Thinking about growth

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Thinking about growth

And other essays on economic growth and welfare

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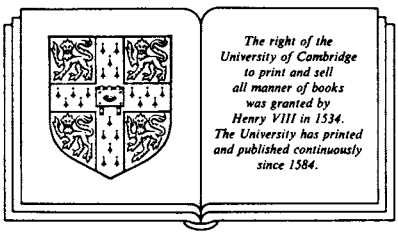

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To Carrie, with love

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Editors' preface

Thinking About Growth brings together Moses Abramovitz's principal essays on long-term economic change, and introduces them with a new and previously unpublished piece, the fruit of over forty years of purposeful thought on the subject. Professor Abramovitz, a former president of the American Economic Association, is one of the world's most distinguished students of the process of economic growth.

The book begins with two essays on the nature of growth and the efforts of economists to understand and explain the phenomenon. The two constitute respectively the most recent and the earliest of Abramovitz's statements on these subjects, allowing the reader to see how far his views have been modified by the extraordinary events of the post–World War II period and by alterations in the intellectual apparatus deployed by economists. The volume then turns to the analysis of the proximate causes of long-term economic change, a subject on which the author has done pioneering work. Chapter 3, the first in this section, reproduces one of the most heavily cited articles ever written on the historical sources of economic growth in the United States.

One of Abramovitz's central concerns is with the factors responsible for periods of divergence and convergence in the levels of economic performance of modernizing countries. He pursues this subject in his analysis of the rise of American productive superiority in the first half of the twentieth century, and of the post–World War II efforts by Japan and the countries of Western Europe to emulate American successes.

American economic expansion in the nineteenth and early twentieth centuries proceeded in great surges and relapses. The essays in the third part of the volume are devoted to efforts to account for these long swings, with their recurring euphoric booms and great depressions, and to explain why they have disappeared in the second half of

the twentieth century. The volume ends with a section devoted to the content and meaning of the experience of economic development. Once again, the book includes a very early expression of Abramovitz's views on this topic (Chapter 10), as well as a very recent one (Chapter 12).

These are important essays. They have influenced the course of work on economic growth and development, and they will repay much additional study. The editors are delighted that *Thinking About Growth* has now joined the series, Studies in Economic History and Policy: The United States in the Twentieth Century.

Preface

My interest in economic growth, like that of many other economists, began during World War II. I was involved first with efforts to plan the size of the U.S. war production program, and later with studies of German production capabilities.

How large could the U.S. program be? How much would the economy prove capable of producing if it could be stretched to its limits? The capacity of the U.S. economy had not been tested since 1929. Roosevelt's massive armaments programs were the result of a debate about the growth of U.S. capacity during the dozen years of the Depression. Economists took leading parts in the debate and differed widely. Richard Gilbert and Robert Nathan were among the economist–heroes of that bureaucratic and political struggle. In retrospect, I am convinced that the vision and calculations that backed a very large program were decisive factors in the war. Men and arms had to be deployed and terrible battles had to be fought; but once the huge armament contracts were awarded, it turned out that the capacity to execute them was there. The material advantage of the Allies over the Axis had been created.

Calculations of German production capabilities were far less successful. They rested at bottom on the assumption that the German economy had been fully mobilized when the war began. The high hopes that the British and U.S. governments placed in strategic bombing stemmed from this assumption. It was a mistake. In spite of increasing diversion of manpower to the armed forces and in spite of heavy bombardment, German armaments production continued to rise until nearly the end of the war. By that time, the mistake was apparent. Economists who had absorbed the later reports of the U.S. Strategic Bombing Survey were as a consequence less surprised than most people by the German postwar economic miracle. When the

monetary obstacles to recovery were cleared away, not only German technology and skill but also a vast stock of capital remained.

Experiences such as these turned economists' thoughts to the long-term growth of national productive capabilities. Why had productivity in Europe lagged behind that in the United States for more than half a century? How had Japan, which had itself begun to emerge from a state of virtual feudalism only some seventy years before the war, gained the strength to challenge the United States? Questions such as these were reinforced by the determination in Europe not only to recover from the war but also to initiate a program of long-term growth. The U.S. interest in a strong Western Europe supported that determination. Furthermore, economic rivalry in long-term growth was part of the Cold War. Having supported the end of colonial regimes, people in the United States took an interest in the economic development of poor countries. Geopolitical calculation ran parallel with a generous impulse and both supported a strong U.S. program of aid to the Third World. The new interest of economists in economic growth arose from all these sources.

I had an early chance to join in this work when Bernard Haley asked me to prepare an article on the economics of growth for the American Economic Association *Survey of Contemporary Economics* (1952). This paper is included as the second essay of Part I of this volume. Its heavy emphasis on capital accumulation as a source of growth reflected an outlook common to the economic thought of the time. I could not let it stand alone, and the long essay "Thinking About Growth," with which this book opens, is my attempt to epitomize the new view that has emerged from the resurgence of growth studies in the postwar decades.

My own conception of the subject and, as it turned out, that of others changed with the paper "Resource and Output Trends in the United States Since 1870" (this volume, Chapter 3). I prepared the paper for an American Economic Association meeting on economic history. My modest assignment was to summarize U.S. economic development since the Civil War. In some desperation, I turned to the national product figures. Simon Kuznets had extended them back to 1870. John Kendrick, preparing his big book *Productivity Growth*, was calculating indexes of the joint input of capital and labor as well as indexes of national product per unit of input. I followed his practice. I did not regard it as a particularly radical device, but viewed it as another exercise in decomposition of a sort familiar in many other contexts. If real national product had risen between two dates, the increase could be attributed partly to an increase in factor inputs, assuming that product per unit of each input remained constant, and partly to an increase in output per unit of input. An index of the first

would be given by the factor input quantities of each year multiplied by their base year earnings. What remained of national product increase would be a measure of the change in output per unit of input, that is, of the productivity of employed resources.

What could be simpler? The exciting thing was the lopsided result. In a decomposition of per capita output growth, it emerged that very little was attributable to the rise of employment per head of the population or even to capital per head. Productivity growth, the remainder, had been the apparent source of virtually the whole increase of per capita income for nearly a century. How could that be? To me it was crystal clear that the productivity increase was not solely a sort of costless advance of knowledge, an unintended but welcome spinoff of activities pursued for other purposes. The calculus was incomplete. It failed to account for costly investments in human capital or for economies of scale, which were a productivity bonus for larger output from every source. Longer schooling, research and development, the restructuring of occupations, and the relocation of population were large, but as yet unmeasured, elements of capital accumulation. This was a pointer for later work.*

In the 1950s, my research was supported by the National Bureau of Economic Research. The bureau's director, Arthur Burns, was impatient with my interest in long-term growth. He distrusted the data I used, and he pressed me to work on more solid materials and more immediately practical subjects, preferably on business cycles, which had been my early concern. I tried to straddle the issue by studying "long swings," the fluctuations that appeared in the statistical record when the influence of shorter business cycles themselves was removed.

It was a straddle for several reasons. In output series, the swings appeared in rates of growth rather than in levels of output, that is, in the same data with which growth studies proper were concerned. The duration of the swings, fifteen to twenty years, was intermediate in length between the shorter business cycles and the longer periods appropriate to secular growth. Like secular growth, output change over much of the long swings was attributable mainly to input and productivity growth – not, as in business cycles, to change in the intensity of use of employed resources. On the other hand the culminating episode of each swing was a major depression or period of

*My article was not the only work pointing in this direction, nor the first. My paper was quickly followed by those of Kendrick, on whose work my own depended, and of Robert Solow. There had been earlier, less-noticed, publications by Jacob Schmookler, Solomon Fabricant, and George Stigler. So far as I now know – no one in the United States seemed to know it then – ultimate priority belongs to Jan Tinbergen (1942).

prolonged stagnation. One phase of each swing did involve a large fluctuation of intensity of use.

I tried to bring the two elements together by viewing the long fluctuations in the growth rates of input and productivity as functions of change in intensity of use. And I speculated on the possibility that real and financial developments associated with long stretches of relatively stable growth made economies more vulnerable to serious depressions.

Included in Part III of this volume are two essays based on studies of long swings. The ideas they generated emerged again in later work on growth proper. I came to see rates of long-term growth as the outcome of two classes of causes, those that determined the potential for growth, and those that governed the rate of realization of potential. The conditions that support prolonged expansion or that impose sustained stagnation overlap with those that govern the realization of potential.

In the late fifties and early sixties, people became aware of the fact that the growth experience of the postwar period was strikingly different from anything known in prewar times. Europe and Japan were advancing at unprecedentedly rapid rates. U.S. productivity growth was as fast as ever before, perhaps faster, but it was much slower than that in Japan or Europe. The dominant position this country had enjoyed in the fifties was being lost. One unwelcome symptom was the disappearance of the "dollar shortage." The U.S. balance of payments had turned weak.

Observations such as these were a scholarly challenge; they were also a matter of public concern. In 1963 the Social Science Research Council asked Simon Kuznets to organize a series of comparative historical studies of economic growth in several European countries, in Japan, and in the United States. Because I was in Paris at the time and in a good position to make contact with European scholars, Kuznets asked me to join him in organizing the work.

Postwar growth may have been rapid, but the historical studies were not. A decade passed before much of the work was completed. Afterwards (1977), I prepared a summary paper for the International Economic Association. It has a longish title, "Rapid Growth Potential and Its Realization: The Experience of Capitalist Economies in the Postwar Period" (Chapter 6 in this volume). Here I tried to account for the most prominent features of the growth experience of the time. I saw these as the extraordinarily rapid rate of productivity advance among industrialized countries generally; the systematic gradation of the pace of growth among the leading countries from Japan at the top of the scale to the United States at the bottom; the unprecedentedly

long, quarter-century duration of the expansion, about twice as long as the long-swing expansions of the past; and the concerted character of the boom, which was shared by all the industrialized countries and by much of the Third World as well.

Many elements of both potential and realization contributed to these developments. On the side of potential, the European and Japanese opportunity for fast growth by borrowing and adapting advanced technology was very strong. The technological gap between these countries and the United States had grown much larger between 1913 and 1950, when two great wars, the territorial, political, and financial disturbances that followed, and the Great Depression with the collapse of international trade had joined to inhibit their development. Meanwhile, their ability to exploit advanced technology, their levels of education, and their experience with large-scale industry and commerce had become stronger. All this made for rapid growth generally and accounted for the systematic differences among countries. The potential for a technological leap was greatest for the countries furthest behind the United States. Japan, among the "followers," advanced most rapidly, Britain most slowly, and other countries were spread between them in positions about inversely proportionate to their initial levels of productivity.

As to realization of potential, rapid progress was fostered and sustained by stable monetary conditions. These were established by U.S. policy and enforced by the Bretton Woods exchange rate system. It was supported further by the liberalization of international trade, which offered countries an easier route to adoption of the scale-dependent technologies pioneered by the United States, and by flexible conditions of labor supply. As industrial and commercial demands for labor vaulted, they were satisfied by large migrations from farms to cities. Farm productivity in Europe and Japan was rising rapidly, releasing workers for industrial and commercial employment. Immigrants from the poor farms of the Mediterranean countries flocked to western and northern Europe. At the same time, U.S. restrictions on immigration limited the drain from the rapidly growing side of the Atlantic to our own more slowly growing side. Both sides could more easily advance together, a marked departure from the older pattern of Atlantic community growth.

The opportunity to "catch up" was a central feature of the postwar growth boom. It constituted the potentiality on which the rapid pace of advance and the convergence of productivity levels among presently industrialized countries was based. This experience presents a host of questions. How far can the tendency to convergence by catching-up be extended? Does it apply also to countries in earlier

stages of development? Did it also operate in the past? If so, did it work just as powerfully? If not, what inhibited its operation? What is involved in the catch-up process besides technological borrowing? Is the process self-limiting, weakening as technological gaps became smaller? Or are there also self-reinforcing elements in the process so that countries that are catching up may also move into the lead? I take up this range of questions in "Catching Up, Forging Ahead, and Falling Behind," the last essay in Part II of this book.

Economists' thoughts are almost entirely fixed on the causes of economic growth. Not for them to appraise its worth. The essays of Part I and Part II are in that tradition. Yet the worth of growth is not beyond question; and a powerful strain of opinion remains skeptical. Few may doubt the value of higher incomes in poor countries, but why should very rich countries press so hard to become still richer?

The classical economists, writing almost two centuries ago, had an answer. They thought that only by continuing to forge ahead could a country keep the Malthusian process at bay. A country in which the "state of the arts" had ceased to advance would find its high income dissipated to support a growing population. John Stuart Mill, who had begun to sense the possibilities of birth control, was not sure. Modern methods of contraception put the matter beyond dispute. It is now clear that rich countries can maintain high levels of average income without rapid growth. And it is clear also that growth itself has serious costs in its dislocation of established occupations, its disturbance to family relations and to modes and places of living, and its damage to the environment. On the other hand, the satisfactions of still higher incomes are less than certain. Is it so important to have more if we never cease to want still more?

Answers are proposed to these questions as well. There are international rivalries for power that carry fears of losing in a growth race. Our lives, it is true, may be disturbed by growth, but they are also disturbed, and very unpleasantly, when we fall behind. Even rich countries have some very poor people; it is easier to sustain and perhaps improve their situation and their capabilities out of the incremental income provided by growth than to face the political tensions of redistributing a stable income. People want both material goods and knowledge. The two desires depend on each other. Both the quest for economic growth and the income it has brought have been powerful supports in our quest for knowledge. What would the position be if we stopped pressing for economic growth? By how much would the search for knowledge be weakened? The satisfactions of still higher incomes may not be transparent, but happiness, say some, is not the true goal. Higher incomes mean wider horizons, a broader

range of choice. We should not deny ourselves the possibilities of choice even if we do not know if we can use them well.

Are these answers fully satisfactory? There is a powerful strain of antigrowth opinion in this and in other rich countries. The questions have returned to plague me many times. I explore them in the series of essays in Part IV.

Part IV also contains one essay, "Growing Up in an Affluent Society," that touches these issues from a somewhat different angle. I prepared the paper for a White House Conference on Children and Youth held in 1960, and I tried to say something about adolescence in the United States in that time of sustained and confident growth. I tried to point out that our economic development meant more than greater comfort and even more than better health. It meant a longer period of economic dependence as years of schooling were extended. Yet it also meant that aspiring young professionals could, if they wished, have younger courtships and earlier marriages. At that time they did so wish. It meant the removal of many mothers from the household as women faced a world more open to education and career. And it also meant the return of fathers to the household as hours of work were progressively shortened. And more such – it was an optimistic essay, and it went wrong in some respects. It pointed out, correctly for the time, that more children were growing up in intact families simply because both parents were surviving long enough to see their children through adolescence. It failed to foresee the great increases of divorce rates and of illegitimate births, both of which have their connections with economic growth. There are other such failings. I thought the movement to the suburbs was bringing the children of different income classes closer together. I did not foresee the sharper differences that were arising in the cities, between the rich and the well-to-do, who could still afford city life, and the very poor, who could not escape it. Despite these failings, I think the article may be useful because it illustrates the variety of ways in which the social concomitants of economic growth impinge on our lives.

Preparing a collection of one's old essays makes one think of teachers, colleagues, and friends. I cannot name them all. Edward Mason, Douglass V. Brown, and Frank Taussig introduced me to economics. John Maurice Clark was my teacher when I was a graduate student. Arthur Burns and Simon Kuznets guided my early work and helped form my outlook on research. Milton Friedman was an early friend. We have tilted often and broken many a lance. I have enjoyed a long, happy, and fruitful collaboration and friendship with Paul David. Paul Baran and Emile Despres, too soon lost, were my close compan-

ions at Stanford. Tibor Scitovsky and Marvin Chodorow still are. Eli Ginzberg has been my closest friend for more than half a century. Willy-nilly, they have put their mark on these essays.

I have dedicated this book to my wife, the first I have so inscribed. I cannot any longer sustain the illusion that I shall one day write a book worthy of her.

Stanford, California M.A.
November 1988