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## Sustainable development in a post Keynesian perspective: why eco-development is relevant to post Keynesian economics

**Abstract:** *While sustainable development is a unanimously accepted watchword today, the article aims to show that the post Keynesian school, although it did not emphasize environmental issues and sustainable development as such, has tools that make it relevant on this topic. Indeed, post Keynesian sustainable development can be close to Ignacy Sachs's eco-development, which is inspired by Michal Kalecki. Thus, post Keynesianism and eco-development share the same position related to economic growth. They meet, via the concept of radical uncertainty, on the importance of the precautionary principle. If the implications of the principle of effective demand seem to oppose them, these divergences can be easily overcome.*

**Key words:** *Sustainable development, eco-development, Kalecki, Keynes, post Keynesian*

**JEL classifications:** *B59, E12, O11*

Sustainable development is a notion that everyone accepts today. It guides many economic policies in both the developed and developing worlds and offers a roadmap for several international institutions, as witnessed by the widespread adoption of the Millennium Development Goals (MDGs) since 2000. At the same

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time, it is precisely because of this ostensible unanimity that the concept's exact meaning should be specified, to keep it from turning into yet another empty vessel.

After all, the biggest challenge of the twenty-first century will consist of promoting modes of development that are socially fair, ecologically sustainable, and economically viable. It is only possible to view the future optimistically if we can engineer a break with the neoliberal perspective that has dominated international relations for the past thirty years. Toward this end, we will demonstrate that post Keynesian thinking, despite having rarely focused on environmental (and more broadly, sustainable development) issues, possesses instruments that can turn it into a legitimate force in this domain.<sup>1</sup> This is because the post Keynesian vision has been developed in opposition to neoclassical theory.

John Maynard Keynes may have inspired this school but today's post Keynesians are also the heirs to Michal Kalecki, Nicholas Kaldor, Joan Robinson, Roy Harrod, and Piero Sraffa. Convergences exist with other heterodox schools as well, notably institutionalist economists who have drawn their strength from the work of Thorstein Veblen and John Kenneth Galbraith.

Based on this theoretical corpus, we want to demonstrate that sustainable development, when viewed through the prism of a post Keynesian paradigm, is comparable with eco-development, as it has been theorized by Ignacy Sachs (1980, 1997)—once a close colleague of Kalecki at the Warsaw School of Planning and Statistics—who recognizes his Kaleckian affiliation. However, and unlike Courvisanos (2012), the paper does not address how adoption of such a post Keynesian sustainable model can be achieved, leaving aside issues of political economy in implementing it. Nevertheless, we believe that the post Keynesian school and eco-development share the same vision of the role of economic growth and that they agree, through the concept of radical uncertainty, on the importance of the precautionary principle. Although they seem to

<sup>1</sup> Davidson (2002) reminds us that ecological concern or the economic implications of the depletion of resources have been significantly ignored and should be dealt with by the *Journal of Post Keynesian Economics*. For Robinson, "The consumption of resources, including air to breathe, has evidently impoverished the world" (1977, p. 1336), leading her to wonder "what is growth for?" (p. 1337). Another insight of the growing interest of post Keynesians in sustainability issues can be found in the second edition of John King's *The Elgar Companion to Post Keynesian Economics* (2012) where a sustainable development entry appears.

disagree on the principle of effective demand, we will discover that whatever divergence exists in this area can be easily surmounted. Before trying to reconcile eco-development and the post Keynesian school, however, it is worth revisiting the genesis of the concept of sustainable development along with eco-development's main characteristics.

### **A brief contemporary history of sustainable development**

The concept of sustainable development was popularized in the 1980s, notably following the 1987 publication of the findings of the World Commission on Environment and Development (WCED)—the famous Brundtland report—which came up with a definition that many people still use today: “Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future” (WCED, 1987, p. 40).

Interest in environmental issues has been growing since the late 1960s. An early example was work done by the Club of Rome, which published a report in 1972 (see Meadows et al., 1972). This text highlighted the ecological consequences of the Western model of development and demonstrated for the first time that there are natural limits to economic growth. It analyzed five variables—technology, population, food, natural resources, and the environment—and concluded that the only way to keep the world system from collapsing by the year 2000 would be to stop population and economic growth. That very same year, the first United Nations Conference on the Human Environment took place in Stockholm and definitively established the environment as an agenda item for the international community. This conference offered the world's developing countries an argument for exploring other modes of growth and ultimately gave birth to the construct of eco-development (see Sachs, 1980, 1997), which highlights principles such as fairness, the minimization of damage to natural systems, respect for different cultures, and socioeconomic planning. The 1974 Cocoyoc Declaration enhanced awareness of how difficult it will be, over the long run, to satisfy human needs in a distressed natural environment. By strengthening the concept of eco-development, it called for more radical solutions. The product of thinking undertaken during a conference of experts that the United Nations Environment Programme (UNEP) and the United Nations

Conference on Trade and Development (UNCTAD) organized at Cocoyoc in Mexico, the declaration stated in particular that: (1) the main problem hereto has not been the lack of physical resources in the absolute but a distribution and utilization of these resources that has been economically and socially wrong; (2) political leaders' mission should be to guide countries toward a new system that is more apt to respect the internal limitations of efforts to satisfy basic human needs without violating the external limitations associated with finite planetary resources and a fragile environment; (3) human beings have basic needs such as food, housing, clothing, health, and education. Any growth process that does not satisfy these needs (or even worse, harms people) makes a travesty of the idea of development; (4) we all need to redefine our objectives and seek new development strategies, new lifestyles, and notably for the wealthier among us, more modest modes of consumption (UNEP-UNCTAD, 1974).

This declaration—the most radical that the United Nations had ever produced in this field—provoked very strong reactions. Asking that the fight against underdevelopment include limits on wealthy countries' overdevelopment and encouraging developing countries to rely on their own strengths, trust themselves, and no longer depend on rich countries—(i.e., be self-reliant)—all provoked great enthusiasm that resonated further in a 1975 report by the Dag Hammarskjöld Foundation and in the creation of the International Foundation for Development Alternatives (IFDA).<sup>2</sup> It also provoked the ire of the U.S. administration, whose secretary of state at the time (Henry Kissinger) sharply criticized the UN and more or less ordered the UNEP to focus solely on the battle against pollution (see Sachs, 2007, p. 264).

The end result was the progressive marginalization of eco-development and its replacement by sustainable development. At the same time, behind the definitions aired in the Brundtland report, two visions of sustainable development continued to vie

<sup>2</sup>The body that would later become the IFDA began in 1971 at the Founex Symposium on Development and the Environment, the first stage on a path that would subsequently include the United Nations Conference on the Human Environment and Development in Stockholm (1972), the Cocoyoc conference on alternative resource usage models (1974) and the Dag Hammarskjöld report (1975). Legally, the foundation was established in 1976 and dissolved in 1995. All of the IFDA's published files can be found on the Dag Hammarskjöld Foundation Web site at [www.dhf.uu.se/ifda/](http://www.dhf.uu.se/ifda/).

with one another. The first was neoclassical in inspiration and served as the basis for weak sustainability. It tried, at the micro-economic level, to give monetary value to natural elements so that they could be integrated into a cost–benefit analysis. At the macro-economic level, it extended the Solow model and tried to build theoretical arguments justifying an empirical argument rooted in an allegedly virtuous relationship between economic growth and environmental quality (encapsulated in the Kuznets curve). It also tried to formulate a “sustainability rule” whereby the per capita value of the total stock of capital in a given society could only be maintained if one postulated perfect substitutability between the different forms of capital (physical, human, natural). The 1992 Rio Earth Summit—with its adoption of Agenda 21—and the 2002 Johannesburg Global Conference on Sustainable Development would both bolster this approach.<sup>3</sup> Similarly, the MDGs that the United Nations began promoting in 2000 reflected this (weak) vision of sustainable development, one defended by international institutions that continued to emphasise an economic approach rooted in the Washington consensus, a product of the neoliberal counterreform of the 1980s and 1990s (see Berr and Combarrous, 2007; Davidson, 2004; Williamson, 1990).

The second approach, which has come to form the basis of what might be called “strong sustainability,” is less focused on economic aspects alone and offers a more radical vision. Here, ecological sustainability postulates the preservation of a stock of so-called critical natural capital, rejecting the principle of the substitutability of production factors and emphasizing their complementarity instead. It disagrees with a monetary valuation of natural elements and tries to construct a new economy of well-being based on “ethical” values and the search for new measurements of wealth.<sup>4</sup> Social sustainability is grounded in the implementation of a development process that combines an acceptable level of social

<sup>3</sup> Vivien (2005) has noted that even if the Rio Declaration does include the precautionary principle, and therefore seeks to extend the Stockholm declaration, it seems like a step backward or certainly in a different direction. This is because the demographic issue is less central here, with references to nature and the depletion of natural resources almost entirely disappearing, along with the idea that planning might be used as a way of reconciling diverse objectives.

<sup>4</sup> Proponents of zero growth would go further still and seek an alternative to development, a concept they consider “toxic” because it leads to a loss of identity, cultural homogenization, and an alignment on Western values (see Latouche, 1993; Rist, 1997).

homogeneity, a fair distribution of incomes, and full employment with fair access to social services. Economic sustainability depends not only on a more efficient distribution and management of resources but also on a constant flow of both public and private investments destined to modernize the productive apparatus in an attempt to save on natural resources and alleviate human distress. It also supposes a certain amount of autonomy for scientific and technological research and accepts an integration of international markets without any denial of national sovereignty (see Sachs, 1997).

It seems clear that even if post Keynesians deserve to be present in the field of sustainable development, this can only happen in a framework of strong sustainability. Such an approach is the only one that explicitly breaks with neoclassical theory. It also returns to eco-development, as demonstrated below.

### **Return to eco-development**

Maurice Strong, secretary-general at the 1972 United Nations Conference on the Human Environment, was the first to coin the term “eco-development” that would serve as UNEP’s fundamental reference over the course of the 1970s, before being marginalized and replaced in the 1980s by the concept of sustainable development, which international institutions would come to understand in its weaker meaning. This rejection can be explained by the fact that eco-development, as noted in the 1974 Cocoyoc Declaration, is a radical project that proposes breaking with the neoliberal outlook that was so resurgent during the 1970s and that “triumphed” during the 1980s and 1990s. Fears that this might change the balance of power in the “world economy”—and in particular, that the Third World might be emancipated—led to the “defeat” of eco-development. What remains to be seen is why this project seemed so “subversive” to the world’s “power elite.”<sup>5</sup>

Developing a precise understanding of eco-development’s true meaning involves focusing on the writings of its main theoretician,

<sup>5</sup>We can define the “power elite” as groups that are in power and can influence public opinion. This puts together political leaders from the Global North and the Global South, as well as executives of major transnational firms and media outlets that are often owned by such firms.

Ignacy Sachs, Maurice Strong's secretary at the Stockholm and Rio conferences. Also noteworthy is Marc Nerfin, father of the IFDA and a man whose many texts helped to enrich this concept.

Sachs's starting point is to denounce "the wrong development of some so-called developed countries and the consequences for the rest of the world due to their domination, the existence of knock-on effects and a tendency to imitate this model" (Sachs, 1980, p. 15). This is a crisis that should raise questions about the nature of growth and the social and ecological conditions under which it might be considered acceptable. For Sachs, eco-development is in no way a theory but instead it is a philosophy—or ethos—of development that should be applied in both developed and developing countries. It therefore corresponds to a normative project. The wrong development that he observed is wasteful on two levels, both relating to a poor distribution of wealth. On one hand:

The rich over-consume and thereby use up most of the world's available resources; they do it through their very poor use of vast spaces of potential agricultural land. On the other hand, the poor under-consume and are forced by their own misery to over-use the few resources they can access. The battle against waste therefore appears to be inseparable from the fight against misery and a wrong management of the environment. (Sachs, 1980, p. 22)

There are two ways of understanding Sachs's complaints about waste. Viewed solely from a producer's perspective, waste arises in two situations: (1) when a poor choice of production techniques leads to the utilization of production factors in excess of what is strictly necessary; (2) when a product is selling poorly because there has been an inaccurate assessment of outlets. As noted by Sachs, however, because the ultimate goal of production is profit, people rarely focus on how consumers use the goods they acquire. And yet, waste should be defined according to a scale of values based on specific social objectives. Equipped with this framework, people can come to an opinion about constructs such as resource allocation. Thus, "We can say that waste exists any time that scarce resources are used to produce allegedly superfluous goods. Symmetrically, it also exists when abundant or potentially abundant resources are not being valued in terms of whether they involve the production of goods and services considered essential"



(Sachs, 1980, p. 20). We can already see how Sachs intends to give a “Kaleckian” orientation to the principle of effective demand since, unlike Keynes, Kalecki considers it indispensable that the state intervene in investment choices to ensure that they are geared toward the satisfaction of essential needs and the reduction of waste. This concept also indicates the need to revisit a logic that, as demonstrated by Kapp (1963), envisions firms wherever possible as entities that internalize profits and externalize social costs, and therefore regularly pillage natural resources.

In short, eco-development relies on three pillars (Sachs, 1980, p. 32): (1) *self-reliance*, which encourages autonomous decisions and the emergence of modes of alternative development encompassing the historical, cultural, and ecological contexts that are specific to each country; (2) a fair assessment of everyone’s essential material and immaterial needs, especially people’s need to realize themselves through a meaningful life;<sup>6</sup> (3) ecological prudence, or the search for a kind of development that is in harmony with nature.

The search for endogenous development—which is part of the self-reliance pillar—assumes that people abandon an imitative development strategy based on a Rostowian vision (Rostow, 1960) and where the irresponsible and undesirable ambition is to generalize the Western model of development worldwide. This is especially inappropriate given that this model, as we have seen, only benefits its promoters, the elite of the Global North and their Westernized allies in the Global South, while adding to the fragility of populations in the developing world and also, albeit to a lesser extent, in developed countries—while simultaneously increasing the pressure on nature.

Similarly, because only through a better distribution of wealth can everyone’s needs be satisfied, changes must be made to a balance of power that currently defends markets and transnational firms’

<sup>6</sup> As noted by Sachs, “Development is perceived far too often as a process contributing to all minimal material conditions of survival, expressed in terms of food, shelter, protection and health—plus education, described as a way to achieve these objectives. This vision is too restrictive since humans do not live from bread alone and their non-material needs must also be considered. Such needs include free access to culture, the possibility of exercising a creative activity in an appropriate work environment, friendship; and participation in public affairs” (Sachs, 1980, p. 68).

interest.<sup>7</sup> This reorganization of power is based on the assumption that the state can use indicative planning processes to establish certain objectives and guarantee their realization. It also assumes a reinforcement of civil society to ensure that the state continues to protect the general interest.<sup>8</sup>

Finally, according to Sachs, respecting nature does not deny growth. Eco-development defined in this way is “equidistant from the abusive economism that does not hesitate to destroy nature in the name of immediate economic profit, and the no less excessive ecologism that views the conservation of nature as an absolute, to the point of sacrificing the interests of humanity and rejecting anthropocentrism” (Sachs, 1980, p. 32). Kalecki’s growth theory offers a solid foundation for this approach.

### The role of economic growth

Post Keynesian economists, like proponents of eco-development, consider growth to be a necessary but insufficient condition for development. However, to ensure that growth does not lead to

<sup>7</sup>Sachs has stressed the need “to be clear-minded and honest about dependency relationships to keep future analysis of cooperation and interdependency from starting with the premise that transparent relations between equal nations and peoples have ever existed. To various degrees and in various forms, many third world countries’ dependency on more developed nations can still be witnessed in unfair trade, technological servitude, the monetary system, investments, poor or bad industrialisation, media and communications emphasising the dominant perspective, etc.... Thus, whether via multinational firms or other major transnational systems, we still witness increased internationalisation of the most advanced productive system, one that benefits a space catering to private and/or privileged interests, rooted in the privatisation of benefits and advantages and the socialisation of costs. This happens at the level of each country suffering the social and human consequences of having been subjected to a technical-commercial system dominated by external forces; and at the level of the planet as a whole, which is ultimately affected in a variety of important environmental dimensions.... The main material and political-economic imbalances in today’s world stem largely from the great technological powers’ uncontrolled and irresponsible utilisation of resources; the unlimited desire for power of privileged groups that already monopolise resources; and the functioning of today’s technical-industrial-commercial system” (Sachs, 1980, pp. 125–126).

<sup>8</sup>Generally, institutional and power questions are key to all development processes, as demonstrated by Galbraith (1984). Kalecki (1943, 1964, 1966, 1971) also viewed all social progress as being conditioned by major institutional change, thus by alterations in the balance of power between dominant and dominated actors in a way favoring the latter. Godard (1998) emphasized the importance of civil society (defined as all of the organizations depending on neither the state, the market, nor business circles) and planners as the fulcrums of eco-development.

unsustainable development, two questions must be answered: (1) What is supposed to grow? (2) How can we ensure that the wealth produced benefits the whole population fairly?

Economic growth does not appear to be, as neoclassical thinkers would have it, the solution to all problems. Nor is it the cause of all problems, as the proponents of zero growth would have us believe. Some post Keynesians may be reluctant to adopt this view (Jespersen, 2004) but for proponents of strong sustainability it is seen as a way of satisfying essential material and immaterial needs without damaging the environment.<sup>9</sup> Thus, the question of the distribution of wealth cannot be dissociated from that of growth.

Kalecki's (1968) growth theory can be adopted in this framework. Although the construct was developed under the aegis of a socialist economy, Kalecki (1970) has recognized that it can also be applied in capitalist economies as long as certain coefficients are interpreted differently. This is based on the following equation:

$$r = \frac{i}{k} - a + u, \quad (1)$$

where  $r$  is the growth rate,  $i$  is the share of investment in the national income,  $k$  is the coefficient of capital,  $a$  is the capital depreciation coefficient (which can be interpreted as economic obsolescence), and  $u$  is the coefficient for a better utilization of the productive apparatus, notably "due to improvements in the organisation of labour, more economical use of raw materials, elimination of faulty products, etc." (Kalecki, 1968, p. 16). In a socialist economy, if  $a$  is positive, planners can adjust this by choosing certain production techniques, and specifically by emphasizing those that are more labor-intensive, to try to achieve full employment, a key goal for Kalecki. The  $u$  coefficient is also positive thanks to learning effects, organizational progress, and ensuing resource saving (see Kalecki, 1970; Sachs, 1999). In a capitalist economy, competition leads to higher  $a$  and an acceleration in Schumpeterian "creative destruction" or to an increase of Keynes's user cost under the influence of accelerated economic

<sup>9</sup>In growth terms, however, there is no basic divergence between eco-development and strong sustainability. For instance, Godard has noted that "For proponents of eco-development, it is only after a period of transition leading to a reduction in international development inequalities that the question of a material limitation of global growth can be envisaged" (Godard, 1998, p. 223). This position is close to the one defended by the proponents of strong sustainability.

obsolescence—something that most post Keynesians view as the origin of the crisis in the capitalist system. The  $u$  coefficient depends on effective demand and can be given a negative value if pessimistic expectations cause an underutilization of the productive apparatus.

Thus, it seems that an acceleration in  $a$  hinders growth but has a negative effect on the environment by intensifying pressure on (and wasting) natural resources, largely due to a competition effect. What remains unknown is the effect that the search for technological progress has on growth because of the high probability that this will diminish  $k$ , and potentially increase  $i$ .

Greater instability, notably relating to employment, helps to create a pessimistic economic environment that weakens the level of effective demand. This instability, resulting from growing uncertainty, causes a fall in  $u$  that is damaging to growth.<sup>10</sup>

Conversely, according to Keynesian precepts, an optimistic vision of the future would lead to favorable expectations that generate, in turn, increased investment, thus higher  $u$ , and lower unemployment—all of which encourages growth. It remains that higher  $u$  can also damage the environment, depending on the kind of investment chosen.<sup>11</sup> For Kalecki, who differs from Keynes on this point, it is indispensable that the state has a say both in orienting investment and in ensuring that, wherever possible, labor-intensive production techniques be used to encourage employment. We can also add today that the state should try to prevent excessive pressure on the environment and the kind of perverse growth (see Kalecki and Sachs, 1966) in which production is driven by nonessential goods that throw the economy off balance

<sup>10</sup>Note that the “power elite” frequently orchestrate this instability consciously, and that it often turns out to be a smokescreen that—because it penalizes growth—helps them to demand greater sacrifices from the rest of the population, thereby exacerbating inequalities (see Kalecki, 1943).

<sup>11</sup>Courvisanos (2012) develops an “eco-sustainable framework,” that is, an innovation and investment policy framework for sustainable development. This framework, borrowing from Lowe and Kalecki, has three main elements that drive innovation and investment: “(1) Agreed ecological sustainable rules (or conventions), including for capital investment that is resource-saving with long term sustainable carrying capacities (precautionary principle under fundamental uncertainty); (2) Perspective planning with flexible risk-adverse investment strategy (satisficing principle under iterative strategic planning of innovation and investment); (3) Cumulative effective demand with strong local niche market share for environmental-based goods and services (demand-oriented stimulus and support” (Courvisanos, 2012, p. 207).

and trigger the sort of short-term growth that undermines long-term growth prospects. In this latter instance, investment mobilizes capital goods even though intermediary goods and staples are lacking and therefore cannot enhance production capacities for goods considered more useful to development.

Kalecki (1968) uses a second equation that helps him to approximate the growth rate:

$$r = \alpha + \varepsilon, \quad (2)$$

where  $\alpha$  is the labor productivity growth rate resulting from technological progress and  $\varepsilon$  is the employment growth rate. Thus, contrary to what neoclassical theorists believe, it seems that employment encourages growth and not the other way around.

As demonstrated by Sachs (1999), Equation (2) can be used to define two main growth trajectories. Intensive growth is entirely driven by the rise in  $\alpha$  and does not lead to any job creation (where  $\varepsilon = 0$ ). We can even highlight an extreme case in which technological progress is accompanied by lower employment, something that can be associated with perverse growth. To avoid this, Sachs judges that:

Without addressing the root problem and strongly reducing working hours while re-distributing the total volume of work between all interested parties, there is a strong risk of ending up with ... a real apartheid economy, characterised by the existence of an increasingly productive minority versus a majority of persons who will be marginalised and either looked after by the Welfare State, in the charitable view, or else imprisoned behind barbed wire. (Sachs, 1980, p. 133)<sup>12</sup>

<sup>12</sup> Similarly, Keynes considered that what he called technological employment, “due to our discovery of means of economising the use of labour outrunning the pace at which we can find new uses for labour” (Keynes, 1930, p. 325), must reduce everyone’s burden and lead to a sharing of work so that people can devote time to noneconomic activities as well. We should note, nevertheless, that Keynes’s *General Theory* seems less enthusiastic about this, insofar as he considered working hour reduction policies to be premature, even if he did not reject them formally (see Keynes, 1936). On the other hand, Sachs has argued that “Shorter working hours would leave more time for self-production within domestic and communitarian sectors and outside of the market for good and services. Above all, it would mean more time for cultural activities, games and socialising” (Sachs, 1980, p. 136).

The point here is not to refuse technological progress but to turn it into a tool that helps to satisfy essential human needs while protecting the environment—an outcome that will require greater control over the substance of  $\alpha$ . For Sachs, “The solution will also involve enforcing a rigorous social control of the directions that this technological progress takes, enabling future societies to benefit from scientific discoveries without being dominated by a kind of technological progress that is assessed solely in terms of its contribution to economic accumulation” (Sachs, 1980, p. 133).

Extensive growth is driven by rising employment. In a situation where falling  $\varepsilon$  leads to lower  $\alpha$ , what is being witnessed is a rise in the number of nonproductive and even fictional jobs.

In sum, it appears that regardless of the trajectory being followed, higher labor productivity can be conducive to growth as well as to higher living standards. Toward this end, it is imperative that any productivity gains be distributed fairly, demonstrating that growth and distribution cannot be dissociated. For this to occur, however, state intervention appears to be indispensable, both to set limits and to establish a long-term vision that will help to reduce general uncertainty.

### **Radical uncertainty and the precautionary principle**

In Keynes’s own opinion, the principle of effective demand represents the crux of his *General Theory* of employment. This principle derives from the notion of uncertainty that underlies all of Keynes’s economic philosophy and is a forerunner of the precautionary principle.

### **The role of uncertainty for Keynes**

The notion of uncertainty is key to Keynes’s analysis and one of the pillars of his “revolution.”<sup>13</sup> Keynes (1938) would later say that his opinions in this area had been strongly influenced by the philosophy of George Moore whose *Principia Ethica* (1903) deeply marked him. Besides, this influence will be found in his *Treatise on Probability* (1921) and later in his *General Theory* (1936).

<sup>13</sup>This paragraph owes a great deal to Dostaler (2007). Berr (2009) offers an in-depth presentation of possible links between Keynes’s thinking and sustainable development.

Moore tried to determine what is good and how people can do good things. Since he considered that good can at best be defined intuitively, he deduced that the best things imaginable are states of mind associated with aesthetic pleasure and the appreciation of beautiful objects, on one hand, and with personal affection, on the other. Given how difficult it is to apprehend what is good, Moore believed that we never have any reason to imagine that an action is our obligation; and we can never be sure that an action will produce the greatest possible value. Since we are unable to predict the effects of our actions with any certainty (insofar as there is no probabilistic basis for this), we have to rely instead on a certain number of traditions, rules of conduct, dominant morality, and common sense.

Keynes would embrace Moore's "religion," which allowed him to abandon the Benthamian utilitarianism that he considered "as the worm which has been gnawing at the insides of modern civilisation and is responsible for its present moral decay" (Keynes, 1938, p. 445). It also meant that he viewed economic values, thus the principle of rationality, as being of secondary importance.<sup>14</sup> Finally, Keynes would draw from Moore the idea that we live in a world that is by and large nonprobabilistic. As demonstrated by Moore, because good cannot be defined—since its definition would assume that we know what it is—the logical deduction is that we can never be sure of the positive or negative effects of our decisions. This rips a huge hole in neoclassical logic,<sup>15</sup> because probabilities are based on Bernoulli's law of large numbers and do not apply in an economic concept requiring the recurrence of facts. Thus, between two situations  $x$  and  $y$ , even if the first has a probability of occurring 100 times more often than the second, it is still possible that the second or even an entirely different situation can arise. In Keynes's opinion, it is essential that people reason in a universe of radical uncertainty or in one where "there is no scientific basis on which to form any calculable probability whatever. We simply do not know" (Keynes, 1937, p. 114).

Since action is needed, what is required is a new logic to orient actors' decisions. According to Keynes, decisions must be rooted

<sup>14</sup> Keynes believed that "the attribution of rationality to human nature, instead of enriching it, now seems to me to have impoverished it. It ignored certain powerful and valuable springs of feeling" (Keynes, 1938, p. 448).

<sup>15</sup> "All these pretty, polite techniques, made for a well-panelled board room and a nicely regulated market, are liable to collapse" (Keynes, 1937, p. 115).

in expectations of conventional behavior.<sup>16</sup> The problem, however, is that the foundations underlying such expectations are not particularly solid. In other words, Keynes felt that economic agents<sup>17</sup> are guided both by facts that they feel relatively sure about<sup>18</sup>—even if the effects are not the most significant—and by the degree of confidence they have in such facts.<sup>19</sup>

The adoption of this convention is what enabled Keynes to reject Moore's conclusions that actions must be guided by traditional morality. Instead, he described a conventional way of generating situations in which rumor, fear, disillusion or, to the contrary, hope—all elements that cannot be probabilized—might cause sudden and sharp revisions in people's expectations and create self-fulfilling prophecies whose great variability explains, according to Keynes, the appearance of crises.

### From uncertainty to the precautionary principle

This convention, as defined by Keynes, makes it easier to understand our attitudes toward the environment. A number of scientific studies have demonstrated that the Western model of development is unsustainable over the long run, and that rising pollution will cause major climate change. Yet, even if we are certain that such change will occur, the fact that we are uncertain what form it will take (or, in Keynes's words, that our confidence is limited) means that we do not fully understand the gravity of this problem—showing that in this area what is most important is not to know

<sup>16</sup> These expectations fall into two groups: the first type (short-term expectation) "is concerned with the price which a manufacturer can expect to get for his 'finished' output at the time when he commits himself to starting the process which will produce it" (Keynes, 1936, p. 46); the second type (long-term expectation) "is concerned with what the entrepreneur can hope to earn in the shape of future returns if he purchases (or, perhaps, manufactures) 'finished' output as an addition to this capital equipment" (Keynes, 1936, p. 47).

<sup>17</sup> With his theory of effective demand, Keynes attached particular significance to entrepreneurs' expectations (see Keynes, 1936, ch. 12).

<sup>18</sup> Which is why "the facts of the existing situation enter, in a sense disproportionately, into the formation of our long-term expectations; our usual practice being to take the existing situation and to project it into the future, modified only to the extent that we have more or less definite reasons for expecting changes" (Keynes, 1936, p. 148).

<sup>19</sup> Thus, "if we expect large changes but are very uncertain as to what precise form these changes will take, then our confidence will be weak" (Keynes, 1936, p. 148).



that changes are definitely going to occur but to simply believe that they may arise one day.

It remains that these new ecological circumstances, which as risks relating to our environment become increasingly visible have turned into an increasingly important component of actors' expectations, should normally induce us to adopt a more prudent attitude. If we consider, as per Keynes's thinking, that economic questions are secondary and that we live in a world of radical uncertainty, what we need to promote is a precautionary principle (PP). This construct, which appeared for the first time in Germany in the late 1960s, has been consecrated in numerous international texts. An example is Principle 15 found in the Rio Declaration on Environment and Development, which contains the following definition: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (United Nations, 1993, p. 6).

The precautionary principle is related to two antagonistic concepts. The first, which is a kind of weak PP, considers that the burden of proving the existence of danger falls on the opponents to a given measure. The end result is that risk management should be rooted in a cost-benefits analysis that endorses the primacy of economic thinking because economic gains are easier to highlight than human and ecological costs. The second concept, which is a kind of strong PP, considers that it is up to the promoters of a risky activity to demonstrate the absence of any "serious" risk. In line with Jonas (1984), this approach considers that environmental (and social) considerations are more important than economic ones. It is a vision that does not undermine the Keynesian notion of the primacy of investment but does ask questions about the investments' substance (see Robinson, 1977). This intimates a greater role for the state, which (notably using its lawmaking capabilities) can try to motivate firms to adopt an ethical stance and commit to "clean" investments. Kalecki went further by considering that the state must be both the planner and promoter of development, even the producer if need be. In this view, it is up to the state to indicate development priorities and ensure that needed investments take place. In turn, this implies the use of a certain form of planning (see Kalecki, 1964; Sachs, 1999).

All in all, it is evident that post Keynesian analysis of radical uncertainty leads to the adoption of a precautionary principle, and that this vision is perfectly compatible with eco-development's desire for reasonable and prudent analysis.

### The role of effective demand

The principle of effective demand is the first of two main features of the post Keynesian school—the second one is the use of historical time dynamics. This highlights the fact that modern capitalist economies are marked by the coexistence of an underemployed workforce and excessive production capacities. By excluding any notion of scarcity, Keynes—and post Keynesians in his wake—considers that both short- and long-term demand should be highlighted. An approach of this kind would appear to contradict eco-development, and more generally, sustainable development because, by refusing to distinguish between physical and natural capital, it intimates that the latter is also overabundant insofar as it has not been used in its entirety. At the same time, post Keynesians are very aware of environmental problems and even if they have not contributed much in this area (see Berr, 2009) the elements that they do propose mesh with sustainable development analyses and contrast with the neo-classical approach. Bird (1982), for instance, stresses intergenerational solidarity as well as the insurmountable nature of the ecological constraint—something that causes post Keynesians to reject the principle of the substitutability of production factors and to highlight a kind of complementarity that meshes well with the notion of a reasonable management of natural resources (see Holt, 2005; Jespersen, 2004; Lavoie, 2005). For post Keynesians, any actions undertaken today have effects tomorrow, not only on people but also on the biosphere.<sup>20</sup> They therefore consider that simple cost–benefit analysis is fundamentally inoperative in this area. In a world marked by uncertainty, calculating on the basis of future generations' preferences is an absurdity that undermines the accuracy of any actualization efforts (see Bird, 1982; Brown and Shaw, 1983).

Kalecki (1966) has noted that in the case of developing economies, demand is not the only constraint that needs to be regulated.

<sup>20</sup> Lavoie (2006) has estimated that post Keynesian research can be associated with analyses developed by Georgescu-Roegen (1971), one of the main promoters of sustainable development.

The main problem in these countries is that productive capacities are insufficient, not that they are underused. Hence the need to increase investment, not to raise effective demand but to enhance productive potential and generate economic growth.<sup>21</sup> Here we find an idea—first developed by Kalecki and later supported by Sachs—that growth will not be the enemy of development as long as it is accompanied by a redistribution of wealth favorable to the least advantaged social classes, and also by a prudent management of natural resources.<sup>22</sup>

Kalecki (1966) has also noted that with increasing living standards in developed countries, populations are less and less inclined to question a system that fights unemployment by wasting resources. Hence the need for the state—but also civil society—to get involved in redirecting the economy toward a more sustainable development path. Because they want to correct market imperfections, post Keynesians agree on the need to resort to a certain form of planning. Their approach to the environment is instrumentalist in nature and includes targets that can be achieved via planning while focusing more closely on the social consequences of the distribution of wealth associated with this process (see Brown and Shaw, 1983).

Eco-development seeks to modify the relationships between state, market, and civil society to the benefit of the latter. The purpose is not to abandon the market or overemphasize the role of the state. This is a framework where the planner's role is to negotiate with different parties and devise an acceptable common position. However, to be effective, planners must pay attention to the diversity of situations encountered and compile maximum information, something that assumes the largest possible participation of local populations so that their problems and needs can be

<sup>21</sup> Jespersen (2004) has confirmed this perspective by noting that goods are currently being produced not because they are necessary but because their production helps in the battle against unemployment. In our opinion, however, the battle against unemployment and the satisfaction of essential needs are perfectly complementary objectives, whose realization must result from a development plan that the state formulates under civil society control.

<sup>22</sup> As noted by Sachs, today, “Conservative dynamism makes us believe that the solution to all problems consists of fleeing ahead, i.e., of doing more of the same thing, as if economic growth by itself suffices to solve all problems, independently of how such growth is achieved, who benefits from it (or must make sacrifices because of it) and/or its substance or social and environmental price on a national or global scale” (Sachs, 1980, pp. 130–131).

identified—along with the potential of the local natural environment (see Godard, 1998; Sachs, 1980).<sup>23</sup>

It therefore appears that the contradiction noted at the beginning of this section between the post Keynesian and eco-development visions of effective demand is at most relative and can be easily overcome.

## Conclusion

Today there is no doubt that post Keynesians have solid arguments qualifying them to enter the field of sustainable development and to participate in the preparation of models that offer an alternative to the orthodoxy built on a Eurocentric and linear vision of development. The links between uncertainty and the precautionary principle, a kind of growth that will bring about a better distribution of wealth, and a renovated principle of effective demand are at the heart of the post Keynesian vision of sustainable development and should help to make eco-development a more operative philosophy. It will take time to forget the idea of the obligatory superiority of a Western development model such as the one that has been proposed for the past few decades (and centuries) but it is indispensable that alternatives be constructed.

Clearly, useful work has already been done in this area and synergies have started to appear. One example is the theory of consumption that Lavoie (2005) has proposed and set within a sustainable framework. A mini-symposium organized in Kansas City in 2004 during the biannual conference of the Post Keynesian School (see Courvisanos, 2005; Holt, 2005; Mearman, 2005a, 2005b) also confirmed the existence of crossovers with other heterodox schools, notably ecological economics (see Gowdy, 1991; Holt et al., 2009).

The interlinkage between the social and ecological dimensions of sustainable development requires more or less radical institutional change to ensure greater fairness, whether on an intra- or intergenerational basis. Hence the need for greater openness toward institutionalism, particularly the kind promoted by Veblen,

<sup>23</sup> For Sachs, “Eco-development postulates a research effort implementing all of the possibilities of modern science in an attempt to satisfy the real needs of the population, based on the potential of the resources found in the environment” (Sachs, 1980, p. 33).

Commons, and Galbraith.<sup>24</sup> Along these lines, an analytical grid highlighting power relationships, as formulated by Galbraith (1984) or Boulding (1989), would be very useful and help to highlight the institutional obstacles that must be overcome, insofar as the application of new ideas is far too often constrained by the fact that they may not serve the interests of those who have the power to change things.<sup>25</sup> It remains that the challenges inherent to building a sustainable political economy are unquestionably worth the effort.

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<sup>24</sup> By viewing the environment as regulation theory's sixth institutional form, Zuideau (2007) is also situated within this sustainable development perspective.

<sup>25</sup> Keynes agrees with this position in the final chapter of his *General Theory* when he refers to the possibility that his ideas could in fact be implemented one day: "Are the interests which they will thwart stronger and more obvious than those which they will serve?" (Keynes, 1936, p. 383).

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