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## CONCEPTUAL ISSUES

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## **1. Introduction**

We live in a world of cities. Since 2008, the majority of the population has been concentrated in large metropolitan areas. Urbanisation is often mentioned as one of the main drivers of economic, social, political and environmental transformation. As this trend continues to rise, challenges and opportunities that will define our future are likely to arise in cities. Cities are like a living organism, with the ability to organically absorb thousands of inhabitants day by day. They are able to create massive amounts of economic abundance: urban affluence is responsible for more than 75% of global wealth and yet inequality in cities is larger than at the national level and that in small towns. And it continues to grow. New innovations that help to tackle environmental degradation are born in urban hubs and knowledge clusters, yet large metropolises account for most of the global environmental footprint.

This paradoxical nature of cities is unveiling itself in the most vibrant times for them: the era of Smart Cities, paradiplomacy and the crisis of the nation-state. Cities have always attracted the interest of economists, sociologists, architects, urban planners, artists and policymakers. Recently the concept of Smart Cities has been an example of a private-led movement that puts cities at the core of technological and urban development. As a platform for fostering urban development, it has emerged at the same time as cities face inequality, job precariousness and economic abundance that is unprecedented in modern history.

The Smart Cities concept is driven by technology optimism, the idea that IT-based innovations will provide all the solutions to the challenges cities face. Notwithstanding this, we are seeing other paradoxical evidence. Not every citizen is benefiting from technological and economic development; indeed, many are left behind. Against this backdrop, Wise Cities emerge as a new conceptual framework that emphasises not only the construction of tech-based economies of knowledge that are more productive, but also the need to ensure that wealth is *pre*-distributed by the design of inclusive policies that foster social cohesion and equal access to opportunities. A Wise City works at the intersection of knowledge and distribution. Indeed,

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knowledge is a means to build a resourceful economy with an innovative and entrepreneurial ecosystem, whereas distribution is the mechanism for consciously building more equal and free societies.

## 2. Why Wise Cities? Towards a holistic and human-centric science of cities

Therefore, we ask a fundamental question: what is the highest aspiration for a city? Amidst an uncertain and rapidly changing world, urban development policies and initiatives require a holistic vision and approach that conceives of cities as open ecosystems of actors and policy areas that are interrelated and interdependent, but which have a shared aspiration: maximising citizens' well-being. Often given as the supreme objective in nation-states' constitutions, in practice national, regional and local governments often dismiss the nature of such statements in the current political system, which is still dominated by the axioms of infinite economic growth and paternalistic international development approaches.

In this new paradigm, local governments have the advantage of being closer to their citizens. Thus, they are better aware of their dreams and worries than national governments. This means their capacity to respond to their problems and foster their goals should be higher. Such a comprehensive, integral view is reflected in the concept of Wise Cities. Wisdom is the ability to think and act using knowledge, experience, understanding, common sense and insight. This involves an understanding of citizens, contexts, events, situations, and the willingness and ability to apply judgement and action in keeping with the understanding of the optimal course of action. Thus, wisdom involves doing good (the right policies and actions for citizens' well-being) by doing it well (the most efficient mechanism to achieve it). Wise Cities incorporate Aristotle's view on the importance of ethical virtue, that is, an attempt to offer a rational response to the question of how humans should best live. The highest aspiration is living well, *eudaimonia*, or the way to well-being, happiness and human flourishing. Aristotle emphasised that virtue is practical and that the purpose of practical wisdom is to become good, not merely to know.

Against this backdrop, the guiding principles of a Wise City are the universal values (or virtues) relating to justice, democracy, care of the natural environment, kindness, compassion, inclusiveness and excellence. Indeed, one of the big challenges for this century's urban planners and managers will be to design an urban model that is human-centred and takes into account each city's idiosyncrasy and cultural trajectory in order to avoid a "one-size fits all" approach. The ultimate goal of this model should be the improvement of citizens' quality of life, including the fulfilment of basic needs, the creation of a safe environment, access to opportunities and the pursuit of happiness.

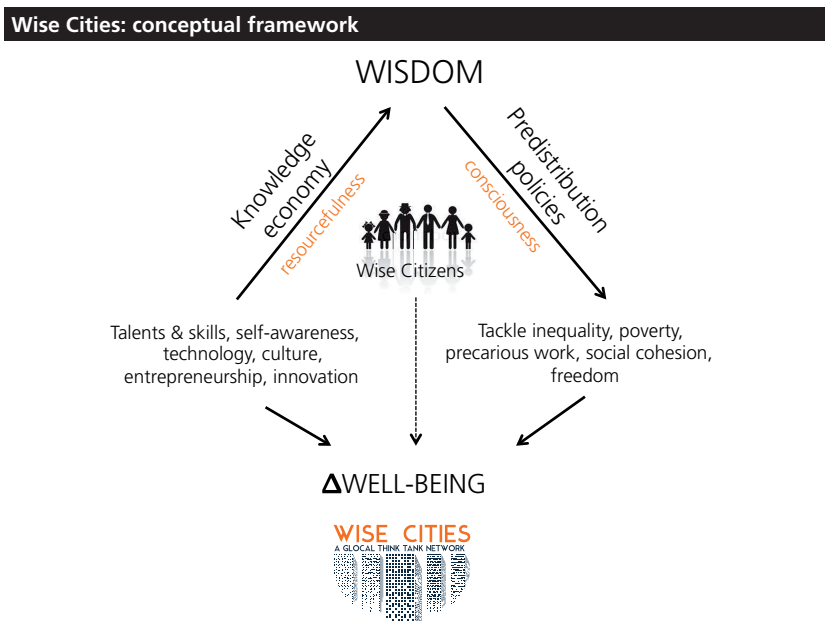
This conceptualisation does not disregard the Smart City concept, but it includes and transcends it. Indeed, it resolves the tensions present in the tech-based Smart City concept and framework. Sustainability and ecological, green or technology-smartness are features that are also present in a Wise City, but they are not final objectives per se: they are a means of improving citizens' quality of life. The Wise City concept can help us align all interdisciplinary areas of study that take place in the

complex ecosystem of cities, organising a science of cities into a common direction or framework. There are no more purposeful approaches to development than practical wisdom.

### 3. Conceptual framework

Wise Cities have emerged as a new human-centred development paradigm in which cities foster interdependently creative and knowledge-based economies along with pre-distribution policies, which are two sides of the same coin (see figure below). The creation of knowledge-based economies through clustering of innovation ecosystems that generate smart technologies is the main focus of Smart Cities. This approach has enabled cities to technify service delivery in multiple areas such as transportation, energy, the environment, healthcare, housing and governance. Technology providers have developed new business models and cities are increasingly adopting public and private partnerships that enable the creation of a Smart City without jeopardising the public mandate. Still, Smart Cities' main assumption is that the increasing tech-driven smartness of a city is directly correlated with higher standards of living. But cities lack rigorous monitoring and evaluation systems that can validate this hypothesis. Indeed, sometimes smartness is a source of inequality, especially for cities that were hit by the Great Recession. In times of economic turmoil, the classic trickle-down effect of economic growth has lost credibility as a conducive mechanism to social progress for all citizens. Notwithstanding this, increasing levels of inequality have dampened the capacity of cities to address their dark side – poverty and deprivation.

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Source: Coll, 2016

By contrast, Wise Cities explicitly manage the design and implementation of pre-distribution policies as well. They are aimed at creating shared prosperity following the principles of inclusivity, resilience

and sustainability. The purpose of such a model is the maximisation of citizens' quality of life, including the fulfilment of basic needs, the creation of a safe and healthy environment, and access to opportunities, decent work and the pursuit of happiness. Instead of trying to bring equality by balancing unfair market outcomes through tax-and-transfer schemes (redistribution policies), pre-distribution focuses on designing policies that more directly intervene in the capital and labour market to reduce income inequality as opposed to policies that redistribute incomes after taxes are levied (Bunker, 2015).

#### 4. Guiding principles and criteria

The Wise City is characterised by seven principles, which can be followed as the criteria that policymakers and other urban stakeholders (private sector, academia, citizens) can use in order to align and foster urban development planning under the Wise City paradigm:

- Human-centric approach: citizens' well-being stands at the heart of policy setting. Urban policies, programmes and projects must ensure citizens' well-being through participatory policy-design, comprehensive impact assessments, policy piloting and testing, and results-based monitoring and evaluation methodologies.
- Resilience: adapted to each city's cultural idiosyncrasy, socioeconomic context, environmental setting and overall sustainability. Urban development is context-specific. Resilience is a relative concept, very much embedded in and dependent on a city's environmental, historical, cultural, economic, social and political context. Learning mechanisms from benchmarking other cities' best practices needs adaptation and replicability to local contexts.
- Techno-culture: technology as a means to improve citizens' well-being. In light of fast technological change and the ethical and economic challenges new technologies such as digitisation, artificial intelligence, synthetic biology and nanotechnology pose for the future of humanity – technological inequality, technological enhancement of human capacities and skills, citizen's data protection and privacy, to name a few – technological embeddedness should be preceded by ex-ante evaluations of how technological behaviour affects citizens' quality of well-being at all levels of culture (values, beliefs, underlying assumptions and social norms). Ethical dilemmas in policymaking should be systematically addressed in the design phase by means of incorporating analytical assessments in all SWOT dimensions (strengths, weaknesses, opportunities and threats). This would enforce the rule of ethics and values in policy-driven decision-making with relevant implications for citizens' well-being and quality of life, while ensuring the social capitalisation on technological progress and development.
- Quadruple helix: integration, alignment and engagement of stakeholders through public and private partnerships. Citizens, governments, the private sector and academia (the so-called quadruple helix) are the key actors and agents of change in the complex urban ecosystem. As each one of them can, separately, pursue different – and sometimes conflicting – interests, it is of capital importance to develop platforms and institutions of cooperation where they can align interests and co-create urban solutions and resolve conflicts in a participatory and proactive way.

- Trust-building: as a result of stakeholder collaboration, building and consolidation of social capital. Trust is the enabling force driving socioeconomic development, social cohesion and cultural integration through credible institutions that safeguard the correct functioning of a city. Facilitating open multi-stakeholder platforms where diverse stakeholders align interests, share information, build synergies and co-create solutions is an effective approach towards building social capital.
- Experiential learning: benchmarking best and worst practices, monitoring and evaluating policies and sharing knowledge gained by experience (intra- and inter-city cooperation). Progress and development is highly correlated with the learning capacity of cities. Well-connected urban ecosystems learn from networks of cities that share knowledge and implement solutions based on others' experiences. Piloting, testing and adapting is increasingly becoming a must-use approach for scaling up grounded solutions that are based on empirical evidence.
- City branding, identity and reputation: adopting solutions that suit citizens' culture, building a brand that inspires and fits multicultural diversity. Integrating segmentation in policy design is a way to enforce the mainstreaming of citizen-centric approaches. Human-centric policy design is not only a way to ensure policies are tailored to diverse citizens' needs, but is effective leverage towards building an attractive global brand for both local and non-local citizens, investors and cultural agents.

Digitalisation, artificial intelligence and machine learning are exponentially creating a new techno-economy that produces value without distributing it.

## 5. Leveraging change dynamics: the 4<sup>th</sup> industrial revolution

The 20th century income distribution system has broken down irretrievably. The fourth industrial revolution is disrupting the labour market in an unprecedented way: creating more economic value while cutting jobs due to automation. Even though disruptive technologies have always provoked changing conditions in the way we work by eliminating low value added jobs and creating new and more qualified jobs, this time is different. Digitalisation, artificial intelligence and machine learning are exponentially creating a new techno-economy that produces value without distributing it. The zero marginal cost economy replaces the trickle-down economic effects of job creation and wage and tax-based redistribution policies. The effects are already visible. Inequality is rampant in an increasingly abundant economy. Half the world's wealth belongs to the top 1% of the population and 85% of the wealth to the top 10%. The remaining 90% only own 15% of global assets. The middle classes are shrinking.

Increasingly, production and growth are an intrinsic problem to be addressed by technology, science and engineering. Machines will soon manage production and economic value creation activities more efficiently than humans. For the first time, it may be not necessary to work for a living. That will completely change the rules of the game. Salaries won't be needed, ergo taxation will move from jobs to technology (Shiller, 2017). This shapes a new socioeconomic paradigm where work will no longer be the pillar of the social organisation of life. This vision of the future in a post-work society transcends

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partisan ideologies and stereotypes. In this era, the real problem will be how to distribute economic value driven by a tech-economy. Ultra-affluent incomes and wealth inequality, rising poverty and mass unemployment may become the norm if pre-distribution policies are not in place. If this is not addressed in time, the system may collapse, and this is becoming an urgent political imperative.

## **6. From redistribution to pre-distribution: rethinking policymaking**

Cities have become not just the place where the majority of the world's population live, but also the nest for scalable innovations and experimental policies. As exponential technologies threaten the foundations of the capitalist system itself – job creation, wealth generation, redistribution through salaries and tax-based welfare systems – cities have started to test policies that are pre-distributive in nature. They aim at increasing citizens' well-being by addressing inequality through the design of inclusive policies. The universal basic income, the Fab Lab "maker movement" and child-friendly cities are three examples of pre-distributive policies that align within the conceptual framework of a Wise City. These examples are chosen to provide grounded evidence of how the Wise Cities framework can contribute to rethinking and systematising a new approach to urban policymaking.

### **Universal basic income**

Some cities are deploying pilots for testing the feasibility of a universal basic income (UBI), a fixed monthly income that all citizens would receive, unconditionally, regardless of their social status and economic income level. They argue that this scheme would guarantee social cohesion by safeguarding access to basic services, eliminate transaction costs around bureaucracies and foster entrepreneurship, innovation and consumption.

The UBI is a classic example of a pre-distribution policy. This old idea, originally thought up to fight crime and end poverty, was first proposed by Thomas More in the 16th century and later popularised by Thomas Paine in the 18th century. Traditionally, leftist politicians found in the UBI a way to address poverty, safeguard access to basic services and secure a safer environment. However, right-wing politicians usually reacted against it, arguing that such a scheme would disincentivise the ethics of work, break the meritocracy of the system and foster a lazy society. And in most cases it was said to be impossible to finance, and was thus named a utopian enterprise.

Today, many decades later, the UBI emerges as a solution to increasing levels of inequality, job precariousness and social exclusion. An old idea for a new time. The UBI owes its current popularity to the sickness of capitalism. The Great Recession revealed the flaws of a capitalist system that is no longer able to create shared prosperity and social progress by following the tenets of neoclassical economics. Smart Cities have worked to increase the brand attractiveness of cities in terms of foreign direct investment and tourism. This translates into greater economic dynamism,



high quality employment and a new wave of immigration. But it often provokes a draining effect as rising housing prices push local citizens and local retailers out of the city. Wealthy neighbourhoods get wealthier and poor areas become poorer.

In the Mediterranean, cities like Barcelona and Livorno have recently launched some trials for testing a basic income by giving monthly cash transfers to randomly selected poor households. Other cities in France and Greece are discussing its feasibility in the policy agenda. The debate over introducing a UBI is far more advanced in northern Mediterranean cities than in the south. Algeria, Egypt and Israel are discussing and examining the idea of launching trials to test the policy, but no city has yet dared to be the first. The main reason behind this fact is financial. Who will pay for the unconditional cash transfers given directly to the citizens? A critical point for considering the feasibility of a UBI project is its financial sustainability. And this is indeed more relevant in developing cities. Its financial ambition is a cause for opponents to call it utopian, and it seems obvious that a UBI programme needs to be implemented in affluent societies that have strong knowledge-based economies that generate growth and foster continuous innovation. As a matter of fact, current financial proposals hinge basically upon (i) a more progressive taxation of the rich and (ii) the introduction of new taxation schemes linked to technology and productivity.

Nonetheless, in emerging economies real basic income schemes can be tested in new forms of development aid delivery mechanisms. These mechanisms overcome the classic bureaucracies and high transaction costs associated with traditional development cooperation programmes. In Muslim cities the social awareness and existence of *zakat*<sup>1</sup> could be used as a new approach to socially advocate for a UBI. In fact, some advocates interpret *zakat* as a basic income system that in modern times can provide security against the increasing automation of work and the threat of unemployment (Hawramani, 2018). Approaching a UBI as a sort of *zakat* delivery mechanism could contribute to raising awareness and fostering political and scholarly debate in Muslim countries.

### **Fab Labs or the “maker movement”**

Fab Labs (short for fabrication laboratories) are conceptually the combination of a workshop and a laboratory as a maker space, equipped with the latest 3D printing technologies and the like. Since this movement started in 2000 at MIT, the global community of Fab Labs has been exponentially growing to more than 1000 labs spread in cities across the world. This network gives teams and individuals access to digital high-tech fabrication facilities and tools. The Fab Lab movement is founded on the groundbreaking idea of reducing social and environmental inequalities by enabling almost everybody to make almost everything, everywhere (Menichinelli, M. and Bosqué, C., 2017).

The foundations of the maker movement are grounded in the principles of inclusiveness, human-centricity and techno-culture. High tech is a means of enabling vulnerable populations to create their own opportunities by training and facilitating needs-based entrepreneurs to design, develop and test their own prototypes in an affordable way. With proximity and freedom as core values, the maker revolution

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1. *Zakat* is a tax of 2.5% (or 1/40th) of a Muslim's total savings and wealth above a minimum amount known as *nisab*.

The great challenge of this movement in the short term is to be able to consolidate not only as a technological model, but as a cultural approach that is fostering a new way of producing and consuming in cities; a way to learn; a way to generate alternative economies...

intends to bring back the concept of the fabrication city. As with ancient metropolises, the maker cities of the future will see new artisans on the rise, but this time with the goal of reducing environmental footprints and empowering freelancing and access to opportunities in the rising gig economy (Mulcahy, 2016). According to Tomas Diez, director of Fab Lab Barcelona and global coordinator of the Fab Academy, a Fab City sets a long-term vision by establishing a role within the city's space that contributes to the transformation of the current urban model that is based on industrial production, in which cities depend on the supply chains that come from very distant outsourcing locations. In a different way, the Fab City focuses on the transformation of supply chains and resources that allow the functioning of cities. As such, they are conceptually founded on the idea that a city can progressively produce everything that is needed in terms of products and energy consumption (i.e. food, consumer goods, energy, infrastructure, mobility, medical equipment or housing). Although still in its inception, furniture, clothing, organs, houses and even bridges are already being produced in cities with 3D printing. The great challenge of this movement in the short term is to be able to consolidate not only as a technological model, but as a cultural approach that is fostering a new way of producing and consuming in cities; a way to learn; a way to generate alternative economies or help the economy to be more inclusive, more just and be committed both to society and the planet.

The maker movement has grown exponentially all over the world, but especially in western Europe. Barcelona and other Mediterranean cities have been opening new Fab Labs since 2006, while in eastern and southern cities this movement is currently kicking off. Launching new Fab Labs requires a certain innovation ecosystem that can allow the adoption of new technologies and knowledge that spur the maker philosophy and practice. Whereas the nature of a Fab Lab involves multi-actor partnerships between the private sector, local government, academia and citizens, it needs an initial seed investment to set up the business model and facilities. Notwithstanding this, it is an inclusive infrastructure since it is thought to decentralise economic power by endowing entrepreneurs' with the soft and hard skills required to benefit from a Fab Lab. It is an example of a pre-distributive policy aimed at fostering creativity and technology to generate positive social and environmental impact.

### **Child-friendly cities**

Tirana, the capital city of formerly communist Albania, is undergoing a major transformation but not for its tech smartness. Instead, it has adopted a child-friendly approach to spur urban development. Visionary mayor Erion Veliaj took strong leadership in supporting the construction of 15 children's playgrounds all over the city, including the largest children's playground in Europe, despite strong opposition. This policy is a result of rethinking the role policymaking should have in practice. It is a response of putting values first. The hypothesis behind it was to create public infrastructure to support the most important value for Tirana's citizens: their children. A city that cares for its children is a city that cares for its citizens. Values-driven policymaking is a human-centric approach that spurs life and increases the city's liveability.

Adopting human-centric urban policies involves three important management tweaks. The first is the introduction of long-term design thinking policies. This is an important social innovation in times when the political incentive is concentrated in short-term periods of partisan rule. Ensuring intergenerational solidarity is the principle for embedding sustainability in long-term oriented planning. Second, it creates the conditions for creating cost-efficient programmes that are likely to increase the social and environmental impact without the need to spend a large amount of investment on expensive technologies. It suits the principle of doing more with less. This conceptualisation is not only relevant for developing cities but also for wealthier cities in the West. Third, the habitability of public spaces for kids and their families is fostering communisation of social life and therefore the reduction of vandalism in otherwise isolated areas. Thus, children's playgrounds have been converted into a sort of social security monitoring system.

A child-friendly city provides a tangible framework for increasing the city's value proposal or attractiveness as it clearly focuses on raising the quality of life. A physical social network formed by kids and families is also a means to reconcile citizenship with public policymaking.

## 7. Conclusion

The profound transformations spurred by the size and speed of the fourth industrial revolution are revolutionising the way people work, live, learn and socialise. Cities are the protagonists of this journey, as they reflect a more decentralised, horizontal and organic approach to social, economic and political organising. At a time when exponential technologies are dominating almost all aspects of our life, human-centric urban design arises as an alternative to not only safeguard citizens' fundamental rights, but to create a future of shared prosperity, sustainability and wellbeing for all. Technology is not the one and only response to the pressuring challenges of today. Rather, citizens and cities need conceptual frameworks of thought and action that can resolve the tensions and rising aversion over Smart Cities, which originated as enablers of a single-minded and tech-driven approach to urban development. Wise Cities provide such a comprehensive and integral framework. Indeed, this conceptualisation enforces a model that supports the creation of urban policies that are first and foremost thought out to put citizens at the core of policymaking. The challenge is now how to develop wise networks, policies and programmes amongst diverse Mediterranean cities that share the common goal of serving citizens for a better quality of life.

## References

Aristotle. *Nicomachean Ethics*. Hackett Publishing Co., 2000.

Bunker, N. "What is predistribution?". *Equitablog*, Washington Center for Equitable Growth (2015) (online) <http://equitablegrowth.org/equitablog/predistribution/>

Coll, JM. Beyond Smart Cities. It's time for urban sustainable development", *Notes internacionals CIDOB*, no. 92 (2014). (online) <https://www.cidob.org>

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org/en/publications/publication\_series/notes\_internacionales/n1\_92/beyond\_smart\_cities\_it\_s\_time\_for\_urban\_sustainable\_development

Coll, JM & Illán, C. "Wise Cities: Modelling the Local Contribution to Sustainable Development Goals", *Notes internacionales CIDOB*, no. 134 (2015) (online) [https://www.cidob.org/publicaciones/serie\\_de\\_publicacion/notes\\_internacionales/n1\\_134\\_wise\\_cities\\_modelling\\_the\\_local\\_contribution\\_to\\_sustainable\\_development\\_goals/wise\\_cities\\_modelling\\_the\\_local\\_contribution\\_to\\_sustainable\\_development\\_goals](https://www.cidob.org/publicaciones/serie_de_publicacion/notes_internacionales/n1_134_wise_cities_modelling_the_local_contribution_to_sustainable_development_goals/wise_cities_modelling_the_local_contribution_to_sustainable_development_goals)

Coll, JM (coord.). *Wise-cities-a-new-paradigm-for-urban-resilience-sustainability-and-well-being*. Col. Monografías, CIDOB Barcelona Centre for International Affairs, 2016. (online) [https://www.cidob.org/publicaciones/serie\\_de\\_publicacion/monografias/monografias/wise\\_cities\\_a\\_new\\_paradigm\\_for\\_urban\\_resilience\\_sustainability\\_and\\_well\\_being](https://www.cidob.org/publicaciones/serie_de_publicacion/monografias/monografias/wise_cities_a_new_paradigm_for_urban_resilience_sustainability_and_well_being)

Coll, JM. "Wise Cities and the Universal Basic Income: facing the challenges of inequality, the 4th Industrial Revolution and the new socioeconomic paradigm", *Notes internacionales CIDOB*, no. 183 (2017) (online) [https://www.cidob.org/publicaciones/serie\\_de\\_publicacion/notes\\_internacionales/n1\\_183/wise\\_cities\\_the\\_universal\\_basic\\_income\\_facing\\_the\\_challenges\\_of\\_inequality\\_the\\_4th\\_industrial\\_revolution\\_and\\_the\\_new\\_socioeconomic\\_paradigm](https://www.cidob.org/publicaciones/serie_de_publicacion/notes_internacionales/n1_183/wise_cities_the_universal_basic_income_facing_the_challenges_of_inequality_the_4th_industrial_revolution_and_the_new_socioeconomic_paradigm)

Hawramani, Ikram (2018). "Islam, the Good Parts: A Basic Income System that Encourages Employment, Productive Investment and Automation". (online) <http://hawramani.com/tag/zakat/>

Menichinelli, M. & Bosqué, C. *Fab Lab: revolution field manual*. Salenstein: Verlag Niggli, 2017.

Mulcahy, Diane. "Why I Tell My MBA Students to Stop Looking for a Job and Join the Gig Economy". *Harvard Business Review* (20 October 2016) (online) <https://hbr.org/2016/10/why-i-tell-my-mba-students-to-stop-looking-for-a-job-and-join-the-gig-economy>

Shiller, Robert. "Why Robots Should be Taxed if they Take People's Jobs". *The Guardian* (22 March 2017) (online) <https://www.theguardian.com/business/2017/mar/22/robots-tax-bill-gates-income-inequality>