THE FUTURE OF WORK: NEW WORKERS, NEW CITIZENS

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Summary

This paper builds and expands upon the discussion about the future of work that gathered a group of experts at the Rafael del Pino Foundation on November 2016 within the Foundation's "Public Sphere" programme. The list of participants is at the end of the document. The English version was prepared for the "Global Employers' Workshop. Understanding the Future of Works. Challenges and Proposals. Madrid, 2017", organised by the CEOE and OIE. Translated by Coralie Pearson.

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Introduction

One of the central themes of our time is the future of human work, which, like other spheres of our lives in recent decades, is subjected to quite powerful forces of change. According to some, these forces could completely change it, to the point of rendering it very largely superfluous. This would of course mean a radical change in the historical patterns of human life in society, in which the experience of working has occupied a central place, both in terms of obtaining a livelihood and economic growth, and also, and above all, in terms of finding purpose in our lives, primarily as participants in the framework of reciprocal exchanges and donations that make up life in community. The fear, the sense of unease or, simply, the uncertainty that something like that could happen may be what is triggering the renewed academic interest in the future of work, and the public discussion of this topic that is taking place at an international and domestic level. Another probable trigger is the sense of uncertainty and insecurity that has spread since the last economic crisis, as well as the sense that some technological changes seem to be gathering speed, such as those concerning machines endowed with some form of artificial intelligence.

Against this background and within the framework of its 'Public Sphere' programme, the Rafael del Pino Foundation asked the social science research centre *Analistas Socio-Políticos* to arrange and coordinate a meeting to enable people who are experts on this subject matter, either because of their academic or research focus, or because of their more direct knowledge as employers or workers' representatives, to share their ideas. The meeting took place on 29 November 2016 at the Rafael del Pino Foundation.

The following pages aim to set out the main ideas and the suggestions obtained from the discussion, although they are not confined to what was discussed at the meeting but expand it with a number of comments. They follow a relatively simple outline. First, we set out the trends and predictions on the future of work that are usually the focus of public discussion. We then go on to consider the scale of these events, as the main proof of the reality of these changes that apparently are upon us. Thirdly, we briefly note the causes and the context of the changes. This is all a prelude to the consideration, in fourth place, of how these changes will impact our lives individually and socially. This we present in terms of both the major narratives that are pitted against each other in public discussion, and a realistic, what we are calling "present continuous" approach that may enable us, all together, to handle these processes of change and their consequences. How to do this is what we discuss last of all by means of a brief consideration of the public policies that could accompany and/or direct the changes that are under way so that they do not lead to undesirable future scenarios involving the breakdown of the community. In this last consideration we pay particular attention to how to engage in public discussion of these policies.

1. Trends and predictions: distinguishing between different trends

In the following paragraphs we will refer almost exclusively to what is happening in the more developed countries. However, it is not wise to lose sight of the worldwide

context. At a global level, it is more difficult to tell a story of disappearing jobs as a result of automation or other causes; it is easier to tell it in terms of traditional economic structures based on the primary sector becoming economies that are more like those of the more developed countries, with a much greater weight of industry and, above all, the services sector. Just considering China and India, we would be telling a story that affects 2.7 billion of the planet's inhabitants at close range, plenty more than those who live in more developed Europe and America. Similarly, we should not forget that some of the trends that we will be noting below may be affecting the less-developed world, and/or could affect it heavily in the future.

If we focus on the more developed countries, the trends usually mentioned by those participating in the current discussion about the future of work would be the following. We describe them as thoroughly as possible in order to show that in fact this discussion is really several discussions. Indeed, these trends are not all necessarily interrelated nor do they spring from the same causes.

First of all, we mention the forecast or prediction that gives rise to the most striking headlines. In countries like the United States, it is being predicted that a very high proportion of occupations (nearly 50%, according to some sources; see below) are on the point of disappearing due to their automation, i.e. the replacement of human work with work done by machines (basically robots). This would therefore signify a fast-approaching massive disruptive process, probably without recent precedents.

Second, it is being predicted that technological change (automation and digitalisation, to use the conventional terms, but also technological innovations that do not fit into these categories) will quickly and almost continuously be bringing into being new jobs or tasks that did not exist a few years ago. These new jobs or tasks are likely to appear at a rate hitherto unknown.

Third, it is said that these technological changes would not only be giving rise to new jobs or tasks, but also reshaping many existing jobs and tasks, and not only in industry. In general terms, they would require a different complementarity between human beings and the machines with which they work and, therefore, a rather different human skill set. One particular case would be that of remote workers, or tele-workers, no longer gathered at a single workplace, but dispersed and working from home.

Fourth, it is said that certain mainly industrial but also service jobs are likely to disappear due to the migration of the production of the goods and services related with them to countries such as China or India. Here they can be produced more efficiently and exported more easily to the more developed countries thanks to the lowering of tariff barriers, the big reduction in transport costs in recent decades (keyword: containers) and, in the case of services, the development of new communication technologies.

Fifth, it is being predicted that the changes indicated in second and third place, and others, such as the expansion of services like education or health, will trigger relatively rapid growth in the number of jobs and workers that are highly skilled and highly paid.

These would be jobs with little risk of automation because they have a smaller manual component and are not very routine. At the same time, the number of workers in less skilled and poorer paid jobs is likely to rise for a variety of reasons and, in any event, their jobs would be in little danger of automation, because they involve manual but not repetitive work. Conversely, averagely skilled and averagely paid jobs that are more routine and more easily automated are likely to disappear or to grow at a much slower rate. These three trends could be summed up in a process of polarisation in the way occupations evolve, which could go hand-in-hand with a process of polarisation in employment income and an increase of income inequality. Nevertheless, there are those who suggest that there is a possibility of non-repetitive manual work and even non-manual work with a high cognitive component becoming automated before too long.

Sixth, it is being predicted that for years or even decades we would be witnessing a new arrangement of paid employment in general, partly in what we might call management "doctrine," but also in practice. This is expected to be (or may already be) more flexible, in terms of both the "internal" flexibility of companies (the ability to carry out a greater number of tasks), and "external" flexibility, i.e. the acceptance of much lower dismissal costs than in the past. Both these expectations, or realities, would apply particularly to the countries of Western Europe or Japan, but not, or not to the same extent, to the United States, with a model of paid employment that is already much closer to these expectations, particularly as regards external flexibility. That is to say, what is expected or proposed for the future is a model of employee whose job is less secure and who changes employers more frequently in the course of their working life. This model would include a different approach to that of traditional loyalty to one's employer; the firm would tend to lose its community features and come to resemble more a mere nexus of contracts, much more based on a transparent and direct bilateral reciprocity (of the style of *do ut des*) and less on an indirect reciprocity resulting from an understanding of one's firm as a ship in which everyone shares the same destination. Loyalty would be seen from a more shortor medium-term standpoint, rather than as something for the long term. Workers would be expected to make a greater contribution to the company, in terms of being able to perform more tasks, or to accept more flexible hours, and they would be offered more personalised contributions by the employer, for example in the form of more "empowered" jobs, and commitments, if not in employment security, then in the workers' employability.

The flexibility of paid employment may occur generally or it may take the form of market segmentation between workers with permanent contracts who have higher levels of employment security, and temporary workers (described as "precarious" by some authors), with much less employment security, who would be the main protagonists of the "external" flexibility of companies.

Seventh, and in connection with item six, it is not difficult to encounter an increasingly frequent discourse that proposes the figure of the salaried worker as a kind of self-employer: ready to take on greater risks than in the past and, increasingly, to find their own job security for themselves, instead of expecting it from the regulation of labour markets or from the company for which circumstantially they may work; who adapts

to, or rather “embraces” change; who is continually looking for opportunities at some company or another to improve their working conditions, or their pay, or to meet goals that are not merely pecuniary; who takes charge of the “accumulation” of their own human capital, by undertaking training throughout their working life; a worker with certain attitudes, and not only aptitudes; etc.

Without necessarily conceptualising it in terms of entrepreneurship, it is being taken increasingly for granted that workers (or a significant and growing proportion of them) will undertake strategies of lifelong learning, since technological, organisational, sectorial, etc., changes lead to the rapid obsolescence of knowledge, which must be updated on an almost day-to-day basis.

Eighth, and in connection with the two previous items, the distinction between salaried workers and self-employed workers is perhaps becoming blurred or confused. A salaried worker as described in item seven looks more like an independent professional than a traditional employee. The confusion is even more evident with the appearance (or reappearance) of employment situations that do not easily fit into the traditional categories (employee; independent self-employed worker). This is the case, for example, of what some call the dependent self-employed, i.e. self-employed individuals who do business almost exclusively or very preferably with a single company, or the type of workers related to “sharing economy” businesses or platform economies such as Uber and other similar ventures.

Another variation of this line of argument is that of imagining whether self-employment will not ultimately become the new standard form of employment.

Ninth, also connected with several of the previous items, is the predicted emergence of a new way of approaching labour relations. The trend would be towards individual negotiations between employer and worker, and/ or towards negotiations at company level rather than sectorial or national level. Accordingly, collective (and individual) action would be less channelled through the traditional trade unions, which would be relegated to a secondary role on the labour scene, or new forms of unions would emerge, less “class-related” and more closely linked to professions or to certain sectors, although traditional unions would remain relatively strong in the public sector. Similarly, in the bibliography on labour relations and on organisations, there is increasing emphasis on the erosion of bureaucratic relations arranged around a vertical hierarchy in companies, and the increasing importance of more horizontal relations. The latter would be more those of a type of worker who does not just follow orders or instructions from higher up the hierarchical ladder, but is more able to make their own decisions and has more need of cooperation with other workers of the same level in other departments to implement those decisions under conditions of increasing flexibility and competition with other firms.

Lastly, in much broader, and shall we say futurological, terms, more than a few voices are claiming that we are heading, more quickly than we usually think, towards a world in which machines (robots, computers endowed with some form of artificial intelligence) are able to produce almost all of the goods or services on their own or

with minimum input from highly skilled human work. Thus, the rest of the population would be "condemned" to leisure. This discussion is, in part, linked to that indicated at the start of this list of changes that are supposedly under way, but it leads to considerations of a different kind, since it is about how to live in, or how to arrange, a society that is completely different from the human societies there have been until now, a society in which work would cease to be a typical feature of individual human beings, but would continue to be a feature of just a few of them and of human societies as a whole. We will say something about this possibility, although we will focus on developments in the short and medium term that are easier to grasp.

2. The scale of events

Some of the events referred to above have been witnessed for years (or decades), and so we have sufficient information about the magnitude or intensity of the changes. For others we rely on estimations based ultimately on the judgement of experts and on statistical analyses arising from those judgements.

Relatively sound evidence of some changes; tentative evidence of others

We are standing on relatively firm ground regarding the following matters, although not as firm as it would sometimes appear from the public discussion.

1 Regarding the reshaping of permanent employment, sufficient bibliography exists for us to be able to state that in developed countries there has indeed been a tendency to liberalise labour markets to differing degrees over the last three decades, with the consequence of lowering the traditionally high levels of protection of permanent employment in some or quite a number of countries. For both long-and short-term monitoring, we have sources such as the OECD indicators of employment protection that are compiled from the analysis of the legislation of OECD member countries. For example, according to its indicator of protection against individual dismissals, this would have fallen in 11 of the 20 OECD countries with data available for 1985; but it would have increased in 4, and, of course, it would have remained stable in 5.[1]

2. Regarding the increasing use of temporary contracts, we turn to the same indicators from the OECD. They show that in the 20 countries referred to above, the regulation of temporary employment has become less strict in 11 of them, more strict in 4 of them and has remained stable in 5 of them. Thanks to the European Labour Force Survey we also know that in the European Union of the 15 (EU15), the number of employees with temporary contracts as a percentage of total employees rose from 11.5% to 15% between 1995 and 2015, and did so in 10 out of the 15 countries of that group. In both cases this evidence suggests a certain trend towards relaxation of the criteria governing temporary employment.

[1] Prepared by the authors using data from the OECD *Employment protection database. Annual time series data.*

3. Regarding the evolution of work by broad categories (linked to qualifications) and the possible polarisation of the structure of occupations, there is research studies and statistical evidence available in national surveys and censuses, quite a few of which lend themselves to international comparison. One example of these research studies is that of Autor (2015), which shows how in the US employment has grown in low- and high-skilled jobs, but has fallen in the middle-skilled jobs. This study also reveals that something similar has occurred in a collection of 16 European countries, this time measured in terms of the pay level of occupations, with a fairly sharp fall in middle jobs, and with bigger growth in jobs that are better paid than in those that are lower paid.[2] However, a Eurofound publication (2015) paints a somewhat more varied picture that depends on the path followed by each country, with countries like Germany or the United Kingdom becoming polarised over the last 40 years, and others (Ireland, Spain, Sweden and Switzerland) showing a pattern of growth of employment levels directly proportional to the qualifications of occupations, with times of polarisation linked to recessions.

Nor is it clear that the pay polarisation (bigger pay increases for highand low-skill jobs than for middle-skill jobs) that appears to be observed in the United States (Acemoglu and Autor, 2011)[3] is occurring generally in Europe, and the polarising effects of technology on pay observed are only minor (Naticchioni, Ragusa y Massari, 2014).

4. Regarding the increase in wage-income inequality, there are numerous studies indicating that this has been a general trend of widely varying intensity in developed countries over the past two or three decades (Rodríguez, 2015). There is more debate about the causes, although it is quite likely that it is not due to globalisation but to technical change, leading particularly to higher pay for highly skilled occupations as a result of the big rise in demand for these skills without there being a corresponding rise in the supply (Jaumotte, Lall and Papageorgiou, 2013). These same authors point to a possible effect of financial globalisation on the relatively higher growth in pay for the more highly skilled jobs.[4]

5. Regarding the "emigration of jobs" to less-developed areas like China or Southeast Asia, there is more than enough information available in the various national employment statistics. This information reveals the fall in industrial employment, in relative and/or absolute terms, in quite a number of developed countries, such as the US, and its growth in countries such as China. This can partly be attributed to the greater productivity of the developed countries, but perhaps what is most important is that they have stopped producing certain goods that are now not only manufactured more efficiently elsewhere, but can be exported to the developed countries thanks to the reduction of the tariff barriers and a big drop in transport costs. Acemoglu *et al.* (2016) have studied this relationship empirically, and estimate at two million the number of industrial jobs lost in the US manufacturing industry between 1999 and

[2] See also Goos, Manning and Salomons (2014), for the period 1993-2010.

[3] See also Autor, Levy and Murnane (2003) and Autor, Katz and Kearney (2006).

[4] Van Reenen (2011) nevertheless suggests that the increase in trade between developed and less-developed countries may have led to a greater degree of technological innovation in the former countries given the difficulty of competing on costs with the latter.

2011 as a result of the competition from Chinese imports.

6. Regarding the appearance and disappearance of jobs (or tasks) there is historical evidence to prove that it is in fact happening. The most obvious corroboration is obtained by comparing any European country at the beginning of the 20th century with that same country today in terms of agricultural, industrial and services employment. Both the absolute and relative figures have changed drastically. We know, therefore, that the changes can be very far-reaching, such as those that lead to the almost total disappearance of agricultural work in some countries, for example. And something similar can be said of the restructuring of jobs and the change in the complementarity between workers and machines: it has happened and will probably continue to happen, although it is not something that is easily quantifiable. There is a study for the United States, written by Acemoglu and Restrepo (2016), who estimate that half of the net employment created between 1980 and 2007 is the result of the employment added to occupations in which new job titles have been added, that is to say, to the occupations with the newest tasks. Which is evidence of the theory upheld by these same authors, among others, that technological change "destroys" jobs, in this case by automating them, but at the same time it facilitates the creation of more complex variations in tasks or jobs that already exist in which human beings have a comparative advantage. In a similar vein, Graetz and Michaels (2015) find no noteworthy effects of one aspect of automation (robotisation) on the number of hours worked in the industrial sector of 17 countries between 1993 and 2007, although it is possible that it has a somewhat negative effect on lowor middle-skilled workers and a positive effect on the more highskill workers. And these same authors (Graetz and Michaels, 2016), taking a similar sample of countries, conclude that technological change is not responsible either for economic recoveries with little job creation, except, probably, in the United States.[5]

7. Regarding the evolution of the figures for self-employment, evidence is provided by the national labour force, which enable us to answer the question posed by Frey and Osborne (2015: 65) as to whether this form of employment is becoming the new normal. They suggest that it is, saying that the number of people in self-employment has increased since 2000 by 30% in the United Kingdom and by 50% in the United States. The figure for the United Kingdom is probably accurate, but the figure for the United States is clearly wrong. According to data from the Bureau of Labor Statistics, there would have been growth of just 3.9% between 2000 and 2016, and self-employment as a percentage of total employment would have gone from 10.7% to 10.1%.[6] In actuality, self-employment increasing at a higher rate than that of paid employment is not a general feature of developed countries. In the EU15 between 2000 and 2015 the percentage of self-employed workers has increased in 9 countries,

[5] Similarly, Deloitte (2015) estimates that technological change may have resulted in the loss of 800,000 jobs in the United Kingdom between 2001 and 2015, but also in the creation of 3.5 million new jobs.

[6] Source: Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*. The OECD figures are not the same as those above, although nor do they reflect growth of 50%, but a fall of 6.5% between 2000 and 2014 (the latest year for which figures are available); source: OECD, *Labour Force Statistics* (stats. oecd.org).

but fallen in 6. In fact, the only countries with noteworthy increases are the United Kingdom (growth of nearly 3 percentage points, from 11.9% to 14.6%) and especially the Netherlands (growth of almost 6 percentage points from 10.3% to 16.3%). The overall figure for the EU15 as a whole rose from 14.3% to 14.6% in that same period.[7] This does not give the impression that there is a strong trend towards self-employment as the new normal.

8. Regarding the changes in labour relations, there is sufficient comparative evidence available to enable us to describe a fairly widespread trend of decreasing trade union presence among salaried workers, or to analyse the evolution in the degree of centralisation of labour relations. The statistics kept by Jelle Visser (ICTWSS) and the extensive bibliography on the subject make this possible. Here we refer only to the variation in the rate of unionisation. Between 1990 and 2013 (or the years closest to them for which figures are available), the rate of unionisation fell in all of the EU15 member states except two (Belgium and Spain). The contributing factors may well include the changing sectorial composition of paid employment, as well as certain changes in the regulation of labour markets and of collective action by workers. Apart from this general trend, what is significant is that big differences continue to be observed in the rate of unionization by country, ranging from the traditionally high levels of the Nordic countries (Denmark, 67%; Finland, 69%; Sweden, 67%) to the traditionally low levels of countries such as France (8%) or Spain (17%), or those of the Netherlands (18%) or Germany (18%), that were clearly higher in the seventies and eighties.[8]

Regarding another aspect of the change in labour relations, that of the possible decline of bureaucratic variants and of vertical hierarchies at large companies, there is some bibliography, which could be based on more empirical research. The review made some years ago by Alvesson and Thompson (2006) may need updating, but it certainly does not suggest that these variants are soon to be replaced by those of organisations that are neither bureaucratic nor based on vertical hierarchies.

9. Lastly, we can approach the set of problems that we are studying in terms of the recent evolution in labour participation in the countries that we have taken as a reference. It obviously makes no sense to merely discover the recent trends and project them forwards, but some of the factors of change have been having an impact for some time and could this impact could have been already felt. Automation may well be on the point of taking a quantum leap before too long, but it has been happening for years. Similarly, the loss of industrial jobs to less-developed countries is not something that has only occurred in the last five years.

We can observe this evolution by focusing on the employment rate of both men and women and overall in an age bracket in which we might imagine that it would be normal to participate in the labour market in those societies. Note that we are not speaking of full-time participation but rather of the proportion of individuals who have

[7] Prepared by the authors from Eurostat data, *Employment by sex, age and professional status (1 000) [lfsa_egaps]*.

[8] Source: prepared by the authors with data from Visser (2016).

that experience. The OECD statistics give the rate of participation for the 25-64 age bracket, which is more useful in this respect than the 16-64 age bracket, since in these countries young people are expected to be in training beyond the minimum working age. As a rough indicator, we have estimated the linear trend of this rate for the period 1985-2015 for 14 EU15 member states, the United States and Japan, in the knowledge that it will not necessarily extend into the future.[9]The most obvious result is the general trend for the overall employment rate of to increase, contradicted only in the cases of Finland, Sweden and the US, with falls of barely 0.5 or 1 percentage point per decade. That is to say, as a general rule, labour market participation appears to be increasing, not decreasing. Obviously the evolution is not the same for women as it is for men. For women, the change is positive (or rather, very positive) in all cases, except that of Sweden. For men, the general tendency is negative: the employment rate tends to fall in all countries except Germany, the Netherlands, Ireland and the United Kingdom. However, in many cases the falls are minimal, amounting to 1 percentage point or less per decade in six countries. There are only four countries with a fall per decade of over two percentage points: Greece (-4.2 points), Portugal (-3.3), Italy (-2.4) and the US (-2.2), all of them with figures strongly impacted by the fall in employment in the recent crisis.

All things considered, if a history of falling employment in recent decades can be taken as a harbinger of what will happen in the future, it will be a history limited to male workers that is not very dramatic in net terms (but may well be for some individual workers, or quite a number of them).

Predictions about the future and experts

We are treading on ground that is much less firm in the case of other supposed trends, since they are predicated on the future, and we only have forecasts, predictions, or extrapolations of trends in just a few countries to bigger groups of countries. They relate especially to the issue of occupations that will "disappear" as a result of automation. The estimation most often quoted by far, is that of Frey and Osborne (2013). It is based on the probability that a collection of occupations from the US Labour Department's standard classification will be automated according to the estimations of a group of experts in automatic learning (a branch of artificial intelligence) participating in a workshop at the engineering science department of Oxford University. Based on 70 occupations on which the experts were certain of their forecast and using a statistical, Frey and Osborne estimated the likelihood of automation of a further 632 occupations. After determining whether each one of the 702 occupations was at low, medium or high risk of being automated, and taking into account the distribution of employed North Americans by occupation according to the Bureau of Labor Statistics, they concluded that 47% of all US jobs would be at high risk of automation in one or two decades.

[9] We took as our starting point 1985 so that the data cover a reasonable period of time while being relatively recent, and also encompass two economic cycles starting at a time of recovery that could be similar to the present one. Source: OECD, *Labour Force Statistics* (stats.oecd.org).

For two or three years the figure of 47% has been the standard estimate in any discussion about the future of employment linked to automation. It has recently been challenged in a research paper (Arntz, Gregory and Zierahn, 2016) that applies the probabilities of automation calculated by Frey and Osborne for occupations to specific jobs, according to their task structure discovered by means of the individual responses of workers obtained in the OECD PIAAC survey of 2012. By applying their own model, based on Frey and Osborne (2013), but more centred on the jobs (and not the occupations, which are collections of several jobs) and on the tasks that are characteristic of them (which are the ones that are actually automatable), to data for 21 OECD countries, they estimate that for these countries the average figure for automatable jobs is 9%, well below the 47% estimated by Frey and Osborne, with relatively minor variations between countries, at least if we compare them to that figure of 47%.

Obviously, in both cases we are dealing with estimations, which we can consider more or less reasonable. Nevertheless, the sense of severity and urgency of the events in question that they offer is completely different. The figure of 47% signifies upheaval in the short or medium term. That of 9% suggests a substantial change that is quite a bit less drastic, to which societies like those of North America or Europe that are further ahead on the road to automation can probably gradually adapt. The first figure almost leads us to inaction, in view of the difficulty, if that is the case, of stopping, slowing down, or even handling such an extreme and rapid process of change. The latter figure fits in more with how countries such as these habitually go about things, with adaptations and partial reforms, and adjustments that respond to the changes as and when they occur. We will refer later to this kind of strategy with the term “present continuous approach,” which we believe better conveys the tenor of the comments that were made on the matter during the symposium to which this document refers.

Of course, regarding the (seeming) end of human work and its (seeming) total replacement by machines, we are moving almost within the sphere of science fiction, and at any event looking at the very long term, which may be a reason for philosophical or moral speculation, but can hardly shed light on individual and collective decisions in the here and now.

In any case, in light of the evidence and the estimations noted in this section, and according to a view that was probably fairly well shared by the symposium participants, if what we want is a more sensible public debate on these issues, then probably we are still missing quite some information and knowledge, as well as judgement. Not that it is a question of waiting to have all the necessary knowledge before making decisions, but nor is it one of making decisions on the basis of anecdotes, of the most newsworthy or striking (but not necessarily the most realistic) imagined ideas or scenarios, or of the estimations of experts that do not even reflect a consensus opinion, or extrapolations based on just a few cases (one or two countries). In particular, in these matters as well, the experts should start by taking a lesson in humility. For now, similar arguments as to the end of human work due to automation were already being propounded in the seventies and early eighties, but, as we have seen above, the employment rate has not followed the path inherent in those

predictions. Moreover, not all of the actual or expected technological advances became as widespread as some experts predicted. What we know of the success of economic experts in predicting or even diagnosing the last international economic crisis should be enough to make us wary of their (our) claims. Philip Tetlock has shown us, on the one hand, that experts on average are somewhat, but not much, more accurate in their predictions than mere chance, but are less accurate than certain basic extrapolation algorithms, particularly in longer-term forecasts (Tetlock, 2005). And, on the other hand, that there are experts who consistently stand out as good forecasters, and that their characteristics and procedures suggest that good forecasting involves gathering evidence from a variety of sources, thinking probabilistically, working in teams, and being willing to admit error and change course, among other features (Tetlock y Gardner, 2015).

That is why it is wise for political, economic and social players to adopt an attitude of alertness and caution, deliberation and experimentation, and for them to be aware of the uncertainties of the process under way, the speed of the changes, the seriousness of the possible effects of one decision or another. Uncertainties that are all the stronger when the factors in play and the discussions they arouse are taken into consideration.

3. Factors and context: two positions for discussion

We have already mentioned the factors that lie behind the trends or forecasts listed above. In this section we summarise them and place them in the context of other forecasts concerning the evolution of economic growth, which was singled out as central in the symposium that we are reviewing.

What must first be taken into account are the processes of digitalisation and automation of production and services, with very evident developments in robotisation, and forecasts of swifter progress in the field of artificial intelligence. Automation is obviously not a new phenomenon, rather quite the opposite, but there are more than a few voices arguing that there are qualitative differences with what was happening in the past as a result of the (at least apparent) enormous acceleration in the changes and in the presence of machines that are no longer as much a complement to human work but entities that operate with a great deal of autonomy and scarcely any human intervention. These processes are said to lie behind the appearance and disappearance of jobs and tasks, the appearance or reemergence of new ways of working, the bipolarisation of occupations, the bipolarisation of income and, according to some, a future in which machines will do almost all the work.

The second factor to take into account is the current wave of globalisation, that is, the liberalisation of international trade in goods and services (lowering of tariffs), international financial movements, and the international movement of workers, and the increasing flows in each one of these fields. This globalising wave provides the framework for the phenomenon of jobs that “migrate” to less-developed countries and some of the justification for the measures to liberalise labour markets. Nevertheless, although this wave of globalisation has been gradually growing over the

past decades, it cannot be ruled out that its further advancement might not be compromised by protectionist reactions of a greater or lesser significance.

Thirdly, mention should be made of the liberalisation of the markets of goods and services and of the labour markets, justified by the proponents of it on the grounds of economic efficiency, increased potential for economic growth, response to the challenges posed by globalisation, and better utilisation and facilitation of technological innovations, such as those involved in the processes of automation and digitalisation. This liberalisation would be behind the new shape of salaried employment, the segmentation between permanent and temporary contracts, the blurring of the borders between paid and self-employment, and the new trends in labour relations.

With regard to the framework of economic growth in which the changes in the working world are going to take place, discussion focuses mainly on whether appreciable rates of economic growth are going to be maintained, or whether in the future it is going to be rather more stunted. On this subject there are two positions that appear to stand out particularly in the public debate.

The first of them, which is probably the one that has struck the most responsive chord in academic and public discussion over the past decade is the position that discerns a future of "secular stagnation" or of growth that is slow, or at any rate quite a bit slower than throughout most of the 20th century. Broadly speaking, two types of reasoning underlie this forecast. On the one hand, some economists, including Lawrence Summers (2016), espouse the arguments of Alvin Hansen in the thirties and cite as a cause a future of insufficient aggregate demand as a result of a savings glut, symptoms of which would be very low inflation rates and very low interest rates. On the other hand, economists such as Robert Gordon (2012) and Tyler Cowen (2011) cite as a cause the increasing difficulties in achieving such high rates of increased productivity as in the past and therefore, particularly, supply factors. Cowen uses the metaphor of the "low-hanging fruit" that is easy to pick to describe the technological innovations that drove economic growth in the 19th and 20th centuries, suggesting that (almost) all of it has now been picked and therefore all that remain are innovations (and productivity gains) that are much more costly. Gordon in particular tends to think that the productivity gains derived from new technologies such as the internet and the like have only led to a temporary increase in productivity and will not continue to do so in the future.

The second position regarding the outlook for economic growth can be seen as more optimistic, to the extent that it expects substantial gains in productivity as a result of the new technologies that we are discussing (digitalisation, automation, the internet of things, etc.). Other technological revolutions have not produced those productivity gains immediately, or not even in the medium term, but with quite a considerable time lag, largely linked to the degree of extension of the innovations and, especially, to the degree to which businesses do not just add them to their previous ways of operating and organising themselves but substantially change those ways in order to harness the (hypothetical) advantages of the innovations. In this respect it could be thought that

the current technology revolution should continue to bear fruit in terms of substantial productivity gains. Another different, but not wholly insignificant, matter is whether we are measuring product growth accurately, because many of the advantages of technologies such as the internet, mobile telephones, etc. we obtain for free and therefore they are not included in the calculations of added value that are ultimately reflected in the productivity statistics.

Be that as it may, if we compare the rates of economic growth in the developed countries in the last two decades with those of the previous decades, it does not seem reasonable to rule out the scenario of sluggish growth as a possible limitation on the ways of dealing with the changes in work that we are studying. If growth is slow then, on the one hand, it will be difficult for the workers displaced by machines to take up other occupations. And, on the other, it will be more difficult to make all kinds of adjustments to the changes, both those involving the normal operation of the markets (see below the optimistic interpretation of the changes), or those requiring the application of preventive, directing or palliative public policies (see below), since if more resources are required, it will not be so easy to raise the necessary funds. Ultimately, if we approach the problems in terms of political economy, it will be more difficult to come to social and political arrangements between those who are usually called "the winners" and "the losers" of the processes under way, because what will be missing, or will be present to a lesser degree, is a basic component of such arrangements, namely that of an increasing economic "surplus" that is able to improve, in one way or another, the situation for everyone.

4. Consequences: two types of narratives, and their limits

A brief note on the possible consequences of the changes under way

If we think of how the workers affected by the trends set out in the first section of this document are to make a go of their lives, and not just their working lives, we will realise that the individual and social consequences of these trends may well be far-reaching.

Let us think, for now, of the consequences that job enrichment will have, both in people's working lives and elsewhere, for many workers and their families. The impact on life may be very positive, because jobs will be less monotonous, less routine, more creative and they will be performed with greater autonomy. But job enrichment does not seem to come on its own, but to be accompanied by a more intense dedication to work, greater demands and self-demands, a greater need for engaging in continuing training, a greater need to change jobs more often, and less employment security. These characteristics may well describe a proportion of workers, but they have never been applied to the large majority and it is not easy to imagine how such a thing may come about.[10]

[10] Regarding the underlying cultural backdrop to the apparent trend of the empowerment of individuals, also as workers, see López Novo (2016).

Secondly, let us think of the consequences that technological change (or globalisation) will have for the so-called "losers," or shall we say those who are most vulnerable. These are the people who are left without a job, perhaps for so long that they are unable to re-embark on a sufficiently stable professional career. Let us think especially of those who are not so young and/or who have not had as much formal education, and for both these reasons, it is (very) difficult for them to re-train for a new job. Let us imagine that their most realistic option is to accept jobs that are much lower paid, if they can find them.

Let us think, thirdly, of the consequences for their working and family life of those who for a relatively long period only have access to jobs that are temporary (in other words, precarious). Let us remember the impact that that precariousness tends to have on the age at which they can become independent of their families, on their pay level, and on their training opportunities, among others.

But let us also think in terms of the social consequences, the effects on the social structure and the patterns of social mobility. Let us remember the growth in the income (and wealth) inequality in recent years. So far we have not returned to record levels in almost any country, perhaps with the exception of the United States. However, some of the changes in the working world could accentuate this trend to levels considered unacceptable, unfair and improper in a society like ours. Or, more significantly, levels that will widen still further the gap between the experience and understanding of the private and, above all, shared lives of the big winners and those of the losers, or simply the rest of the population. One of the factors that benefited the interclass agreements of the second half of the 20th century was probably the fact that the cultural gap between social classes was substantially reduced (Pérez-Díaz, 1993). Is that cultural gap getting much bigger and with it the difficulty for all of these groups to feel that they belong to the same community?

Naturally, these social effects have their political implications in the form of growing political tension among certain social segments and others; witness thereto being the many upheavals, government party alternations and mutations of the electoral setting in numerous countries. Together with the growing difficulty in conducting a public debate and a political process on the basis of sufficient social consensus.

Or, last of all, albeit without intending to exhaust all possibilities, let us imagine that the forecast comes about of a world in which the large majority of tasks are done by machines together with not many workers, while the rest of the population remains idle. That is to say, a world in which the quantity of socially necessary human work is minimal. How do we imagine societies in which a large proportion of the population does not work, and therefore not only does not receive income from their work but also does not have an experience that until now has been central to human life?

Two types of narratives

In the public and academic discussion of the social and individual consequences of digitalisation, automation, market liberalisation and globalisation, with some

simplification and for the sake of facilitating the conversation, within the public arena we can distinguish two types of main contrasting narratives, one of which is more optimistic, and the other more pessimistic.

The more optimistic narrative appears to be more widespread among economists and is supported by reasoning and by historical experience to date. The technological changes that are under way are an inherent feature of capitalism, an economic order with high levels of disruptive innovation (Schumpeter). The present time is just another time of that disruption, like others in the past. And as in the past, and counter to the predictions of the doomsayers or Luddites, employment is not destroyed in net terms, the quantity of work that can be done is not reduced, what happens is that some jobs are destroyed and others are created. This is due to the fact that the technical and other types of changes bring gains in efficiency that reduce costs and lower the prices of products, thereby increasing the demand for them, requiring more workers to meet it. Labour is also released and can be used to satisfy other needs that are met thanks to the fact that the product is growing. It is therefore wise to distinguish between the short, medium and long term. Until now, the long-term results (in terms of material wellbeing, quantity of employment, levels of per capita income, and gains in workers' purchasing power) are very positive, even though there may be losers in the short term. And if we broaden our sights to take in the world as a whole, and look at the phenomenon of globalisation, the results are also positive. So why should it be different this time? Would it be that this time the destruction of jobs is going to be final and is not going to be offset with the creation of other jobs?

If that is the case, the more optimistic discourse that we are reconstructing here in its basic features would go on to say that, in terms of the individual and social consequences, it would first be advisable for the markets to operate with a sufficient degree of freedom, so that the changes can be swift and balance can be restored as soon as possible. Secondly, irrespective of whether other protections may be effective, there is nothing wrong with workers realising that, in fact, some or quite a bit more of their working life depends on them, and they must therefore apply themselves to the task, something with which all of us can assist. Thirdly, economic inequality is probably growing but in any case the question to ask is whether it is growing a lot or a little, whether it is, shall we say, very or not so odious, and, above all, when thinking of its possible causes, whether or not it is a lesser evil or an undesired effect of having more innovative societies that in this way are enabling other societies to grow by harnessing the fruits of that innovation (Acemoglu, Robinson and Verdier, in press). Lastly, and above all, it would be wise not to limit the potential for economic growth of the countries in question, because it would make it easier to have available a big enough surplus to finance the provision or state funding of a variety of public goods and to lay part of the safety net needed for the short term losers.

Of the more pessimistic narratives, we can highlight two by way of illustration. One of them is centred on the consequences of the technological changes under way, and sees them as having a radically new quality, insofar as they would not involve a new complementarity between human beings and machines, but the replacement of the former by the latter (Brynjolfsson and McAfee, 2014). In the

long term they would signify a world in which almost all imaginable goods or services are produced by machines (robots) and only a few people work who are generally highly qualified and highly paid, and the majority do not have a job and cannot survive on the basis of their own working income (Ford, 2015). Ford considers the possibility of a dystopia, which he calls "techno-feudalism," in which the rich and powerful would live in militarily defended communities separate from everyone else, or in cities for the elite, which would differ from historical feudalism in that the rest of the population (the peasants in times gone by) would not even be exploited, they would just be superfluous.[11] Neither Brynjolfsson and McAfee or Ford believe this fate to be inevitable, and they recommend a series of measures to avoid it, but considering it likely that it will come about, they imagine a non-working population sustained by some variant of a universal basic income if what we want is to prevent the dystopian scenario from happening. In a similar vein, Harari (2016) imagines a possible future in which algorithms and machines control the economy and other spheres of life, a small number of enterprises are the owners of them, and most people, basically, are unnecessary, thereby destroying what Harari sees as the principal incentive for the elites to invest in the health, education or welfare of the majority, and assuming, moreover, that their status as legitimate owners of all the means of production were recognised by the rest of society.

The other narrative in our illustration covers a larger part of the overall changes considered earlier (automation, market liberalisation, globalisation), and is much more critical of the capitalist system. We can take as an example of it the text of Evans and Tilly (2015). According to these two authors, the current changes form part of a long-term trend in which technological change is being used to reduce the collective power of the workers and transfer resources from the workers to the capitalists. The technological and organisational changes and the regulation of the markets are not aseptic but political. The path they are laying is that of a dystopia, in which there is an acute shortage of work, with just a few people reaping huge benefits (income) from technological change and the protection of the ownership of ideas, and capital increasingly dictating working conditions. This signifies the growing expansion of precariousness and oppressive working conditions, as well as an increasing social polarisation, all of which would be felt more acutely in the countries of the South than in those of the North. This strategy would be composed of the following components: the use of technological changes to destroy jobs, the restructuring of organisations as part of neoliberal policies, and insufficient investment in human capabilities (public spending on health, education, etc.).

[11] A recent article in the *New Yorker* magazine (Osnos, 2017) on the survivalist practices of perhaps a broad segment of the wealthiest people in the United States is revelatory of the two main options that are left to them in the face of a catastrophic scenario. One of the very senior executives interviewed poses them starkly: instead of thinking about preparing ourselves to resist the dispossessed masses that will attack us in the future, why not think about what we ourselves can do to prevent that eventuality?

5. A third possibility: the present continuous approach

However, if one looks more closely, the positions of both the, shall we say, optimists and the pessimists include more moderate or prudent positions that propose measures or policies that will temper the effects of those trends. Which complicates the discussion but also makes it more interesting.

In fact, the proponents of the more pessimistic narratives imagine measures that would alter or mitigate the dystopian trajectories, either because they know that their arguments will be more persuasive if they leave a glimmer of hope, or because they realise that it has not been long before events have proven similar narratives to be wrong in the past, or simply to contribute to improving living conditions. Brynjolfsson and McAfee (2015) devote chapters 12-15 of their book to these measures, which they summarise in McAfee and Brynjolfsson (2016). Public policies should endeavour to ensure that we obtain the greatest benefits from the changes under way and to protect the most vulnerable: on the one hand, they should facilitate a more flexible economy (and society) with a greater capacity for experimentation; and, on the other, they should incentivise work and not plan its obsolescence, including in any case some form of guaranteed basic income for the most vulnerable. In their article, Evans and Tilly (2015) strive to identify strategies already in progress that will reverse the dystopian trend, mentioning, in particular, the experience of the public policies (education, health, active labour market policies) of the Nordic countries, as well as their ability to produce a high proportion of jobs that involve work-based learning.

Nor is the more optimistic narrative usually presented in terms of a laissez-faire market approach. Authors such as Dorn (2015) point out that although technological change is unlikely to end up posing problems to political decision-makers in terms of the quantity of employment, it may well do so in terms of increasing polarisation and inequality, as well as the skills required. That is to say, they imagine significant public interventions that correct the undesirable results of technological change in market conditions and help workers to adjust to those conditions and that change.

Whether implicitly or explicitly, as far as the practical proposals that both types of narratives contain are concerned, they ultimately converge in what we might see as a formula that includes markets that operate with a reasonable or large amount of freedom and the continuation of the community (normally national) by means of states that regulate those markets allowing them to operate with flexibility and without barriers to entry that limit competition or innovation, but that also apply public policies to ensure sufficient (or more than sufficient) levels of social equity, normally within the framework of societies with high degrees of public deliberation and experimentation.

We believe that that convergence, which seemed to us to be fairly widespread in the symposium that we are reviewing, makes it advisable to think in terms of handling things by means of reforms and adjustments in that “present continuous” modality of action, tempo and attitude under which, to a large extent, human communities operate, based as they are, when it comes down to it, on *homo politicus* (social and

therefore political) rather than on *homo oeconomicus*. We are calling it "present continuous" because it is not a mere present, a living for the day, nor is it a living in the present understood as simply the anticipation of a future to be conquered by means of some great clairvoyant strategy, driven perhaps by futuristic charismatic elites. What it is is a continuity with past experience, and a (possible) learning from it, and a placing oneself habitually in the foreseeable and imaginable near future, without letting oneself be swept away or lose hope over unpredictable, utopian or dystopian distant futures.

It is an approach that is set out more in terms of understanding what is happening, or rather what happens along the way, than of predicting what might happen. Of never failing to examine the predictions of the experts with a critical eye. Of observing and understanding the changes in progress and how they are being met in one place or another. Of heeding the most decent, worthiest and most liveable examples that exist for what can be learned from them. Of considering the social and cultural contexts of the changes (and their consequences). Of taking into account people's preferences. Indeed, ordinary people, more or less consciously, are already interpreting the changes and beginning to act as citizens. Proof of this are the social mobilisations and political changes of recent times that are probably connected, at least in part, not just with the issue of the winners and losers in the processes of change, but with what these processes mean in terms of uncertainty about the continuation of the community. It is also a question of listening both to the protagonists and to the "sufferers" of the changes. But also of not taking the changes for granted, as an inevitable fate, not least because many changes that were foreseen in the past never actually took hold, but also because technological changes cannot stand on their own, they need cultural, social and political frameworks that support them or serve as a conduit for them, and because those frameworks can vary considerably, as can be seen from the different national experiences that are currently in progress.

The present continuous approach seems clearly appropriate for managing, as it were, the world as it has been managed at least in recent decades: in societies in which work is, to a large extent, the centre of individual and social life and that of the community. In fact, work is one of the central spheres in which the exchanges (but also the donations) that are part of what make up that community occur. Would this approach also be good for a world with very little work and a great deal of leisure time, that is to say, for the scenario in which robots (almost) entirely replace human beings? Would it be good for a world with very little work (of a high quality, intellectual, engineering, etc., nature) performed by only a few, and large masses of population with poor quality jobs or without jobs for a large part of their life? How might we imagine here the exchanges and donations that contribute to maintaining the community? Would there be just a few people who are very productive thanks to their knowledge and their machinery maintaining the very many (seen as) not contributing anything to the whole? Or would the community simply break down?

Probably in such circumstances an approach like the one proposed here would have ceased to make sense. However, it does make sense if what we are seeking is to avoid those scenarios. It is possible to operate in the present continuous with one's eyes

fixed on the catastrophic scenarios, staying alert to decisions or developments that could lead us towards them "without us realising it," and endeavouring, with all our limitations, of course, to adopt the measures that will keep us from experiencing the worst consequences of the changes we are considering.

6. Time for substantive policies and public discussion of them

Starting from the interpretive framework outlined in the above controversial analysis of the trends, factors and consequences of the changes under way, and taking into account the position of prudence in handling the situation that we have called the present continuous position, the symposium participants gave consideration to a series of public policy measures that we comment on in the following paragraphs. These are measures that are often put forward in public discussion and could be meaningful in order for the changes we are analysing to produce their positive effects (in terms of increasing human wellbeing), cause as little harm as possible to those we have been calling "losers" under the changes, and give warning of developments leading to the undesirable future scenarios. We outline them in brief and emphasise the type of public conversation in which these public policies should be considered and adopted if what we seek is for the changes to make it possible or to contribute to maintaining the communities of reference, which will probably be transformed themselves.

Policies on economic growth

The warning signals being given by the proponents of the theory of secular stagnation and those from the last economic crisis and the subsequent relatively stunted recovery in quite a number of countries remind us of a basic element of the policies to which we are referring: the fact that they should contribute to sustaining a certain pace of economic growth since (hitherto) that has meant -to simplifymore employment. Although this is not the place to focus on them, it is appropriate here to draw attention to their central role in our discussion as conditioning factors of the context of growth or stagnation and because of the interaction that some of them may have (such as the so-called supply side policies or R&D policies) with the characteristics of work in the present and the future that we are considering here.

Training the "new workers," but also the "new citizens"

To the extent of there being a requirement for growing numbers of highly qualified workers and/or to the extent that salaried workers (or dependent self-employed workers, or whatever the reemerging intermediate forms are eventually called) do indeed have to adapt to changing their jobs or their employer with some frequency, the hope in the academic and public discussion is that the different levels of production of training and education can rise to the challenge.

Part of this what we might call everyday learning they will be able to acquire where they work (informal "learning by doing"), but another part of it will require more formal, more structured training.

The expectation for the formal educational system (particularly in its branches of vocational and university training) is that it will be more flexible so that it can respond better to the demands for qualification from the productive system, both in terms of the content that is taught and in terms of offering training opportunities to adult students who would return with some frequency to the educational system to the extent that it would be of use to them for working lives, characterised by lifelong learning. That greater flexibility will mean, at the very least, if we focus on a country like Spain, significantly higher levels of (responsible) autonomy for educational establishments and consequently much less "bureaucracy". And it will be able to benefit from the increasing expansion of the new variants of online training, of which MOOCs are just one example.

That "greater responsiveness" to the demands of the productive system may perhaps require greater cooperation between educational establishments and businesses (or business associations). The German model of dual vocational training might not work as well for an economy that is much more based on services and much less on industry, but some of its features may still be meaningful. We are not just referring to the central dual component of training, which could be extended to university training, but especially to what it entails as regards the collective bearing of the costs of training workers. This would prevent the situation of there being little training made available if it has to be funded by the worker's employer, due to the prospect of other companies benefiting from it without paying for it, or if it has to be funded by the workers themselves, due to the prospect that the returns on that training would not all revert to the worker's own income, but would also benefit their employer(s). Accordingly, it is appropriate to mention also proposals such as training vouchers or personal training accounts, and to learn from the experience of other European countries with their different modalities of these vouchers and accounts.

In the symposium some significant reference was made to the content of the training to be expected, in terms that are not usual in a discussion of these matters. On the one hand, attention was drawn to the need to improve the technical training of workers so that they can adapt to the increasing digitalisation of many jobs, to the need to improve vocational training systems such as Spain's system, and to strengthen general education, because it is a requirement to enable greater adaptability to changing working and production conditions. On the other hand, attention was drawn to the humanistic component of general training, to the extent that it could contribute to improving not the information that citizens or workers have available, but their judgement. This need is what would lie behind the ideas of those who rather than speaking of the advantages of so-called big data, prefer to speak of smart data, the adjective referring to the contribution made by human beings with their judgement, which enables them to make sense of the apparent findings obtained from the processing of thousands or millions of data obtained by means of digitalising the behaviours and decisions of, for example, consumers. In this same vein, it was pointed out that judgement is to be expected not only from workers of a higher technical level but from almost anyone who has to operate with increasingly "intelligent" machines. In opposition to the image of a worker as an appendage or accessory to a machine one can picture a

creative, and to some extent reflexive, interaction with the machine, as probably occurred in the past.

But at the same time, it can also be understood that the training required of the new generations that are joining the labour market, and of the generations of young people, adults and older people who remain in it, and require continuing adaptation, includes something more. It requires general and university training that encourages them to perform their role as citizens, able to understand and support, or discuss, or propose alternatives, to the public policies that establish the regulatory framework of the labour market, that encourage innovation and ultimately growth, for example, and that provide a response to the social effects of the economic changes under way.

Policies relating to the most vulnerable, the so-called losers of the processes of change

Almost all scholars of digitalisation, automation and the other processes of change referred to above agree that they will benefit certain types of workers more, and will be less beneficial to, or will harm, other types of workers. These other types may be middle-level workers (or, in other words, middle-class) with routine factory or office jobs with tasks that are more easily automatable and the decline of which has already begun to be observed in a number of countries. Or it may be any worker, not necessarily at those levels, who loses their job due to changes brought about by the technological transformation either directly or indirectly (for example, through organisational changes) and who, because of their age or for other reasons, does not have the appropriate training to find jobs of a similar level to the one they were doing before, and has to settle for jobs with less pay and/or worse conditions. Or it may be any young future worker who encounters little demand for the skills they have. These are just some examples.

A variety of solutions are usually suggested for these types of workers. For now, the proposal is for training solutions, so that they acquire capabilities that will make it easier for them to find a new job in a changing labour market. This type of solution forms part of the active labour market policies that may well make most sense both today and in the future, together with other non-training measures that in any case facilitate the search for employment. These latter measures are also very important, even if they operate more in the short term, because they help workers to become as least disconnected from employment as possible; otherwise, the return to work becomes quite a bit more complicated.

The countries where active policies seem to work best (for example the Nordic countries) are characterised by a regulation of labour markets that, broadly speaking, we could label with the term “flexicurity”. A set of effective active policies would represent the security component that the community as a whole (national in these cases) provides to employees who are being offered working and employment conditions that are much more flexible and insecure than in the past. They represent the element of “community,” of general social support for new forms of employment that are not being predicted for the future but that are already here and will continue to be here. Support that will be necessary also in

the future, in the opinion of not just a few of the symposium participants, if we do not want the worst predictions of the pessimistic narratives to come true.

In quite a few or even many cases not even these active policies will be enough, because we could be talking of workers whose productivity is very low and who therefore will face minimum pay under market conditions. This is the case for example of those whom authors such as Tyler Cowen have referred to as "zero marginal product workers,"[12] who tend to remain on the margins of the labour market throughout the economic cycle, since they are the last to be employed during a boom and the first to lose their jobs in times of crisis. Or they may be workers whose productivity could be greater but who are unable to find jobs that match their potential productivity because the "gaps" that they could occupy are already filled, or because the aggregate demand is not sufficient.

If we want these workers to join the labour market, then they will have to cost their employers little. This can be achieved in two ways. We can allow the labour market to operate with complete freedom and for them to receive very low pay, which may be too low according to the prevailing criteria of decency in societies such as ours. Or we can keep their labour costs very low for employers, but between us all supplement the pay of those workers to bring it to what are considered decent levels. In connection with this latter possibility, the measures usually proposed in public discussion are as follows. One option that could be considered is to substantially reduce the social security contributions linked to those jobs or to reduce other taxes on employment. In the first case, in public pension systems such as Spain's system, those measures would have to be supplemented with extra funding of public pensions by means of taxes (given the loss of contributions) and guaranteeing a minimum pension for those workers if ultimately they have contributed very little in the course of their working life. Another option for consideration could be different types of pay allowance, either in the form of negative income tax, or in other ways.

Or we could consider some kind of basic income paid out of public funds and not linked to employment but rather based on the idea that the community must take responsibility for its weaker members, initially because they may find themselves in that situation simply as a result of misfortune and not necessarily through any "sins" of their own. Nevertheless, it should not be forgotten that it is not that easy to be clear about the appropriate level of such basic incomes, or that they may result in undesirable effects, in terms of discouraging finding a job or returning to work (if that were possible) or of adjustment to a lifestyle from which work is absent with the result that the experience and sense of contributing to the welfare of others may be severely reduced, and the impact that that may have in terms of individual worthiness.

[12] For example in this blog post: "Zero marginal product workers" (http://marginalrevolution.com/marginalrevolution/2010/07/zero-marginal-product-workers.html).

Regulating the new forms of work

In almost the whole of the Western world one can imagine that the new forms of work and workers will find some kind of legal fit. In this respect, at least two sets of challenges should be mentioned. On the one hand, are those concerning the legal form to be adopted, if that is the case, by the perhaps growing number of the so-called dependent self-employed and workers of a similar kind, i.e. those who provide their services via platforms like Uber. On the other hand, and probably more importantly, are those posed by the growing situation of salaried workers with permanent contracts who change employers relatively frequently, sometimes voluntarily and sometimes not, owing to the greater facilities for dismissal. In the case of these challenges, two of the themes most present in public and academic discussion are firstly that of how to regulate (and/or, as appropriate, publicly support) the commitments of employability that employers may take on with workers who will not necessarily be with them for very long. The proposals for meeting them include solutions like the training account referred to earlier. In second place is the challenge of setting up a system of severance pay that affords greater security to these more flexible workers. One of the options that can be considered here is that of the "Austrian backpack" (a capitalisation fund made up of regular contributions from employers who in return only have to pay small amounts of severance pay).

With the idea of achieving flexibility with few undesirable results, mention should be made of the advisability of regulations (such as, in the case of a country like Spain, the single contract or some similar arrangement, though we are not prejudging a hypothetical consensus in this respect) in order to minimise the segmentation of labour markets into permanent and temporary employment contracts.

7. Conclusion: the mode of public policy and the preservation of the community

In the panel discussion, apart from the references of the participants to one or another public policy, there did appear to be a more general concern as to the way in which they should be designed and implemented. That way would be consistent with what we have called the spirit of the "present continuous" which, as far as public debate and pubic policies are concerned, would follow criteria such as the following, not necessarily in order of importance. First, listening more attentively to the voices of the public, of the ordinary citizens (Pérez-Díaz, 2016). They may not be aware of the academic or technical discussions about the future of employment, automation and other such matters, but they do have and express inklings that come from their experience and/or from less academic, perhaps political or simply day-to-day spheres of public discussion, that may well be closer to the ground. And they may be expressing them by means of mobilisations that are not necessarily linked directly with the matters that concern us, or by voting for new parties whose proposals resonate with the discontent or uncertainty of certain groups of population, and of those who feel they share the same fate. That listening and that attentiveness is necessary if one seeks to prevent the "remedies" supported by such people being worse than the apparent or real ills, giving rise to populist and protectionist policies that excessively limit competition, or to regulations with little

sense of the markets, not to mention fiscal policies that are even more difficult to sustain than the current ones in quite a number of developed countries. All of this involves public debate that does not exclude the ordinary public.

Second, there should be a public debate focusing on understanding the issues, rather than on making more or less accurate predictions about a near or distant future that need not come about. In this respect, several of the symposium voices pointed on the one hand to the need to determine as accurately as possible the scale of the changes under way and not let oneself be carried away by figures that acquire a kind of magical nature in the discussion because they end up by not being questioned, as though they were the last word. One example would be that of almost half of the types of work disappearing due to automation. Reflecting on the methods used to estimate such figures or to determine one trend or another is central to this point. As is prudence when it comes to considering the forecasts of experts (starting with the participants in the symposium, of course). This is advisable given their past record, which is not very reliable in the field this document relates to or in others, as we have seen earlier. The works cited of Philip Tetlock and, in particular, his project on “good judgement” should be very illuminating in this respect, especially for correcting the hubris with which (we) experts often take part in public debate.

Third, it is a question of public policies with considerable degrees of experimentation or, at any rate, of tracking the experiences of other countries that are facing similar problems. This can bring learnings with greater degrees of realism. Useful here are examples such as the experimentation with a variant of basic income on which Finland is about to embark, or simply paying attention to countries outside the Anglosphere, which is usually the main focus of quite a number of those who venture to make predictions about the future of employment.

Fourth, the previous suggestion of observing the experiences of different countries brings us to a final point concerning how policies fit in with the community in question, what impact they have on it and whether it is advisable to strengthen or review the type of community support required for individuals who find themselves affected by the changes brought by those policies.

Ultimately, in this field of the future of work, as in others, today, as always, it is essentially a question of how to maintain the types of reasonable and reconciled political community that make possible what both the classics and ordinary people used to and still do call a good human life. Upholding it does not mean refusing to change, nor merely lamenting and pining for the lost community while allowing oneself to be carried away by elites or counter elites who promise its prompt and easy restoration. Upholding it means reminding the elites, or the “winners” of the changes under way, that they also belong to a community that must be cultivated, not just with public policies, but also with private initiatives.

In actual fact, we are continually engaged in reimagining and recreating the political community, adapting it, more or less successfully, to new environments or challenges. The question is how we carry out this process.

Bibliographical references and data sources

Acemoglu, Daron and David H. Autor. 2011. “Skills, tasks and technologies: implications for employment and earnings,” in David Card and Orley Ashenfelter, eds., *Handbook of labor economics. Volume 4*. New York: Elsevier, pp. 1043–1171.

Acemoglu, Daron *et al.* 2016. “Import competition and the great US employment sag of the 2000s,” *Journal of Labor Economics*, 34, 1: S141-S198.

Acemoglu, Daron and Pascual Restrepo. 2016. “The race between machine and man: implications of technology for growth, factor shares and employment,” *NBER Working Papers*, 22252.

Acemoglu, Daron; James A. Robinson and Thierry Verdier. In press. “Asymmetric growth and institutions in an interdependent world,” *Journal of Political Economy*.

Alvesson, Mats and Paul Thompson. 2006. “Post-bureaucracy?,” in Stephen Ackroyd *et al.*, eds. *The Oxford handbook of work and organization*. Oxford: Oxford University Press, pp. 485-507.

Autor, David H. 2015. “Why are there still so many jobs? The history and future of workplace automation,” *Journal of Economic Perspectives*, 29, 3: 3-30.

Autor, David H.; Frank Levy y Richard J. Murnane. 2003. “The skill content of recent technological change: an empirical exploration,” *The Quarterly Journal of Economics*, 118, 4: 1.279-1.333.

Autor, David H.; Lawrence F. Katz y Melissa S. Kearney. 2006. “The polarization of the U.S. labor market,” *NBER Working Paper*, 11986.

Bureau of Labor Statistics. *Labor Force Statistics from the Current Population Survey*.

Cowen, Tyler. 2011. *The great stagnation: how America ate all the low-hanging fruit of modern history, got sick, and will (eventually) feel better*. Dutton.

Deloitte. 2015. *From brawn to brains. The impact of technology on jobs in the UK*. London: Deloitte.

Dorn, David. 2015. “The rise of the machines. How computers have changed work,” *USB Center Public Paper*, 4.

Eurofound. 2015. *Upgrading or polarisation? Long-term and global shifts in the employment structure: European Jobs Monitor 2015*. Luxembourg: Publications Office of the European Union.

Eurostat. *Employment by sex, age and professional status (1 000) [lfsa_egaps]*.

Ford, Martin R. 2015. *Rise of the robots: technology and the threat of a jobless future*. New York: Basic Books.

Frey, Carl Benedikt and Michael Osborne. 2013. "The future of employment: how susceptible are jobs to computerisation?," *Oxford Martin School Working Paper*.

Frey, Carl Benedikt and Michael Osborne. 2015. *Technology at work. The future of innovation and employment*. Citi GPS.

Goos, Maarten; Alan Manning and Anna Salomons. 2014. "Explaining job polarization: routine-biased technological change and offshoring," *American Economic Review*, 104, 8: 2.509-2.526.

Gordon, Robert J. 2012. "Is U.S. economic growth over? Faltering innovation confronts the six headwinds," *NBER Working Paper*, 18315.

Graetz, Georg and Guy Michaels. 2015. "Robots at work," *IZA Discussion Papers*, 8938.

Graetz, Georg and Guy Michaels. 2016. "Is modern technology responsible for jobless recoveries?," *Centre for Economic Policy Research. Discussion papers*, DP11789.

Harari, Yuval Noah. 2016. *Homo Deus. A brief history of tomorrow*. London: Harvill Secker.

Jaumotte, Florence; Subir Lall and Chris Papageorgiou. 2013. "Rising income inequality: technology, or trade and financial globalization?," *IMF Economic Review*, 61, 2: 271-309.

López Novo, Joaquín Pedro. 2016. "La sociedad de los individuos empoderados." Unpublished.

Naticchioni, Paolo; Giuseppe Ragusa and Riccardo Massari. 2014. "Unconditional and conditional wage polarization in Europe," *IZA Discussion Papers*, 8465.

OECD, *Employment protection database. Annual time series data*.

OECD. *Labour Force Statistics* (stats.oecd.org).

Osnos, Evan. 2017. "Doomsday prep for the super-rich," *The New Yorker*, 30 January.

Pérez-Díaz, Víctor. 1993. *La primacía de la sociedad civil*. Madrid: Alianza.

Pérez-Díaz, Víctor. 2016. "El sueño de la razón produce monstruos. A propósito del tema de las demandas y capacidades cívicas de hoy", *Información Comercial Española*, 891: 21-32.

Rodríguez, Juan Carlos. 2015. “Pobreza, desigualdad y movilidad en España: una perspectiva diacrónica y comparada,” in Miguel Marín, ed., *Desigualdad, oportunidades y sociedad del bienestar en España*. Madrid: FAES, pp. 41-72.

Summers, Lawrence H. 2016. “The age of secular stagnation: what it is and what to do about it,” *Foreign Affairs*, March/April: 2-9.

Tetlock, Philip E. 2005. *Expert political judgment. How good is it? How can we know?* Princeton and Oxford: Princeton University Press.

Tetlock, Philip E. and Dan Gardner. 2015. *Superforecasting. The art and science of prediction*. New York: Crown.

Visser, Jelle. 2016. ICTWSS: *Database on institutional characteristics of trade unions, wage setting, state intervention and social pacts in 51 countries between 1960 and 2014. Version 5.1*. Available from http://www.uva-aias.net/ en/ictwss.

Van Reenen, John. 2011. “Wage inequality, technology and trade: 21st century evidence,” *Labour Economics*, 18, 6: 730-741.

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