

# COOPERATIVES AND THE FUTURE OF WORK



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## FOREWORD

The title of this paper refers to an ILO<sup>1</sup> “Centenary Initiative” launched under the title “The Future of Work” by ILO Director-General Guy Ryder in the run-up to the Organization’s 100st anniversary, in 2019. So far only the broad contours of the Initiative are known, as outlined in the Director-General’s Report to the 104<sup>th</sup> International Labour Conference (ILO, 2015): The ILO will launch four global conversations on the subject to explore the views of governments, workers, employers and civil society on the Future of Work<sup>2</sup>. It is also envisaged to establish a High-Level Commission supported by a Secretariat with the aim of publishing in 2019 a landmark report on the Future of Work. This work has not really begun yet so that the present report cannot draw on its findings and recommendations, and must rely on projections, extrapolations and speculation.

The Future of Work is a subject of major global interest; an Internet search of the term (in quotation marks) yields an astonishing 348,000 results in German, 316,000 results in French, 321,000 results in Spanish and ... 86 million hits in English! Many books and articles have been published on the question of how we will work in the future – some question if there will be much work left for humans at all. Opinions differ, but all authors agree that the substance, method, organization and location of work will change dramatically in the decades to come. The expected magnitude of these changes can be measured against the revolutions caused by past developments. The World Wide Web, for example, is only about three decades old. Within such a short period of time this global network, boosted by the advance in mobile technology, computer processing speed and data storage capacity, has profoundly changed the way we communicate, we do business and we gather and manage knowledge. Today it is quite possible to work, produce and consume from home; and whether desirable or not, today we could live our lives without interacting with any real person. The technology exists, and the capabilities of that technology are far from being fully exploited. And the Internet is just but one of the major developments of the last decades, not to mention those of the years to come.

Many articles about the future of work call for new models that would call for a greater degree of cooperation between workers, or between workers and employers, collaborative work arrangements that could be temporary or permanent, the collective use of resources, assets and services through the “share economy”, and other forms of working together. Cooperatives and the social economy can and must play a role in such new working arrangements. The changing World of Work will have a profound impact on cooperatives, on the role that cooperatives and similar organizations will play in society and the economy, and on the way cooperatives themselves will function and operate.

The present paper seeks to examine the relationship between the future of work and cooperatives in three stages:

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<sup>1</sup> ILO stands for International Labour Organization as well as for its secretariat, the International Labour Office.

<sup>2</sup> Those global conversations will be held under the headings “Work and Society”, “Decent Work for All”, “The Governance of Work”, and “The organization of work and production”.

- *The trends of the future*: an attempt to identify and briefly describe the major trends affecting the world of work in the broad sense;
- *The future of work*: an analysis of the impact of these changes on work, labour, employment and social dialogue;
- *The future of work and cooperatives*: a discussion around the possible role of cooperatives in relation to the future of work

The paper will not discuss the *future of cooperatives* since this has been the theme of a major ICA research conference held in April 2015 in Paris. But it will become clear in later sections of the paper that cooperatives themselves will have to adapt to the emerging trends so as to remain relevant in a changing world of work.

The sources used for the paper are mostly extracted from the Internet, often relying on information provided by Wikipedia; those are not marked specifically. Other sources are listed in the annex.

## TRENDS AFFECTING THE WORLD OF WORK

This section groups the trends and tendencies that we were able to identify into four categories:

- Demography
- Technology
- Economy
- Environment

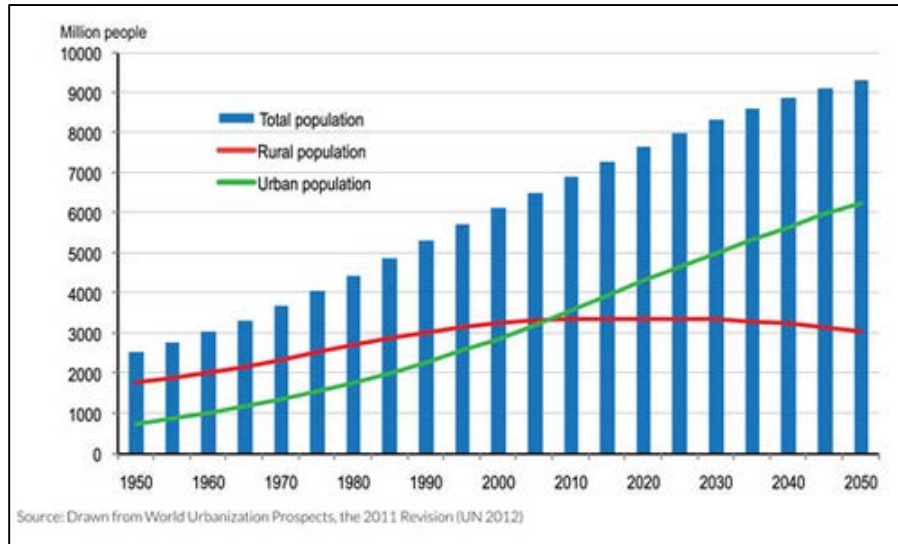
Interestingly, several of these trends were already examined as far back as 1972, when the Club of Rome commissioned the study named “The Limits to Growth” (Dennis Meadows, 1972). The study, much criticized and even ridiculed at the time, argued that continued population growth, resource depletion, environmental degradation and industrialization would eventually cause the collapse of the earth’s eco-system. Recent research from the University of Melbourne has found the book’s forecasts were accurate, 40 years on; indeed, the early stages of global collapse could start appearing soon (The Guardian, 2014). This puts the Future of Work in a different perspective.

### Demographics

Within this category three trends are likely to impact the world of work:

## POPULATION GROWTH

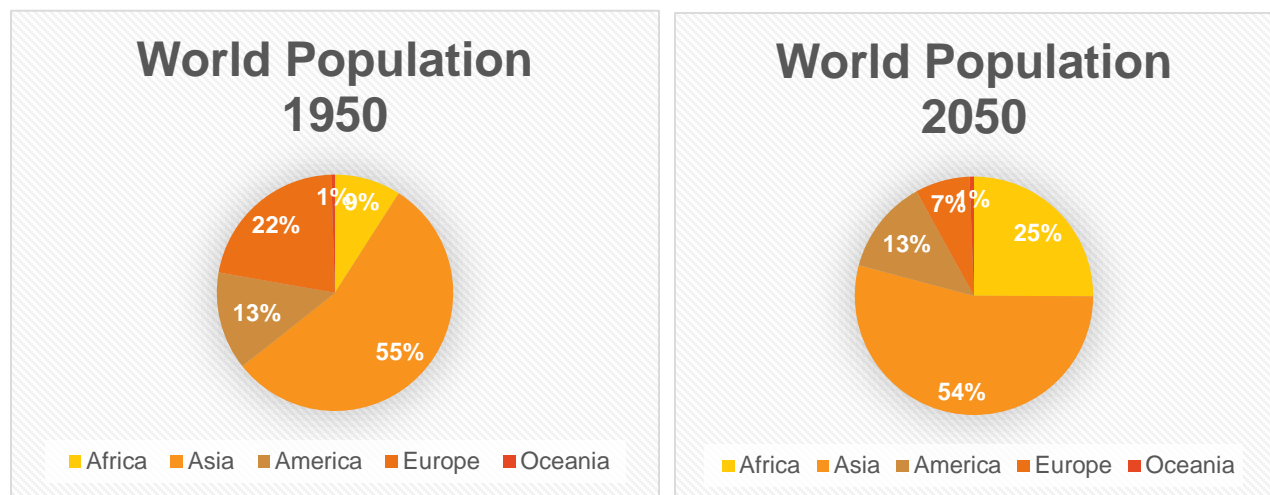
According to the World Population Clock there are currently about 7.4 billion people on Earth (Worldometers, 2015). The graph below, published by the United Nations, shows how the world



population has grown since the year 1950. From looking at the graph, population growth seems to continue unabated, albeit at a slightly lower rate than in the past. Yet, whereas in the 1960s (when the world was inhabited by a “mere” 3 billion humans) the news were filled with alarming reports about the “demographic

explosion” it appears that today, when the world population has exceeded 7 billion, not many people seem to worry about population growth.

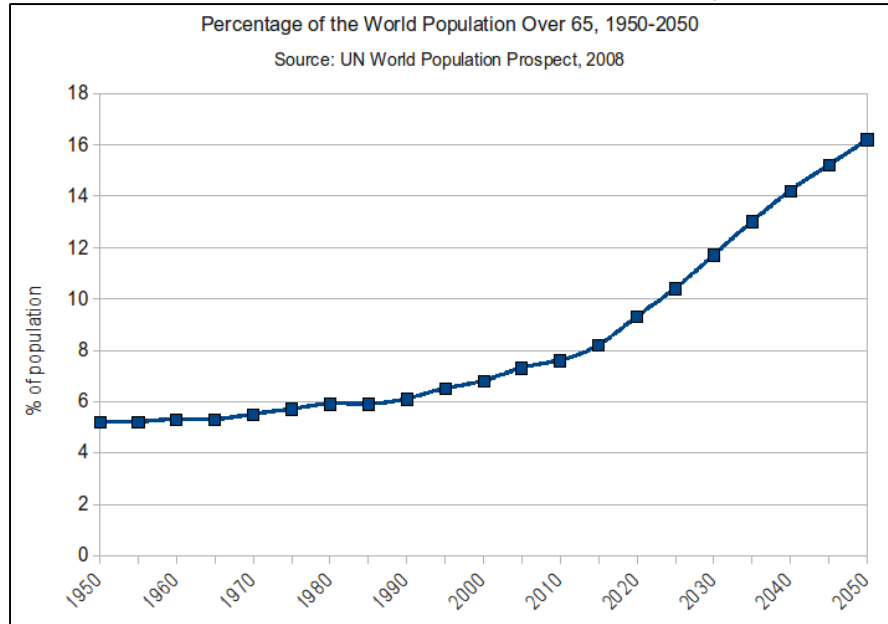
Population growth is unevenly spread between regions and continents, causing considerable changes in the demographic weight of the five continents: of particular significance is the rapid growth of the African population. The African continent, already plagued by the preponderance of informality and high degree of informality, will have to create hundreds of millions of new jobs just to maintain the status quo.



Current demographic trends bring 40 million people to the labour market each year, meaning that between now and the year 2030 the world economy needs to create over 600 million new jobs.

## AGEING

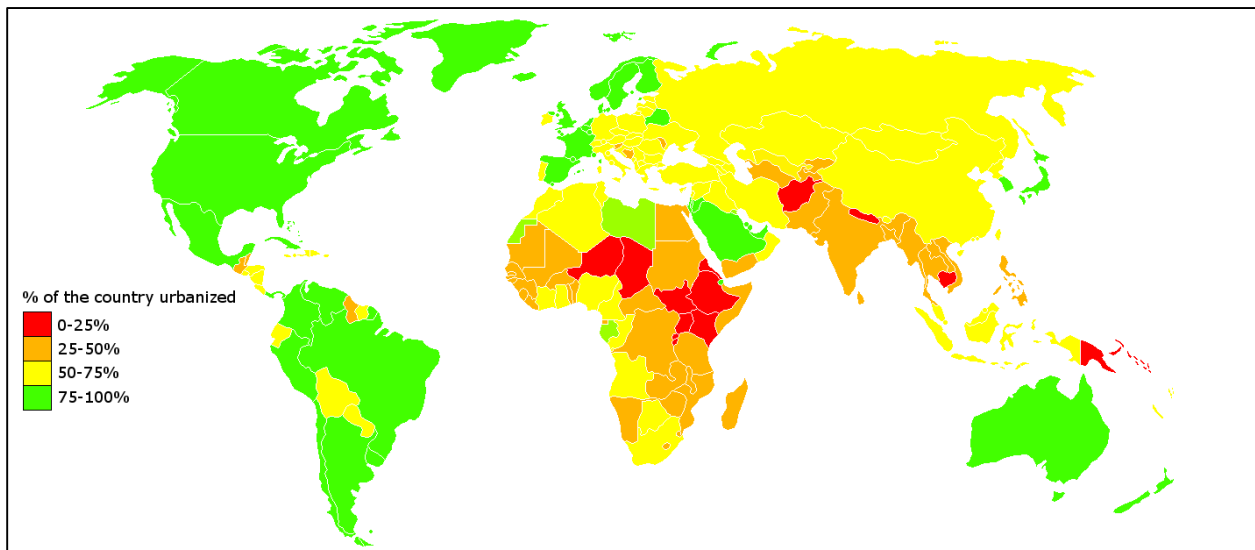
Population ageing is a shift in the distribution of a country's population towards older ages, i.e. a declining proportion of the population composed of children, and a rise in the proportion of the population that is elderly. Population ageing is widespread across the world. It is most advanced in the most highly developed countries, but it is growing faster in less developed regions, which means that older persons will be increasingly concentrated in the less



developed regions of the world. As people live longer they will have to work more years so that pension schemes remain affordable; this may have a negative effect on youth employment. Moreover, an ageing population entails higher medical, care and social expenditures.

## URBANIZATION

The population growth chart above shows that around the year 2005, the proportion of people living in cities has begun exceeding the rural population. It is predicted that by 2050 about 64% of the developing world and 86% of the developed world will be urbanized. Urbanization is often viewed as a negative trend, but there are positives in the reduction of expenses in commuting and transportation while improving opportunities for jobs, education, housing, and transportation. Living



in cities permits individuals and families to take advantage of the opportunities of proximity and diversity. While cities have a greater variety of markets and goods than rural areas, infrastructure congestion, monopolization, high overhead costs, and the inconvenience of cross-town trips frequently combine to make marketplace competition harsher in cities than in rural areas. Moreover, urban citizens tend to abandon customary practices which are widespread in rural areas, such as mutual assistance and care for the elderly. This puts a further strain on governmental social protection systems.

## Technological trends

“Previous technological innovation has always delivered more long-run employment, not less. But things can change.”<sup>3</sup>; “Technological unemployment...due to our discovery of means of economising the use of labour outrunning the pace at which we can find new uses for labour.”<sup>4</sup>. Indeed, a heated debate is taking place about whether or not the productivity gains resulting from automation and digitization will lead to greater unemployment. Most researchers agree however that it will lead to a greater polarization of the workforce between highly educated and low-skilled workers, cutting out the middle-level worker whose job may be performed by machines.

## AUTOMATION

Automation refers to the use of computers and other automated machinery for the execution of business-related tasks. Automated machinery may range from simple sensing devices to robots and other sophisticated equipment. Automation may occur in different forms, such as the

- Automation of work processes through computers and algorithms, as well as self-service devices such as ATMs, self-service checkouts and boarding pass generators<sup>5</sup>.
- Automation of manufacturing and services through robots; this would also include 3-D printing technology which makes it possible to decentralize industrial production<sup>6</sup>.
- Automation of transport through self-conducting or remote-controlled devices (drones, and self-driving cars, tanks and ships).

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<sup>3</sup> “The Economist”, January 2014

<sup>4</sup> Lord Maynard Keynes, 1930

<sup>5</sup> In many cases, the automation of services simply means that certain functions are being transferred from a service provider to the consumer, thus increasing the provider’s profits and reducing the consumer’s free time.

<sup>6</sup> Some authors believe that of all recent innovations, 3-D printing could have the greatest impact on jobs and the economy.

Concern about technological unemployment grew in 2013, due in part to a number of studies predicting substantially increased technological unemployment in forthcoming decades; concerns have included evidence showing worldwide falls in employment across sectors such as manufacturing, falls in pay for low and medium skilled workers stretching back several decades even as productivity continues to rise, and the occurrence of "jobless recoveries" after recent recessions. The 21<sup>st</sup> century has seen a variety of skilled tasks partially taken over by machines, including translation, legal research, surgery and even low level journalism. Care work, entertainment, and other tasks requiring empathy, previously thought safe from automation, have also begun to be performed by robots.

## COMMUNICATIONS AND THE INTERNET

The International Telecommunication Union (ITU, 2014) reported that by the end of 2014, almost 3 billion people will be using the Internet, While the growth in mobile-cellular subscriptions was slowing as the market reached saturation levels, mobile broadband remains the fastest growing market segment, with continuous double-digit growth rates and an estimated global penetration rate of 32 per cent. International bandwidth was also grown steeply, at 45 per cent annually between 2001 and 2013, and the developing countries' share of total international bandwidth increased from around 9 per cent in 2004 to almost 30 per cent in 2013.

### Bring on the personal trainers

Probability that computerisation will lead to job losses within the next two decades, 2013 (1=certain)

Job	Probability
Recreational therapists	0.003
Dentists	0.004
Athletic trainers	0.007
Clergy	0.008
Chemical engineers	0.02
Editors	0.06
Firefighters	0.17
Actors	0.37
Health technologists	0.40
Economists	0.43
Commercial pilots	0.55
Machinists	0.65
Word processors and typists	0.81
Real estate sales agents	0.86
Technical writers	0.89
Retail salespersons	0.92
Accountants and auditors	0.94
Telemarketers	0.99

Source: "The Future of Employment: How Susceptible are Jobs to Computerisation?" by C.Frey and M.Osborne (2013)

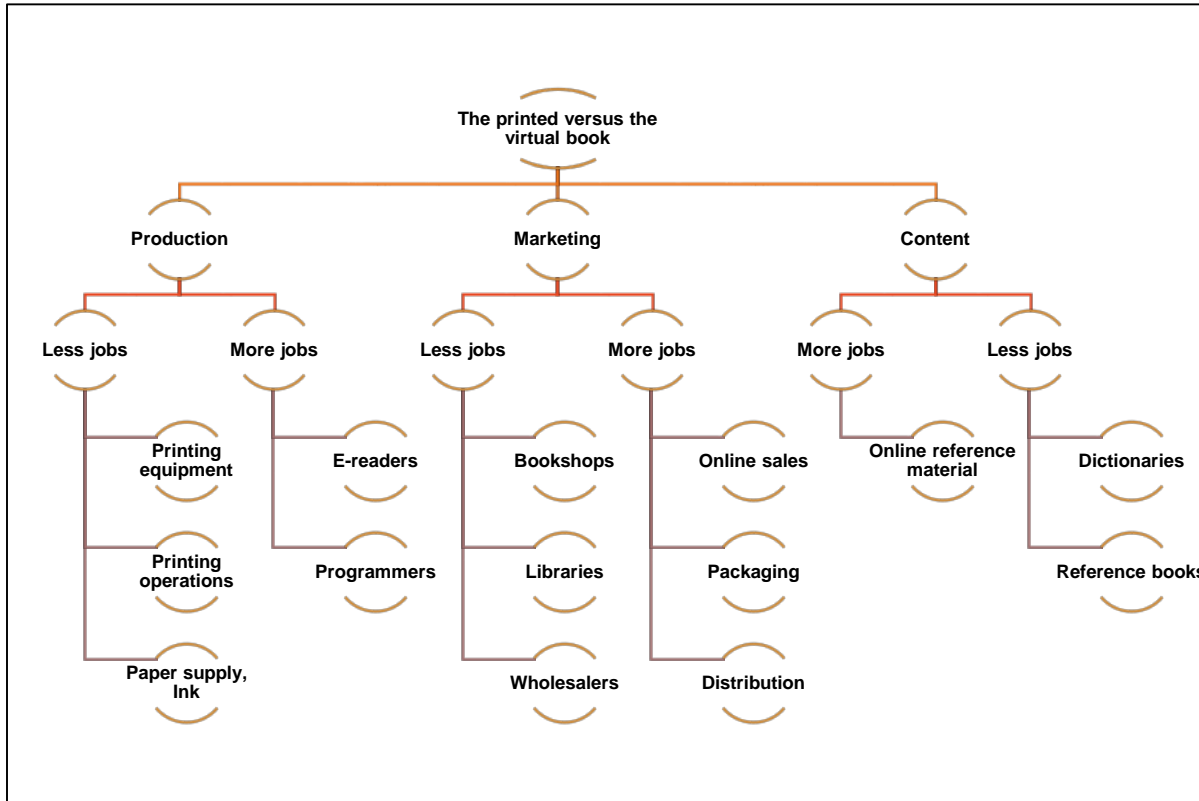
Table 1.1: Rural population covered by a mobile-cellular signal, 2012

	Overall mobile-cellular population coverage (%)	Rural population covered (%)	Rural population covered (millions)	Rural population not covered (millions)
Africa	88	79	498	129
Americas	99	96	171	9
Asia	92	87	2 017	309
Europe	99	98	196	3
Oceania	96	81	0.9	0.2
<b>World</b>	<b>93</b>	<b>87</b>	<b>2'883</b>	<b>450</b>

Source: Partnership (2014) based on ITU data.



Over the past two decades, the exponential growth of the internet has led it to touch upon every aspect of modern life. From mobile entertainment to healthcare to the heart of enterprise, the internet has become, in the words of Bill Gates, “the town square for the global village of tomorrow”. One example of many is the production and sale of books, as illustrated below (produced by the author):



The Internet has not only changed the way we buy and read books; it has also made redundant entire sections of the industry, such as the production of reference books.

Internet-based commerce causes local shops to close down; e-banking reduces the traditional bank branch to a collection of man-less machines; we can expect that travel agencies will disappear altogether. The next step consist of the “Internet of Things”: the network of physical objects or "things" embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data. A much-cited example is the “smart” fridge that orders fresh food supplies should certain food items run out.

## DIGITIZATION

Closely related to the two points above – automation and the Internet – the digital revolution has made it possible to collect, process and share an ever growing amount of data. Sound, text, data, speech, images and software are being converted into the same format, an endless combination of “0” and “1”, and stored and transmitted as such. At the same time, the capacity of digital storage devices has grown exponentially. A tiny USB stick now holds information equivalent to *one hundred thousand* floppy disks some 30 years ago. Processing speed has accelerated in a similar way:



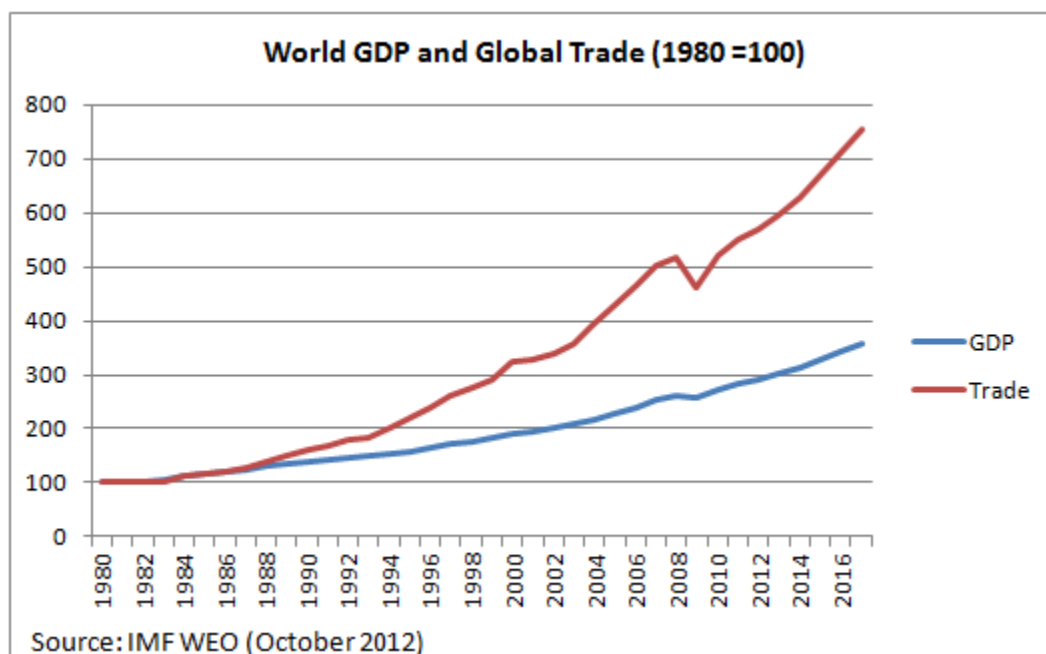
whereas in 1977 the fastest computer hardly performed one million instructions per second (MIPS) modern processors easily exceed 100 MIPS, if not 1,000. Cheaper storage capacity and accelerating data processing speed has made it possible to collect and analyze “Big Data”, and to make citizens and consumers “transparent”. “In the IT field, for example, advances in microprocessors will support real-time speech recognition and translation, and artificial intelligence and robotics are likely to advance further. The use of more intelligent robotics in manufacturing will support the ability to quickly reconfigure machines to produce prototypes and new production runs, with implications for manufacturing logistics and inventories. Further technological advances are expected to continue to increase demand for a highly skilled workforce, support higher productivity growth, *and change the organization of business and the nature of employment relationships.*” (Richards, 2013)

## Economic Trends

### GLOBALIZATION

Globalization is of course not a new phenomenon, and it is not confined to the economic sphere alone. Indeed, globalization has been defined as “the process of international integration arising from the interchange of world views, products, ideas, and other aspects of culture”. In the context of the present paper we focus on the *economic* aspects of globalization, in particular trade, finance and the global division of labour, and its impact on the future of work.

The advance of globalization can be illustrated by the following chart:



Since 1980, while world GDP has grown at just under 3.5% annually, trade has been growing at about 5.7% per year. The growth in trade is largely due to the international division of labour and the

growing prominence of global supply chains. More than 60 per cent of global trade is dependent on contracts in supply chains sourced from different parts of the world. A typical manufacturing company uses inputs from more than 35 different contractors across the world. “The integration of supply, production, transport, logistics, and services means all corporations are involved, and this is responsible for generating greater inequality along with massive poverty” (ITUC, 2014). Globalization has moved less sophisticated, low-paying jobs in manufacturing and services to developing countries while the so-called “industrialized” countries slowly but steadily de-industrialize. This trend has had a profound impact on the world of work in both developed and developing nations.

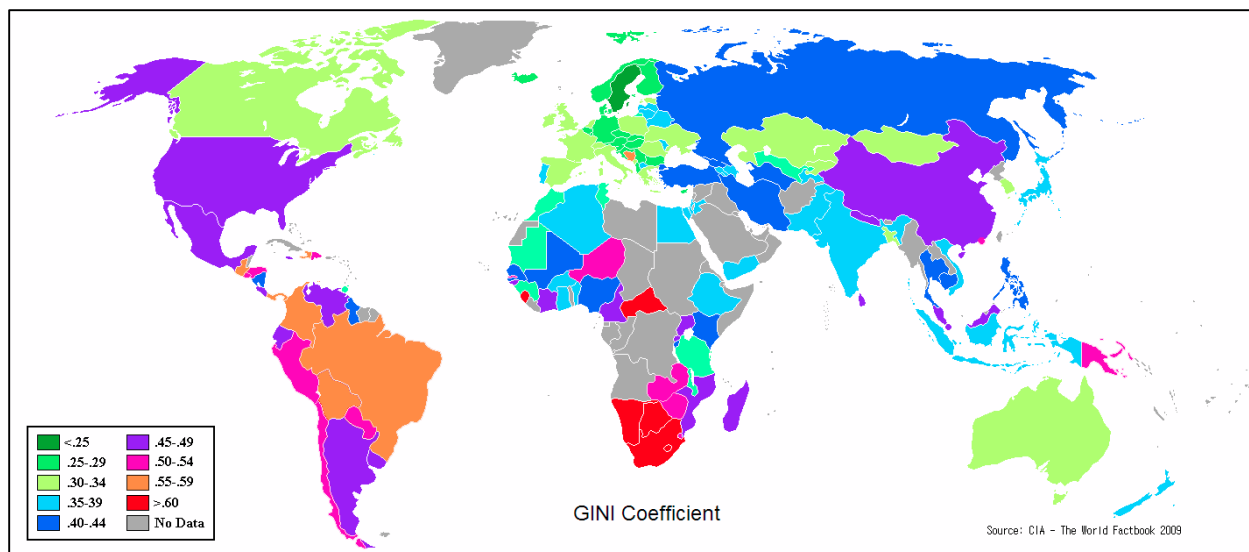
The growth of global financial flows has been even more spectacular, indicating that such flows are increasingly disconnected from the real economy; yet, the Global Financial Crisis of 2008 showed that any major disturbance of the global financial systems has immediate and drastic effects on the real economy, and on jobs and incomes.

## GROWING INEQUALITY

Many recent studies show that inequality is rising both within countries and between countries. We tend to equate “inequality” with “income inequality” since the latter is the most visible, and can be measured through the Gini-coefficient. But in many respects income inequality must be seen as just a *symptom* of more profound manifestations of inequality, such as:

- Inequality of *access*: to land, to markets, to finance, to jobs, to opportunities and resources in general;
- Inequality of *rights*: in terms of gender, race, religion, class, caste etc.
- Inequality of *participation*: in local and national decision-making, in elections, in governance structures, in social dialogue, in collective bargaining etc.
- Inequality of protection: by laws, by authorities, by social protection systems etc.

Those different forms of inequality are more widespread in poorer nations and in countries governed by non-democratic regimes. The map below shows the degree of *income* inequality in those countries for which data was available:



Even a market-friendly institution such as the IMF believes that widening inequality has significant implications for growth and macroeconomic stability, that it can concentrate political and decision making power in the hands of a few, lead to a suboptimal use of human resources, cause investment-reducing political and economic instability (such as during the “Arab Spring”), and elevate crisis risk. All of these factors have an impact on jobs, livelihoods and employment.

## THE EMERGENCE OF NEW ECONOMIC POWERS

An emerging economy describes a nation's economy that is progressing toward becoming more advanced, usually by means of rapid growth and industrialization. These countries experience an expanding role both in the world economy and on the political frontier. 35 years ago, the global economy was dominated by the members of the G7/G8 group; 35 years from now, only two of the G7 countries will make it to the top-10:

The World's Top Ten Economies		
1980	2015	2050
US	US	India
USSR	China	China
Japan	Japan	US
Germany	Germany	Indonesia
France	UK	Brazil
UK	France	Nigeria
Italy	India	Russia
Canada	Italy	Mexico
China	Brazil	Japan
Mexico	Canada	Egypt

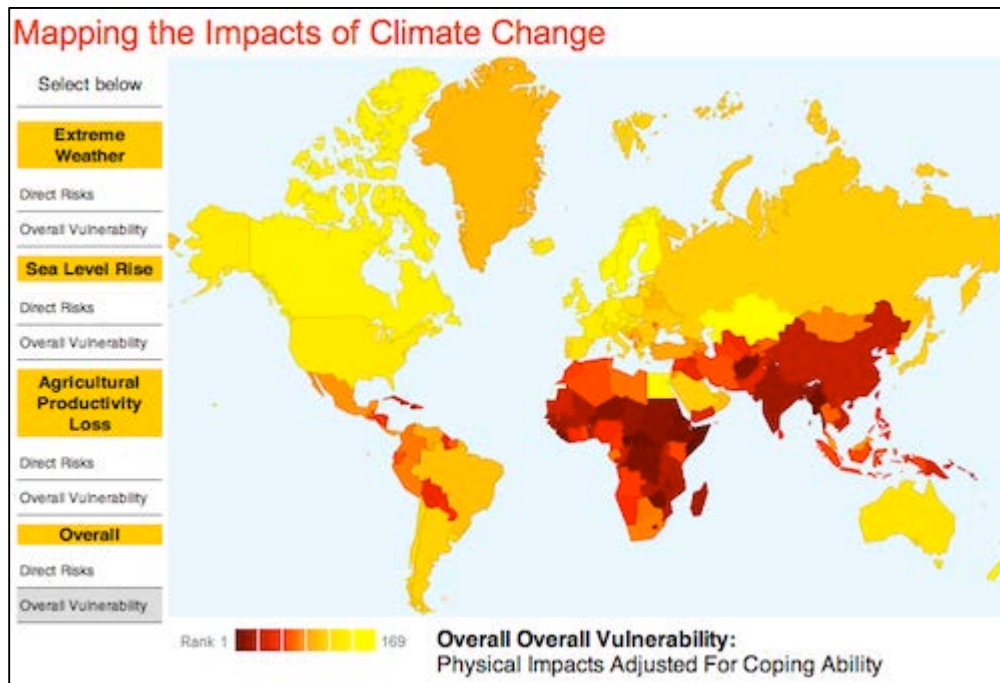
(shaded: members of the G7/G8 group)

It should be noted that the table above is based upon total GDP by country; the amounts of GDP per capita will remain significantly higher in the former “First World” compared to the countries of the former “Third World”.

# Environmental Trends

## CLIMATE CHANGE AND GLOBAL WARMING

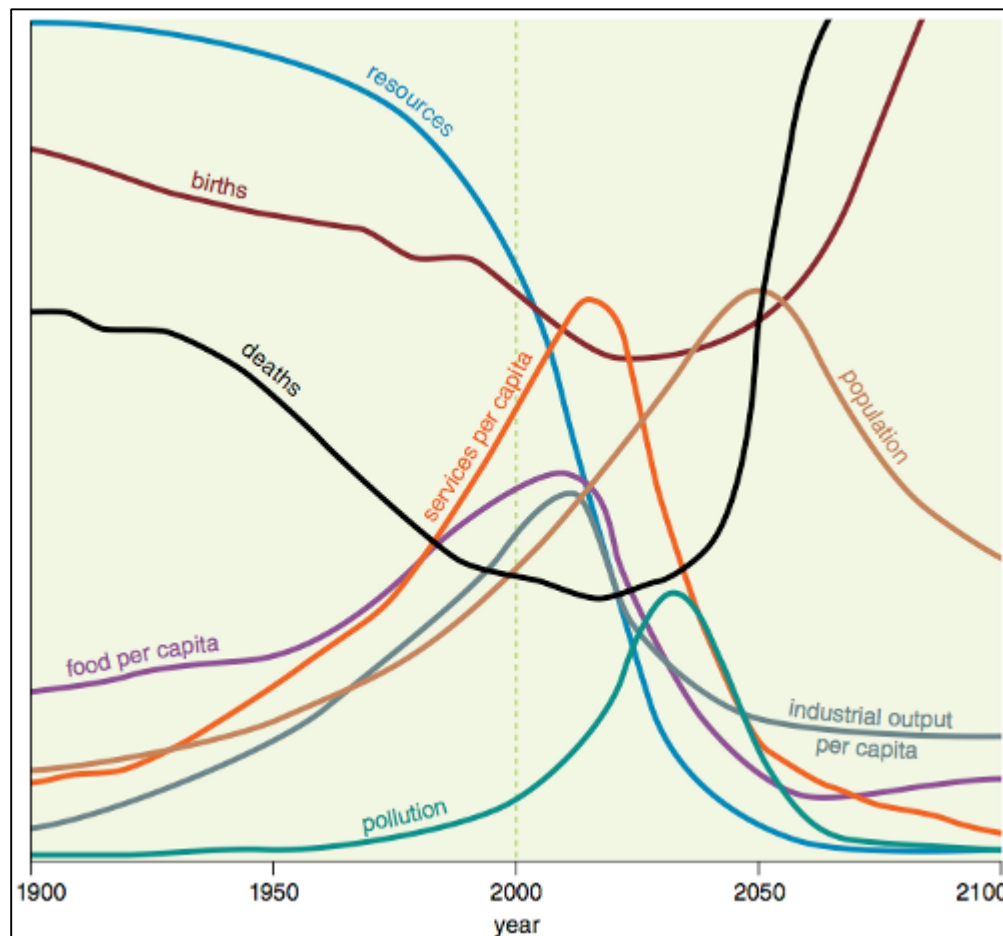
Few people would argue that climate change (defined as a change in the statistical distribution of weather patterns lasting for an extended period of time) has become a reality. 97 percent of climate scientists agree: Climate-warming trends over the past century are very likely due to human activity. Climate change will affect different parts of the world differently, and unfortunately it is likely that the poorest countries, those that are least responsible for CO<sub>2</sub> emissions and that are equipped with the least coping ability, will be affected most (Center for Global Development, 2015):



It is estimated that by 2030, the cost of climate change and air pollution combined will rise to 3.2% of global GDP, with the world's least developed countries forecast to bear the brunt, suffering losses of up to 11% of their GDP (The Guardian, 2012). Climate change will destroy millions of livelihoods in many parts of the world, such as lowlands prone to floods and regions affected by desertification, thus causing hunger, poverty and migration to less affected regions.

## RESOURCE DEPLETION

Resource depletion was among the alarming factors that caused the Club of Rome in 1972 to call for a “limit to growth”. Yet, since then, global GDP has quadrupled while GDP per capita has more than doubled (in constant 2005 US-\$ terms). Certainly, growth has made it possible to significantly reduce the incidence of absolute poverty, but the growing number of middle-class consumers, mainly in Asia, will put a further strain on natural resources, and may accelerate global warming. And while demand for resources from an exploding and wealthier population soars, finding and extracting new sources of supply is becoming increasingly difficult and expensive. The chart below, extracted from the report “The Limits to Growth: The Thirty Year Update” (Donella H. Meadows, 2004) shows



the effects of resource depletion on industrial production, the availability of food, and pollution. In 2011 the United Nations Environment Programme reported that, if nothing changes, humanity will demand 140 billion tons of minerals, ores, fossil fuels and biomass every year by 2050 (UNEP, 2011). This is three times our current rate of resource consumption, and far beyond what the Earth can supply. We therefore need to learn to decouple natural resource use and environmental impacts from economic growth. And we need to dissociate economic growth and job creation.

## THE FUTURE OF WORK

In this section we will seek to summarize the possible impact of the trends identified in section 2 on the world of work. Such impact could be positive (more jobs, better working conditions), negative (growing unemployment, deteriorating working conditions) or neutral. In many cases, the impact will be positive in some aspects and negative in others. Moreover, the impact may differ from country to country, from region to region.

Current Trends and the Future of Work				
Trend	Possible positive impact	Possible negative impact	Impact in emerging countries	Impact in developed countries
<b>Population growth</b>	Countries with low or negative population growth may be able to absorb labour migrants from other regions; More people = more demand = more job opportunities	Growing unemployment, informalization of work, deteriorating working conditions because of competition; growing labour migration	High, because of high correlation between low per capita income and high birth rates	Low, except for the aspect of immigration
<b>Ageing</b>	More job opportunities in the care industry	Strain on health and pension systems; need to extend the working life	Low, but growing	High and growing
<b>Urbanization</b>	If economic growth exceeds the urbanization rate: employment levels maintained, living standards improving; Higher demand for rural products should benefit rural producers	If the urbanization rate exceeds economic growth: deteriorating living conditions, more "working poor"	High	Neutral (urbanization has peaked in most developed countries)
<b>Automation</b>	Creates well-paid jobs in highly sophisticated professions (engineering, software development etc.).	Replaces manual work in services and industry. Will progressively take over more and more functions.	Low, because capital costs exceed labour costs	High
<b>Communications</b>	Creates mostly low-paid, unskilled jobs in online trade (transport, packaging, logistics), plus relatively few managerial and technical posts	Massive job losses in the service industry (shops, banks, transport etc.). May lead to the isolation of workers (tele-working)	Low, slowly growing	High and expanding

<b>Current Trends and the Future of Work</b>				
<b>Trend</b>	<b>Possible positive impact</b>	<b>Possible negative impact</b>	<b>Impact in emerging countries</b>	<b>Impact in developed countries</b>
<b>Digitization</b>	New jobs in information and data management, processing and analysis	Job losses affecting all functions that can be digitized	Low, but growing	High and expanding
<b>Globalization</b>	Massive job creation in exporting countries, job creation in the service industry in importing countries	Rising inequality and deteriorating working conditions/job security in both importing and exporting countries	The higher the more a country is open to the forces of globalization	
<b>Inequality</b>	None	Research shows that inequality (of income, of access, of rights) has negative effects on livelihoods of poorer segments of the population	The amplitudes of negative social outcomes is a function of the degree of inequality	
<b>Emergence of new economic powers</b>	The transfer of industries and associated jobs from developed to emerging countries (as in Akamutsa's "flying goose paradigm") and the subsequent restructuring of economies: less agriculture and more manufacturing in emerging nations, less manufacturing and more services in high-income countries			
<b>Climate change</b>	New opportunities to create "green jobs" in renewable energy, recycling, climate adaptation etc.	Massive job and income losses in countries most affected by climate change	Medium in the "North"	High in the "South"
<b>Resource depletion</b>		Job losses in resource-intensive industries and supply chains depending on them	Impact depending on the ability and willingness of the world to switch to renewables	

The impact of the anticipated global changes will be felt not only on the number and quality of jobs in different countries, but also on the nature and quality of social dialogue, and on the application and enforcement of labour standards. The growth of global supply chains controlled by multinationals weakens national social dialogue mechanisms which are further affected by the diminishing might and representativeness of worker and employer organizations<sup>7</sup>. We do not currently have institutions and mechanisms to organize social dialogue along global supply chains. Moreover, a global "race to the bottom" in terms of labour costs will necessarily favour countries that do less to apply and enforce the fundamental principles and rights at work.

<sup>7</sup> Today, just 7% of the global labour force is organized in trade unions. And this number is shrinking in most countries.



# COOPERATIVES AND THE FUTURE OF WORK

When we take a holistic view of the trends above – a growing, ageing, and more urban population, growing global trade, escalating inequality, job losses through automation and digitization, and global warming, resource depletion and pollution – we must come to the conclusion that the current economic system is not sustainable. In the past *growth* was the miracle recipe to cure all social and economic ills; today growth has reached its limits because the natural resources that fueled it in the past are no longer available. Capitalism has reached its peak. We need to reorganize our national economies and the global economy towards greater sustainability; this will require greater equality, more justice, but also less consumption and diminishing wealth. The 2015 “Atlas of Globalization” (Le Monde Diplomatique, 2015) calls for a post-growth society whose progress would be measured by a more inclusive set of indicators than just GDP, and which would put greater emphasis on equality, on sharing, on recycling and on voluntarism and community engagement. The publication, however, also draws attention to the difficulties in building a bridge from capitalism to post-growth. Democratically elected governments with their limited time horizon – going not much beyond the next election – will hardly endeavour to implement the radical political changes required by such a transition. Top-down change will happen only under a dictatorship, or under the pressure of life-threatening catastrophes; to avoid both, dictators and catastrophes, we must instead initiate reforms from “bottom-up”.

## The Future of Work and Cooperatives

### THE COOPERATIVE POTENTIAL

This brings us to the subject of our paper: the potential role of cooperatives. Can cooperatives – or, put in a broader perspective, could an economic system built on the principles of cooperation, collaboration and sharing rather than driven by competition and profit maximization – provide answers to at least some of the problems we have highlighted above? Let us recall the statement of the cooperative identity: “Co-operatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and caring for others.” Surely, such values, augmented by the seven cooperative principles, could provide the foundation for a fairer and more sustainable economic system. The ICA “Blueprint for a Cooperative Decade” reminds us that “By placing human need at their centre, rather than profit, co-operatives overcome short-termism and introduce real choice in how business is done”. Clearly, genuine cooperatives are people-centred, they promote equality and sustainability, they show concern for the community, and they look at the longer term. With these values and characteristics, cooperatives may indeed be more capable than other forms of business or social organization of alleviating some of the negative effects of global trends on jobs and livelihoods, and contribute to harnessing the positive forces of these trends. The Government of New Zealand states that “there is a need to explore and promote other options and models for people to have job and/or employment security in the future work environment *such as cooperatives*” (Government of New Zealand, 2015).

The table below gives a few examples of how cooperative could contribute to building a better future of work:

<b>Cooperatives and the Future of Work</b>				
<b>Trend</b>	<b>Positive impact on the future of work</b>	<b>Negative impact on the future of work</b>	<b>Cooperatives supporting the positive impact</b>	<b>Cooperatives alleviating the negative impact</b>
<b>Population growth</b>	Countries with low or negative population growth may be able to absorb labour migrants from other regions; More people = more demand = more job opportunities	Growing unemployment, informalization of work, deteriorating working conditions because of global competition; growing labour migration	Formation of migrant workers cooperatives and self-help groups, including groups formed by returnees in their home countries.	Formation of informal economy associations and self-help groups to improve working conditions, protect rights, defend interests, increase bargaining power, and realize economies of scale.
<b>Ageing</b>	More job opportunities in the care industry	Strain on health and pension systems; need to extend the working life	Promotion of care-givers cooperatives as an alternative to commercial and state-run care provision	Formation of workers' cooperatives of the elderly to generate income and maintain an active life (the Japanese model)
<b>Urbanization</b>	If economic growth exceeds the urbanization rate: employment levels maintained, living standards improving; Higher demand for rural products should benefit rural producers	If the urbanization rate exceeds economic growth: deteriorating living conditions, more "working poor"	Formation of urban consumer cooperatives and networking with rural producers cooperatives	As under "population growth"
<b>Automation</b>	Creates well-paid jobs in highly sophisticated professions (engineering, software development etc.).	Replaces manual work in services and industry. Will progressively take over more and more functions.	Automation is, by definition, "machine-centred", and therefore an area of little relevance to people-centred cooperatives. An exception are shared-service cooperatives for the joint use of automated equipment-	
<b>Communications</b>	Creates mostly low-paid, unskilled jobs in online trade, plus relatively few managerial and technical posts	Massive job losses in the service industry (shops, banks, transport etc.). May lead to the isolation of workers (tele-working)	Formation of workers cooperatives in the online trade, such as an "Amazon.coop"?	Formation of Internet-based collaborative platforms of tele-workers, translators, journalists etc.
<b>Digitization</b>	New jobs in information and data management, processing and analysis	Job losses affecting all functions that can be digitized	Shared service cooperatives for data-processing, cloud computing and information management (see DENIC and DATEV, Germany); cooperative groups of open-source programmers (Mozilla, Linux, Wikipedia etc.)	Self-help organizations or redundant workers?

Cooperatives and the Future of Work				
Trend	Positive impact on the future of work	Negative impact on the future of work	Cooperatives supporting the positive impact	Cooperatives alleviating the negative impact
Globalization	Massive job creation in exporting countries, job creation in the service industry in importing countries	Rising inequality and deteriorating working conditions/job security in both importing and exporting countries	All types and forms of cooperation	Social economy initiatives of local producers and consumers, fair trade, slow food, etc.
Inequality	None	Research shows that inequality (of income, of access, of rights) has negative effects on livelihoods of poorer segments of the population	--	Cooperatives are, by nature, governance structure and conviction, promoters of greater equality
Emergence of new economic powers	The transfer of industries and associated jobs from developed to emerging countries (as in Akamutsa's "flying goose paradigm") and the subsequent restructuring of economies means less agriculture and more manufacturing in emerging nations, and less manufacturing and more services in high-income countries		Promotion of South-South cooperation involving cooperative movements from emerging economies.	
Climate change	New opportunities to create "green jobs" in renewable energy, recycling, climate adaptation etc.	Massive job and income losses in countries most affected by climate change	Renewable energy generation and distribution cooperatives, recycling coops, etc.	Cooperatives as agents of climate change adaptation (example: green belt Sahel)
Resource depletion		Job losses in resource-intensive industries and supply chains depending on them		Cooperatives as agents of conversion to resource-neutral production

The above seems to indicate that indeed cooperatives could play a significant role in facilitating the transition towards a post-growth economy and society.

## TOWARDS A COOPERATIVE FUTURE OF WORK

While assessing the potential role of cooperatives in the future of work it would be important not to overestimate that role. Cooperatives are important players in the global economy, but their share of global GDP is easily dwarfed by mainstream businesses; cooperatives can show the way, give examples, shine a light; but they will not on their own be capable of solving all the problems mentioned above. Moreover, some cooperatives, especially the larger ones, may be trapped in the same logic that causes the aberrations of the neo-liberal market economy: the blind pursuit of growth, profits and shareholder value. And thirdly, cooperatives, as member-based businesses, are confined to national boundaries, whereas global value chains transcend those boundaries while being controlled by globally operating multinationals. Cooperatives must avoid the self-congratulatory tendencies that so often dominate congresses like the one that opens here in Antalya

in a few days; cooperatives are not “better” just because of their name or statute; they must prove their merits through tangible action.

During the past decade the international cooperative movement has invested considerable effort and energy in trying to convince the rest of the world that cooperatives, too, belong to the big players in the global economy; we all know the key figures: one billion members, 250 million livelihoods, 1.6 trillion \$ in revenues (the largest 300). But on the one hand the message has not found much resonance outside the cooperative universe; and on the other, it is doubtful whether the message is *relevant* to the Future of Work discussion. The true power of cooperatives does not stem from their size or economic might; the true power of cooperatives comes from their distinct nature, characteristics, values, principles and governance structure. Rather than seeking recognition from the mainstream, neo-liberal economic system the global cooperative movement should develop alternatives to that system, which has shown its drawbacks and limitations. During the coming ten years, the international cooperative movement should focus on elaborating such alternatives, not doing business as usual but rather find ways to “entreprendre autrement”. Ultimately, cooperatives should be able to demonstrate that Decent Work for All is possible even in a post-growth context.

Bearing in mind those considerations it should be possible to develop a pragmatic strategy of cooperative development in the context of the Future of Work. In addition to the examples mentioned in the table above four strategic elements would appear necessary:

*Cooperation beyond cooperatives*: the “Cooperative Society Ltd.”, recognized by law and formally registered, is just but one manifestation of cooperation. The cooperative principles and values as

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*The Mozilla Manifesto (Mozilla Foundation, 2015)*

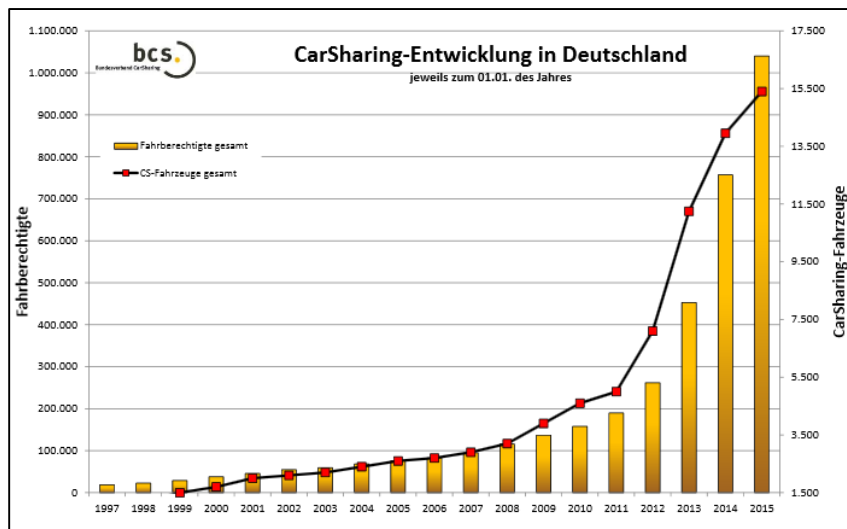
*Principle 7: Free and open source software promotes the development of the Internet as a public resource.*

*Principle 8: Transparent community-based processes promote participation, accountability and trust.*

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defined by the ICA are not limited to formal cooperatives. We have, on the one hand, a great diversity of organizations, associations and enterprises belonging to the social and solidarity economy that share most, if not all, those principles and values without necessarily calling themselves “cooperatives”. And we have, on the other hand, new manifestations of cooperation that have emerged as a result of new technologies, in particular mobile communications and the Internet.

Open source projects such as Mozilla, Linux and Wikipedia are implemented by people who are united by a common goal (the software project) without having a common bond, which is seen as essential in conventional cooperatives. The Internet has also boosted other forms of cooperation, such as the share economy<sup>8</sup> and “collaborative consumption<sup>9</sup>”. While some of those ventures (such as EBAY, AirBnB and Uber) are profit-oriented<sup>10</sup>, many operate according to cooperative principles. Beyond transport and temporary accommodation several additional economic and social sectors



could be of interest to the share economy: mutual education, health services, communication networks, energy generation and distribution, etc. In all those areas and others, cooperative ventures could play a key role. New, Internet-based forms of cooperation may facilitate the transition towards a future world of work characterized by unstable

employment relationships, isolated work places (tele-working), greater informality, and lack of representation and protection. Such new forms of cooperation are not confined to the nation-State but will have a global outreach. New forms of cooperation will strengthen the capabilities of the individual, often isolated worker: the “amplified individual” (Institute for the Future, 2007) of the future derives value and strength from his or her connection with the collective intelligence of others. Those individuals will rely on new technologies of cooperation, such as social networks. “As social animals we are capable of cooperating more deeply than the existing social order envisions” (Sennet, 2012). Many believe that the “The Future of Work is all about collaboration”, because new technologies have greatly facilitated collaboration between workers, even across continents and time zones (Haberman, 2015)

*Building alliances with likeminded movements:* as value-based organizations cooperatives belong to a family whose members share a number of principles, such as the centrality of people and community, the quest for sustainability, equality and justice, and the values of mutuality and solidarity. Other members of that family include movements promoting fair trade, organic food

<sup>8</sup> A sharing economy provides individuals, corporations, non-profits and governments with information that enables the optimization of resources through the redistribution, sharing and reuse of excess capacity in goods and services.

<sup>9</sup> Collaborative consumption as a phenomenon is a class of economic arrangements in which participants share access to products or services, rather than having individual ownership

<sup>10</sup> Those firms care little about sharing, mutual help and trust; they provide temporary access to goods and services between people that have no social relationship. Commercial share economy ventures may even contribute to deteriorating working conditions because they exclude the involvement of trade unions and destroy employment relationships (Metzger, 2015)

production and consumption, “Slow-Food”, mutual social protection, local sustainable development, environmental protection, employee-ownership, social entrepreneurship, etc. In addition, the global trade union movement, while pursuing different objectives, recognized many of the principles cherished by cooperatives; trade unions could become an ally as well. It would be in the interest of all to unite these movements under a common umbrella, with the aim of promoting a new economic model, and a better world of work. The International Cooperative Alliance, being the largest member of that family, could take the lead in building such an alliance to make the *future of work cooperative*.

*Organizing cooperation along global supply chains:* As mentioned earlier, traditional cooperatives are confined to the nation-state whereas an increasing proportion of global economic activity and global trade and finance is linked in one way or another to global supply chains. Such global supply chains do create jobs but those are often of very low quality, and the most exploitative models of supply chains often involve forced labour, child labour and informal, unprotected work. Cooperatives do already play an important role in specific global supply chains, such as coffee and cocoa, where both producers and consumers (but not the enterprises involved between the two ends of the chain) are organized cooperatively (see for example: (Sanchez Bajo, 2014)). Would it be possible to extent this model to other supply chains, such as cotton and the garment industry? Can we envision a garment workers’ cooperative in Bangladesh buying cotton from a marketing cooperative in India, and selling ready-made garments to a consumer cooperative in Japan? And would there be merit in involving other types of cooperatives, such as financial coops and shared-service coops, in such endeavours? These are just questions for the time being, but the growing economic importance of global supply chains, coupled with their often negative impact on the world of work and the environment, calls for a greater involvement of the international cooperative movement.

*Cooperatives formed in response to emerging trends:* Some cooperative ventures have been or could be initiated in response to the trends introduced in section 2 of this paper. In the area of demographics, care-givers cooperatives and self-help groups of the elderly may alleviate some of the problems caused by ageing. In the technological area “virtual” cooperatives formed by independent, own-account workers could provide voice, representation, a greater degree of stability and security as well as economies of scale and scope. In the economic area, cooperatives formed to strengthen local economies and local communities could counter the negative effects of globalization. And in the environmental area recycling cooperatives, renewable energy generation cooperatives, plus the share economy and collaborative consumption, could contribute to creating jobs while protecting the planet. These are just a few examples of a broad range of possible collective endeavours towards a better future of work.

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