

Very long-term predictions of economic performance are usually of limited use. The Russian economist Kondratieff studied long-term economic trends and concluded that there were 50-year cycles or long waves in the performances of Western economies. (He was imprisoned during the Stalinist period for ideas inconsistent with those prevailing in his government at the time.) The cycles he identified were roughly the following:

|             |          |
|-------------|----------|
| 1790 - 1815 | upward   |
| 1815 - 1845 | downward |
| 1845 - 1870 | upward   |
| 1870 - 1895 | downward |
| 1895 - 1920 | upward   |

Kondratieff attempted little in the way of explanation of these long waves and the cataclysmic effects of major wars and discoveries of large deposits of gold. Nonetheless interest in his work and in long cycles was heightened in June 1978 when, in its annual report, the Bank for International Settlements in Basle referred to a possible slowdown "of the Kondratieff type". The possibility of industrialized countries having entered the downward side of a 50-year cycle was widely reported in the press, particularly in the lead-up to the Bonn "summit".

One way of tackling the question of whether or not the leading industrialized countries have reached an economic plateau, and of judging the validity of the optimistic and pessimistic arguments presented above, is to look at some of the basic qualitative factors that affect the numbers by which economies are measured. Such factors include:

- population growth
- availability of natural resources
- technological innovation
- government participation in economies
- situations in developing countries
- social factors.

#### Population growth

In industrialized countries, population growth has ceased to be a dynamic factor in economies. Populations are stabilizing. Social and economic development usually result in more careful planning of family size. The postwar "baby boom", which contributed to much investment-led growth after the Second World War (e.g., housing, schools), has now resulted in high unemployment rates among young people because slow-moving economies cannot absorb new workers quickly enough.

While in industrialized societies the child is now viewed as an economic liability,

in many developing countries the child is still seen as an economic asset. Developing-country populations continue to grow rapidly in most regions, and they may not stabilize before about the year 2050. Such growth is likely to have a dynamic effect on overall economic output in developing countries, although its effect on *per capita* income is clearly quite different.

#### Natural resources

Concern over the rapid exploitation of non-renewable resources is at the centre of some of the arguments that anticipate physical limits to growth in the future. There is a clear need to recognize that some fundamental changes will have to take place to respond to resource depletion, e.g. adaptation on a massive scale to new sources of energy for the post-petroleum era.

In general, the raw materials necessary to fuel economic growth are harder to obtain and more costly than they once were. Exploitation of cheap resources in colonies and the Third World led to easy and rapid growth. The colonies no longer exist and the Third World wants a legitimate return for its resources. The Organization of Petroleum-Exporting Countries (OPEC) is a good example of this. The cheapest and most accessible natural resources in the industrialized countries themselves have been exploited. What remains will be more difficult to obtain in terms of the input of energy, technology and transport. This may act as a brake on economies, although the need to adjust to changing resource-supplies can in itself be an incentive for various kinds of economic activity.

Efforts to economize on resources, to find substitutes and to develop new techniques for resource exploitation may provide an important stimulus in the future to further technological innovation and investment, and may be a major force in generating new economic activity.

#### Technological innovation

Growth in industrialized countries has been stimulated by quantum leaps in technology - e.g., the internal-combustion engine, electricity. Technological advance in recent years has tended to result in more efficient processes rather than new products. Often the advances are "labour-saving", and thus job-destroying rather than job-creating. There is a view that the technological revolution may have reached a stage of maturity in industrialized countries, and that there are not many major innovations on the horizon that would create dynamic growth. Such

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