open-ended questionnaires that attempt to capture the reasoning processes underlying decision-making, to provide hypotheses about economic behavior that would aid in understanding not only the Uruguayan economy, but economic behavior more generally.

The study is a follow-up to "Perception, Judgment and Motivation in Manufacturing Enterprises," originally presented at the 1986 International Conference on Economics and Psychology, cosponsored by SABE.² That paper drew on in-depth interviews with metalworking

¹ For a stimulating and provocative discussion that applies to Argentina as well as Uruguay, see Martin Rama, "El pais de los vivos," *SUMA*, 1991.

² Schwartz, Hugh H., "Economic Perception and Judgment in Small and Medium Size Manufacturing Enterprises: Findings and Preliminary Hypotheses From In-Depth Interviews in Argentina, Mexico and the United States" in Shlomo Maital (ed.), *Applied Behavioral Economics* (Wheatsheaf, Brighton, 1988), vol. II, pp. 44–57; and Schwartz, "Perception, Judgment, and

manufacturers in three countries; this one incorporates in-depth interviews from a broad range of industries in a single country and a single institutional context. The study has drawn on virtually all of the analyses prepared on the industrial sector of Uruguay in recent years, and on such related topics as economic liberalization and economic integration, as well as on numerous accounts in newspapers and other periodicals. In addition, it draws on many public lectures and the question-and-answer exchanges that generally followed those sessions. These materials have been used directly in the discussion that follows, but their principal contribution has been in shaping the initial and the follow-up questions during the many interviews, formal and informal, and the smaller number of questionnaires from which key information was obtained. Those data provide the basis for the (in some cases, still preliminary) behavioral hypotheses of Section IV, and for the critique of the surveys made by other researchers of apparent obstacles to Uruguayan industrial development and Uruguayan economic development generally (Section III F).

B. Behavioral Hypotheses in Economic Analysis

A reading of *The Wealth of Nations* and then of certain of the late 19th century economists might have led one to expect that a significant number of hypotheses of economic analysis would draw on the contributions of psychology and other behavioral social sciences or on direct observation of actual economic processes—but that has not taken place. There have been interesting and important exceptions, but they have been exceptions. Some of the conclusions of promising avenues, such as some of Duesenbery's analysis of consumer behavior, were later explained without leaving economics proper; and while the 'satisfying' thesis of Simon contributed to the insightful and still-cited *A Behavioral Theory of the Firm* of Cyert and March, the latter was relegated to a place of secondary importance because it was said not to be truly theoretical. 'Adaptive' analyses and work on the importance of 'routines' gained recognition (especially those of Day on adaptive analysis and of Nelson and Winter on routines), but mainstream economics has largely ignored these efforts. This has been less true of the applications of the cognitive psychologists Tversky, Kahneman, Slovic, etc., by Kunreuther, Knetsch, and other economists, of the contributions of Thaler in his "Anomalies" articles in the *Journal of Economic Perspectives*, and of work on such subjects as addiction. The behavioral analyses of those who worked in laboratory economics have received still more attention, though not nearly as much as the use of traditional economic reasoning by Becker and his followers to

Motivation in Manufacturing Enterprises," *Journal of Economic Behavior and Organization*, vol. 8 (December 1987), pp. 543–65.

explain much behavior that had long been considered to lie outside economics—in the domain of disciplines such as sociology and political science. Finally, to the extent that those with an interest in a behavioral approach have turned to fieldwork, it has been largely through surveys and in an attempt at verification. Perhaps the efforts that most nearly attempt to understand the behavior of activities in process—a few of which actually do deal with ongoing processes—have been undertaken by economic anthropologists, who have incorporated economics and cognitive psychology into their own analyses (though these analyses generally have focused only on rural communities). Few in economics or business administration have drawn on the information of actual decision making to formulate behavioral hypotheses. The present study makes such an attempt. The evidence of the study underscores the weak bases of some assumptions ordinarily relied upon in traditional economic analysis, but while the study advances some behavioral hypotheses based on the responses from (largely successful) enterprises, it also indicates that there are problems in employing the approach used here.

C. Recent Trends in the Uruguayan Economy

The 20th century brought great changes to Uruguay. Already well on its way to enjoying economic prosperity, Uruguay began the century with an era of democratic stability and a tradition of paternalistic interventionism that initiated advanced labor legislation, social security, and other 'welfare state' institutions several decades in advance even of the United States, not to mention the other Latin American nations. Even more than Argentina, the country was a middle-class society with relatively few pockets of extreme poverty, and with quality public education available in much of the small republic. Middle-class and usually nonclerical interests controlled politics for most of this century, again distinguishing the society from its neighbor across the Rio de la Plata. Also, while it was better to have more money than less, public ostentation was frowned upon; modesty was seen as a virtue (except for topics such as soccer, in which this country of less than three million already had won two of the six World Championships in the first half of the century), and even in the capital, Montevideo, most citizens were of a conservative outlook.

After the Korean War, the comfortable if not extraordinary Uruguayan prosperity based on the export earnings of wool, leather, and beef began to wind down. When this happened, the Uruguayan tradition of a paternalistic government reinforced the Prebisch-type arguments for import-substituting industrialization, some of which dated from the late 1940s, the Second World War, and even the 1930s. The new industry spurred the economy at first, but with such a small

domestic market (and no thought of exporting the products of these new industries), the economy slowed badly for the two decades following the end of the Korean War.

The military had been a relatively weak force in 20th-century Uruguay, particularly in comparison with other Latin American nations, but changes in circumstances led to a military government from 1973 until 1985. The major changes in economic policy were the initiation of a measure of economic deregulation, the first steps at reopening the economy, and efforts at export promotion, notably in the first half dozen years of the government. The major export incentives were gone by the end of the 1970s, and by late 1982 the planned opening of the economy had been slowed. The country was in a deep economic crisis, from which it really did not recover until 1986, more than half a year into the return of democratic government. Within a few years after the reinstatement of an elected government, there was such a return to former institutions and such a renewal of the previous high value assigned to individual expression and of the much lower value assigned to discipline that during the first years of the current right-of-center government, a prominent member of the far left remarked that democratic institutions (read, traditional institutional arrangements) were on firmer ground than at any other time he could recall.

There was a substantial economic boom in 1986–87, paced by an industrial sector that took advantage of underutilized capacity and expanded preferential trade agreements with Argentina and Brazil. The expansion still left per capita income levels somewhat below those attained in 1980, however, and was not accompanied by much new investment. (Except for 1978–81, the rate of investment was among the lowest in Latin America, barely enough to cover replacement needs, on average.) The new civilian government lost its ability to garner a majority in the legislature by 1988, and the years 1988–89 were characterized by stagnation in the economy as a whole and in the industrial sector in particular. These factors (together with antagonistic personal confrontations between the two principal leaders of the previously long-dominant political party) led to the election in late 1989 of a right-of-center national government (quite rare in Uruguay), committed to deficit reduction, greater macroeconomic stability, an increased opening of the economy to international trade, and reduced government interventionism (this while a socialist-communist alliance triumphed for the first time in the municipal elections in Montevideo). The period 1990–92 was to witness an improvement in overall economic performance, dramatic in 1992 by Uruguayan standards (spurred in part by the extraordinary overvaluation of the Argentine peso), but stagnation in manufacturing industry, with a small decline on balance, and a continuing decline from late 1992 into 1993.

II. The Perspectives for Manufacturing Industry in Uruguay

As late as the mid-1980s, most Uruguayan industry fell into one of two groups—relatively low value-added processing of agricultural commodities (primarily meat, leather, and wool), most of the output of which was exported, and import-substituting industries, very little of whose production was exported and most of which clearly was not internationally competitive. The preferential trade agreements with Argentina and Brazil enabled significantly increased exports from Uruguay's import-substituting industries, but, despite a few interesting exceptions, did not foster many new investments or major productivity improvements. Exports had been a very secondary interest of many firms, but by the mid-1980s, after several years of decline in the growth of per capita income, a number of previously domestically oriented enterprises began to see exports as the key for reinitiating their process of growth. This was reinforced by the renewal of the mid-to-late 1970s interest in trade liberalization. By the election of the Lacalle administration in December 1989, there was a clear indication that cost competitiveness was going to be more important than before, and exporting more essential for enterprise profitability. But most manufacturers saw the outlook as limited, despite recent gains; only a few thought of themselves as having a major potential for international competitiveness.

Although well aware that much of Uruguayan manufacturing owed its initial impetus to government protection, and equally aware that the public appreciation of industrialists was not nearly as high as that of many other callings (much lower than in Chile or Argentina, for example, as has been shown in surveys by teams of sociologists and political scientists), manufacturers seemed relatively content with their contribution to Uruguayan society as of mid-1990, when this author arrived in Uruguay to begin a lecturing assignment. A broader array of industries had begun to export, notably to Argentina and Brazil, the two of which had come to absorb a third of all Uruguayan exports of manufactures as compared to less than a tenth a decade before. Industrialists were concerned with the challenges of an accelerated opening of the economy and the projected increase and change in the character of the economic integration with the neighboring countries, but there was a sense that the changes underway were irreversible.

When the president of the National Association of Manufacturers (Cámara de Industrias), learned in mid-1990 that Brazil and Argentina were about to accelerate integration plans, which might deprive Uruguay of recently gained preferential markets, he persuaded the Cámara and the government to join forces, and what had been one of the most protectionist groups in the country (and probably still had a protectionist majority among its membership) came out in support of Uruguay's becoming a member of the Common Market (Mercosur). However, this was done while:

1) asking for a deceleration of global tariff reductions scheduled to take place; 2) working to secure 960 products on the Mercosur temporary exemptions list; 3) insisting on various safeguards; and 4) requesting that the government take steps to make its public services available at costs more competitive with those in the neighboring countries. But the heretofore protectionist organization representing manufacturers decided from the outset to be a partner to the changes.

To a degree, the leaders of the Cámara (several of the most important of whom had major international ties) recognized the order of magnitude of the challenge that lay ahead and, with the help of international and bilateral agencies, set up or expanded a variety of services—workshops on the Mercosur and on industrial subcontracting, studies of export opportunities and how to take advantage of them, greater involvement with the government's norms and applied technology institute (LATU), industrial troubleshooting services for smaller enterprises (though on a modest scale), and a variety of additional new activities related to helping enterprises market their products abroad. The Cámara chose to supplement its traditional emphasis on lobbying with more attention to means of helping Uruguayan industry condition itself to compete, especially in foreign markets. It was said by some that the Cámara leadership was not especially representative of Uruguayan manufacturing and did not always listen to its membership (which charges contributed to its defeat in elections two years later). Still, the Cámara was beginning to contribute to the kind of cost and quality consciousness that was going to be necessary for Uruguayan manufacturing to survive in the more open economy. The activities of the Cámara, added to those of the government and the media (and, in some cases, the unions), led manufacturers, many heretofore very insular, to take increased steps to learn about markets abroad and about the kinds of changes that might be necessary to compete in those markets. (Uruguay was a more open economy than Argentina or Brazil, but still had a much lower ratio of trade to GDP than the East Asian economies or even a comparably sized Latin American economy like Costa Rica.)

The in-depth interviews undertaken for this study confirmed the findings of various more extensive surveys with respect to the acceptance by Uruguayan manufacturers of Mercosur (though with concern) and the increased opening of the economy.¹ The July-October 1990

¹ See especially, CEPAL, Montevideo Office, *Situación y perspectivas del Sector Exportador Uruguayo*, Montevideo, August 1992, as well documents of CIESU-CINVE, two Uruguayan research institutes. Analyses of the mid-to-late 1980s increase in Uruguayan manufacturing exports have been prepared by Marcel Vaillant, Nora Berretta, and Carlos Paolino and by the Montevideo Office of CEPAL. The most prominent questioner of the Mercosur process was a key actor on behalf of Uruguay in integration efforts prior to 1990, Gustavo Magarinos (see, e.g., *Uruguay en el Mercosur*, Fundación de Cultura Universitaria, Montevideo, 1991). Another was

developments, paving the way for the Common Market Treaty, marked a watershed of sentiment among Uruguayan manufacturers in their attitudes toward a more open economy. The transition was so swift and the embrace of Mercosur so considerable—and not only among manufacturers—that it took Uruguay's official negotiators (who had expected a long, hard battle of persuasion) by surprise. Whether or not the business community (and the labor unions) made the best decisions possible (particularly considering the time pressures involved), it is clear that their judgments involved elements other than careful calculation.

Changes on the labor-management front also contributed to a positive outlook. The resumption of a democratic political system in 1985 had meant a return to labor-management negotiations, and since real wages had dropped sharply in comparison with the levels before 1973, the years 1985–87 were marked by considerable labor strife. The unions insisted on large pay increases and were not interested in hearing about productivity-based contracts. Manufacturing and service-sector activities were plagued by strikes, which reached a proportion of available work time far higher than in any European country. Moreover, some labor unions were so political that they went so far as to insist that plant owners take a public stand on issues such as US policy toward Nicaragua as a condition of their returning to work.

But matters had changed by 1990. To begin with, more industrialists were inclined to recognize the need to negotiate in good faith. There were also emerging changes on the part of labor, fostered in part by stagnation in manufacturing output and employment (and declines in labor union membership), but also by an educational campaign undertaken by the economic advisor to the unions. While a forceful advocate of labor's position in general, this individual argued strongly for more attention to increased productivity in the workplace; informed labor unions in a number of individual industries of productivity improvements in Brazil, Argentina, and elsewhere; and helped those unions who were willing, to include productivity considerations in contract negotiations. In addition, he strove to have organized labor play an active role in the new government organization that was charged with responsibility for helping the country prepare for the scheduled common market with Argentina, Brazil, and Paraguay. For the first time in the memory of many individuals, there was a figure of consequence in the labor movement who, despite his left-of-center orientation, seemed to industrialists to have many of the same interests that they did and who had the respect of many in the right-wing administration as well. Other individual labor leaders also spoke of their interest in productivity, though often more in private than in public.

Carlos Maeso, Minister of Foreign Affairs under the military government, who became manager of the Cámara de Industrias in mid-1991.

More industrialists came to alter their views about labor intransigence. If there was less of a shift of labor in their views of management's vision and its entrepreneurial capability, there was, nonetheless, a recognition of an increased commonality of interests. By November 1991, and even more strongly by late 1992, the lobbying efforts of the two groups had become increasingly similar. Both recognized that the greater opening of the economy and the apparent willingness of the government to allow firms (indeed, even entire branches of industry) to fail if they could not quickly meet the increased competition from abroad, made them allies of necessity, and both groups recognized that the changes in the position of each toward the other gave Uruguayan industry a better chance than it otherwise would have. This is not to suggest that their views on what was necessary for industrial reconversion and restructuring were entirely in agreement. The year 1991 and most of 1992 was a period of relative tranquillity in the relations between labor and the industrial sector. In 1990 and 1991, some manufacturers sought out foreign firms that might be interested in acquiring them, or considered becoming local representatives of foreign firms, but most industrialists hoped to survive in the new environment as active producers and thought that they might well be able to do so. Though very concerned, neither Uruguayan manufacturers nor those who worked for them were quite as skeptical of the future of their sector as it sometimes seemed that the government was, nor as many international experts were (off the record, for the most part, though even on the record, they maintained that Uruguay's future lay with services, grazing, some agriculture and perhaps some agroindustries).

III. The Assessment of Key Variables and the Formulation of Judgments Based on Those Data

A. Introduction

The information for this study has been obtained from in-depth interviews, questionnaires, and informal conversations, as well as a wide range of prepared, generally publicly available sources. The key (and most distinctive) source was the in-depth interviews; moreover, the experience of the latter made it possible to include in the written questionnaires a limited amount of the clarification and explanation follow-up that was used in the interviews themselves. The interviews were initiated in early 1991 and continued until November 1992 (with another small group added in May 1993); as I became more informed about Uruguay and clearer as to what I thought I required, I developed fuller lines of questioning and left 2–3 page questionnaires in advance of some of the interviews. The interviews varied somewhat from activity to activity. I explained that I sought to understand reasoning processes and was not concerned if I did not

obtain answers on all points; on the contrary, I indicated that if the respondent was especially uncertain about the response to a question, I preferred that he or she not answer. No tape recordings were made, so as to reduce the likelihood of inhibiting discussions. Although I told most respondents that I was attempting to analyze the current process of industrial development in Uruguay, my principal objective, as I sometimes revealed in those cases of subsequent interviews, was to try to ascertain the accuracy with which data used to help make decisions was perceived, and to attempt to understand the way in which the data was used in making judgments. All this was to help develop hypotheses about the decision-making processes of businessmen that subsequent verification might reveal to be more useful than those currently employed in economic analysis.

Just over half of the 76 interviews were with manufacturing enterprises, primarily Uruguayan-owned enterprises, especially in those industries sensitive to the economic liberalization and integration in process, though I spoke to others as well, particularly when personal contact seemed to offer hope of obtaining candid responses. In most cases I interviewed the enterprise only once, but I interviewed a number of firms two or three times, and one on ten occasions. Interviews also were held with government officials, union leaders, bankers, trade association officials, providers of technical assistance, and others. Most interviews lasted an hour, but two dozen were two hours or longer. A twelve-page summary of the responses obtained from the enterprise with which I spoke on ten occasions is available on request.

Questionnaires were sent to 140 enterprises or individuals, the original 72 that I had interviewed and 68 others. Initially, only 18 responded, but 13 follow-up telephone calls led to 11 additional responses, five of those in interviews. Further follow-ups undoubtedly would have led to additional responses. Differing types of questionnaires were sent to each of four groups—industrialists, government officials, service-sector personnel, and labor leaders. The questionnaires varied from five pages (in the case of those sent to labor leaders) to 13 pages (manufacturers). The rate of response was highest among manufacturers and, in that group, far greater among those I had interviewed previously or had met personally than among those with whom I had not had any contact.

The most serious limitation of the interview and questionnaire responses—and, indeed, it is serious given the purpose of this inquiry—was that while the responses supplied a great deal of information about the past, much less information was provided on the perception of specific information and on judgment processes relating to decisions faced by the entrepreneur at the time of the interview, and certain information relevant to the analysis of decisions is very difficult to

obtain afterward. Decision-makers often cannot recall at a later date all of the categories of information that they took into account and the values that they perceived for each of these. Nor can they always recall all of the options that they considered, or in any event, the reasoning that led them to choose one alternative over another—or why they did not even consider still another option. An incorrect decision may result from gauging incorrectly some piece of market or technological information or some government policy. Or the problem may lie in the way in which that information is analyzed. Unfortunately, except for extraordinary errors, we tend not to recall the way in which we perceived much information or the detail of how we analyzed all but the most important decisions. This limits the degree to which we can learn from our errors. Moreover, most businessmen (and others) would be reticent to allow an outsider to chart these problems in perception and judgment, even if it were possible to have such a person present at all the most important times. An effort to overcome the latter problem and circumvent the ‘invasion of privacy’ problem was attempted in the questionnaire, but with limited success. Moreover, in two cases in which extraordinary information was obtained, it was on the condition of confidentiality.

B. Manufacturing Basics/Managerial Economics

1. Awareness of the State of Technology and the Importance of Economies of Scale and Scope

In Uruguay the long period of high protection, the low level of investment, and the lack of a strong competitive tradition all contributed to a relative unawareness of technological advances in many lines of activity. The increased opening of the economy has led to greater interest in investment, especially in investment that leads to technological improvement. In fact, subsidized expert advice is available from the government—directly or by foreign technicians through the government's Applied Technology Laboratory (LATU)—and such advice at the expert level is more readily available than similar level counsel on how to improve the use of existing plant and equipment (or who to turn to for advice on the latter). Perhaps because of the incomplete awareness of the LATU programs on the part of smaller enterprises, and certainly because of their reticence in applying to LATU, the principal subsidy is going to medium-to-large firms, which as a group, probably are not in as much need of the help in question as smaller enterprises. The current scope of the programs would not begin to suffice if all enterprises that could benefit from them were to attempt to take advantage of them.

The assistance being offered by the government on technological choice is not being accompanied by enough advances in the educational system to enable future generations to make significantly better use of that assistance, nor, with a few exceptions, is the private sector pushing especially for such upgrading and increased expenditure in applied technological education. Labor unions are more accepting of technological improvements than in the past, but do require employment guarantees, or in lieu of that, agreements to severance pay arrangements substantially larger than required by law. (Incidentally, the labor union movement also has failed to urge significant improvements in the educational system.)

While the interview and questionnaire responses gave the impression that most enterprises were convinced that they did not have the size necessary to achieve lowest unit-cost levels, there was no real awareness of the significance of economies of scale and economies of scope at the level of an individual or multiple production units, and only a vague notion of economies of scale in marketing and other activities. (There was, as might be expected, a much keener awareness of the reduction in unit costs associated with longer production runs.) Only a handful of firms indicated that their facilities were of the size necessary to achieve maximum economies of scale, and of those that did not, quite a few replied that they did not know how

much larger the plant (or investment) would have to be to obtain such economies or how great the additional reduction in unit costs would be. Note that this was two years after acceleration of the processes of economic liberalization and integration, and at a time when the growing competition from abroad was beginning to take its toll among Uruguayan manufacturers. Nonetheless, a few who answered in those uncertain terms claimed to have already achieved considerable economies of scale, and did compete successfully on an international basis, which suggests that minimum economic size did not require plants nearly as large as those possessed by some of their international competitors. Thus, their limited search and partial ignorance on the subject may not have been inconsistent with an approximation to cost minimization (though the same could not be said for many other producers).

2. Productivity Considerations

a. Capacity Utilization

An important factor leading to the increased interest in exporting, even at prices lower than those covering full costs, was the recognition that greater capacity utilization led to greater profits. In some cases, the greater capacity utilization increased the likelihood of producing enough to supply the quantities required by certain foreign purchasers. In addition, most producers realized that unit costs declined as their facilities were used more fully (though there seemed to be limited recognition of the point at which marginal costs might be turning upward). Whether or not there was recognition of the economies of longer production runs or fuller use of equipment, virtually all recognized that profits could be increased even if full costs were not covered. Even so, the fact that full costs were not covered was enough to lead some producers to search for methods to reduce costs so that they might be covered (or more nearly covered) in the future, thus further increasing profits. For Uruguayan industry as a whole, underutilization of capacity remained substantial, a result of the decades of a protected, inward orientation in the case of import-substituting industries, but also a serious problem, extraordinarily enough, in the meatpacking industry as a result of overinvestment during the investment boom of the late 1970s and early 1980s. A general characteristic of Uruguayan industry that contributed to underutilization of capacity was the low incidence of subcontracting—the tendency to attempt to do as much as possible in-house, which is discussed in Section III. E.

b. Operational Efficiency/X-Efficiency

There are three main considerations. First, there is the issue of technical training and preparation for 'best practice' operation, about which economics has contributed a limited amount (e. g., the comparison by a prominent English economist of German and British vocational education and apprenticeship programs). Second, there is the consideration of intra-firm coordination requirements, the general analysis of which has just been advanced significantly by the work of Milgrom and Roberts, two economists who teach in a school of business administration. Finally, there is the empirical evidence concerning the magnitude of operational inefficiency, a matter long neglected by economics, but now shown by Howard Pack and others to often be of very great proportions, and thus in need of a much greater level of attention by policy makers and trade associations.

Once allowance is made for the investment choices already undertaken—however optimal or suboptimal—at what level of operational efficiency is the equipment being employed in Uruguayan manufacturing? To what extent is there an awareness of major deviations from 'best practice,' and to what extent and in what ways have there been efforts at cost minimization, or even significant cost reduction?

Although there are enterprises for which operational efficiency appears high and others in which major efforts at productivity improvement are underway, the use of best-practice techniques seems relatively uncommon. To give a notion of just how bad the situation must be in many firms, consider that in 1991–92, despite improvements of 50–100 percent in the efficiency of equipment usage in some plants and an increase in the rate of industrial investment in Uruguay of the order of 25 percent above that registered in the immediately preceding five-year period, the productivity improvement for manufacturing as a whole has been estimated by the Central Bank to have been of the order of 8–9 percent a year.

Initial information on best-practice techniques would come from those who sell equipment and help set it up or instruct in its use. While many users with an engineering or technical background can determine a good deal about their equipment on the basis of their general store of knowledge and the manuals provided with the equipment, it is invariably best to supplement the latter with technical updates, analyses in specialized journals, visits to factories employing similar equipment, and troubleshooting or general overview diagnostics by specialist consultants. Only a small minority of those interviewed indicated that they made much use of technical journals or books, and the Uruguayan industrial trade associations do not issue technical updates as in the industrially more advanced nations. (Moreover, the questionnaire revealed that only about half would pay for such additional services. Indeed, the comparative productivity data that some multinational enterprises circulated to their branches in different countries was often ignored until

competitive pressures increased.) Only a small number of enterprise leaders regularly visit other factories. (More mentioned visits to fairs, but that relates to learning about the capabilities of new equipment rather than to assuring the best-practice use of equipment already in plant.)

Many of those who work with the equipment have received only informal, on-the-job training; relatively few have attended vocational schools, and most Uruguayan enterprises do not invest very much in employee education, except for higher-level employees (and middle-level employees in the case of many multinationals), although a few are making major expansions in this respect at present. The more general, low level of expenditure on employee training holds even though enterprises are well aware that formal education at the primary, secondary (including vocational) and university levels, once among the most respected in the world, has fallen, and though apparently in the process of recuperation, still often leaves something to be desired. Education is particularly weak on the practical side, according to the complaints of enterprises. (It should be noted that despite their reservations about the presumed political orientation of the public educational system, private enterprises have offered to accept many more 'summer trainees,' etc., than the public institutions have taken advantage of.)

Managerial deficiencies are even more serious than technical shortcomings according to the most successful of the firms interviewed, and there is a considerable difference of opinion over whether the current increase in new MBA and similar training programs is alleviating that. Enterprises have just begun to provide the kind of feedback to the technical and managerial training institutions that might enable the latter to improve their programs. Many managers state that the problems are greatest with those whose studies date back to the years when accounting rather than more broadly based business administration was the focus of those who sought an alternative to engineering or law as a vehicle to advancement in business. More than one in four of the enterprise leaders over the age of 50 lacked a university education, which led some of them to take programs of continuing education that those with university training believed were unnecessary.

The potential for improving the operational efficiency of Uruguayan manufacturing enterprises varies a great deal, but there are reputed to be a number of cases of 50–100 percent productivity increases with reduced, in some cases negligible, amounts of investment. (Detailed information obtained concerning one such case is, unfortunately, confidential.) The improvements have been attributable to alterations in equipment layout, improvements in the efficiency of equipment (and personnel) use, minor process adaptations, and the inclusion of new auxiliary equipment. Some of the improvements were facilitated by information and advice furnished by suppliers and foreign associates, as well as foreign consultants such as retired US

and Canadian executives, UNIDO experts, and the official aid programs of Germany, Japan, Italy, Sweden, the United States, and the EEC. Uruguayan institutions also have been involved, notably LATU and the National Association of Manufacturers, the engineering and chemical faculties of the University of the Republic, and private consultants ranging from one-man operations to local branches of well-known international management consulting firms. The amount of such advice has increased a great deal in recent years but remains at a lower level than in many other countries, and much of it continues to be of a limited character, aimed at solving very specific problems.

Some of the added interest in increased operational efficiency is a result of training received in the new university-level management and industrial engineering programs, short courses aimed at managers, and even specialized technical and managerial lectures. The UN-organized EMPRETEC program, based on the work of social psychologist David McClelland and aimed at stimulating entrepreneurs to think differently, also has had an effect, though mainly on businessmen more junior than the great majority of those interviewed. The information revolution has played a role as well, with greater awareness of this in Uruguay attributable to the increased opening of the economy. The opportunities presented by the latter and by the proposed Common Market with Brazil, Argentina, and Paraguay have contributed. It is the pressure of the new competition from abroad that has played the key role in explaining the augmented interest in operational efficiency. The concern about lower costs has become even more pressing with the appreciation of the peso vis-à-vis the dollar and many other currencies since 1990. The latter led to some initial reactions to reduce exports or to reorient export destinations, notably shifting some exports from the US or Brazil to Argentina—even of beef and dairy products, but the risk of that shift has reinforced inclinations to improve productive efficiency. (It also has led to increased subcontracting, but that may not be a sign of greater efficiency so much as of the lower costs that can be obtained by farming out some work to others who pay lower wages, offer lower benefits, or evade more taxes.)

The interviews and questionnaires revealed an increasing recognition by management of labor's willingness to accept productivity improvements. Moreover, this trend was substantially greater by late 1992 than in early 1991. Most industrialists accepted that they were going to have to share some of the gains of productivity improvement with labor, but there has been a resistance to an even division of gains from improvements truly initiated by management. Disagreements over sharing the gains have led to major new frictions, particularly where employment reduction has been important. It has raised the question of whether the way to greater medium-to-long-term profits is necessarily through attempting cost-minimizing improvements. And note is being taken

of the less conflictive path to productivity improvement in plants with a weak union or no union at all. In any event, recent productivity improvements have not led to significant increases in real wages in export-oriented industries, which were under particular pressure because of the appreciating local currency.

Given the need for greater concern with productivity improvement (and the way it is implemented), how would manufacturers respond to opportunities to take deductions for expenditures involved in comprehensive diagnostics of enterprise efficiency of an amount that exceeded the actual enterprise outlays (and which deductions would be allowed whether or not investments were realized following the diagnostics)? Quite favorably, respond virtually all enterprises that have had even limited diagnostics, though they also express their doubts about the willingness of those enterprises that have been less inclined to use consultants and who, it is reasoned, would resent any invasion of privacy. Indeed, such enterprises did show less interest in such subsidized troubleshooting.

Yet with all the concern for increasing efficiency, guidelines for how to go about it are virtually nonexistent (other than the most general checklists in some firms). Indeed, how should one approach a search process or the contracting of an outside consultant when the benefits of which are so uncertain?

C. Marketing and the Feedback of Marketing Information Into the Production Process

Marketing became a relatively important concern of the firms interviewed only after the post-1985 opening of the economy and the increased interest in exporting. The government, the National Association of Manufacturers, and the Union of Exporters all had programs related to exports. The Union of Exporters' activity revolved around short courses dealing with the mechanisms and regulations of export trade. The government had an export promotion facility with representatives in a number of countries, but during 1990-92 the office handling that function was absorbed primarily in activities related to Mercosur negotiations. Most of the manufacturers interviewed were only vaguely aware of the office and felt that it was of little help in overseas marketing. The National Association of Manufacturers greatly expanded its day-to-day export promotion activities during the period 1990-92, and also took on technical assistance projects supported by the Inter-American Development Bank and the government of Germany—the former to study export prospects of Uruguayan enterprises in Brazil, Argentina, and Mexico, and also to help promote trading companies; and the latter to provide technical

assistance in production for small- and medium-size enterprises with a potential for increasing exports.

These were fairly significant activities and involved many enterprises, in some cases clearly improving their export prospects. Even so, relatively few of the enterprises interviewed felt that these activities were important contributors to their particular marketing efforts. On the contrary, all stressed the importance of individual enterprise efforts, or in one case, an activity of a trade association representing a particular product group. Many also emphasized the importance of maintaining sales representatives or other ongoing contacts abroad. Having such contacts often was considered as important as the product attributes themselves in determining the relative breadth and nature of the markets on which to focus. Virtually all respondents spoke of the need to find niches (on their own, through a trade association marketing study, or through the ongoing efforts of a trading company), especially so as to avoid the major investments likely to be required to achieve the economies of scale characteristic of so many broad product lines; no enterprise even considered a cost-benefit appraisal of a large investment aimed at a broad market, and reference to the existence of such broadly focused efforts by many producers in small European countries typically brought a shrug of the shoulders and comment, "Well, they're European producers." A similar quick rejection was given to the rejoinder that some producers in small East Asian countries had aimed at more than market niches. It should be noted, though, that a few recent foreign investments have been established with a view to making Uruguay a regional production center (notably in the country's Free Zones), and while only a handful of these have been realized, a number of foreign investors do at least evaluate the possibility.

A few manufacturers indicated that they found it useful to employ consumer panels to evaluate products (taking account of local as well as foreign sales), but several of the most successful exporters relied entirely on the feedback of foreign reaction to product or packaging specifics, especially to comments made directly to them or to sales representatives or intermediaries abroad. One company acknowledged that such observations led it to make changes in production processes that would have been profitable long before they actually were undertaken (though that company still has not made adjustments in product packaging, which appear to be a factor now adversely affecting sales even in the domestic market). There seemed to be no guidelines for an optimal search policy to determine marketing arrangements, and only the most general notions as to which marketing tactics or what kind of representation abroad was most desirable. The most common approach was to accept whatever the company happened to have in place so long as it seemed to be relatively profitable. In one product line the principal manufacturer was exporting through two intermediaries, and the considerably smaller second

exporter was selling a very similar product to 15–20 foreign buyers. Each of the two companies was happy to continue arrangements that seemed to them to be satisfactory with, I think, no notion of whether they approached the maximizing solution and little inclination to investigate further. And this refers to ‘survivors’ in what has become an exceedingly competitive industry. Nor are there any apparent guidelines on how to proceed from marketing difficulties to alteration of production processes, though the increased opening of the economy has at least made most producers more conscious of the need to reconsider production and investment plans in the light of marketing realities.

Note was made above of the export promotion programs of the government and the National Association of Manufacturers. For several years these two programs operated independently of each other, but in June 1993, one cooperative venture was announced (though little appears to have come of this). A characteristic of both programs up to this time has been the lack of any clear economic criteria for establishing, evaluating, or redesigning the individual export components, some of which seem to be much more cost-effective than others—nor is there any pressure from industrialists or others (private sector economists included) to adopt such criteria.

Aside from the need to adapt individual products to foreign demand, there is the question of how to alter the basic product mix. One product-group trade association has engaged a consultant to make a six-month study on the potential for reorienting local manufacturing capacity toward the products in greatest demand in Brazil. At the other extreme, one company that has long exported to Brazil continues to concentrate on the same product lines even though there are reasons to doubt that those products will be equally successful in the future. In other cases, as noted above, exports have been shifted from the Brazilian to the Argentine market for products such as meat and dairy products, for which the attractiveness of the Argentine market is obviously a temporary phenomenon resulting from the overvaluation of the latter country’s currency.

A precondition for successful marketing would seem to be that producers and their prospective customers perceive market signals well and in a timely fashion. Even though this probably is a frequent concern, it is one that is not always recognized at the relevant time; in any event, only one firm spoke of the problem. The case involved a custom product of a type that was not yet on the market when the firm decided to produce it, and that was being developed in response to the accelerating cost of fuel. (The product in question was a furnace that transformed burning wood into a gas.) The enterprise acknowledged its only middling success in marketing the product despite the considerable technological acclaim that it was receiving. This would seem

to suggest, among other possibilities, that the enterprise may have had difficulties in getting more prospective customers to appreciate the characteristics and potential of the furnace.

Finally, judgments enter as an extension of the mental process of perception. Judgments about the expected relationship of market prices to production costs can influence marketing plans. While the expectation of a favorable relationship may induce an expansion of marketing plans, a price/cost relationship that is unfavorable but thought to be so only temporarily may induce efforts to export that are coupled with efforts to reduce costs so as to overcome the presumably temporary constraint on profits. If the attempts at cost reduction are successful, then the exports may prove profitable even though the former relative price/cost ratios proved more than transitory. This is suggested by the experience of a particular Uruguayan enterprise.

D. Perception of and Judgments in Response to the Signals of Government Policy

1. The Level of Production and Investment Prior to 1990

For our purposes it is sufficient to note that while the growth of GDP in Uruguay after 1950 lagged behind Latin American averages, the estimated rates of increase in investment rose even more slowly. Investment was less than 14 percent of GDP over the entire period, and with the exception of spurts such as in the period 1978–81, at 10–11 percent of GDP, among the lowest in the world. Even in the resurgence of economic growth in 1986–87, after the initiation of democratic government, investment rates did not reach 12 percent—extraordinarily low even allowing for the magnitude of underutilized capacity. The seeming disparity in the increase of GDP and that of investment has led to a recent effort to revise investment rates to take account of the work of Kravis, Heston, and Summers and allow for the lower cost of construction in Uruguay.¹ However, even with revisions, the Uruguayan rates of investment would not exceed 14 percent—lower than in Brazil in a year of recession—and the rate of investment in equipment alone would remain at levels that question if investment has actually exceeded depreciation, particularly in areas such as manufacturing industry.

2. Government Declarations and Actions

First, there is the question of the weight of official intentions and declarations. The administration that assumed office in March 1990, entered with a strong sense of mission but a dependence on support from other political groups to obtain the majority it was going to need for most of the major changes it had in mind. There was a formal 'concordance' with several groups of the major opposition party, the party that had governed the country for most of the 20th century. Within half a year that formal agreement collapsed, but two of the groups within the opposition party remained closely aligned to the government. Only one of those groups could be reliably depended upon after a year, and indeed, within its own party the government was beginning to lose the support of some groups that had always espoused a different political philosophy. By the midpoint of its five-year term of office, the administration was rarely able to obtain a majority in the

¹ Mariella Torello, "Las causas de una inversión insuficiente," *SUMA*, no. 13, October 1992, pp. 37–67.

legislature, and at one point even considered governing primarily by decree. Multiparty study groups were attempting to devise constitutional changes to give plurality governments more power, but these efforts did not seem to be making much headway. In any event, less than three years into office, there was a public referendum in which 70 percent of the electorate voted to nullify key provisions of a law that had embodied one of the key new objectives of the government (and one that had obtained a 60 percent majority in one branch of the legislature a year before). Not all government policy was dependent on legislative support or direct popular approval, but there was nonetheless a slow and almost continuous erosion of public support for the government and its policies.

The government that took office in March 1990 began with a well-defined set of objectives. It directed its attention primarily to macroeconomic policy, especially short-run policy, with a reduction of the fiscal deficit (through lower expenditures, higher taxes, and lowered tax evasion) along with a moderately restrictive monetary policy, the combination of which was to lead to a significant lowering of inflation (though not as much as had been anticipated). A still greater opening of Uruguay's economy to international trade was sought, with an accelerated reduction of barriers to imports, but also to exports. There was a general emphasis on deregulation, with commissions established to simplify bureaucratic controls. In addition, although there was no integrated microeconomic policy, efforts were made to privatize or at least demonopolize many activities under state control. (Some of these involved manufacturing but most were service activities.) An end was sought, too, to the wide array of differential investment incentives that studies suggested did little to promote investment, instead only providing a measure of subsidization to what was already planned. This was to lead to an efficient restructuring of industry and the overall economy, on the basis of the maximizing response of private enterprise to new market signals.

Aside from the possibly adverse effect of the fiscal policy (even if only temporary), a disconcerting part of all of this, in terms of a scheme for economic revitalization, was that some of the members of the economic team that drafted official plans had been, and continued to be, skeptical of the responsiveness of Uruguay's private producers to economic incentives. A few key government leaders stated publicly that they expected some industries to face serious difficulties, and they did not seem to regard the survival of these activities as very likely. Manufacturers were viewed as inclined to be conservative, rent-seeking, and somewhat spoiled by the paternalistic pattern of the past. This set of convictions, much more strongly held by the Uruguayan populace than in neighboring countries, was actually somewhat more represented in the right-of-center party in power than in the centrist administration it replaced. Perhaps for these

reasons as well as for more basic considerations, the government undertook several additional measures (though on a limited scale).

First, the government concluded negotiations for several projects to support components of economic infrastructure, most notably in the area of science and technology: such activity would be likely to influence the restructuring of industry, as would its support for the industrial testing and technological-assistance activities of a norms and adapted-technology laboratory (LATU), without resorting to the much more specific and riskier business of determining which individual industries were likely to be 'winners' or 'losers.' There were also moves toward establishing a 'safety net' for employees adversely affected by the restructuring that was likely to come. (However, little was accomplished in this area.)

Second, the government obtained assistance from the European Economic Community to provide technical advice to small- and medium-size enterprises and collaborated in efforts to get a German-funded program set up in the National Association of Manufacturers. However, size was defined traditionally, in terms of sales, assets, and the number of employees rather than by some economic criterion such as the size facility needed to achieve minimum economies of scale. Thus, many of the firms excluded were still below the size necessary to compete internationally. Third, the government moved slowly and on a small scale to provide analyses of the competitiveness of individual industries. Unfortunately, most of the studies have focused on the competitiveness of Uruguayan industries in recent years (even though many of the enterprises never had aimed at more than the local market), rather than on whether or not it might be profitable to transform those activities into internationally or regionally competitive ventures, which is the more relevant question. (For some recently uncompetitive activities the prospects might be reasonably good, making certain feasible adjustments and taking account of the inclination of the industrialists in question to make those adjustments.)

Consider, however, a few other aspects of government policy. While some of the 1990 tax increases were rescinded in 1991, a number of others were later introduced (mainly excise taxes). The government moved slowly to reduce the price of (basically, the taxes on) fuel and electricity, over which it enjoyed a monopoly. While it did not seek the appreciation of the currency with respect to the dollar that began in mid-1990 (due especially to Argentine phenomena) and that continues through 1993, it opposed devaluations that would have reversed the tendency (though it also opposed a complete freeing of the peso that might well have exacerbated the appreciation, at least in the short run). One area in which the government allowed the previously very favorable incentives to remain intact until early 1993, (and little

changed after that) was the special tax exemptions given to those located in the private as well as public Free Zones.

3. Industry's Perception and Assessment of Government Signals

There are two levels at which one can consider the accuracy with which Uruguay's industrialists perceived the signals of government policy and the nature of the judgments they rendered based on that and other information they had. The first, and clearly most meaningful, is at a certain level of precision: What order of quantitative adjustment did individual manufacturers make to their estimates of credits available, effective protection, the costs due to administrative red tape, etc., as a consequence of the policy changes announced? What order of difference would the changes they assumed were entailed in the new policies make for their decisions about production and investment, and what chain of reasoning led them to those conclusions? That is the critical level of perception and judgment, and it requires great attention to detail at the time of the events or very soon thereafter. I have been able to obtain only isolated data of this kind, some of which has influenced the preliminary findings and hypotheses in Section IV. There is a second level that deals with gross perceptions of and judgments about the new policy signals. In that more general sense, it can be said that industrialists perceived the signals of government policy relatively well at the beginning of the administration, but had more difficulty by 1992–93. However, even at the outset, in 1990–91, they did not really perceive some factors, for example, the meaning for medium- to long-term credit availability of the efforts that the government was making to borrow from international institutions.

The policies aimed at fostering macroeconomic stability were understood to have that objective and were judged by manufacturers to be favorable for industrial development, especially in the long run. Nonetheless, the failure to alter significantly some major sources of excise taxes and the subsequent increase of other such levies seemed to producers to conflict with the object of eliminating the distortions of economic signals that did not reflect opportunity costs. Some manufacturers saw the government's macro objectives as primarily short-run. Moreover, they were convinced that the lack of an 'industrial policy' would make a successful reconversion and restructuring of the sector unnecessarily difficult, especially in view of the removal of various tax incentives. This assessment became stronger as the appreciation of the peso increased, reducing the profitability of exporting. Related to this was the conclusion of many manufacturers that the government lacked a clear plan for dealing with Mercosur.

Manufacturers tended to see the government as first favoring a policy of general liberalization and then shifting to an emphasis on economic integration while continuing to press for the reduction of barriers to the world at large, which was generally correct. While most industrialists hoped that their own activities would be afforded protection for a longer period, they recognized that a general movement toward a greater opening of the economy was in the best interest of the country. However, there was some criticism even in 1990–91 insofar as it was believed that certain unilateral reductions on trade barriers independent of similar moves by Argentina, Paraguay, or Brazil (as in the case of leather) only hurt local producers without benefiting consumers. Later, there was a measure of confusion as the general tendency towards liberalization seemed to be subject to variations for one group or another, seeming to represent 'politics as usual' rather than the Grand New Scheme that was being proclaimed. In the last analysis, most manufacturers believed that the government represented rural, financial, and perhaps commercial interests primarily and did not design policies with a view to recognizing the gains that can come with greater industrial growth, or the potential for economic losses and disruption if a process of economic liberalization proceeds too rapidly or is not accompanied by special assistance of one kind or another. The Minister of Industry named in 1992 was seen as a representative of their concerns who was fighting on their behalf with a very small group of advisors and technicians a battle that had little hope of being won—unless they could forge an alliance with organized labor, which, indeed, they attempted to do, and finally achieved in the second half of 1993, by which time the adverse trends in industrial output as well as industrial employment had become stark realities.

Uncertainty about economic policies had increased significantly by early 1992. In the short run, there was concern about the magnitude and velocity of policy changes, even if the overall direction of policy was clear. For several weeks in early 1992 there was considerable confusion due to the increase in political infighting. By the later part of the year and early 1993, there was even concern about the direction of policy, not only for that moment, but for the period ahead, given the growing uncertainties about Brazil (and therefore, for the timetable of Mercosur), and the continuing doubts as to the solidity of the Argentine situation; in addition, there were the questions about the likely direction of Uruguayan initiatives after the 1994 elections.

4. Industry's Response to the Signals

During the period between August and November 1990, there was a sensation that the reputedly conservative Uruguayan society was about to undergo a major transformation and there

would be an industrial reconversion/restructuring of considerable magnitude. Many multinationals, some of the larger Uruguayan-owned enterprises and even some middle-sized firms began to reexamine themselves, sometimes with the aid of outside consultants, and to take important steps. But not everyone was so quite well disposed to the proposed Common Market or the accelerated process of economic liberalization, or quite so convinced of the need at least to take defensive action as it seemed early on.

Much less has been done than seemed likely in the second half of 1990, and there has been a growing opposition to major change and to the proposed timetable of Mercosur. In 1993, both industry and labor called on the government to delay the scheduled integration process, although most manufacturers believed that further economic integration in the Southern Cone was inevitable in the long run. Some steps of industrial reconversion have been taken, of course. Various surveys have surprised skeptics with their data on the proportion of industrial enterprises that have made new investments or are planning to do so. However, follow-up questioning reveals that the investments have generally been smaller than what many of the enterprises making the investments believe to be necessary for a strong response and sustained expansion. Indeed, the objective of the investments usually has been quality improvement or product replacement rather than capacity expansion, and very few firms are planning to significantly increase the proportion of output exported.

Of the enterprises I interviewed, well over half stated that they were taking the steps necessary for reconversion, but they believed that industry in general was not responding to the recent and prospective changes in incentives. The latter observation may, in fact, cast doubt on affirmations about the nature of what the respondent firms are actually undertaking. It is clear that the rate of industrial investment has increased, and is approximately 25 percent higher than in the last half of the 1980s. Considering the challenges, the opportunities, the appreciation of the peso, and the low rate of investment that had prevailed (one still could observe 40- 50-year-old equipment in many Uruguayan factories in the early 1990s), the increase in investment seems a good deal less than one might have expected (and than what is required for Uruguayan industry to become more competitive).

E. Complementary and Competitive Industries

Support and related activities are important determinants of the competitiveness of a country's industries. This is an area of weakness in Uruguay. The deficiencies are reflected in a relative lack of subcontracting and, in some cases, in a need to go to the trouble of importing

minor inputs. The tendency to produce in-house (or to import) often reflects inability of subcontractors to produce what is specified in the time agreed upon. Occasionally, potential subcontractors are unwilling to make the modifications necessary, though lack of certain machinery that would require a scale of operation well beyond the likely demands of the local market is a more important explanation. Some of the subcontractor shortage may be due in part to a disinclination of many manufacturers to work with suppliers and improve their capabilities over time (and to register complaints with the state vocational training institution and the specialized state short-term training institute so as to make those institutions more aware of the needs of industry). To an extent, undue skepticism and past unsatisfactory experiences (reasoning by analogy from the past) have led to an exaggeration of the problem. The program of the National Association of Manufacturers establishing a UNIDO-funded Subcontracting Mart (Bolsa de Subcontratación) has led to some increase in new subcontracting arrangements between producers. Thus, this is yet another area in which a search process of questionable efficiency has received an assist from the threats and opportunities provided by the increased opening of the economy. (It should be noted that in times of greater protection and economic isolation and fewer competitive threats, Uruguay sometimes declined to request available international assistance.)

There are two issues with respect to the competitive situation: the cost competitiveness of Uruguayan industry on the one hand, and the question of competitive pressures and anticompetitive practices, on the other.

Until only a few years ago, the competitive pressures faced by manufacturing industry in Uruguay were strongly mitigated by a number of factors. First, in many product groups a single producer or a small group dominated the industry, and protective barriers afforded them considerable market power. Cooperative understandings and gentlemen's agreements were widespread. A number of those interviewed for this study, as well as others in the service sector interviewed for another project, acknowledged such understandings (sometimes amounting to implicit or even explicit agreements to restrain trade), though other enterprises denied that they existed. Second, the absence of consumer protection groups, better business bureaus, or even a demanding attitude on the part of Uruguayan consumers, reduced the pressure to compete in terms of quality and service. The first more or less significant increases in competitive pressure accompanied the process of economic liberalization that began in the 1970s and that accelerated in the last few years. The CAUCE and PEC trade agreements with Argentina and Brazil played a role, too, as they made more local producers aware of what was necessary to sell in the not-extraordinarily-efficient, but certainly somewhat more competitive, economies of those two countries. Firms that exported beyond the neighboring countries faced keener competitive

pressures, of course, but by no means were all who exported beyond the region as cost-competitive as they could have been.

The initial reaction of Uruguayan manufacturers to the acceleration of the Mercosur Common Market plans and to Uruguay's involvement in the negotiations in 1990 was that Uruguayan industry would be seriously disadvantaged. This would be because of much smaller plant sizes, an outdated technological base in many activities, and a lower level of operational efficiency in many areas. More than half of those interviewed in 1991–92 believed their enterprises were in an inferior position, and gravely threatened if Mercosur were to take place as scheduled. There were quite a few exceptions, though; some manufacturers were optimistic about their prospects in the period ahead and not hesitant to explain why. The facts cited and the reasons offered in the more optimistic cases seemed to make sense and not be just wishful thinking, although the statements did not take into account the continuation of the exchange rate appreciation that was already underway.

The topic of competitive practices and possible antitrust legislation has received very little attention in Uruguay, although there was an attempt in the 1940s to adopt such a law. The principal concerns of manufacturers (other than those who exported virtually all of their production), were alleged dumping in the domestic market and what were regarded as unfair trade practices abroad (such as the Multifiber Agreement). Some manufacturers sought to merge with other local producers or with enterprises from Argentina or Brazil, and it is clear that even in some of the early Mercosur meetings of businessmen there were conversations that would have facilitated cooperation of various types among producers. After the discussions of the proposed Sectoral Accords, which seemed to raise the specter of regional market-sharing agreements of an anticompetitive nature (and that were unlikely to be in Uruguay's interest), Uruguayan enterprises showed an increasing interest in legislation to restrict anticompetitive practices. This was not mentioned during my interviews in 1991, but was noted often by the second half of 1992, and was the preference of more than three-quarters of those who responded to the November 1992 questionnaire. (Of even greater note is that professional economists in government and in the labor union movement dismissed the need for antitrust legislation until active negotiation of the Sectoral Accords was underway.)

F. Industrialist Complaints and the Impediments to Industrial Development: The Presumed Obstacles to Uruguayan Manufacturing

1. Introduction

An obstacle to one man is a stimulus to another. That is the essence of Albert Hirschman's objection to what others have called 'bottlenecks to economic development.' Even conceding the element of truth in that position, it makes sense to categorize bottlenecks to development (or, more moderately, obstacles to development) as factors that impede (or threaten to impede) or seriously raise the cost of doing business and that cannot be overcome or circumvented without great expense (or without the passage of a long period of time, which is the equivalent of great expense). Although economists have sought data on business plans for investment at least since the end of the Second World War, until recently most economists avoided gathering data that involved a substantial amount of judgment on the part of businessmen about factors beyond their immediate domain. This has begun to change, and one reflection of that shift has been the increasing number of surveys concerning obstacles to investment and to private-sector development. In most cases, the data is analyzed and used to formulate policy recommendations. What is seldom mentioned and perhaps not even fully recognized by those who gather and analyze the information is the degree to which it may be subject to serious limitations. One of the by-products of this study is to point to the magnitude of the task and the different results that can be expected when using in-depth interviews or even questionnaires with an important follow-up component in an effort to understand the reasoning processes that underlie business assessments. A fuller exposition of this section (including the questionnaires that I used in November 1992) is available upon request.

2. General Overview

First, it should be noted that there have been at least ten relatively important surveys of obstacles to private-sector investment or exports in Uruguay since 1986. Eight have employed sampling approaches, representative and random sampling, and two have used different bases of selection and have employed in-depth interviews, in part to obtain explanations of why the respondents believed that the factors cited were truly obstacles. In addition to presenting their own findings, several authors refer to the findings of earlier surveys, usually attributing any differences to shifts that have taken place over the course of time in response to altered circumstances. There have been no efforts to verify the findings of the past surveys nor to question those of the contemporary survey in the light of other evidence. In brief, it seems that some of what were reported as obstacles were, indeed, serious problems, while others did not have nearly the importance attributed to them. More disconcerting, there does not seem to be any significant improvement in the ability of these types of surveys to discern the true problems.

One of the most recent surveys, based on a random sample of enterprises, turns up with some results that appear to be incorrect and reflect errors that might have been avoided with follow-up questioning.

On the basis of earlier surveys and independent economic analyses, the administration that came into office in Uruguay in 1990 assumed that the four most important constraints on private economic development in the country were:

1. Macroeconomic instability, particularly high inflation resulting from large budget deficits;
2. Serious limits on financing productive activity, especially medium- to long-term;
3. A government sector that was too large, too inefficient in the services it provided, and too inclined towards unnecessary red tape; and
4. A market that was too protected and limited, fostering inefficiency and rent-seeking rather than entrepreneurial profit-seeking activity.

Though the terminology might have differed slightly, and one or two other considerations might have been raised, there is no question that these four factors (or the first three, at any rate) were among the top five or six complaints of Uruguayan manufacturers as 1990 got under way. Government initiatives reflected efforts (some better than others) to respond to these factors, which were seen as the chief impediments blocking a private-sector-based economic expansion. The second item, the presumed financing constraint, became perhaps the principal objective of efforts by the government of Uruguay to obtain support from international and bilateral aid agencies. There already was an extraordinary inflow of foreign funds into the Uruguayan financial system by that time, however, and the real concern by early 1992 was how Uruguay might advantageously use all the funds that were being made available to the country. Indeed, if one questioned further, even in 1990, and certainly by early 1991, it became obvious that financing was not quite the constraint that it was often assumed to be. Although it was believed (correctly), first, that medium- and long-term funds were not plentiful, either from the banks or the extremely limited local capital market; and, second, that financing conditions were often onerous—nonetheless, other factors were more serious constraints to Uruguayan industrial development, namely: 1) uncertainties about Uruguayan economic policies; 2) the small size of the local market; 3) uncertainties about the probable impact of Mercosur and what would be needed to survive with it or with the increased competitive pressure due to an increasing reduction of trade barriers to the world at large; 4) labor difficulties and a disinclination of labor to accept management proposals for productivity increases; 5) problems with the enforcement of property rights and with the treatment of debt obligations that led to what appeared to be unfair

competition; and 6) a high degree of aversion to risk, especially in view of the financial disaster that had befallen so many firms that had borrowed heavily in the late 1970s and early 1980s. That is to say, when one asked an individual enterprise how its investment response would differ if financing were substantially more accessible and at a (moderately) lower cost, it became obvious that the 'financing difficulties' response hid more than it revealed, even assuming that in the majority of cases the response were candid. The analyses of the surveys of late 1991 through 1993 no longer found the difficulties of obtaining medium-term finance a major problem, but neither did they consider the extent to which financing had ceased to be seen as a major problem because of changes that had taken place, and the extent to which it was because there was a clearer recognition that finance had not been such a key constraint even a few years before.

3. The Surveys of October and November 1992

Two major efforts to identify obstacles to private-sector development were completed in October and November 1992. One, made by this author, is discussed in the following section. The other, involving a larger number of respondents and undertaken with experienced international advice, is referred to here as Survey X. Survey X addressed itself to questions about the institutional and regulatory framework in which business enterprises operated in Uruguay. A large, carefully selected group of businessmen in industry and other sectors was asked, among other questions, to evaluate the importance of 11 possible obstacles to their future expansion, using a scale of 1 to 5 (with 1 indicating that the factor was not a problem, and 5 indicating that the factor was a grave obstacle). Those who prepared the survey explained to this author that they did not list "appreciation of the peso with respect to the dollar" as a possible obstacle because the sample covered the entire economy and did not emphasize exporters (although the findings for the segment of respondents that were exporters are given separately). Respondents were given an opportunity to add to the list of obstacles. Moreover, the entry, 'price instability,' was intended to include any exchange-rate concerns.

According to the analysis, businessmen claimed that the most important obstacle was the high level of taxes, and the second most important was political uncertainty. Each was claimed to be slightly more important for industrialists than for businessmen generally. Inputs and sales difficulties were designated as the third most serious problem for industry. Price instability (combining inflation, the appreciation of the peso, and other factors) was listed as the fourth obstacle in importance. Because of its consequence for what follows, it should also be noted that an overvalued exchange rate was not considered an important problem, either in general or for

the textile industry, in particular, and educational deficiencies were ranked as having minor importance for private-sector development generally. These findings are then used, to a degree by the authors and more so by the agency that commissioned the survey, to reinforce earlier analyses and recommend various economic policies. However, the reader should keep in mind (as, to be fair, the authors of the survey report do indeed note) that while an evaluation of 4.0 was required to indicate that the factor was a major problem. the evaluation for high taxes was 3.8 (3.9 for industry), the evaluation for political uncertainty was 3.5 (3.7 for industry), and the evaluation for inflation and price instability was 2.9 (for industry as well as for the group as a whole). Inflation/price instability was judged 2.9 (the tail end of "It is a minor problem").

Under consideration here is not whether the policy recommendations that were offered were appropriate responses to the alleged leading obstacles, but the accuracy of the findings themselves. The methodology for the in-depth interviews and questionnaires undertaken for this study (72 interviews, of which 36 were with industrialists; and 28 questionnaires answered, 19 by industrialists) was not such that the findings could be said to truly ascertain the principal obstacles to private-sector expansion, but they do suggest that some of the findings just noted probably are mistaken. There is further support for this position from information outside the surveys such as newspaper accounts of the positions taken by industrial trade associations. In addition, by employing alternative questions about obstacles, the study shows that what psychologists call framing considerations can be quite important in influencing the responses obtained.

First, the political uncertainty complaint (the number two obstacle, according to Survey X): there is no question that industrialists found this to be an important problem, perhaps even more important than the survey suggests, but to discern the nature of the problem it is necessary to take different types of political uncertainty into account, distinguishing perhaps between uncertainty about the *direction* of contemporary policy, the *magnitude and velocity* with which contemporary policy changes were being undertaken, and the likelihood that the changes being undertaken would be continued after 1994.

Second, with respect to the importance attributed in Survey X to the "high level of taxes," it should be noted that the survey was undertaken in the midst of a major campaign to reduce tax evasion; and that some taxes had been increased in 1990, and though some of those had been eliminated the following year, other taxes had been increased in the interim and further tax increases were under active consideration. Taxes were a sore point to which businessmen were only too anxious to object, but there are reasons for believing that this was not the most important obstacle to private sector expansion. To the extent that the general area of taxes was viewed as a

constraint to expansion, it is possible that the reduction in investment deduction allowances may have taken on a significance that would not have been the case a few years before.

Finally, the low ranking of concern about currency appreciation in general and for textiles, in particular, would seem to be mistaken, as, to a lesser degree, would the indication that industrialists were indifferent about educational limitations. (It should be noted that those who carried out the survey remain convinced of the correctness of their findings about the exchange rate and taxes at the time of the survey. The inclusion of follow-up questions in Survey X might have resolved the matter, but this was not done, in part, undoubtedly because of the length of the questionnaire and, in part, perhaps, because of the lack of such an approach in the model survey that the researchers were contracted to implement. The researchers adapted the survey and implemented it with a high level of professionalism, representing the best that could be expected from the accepted methodology for designing and gathering survey data where the object is to cast a relatively wide net in a short time.)

4. The In-Depth Interviews Underlying This Study

What follows first offers an overview of the principal conclusions of my in-depth interviews over the period 1991–93 with respect to industry's complaints of the obstacles they confronted, although because of the variation in responses between branches of industry and, in some industries even between individual firms, the most important findings are those cited for 1992, when the coverage was greatest. (Overall, coverage represented only a third as large a share of manufacturing industry value-added as that of Survey X, but it was of the same order for three branches of industry.) This section summarizes the conclusions from the 1991–92 interviews and the November 1992 questionnaire (a few of the responses to which were obtained during on-site interviews in May 1993). In addition, I point to some serious problems in the approach of questioning businessmen (or any economic agents) as to their judgments about the obstacles confronting them. Those who wish to stay with the methodological concerns should go directly to Section 6.

The interview findings: financing problems were mentioned often early in 1991 by industrialists, but less often by the latter part of the year, and rarely in 1992. An exception to this was found in industries with other serious problems, but, under further questioning, most of the leaders in those activities acknowledged that they sought subsidized financing, and indeed, viewed their industries as low profitability undertakings for Uruguay. As noted above, even in

early 1991, follow-up questions usually revealed that financing was not as important a constraint to expanded activities as first indicated.

Difficult labor relations, the 'culture of the strike,' and low labor productivity were frequently cited in the first half of 1991, less so in the second half of the year, and still less so in 1992. The change reflected major improvements in that area, which also was not a source of major complaints in Survey X. Even though it became a somewhat greater problem by early-mid 1993, there is no question of misleading answers on this point as far as late 1992 is concerned.

Deficient and high-cost public services were mentioned throughout the period, increasingly so with the approach of the scheduled beginning of the Common Market with Argentina, Brazil, and Paraguay. This was understandable, but it should be noted that some respondents continued to complain as much as in the past about the small size of the Uruguayan market as a constraint to investment.

Inflation was cited as a problem, but much less so by mid-1991, as government efforts in the area began to bear fruit. Some respondents stressed the slowness of the judicial system and its disinclination to enforce certain kinds of contracts. Many observed that Uruguayans tended to be conservative and relatively averse to risk, and stated that this was an obstacle to more rapid economic expansion; some attributed the latter in part to the tradition of protectionism and government paternalism; for others, however, it was the recent decline and projected further decline in protectionism that was a constraint on the expansion (even survival) of their industry.

Uncertainty about public policies was rarely mentioned in 1991, but became an increasing concern a year later, and was one of the two principal complaints by late 1992. The same holds for the growing appreciation of the Uruguayan peso (particularly with respect to the dollar), which was a leading complaint—the most important of all—according to exporters. Textile and clothing producers were particularly vociferous on this point (along with that about the decline of protection), all the more so since the overvaluation of the peso limited the profitability of their traditional export markets, while not helping them much in terms of the countries from which they purchased equipment.

5. Summary of the Results of the Questionnaire Underlying This Study

Of the 18 manufacturers who responded to the in-depth questionnaire query on the leading obstacles to industrial development, only five agreed that the appreciation of the peso (especially with respect to the dollar) was a common leading obstacle, but 12 of the 18 cited it as one of the five most important obstacles (and may have been the intended response of a thirteenth). Policy uncertainty was cited by 10 manufacturers, but six of those indicated that the problem was uncertainty about the magnitude and velocity of changes more than their direction. More mentioned excessive protectionism and the lack of a competitive tradition as one of the top five obstacles (7 of 18) than recently lowered protection (or foreign dumping) as an obstacle (only 2 of 18). None of the enterprises mentioned the tax system as the leading constraint, and of the 5 that mentioned it as one of the five leading constraints, 3 stated that the primary concern was the lack of incentives for new investments, and 2 of those stated in follow-up questioning that such incentives were more important now than earlier because of other adversities (such as the more appreciated peso and the added political uncertainty). Eight chose deficient public services as one of the top five problems. Six of the 18 selected educational deficiencies, and five picked labor-management difficulties and the general problems of a conflictive society.

6. Problems with Questioning Industrialists to Assess Their Problems

The significant differences in the results of the two surveys and the strong likelihood of mistaken conclusions from the methodologically more refined of the two suggests that there are serious limitations in the traditional type of survey approach.

To begin with, although there may be a lack of candor, that is probably not a major problem. Second, similar to what psychologists have shown us in other contexts, human beings are strongly influenced in their responses by certain recent events, particularly those of a dramatic character. Third, framing matters: the options given, the way they are expressed, and the order in which they are listed all influence choices. Combined with this are other factors. Certain choices may conjure up different images to different people; perceptions of what is involved may differ. In addition, even assuming a lack of such problems, different people may reason differently about the implications of the same information. It is possible to take some of this into account when clarifications can be added, and when it is possible to question the line of reasoning that leads an individual to deem a factor to be a serious bottleneck.

In the written questionnaire, I took two approaches to the consideration of the obstacles confronting industry. First, I asked, "What, in your judgment, are the three principal obstacles that your firm confronts in attempting to continue or increase its pace of production and investment?" As a follow-up, I added: "Could you explain the way in which your firm copes with one of the obstacles mentioned and the degree to which that obstacle affects the firm?"

Several questions later, the questionnaire presented a list of 18 categories of factors that various analysts have mentioned as obstacles to industrial development, and asked respondents to list from 1 to 5, those factors that seemed like the most important obstacles in 1990 and those that seemed most important at the time of the survey, in November 1992. In many cases, there were two, three, or four components under each category listing so that, for example, it would have been possible to list the tax system generally or some particular aspect of the tax system (such as high tax rates) as a leading constraint.

The most striking finding is the diversity of factors cited as the leading obstacle or even one of the leading five obstacles to industrial development. This emerges much more strongly than in the larger November survey. The result tends to suggest that particular policy correctives would be of limited effectiveness for many firms, even to the extent that there were no problems in understanding what was meant by the factor listed, and that there was no error of judgment on the part of the enterprise in characterizing the factor in question as a serious problem.

The second finding of special interest is that the responses concerning the most important obstacles differed somewhat according to whether the enterprises had to come forth with them on their own and write them down (as applying to their own firm), or whether they only needed to check off the appropriate obstacles from a list (though, in that case, as applying to Uruguayan industrial development generally). While the existence of differences is not entirely surprising, especially because one question related to the firm and another to overall industrial development, most respondents regarded the problems that they faced as having significance for industrial development in general. Thus, it is notable that the two separate lists differed quite a bit in the case of some firms. In many cases, the order of importance of the bottleneck changed, and in some cases, several factors appeared on one of the firm's lists but not the other. Note that there was a bias against that happening because there was nothing to prevent respondents from reading the entire questionnaire before answering any questions, as some did, or from revising answers to make them more consistent (which would have been particularly easy for those who used pencil). This provides some interesting, if anecdotal, evidence reminiscent of the recent analyses of preference reversal.

G. Guidelines for Decision-Making and the Implementation of Those Guidelines

The director of a report prepared for the National Association of Manufacturers observed that his interviews led him to conclude that private-enterprise decisions regarding exports were influenced first by relatively short-term considerations of financial advantage; second, by the degree to which the producers in question can be characterized as innovative (*la actitud innovadora*); and, in addition, by the age, health, and overseas contacts of the key enterprise leader or leaders. The third group of factors can be translated into a cost-benefit calculus, though that is not generally done. The *actitud innovadora*, would differ from enterprise to enterprise and is perhaps the key consideration, but it is much more difficult to characterize and may depend to a degree upon asymmetries in the perception of common information (as well as the more cited asymmetries in the availability of information), differences in the evaluation of that information and in the perception/evaluation of risk. It introduces the possibility of elements that differ from standard economic formulation. But attitudes toward exports may not capture the essence of overall enterprise objectives.

The objectives enunciated by enterprises emphasize high profitability, in some cases possibly approximating long-term profit maximization, but the means of implementation does not always seem consistent with a maximizing objective. A number of those who state they seek high profits maintain that intuition, not calculations, is the key to their decisions. Such affirmations cannot necessarily be taken at face value, of course, but they suggest the probable use of one or more judgmental heuristics, and heuristics almost invariably involve biases with respect to what a standard maximizing analysis would yield. Other producers explain their decision guidelines in terms that suggest that while maximization would be their intent, allowance has to be made for uncertainties, and since they really do not have a methodology for doing that, they probably allow for different uncertainties in somewhat different ways. Further undermining the notion that there is even a serious intention to maximize is the lack of clear guidelines for the information search process.

That having been said, behavior in the firms interviewed seemed to fall into five different categories: 1) that reflecting a cost-minimizing, profit-maximizing objective; 2) that reflecting a 'triggered maximization' (usually an effort toward cost minimization after the occurrence of some adversity or threat of adversity or of increased competition); 3) that reflecting not quite a maximization, but a high profits objective; 4) that reflecting a triggered tendency toward such high profits; and 5) that not reflecting an approach consistent with either profit maximization or a high-profits objective. Some firms stated that they sought to follow one kind of behavior in all

transactions but other enterprises did not make such a statement and recognized that they did not always conduct themselves in the same manner. Even many of those who indicated an intent to pursue a single objective in all types of enterprise activities do not seem to have done so.

Despite what might seem like unpromising judgment guidelines in terms of a traditional neoclassical framework, nearly half of the enterprises interviewed described what struck me as sensible, often imaginative reactions to a wide range of challenges. The other side of the coin is that some decisions seemed so suboptimal and doubtless inflicted such costs on the society that it is as important to understand how such decisions came to be made as it is to indicate what the optimal decisions would have been. This is the sort of concern that traditional economics has largely ignored, and to which this study attempts to contribute.

The selection of product mix is an example of a decision that sometimes seemed consistent with a profit-maximization objective, but at other times did not. Some producers select a new product because there is a strong and growing demand for it and it can be manufactured efficiently. Along similar lines, a few enterprises select a product because they possess strong capabilities in what is required to develop the product, and have good reason to believe that there will be a favorable market demand—or they can promote such a demand—by the time they have perfected it (the case of the oven that transforms burning wood into a gas referred to above). On the other hand, many product-mix decisions reflect a ‘triggered maximization,’ a tendency to maximize only after a firm is presented with some special opportunity, or, more usually, a new adversity. However, the revision in product mix is frequently one that would have been profitable prior to the adversity or new opportunity. Prominent in this group were some recent efforts to increase specialization so as to take better advantage of economies of scale or to eliminate products of particularly low profitability. Of course, some recent efforts at specialization may have reflected efforts consistent with an adversity-triggered attempt to obtain or continue high profits rather than an attempt to maximize. And some recent changes in product mix reflect choices so near current products or product technologies that it is not clear if the decision reflects a carefully calculated search for continued high profits, or simply a search so limited that it can hardly be called maximization or anything close to it. Nonetheless, just such a case probably did approximate maximization in the case of a plastics producer, who, on seeing an unfavorable policy shift in the automobile industry, turned to manufacturing plastic components for a number of other industries. The frequent reluctance to abandon low-profit products is inconsistent with even a high-profits objective unless it is accompanied by a major effort to achieve ‘best practice’ techniques and reduce production or marketing costs. It is hard to generalize about product-mix changes based on what enterprises term ‘intuition.’

Among the specific decisions or categories of decisions that seemed to fall in the five categories noted above (for the group of enterprises interviewed) were the following:

Decisions that seemed to be most nearly consistent with maximization: evaluation of the pros and cons of several options; the decision by one producer to move (gradually) from 100 percent sales domestically to 100 percent exports, taking account of economies of scale and quality preferences in the two markets; product-mix shifts after announced plans for liberalization, from protected products to those having a potential for comparative advantage.

Decisions that seemed to reflect 'triggerred maximization': decisions to export at prices that covered little more than variable costs, and then to intensify efforts to reduce production and distribution costs; greater emphasis on operational efficiency as a consequence of, or in anticipation of, recession, increased competition, or other adversities; product-mix shifts towards items in which company designers could play more of a role.

Decisions that seemed to reflect a high profits but not a maximizing objective: the use of judgmental heuristics, especially reasoning by analogy from somewhat similar successful (or unsuccessful) experiences of the past.

Decisions that reflect a triggered high-profits objective: incorporation of a new product to take advantage of underutilized production capacity; evaluation of several (but still a very incomplete number of) options after adversity.

Decisions that do not seem to have been consistent with even a high-profits objective: making decisions without a cost-benefit analysis or a cost-benefit type weighing of considerations; failure to apply for credits recognized to be subsidized; failure to expand capacity to manufacture a product in demand abroad (apparently primarily because of lack of space in the plant where the product was produced); decisions against patenting technological innovations; undertaking long-term projects with short-term criteria; failure to reduce prices significantly in recession or at end of season; failure to reduce admittedly large inventories of imports when the regulations and duties on imports that had fostered the large inventories were reduced.

Finally, it should be noted that industrialists with a background in accounting or business administration were much more likely than those with an engineering, scientific, or medical background to implement decisions in a manner consistent with maximization objectives.

IV. Findings and Preliminary Hypotheses for Further Consideration

The main purpose of the study of entrepreneurial response to economic liberalization and integration in Uruguay is to produce a set of findings and preliminary hypotheses, based on in-

depth interviews and detailed questionnaires, that reflect information not as likely to be uncovered in more traditional surveys, to produce more incisive hypotheses about economic decision-making that appear to be better forecasting tools. One objective is to provide a basis for dealing with what might be termed the 'economics of transition,' for reducing the cost of implementing policies that are more nearly optimal in the long run. This would increase the likelihood that the initial process is not so costly or disruptive as to sidetrack potentially better policies before they have had an opportunity to prove themselves. It has required a major effort even to obtain these preliminary findings and hypotheses. Further efforts are required, of course, and not only of hypothesis verification, but also of the same type as represented here if the economics profession is to break from tradition and incorporate into its analysis more of what other social sciences are learning about human behavior and more of what can be learned only by direct, prodding inquiry and observation of economic agents.

The following are the principal findings and preliminary hypotheses: (An asterisk indicates that the supporting cases are numerous or that they are from very successful firms and are particularly well-documented.)

*1. *The Role of Opportunity and Adversity in Fostering an Approach to Cost Minimization/Profit Maximization.* Adversity may tend to foster the search process essential for cost minimization/profit maximization (as Cyert and March's *A Behavioral Theory of the Firm* suggested thirty years ago), as may major new opportunities. In an environment that has been relatively protected and, for related reasons, has long had a limited growth potential, manufacturers undertake major search efforts to reduce costs or increase revenues only when presented with changes that reflect adversities threatening existing profitability or changes that reflect significant opportunities for additional profits. When presented with such adversities or major new opportunities, manufacturers do tend to increase search efforts and, in the process, reveal a maximizing or more nearly maximizing enterprise objective. New enterprises and existing small- and medium-scale firms undertake most activities on the basis of general notions of market opportunities and their often imperfect perception of the relevant data derived from limited personal experience and guided by judgmental heuristics rather than as a result of any maximizing calculation. Opportunities such as major increases in the potential for profitable exports generate changes in enterprise behavior (cost reductions, product modifications, e.g.) that not only contribute to profitability under the new circumstances, but usually would have increased profitability prior to the new opportunities. Moreover, a cost/price ratio confronting exporters that is less favorable than before but not so unfavorable or likely to endure so long that it would discourage export activity altogether, will encourage a search for cost reductions or product

improvements that make the export activity more profitable in the short run and increase the likelihood that the enterprise will continue exporting even if the less favorable cost/price ratio were to continue over a longer period.

To generalize, adversity stimulates increased search for productivity improvement (provided that the adversity is not so great as to cause the enterprise to abandon the activity), and this productivity improvement results in gains that would have added to profits prior to the onset of the adversity. Lack of competitive pressure or adversity leads to a less efficient use of equipment and a less profitable incorporation of new technology. There is no clear tendency even for highly successful firms to attempt to first reduce the 'best practice' gap before undertaking new investments (or to calculate if that would be a more profitable alternative to new investment for an initial period), or for new investment to be utilized in a manner closer to best practice than was the case for the older machinery, except in periods of adversity.

*2. Favorable experience with the increased search to reduce costs in response to adversity leads to the continuation of greater search effort, at least for a period after the initial spur of adversity ends. Firms do not follow consistent guidelines in the search process to reduce costs and more nearly approximate best practice techniques.

*3. In numerous laboratory experiments cognitive psychologists and economists have verified the importance of heuristics in making judgments. Particular attention has been given by psychologists to representativeness, anchoring, and accessibility. The interviews and questionnaires of this study have turned up evidence of another heuristic, one that respondents usually denied employing when asked directly if they did so, but which was often offered in explanations of how particular types of situations were analyzed. Enterprise judgments about many issues are based to a considerable extent on the experience of the firm (or other firms) in dealing with the same problems in the past, i.e., judgments are reasoned by analogy. If a business situation is similar in some major aspect to one with which the decision-maker has previously dealt, then there will be a tendency to reason analogously. If the handling of that earlier situation led to especially favorable (or especially unfavorable) results the tendency to reason analogously will be even stronger. For such situations, reasoning in this manner will be more common than reasoning by careful calculation, and this will hold even for those who have received special training in calculation techniques. Reasoning in this manner will be somewhat less common for highly successful enterprises, and for them the reasoning process will include more modifications to accommodate variations from the earlier situation, resulting in a hybrid between simple reasoning by analogy and straightforward maximizing. Finally, if asked in a general context, independent of the 'analogous' situation, if they reason by analogy, most decision-makers will

respond that they rarely if ever do so, that each situation is too unique to do so. This denial of a common technique is given most often by those who have received formal instruction in decision-making techniques. An example of this can be seen in decisions at various times not to borrow from the banking system, because of the extraordinary difficulties which many borrowers in the late 1978–82 period found themselves in after the surprise devaluation of 1982. The process of reasoning by analogy may be an acceptable starting point, but it is a heuristic with biases, and the biases are rarely taken into account.

4. Most business situations do not seem so clearly analogous to past experiences, or the handling of past experiences of an analogous character did not lead to especially favorable or unfavorable results. For these cases, in particular, in decisions not involving major new investments, decision-making will be greatly influenced by the routine or general approach to decision-making in the enterprise rather than by the specific calculation that profit-maximization techniques would call for. The routines reflect approaches compatible with existing institutional arrangements that have tended to yield profitable results. Some of these routines may even be techniques for profit-maximization under certain specified conditions, not all of which are likely to hold in many of the situations in which they are applied. The tendency to rely on routines will be less pronounced in the case of decision-makers who have received formal training in maximization techniques, but it will be almost as strong for the most successful enterprises as for those of average profitability. In some cases, the 'routine' of a firm will reflect an adaptation of a general maximizing technique that is more nearly maximizing for that firm given its special characteristics and particular institutional setting, but in most cases it will not be possible to characterize the routines in this manner (though there may be a tendency for the routines to become more nearly maximizing over time). If asked if they reason according to such not-necessarily-maximizing routines, most decision-makers will reply that they do not. If asked about their guidelines for information search (the way in which they determine how much additional information to obtain and how much additional cost to incur, what guidelines or general principles they follow), few will state that they use routines, but few will characterize what they do in the kind of generalized terms that would be expected of a maximizing calculus. This will be true even for highly successful enterprises.

5. Most firms in Uruguay have attempted to resolve problems (even many potentially serious ones) without requesting a general diagnostic of the enterprise. To a considerable extent, this reflects their unawareness of the value of such a comprehensive type of consultant activity, in part because such broad overviews would have had a more limited value in an economy as closed as Uruguay was until recently. The hypothesis is that successful firms now would be much more

inclined than before to contract for general diagnostics rather than to attempt to resolve problems themselves or to contract for more limited consulting assignments.

6. Perception: economic agents perceive some information differently than the true values of the data in question, and these perception problems are particularly serious when there are simultaneous changes in several components of information. (Recognizing the net effects of partially offsetting changes in government policy is particularly difficult.) Even business organizations that select those decision alternatives that would yield higher profits than other alternatives, incorrectly gauge some values of the variables that they include in calculations aimed at maximizing profits, i.e., they address themselves to somewhat different problems than those they actually confront. Some possibility of perception error may be recognized at the time a decision has to be made, but this is not truly taken into account by sensitivity analyses, which are aimed at allowing for the possible consequences of alternative outcomes (and possibly alternative judgments in the use of data). There is some recognition of errors in perceiving information after the decisions based on the assumed values of the information are made, but there is rarely an active effort to chart those errors, or even to take note of the categories of data for which the errors are greatest. As a consequence, there is little effort to estimate the variables for which problems of perception most undermine the attainment of profits. Although there is a general recognition that problems in the perception of information may sometimes be important, except for a small number of cases in which the misperceptions are of dramatic proportions (sometimes leading to their wider dissemination), the specifics of information misperception tend to be forgotten, or even psychologically repressed by those responsible. Individual differences in the accuracy with which information is perceived probably account for some of the results that have been attributed to information asymmetries, though it should be noted that the cost of reducing the two may often differ, as may the usefulness of gathering ex post data on the two phenomena. As a consequence, attention should be given to an effort to distinguish the element of misperception in what is currently characterized as information asymmetries.

7. When complex new economic signals call for enterprises to make major changes and the enterprises are queried about those changes, most enterprises overstate their own response to the signals and understate the response of competitors (except for those cases about which there are generally available published accounts). To the extent that such responses reflect their true opinions, the enterprises may fail to take account of interdependencies in the same manner as before the changes, at least for a period of time after the signals change.

8. The conduct of enterprises in individual activities often does not seem to reflect stated enterprise objectives. When confronted with such inconsistencies, enterprises generally reaffirm

the revealed objectives, casting doubt on the concept of a unequivocal objective function for the enterprise. This is more important for closely held enterprises than for large, impersonal entities.

9. Most business decisions involve some careful calculations, but the calculations are often only one input to the final decision, which is often determined (or the careful calculation often confirmed) by some judgmental heuristic characterized by a bias, the extent of which (and sometimes the direction of which) is generally not well recognized. In a substantial minority of successful (profitable) investments, *the basic decision to invest* is made *before* ascertaining (or being aware of) the exact price of the investment goods, and although there is an underlying assumption of the price, that assumption is often substantially in error (by 20 percent or more). In most cases, when further examination of the investment decision reveals that the goods are, e. g., considerably more expensive than assumed, there is, nonetheless, a decision to proceed with the investment. That is rational if the profitability of the project is high enough, but the point is that decision-making, even in successful enterprises, frequently involves a preliminary assessment as to the profitability of purchasing goods whose price is not really known, but which is estimated by a heuristic. Ordinarily, the price in question is assumed to be of the same order in real terms as the last time a similar investment was made or that the same good was priced. This might be considered a version of what psychologists have referred to as the accessibility heuristic.

*10. While successful producers have a good appreciation of the differences in unit costs at various stages of capacity utilization, they are aware of plant-level economies of scale only for a limited increase over the size of their existing facilities: they are frequently unaware of the dimensions of what may be major economies of scale at significantly larger plant sizes, and ordinarily do not attempt to obtain such information unless major new adversities or opportunities present themselves.

*11. Some profitable changes in the product mix aimed at industrial users are not made in response to current demand, but to what would be a maximizing (cost-minimizing) demand on the part of the industrial users, given the changes in relative prices that are underway or anticipated. Most producers of industrial goods in a developing country do not attempt to orient themselves to such a conjectural demand, however, certainly in part because of the additional marketing effort likely to be required. Indeed, taking manufacturers of producer and consumer goods together, while most are concerned with market demand, they do not seek special information on the elements underlying market demand even though the former may be crucial to the determination of the latter in a changing environment.

*12. Many firms led by those with education and professional experience in engineering or other science-based fields tend to have enterprise objectives of a technological character that

might well be consistent with maximization in the long run, but they do not take even remotely efficient paths to achieve those objectives. Apart from that, such 'technologists' are relatively more prone to take risk in the area of technology advancement than in other enterprise activities.

13. In general, but particularly in industries led by those without recent training (i. e., those who are not recent graduates or who have not received recent updating), there is a tendency not to consider plans for the future that differ significantly from those used in the past if recent profitability has been 'acceptable' and there is no new major adversity. In other words, in the absence of major adversity or the threat of same, many manufacturers, but particularly those without recent educational exposure, assume that the business environment for the period ahead will be sufficiently similar to that of the recent past so that there is no need for special analyses or plans for alternative business development.

*14. Inventories are increased almost immediately in response to major price reductions that are considered temporary, but inventories are not reduced very much or very rapidly in response to reduced barriers to imports that are generally cited as the primary reason for having especially large inventories to begin with.

*15. The Endowment Effect, expounded by psychologists and economists, claims that economic agents are more averse to risk when they have a higher than a lower level of wealth, and that they value the same absolute amount of gain much less than if it were a loss. Many interview and questionnaire responses lead to a modification of that hypothesis insofar as it has been extended to business behavior: While the Endowment Effect does appear to set in at some point, it does not appear to be a general phenomenon for relatively successful enterprises for a certain range of increase in their assets until they have passed an intermediate range, and are no longer 'medium-size' enterprises (the definition of that varying for each line of activity). There are several factors that could explain this, but perhaps the proposition should stand by itself for the time being until it receives clearer verification. In addition, if the general economic environment appears about to change, with wealth levels expected to decline (but not yet having done so), while some manufacturers will choose to abandon production altogether (though perhaps transferring to retailing the goods in question), many others of varying economic size and asset levels will undertake new projects with a combination of risk and return that is no more favorable and often less favorable than those previously accepted. That may be viewed as an effort to conserve income, though, and, in any event, any apparent contradiction with the Endowment Effect may be attributable to shifts in preference functions brought on by the changes in the overall economic environment.

*16. Most economic authorities base their conclusions about the present and prospective competitiveness of industries on data that refers to the past, or at best the present (such as Domestic Resource Cost rankings) and that overlook information, some of it readily available, that may be even more important to evaluating the future competitiveness of industries. The former types of findings by economists have some influence on business planning even though a very different set of industry rankings would be likely to result from a cost-benefit appraisal of *potential* competitiveness and the probable responsiveness of different entrepreneurial groups to the changing situation.

17. Limitations in the abilities of workers that undermine the competitiveness of an enterprise and are attributable to deficiencies in training usually do not lead to major increases in enterprise-level training or in support for increased public spending on education until long after the adverse effects are known.

18. The magnitude of potential costs attributable to inefficient government mechanisms or private institutional arrangements is minimized by the fact that many activities are not seriously affected by a large number of those mechanisms or institutional arrangements, and in those cases in which the effects are potentially more serious, economic agents shift toward alternatives that are less affected. Nonetheless, the magnitude of the costs incurred because of inefficient government mechanisms and private institutional arrangements probably is underestimated. First, there is a disinclination to estimate the impact of the factors in question and to address the problems in certain high-cost areas, some of which might be amenable to correction if the magnitude of their cost were more widely recognized; and second, some of the shifts from more to less affected activities are undoubtedly from higher to lower economic return activities.

It is anticipated that recent estimates of the costs to business of various government regulations by a prestigious, business-funded center of analysis in Uruguay will not lead most businesses that underwrite the research center to alter their decision-making.

V. Conclusion

“Interesting,” a sympathetic practitioner of standard economic analysis might say, “but this study ends just where the economic analysis ought to begin.” The question is whether standard economic analysis and even some of the current trends in behavioral economics would have been likely to arrive at the propositions listed above (and at comparable hypotheses for other areas of economic behavior). The question, too, is whether the propositions could have been regarded as having the same level of quite conceivable validity that holds in this case. In any

event, would not such of the above hypotheses and near-hypotheses as might have been conjured up with a more conventional approach necessarily have been regarded with the same well-founded skepticism that awaits—and should await—any of the hundreds upon hundreds of game theories and other intellectually plausible behavioral hypotheses that are devised?

I believe that this project has important implications for economic policy in Uruguay, and also for the adequacy of the approach of traditional economic analysis to policy. As Richard Thaler has written, summarizing his analyses:

The primary lesson here is admittedly a depressing one for economic theorists. The lesson is that their job is much harder than we may have previously thought. Writing down a model of rational behavior and turning the crank may not be enough, and writing down a good model of less than fully rational behavior is difficult for two reasons. First, it is not generally possible to build good descriptive models without collecting data, and many theorists claim to have a strong allergic reaction to data. Second, rational models tend to be simple and elegant with precise predictions, while behavioral models tend to be complicated, and messy, with much vaguer predictions. But look at it this way. Would you rather be elegant and precisely wrong or messy and vaguely right?¹

If I am correct, the traditional economic paradigm does not provide a basis for understanding why economies like Uruguay and Argentina 'lost their way,' and why many others, capitalist, socialist, and somewhere in between, are having more economic problems than might have been expected. A modified, more behavioral paradigm is being constructed, and I hope that this study (the propositions of which need to be verified, of course) will contribute to that, and in the process also contribute to the industrial restructuring of Uruguay and perhaps other countries as well. I would add that despite important differences, I believe that the approach of this study and of behavioral economics in general has some elements in common with the development of neoclassical economic analysis. As in the case of some of the analyses of the late nineteenth-century English and Austrian economists, this too attempts to incorporate into economic analysis some contemporary findings from the field of psychology, though perhaps here what I am taking from psychology is more the new types of considerations that they have shown to be relevant than their specific findings.

¹ Richard H. Thaler, *The Winner's Curse. Paradoxes and Anomalies of Economic Life* (The Free Press, New York, 1992), p. 198.