IESE Business School
University of Navarra

International Economic Overview

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Index

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On the Future of Work[1]

Of the three sources of income inequality – the distribution between capital and labor, the inequality within labor (the structure of wages) and the unequal treatment of labor (discrimination in employment) – the last two are possibly the most relevant for most people today.

Portending deeper changes in the world economy, both seem to have been increasing since the mid-70s. Such evidence as exists of these changes is far from conclusive, trends may be scarcely visible, data sources themselves are the subject of debate; but the likely consequences of these shifts in the nature of work and the future of labor are important enough to make one speculate about them. After all, as the old saying goes, little knowledge of important things is to be preferred to exhaustive knowledge of irrelevant ones.

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Jobless Recoveries and Polarization

Concerns about the future of work concentrate on two interrelated topics: jobless recoveries, which have to do with the quantity of labor; polarization, having to do with the quality of labor that the market may demand in the future.

Jobless recoveries are well documented. In the US, for instance, the percentage change in nonfarm employment has been steadily decreasing since the 1940s, especially after the 1970s: after 2000, it has been negative. But changes in employment have not been uniform across the skills scale: if we were used to both employment and wages rising monotonically with the level of skill of workers, between 1980 and 2005 we observe that both employment and wages have risen at the extremes of the skill distribution – that is, for unskilled and highly skilled labor – much more than at the middle: the economy seems to have less and less use for middle-skill workers (Fig. 1).

A simple model, developed by Goldin and Katz, helps explain in part the evolution of employment and wages: employment may be considered as the result of a race between education and technology, education shaping the supply of labor, technology the demand for labor.[2] So, for instance, at the start of industrialization, technology demands more skilled labor, while the labor force provided by agriculture consists mainly of unskilled workers; as a result, both wages and employment of skilled labor rise relative to those of unskilled labor. At first sight, polarization is not apparent: employment and wages rise together with the level of skill.

Since the last decades of the 20th century, however, two new forces have appeared to widen the scope for polarization: on the one hand, the entry of large emerging economies into the world market has greatly increased the supply of relatively unskilled labour. Firms from advanced countries have taken advantage of the possibility of relocating their production facilities in countries where labor was cheap (off-shoring and outsourcing).

[1] This note is partly based on a lecture delivered at the Cercle Financer in Barcelona, March 10, 2014. I wish to thank its President, Mr. Isidre Fainé, for his kind invitation.

[2] One should at least add population growth on the supply, GDP growth on the demand side. We may safely disregard both in what follows.

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New forces have widened the scope for polarization: the entry of large emerging economies, which has increased the supply of relatively unskilled labor; and developments in information technology, which have made it possible for tasks to be performed at a distance.

On the other hand, developments in information technology have made it possible for tasks to be performed at a distance. Trade is no longer limited to things that can be put into a box; many services – including those requiring highly skilled labour – can be off-shored. As a result, many jobs have fallen prey to automation, especially in the middle range of skills, while professional services not requiring physical presence, such as some medical, technical or legal tasks have become vulnerable. Those requiring physical presence, whether unskilled or skilled, have remained protected. Table 1 is an example of this new division of labor.

We Have Been There

All large changes create winners and losers, and it is not always those at the bottom that lose the most. With the introduction of mechanical looms in the textile industry for instance, it was not the unskilled workers that lost out, but the artisans who made cloth at home: the luddites that wrecked the first machines were not at the bottom of the skill distribution. Similarly, when the first assembly lines were built at the start of the 20th century in the automobile industry, the losers were not the unskilled workers but the specialists, highly skilled workers capable of performing high-precision series of tasks. So polarization is not really new in kind, although it may be much wider in scope today than it ever was in the past.

The Longer View

If one takes the longer view, should one worry about these changes, or let market forces direct the course of events? One might say that, after all, the story of the industrial revolution has

Figure1

Hollowing out the middle

Research by MIT economist David Autor shows that between 1980 and 2005, the middle class suffered both in share of jobs and in wage growth. The top chart shows share of employment held by workers of different skill levels; the bottom shows changes in wages.

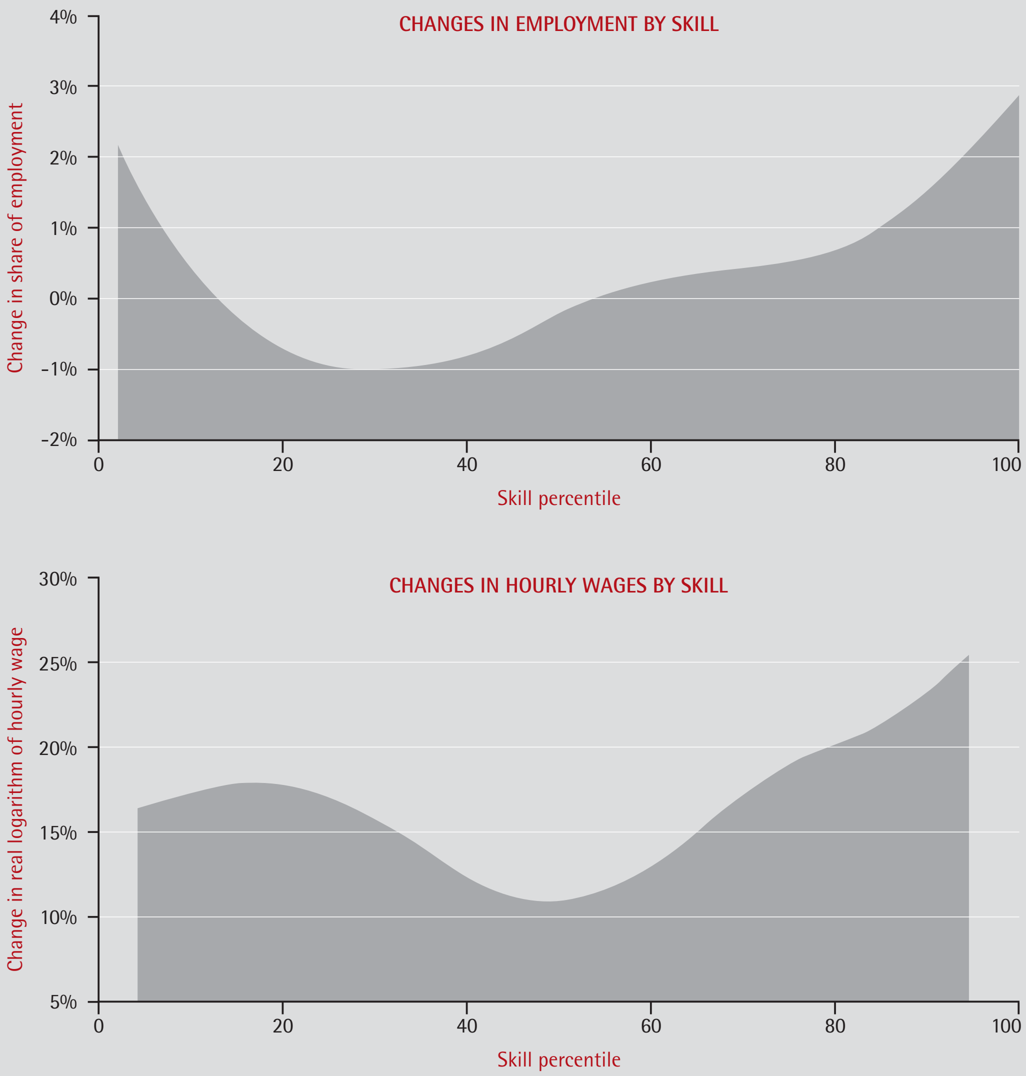

Table 1. The Mix of Jobs in the US: 2000-2010

FASTEST-GROWING JOBS	VULNERABLE JOBS
Software engineers-applications	Butchers
Computer support workers	Secretaries and stenographers
Software engineers-systems	Payroll clerks
Network administrators	Bank tellers
Network systems analysts	File clerks
Desktop publishers	Cashiers
Database administrators	Typists
Personal and home care aides	Pharmacists
Computer systems analysts	Bookkeepers
Medical assistants	Postal clerks

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been a great success, not only in increasing material welfare, but also in creating many more jobs than those existing 200 years ago.

In the long run, the luddites were mistaken (I am not so sure about the specialists). But the long run has been very long: it has been said that the living conditions of most people in advanced countries were no better at the end of the 19th century than they had been at the beginning. Much of the English and French literature of the time tells a tale of so much human suffering, that even by the middle of the century an English writer could say that industrialization was such a monstrosity that it would be turned back. One may forgive the luddites for not seeing a century ahead.

How can one make such transitions less painful? Income redistribution is at best a very imperfect answer: first, it has very narrow limits; second, and most important, it cannot replace work. It is better to act directly on the two main forces, supply and demand. On the supply side, education is no longer the answer, insofar as a higher degree does not guarantee a well-paid job, but it continues to be an essential ingredient of a good answer to the job question, besides being, at least in some cases, a good end in itself.

On the demand side, one must realize that technology need not be the enemy of labor; it can replace labor, but it may also help and enhance the performance of the worker. Robots can multiply the physical strength of a worker while retaining the flexibility of the human brain; computers can multiply the human memory and computing power while retaining the human brain's creativity. Our societies will need more and more of that sort of friendly technology as our population ages and our productive life must lengthen.

No Blind Forces

One must realize that technological progress is not dictated by an outside power: it is endogenous to our societies. One may argue that no one tells a pure scientist where to direct his or her curiosity. True, but innovation is not pure science: it is inspired and financed by society at large, through governments and public research institutions. These can help orient technology in a friendly direction. If technological progress appears to be blind, this is by choice.

Rather than being blind, markets are short-sighted. It seems to be hard for investors and entrepreneurs to see beyond the immediate future, and that leads to mistakes: markets extending to infinity, a necessary condition for their being efficient, do not exist.

Just as the luddites failed to foresee the happy end of industrialization, entrepreneurs may fail to see the advantages of a harmonious society. We are used to entrusting public institutions, which have the property of permanence, with such foresight. It is needed, if we want to avoid unnecessary pain in the face of today's changes.

Alfredo Pastor. Professor of Economics, IESE Business School

One might say that, after all, the story of the industrial revolution has been a great success, not only in increasing material welfare, but also in creating many more jobs than those existing 200 years ago.

To make transitions less painful, it is better to act directly on the two main forces, supply and demand. On the supply side, education is no longer the answer; on the demand side, technology need not be the enemy of labor.

The Power of Governments is Severely Limited

I would never have dared to choose the above title for this column if I hadn't read, a few days ago, an interview in a Spanish newspaper with Nobel prize-winning economist Kenneth Arrow.

Our economies are a joint project, built by business owners and managers, employees and their families, consumers, savers and investors, civil servants and, of course, governments. But it's a team project in which the medals and blame must be equally shared.

I always liked the open-minded outlook of this veteran professor who, despite his advanced years (Arrow is now 92 years of age) continues to say eminently sensible things – something that cannot be said of many other famous economists. What really caught my attention in the interview was the following sentence: "The capacity of government to control the economy is limited".

It always seemed to me rather disingenuous of the press to include, for example, a photograph of the minister of employment whenever featuring news that the jobs numbers had improved. Did the minister hire the new workers? Obviously not! So who did? That's right: businesses. They are the protagonists of the news piece. However, as the photo of a business leader isn't quite so attention-grabbing, the journalist gives the credit to the minister.

Governments have a complex program in which myriad objectives (moderating inflation, financing the public deficit and stoking demand) are not always compatible in the short-term.

Lest we forget, our economies are a joint project, built by business owners and managers, employees and their families, consumers, savers and investors, civil servants and, of course, governments. But it's a team project in which the medals and blame must be equally shared. Governments, naturally, must take their share of the credit (or blame) for a country's economic performance. But I think it important that those of us who study the economy closely remember some rather uncomfortable truths about governments' economic policy:

- Governments have a complex program in which myriad objectives (moderating inflation, financing the public deficit and stoking demand) are not always compatible in the short-term. As a result, their policy measures often appear to be directly contradictory, failing to please or appease anybody.

Governments, like everyone else, do not have access to all the information they need. Furthermore, just as happens in companies, some information will inevitably be unreliable or misinterpreted.

- Governments also have hidden or opaque agendas. If a coalition of different parties is in government, some of its measures will be inconsistent with others – the inevitable result of conflicting ideologies or agendas. That is how, say, some governments ostensibly committed to growth can end up raising taxes on businesses.

- Governments, like everyone else, do not have access to all the information they need. Furthermore, just as happens in companies, some information will inevitably be unreliable or misinterpreted.

- We must stop believing that governments know everything. In one of my first ever lectures I explained that inflation is a monetary phenomenon, caused by expansionary monetary policy. In the audience was a former governor of a central bank, who at one point said that when he consulted his experts many of their answers did not coincide with mine. And for good reason – in those years the monetary causality of inflation was a thesis broadly dismissed as liberal and monetarist and widely scorned in academia. Things, unfortunately, have not changed that much. If you were to look at a sample of, say, 10 explanations of the current financial crisis, you would be amazed how seemingly qualified experts could have such different interpretations of the same phenomenon – a phenomenon, it's worth adding, on which we have most, if not all, the information we need.

- Even if the government gets the diagnosis right, the solutions are never clear. Faced with a growing deficit, is it better to increase taxes or reduce spending? To target income tax or VAT? Public sector salaries or infrastructure investment? Yes, I know what the theory holds, but you can never discount the power of public worker unions, the need to present financial markets with quick results, or a government's misguided desire to negotiate with the European Union a deferment of contractionary fiscal measures.

- What's more, governments often don't have the necessary means. In the case of economics, this is because the needs are many, the demands unlimited and public revenues scant. More important still, they do not have the necessary personnel, time, attention or decision-making capacity. Just imagine, for a moment, the typical schedule of the Minister of Economy of an average-sized country and you soon realize that he or she will have very limited capacity to drive events, even with very strong teams around them.

- In many respects, there is no single government or public sector, but rather a complex mix of offices and departments, with different, uncoordinated and sometimes even competing aims, all suffering from severe agency problems. How often do politicians or senior civil servants set objectives that are not fulfilled, perhaps even intentionally, by their subordinates – just as managers do not always behave as business owners would like them to! For example, the Minister of Health might be keen on reducing tobacco consumption, while the tax office is determined to maximize revenues from selfsame product.

- The fact that public administration is so compartmentalized makes it an almost impossible task to coordinate and integrate its myriad functions. The general approach to government is to deal with problems in separate offices, often under the supervision of different, sometimes even competing authorities.

- What's more, civil servants and politicians are often more interested in showing that something is being done, or that their policies are similar to those of other countries. "We have a protocol" can sometimes trump "we have solved a problem", for a simple reason: if the actions undertaken do not have the desired consequences, the civil servants involved will be absolved of responsibility in the case of the former, even though their actions might have been disastrous; by contrast, in the case of the latter they can suffer dire consequences, even though their actions might have been well intentioned, well-designed and appropriately implemented. The principle of responsibility, by which those with authority feel duty bound to take extraordinary precautions in the face of any risk, conditions the way public (and private) administrations function, and by extension the nature and content of policies.

- Governments are often hostage to a variety of forces: to the Constitution, which determines or prohibits certain actions; to the decisions of previous governments; to government coalitions of parliamentary support; or to the need or convenience of achieving consensus around certain measures, such as between unions and management, either of whom have the potential to block progress. There are also severe limitations to the means governments have at their disposal. These include: the size of the civil service, which tends to expand with ease but contract with difficulty; the volume of pensions, agreed upon perhaps many years before the current economic situation; and the composition of public spending, the level of public debt, commitments to international treaties, etc.

- Globalization of markets (growing international competition, capital mobility, etc) has also reduced governments' leeway in setting national policy, as the eurozone crisis has amply demonstrated. An expansionary fiscal policy, for instance, can increase the level of foreign debts and awaken the suspicions of financial markets. In the end, the peripheral eurozone countries have lost most of the traditional arsenal of measures used to combat recession.

This is not meant to defend in any way the many things governments get so badly wrong. And it's also true that governments probably do quite a few things well. Also, it's worth remembering that it's not easy to get things right in certain areas, while in other areas governments don't receive the public recognition they deserve for all they achieve.

With a new round of European elections coming up in just two months' time, the aim of this article is to remind readers not to put too much trust in our governments. That way, the day they do actually get things right, we will have a nice, pleasant surprise.

Antonio Argandoña. Professor of Economics, IESE Business School

Needs are many, the demands unlimited and public revenues scant. And governments do not have the necessary personnel, time, attention or decision-making capacity.

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Do Online Social Networks Make the World a Better Place?

Ten years after Facebook's founding and two years since its IPO, the online social network keeps making headlines.

Since their inception, online social networks such as Facebook and Twitter have developed a spectacular user base. Over 1.2 billion users are active at least once per month on Facebook while Twitter has 241 million monthly active users.

According to Zuckerberg, "If people share more, the world will become more open and connected. And a world that's more open and connected is a better world. These are still our core principles today."

In order to understand the implications of the power to control information flows, one needs to consider the two objectives of the platform. The first is to retain and expand the user base, and the second is to generate revenue, which in the case of Facebook, comes mainly (89 percent) from advertising.

It recently announced the $19 billion acquisition of WhatsApp, a mobile messaging application with 56 employees. On a different note, the Turkish Prime Minister Recep Tayyip Erdogan, faced with a corruption scandal, threatened to ban Facebook. The former event highlights the economic power of the online network, while the latter attests to its social influence.

Since their inception, online social networks such as Facebook and Twitter have developed a spectacular user base. Over 1.2 billion users are active at least once per month on Facebook while Twitter has 241 million monthly active users. The widespread use of Facebook and Twitter made their founders billionaires. The market capitalization of Facebook is around $175 billion and that of Twitter stands at $31 billion (March 2014). Besides the founders, employees and involved venture capitalists, the users also benefit from the greatly simplified social communication and diffusion of information.

The Complexity of Social Information

The ease with which users can share their life online with their friends results in vast amounts of information being generated. On an average Facebook day the "like" button is clicked more than 4.5 billion times, around 5 billion items are shared and 350 million pictures uploaded.[1]

This means that the friends of an average user of Facebook, who has 190 friends, generate 712 "likes," 790 shared items and upload 55 pictures a day.[2] Due to this vast amount of information, online platforms use algorithms to select and filter which of the information generated by his or her friends is displayed to a given user. Mark Zuckerberg, the 29-year-old founder and CEO of Facebook, believes that the more social information is generated on Facebook, the better off the world is. The following quote is taken from an opinion piece he wrote for the *Washington Post* in 2010:

"If people share more, the world will become more open and connected. And a world that's more open and connected is a better world. These are still our core principles today."[3]

A More Open, Better World?

Does the world really become better if people share more? An immediate consequence of sharing more is less privacy. One of the main causes of criticism of Facebook has been privacy-related concerns. In this note, I want to focus on the welfare implications of a less immediate consequence of sharing more: the higher degree of information diffusion control it entails for Facebook.

An increase in the amount of social information being generated leads to an increase in the amount of information that is filtered through the News Feed algorithm. Since only a fixed amount of data can be displayed, an increase in the data leads to more control for Facebook as the algorithm selects which information to display.

In order to understand the implications of the power to control information flows one needs to consider the objectives of the platform and its incentives. Two objectives directly come to mind. The first is to retain and expand the user base, and the second is to generate revenue. So how is the revenue generated? In the case of Facebook, 89 percent of its $7.87 billion revenue comes from advertising (2013).

Controlling Social Information Flows and Advertising Incentives

You might wonder how the control of social information flows relates to advertising. In order to understand this question a little background is necessary. There are two main types of advertising on Facebook: 1) traditional banner or display advertising, which can be characterized as firm-to-consumer communication, and 2) social

[1] Michael Zimmer, "Mark Zuckerberg's Theory of Privacy", *The Washington Post*, February 4, 2014.
[2] J. Ugander, B. Karrer, L. Backstrom and C. Marlow, 2011, "The Anatomy of the Facebook Social Graph", working paper..
[3] Mark Zuckerberg, "From Facebook, Answering Privacy Concerns with New Settings", *The Washington Post*, May 24, 2010.

context advertising, which integrates consumer-to-consumer communication.

For example, a social context ad might include one's friends' "likes" for the advertised product. Based on these two types of advertising, the social information a user observes can be classified as organic, that is free of advertising, and as sponsored, i.e. a social context ad. Now the link between advertising and social information control becomes clear. A simple way to incentivize firms to pay for social context ads is to limit the organic reach of product-related shared items and there is evidence for Facebook doing just that.

A recent study published by social@Ogilvy, a consultancy firm, finds that in February 2014 only 6 percent of followers of a brand are being shown any given shared item of the brand while the organic reach was 12 percent in October 2013.[4] The same study estimates that the organic reach of popular brands, those with more than 500,000 "likes", is only 2 percent.

Reducing the organic reach and hence limiting social information flows, however, is only part of the picture. The other part is that a biased representation of the socially generated information in favor of inferior products can have tremendous welfare effects.

In this context, it is worthwhile to consider the impact of a social context ad and a banner ad. Arguably, a user is more inclined towards a product if he or she receives the "like" endorsement via a social context ad of a friend with similar product tastes than when observing a display ad for the same product. Hence, social context ads might have a deeper impact on consumers than the traditional banner ads.

The herding and information cascades literature in economics has shown that in some cases individuals forego their own private information in favor of the social information they receive. That is, even though an individual has private information that indicates that product A is superior to product B he might buy product B if he observes other individuals buying B. The social context advertising offered by Facebook gives firms a degree of control on social information flows. The more money is spent on social ads, the higher the control. This implies that a deep-pocketed firm with an inferior product might cement its market position through biasing social information flows via social context ads.

Conclusion

Mark Zuckerberg argues that greater sharing of private information on Facebook increases overall welfare. As I have argued, the welfare effects of such a less private world are not clear.

The revenue and profit maximization incentives of the network platform are not necessarily aligned with social welfare objectives, but impact the filtering and exposition of the socially generated information. In particular, social context advertising might lead to a decrease in organic reach and a biased representation of social information.

Such a biased representation of information might lead to suboptimal herds and hence have potentially vast welfare consequences. A formal analysis of these effects is undertaken in a recent working paper I have written with Mallesh Pai.[5]

We find that in equilibrium, social information flows are restricted but unbiased. Based on the model we analyze, the following conclusion presents itself: Financial incentives do not allow for an optimal welfare outcome, which would require unrestricted and unbiased social information diffusion. However, the total welfare in a world with online social networks is greater than in one without, because the social information actually diffused is unbiased.

Manuel Mueller-Frank. Professor of Economics, IESE Business School

**There are two main types of advertising on Facebook:
1) traditional banner or display advertising, which can be characterized as firm-to-consumer communication, and
2) social context advertising, which integrates consumer-to-consumer communication.**

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[4] M. Manson , 2014, "Facebook Zero: Considering Life After the Demise of Organic Reach", social@Ogilvy report.
[5] See M. Mueller-Frank, M. Pai.

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Selected Activities

ALUMNI

The Top Management Perspective on Innovation and Corporate Growth

Barcelona, April 4

Prof. Pedro Nueno

Over the past decade, leadership development in international companies has mainly focused on the challenge of globalization and how companies should nurture local talent to better manage their operations in new geographies.

The focus now is how international companies boost innovation and entrepreneurship to sustain competitiveness in an era of stronger rivalry. Leadership development should focus on making companies more innovative.

IESE Meets the Valley – Entrepreneurial Forum

San Francisco, April 16

Prof. Juan Roure

This event will take place at Runway Incubator, 1533 Market Street, Suite 488 in San Francisco.

Ten Principles to Make Effective Decisions

New York, April 24

Prof. Miguel Angel Ariño

The effectiveness of our companies as well as ourselves, depend to a large extent on how we make decisions. In times of uncertainty, as is the case in this day and age, an appropriate decision making process is especially relevant.

In this session, Prof. Miguel Angel Ariño will introduce the 10 principles for effective Decision making developed in his book, *Iceberg Sighted: Decision-Making Techniques to Avoid Titanic Disasters*.

SHORT FOCUSED PROGRAMS

Make Innovation Happen

Barcelona, April 8-10

Learn how to engage everyone in key innovation behaviors as part of their daily work, driving your company towards better business results. The program is based on Paddy Miller and Thomas Wedell-Wedellsborg's new book "Innovation as Usual: How to Help Your People Bring Great Ideas to Life", published by Harvard Business Review Press.

Value Creation Through Effective Boards

Barcelona, May 18-21

On this program, held jointly with Harvard Business School, you will discover how to strengthen your own contribution and improve overall board effectiveness to truly drive business values, competitive advantage and board engagement. You will also learn techniques to truly harness the values and power of your board through design and optimized internal function.

This program offers you the opportunity to make a powerful statement to your investors, management team and the public about your commitment to governance excellence and its impact on performance. Whether the issue is financial resilience, corporate strategy, executive compensation, or regulatory compliance, Value Creation Through Effective Boards is designed to help you promote sound governance.

Getting Things Done

Barcelona, May 20-23

Unlock the mysteries behind strategy implementation and discover the essential factors crucial in bringing about the successful execution of business objectives. When a business strategy fails, shortcomings are often exposed – not necessarily in the strategy itself – but in its execution. The ability to get things done is critical for business leaders and it is the overriding factor in determining a company's long-term success.

This program features the expertise of IESE Professors Fabrizio Ferraro (Academic Director), Antonio Dávila and Marco Tortoriello, as well as the vast experience of Stanford University Professor Jeffrey Pfeffer, a world-renowned expert on management, leadership and human resources.

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