DEVELOPMENT AND GROWTH REVISITED

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The nature of economic development and economic growth has generated wide discussion over the years, especially since World War II (Flammang, 1979). In the past decade in particular, social scientists seem to this observer to have moved closer to a consensus on what the terms "development" and "growth" mean. It is quite common now for development economists to distinguish between the two, to accept the proposition that development is the broader term and that it includes growth, and to observe something like "development is more qualitative and growth is more quantitative in nature." Increasingly, too, scholars have been reticent to specify that the end product of development must necessarily be desirable (Rasmussen, 1990). But perhaps it is also true to say that quite often the terms still go undefined and that both theory and policy are shortchanged by this (Malizia, 1990).

Recently it has occurred to me that perhaps development and growth are aspects of adaptation—economic adaptation within niches or regions and between niches or regions. The term "niches" of course refers to economic niches—niches formed by geography (regions) as well as niches formed by resource definitions, products, technology choices, demand patterns and the like.

I. Niche Changing and Niche Filling

It appears that orthodox economics continues to be primarily concerned with what may be called "niche filling"—an essentially static view of the economy. That is, niches or regions are assumed to exist in the beginning: resources are given, technologies are given, and demand patterns are given, and most subsequent analytical operations occur within that niche. Of course, economic changes are introduced: resource changes, technological innovations, shifts in demand, etc. But these are usually treated as some sort of small aberration, inconveniences which the economy or region must adjust to. Those of us who are economists seem to be constitutionally far more comfortable explaining the processes of restoring equilibrium than explaining departures from it. It is almost as though equilibrium has come to be our unspoken major concern, with actual economic behavior of secondary importance.

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Niche filling, which to me is primarily the growth process, can indeed be thought of as something dealing with small changes over a series of fairly short runs. Growth, after all, is basically "simple increase" or "more of the same." It is primarily a quantitative phenomenon, readily handled with mathematics and statistics. Growth carries with it the conviction that it is readily understandable with standard scientific procedures. And it is. It is relatively easy to grasp "more of the same."

Niche changing, or economic development, is another matter, however. If, as this writer argued in 1979, the essence of economic development is structural change, then students of development must have some conception of two distinct subprocesses: the disintegration of at least part of one niche and the formation of at least part of another. That is, the first niche or structure must "soften," i.e. become somewhat "processual," before it begins to "harden" and become more structured.

Let us inspect more closely what "softening" really means. To me, it basically means "increasing internal differences." The "differences" may be in terms of space, time, or any other medium which is seen as significant.[1]

Increasing unemployment is one example: resources detach from former specializations as people are laid off, businesses go out of business, machines and natural resources are idled, and so forth. The aggregate differences that exist between the circumstances of employed resources and unemployed resources increase.

Another example of softening is major macroinnovations which are very different from what previously existed, and this, too, would probably lead to growing unemployment. Growing income inequality between successful macroinnovators and others or between the employed and the unemployed also fit under this stage. Increases in savings without parallel increases in investment appears to be a net softener. Dismantling welfare programs would be another.

But growing uncertainty stemming from the variability of former parameters is perhaps the major hallmark of "softening." Uncertainty induces producers to introduce new products instead of merely improving production processes for existing goods (Amos, 1990). Conventional scientific method becomes less reliable and social scientists increasingly join the ranks of the confused as their essentially static and mechanistic models soften along with

the reliability of their quantitative data. New concepts tend to be especially called for at times like these (Malizia, 1990).

"Softening," or "de-niching," then, appears to be a "differentiation" phase. Differences outweigh similarities. Qualitative changes become relatively more important, and quantitative changes relatively less important. This stage thus enables a region, an economy and/or a society to adapt externally, i.e. to adapt to changes which have their origins outside the region, economy or society. After all, if human institutions could not adapt to changes in climate or other major changes in ecosystems, human beings could not have survived to this point in time. We must have the capacity to be flexible. If we do have it, then it would appear that we have dynamic efficiency, the capacity to change so that we better fit that which is outside ourselves.

Now let us examine what "hardening," the second phase of the development process, might really mean. To me, it means "decreasing internal differences." Again, the differences may be in terms of time, space, or whatever has significance.

Decreasing unemployment would appear to be one such example: resources which earlier detached from a specialization re-attach, often to a different specialization, as workers find new jobs, new businesses emerge, machines and natural resources come back into use, an d so forth.

Microinnovations which improve the internal fit between resources within the new structure or niche are another example: reorganizations of production lines, standardization of products or productive methods, and training programs for those whose former specializations are no longer needed are examples of such microinnovations. Decreasing income inequality between the "old" specializations and the "new" specializations or between the continuously employed and the formerly unemployed also fit under this stage. Increases in investment unmatched by parallel increases in savings would appear to be a net hardener. Installing welfare programs would be yet another example.

Growing certainty stemming from the increasing stability of former variables appears to be the major hallmark of "hardening." Conventional scientific method becomes more reliable and social scientists become less confused and more confident as their traditional static and mechanistic models come back into their own.

"Hardening," or "re-niching," then, appears to be an "integration" phase. Similarities outweigh differences. Quantitative changes become relatively more important, and qualitative changes relatively less important. This stage thus enables a region, an economy and/or a society to adapt internally, i.e. to structure itself internally so that internal parts fit each other in rational and orderly fashion within the new niche. After all, if human institutions could not adjust themselves into basically harmonious relationships with one another, humans could not have survived to this point in time. We have to have the capacity to be stable and structured as well as flexible and "processual." If we do have that hardening capacity, then it appears that we can have static efficiency and security, the capacity to remain the same so that we can arrange the fit within our regions, national economies and societies.

Finally, once a structure or niche begins to harden, growth begins in earnest. There may be little if any growth during a softening phase, with its (possibly) rising unemployment, initial introduction of resource-displacing macroinnovations, and increasing uncertainty. But once softening ends and hardening begins, once standardization is spreading and entry into the fast-rising portions of learning curves is well underway, output grows increasingly rapidly.

So development appears to me to comprise both a softening and a hardening, with growth primarily a part of the hardening phenomenon. Growth is the product of both the dynamic efficiency of the preceding softening stage (what Amos [1990] refers to as "revolutionary changes") and the increasing static efficiency of the earlier part of the hardening stage ("evolutionary changes"). The familiar slow down in growth rates which occurs near the end of booms is a sign of the beginning of the end of that particular structure or niche—resources are becoming exhausted, or markets saturated, or technologies counterproductive. These tensions, in turn, begin to increase internal differences, or softening, and the development process begins all over again. Growth, in fact, appears to help structures harden until growth rates begin to slacken and set the stage for a later softening.

II. A Simple Diagram of Softening and Hardening

Perhaps what is meant here by softening (increasing internal differences) and hardening (decreasing internal differences) can be made somewhat clearer by means of a simple diagram. In Table One , let us suppose that we have ten people engaged in Activity A in period 1, with each person represented by a 1. No one is engaged in Activity B during this period, so there are no internal differences, and total differences in the last column are therefore zero. Suppose we arbitrarily pick a number, say 10, to represent the " differences" between a person engaging in Activity A and a person engaging in Activity B. (This is somewhat misleading, because the differences between Activity A and Activity B may be qualitative, rather than quantitative. But for the sake of this exposition, let us use 10 as an index of qualitative difference.) Now, in period 2, one innovative (and probably, from a socioeconomic standpoint, also

Table One
The Softening-Hardening Process

Period	Activity A	Activity B	Total Differences
1	1111111111	0	0
2	111111111 (Difference=10)	1	90
3	11111111	11	160
4	1111111	111	210
5	111111	1111	240
6	11111	11111	250
7	1111	111111	240
8	111	1111111	210
9	11	11111111	160
10	1	111111111	90
11	0	1111111111	0

somewhat deviant[2] person decides to engage in Activity B. This one has differences of 10 with each of the other 9 who stubbornly stick with tried and proven Activity A, so the differences add up to 90. The softening process is beginning.

In period 3 another person observes the innovator, decides that he or she has a success underway, and joins Activity B, leaving only 8 still involved in Activity A. Now total differences increase to 160 (the two practitioners of Beach have differences totalling 80 with the A group), a further softening. In period 4 a third defector joins the first two and total differences increase to 210 (70 x 3). The minority is becoming significant in the total picture. In period 5 differences mount to 240 and in period 6, when the two groups are equal in size, to 250. In period 6, however, the 10 people are as divided, or softened, as they can be. In period 7, Activity B claims more adherents than Activity A and is hardening (with total differences falling to 240) into a new niche dominated by Activity B. In periods 8 through 11 total internal differences continue to decrease and B increasingly attracts adherents from A. Finally, by period 11, even the most conservative of the A-lovers has come over to B, and internal differences have fallen to zero. From period 1 to period 6 the region/economy/society softened, and from period 6 to period 11 it hardened. From being an A-specialized (or A-niched) region, economy or society, it becomes a B-specialized (or B-niched) region, economy, or society. It develops from one structure into another. This of course assumes that Activity B is successful (most innovations fail, as we know), and that the transformation is total (most are only partial, unless the period is very long).

Note that if Activity A was an economic activity which yielded $50 per period and if B yielded $100 per period, total and per capita income would rise with each defection, but that income inequality between activities would increase steadily until period 6, when total differences are at their greatest (Table Two). The total income rises $50 with each defection, and per capita income rises by $5. Inequality, here called the "Envy Coefficient" and measured by the top half's income as a multiple of the bottom half's income, increases (the economy softens) as the poorer half hangs onto Activity A and begins to decrease (the economy hardens) as these people, too, begin to convert to Activity B.

This softening-hardening sequence may be responsible for the Kuznets curve, that celebrated U-shaped drop and subsequent recovery in income equality as per capita incomes rise (Hagen, 1986, p. 366). Furthermore, it suggests that Rasmussen's (1990) selection of growth rates and income distribution patterns as key measures of both simple increase and structural change is right on target.

Furthermore, the softening-hardening sequence may also lie behind economic fluctuations in market economies or regions—recessions and depressions clearly are, respectively, minor and major softenings which de-niche such entities, and the size of subsequent booms or hardenings seems quite closely tied to the amount of prior softening which occurred. If this is true, then perhaps downswings are not so deleterious (from a longer-term perspective) after all, a point which Amos (1990) also makes; perhaps they are more in the nature of region- or economy-wide "retoolings" rather like the summer changeovers in auto plants required when new models are being introduced.

Table Two
Income Changes

Period	Total Income	Per Capita Income	"Envy Coefficient" (Top Half/Bottom Half)
1	$500	$50	1.00
2	550	55	1.20
3	600	60	1.40
4	650	65	1.60
5	700	70	1.80
6	750	75	2.00
7	800	80	1.67
8	850	85	1.43
9	900	90	1.25
10	950	95	1.11
11	1000	100	1.00

This is not to minimize the importance of the pain and waste associated with unemployment, but it is to suggest that many resources would rarely, if ever, despecialize from one niche and respecialize into a new one without layoffs and business failures. Many resource owners are so risk-averse or security-conscious that even scandalously good times in other sectors fail to draw them from their original usages. Most observers are familiar with cases like this, both in this country and abroad, but it seems to me that they are especially common in less developed countries. It takes pain to force these resource owners to reallocate their resources. And the more pain it takes, the deeper the depression or softening necessary to bring about the de-niching of the economy required for re-niching.

In this connection, let us shift our focus to someone else who is having difficulty softening an economy—Mikhail Gorbachev. The Soviet Union has long been a security-loving or risk-averse country, even under the czars. The Industrial Revolution was much longer in coming there than in most European countries. And even after the Revolution, change came reluctantly, as evidenced by the resistance of the peasantry to collectivization. It has been estimated that from 1929 to 1932 slaughter by peasants had reduced the cattle population by half and that of sheep and pigs by even more (Johnston and Kilby, 1975, p. 278). And once the new central planning apparatus was established, every attempt at reform has also been firmly resisted. Gorbachev has had to make reform the very centerpiece of his period as leader: glasnost, or opening up (softening), is his political means to perestroika or restructuring. The difficulty is that most Soviets have a very strong attachment to security, (Hewett, 1988, p. 2) and allowing workers to lose jobs or private businesses to compete with state-owned enterprises adds up to a major threat. In some respects they appear rather like children, long carefully cared for and allowed to take no initiative on their own, who are then very suddenly asked to take the responsibility for their own economic wellbeing. There is a learning period in all this, and it will be interesting to see if Gorbachev can last it out. Even if he cannot, he has probably softened things enough to date so that his successor during the subsequent hardening period will reap considerable benefits and become a Hero of the Soviet Union while Gorbachev becomes a nonperson and eventually is purged from Soviet history books.

After all, he is functionally trying to do for a planned economy what recessions and depressions do for market economies.

III. Structure and Process: Economic Systems

If it is true, as it has been argued, that economies must have the capacity to soften or change in order to adapt to external changes and the capacity to harden or remain essentially the same in order to adapt internally, we have some clues regarding the basic values of divergent economic systems. Two twentieth century U.S. examples illustrate this.

First, the Great Depression of the 1930s. This massive softening followed a remarkable ten-year economic expansion—a hardening and growth period—the Roaring Twenties. The niche of the Twenties was characterized by great confidence in free markets, the expansion of consumer credit, and a minimalist role for the national government. Market saturation was perhaps the key element in the slowdown, early signs of which began to show up by 1927.

When demand slows, softening begins. As doubts and uncertainty began to emerge and spending cutbacks had their impact on production and employment, demands grew for government intervention. (This was true as early as 1929, when President Hoover signed legislation bringing the Federal Farm Board into existence to prop up the price of farm products [Campagna, 1987, p. 92].) The election of Franklin Roosevelt was clearly a public gesture in this direction, and the electorate dealt itself what in all honesty must be called some socialist cards (Lebergott, 1984, ch. 35).

The New Deal legislation as a whole was aimed at providing structure and security (or hardening) during an epoch which was doubtless gripped by one of the greatest senses of national economic insecurity in the country's history. Everything the federal government did was aimed at reducing differences or in security—Social Security, farm price guarantees, general and explicit recognition of labor unions, regulation of wages and hours, special loan guarantee programs for impacted sectors, etc. Nothing was specifically aimed at efficiency, because efficiency was seen as the enemy of security.

The National Industrial Recovery Act, later declared unconstitutional, was a move in the direction of national economic planning through private arrangements which can only be described as monopolistic (Campagna, pp. 117-120). Can we today truly believe that the framers of that legislation could not sense that the consequences of that law would be greater monopoly power? I submit that we cannot. I believe they understood, at least vaguely, that monopolies yield structure and order and certainty, while freer markets had brought efficiency, yes, but also process and flux and uncertainty.

The upshot, in my view, was that U.S. capitalism in the 1930s borrowed elements of socialism—government intervention and even monopoly to provide structure and security—in order to save itself from its own extreme tendencies. What are these tendencies? To become very, very efficient, even if economic insecurity, uncertainty, and inequality should result. As a system, capitalism prizes flexibility, process, and change in the pursuit of efficiency in resource use. Thus, its nature is to tolerate more softness in its overall economic structure than a socialist country would. Hence, it is more subject to such generators of economic insecurity as unemployment and inflation. Capitalism is relatively strong on process and efficiency and relatively weak on structure and security.

Now, let us go forward to around 1980, our second example. Clearly, there was little that was "soft" about the U.S. economy by the late 1970s. Government regulation, guarantee programs, entitlements, Keynesian economic stabilization measures, and public safety nets of all kinds had hardened us into a heavily structured niche. Perhaps the best overall evidence of the economy's lack of flexibility was the persistence of stagflation, although the growing share of imports in national markets was another potent indicator. Economic insecurity was fairly low, but so was dynamic efficiency. The stage was clearly set for an American glasnost. And just as Republican Herbert Hoover had taken a bow in the direction of greater structure and security in 1929, Democrat Jimmy Carter took a bow in the direction of greater efficiency with his moves to support the deregulation of trucking, airlines, financial intermediaries, and so forth (Campagna, p. 469). It was fairly clear that the economy needed some softening.

Federal Reserve Board Chairman Paul Volcker and Ronald Reagan gave it to us. First, tight money gave us rising unemployment, a classic softener. Then came tax cuts, cutbacks in social programs, further deregulation, the firing of air traffic controllers, the downplaying of job and auto safety regulations, and the like: all of these reduced the economy's structuredness and introduced a sense of economic insecurity for many. Indications are that inequality widened during the Reagan years (Campagna, pp. 518-23), even though the "misery index" did fall. But the softening effect of these measures also triggered a subsequent hardening within the private sector and considerable growth in employment and output after 1982. The hardening seems to be continuing under President Bush, as he speaks of a "kinder, gentler nation" with expanded day care facilities, more help for the homeless, reregulation of savings and loans and/or airlines, and so forth.

In sum, it seems that market systems have a comparative advantage in providing softening and dynamic efficiency, while centrally planned systems have a comparative advantage in providing hardening and economic security. This is a gross oversimplification, because it seems to me that both types of economic systems need both the capacity to soften and the capacity to harden if they are to be able to develop and survive. But between the two, it seems that market economies are relatively efficiency-loving in nature and planned economies are relatively security-loving (Hewett, p. 2). The former on average are softer (or more resilient, to use Rasmussen's [1990] and Malizia's [1990] term) and the latter on average are harder, or less resilient. But each must borrow some of what the other has when it gets into extremes, such as depressions or inflations for market economies and hyperrigidity and stagnation for planned economies.

A corollary of this is that private sectors appear to be relatively good at providing dynamic efficiency while public sectors are relatively good at providing security. In fact, the public sectors' primary function appears to me to be to provide protection and reduce internal differences—

income security, property security, personal security, national defense, equal access, more equal incomes, and so forth. Broadly speaking, it even seems that we can categorize our political parties by whether they are generally oriented towards reducing internal differences in the name of security, fairness or greater help for the disadvantaged (the Democrats) or whether they are more oriented towards allowing for greater internal differences in the name of unfettered innovation, individual economic opportunity, "getting government off our backs," deregulation and the like (the Republicans). If both softening and hardening are required for economic development, as I have argued, it would appear that having two parties with different general orientations makes a good deal of sense.

IV. Philosophical Roots

It might be instructive to end this piece by reflecting on the philosophical roots of softeners and hardeners. This observer has long been impressed with the explanatory power of two different philosophical concepts of freedom: namely, freedom to and freedom from. People who are softeners seem to be lovers of freedom to (process and dynamic efficiency) and those who are hardeners of freedom from (structure and security). Look, for example, at what U.S. presidents mean when they speak about freedom or "human rights": they refer to individual freedom and choices, the right to the secret ballot, the right to own private property and start one's own business, etc.—all essentially tied in with freedom to. But what do Soviet leaders mean when they talk about freedom and "human rights"? They emphasize that they have no homelessness or joblessness, that crime is relatively low, that basic sustenance and housing are guaranteed, that medical care and education are free, that the right to a job is guaranteed in their constitution—i.e. their stress is on freedom from the bad things that can happen to a person. The U.S. ignores homelessness and crime when it talks about freedom and the Soviet Union ignores political prisons and psychiatric reeducation centers when it talks about freedom (Flammang, 1980, pp. 16-17). Obviously, our philosophical roots are quite different.

Yet it would seem that each position is half right. All societies need freedom to in order to soften old niches so they can adapt to external changes. But we all also need freedom from in order to harden into new niches and share out the fruits of prior softenings in some kind of equitable and relatively harmonious fashion. In other words, each system, broadly, is relatively good at what the other one is relatively bad at. Perhaps if both groups were a bit more humble and willing to listen, both economies would function better with the advice of the other. Unfortunately, we seem to have quite different perceptions of the nature of humankind. We stress individualism; they stress communalism.

My own view is that humans have basically two sides to our nature. We can be "unitary": self-serving, individualistic, and primarily concerned with private matters, but also innovative, curious, and experimental, with our stress on freedom to—part of the time. We can also be "plural": social, group-oriented, and primarily concerned with others, but also driven to control others and their thinking, with our stress on freedom from—part of the time. We want both freedom to and freedom from, and would like to have both at the same time. Unfortunately, if we stress freedom to and process we have to sacrifice a certain amount of freedom from and structure, and vice versa. What we can do, however, is shift our focuses back and forth from one to another in hopes of "satisficing," with a certain amount of softening when that is required and a certain amount of hardening when that is required. In that way, we muddle along a middle path, without perfection, but with adequacy. We do not maximize either freedom to or freedom from; we try instead to maximize total freedom, the sum of the two. And in that way, through that search, we develop. And so do our economies and societies.

Notes

[1]Amos (1990) and others, stressing spatial and temporal aspects of development, employ terms like "polarization" and "dispersion" rather than "hardening" and "softening."

[2]Everett E. Hagen does not use this term, but it fits within his framework. See his On the Theory of Social Change (Homewood, Illinois: The Dorsey Press, 1962), pp. 90-91.

References

Amos, Orley M., Jr. "Growth Pole Cycles: A Synthesis of Growth Pole and Long Wave Theories." The Review of Regional Studies, Vol. 20(1).

Campagna, Anthony S. U.S. National Policy: 1917-1985. New York: Praeger, 1987.

Flammang, Robert A. "Economic Growth and Economic Development: Counterpart or Competitors?" Economic Development and Cultural Change, October 1979.

_____. U.S. Programs that Impede U.S. Export Competitiveness: The Regulatory Environment. Washington, D.C.: Center for Strategic and International Studies, 1980.

Hagen, Everett E. On the Theory of Social Change. Homewood, Ill.: The Dorsey Press, 1962.

_____. The Economics of Development, Fourth Edition. Homewood, Ill.: Irwin, 1986.

Hewett, Ed R., Reforming the Soviet Economy. Washington,

D.C.: The Brookings Institution, 1988.

Johnston, Bruce F., and Peter Kilby. Agriculture and Structural Transformation. New York: Oxford University Press, 1975.

Lebergott, Stanley. The Americans: An Economic Record. New York: W. W. Norton & Co., 1984.

Malizia, Emil E. "Economic Growth and Economic Development: Concepts and Measures." The Review of Regional Studies, Vol. 20(1).

Rasmussen, David W. "Economic Development as an Empirical Concept." The Review of Regional Studies, Vol. 20(1).