

Backcasting for sustainable employment (Article, Review, Communication, etc.)

Backcasting for sustainable employment: A Hungarian experience

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Abstract: Sustainability and employment are terms seldom used together. Sustainability is more often than not only understood in terms of environmental issues while the protection of the environment is not necessarily seen as an important driver of higher employment. However, by examining the issue more thoroughly and questioning some of the assumptions of the current paradigms, it is possible to reveal a deep connection between sustainability, stable employment and the well being of humans and social communities alike. This paper attempts to show that by looking beyond the horizon of our habitual way of thinking one may find potential solutions to a multiple of questions of how sustainability and stable employment can mutually reinforce each other. In order to be able to find adequate technique to ‘think out of the box’, our paper presents an unusual methodological approach, namely backcasting, in relation with the topic of sustainable employment. The results of a concrete Hungarian backcasting experiment demonstrates how the backcasting approach can indeed be used to involve stakeholders creating a normative vision of the future and identifying the necessary policy steps to reach the set goals.

Keywords: backcasting, ecological modernization, Hungary, sustainable employment, transition management, radical change paradigm

1. Introduction

In political and policy rhetoric, the term ‘sustainability’ has become commonplace. Existing strategic policy documents, both at member state and EU levels, as well as public speeches are inundated with goals of establishing a transition to a sustainable society, including the objective of ‘green growth’ in employment. Even though “sustainable employment” as a phrase hardly ever occurs, the attractive assumption that greening our economy will create, rather than destroy, jobs, as we define them today, prevails. But how ‘sustainable’ are the assumptions behind these ideas? The first part of our article will argue that achieving environmentally and socially sustainable employment requires more than greening of the mainstream, market- and growth-oriented, development path. It requires breaking the comfortable realms of the current mainstream and approaching policy making from a more ‘radical change’ perspective.

One of the most common arguments against ‘alternative’ economic thinking claims that there are no policy measures offered that make an ‘alternative’ path to follow feasible. While it is rightly argued that complex social-ecological systems cannot be controlled or managed and path dependencies and lock-in effects are tend to prevail, non-action may still cost us, particularly the vulnerable parts of society, too much. So the question is: are there any tools that can support us in conceptualizing the transformation towards a sustainable society? The search for this kind of support in scientific literature has been termed transition management (TM). The TM approach attempts to determine policies that are able to facilitate such transformation under conditions of uncertainty, complexity, and need for continuous learning and adaptation [1, 2]. Furthermore, backcasting is one of the techniques applied by TM in order to indentify policy measures along the path of more radical changes.

As opposed to extrapolation from the present to the future exercised in forecasting, backcasting starts with the establishment of a normative vision of the future and designs its way back to the present. Backcasting thus supposes that decisions made today do influence our prospects and hence provides opportunities in moving towards a desired future. Backcasting exercises are necessarily participatory and deliberative involving a wide set of stakeholders in creating a shared vision and identifying the necessary policy measures. In the second part of the present article, a backcasting experiment will briefly be introduced that took place in Hungary in March 2012 on the issue of sustainable employment.

2. Sustainable employment in different perspectives

Attempts to find solutions to the triple crises have reinforced the need for both political decision-makers and academics to try and combine endeavors in the economic, social and environmental spheres. The ever-growing technological optimism has led to the diffusion of the green economy concept where investments into environmentally sustainable production and consumption would produce a sustainable society without compromising economic growth and, at the same time, employment prospects. Hence, the term ‘sustainability’ is nowadays used widely in policy documents that aim at achieving better economic and social circumstances. As an example, the 39 page long Europe 2020 document called the “Strategy of smart, sustainable and inclusive growth” issued by the European Commission in 2010 contains the word “sustainable” 36 times [3]. There is little to wonder

why this term has become so successful in these contexts. It promises a “quick fix” to economic recession and employment problems while reducing carbon emissions and other environmentally harmful economic activities without initiating major changes either in our ways of thinking or in our ways of living.

Environmental sustainability, however, is often defined in two different ways. The so-called weak sustainability signifies the underlying concept that natural and man-made capitals can be substituted with each other and the level of consumption can be maintained as long as a possibly decreasing level of natural capital is compensated for by the increase in man-made and/or human capital. In contrast, strong sustainability does not allow for such a substitution and insists that the stock of natural capital should remain constant in order to have future generations the possibility to enjoy the flows what nature provides [4]. The authors of the present paper believe that strong sustainability is a call for our responsibility for the Biosphere, her human and non-human creatures and systems. Most probably, jobs and employment will need a re-definition accordingly.

A much less studied aspect of sustainability is the social dimension. Social sustainability is an easily contested concept, resisting even a clear definition. Similarly to environmental sustainability, it is a value-laden term. It, however, certainly includes conceptions of human well-being, equity or justice, participation and social cohesion [5].

2.1. Ecological modernization as today's dominant perspective

Ecological modernization (EM) is a theory that dates back to the 1980s and teaches that modern market economy on its ordinary course through technological advances will become more environmentally friendly and “...the dirty and ugly industrial caterpillar will transform into an ecological butterfly...” [6]. Therefore, as the EM argument goes [7], the greening of the market economy and hence that of jobs and employment is an inevitable ‘evolutionary’ stage in human societal development. As environmental sciences produce advances in our knowledge base, as new eco-efficient technologies arise, as consumers are becoming environmentally aware and health-conscious, as well as the state institutionalizes an ecological tax and subsidy system, a new market for environmentally conscious goods and services will emerge. These trends will not only lead the economy towards reduced pollution and waste levels but, at the same time, also create new employment through green jobs. EM does not attempt to reduce production and consumption but to reduce the environmental degradation effect per unit of production and consumption, hence introducing the “eco-efficient” economy.

As this concept requires no major changes in our ways of thinking and living and does not touch upon social and political status quo, the idea could gain support by the ruling elites and take roots in current economic and political strategies. Tools that are supposed to reach these desired effects are mainly market-based instruments pushing economic actors towards EM. Eco-taxes also play a significant role in this transformation as they are supposed to produce a so-called “double-dividend” effect [8]. By re-structuring taxes from burdening human labor to the use of natural capital, economic actors will smoothly change their behavior and economize on natural resources while employing more labor.

The core message of EM is that economic development and environmental policy can be reconciled, synergy can be established, so-called “win-win” opportunities can be seized upon. EM theorists point to the possibility to “channel” the competitive dynamics of advanced market economies constantly producing new products, processes and forms of organizations into a sustainable development path that is decoupled from material and energy use, i.e. from harmful environmental impacts. However, critiques warn that decoupling realized by EM is only relative while the so-called rebound effects should be faced to. Savings, for example, in energy costs realized by economic actors through greener technologies will be spent on further, however green, consumption and investment. Consequently, the overall strain on the natural environment will not lessen. Hence, the green economy can only lead to the relative decoupling of environmental strain and production/consumption, i.e. pollution per unit of production/consumption decreases but overall production/consumption still does not respect the biosphere’s carrying capacity [9]. Absolute decoupling would only occur if the overall throughput of economic activity would be decreased or at least maintained on its current level while, at the same time, levels of well-being will be increased.

With regard to social sustainability, EM does not give primary importance to the problem of social cohesion and uneven distribution. The “story-line” of EM, in this sense, follows a view of social reality as conflict-free and harmonious. In contrast, many commentators expressed their concern that the green economy leaves social disparity untouched with the only difference that the more fortunate will live in big, energy efficient houses.

With regard to employment effects, the technology-based solutions of the green economy are controversial. On the one hand, they do create new jobs in the short-term [10]. Though on the other, higher demand in labor occurs generally in the investment phase of these innovations [11], only delaying unemployment problems. Furthermore, the major motivating factor for businesses behind these investments is certainly cost reduction and once they introduce new technologies, they will naturally attempt to parallel further reduce costly labor intensity. Moreover, the capital intensity of the investment phase also has to be covered partly through savings that are likely to occur by reducing labor-costs.

In the defense of ecological modernization theory it can be said that at least it reaches wider audiences while at the same time attempting to bring in environmental aspects into current economic trends. However, this can only be regarded as “sustainable” if we acknowledge that this is a transitory solution while trying to find acceptable long-term solutions that result in strong sustainability beyond the mainstream paradigms of unlimited growth.

2.2. A radical change perspective for the future

As opposed to ecological modernization, the radical change paradigm disposes of the concepts of the free market economy and claims that new “great transformations” are unavoidable [12], whereby values must change just as much as institutions. Representatives of the radical change paradigm go beyond the boundaries of neoclassical economics and refuse to accept its definition of welfare solely in terms of levels of consumption; its characterization of work as purely paid labor and its seemingly problematic attachment to the ideal of full-employment.

Decreased levels of consumption would only lead to decreased levels of employment under the currently dominant paradigm. Moreover, increasing consumption further would lead to greater mass production that prefers automatism to human labor. In contrast, the substitution of quantity with quality of goods and services connected to the increase in the appreciation of the added-value of human labor would not only reduce environmental strain through enhancing durability but would also have beneficial effects on employment. However, this requires entirely new approaches.

Radical change perspectives regarding employment are based upon the idea that different mental and institutional frameworks can be constructed under which the meaning of human needs and work can be redefined [13]. From this point of view, work is not purely a way of providing basic subsistence or a necessary bad in life to reach higher levels of personal consumption but an essential part of both personal well-being and of well functioning social relationships.

Following such a redefinition, even with a fall of average consumption levels well-being and social relationships can be maintained or even strengthened. Such changes in attitudes can be supported through schemes like the guaranteed basic income that would allow for essential subsistence for all citizens [14]. These new meanings of work would make way for changes and open opportunities in community work, social enterprises, as they would no longer be merely a haven for those crowded out of the labor market.

The radical change perspective also includes schools of thoughts like eco-localism or bio-regionalism that both support environmental sustainability and social cohesion through local production and consumption networks [15]. There are already existing successful initiatives where labor and products are traded on the local community level, sometimes not even involving monetary exchange.

As opposed to the ecological modernization approach, the radical change paradigm attempts to deal with the limits of the biosphere's supporting capacities, hence aiming to achieve strong environmental sustainability. In terms of social sustainability, this paradigm aims to address the problems of unequal distribution and the widening social gap. While ecological modernization may provide solutions in the short-term, strong environmental and social sustainability is likely to be achieved only by overstepping the theoretical boundaries of current paradigms. When deliberating sustainable employment, thinking out of the box is well encouraged and the radical change paradigm provides some inspirations to that.

3. Back from the future: a Hungarian backcasting experiment

Backcasting is one of the methods in future studies which attempts to elaborate prospects for different levels of social organization such as companies, cities and societies. Backcasting is part of a larger category of methods called normative scenarios [16]. The notion of normative scenarios stands for the idea that when one attempts to create a vision of the future there should be certain values and basic normative assumptions determining what a desirable future would look like. So, instead of attempting to decipher from a large pool of data what is the most likely future, normative scenario-building moves along a different path identifying acceptable and desirable futures instead [17]. The distinguishing feature of backcasting is that it starts with a normative future vision and attempts to create links between these desirable conditions of the future and the present. Consequently, it works

backwards by strategizing and planning the necessary steps to achieve the given set of goals embedded in this future vision [18].

When the opportunity arose to apply backcasting in the Hungarian sustainable policy context, a sufficiently complex policy field with fundamental importance needed to be identified that incorporates the technological elements, social patterns and cultural factors and requires the deliberation of people with many different viewpoints. The choice fell on the topic of sustainable employment that is high on the political agenda in Hungary (currently debating employment rate, social benefits, public works, etc.). The 16 participants came from varied backgrounds and from different sectors (business, civil, academic and public) but were all in some ways related to employment issues. They were asked to deliberate on what sustainable employment in Hungary in the year 2050 would look like and back cast from that vision what policy recommendations they may have for decision-makers. After the workshop, the authors performed qualitative data analysis on the notes and recordings using a combination of meaning-condensation; categorization and meaning-interpretation [19]. In this chapter we present a short synopsis of the vision and policy recommendations of this backcasting workshop.

3.1. The normative vision of sustainable employment in 2050 in Hungary

The participants found the redefinition of work crucial in their vision for sustainable employment. Work in Hungary in 2050 is not merely a tool for basic subsistence but also a “source of well-being”. Work does not consist only of a paid job and does not only exist in institutionalized forms. As work is not longer just a struggle for survival, people have an internal motivation to do what they do right. They can be proud of their jobs independent to their status or scope of activities. Work is meaningful and useful in many different segments of life. People’s needs go beyond the physical focus and spiritual needs prompt the existence of new types of work activities. The satisfaction of needs is “healthy”, putting a stop to patterns of overconsumption. Work motivation also changes accordingly: prime motivation is no longer subsistence but self-actualization, self-development and the feeling of social usefulness. As one of the participants phrased, “*work is happy self-actualization in a socially beneficial manner*”. Such redefinition of work stipulates the broadening of the different employment forms. In the Hungary of the 2050s, employment is not purely part of the economy as people also do work that is “*not necessarily monetized*”. One can engage flexibly in many different work activities, in many different legal forms and hence retain more control over one’s life. The non-monetized forms of employment such as barter or LETS become legally acknowledged. Learning is a recognized form of employment. Work is performed predominantly locally, or even from home but so-called “office café” solutions also exist where people can work outside their homes. Technology supports this type of evolution as it transforms most arduous and monotonous work and “*there is nobody digging trenches in 2050*”. However, if someone performs such demanding jobs, society fully appreciates them.

Participants envisage the Hungarian society in 2050 where the role of communities is of rising importance and builds on values of cooperation, trust and solidarity. Community ties of individuals are strong and communal events are frequent. The network of trust is operational and trust itself is treated as a prime social asset. Community plays two different roles in employment. On the one hand, community provides a framework and motivation to work, on the other hand, work serves community

purposes. As “*people cannot have their work appreciated in larger spaces and large societies*”, society operates as a network of many smaller communities. Hence, both working in the community and working for the community becomes important.

The participants envision the economic actors of 2050 not merely for-profit or non-profit organizations. For-profit actors are sensitized (or coerced) being environmentally and socially responsible organizations that build these aspects into their everyday decision-making and represent unambiguous community values. Management culture embraces empowerment, where employees have certain degrees of self-determination. Bonuses include solutions that facilitate the new, diverse types of employment such as sabbaticals or work-time allowances for volunteering activities. Consultations with workers’ associations are based on trust and dialogue, where both parties are present as partners. In case of inevitable downsizing, outplacement services are provided on a wide basis to employees. Different co-ownership schemes for workers are common, cooperatives are rediscovered and many work in the predominantly non-profit social economy. However, as in the for-profit sector social corporate responsibility becomes the norm, at the same time corporate governance becomes widespread among non-profit organizations. Hence, non-profit approaches are built into the operations of for-profit companies, while non-profit organizations internalize the essentials of economic operations.

Participants revealed outstanding technological optimism and technological determinism. “*In 2050 technologies will be widely accessible that we have no knowledge of today.*” Even though in 2050 less work is available due to technological advances, this does not imply higher unemployment but rather more opportunities for redefining work. Technology supports flexible working arrangements, improvements in quality of living, substitution of arduous and monotonous jobs, equal access to work and public services and participative decision-making. The wide-ranging research and development activities do not only cover technological advancement but also social innovations. While not questioning technological advances at all, much emphasis is also laid on the preservation of traditional cultural values, and the safeguarding of those who work with traditional technologies. (However, this preservation should not at all mean separated reserves.) This way besides modern technology, traditional knowledge has a legitimized role in society.

Participants envisage a knowledge-based Hungarian society in 2050. Hence, education and training in many different forms play an outstanding role in all ages. In case of children, the frontal, class-based school system is replaced by education that respects individual talents, is tailored to individual needs and capacities, and involves parental guidance as well. Young people have the chance to try themselves in different jobs and get experience under protected training grounds. Adults train themselves regularly but not necessarily in formal institutions. Both formal and informal education and self-development is acknowledged and regarded as standard part of working life. Due to this development, a number of career changes in a person’s life are considered the norm.

When discussing environmental aspects in sustainable employment, the participants of the backcasting workshop were present more like lay people as they had more expertise on employment than ecological issues. Nonetheless their commitment towards environmental sustainability was apparent throughout the workshop. According to their vision, in 2050 individuals as well as economic actors are environmentally conscious both due to their inner values as well as due to the regulatory environment. Environmentally friendly workplaces involve energy efficiency as well as aspects of

occupational health including ergonomic perspectives and the increased consciousness of the detrimental effects of work overload. The ecological aspects are taken seriously especially in the agricultural sector, that builds a lot more on human labor than chemicals. Hence, more people are employed in agriculture. (The recurring theme of agriculture during the backcasting workshop was likely to be due to the participants' desire for access to safe and healthy food as lot of discussions revolved around the need for adequate food production and labeling.) In 2050, the redefinition of work implies a rise in the appreciation of human skills and labor and this leads to *"mending things rather than scrapping"* as *"we do not ditch other people's work"*. The new approaches to working lives also enable people to take more responsibility for and better care of their own environment.

The issue of global vs. local continuously resurfaced in the discussions. Anti-global sentiments did not occur and the concept of the global economy and global society were not questioned at all. However, according to their vision, in 2050 globalization is more of a global network of local economies and societies, where local production and consumption, and hence local employment play a significant role. This does not imply at all that there is any limitation on goods and services imported from the global arena, only that local products and services enjoy certain advantages. Employees are also free to choose whether they work locally or globally (as this adds to the desired diversity of working arrangements) but the pressure on mobility eases. Individuals may have strong ties to a locality but this rather indicates solidarity with a given community than the lack of mobility. (On the necessity of mobility participants were divided.)

During discussions a vision of the Hungarian state in 2050 also crystallized. The participants envisage that in 2050, Hungary is a democracy but significantly more decentralized both in terms of decision-making and financial resources than today. Even though participative or deliberative democracy as a term never occurred during discussions, the topic of a state where individual, community, and state responsibilities are clearly distinguished and decisions are taken on the levels where responsibility lies often appeared. Moreover, the link between the citizens and the "central" state is only indirect as there are a wide range of institutions with different authorities. The redistributive task of the central state still remains important as it ensures through the guaranteed basic income the basic subsistence of citizens. The role of the public employment service changes as it no longer deals with the administration of unemployment benefits and the assistance of the unemployed (as due to basic income this concept becomes outdated) but more with the tailor-made supporting and brokering services for all employees.

It is clear from the above, that the participants' vision for sustainable employment in Hungary in 2050 contains mixed elements of the ecological modernization and radical change paradigms described in the previous chapter. Their vision also abandons the ideal of full employment and makes way for a life where people are free to work not because they are forced by their subsistence but because work is an activity that serves the well-being of both their community and their own. Well-being was defined not only in material terms but also in terms of self-development; self-fulfillment; sufficient time for nurturing family and community relationships and access to a healthy environment. This approach would also enrich the forms of employment and dispose of the idea that employment generally means a 40-hour paid labor week. Even though participants supported the idea of localized employment through the encouragement of local production and consumption patterns, the varied nature of employment would also cover the open opportunities for globalised employment and labor

mobility. The issue of globalization appears in the vision as an aggregate of local networks, where localism weighs more than today but does not mean detachment or impassability.

3.2. *Backcasted policy tools*

The policy tools that participant identified during the backcasting workshop concentrate around five major objectives. The first group of policy tools serves the objective that work done beyond the economic sphere (such as community, family, self-development) should get recognition in order to provide people with the choice to work in many different employment forms doing diverse, meaningful and acclaimed jobs. This implies that the legal and social system should embrace and encourage employment forms besides paid labor (such as self-employment, household employment, LETS, barter and all atypical employment forms). Local employment should be supported but barriers to global employment should also be eased at the same time, leaving the individuals the option to decide. In order to achieve these objectives, the policy tools identified in the backcasting experiment focus on the abolishment of administrative obstacles; introduction of new legislative frameworks for those elements that are currently not available; communication campaigns and financial incentives. It is this group of measures that include the suggestion on the introduction of the guaranteed basic income that facilitates the redefinition of work.

The second group of policy measures aims at supporting non-profit organizations to become an integrated part of the economy, while at the same time encouraging for-profit companies to take on board social values in order to ensure that people work in an environment that is based on cooperation and trust and embraces true social dialogue. This can be achieved through awareness-raising campaigns and financial incentives. These tools could lead to better cooperation and more solidarity in both sectors but only if trust is established. Social trust can be built up by first introducing trust building elements into public administration, for example by encouraging real participative social dialogue. Besides positive measures, the participants recommend that later on certain legal sanctions can also play a role especially in the case of the for-profit companies.

The third group of measures has the goal of keeping the detrimental effects of work and the harming of the environment at a minimum level. The notion of sustainable employment must include that neither the work environment, nor other elements of employment (e.g. overwork, stress) lead to any damages of health. The proposed measures in this category include both awareness-raising and legal establishments to ensure healthy and environmentally friendly working environments, proper work-life balance, and food safety.

The fourth group aims at providing opportunities for people to realize and develop their own potentials both in education and training and on-the-job. These measures establish a knowledge-based society that can only be achieved through an education system that facilitates self-development at any age. This includes the introduction of new, innovative forms of learning and new types of learning infrastructure. Life-long learning can be encouraged by legally acknowledging and validating employment experience as a form of training.

The measures in the fifth group serve to establish the role of technology in supporting sustainable employment by encouraging targeted technological and social innovations through financial incentives. They include a wide-range of potential applications from the introduction of trust-

building, participative community decision-making; through boosting the creative industry, until facilitating equal access to employment, locations and services. This group of policy instruments also included those that prevent the disappearance of traditional professions.

4. Conclusions

Our paper made an attempt to draw attention to the fact that when we apply the concept of sustainability to policy fields such as employment, the current paradigms have significant limitations. However, the option of ‘think outside of the box’ may be considered unrealistic in current policy making as the complexity and path dependency of our social and economic systems discourage decision-makers to leave known grounds behind. However, post-normal science acknowledges the fact that there are no clear-cut answers to questions like sustainability – or more specifically, sustainable employment in our case – but the quest itself to find viable solutions beyond our everyday horizon of thinking may lead us in the right direction. This paper presented the use of one particular method that facilitates this pursuit: the technique of backcasting.

Backcasting (as opposed to forecasting) starts with a normative future vision, that is, by answering the question what the desired conditions in the future would be. From this normative vision it works backwards in order to connect the future to the present in a step by step method identifying and strategizing each link, each policy measure along the way. Furthermore backcasting and the concept of sustainability have structural affinity since the technique of backcasting allows for a multi-leveled and trans-disciplinary approach of complex problems when current trends are obstacles of systematic and major changes.

The experimental application of the backcasting approach in Hungary for sustainable employment showed that it is indeed possible to design feasible policy recommendations with an alternative future vision in mind when dealing with path-dependent systems burdened with lock-in effects.

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Conflict of Interest

The authors declare no conflict of interest.

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