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# Globalisation and Sustainable Development

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**Abstract** - This paper addresses the question whether the features of the post-war process of globalisation are consistent with the social and environmental requirements of sustainable development. To this end the post-war period is articulated in two phases: the Bretton Wood period (1945-1971) and the "Washington Consensus" period (1980-2000), separated by a brief period of transition. The empirical evidence discussed in this paper suggests that the inequality between countries slightly increased throughout the period according to most measurement techniques, while inequality within OECD countries diminished in many cases in the Bretton Woods period while increased in the Washington Consensus period. On the contrary, many indexes of environmental deterioration worsened in the Bretton Woods period and improved in the Washington Consensus period although this positive tendency has recently petered out, sometimes reversed, in consequence of a widespread weakening of environmental policies. Our conclusion is that post-war globalisation cannot be considered fully sustainable in any of the two periods considered, although for different reasons. However it is argued that the process of globalisation could, and should, be made sustainable through structural interventions, some of which are briefly discussed.

**Keywords**: globalisation, sustainable development, inequality, Kuznets curves.

**JEL classification**: F02, F15, F43, O13, O15

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## 1.Introduction

The debate on the economic and social implications of globalisation has attracted increasing attention from public opinion and the mass media. Scientific research has managed to clarify a few specific questions raised in this debate but the light shed on global issues and their policy implications is still too faint. This is disappointing but not surprising, as global issues are awfully complex. In order to delve into them we need the convergent effort of different specialisations belonging to different disciplines (as diverse as economics, sociology, law, and so on). Unfortunately the success of modern science is based on a growing division of intellectual labour that makes it increasingly difficult to coordinate the knowledge and empirical evidence necessary to tackle global issues. However science cannot seclude itself in ivory towers and abdicate from its social responsibilities ignoring issues that are vital for the future of mankind. Therefore science must struggle to overcome its existing limitations in order to clarify them and their policy implications.

According to this spirit, in this work we wish to pose the question of whether the globalisation process as observed after World War II can be considered sustainable, that is, compatible with the requirements of sustainable development. The contribution that we are able to offer is just a conceptual framework that aims to synthesize some of the results obtained by scientific research in different fields of economics, whilst drawing on a few valuable insights from other disciplines, in order to clarify them and stimulate further research.

To this end we have first to define the two keywords of our analysis: globalisation and sustainable development. By globalisation we simply mean the progressive integration of world markets induced by the liberalisation of international trade in goods, services and productive factors.[1] Although the process has had a long gestation period,[2] we can give it a fairly accurate birth date: the third decade of the 19th century, when the prices of goods

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[1] Other technological, social, cultural and institutional aspects of globalisation have been stressed in recent debates. Due to limited space, we will deal with these aspects only insofar as they affect the globalisation of markets.

[2] The process of globalisation originated long ago. Major milestones include the explorations of the 16$^{th}$ century, which unified the world from the point of view of physical accessibility, and the industrial revolution at the end of the 18$^{th}$ century which drove market expansion around the globe.

traded on national markets began to converge towards a single price due to the influence of international trading (see O'Rourke-Williamson, 2000, and Lindert-Williamson, 2001). In fact, given that a fundamental characteristic of a competitive market is a single price for a traded good, it is impossible to speak of a truly unified international market without a consolidated tendency of local prices to converge towards this single price. It was then that the liberalist economic theories of Adam Smith and the other classical economists of the end of the 18th century began to shape the markets through systematic policies of lower protective tariffs in the United Kingdom, and then in the other principal industrialised countries. Free trade progressed until World War I, after which a phase of protectionism lasting three decades set in.

Globalisation did not bounce back until after World War II but from then on it has continued uninterruptedly up to the present time. The following analysis will focus on the most recent phase, which can be divided into two periods. The first can be called the "Bretton Woods period", lasting from the end of World War II to the end of the '60s. In that period international markets were regulated by the organisations set up during the peace conference of the same name, which also established their underlying behavioural rules. After the collapse of the Bretton Woods monetary system in 1971,[3] a new international economic order appeared based on floating exchange rates, policy changes at the IMF and World Bank and a new organisation instituted in 1995 with the task of systematically liberalising international commerce: the WTO (World Trade Organisation).[4]

After defining and giving a time frame to the globalisation process, we now have to introduce and discuss the concept of sustainable development.[5] We will adopt, as is customary, the now-famous definition introduced in 1987 by the so-called "Brundtland Report": "Development is sustainable if it satisfies present-day needs without compromising the capacity of future generations to satisfy their needs" (WCED, 1987,

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[3] The Bretton Woods system started disintegrating at the end of the '60s as a result of rising inflation in industrialised countries. It collapsed after the suspension of the convertibility of the dollar by President Nixon in 1971. A transition period lasting about 10 years followed until a new system of regulating international markets emerged.

[4] Some authors call the "Washington Consensus" the regulatory system of the world economy which has emerged in the past twenty years (see, e.g., Chomsky, 1999, and Stiglitz, 2002).

[5] In this work development refers to the expansion of freedom of individuals and society. This process depends not only on durable growth of economic indices, above all per capita income, but also of health as well as other social and cultural indices (see Sen, 1999).

p.43). This definition gained instant popularity and soon became a crucial reference in the debate on the limits to economic growth and development. Attention was first focussed on the environmental equilibrium of the biosphere, ignoring almost completely the social aspects whose crucial importance, however, have become increasingly recognised as of late. In fact the rationale underlying sustainable development "implies a commitment to social equity between generations which for consistency's sake must be extended to equity within each generation" (*ibidem*).

The *inter*-generational condition of sustainability is meant to guarantee that the freedom of choice of future generations is not compromised by myopic decisions of the preceding generations.[6] Henceforth we call this criterion of sustainability *environmental*, given that the real freedom of future generations will depend to a large degree on the state of the natural environment they inherit. In practical terms, this means that the indices of environmental deterioration should not worsen any further with time, as this would jeopardize the ecological equilibrium of the biosphere. Of course this minimal requirement of environmental sustainability is not sufficient if the current state of the biosphere lies beyond the threshold of ecological stability.

The *intra*-generational condition of sustainability is meant to guarantee equal opportunities to all participants in market competition. This prerequisite is met only when there is sufficient initial equality among competitors, i.e. equal access to all significant economic options.[7] Henceforth we call this criterion of sustainability *social*, given that it depends to a large degree on indices such as the magnitude of income inequality and the incidence of poverty. The criterion of social sustainability should be evaluated in relation not only to economic indices but also other indices measuring the actual degree of individual freedom of choice. A significant example is poverty, which reduces access to economic opportunities. An extreme consequence of poverty, apart from the dire possibilities of death and diseases, is malnutrition that seriously reduces the psychophysical efficiency of the victim whose access to economic opportunities is therefore severely limited (there are still about 800 million people in the world suffering

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[6] The crucial importance of this condition has been emphasized in Chichilnisky (1997) and Vercelli (1998b).

[7] This does not imply either an absolute equality of distribution or a rejection of reasonable merit-based distribution criteria based on the results of individual efforts, as long as market competition is not distorted by an unequal access to economic opportunities.

from under-nourishment; see, e.g., Lomborg, 2001, p. 61). In practical terms, this means that these indices of social sustainability must not worsen any further with time. Of course, also in this case, the minimal requirement of social sustainability is not enough if the current indices lie beyond the threshold of social stability.

The two prerequisites of sustainable development that we have just defined are founded on principles of equity, freedom, and equal opportunities, which are not necessarily in contrast with the more prosaic, yet vital, economic objectives. On the contrary, it may be argued that equal access to economic opportunities is, after all, a fundamental condition of efficiency. It is the only way to reasonably guarantee that the "winners" of the continually renewed "economic competition" taking place in the market are actually the best participants, those capable of adding the maximum value to society.[8] Thus there is no basic conflict between ethics and economics as far as long-term sustainable development is concerned. This conflict emerges when the time period for economic decisions becomes increasingly confined to the short-term, jeopardizing the long-term requirements of sustainable development (see section 4).

We intend now to evaluate the sustainability of post-war globalisation by analysing the empirical correlations between globalisation and each of the two prerequisites of sustainability.

## 2. **Inequality, poverty and globalisation**

The empirical evidence examined by economic historians shows a precise long-term correlation between the process of globalisation and inequality both between countries and within each country **(fig. 1).** Starting in the third decade of the 19th century, income inequality between countries showed a tendency to grow as the process of globalisation spread and took root.[9] The same is true, albeit to a lesser degree, of income inequality

[8] This point was emphasized by Adam Smith and other founding fathers of "classical" liberalism and was further clarified by the founders of the neoclassical school, Marshall, Walras and Pareto (see Vercelli, 2003). In more rigorous terms, one can argue that the Pareto optimum associated with a less equal initial distribution of opportunities is sub-optimal (see Borghesi-Vercelli, 2003).

[9] Not all economists agree that inequality among countries has increased in recent years, partially due to different data and methods of measurement. Nonetheless, as the thoughtful classification of inequality measures suggested by Wade (2001) clarifies, the increase in inequality is quite evident from all the most widespread measures used

within countries. The most relevant exception is the prolonged period of de-globalisation which took place between the two world wars, that was a period of marked de-globalisation because of a widespread resurgence of protectionist, if not autarkic as in fascist Italy, policies in Europe and elsewhere.

The basic explanation is straightforward. The process of globalisation tends to increase the growth rate of countries participating in it actively (see e.g. Dollar-Kraay, 2001; Frankel-Romer, 1999, and **fig. 2**). Since demographic growth changes more slowly and mainly because of exogenous reasons, the growth rate of per capita incomes increases (as in the United Kingdom and in the United States: see **fig. 3**). This tends to augment inequality because the diffusion of increases in sectoral and personal incomes takes time.[10] However, in the Bretton Woods period, following the systematic adoption of social security measures inspired by the principles of the welfare state, the net effect on disposable income in many countries was a moderate reduction in inequality.[11] Vice versa, inequality began to grow again in the middle of the '80s in most OECD countries (**fig. 4**), including the United Kingdom (**fig. 5**) and the United States (**fig. 6**) (see Burniaux, et al., 1999, Brandolini, 2002, Forster-Pellizzari, 2000, Forster-Pearson, 2002). This was partly due to the great increase in higher-level incomes (**fig. 7**) and the fact that re-distribution policies have not succeeded in completely compensating for the trend of growing inequality (**fig. 8**).

The implications of globalisation for the sustainability of development can be assessed more precisely on the basis of a research stream that has examined the available

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excluding those which weight countries with their population and simultaneously measure incomes in terms of purchasing power parity. However, even in the latter case, more sophisticated recent analyses seem to confirm a trend towards a progressive increase in inequality since the '70s (see Milanovic, 2002).

[10] An acceleration in development initially increases profits in the most dynamic sectors and only later affects, and not always to the same degree, wages and employment in the same sectors. The diffusion of these increases in other sectors requires more time and is often incomplete. The same is true for territorial diffusion of development from the most dynamic poles to other geographical areas.

[11] Another significant example is that of the two world wars, when the spirit of cooperation and solidarity in the face of wartime troubles favoured vigorous re-distribution policies (Sen, 2000, p. 54). A similar phenomenon occurred under the New Deal policies adopted by the United States and other industrialised countries to combat the drastic effects of the Great Depression. The almost continuous succession of these periods, together with the de-globalisation process from 1915 to 1945 (see *retro*), interrupted for a

empirical evidence through rigorous econometric analyses. It began with the publication in 1955 by Kuznets of an article suggesting the existence of an inverted-U, that is first rising and then falling, empirical relationship between per capita income and inequality (**fig. 9**). If this relationship, which has been called "Kuznets curve", were generally valid, the process of globalisation would eventually become sustainable from a social point of view, at least in the long term (see, e.g., Lomborg, 2001).

Kuznets recognised that his hypothesis, while compatible with the data examined, had yet to be fully confirmed and expressed the desire that it be corroborated by further research.[12] The theoretical plausibility of the Kuznets hypothesis is based on the structural characteristics of development. The process of economic development typically entails a progressive concentration of population in urban centres where the distribution of income and economic opportunities is generally less equal than in rural areas. The process of territorial and sectoral penetration of development requires time and thus creates temporary income gaps even when there is a prospect of a homogeneous result. Nonetheless, the development process creates a "growing pressure of political and legal decisions affecting higher-level incomes "(Kuznets, 1955, p. 9) which manifests itself in increasingly effective re-distribution measures such as a progressive income tax.

Later studies seemed to initially confirm the Kuznets hypothesis (see Ahluwalia, 1976, and Robinson, 1976), but empirical support for it has steadily weakened since the '70s. This evolution can easily be explained in the light of the data examined above, keeping in mind the existence of a temporal delay of a few years between a new empirical trend and the availability of data documenting it.[13] The hypothesis proposed by Kuznets and the first studies corroborating it found support in the attenuation of inequality occurring between the two wars and continuing in different forms during the Bretton Woods period. However, since the '80s econometric studies have progressively weakened

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long interval (1915-1970) the increase in inequality that began with the globalisation process set off in 1820s.

[12] Kuznets observes at the end of his article: "in winding up my work, I am painfully aware of the scarce reliability of the information I have presented. This study consists of possibly 5% empirical information and 95% speculation, part of which boils down to pure wishful thinking" (Kuznets, 1955, p. 26).

[13] Kuznets himself observed that "... the recognition that each generalisation tends to reflect a limited synthesis of historical experience forces us to evaluate each theory, past or present, on the basis of its empirical value and consequential limits of application – a

empirical support for the original hypothesis as new data have increasingly reflected the widespread rise in inequality mentioned above.

Some object that in order to evaluate the social effects of globalisation we should concentrate on poverty, which has progressively diminished in recent years, rather than inequality.[14] It is doubtful, however, whether poverty has actually diminished: the answer depends on the precise definition of the period, the measure adopted and the geographical area under consideration (**fig. 10**). In any case, there are still a 1.2 billion people in the world who earn less than one dollar a day and almost 3 billion people who live on less than two dollars a day, thereby compromising what we could call the "social stability" of the process of globalisation. However some authors claim that the percentage of poor people has decreased in the Third World from 28% in 1987 to 24% in 1998 and that these data would be compatible with sustainable development (see, e.g., Lomborg, 2001, p. 72). However, this assertion seems to ignore the existence of a threshold of social stability below which the social fabric tends to disintegrate and the 'social contract' binding citizens to their institutions tends to deteriorate.

Social stability depends not only on the percentage but also on the absolute number of the poor. We note, moreover, that poverty is not only unacceptable from an ethical but also from an economic standpoint as it causes an enormous waste of potential resources which worsens as the social protection net falters. In the last twenty years there has been a widespread weakening of the social protection net due to the dismantling of the welfare state, the privatisation of education and health services and the systematic search for more flexibility in the labour market which has reduced the access of the less affluent classes to many fundamental economic opportunities. Different empirical studies have confirmed that high levels of poverty and inequality have negative effects on economic growth (see Alesina-Perotti, 1996, Benhabib-Rustichini, 1996). We can therefore conclude this first part of the analysis by noting that the trends of the globalisation process in the last two decades cannot be considered fully compatible with the social condition of sustainable development.

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precept that should naturally be applied to all excessively simplified generalisations contained in this article"(1955, p. 28).

## 3. Environmental deterioration and globalisation

We may now raise the question whether in the post-war period the trends of globalisation were compatible with the environmental condition of sustainability. The question is difficult to answer as we do not have sufficiently long and comprehensive historical series on global environmental quality to make reliable statistical correlations.[15]

We must settle for an analysis of statistical correlations between per capita income and some specific indices of environmental deterioration for which we have adequate historical series. At the beginning of the '90s some researchers observed that the curves corresponding to these correlations typically go up and then down (**fig. 11**) exactly like the Kuznets curve (one of the first authors to notice this alleged empirical trend was Panayotou, 1993).

Two main explanations for this behaviour have been put forward. It has been observed that in the first phase of industrial development the production structure undergoes radical changes, gradually reducing the percentage of the domestic product produced by agriculture and increasing that of heavy industry (steel, chemicals, etc.), which is much more polluting. There is a subsequent shift of production and labour to light industry and services which are less polluting and consume less energy, improving the aggregate indices of environmental stress. Furthermore, while in the first phase of industrial development environmental quality is seen as a luxury, in the second and even more so in the post-industrial phase, environmental quality is considered crucial in improving the overall quality of life. The final users of goods and services exert growing pressure on their suppliers to enhance the environmental quality of productive processes and goods offered. Voters simultaneously exert growing pressure on their political representatives to reinforce environmental policies. Due to the changes in the productive structure and preferences of economic agents, it is reasonable to assume that a per capita income threshold exists above which the indices of environmental deterioration tend to

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[14] The comparison of different ways of measuring poverty raises methodological problems that cannot be covered here due to lack of space (see Brandolini, 2002). The data used here is from the World Bank.

[15] Indices of this nature have been proposed lately. They are, however, controversial and only available for the most recent years (an example is the *Environmental Sustainability Index* published by the *World Economic Forum*.) They also do not currently allow for an identification of significant medium/long-term trends.

decrease. If this hypothesis were verified the forthcoming message would be optimistic: the process of globalisation, which as we have seen accelerates per capita income growth, eventually tends to reduce environmental deterioration, at least in the long term.

Further econometric research done along the lines of what has been called the "Kuznets environmental curve" initially supported the hypothesis that most significant indices of environmental deterioration were characterised by a behaviour of this type (see Shafik, 1991), while later research raised serious doubts about its validity (see Grossman, 1995; Cole et al., 1997). The hypothesis was only corroborated for some indices regarding problems whose effects are local, such as access to sewerage and drinking water, or the concentration in the atmosphere of sulphur dioxide (**fig. 12**) or suspended particles (**fig. 13**), but not for indices of environmental problems whose effects are global or could be transferred elsewhere, such as solid urban waste treatment or carbon dioxide emissions.

Even in cases where the data were compatible with the virtuous inversion of the Kuznets environmental curve, it is not clear whether in developing countries the hoped-for turning point will come before the threshold of ecological stability is crossed.[16] We must therefore conclude that the empirical evidence does not corroborate the hypothesis that the recent globalisation process has brought about a general improvement in the environmental sustainability of development. Furthermore, some indices show a particularly worrisome N-shaped curve: after an improvement in the '80s and early '90s, the trend has recently switched again towards deterioration (this is the case, e.g., of coliform bacteria; see **fig. 14**).[17]

While lacking sufficiently long and reliable historical series regarding global environmental deterioration, we can concentrate on some logical prerequisites of sustainable development, based on analytical considerations, which can direct economic and environmental policies towards reinforcing sustainable development. In particular, it may be demonstrated that the maximum sustainable growth rate of per capita income can be positive only if the intensity of environmental deterioration decreases at a rate higher

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[16] Given the non-linearity of the interaction between environmental and economic variables, there may be a threshold above which irreversible destabilising processes may be set off (see Daily-Ehrlich, 1992).

[17] Among the indexes showing this trend we note those of some water pollutants such as coliform bacteria, mercury, arsenic and nickel. For a broader analysis see Borghesi (2001).

than the population growth rate.[18] We can essentially count on two factors to respect this crucial condition of sustainable economic growth: i) that technological progress be orientated towards a growing environmental compatibility of products and productive processes; ii) that consumer preferences privilege products and services linked to better environmental quality.

These two processes have been at work for some time, but they are by nature rather slow to the point that they rarely manage to compensate for the effects of demographic growth. It is therefore necessary to speed them up with suitable environmental policy measures. This is particularly true for developing countries with higher demographic growth rates and fewer possibilities of reducing environmental deterioration.[19]

Summing up, the process of globalisation has had an ambiguous influence on the environmental prerequisite of sustainability. From a technological point of view it favoured the transfer to developing countries of "clean" technologies created by more advanced countries but also of toxic and radioactive waste and more polluting obsolete technologies rejected in developed countries. Regarding the cultural impact on preferences and behaviour of developing countries, the process of globalisation has led to a deceleration of demographic growth and heightened environmental awareness, but also fuelled consumerism with its attendant woes of pollution and waste of natural resources.

## 4. Outlines of a causal analysis

The analysis provided so far has tried to reconstruct the evolution of empirical correlations between globalisation and sustainable development in the post-war period. With respect to the social condition of sustainability, the Bretton Woods phase managed to come close to sustainability as a result of the narrowing of the inequality gap between countries and

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[18] From the identity: $D' = y_p' + d_y' + P'$, where $D'$ indicates the rate of global environmental deterioration, $y_p'$ the per capita income growth rate, $d_y'$ the growth rate of the intensity of environmental deterioration and $P'$ the population growth rate, assuming $D' \leq 0$ to guarantee the sustainability of development, we obtain: max $y_p' = - (d_y' + P')$ (see Borghesi-Vercelli, 2003, p. 12).

[19] The reasons are well expounded in the publications on the Kuznets environmental curve cited above.

within them.[20] The phase which has taken over in the last two decades (i.e. in the so-called Washington Consensus period) has instead distanced itself again from sustainability to the extent that the previous trend has been reversed.

As for the environmental condition of sustainability, neither of the two periods has completely passed the test of sustainability. The systematic adoption since the '70s of increasingly rigorous environmental policies has led to the improvement of some significant environmental indices. We have seen, however, that not all of them have improved. Furthermore, most recent data show a worrying slowdown, and in some cases an inversion, of the trend towards better environmental quality.

As is well known, the existence of a statistical correlation between two variables does not necessarily imply a causal relationship between them (on the prerequisites of economic causality, see, e.g., Vercelli, 1991, 1992 and 2001a). Thus we need analysis in greater depth to ground the causal inferences on consolidated theoretical foundations and to identify precise effect-generating mechanisms. What follows is a tentative first step in this direction.

The most convincing argument supporting globalisation is based on the fundamental theorems of welfare economics which demonstrate how with an initial distribution of resources and under rigid (indeed not very realistic) conditions,[21] a perfectly competitive market determines an optimal allocation of resources corresponding to maximum social welfare (see, e.g., Varian, 2002). We could assert that the raison d'être of globalisation is to unify local markets into a single competitive market in order to allocate world resources in such a way as to maximise the well-being of the global community. If this is the goal, however, the process of post-war globalisation has shown some basic failures. The application of this argument to global markets requires free movement across countries of goods and services as well as productive factors. Looking at the recent globalisation process from this point of view, we can identify some significant anomalies.

First of all, regarding goods and services, developed countries have continued to maintain heavy protectionist measures in sectors such as agriculture and textiles in which

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[20] We must point out, however, that even in this period the speed of reduction in inequality and poverty was insufficient to safeguard "social stability".

[21] We have to emphasise amongst other things: the extension of markets, lack of transaction costs, lack of information asymmetries, absence of externalities (including environmental and social ones), perfect competition and dynamic and structural stability. These conditions are rarely found in real markets (Vercelli, 2001b)

developing countries have more exporting potential. A United Nations report from 1994 stated that "industrialised countries, violating the principles of free trade, dump costs estimated at US$ 50 billion a year on developing countries – a figure almost equal to the overall flow of foreign aid" (quoted in Chomsky, 1999, p. 140). In addition developed countries often react to spontaneous increases in imports from developing countries with new tariffs by calling on, often surreptitiously, anti-dumping laws (see Stiglitz, 2002).

Secondly, as far as productive factors are concerned, labour has undergone growing restrictions of movement in the last twenty years, while both theory and experience demonstrate that migratory movements are a formidable "last-resort" instrument for equalising incomes across countries. Obviously the preceding considerations do not exonerate us from doing everything in our power to bring development to countries with high emigration flows so as to offer effective alternatives to emigration. This is the only acceptable way for a civilised country to stem immigration flows. Moreover unjustified administrative or police restrictions would end up putting a constraint on the economic growth of the countries enforcing them.

The movements of capital, on the other hand, have been almost completely liberalised without discriminating between speculative and entrepreneurial flows. This has produced a few benefits, such as an increase in foreign direct investment in developing countries, but has given rise to serious problems such as accentuated financial instability (the structural nature of recent financial instability is stressed, e.g., in Vercelli, 2000). The sharp increase in flows of speculative capital ("hot money") in an era of floating exchange rates has helped destabilise economies at the first hint of a crisis and made it more difficult to control them. The flows of "hot money" shifting very rapidly from one country to another have increased tremendously since the '70s, jeopardizing the effectiveness of any type of economic policy. As summarised by Chomsky (1999, p. 29):" in 1971, 90% of international financial transactions concerned the real economy – either commercial or long-term investments – and 10% were speculative. In 1990, the percentages were turned upside down...with daily flows frequently higher than the entire reserves in foreign currency of the seven major industrial powers". In addition: "of the US$ 1300 billion which feed daily global transactions, only a small part is linked to movements of productive capital, from savings of a country that are transformed into investments in another country. Developed countries move annually only US$ 200 billion dollars in investments into developing countries. Thus the majority of transactions are not correlated to desirable

movements of productive capital from developed countries to underdeveloped countries" (Tobin, 1999).

Moreover, recent econometric studies show that in a structurally imperfect international market like ours without international regulatory institutions enforcing effective controls, contrary to pure theory, the capital flows tend to move from poor countries towards rich ones (this empirical trend was called the "Lucas paradox" by the author who emphasised it: see Lucas, 1990).

The growing difficulty of the globalisation process in complying with the requisites of sustainability are clearly linked to these structural anomalies. They also depend on the evolution of economic and environmental policies. Indeed, the sustainability of development in the last twenty years has been jeopardised in many countries by excessive faith in unfettered markets, causing a weakening in the social protection net and re-distribution policies. The weakening of the welfare state, the progressive privatisation of education and health services, the reduction of progressive taxation and the systematic increase in flexibility of labour relations have led to greater internal inequalities, while protectionism towards developing countries, reduction in international aid and the restriction of migratory labour flows have led to greater income inequality between countries. By the same token, progress made in the '80s and early '90s regarding environmental sustainability is being undermined in many countries by weakening environmental policies. The difficulty of implementing the Kyoto agreements signed in 1997 is just one of the relevant examples.

Regarding the philosophy of regulation in international markets, the present one has a far different influence on markets with respect to what took place in the period following the Bretton Woods agreements. The latter were conceived in an era in which the limitations of the market economy, as witnessed in the Great Depression of the 1930s, were still deeply impressed in the collective memory. Thus an apparatus of institutions and regulations was set up to control international markets for the prevention, or at least attenuation, of market “failures”.

This regulatory apparatus was based on the following main institutional principles: i) a system of fixed exchange rates to stabilize expectations of international operators; ii) the GATT rounds, an international negotiating table aimed at the progressive liberalization of the exchange of goods, services and productive factors; iii) the IMF, with the task of preventing, through anti-cyclical financial interventions, local deficits of aggregate demand

to spread deflationist impulses into other economies; iv) the World Bank, with the task of financing structural interventions to eliminate poverty. This regulatory structure did to some extent succeed in mitigating problems linked to poverty and inequality by promoting a certain degree of compliance with the social condition of sustainability. The same cannot be said of the environmental condition of sustainability, mainly because of a still very low public awareness of environmental issues.

The recent re-definition of the system of international markets has significantly altered the regulatory system and thus its impact on sustainable development. The new regulatory system of international markets in place since the early '80s, commonly called the "Washington consensus", can be summarised in the following way: i) a system of flexible exchange rates which deregulated the exchange market and set off a process of systematic deregulation of markets; ii) the creation in 1995 of the WTO so as to complete the liberalization of the exchange of goods, services and capital by increasing its penetration in all possible directions; iii) the concession of financial support from the IMF to countries in difficulty subject to their adoption of structural measures aimed at deregulating and privatising national markets and their implementation of monetary and budgetary austerity measures; iv) a *de facto* subordination of structural interventions of the World Bank to previous approval from the IMF, aimed to verify compliance with its policy directives in the recipient countries.

Within the new regulatory system it is possible to identify many causal mechanisms that may explain the recent worsening of the social condition of sustainability. In particular the WTO has often interpreted constraints on trade introduced by local laws or international agreements, even those with genuine social or environmental purposes, as non-tariff barriers incompatible with free trade and forced their elimination (a significant list of well-documented examples can be found in Wallach-Sforza, 1999). This same organisation has also extended the range of its authority to questionable sectors such as the defence of intellectual property rights (TRIP agreement) which entails a considerable re-distribution of wealth from countries using patents (usually poor) to (usually rich) countries which register most patents (see Legrain, 2002, and Tisdell, 2001). The low transparency of decision-making and the real difficulty of guaranteeing the active participation of member countries, especially developing ones, has at times led to biased rulings (see Wallach-Sforza,1999, Esty, 2001, and Francioni, 2002).

In addition, in the last twenty years the IMF has progressively modified its original (broadly speaking "Keynesian") philosophy of intervention to a position favouring privatisation and deregulation. It has also often recommended restrictive budget policies in situations where there was a lack of aggregate demand.[22] In many cases this has led to significant increases in structural unemployment as well as to the suspension of monetary transfers aimed at support for low-income families and environmental protection. The goal of monetary stability has generally overridden the original key-objective of full employment.

Thus far we have considered a few relevant macro-economic aspects of sustainability. Now we turn briefly to a few equally important micro-economic aspects. The economy as a whole can be sustainable only if it is based on a network of sustainable enterprises. Empirical research suggests that the longest-lasting and, if we focus on medium-long term performance averages, most profitable businesses are those with a longer-term decision-making horizon that at the same time pays closer attention to the interests of all stakeholders.[23] This is also confirmed by the recently introduced indices which synthesize the stock market performance of the most sustainable companies. These indices generally do better than the general ones, as can be seen from a comparison between the *Dow Jones Sustainability Group Index* and the general Dow Jones index (**fig. 15**). The recent globalisation process has jeopardised businesses' social responsibility and thus their sustainability in the medium/long term. The growing territorial dispersion of productive processes has made it more difficult to ensure active participation and control of the stakeholders. There has also been a progressive shortening of the time horizon of

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[22] These policies are based on the conviction that unfettered markets are able to auto-regulate themselves and resolve any sort of economic problem in the best possible way. Economic theory from Adam Smith onwards has always disputed this position, stressing the nature and significance of the limitations of markets as well as the necessity to regulate them to avoid their "failures". Theory and historical experience have also shown the important repercussions of state failures. It is therefore necessary to keep in mind both aspects of the dilemma without forgetting that failure on the part of public authorities can be linked to processes of regulation as well as of deregulation. A recent example of the latter phenomenon is the privatisation process in Russia in the '90s (see Stiglitz, 2002).

[23] The stakeholders are all the subjects directly interested in the activity of a corporation. They include shareholders as well as employees, clients, suppliers and all those who live in the territories where the corporation is active. See Schmidheiny-Zorraquin, F. (1996) and Turner (2002).

decision-making in markets unified by the Internet and deregulation and showing an increasing degree of imitation. This has induced many enterprises to focus on impressive short-term results even at the expense of their sustainability in the long term.[24]

To sum up, the new regulatory system of national and international markets that has emerged and consolidated in the last twenty years has weakened the social sustainability of development and is starting to jeopardise even the environmental sustainability of development. The empirical correlations identified above seem to be fairly supported, albeit inconclusively, by precise causal mechanisms, some of which have been touched on. Analysis of the data at our disposal does not justify either catastrophic pessimism or quietist optimism. The process of globalisation since 1820 has led to an extraordinary increase in per capita incomes and world population but has tended to increase inequalities between countries and to a lesser degree within each country. Social and environmental policies have been enacted to attenuate these problems by consolidating the sustainability of world development. These problems persist, however, and their solution entails more vigorous and far-sighted policy interventions.

## 5 **Concluding remarks**

The problems we have heretofore analysed are often presented, especially in the mass media, in terms of a confrontation between the case for or against globalisation. In light of the preceding analysis, we can say that this simplistic dichotomy is highly misleading. All the above-mentioned social and environmental problems depend partially on an incomplete and distorted process of globalisation (e.g. protectionist barriers put up by rich countries towards poor countries and unjustified obstacles to labour migration) and partially on the growing weakness of regulations in international markets (leading, e.g., to huge and sudden uncontrolled flows of hot money and systematic elimination of the environmental and social constraints on international transactions).

For these two sets of reasons, the recent process of globalisation cannot be considered completely sustainable, although it can be made so with the right structural interventions. If we wish to accomplish steady and long-lasting world development, it

[24] This point has been treated in some more detail in Vercelli (2001b).

would be irrational to give up the potential benefits of globalisation provided that its distortions are corrected and the proper active regulations are firmly established.

To this end local and international institutions must collaborate in order to continue the elimination of the remaining protectionist measures, giving priority to complete liberalisation of imports from industrialised countries. It is instead reasonable to concede a more gradual elimination of the protective barriers raised by developing countries to the extent that they are strictly aimed to protect new or recent industries and to encourage the formation and consolidation of legal and administrative institutions to guarantee the smooth functioning of the market. However the further opening up of international trade must not relax the restrictions on economic transactions introduced in single countries, often in accordance with international agreements, to foster genuine social and environmental protection. Such limitations should actually be progressively reinforced to push competition towards higher standards of quality. In particular ethical-environmental certification and reporting are a promising way to promote competition at higher ethical and environmental standards so as to orientate choices towards sustainable development.

In addition, the structural interventions of the World Bank and single states to reduce inequality, poverty and malnutrition should be supported without the imposition of external abstract conditions which do not consider institutional and cultural differences and exclude the active participation of the resident population. This should also hold for structural re-equilibrium programmes, including those promoted and financed by the IMF and the World Bank.

Finally, labour mobility should be freed of all unjustified cross-border limitations to allow it to play its crucial role of "last resort" equalisation of incomes and economic opportunities. Capital flows, on the other hand, cannot be left in the current state of anarchy. This has led to sudden large flows of hot money and intolerable levels of financial instability, encouraging financial crimes with the complicity of insufficient transparency in international transactions, due partly to the (feebly opposed) growing role of the off-shore centres. Therefore the debate on controls over speculative capital flows must be given serious consideration. For example, in the recent debate on the desirability of introducing the so-called Tobin tax, interesting ideas emerged that deserve serious consideration (see, e.g., Tobin, 1999).

From a microeconomic point of view it is necessary to promote greater social responsibility in businesses by perfecting *corporate regulations* to avoid conflicts of

interests and the distorted use of private information (e.g. "insider trading"), and encourage more far-sighted decision-making and greater attention to all stakeholders. Financial intermediaries should be encouraged to channel saving flows towards the enterprises that are more socially responsible and compatible with sustainable development, both through ethical investment funds and an in-depth analysis of environmental and reputation risks. The interventions suggested above should use the full potential of competitive markets without underestimating their limits requiring active regulation. Regulatory measures regarding markets are like medical treatments: the right ones must be prescribed in minimum doses to avoid side effects; it would be senseless, however, to systematically reject them in the belief that the human body is always capable of taking care of itself.

Economic theory and experience confirm that without suitable regulation, markets are not able to resolve the social and environmental problems affecting sustainable development. This is true for global as well as local markets. This stems from the fact that environmental and social externalities are particularly widespread and significant. In addition the markets are incomplete, and this is true in particular of the future markets which are directly involved in the issue of long-term sustainable development. Finally, underlying the unstable interaction between the biosphere and world economic development are irreversible processes and radical uncertainty (see, e.g., Vercelli, 1998a).

In the light of the preceding analysis, we must commit ourselves to building a new regulatory structure of international markets: a lightweight, efficient, open and democratically managed apparatus with the active participation of all countries to allow individuals of present and future generations to satisfy their needs and have access to fundamental economic opportunities. In particular, it is necessary to enact distribution policies on incomes and to guarantee access to resources and economic opportunities (see Bowles-Gintis, 1998, and Dasgupta-Mäler-Vercelli, 1997.)

We may conclude by observing that the interventions outlined above will only be truly effective if civil society becomes fully aware of the importance of the environmental and social conditions which can guarantee sustainable development. The educational and research system plays a fundamental part in reaching this goal. In particular scientific research can and must make a crucial contribution towards understanding problems and their causes, selecting mechanisms of intervention as well as encouraging far-sighted

decision-making processes, inspired by the fundamental principles of solidarity, fairness and civil cohabitation.

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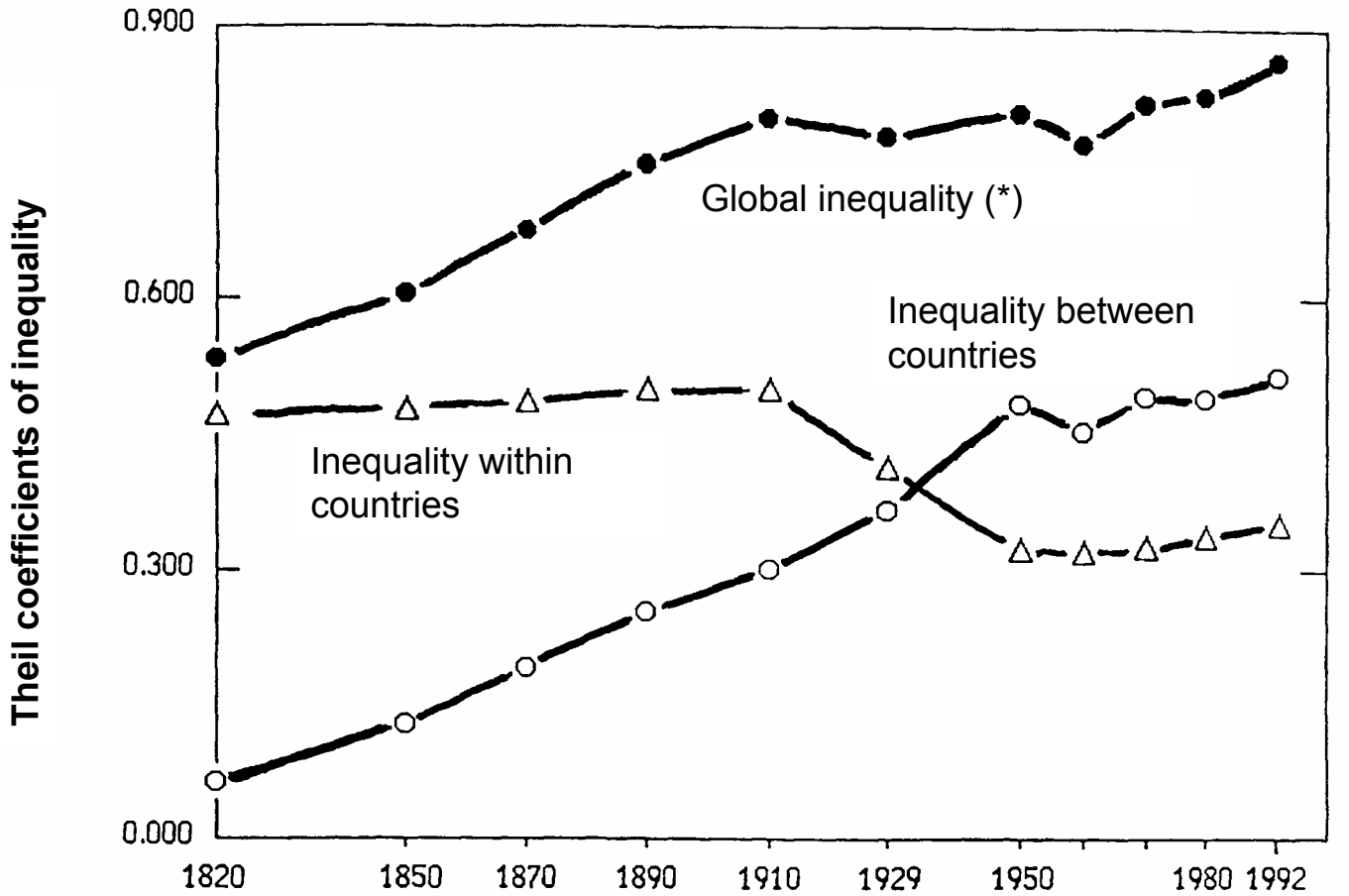
# Inequality of individual incomes: 1820-1992




**(*) Global inequality is the sum of the other two curves. Gini index 1992 = 0.667**

Fig. 1

Source: Bourguignon - Morisson (1999)

# Orientation towards international exchanges and growth of income, 1963-1992

| | Average rates of growth of per capita GDP In developing countries | | |
|---|---|---|---|
| Orientation towards international exchanges | 1963-1973 | 1973-1985 | 1980-1992 |
| Strongly open | 6.9 | 5.9 | 6.4 |
| Moderately open | 4.9 | 1.6 | 2.3 |
| Moderately protectionist | 4 | 1.7 | -0.2 |
| Strongly Protectionist | 1.6 | -0.1 | -0.4 |

Fig. 2

Source: World Bank

# Evolution of per capita income

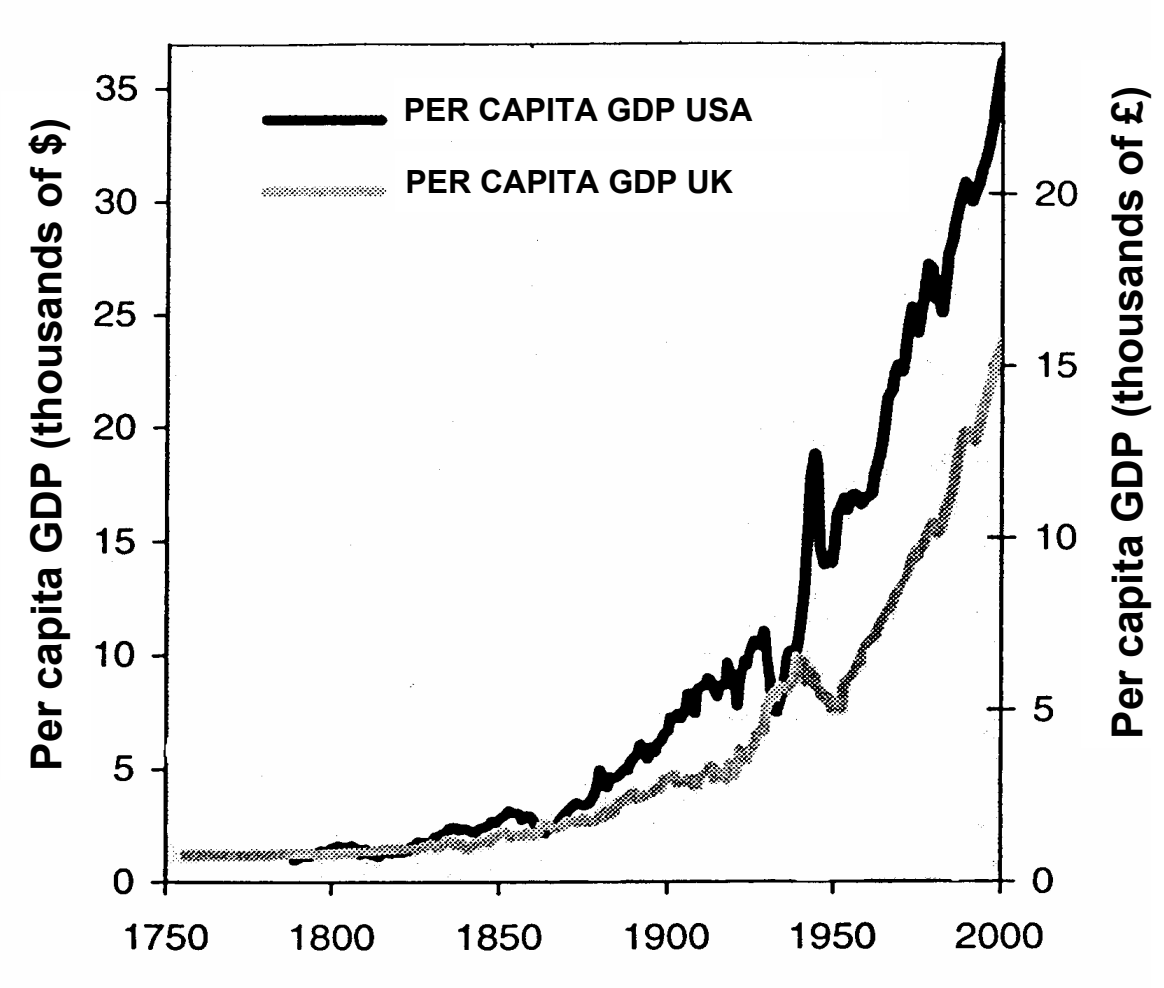



Fig. 3

Source: Lomborg (2001)

# Variations in income inequality

| | 1975-1985 | 1985-1995 |
|---|---|---|
| AUSTRIA | 0 | ++ |
| BELGIUM | | + |
| CANADA | + | 0 |
| CZECH REPUBLIC | -- | +++ |
| DENMARK | | ++ |
| FINLAND | - | + |
| FRANCE | - | + |
| GERMANY | - | + |
| GREECE | - | |
| HUNGARY | + | +++ |
| IRELAND | - | |
| ITALY | -- | + |
| JAPAN | 0 | + |
| KOREA | + | + |
| NETHERLAND | 0 | ++ |
| NEW ZEALAND | | +++ |
| NORWAY | - | + |
| POLAND | 0 | +++ |
| SWEDEN | - | +++ |
| SWITZERLAND | | + |

| | | |
|---|---|---|
| +++ | STRONG INCREASE | > 15% |
| ++ | INCREASE | 7-15% |
| + | MODERATE INCREASE | 2-7% |
| 0 | NO VARIATION | -2 - +2% |
| - | MODERATE REDUCTION | 2-7% |
| -- | REDUCTION | 7-15% |
| --- | STRONG REDUCTION | > 15% |

Source: OECD

Fig. 4

# INEQUALITY IN THE UK, 1939-1996 (%)

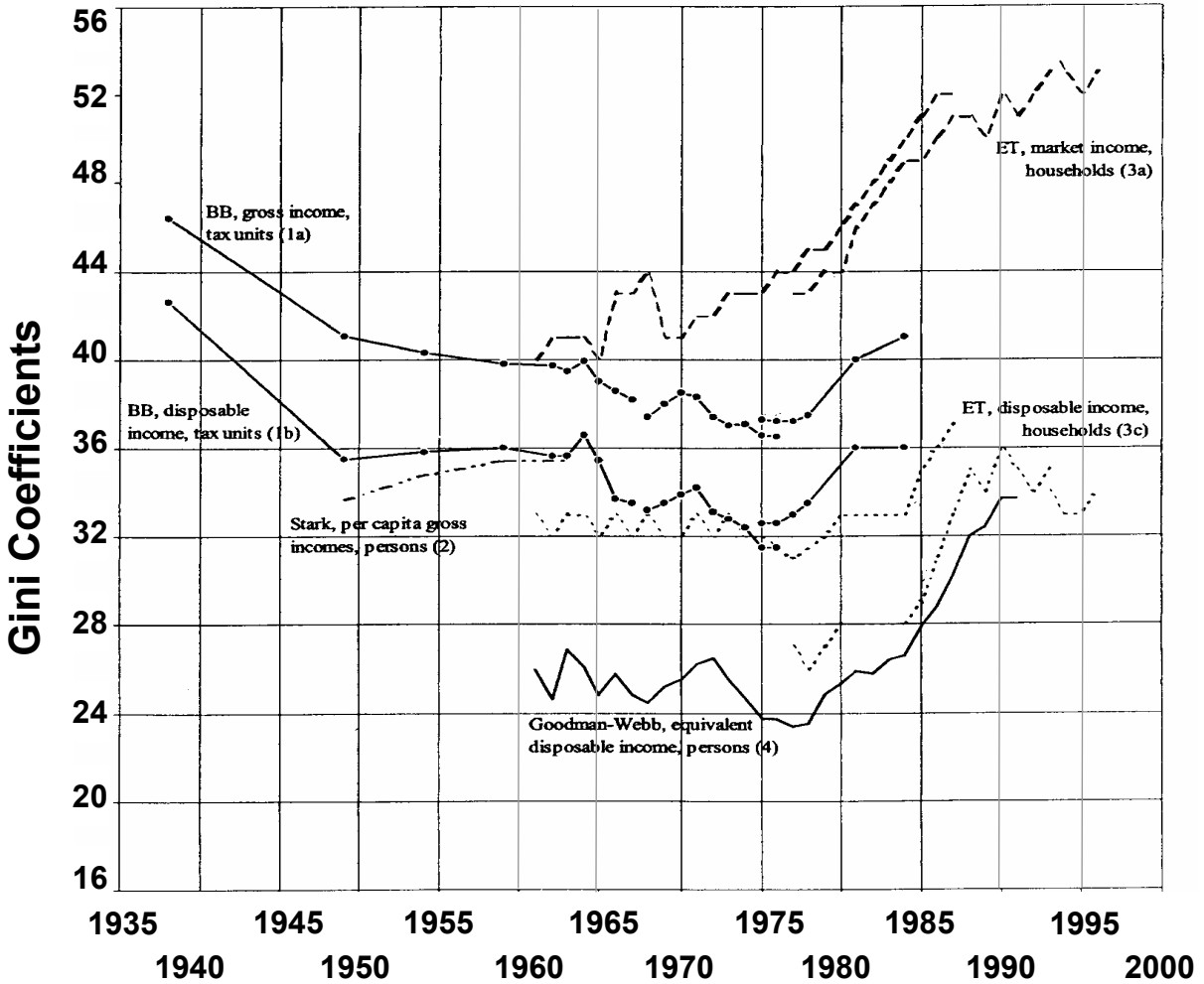



Fig. 5

Source: Brandolini (2002)

# INEQUALITY IN THE USA, 1929-1996

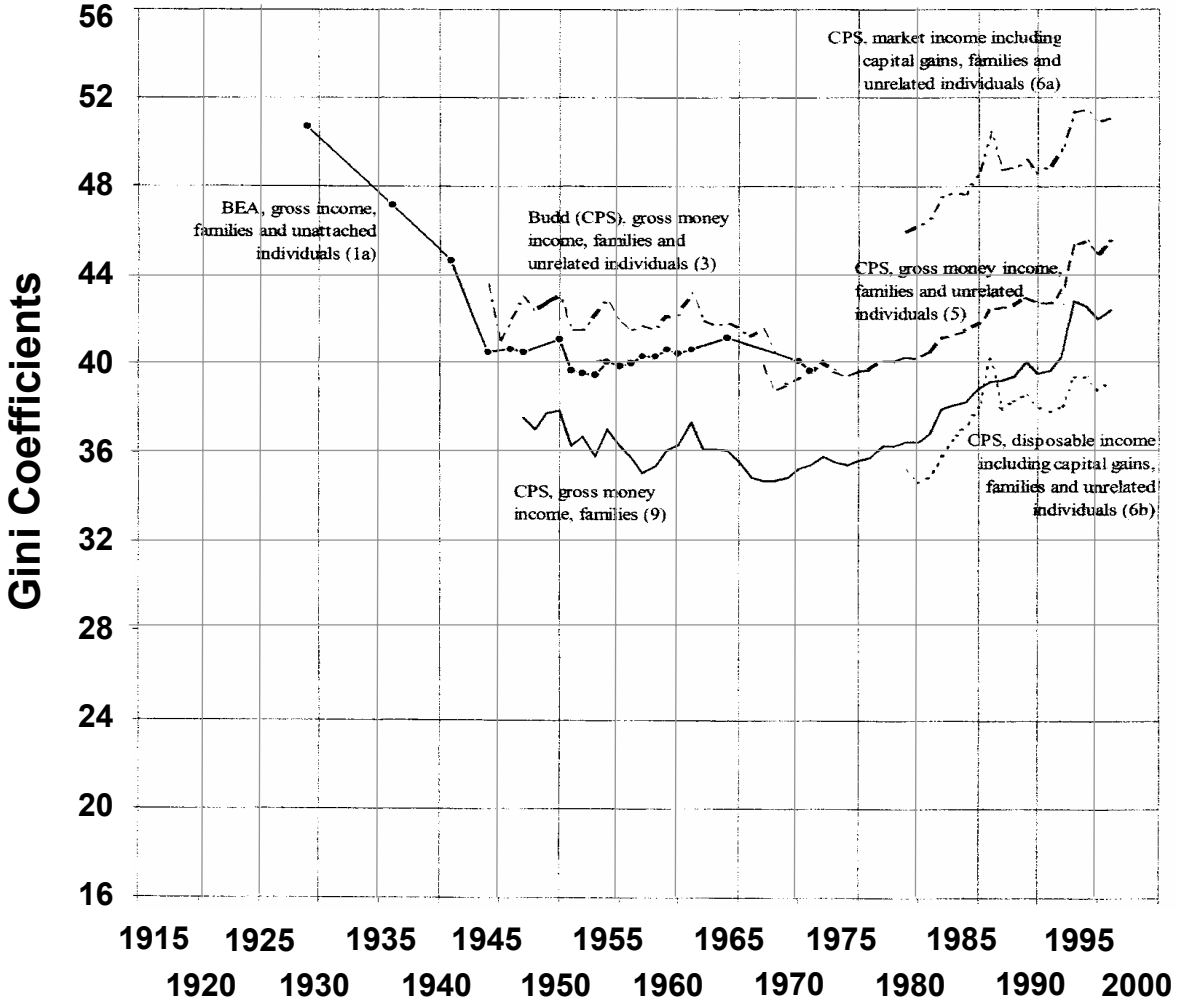



Fig. 6

Source: Brandolini (2002)

# INCOME SHARES (quintiles: 1985-1995)

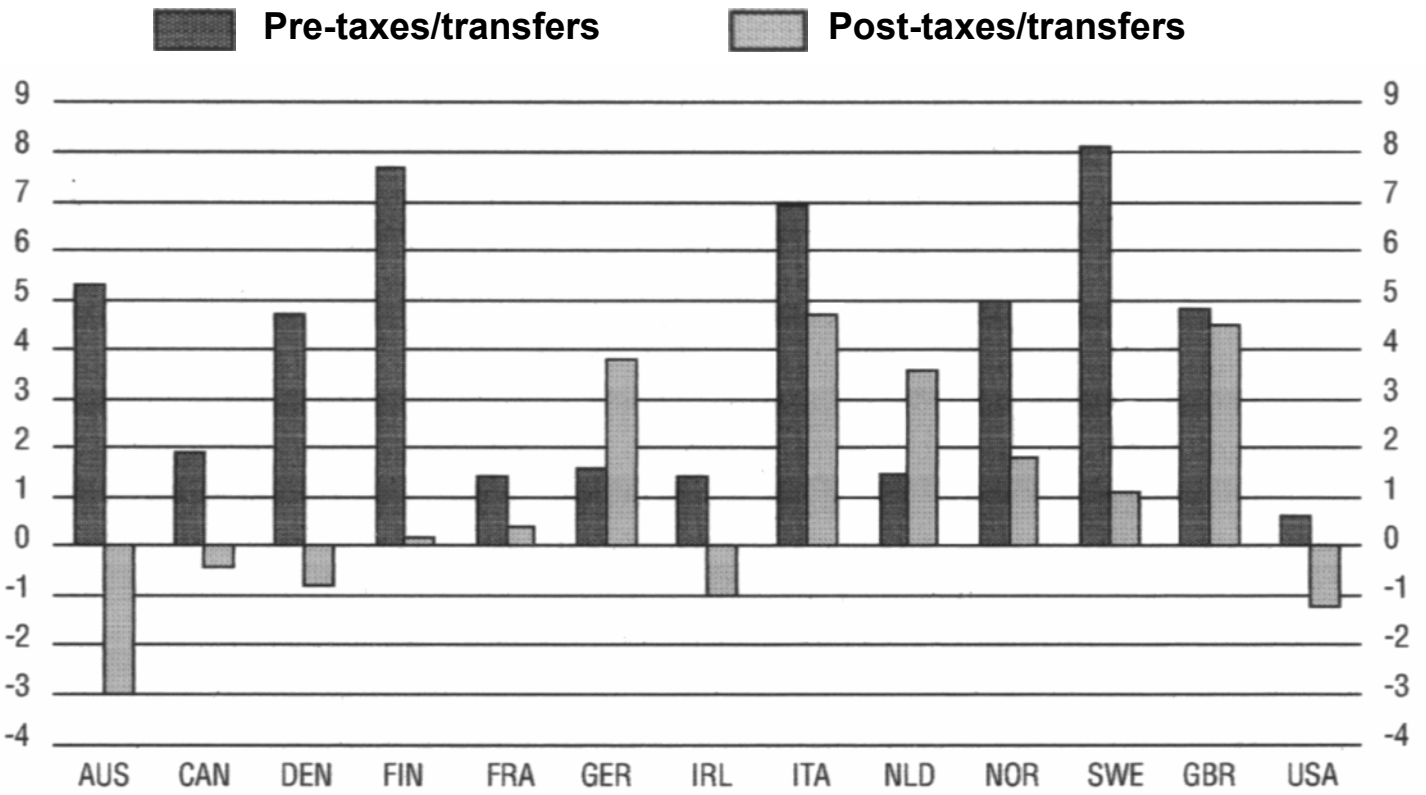
| | LOWEST INCOMES | AVERAGE INCOMES | HIGHEST INCOMES |
|---|---|---|---|
| | | | |
| AUSTRIA | = | = | = |
| BELGIUM | = | --- | +++ |
| CANADA | = | = | = |
| DENMARK | + | = | - |
| FINLAND | = | --- | +++ |
| FRANCE | = | - | + |
| GERMANY | - | = | + |
| GREECE | = | = | = |
| HUNGARY | + | = | = |
| IRELAND | + | = | = |
| ITALY | --- | - | +++ |
| JAPAN | - | = | + |
| MEXICO | = | --- | +++ |
| NETHERLAND | - | = | + |
| NORWAY | - | - | +++ |
| SWEDEN | - | = | + |
| TURKEY | - | --- | +++ |
| UK | - | - | + |
| USA | = | - | + |

| | |
|---|---|
| +++ | INCREASE > 1.5% |
| + | INCREASE BETWEEN 0.5 E 1.5% |
| = | CHANGE BETWEEN -0.5 E +0.5% |
| - | REDUCTION BETWEEN 0.5 E 1.5% |
| --- | REDUCTION > 1.5% |

Fig. 7

Source: OECD

# Rates of change of poverty (1985-1995)




**Poverty is defined as the number of people that receive less than 50% of the average income. Taxes include all direct income taxes, including the contributions for social security. Transfers include all the benefits deriving from money transfers.**

Fig. 8

Source: OECD

# KUZNETS Curve

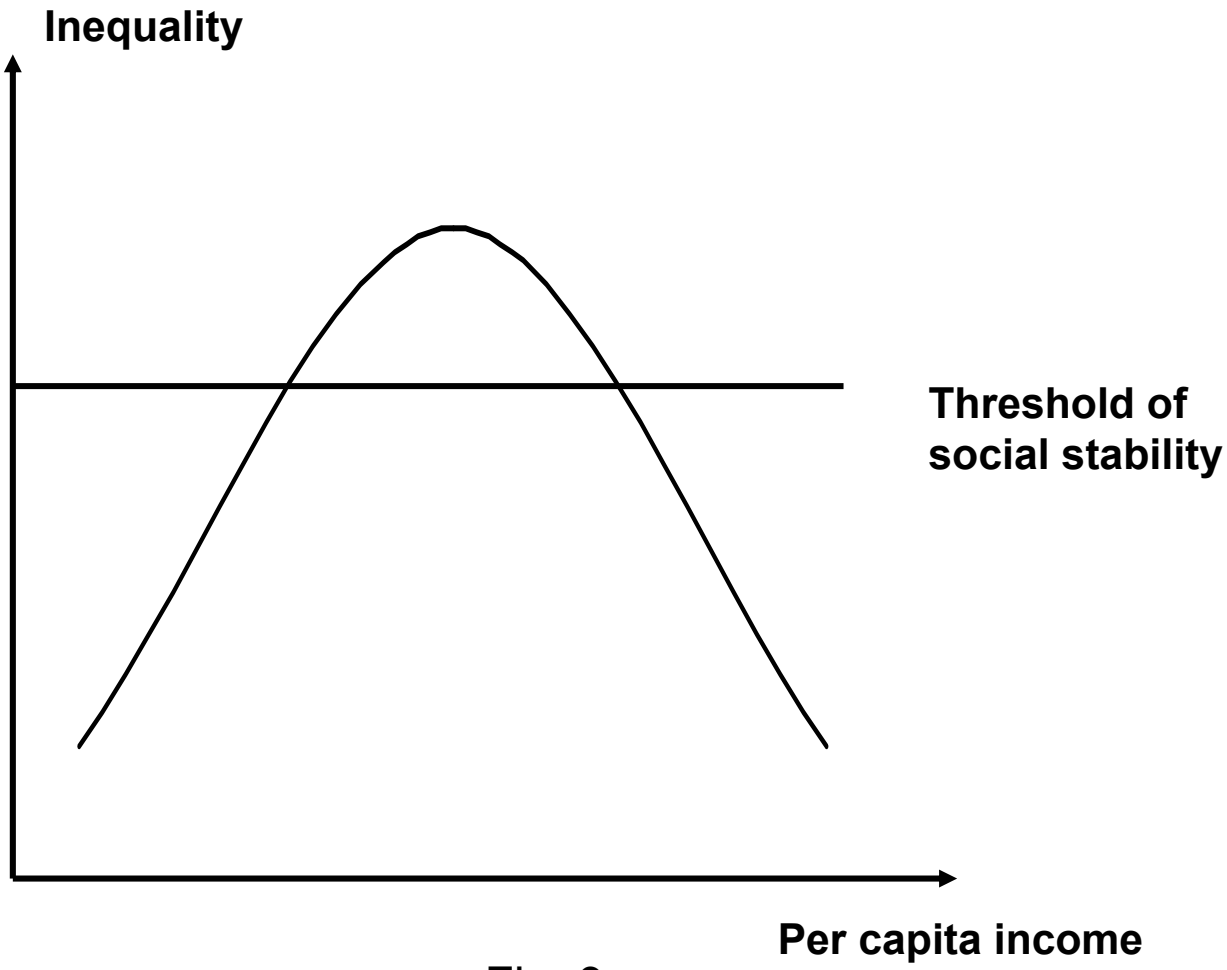



Fig. 9

# Poverty in the world (variations 1987-1998)

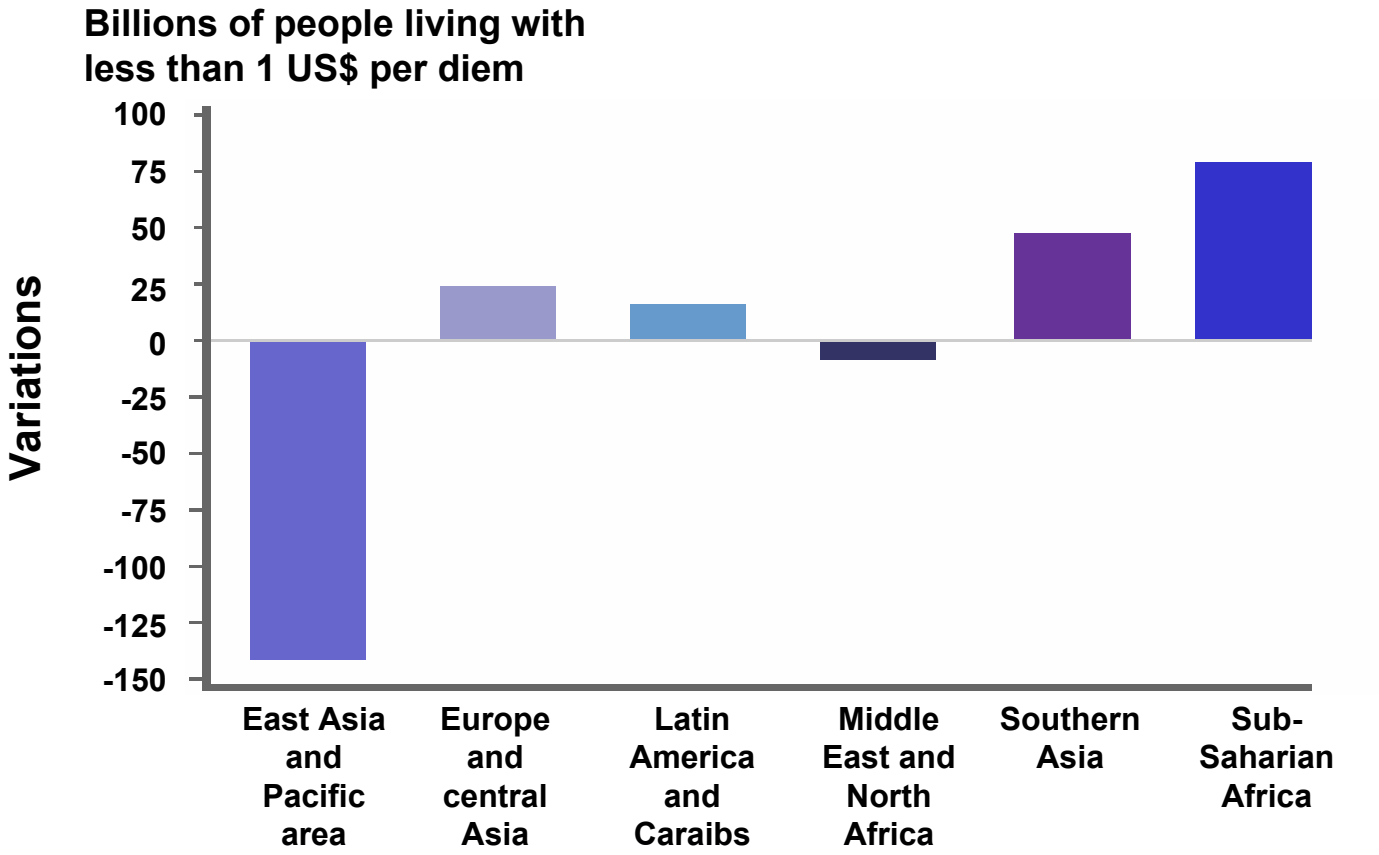



Fig. 10

Source: World Bank

# Environmental KUZNETS curve

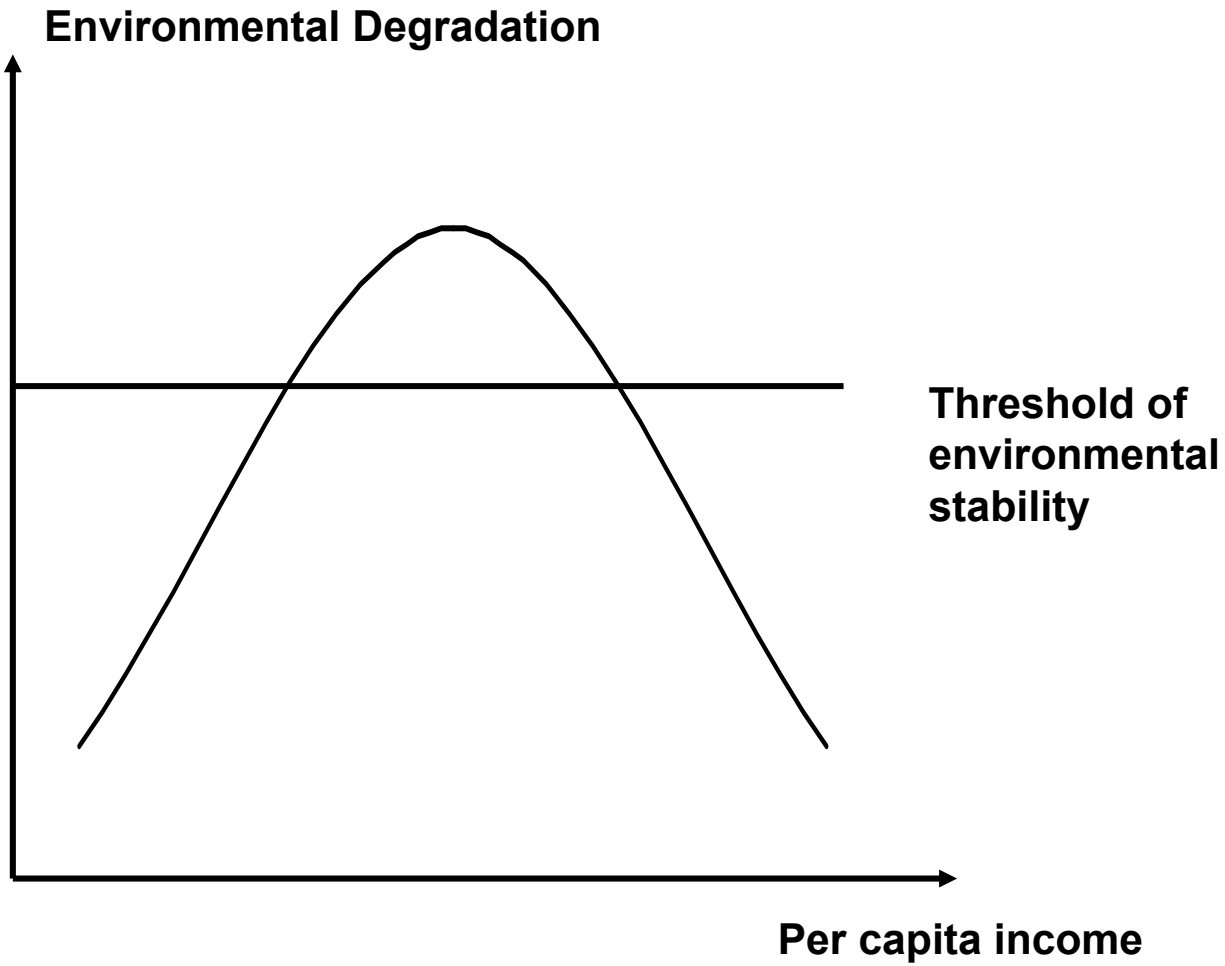



Fig. 11

# Environmental KUZNETS curve (Sulphur dioxide)

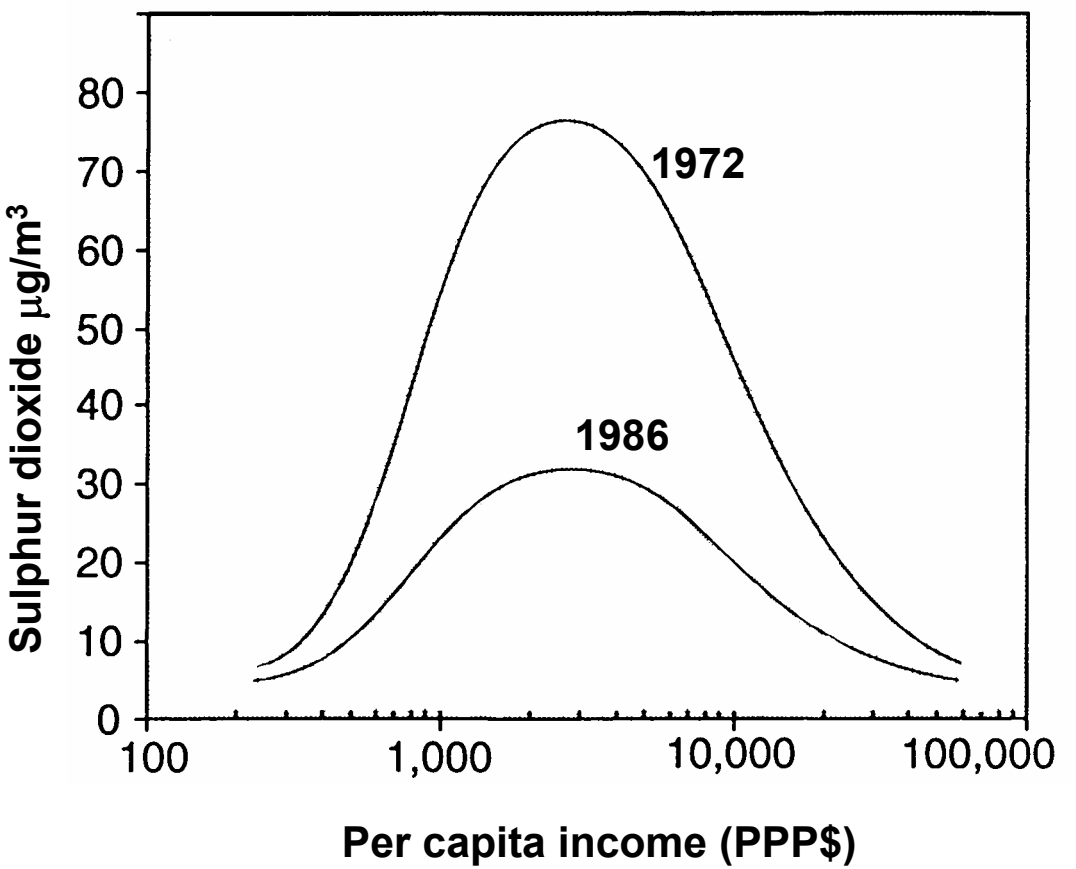



Fig. 12

Source: World Bank (1992); Shafik (1994)

# Environmental KUZNETS curve (particulates)

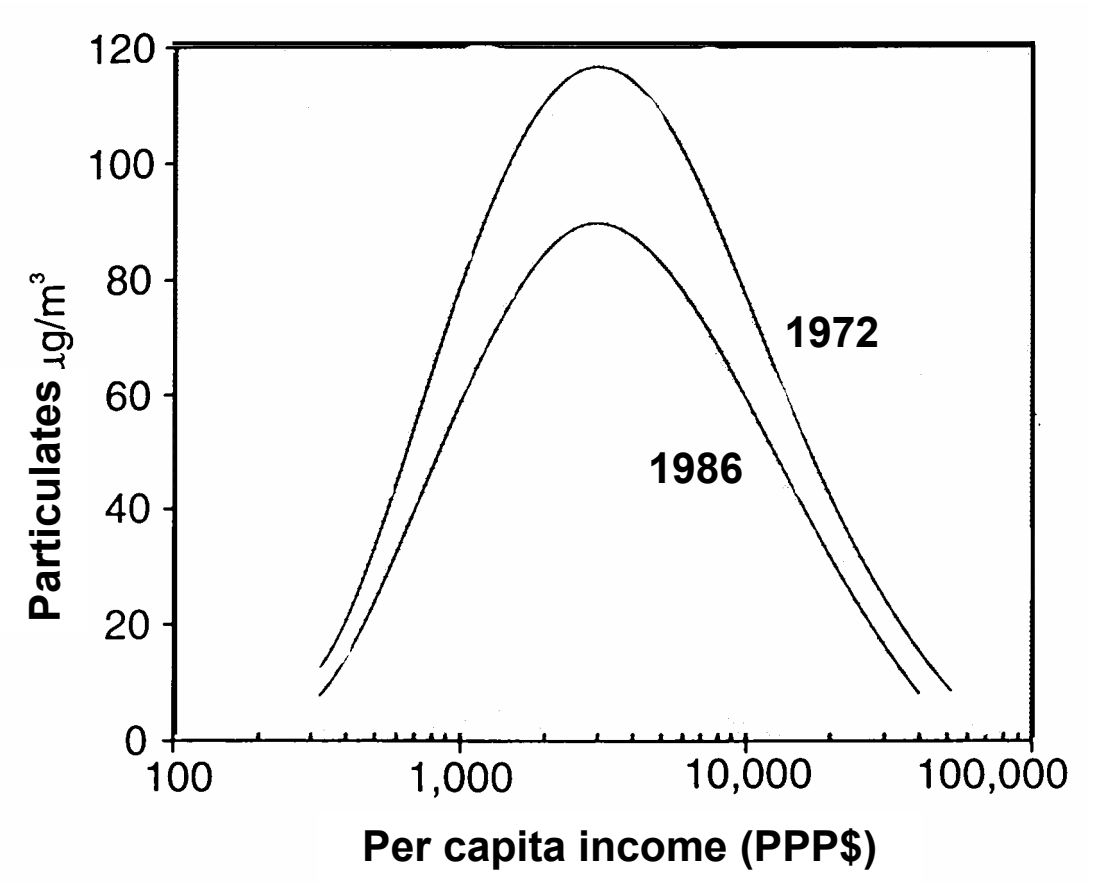



Fig. 13

Source: World Bank (1992); Shafik (1994)

# Environmental KUZNETS curve (coliforms)

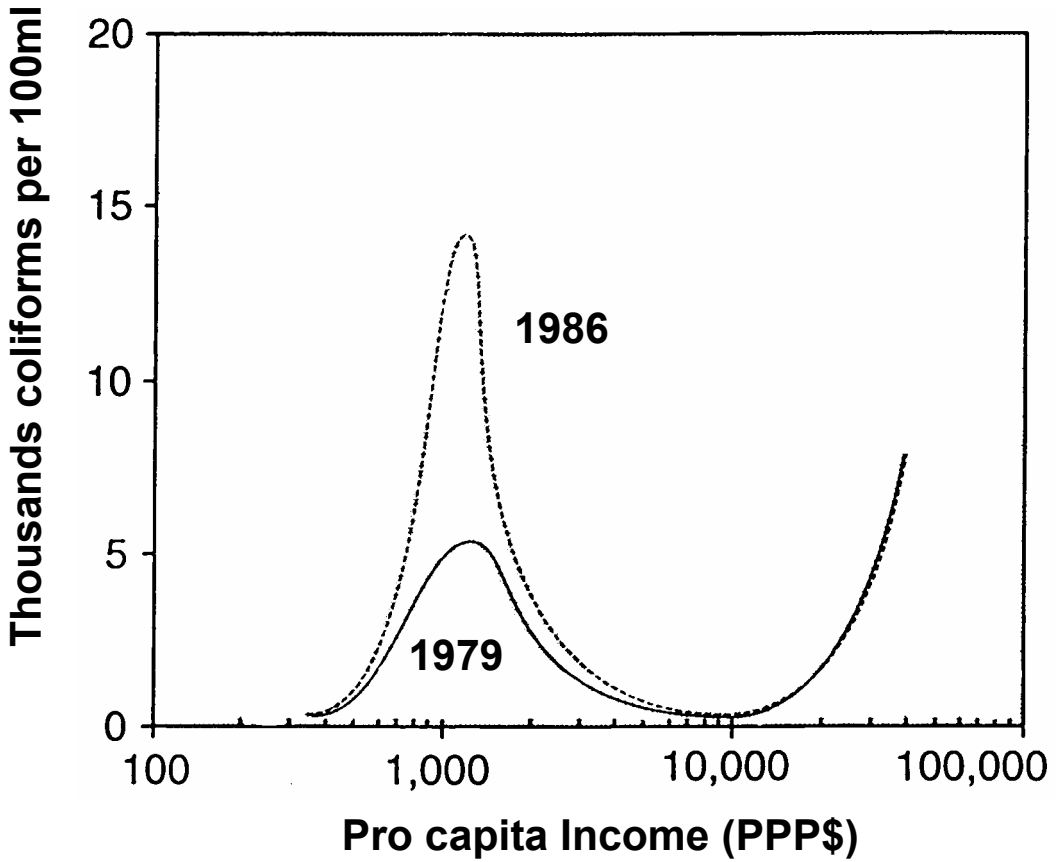



Fig. 14

Source: Shafik (1994)

# Dow Jones Indexes

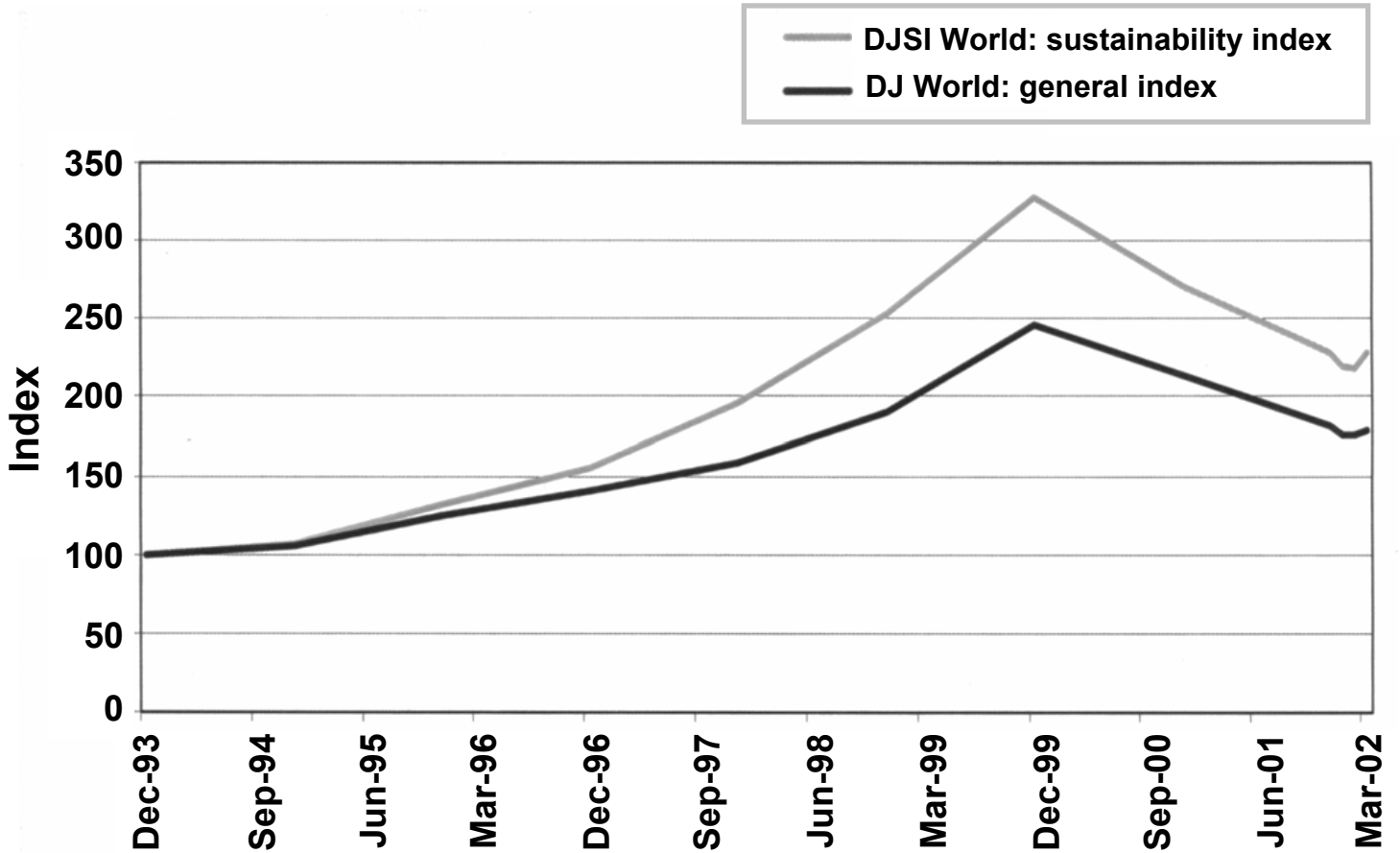



Fig. 15

Source:www.sustainability-index.com
Note: the values of the indexes (Total Returns) have been normalized to 100 (December 1993)