In Memoriam: Bruno Amoroso 1936-2017

Bruno Amoroso: a Man for all Seasons

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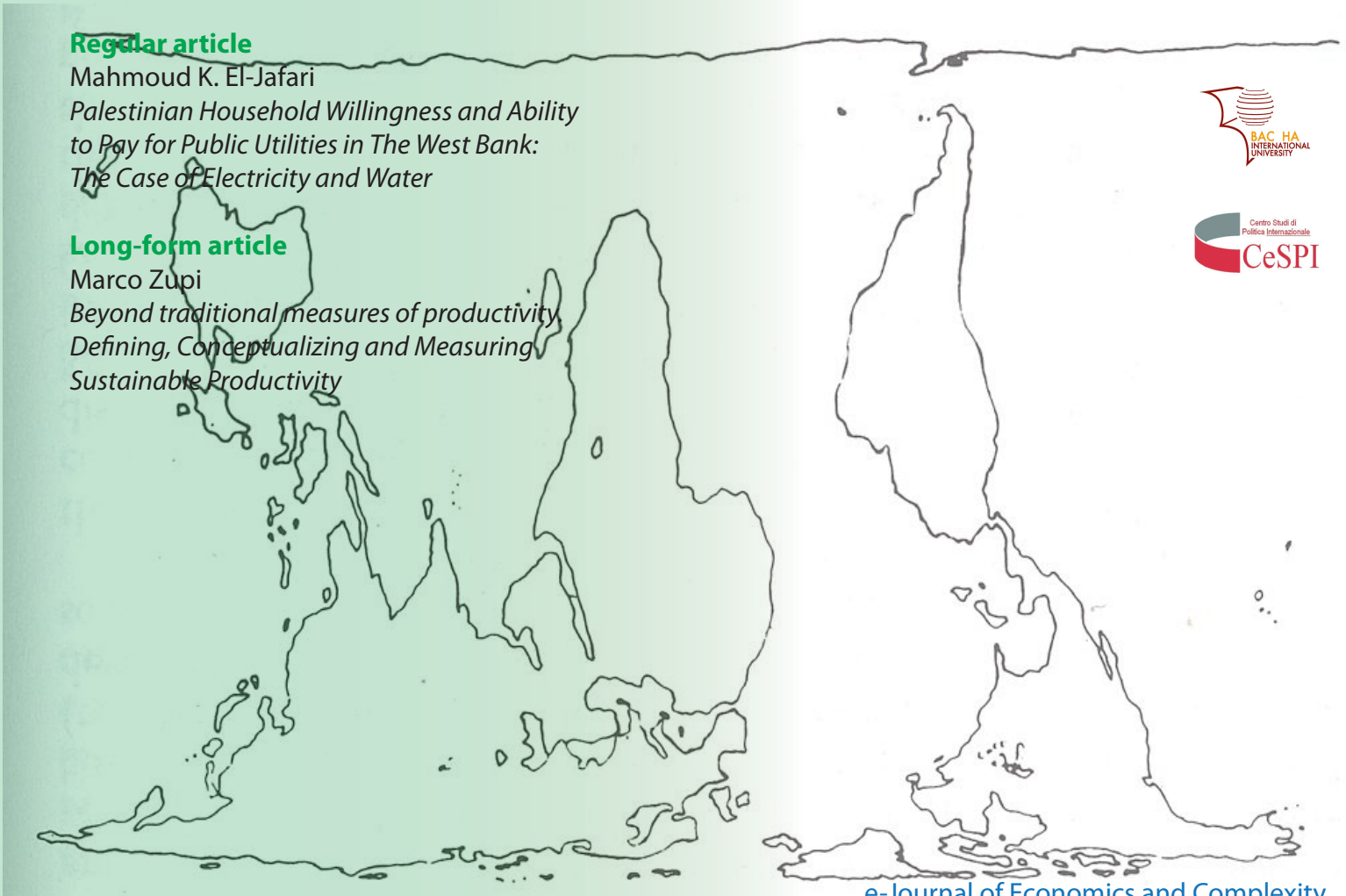
Thematic issue:

MIGRATION AND ITS SURROUNDINGS



e-Journal of Economics and Complexity

An Interdisciplinary Journal on Mundialization, Development and Social Changes

This e-journal adopts a multi-disciplinary approach to development studies, by proposing different and alternative views, perspectives, ideas and analyses on local, national and international development, by highlighting the lessons learned from different experiences, with a focus on social change.

Our goal is to learn from one another, that is a process of mutual learning by strengthening links among members of a community of academic scholars from different countries spread mainly in Africa, Asia and Latin America.

In other terms, we hope to set an example of academic community among African, Asian and Latin American scholars who are interested in being involved in an international dialogue, exchanging ideas and facilitating mutual dissemination of research and its results, creating a forum for them and providing a dedicated publication.

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The e-journal is organized into volumes and issues. Our idea is to publish the bound volume annually or semi-annually. Every issue is devoted to a specific topic, which will take into account the importance of having different perspectives on the subject and reviews, and to regular research articles.

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Introductory Editorial

Marco Zupi

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A friend, former mentor and colleague at Roskilde University (where he became Emeritus professor of economics), Bruno Amoroso, a kind and generous editorial board member of this e-journal, died January 20 2017. It was very sad.
Bruno Amoroso was a formidable dissenting and kind voice, with a natural propensity to question, and his life was an incessant proliferation of projects, ideas and practice of liberation. He was convinced that we must take action to change conventional habits and methods of understanding the world, and this requires increasing awareness and thus critical thought, of which he was a champion. Those who knew Bruno Amoroso well know his unconventional look at the world around us, his ability and patience to persist in a repulsion for dogmas, his attitude to friendship and conversations. We should wish that kind of unquenchable curiosity for the world around us on anyone.
Our tribute to Bruno takes the form of a memorial written by one of Bruno Amoroso's colleagues and dear friends: Jesper Jespersen, professor of economics at the Department of Social Sciences and Business, Roskilde University, where he has been teaching and conducting research since 1996.

This Vol. 2016 (1) issue is devoted to "Migration and its surroundings".

In general, there are various and intertwined short-term and long-term determinants of migration: response to economic conditions and perspectives, mass poverty, violence and war, political risks, population pressure, climate change and other factors.
Economic development in countries of origin influence the extent and patterns of migration, as well as admission criteria of host countries. Human mobility depends on migrant characteristics and on policies of both host and sending countries (labor and credit markets, job opportunities, welfare system, systems of immigrants' admission, civic participation and citizenship).
Therefore, the idea of clearly distinguishing between economic migrants and refugees/asylum seekers is useful for policy prescriptions, but they cannot be fully separated, particularly when the condition of refugee and displaced people becomes structural and long-term.

There is no shortage of relationships between migration and development. They are significant but at the same time complex and not conducive to generalization. Many studies on economic development have demonstrated that economic

growth tends to increase the propensity to emigrate in the short to medium-term, while only in the long-term can development result in a reduction in voluntary and forced migration (the migration hump theory). Case studies and empirical analyses demonstrate how the sign and coefficient of the relationship between migration and development may change markedly, to the point of rendering migration a fundamental driving force or, on the contrary, an insidious obstacle to development.
Outlining the fundamental points of the agenda for analysis and policy in relation to international migration, we can gain some useful insights in order to guide future reflection and choices, both in terms of objectives and policy instruments for action.

Within the limits of simplification, we can talk of one approach focussed on the link between migration and development and of a second approach which centres on the notion of managing migration flows. Skimming through the items listed in the sub-agendas contained in the two macro-areas, it becomes clear that these approaches reflect two perspectives that are important yet different.
In the first case, the interest and point of view of the countries of origin of the migration flows is emphasized and development is principally intended to refer to development of countries of origin, whose strategic objectives should be the guiding force for international cooperation policies.
In the second case, it is the viewpoint of the countries of destination of the migration flows which prevails, and their interest in creating conditions for better managing and governing migration flows, with an increasing focus on the so called securitization of migration policies: in the last decade, an increasing fear of “illegal migrants” and terrorism has made internal security the key concept to re-orient external policies.
These are two agendas which, when taken separately, appear to move in different directions, including in relation to the timeframe of reference. The migration management policy pursues short-term objectives, requiring immediate results, including because of the great difficulty involved in contemplating medium to long-term scenarios. On the other hand, development policies establish objectives fifteen to twenty years in the future, as in the case of the Sustainable Development Goals, in what is clearly a long-term outlook.
The difference in the nature, content and objectives of the two agendas translates into a different emphasis on crucial elements of the migration “market”.

Today a very serious risk is represented by the weakening or curtailment of long-term development policies to the short-term humanitarian crisis of refugees and security priorities.
If one were to think that forced migration is a problem of the country of origin's own making that must be resolved in that country, or a security or humanitarian problem in a specific host country, then that is just shortsighted selfishness. International solutions are needed, and political, security, humanitarian, development and diplomatic dimensions must all be addressed. Only a

comprehensive response may represent a sustainable solution. And this implies significant investment.

Despite theoretical and practical difficulties involved in separating out "forced" from unforced migrants, many categories of forcibly displaced people co-exist, demonstrating that this phenomenon is s very wide-ranging and contains different situations:

1. Refugees according to the United Nations 1951 Refugee Convention,
2. Asylum seekers whose claim to refugee status is not yet definitively evaluated,
3. Stateless persons without a recognized nationality and not belonging to any country,
4. Internally Displaced Persons (IDPs) and Returnees.

Nonetheless, these categories of "forced" migrants represent just a small part of those who migrate.
The world population was estimated to have just reached 7.5 billion.
In view of the fact that there is considerable heterogeneity in the types of data collected across countries, the UN Population Division of the Department of Economic and Social Affairs estimated the number of internal migrants (migrants inside of their country of origin) as a worldwide stock of almost 800 million. Therefore, the percentage of internal migrants in the global population is over 10%.
According to the Perspectives on Global Development 2017, published by the OECD Development Centre, some 243 million people were living outside their country of birth in 2015, accounting to 3.2% of the world population.
By combining internal and international migrants, there is over a billion of migrants in the world. In other words, every seventh person in the world is a migrant.
However, with regard to the movements of refugees and internally displaced people (those displaced by conflicts) as well as people displaced by natural or environmental disasters, chemical or nuclear disasters, famine, or development projects, the percentage is much lower.
According to the UN Refugee Agency (United Nations High Commissioner for Refugees, UNHCR), we are now witnessing 65.3 million displaced people around the world who have been forced from home. Therefore, the percentage of "forced" migrants in the global population is just 0.87%.
The majority are Internally displaced people (IDP), and among them are nearly 21.3 million refugees. There are also 10 million stateless people who have been denied a nationality and access to basic rights such as education, healthcare, employment and freedom of movement.
Syria remains the world's largest source country of refugees during 2015 with over 4.9 million people, followed by Afghanistan with over 2.5 million and Somalia over 1 million. Around four-fifths of the world's refugees have fled from the crisis areas into neighboring countries. Turkey is the largest refugee-hosting country worldwide, with 2.5 million refugees.

Today we witness to a dramatic increase in refugee and migrant flows across the Mediterranean. These flows are the combined result of outflows from Afghanistan, Iraq and Syria due to political and security conditions, and from the Horn of Africa and Western Africa due to poverty and conflict.
From a worldwide and historical perspective, today developing countries host most of the displaced and current stock of refugees in the EU is not an unprecedented phenomenon: current total number of almost 2.4 million is just below the early-1990s peak.

As a direct consequence of these stylized facts, we can confine ourselves to addressing certain fundamental points about migration policies.

First, it is crucial to clarify that urgent focus on short-term crisis responses cannot be detached from medium-term socioeconomic dimensions of forced displacement. It is essential to define emergency solutions as well as rights-based protection agenda and sustainable development strategies. Otherwise, any solutions you may have is doomed to fail. Reception and (political, social, economic and financial) integration/inclusion policies for refugees should, therefore, be linked and mainstreamed in general, confirming that, if ever there were the boundaries between forced and unforced migration, they are surely fuzzy and blurred.

Second, interventions should help reduce—even eliminate— vulnerabilities: this implies a priority to help the most vulnerable people among the refugees, but also to support host communities who should manage the shock caused by an inflow of forcibly displaced persons. Policy solutions become sustainable and effective when we are overcoming a supposed trade-off or inevitable conflict of interests between host communities and forcibly displaced persons. If, and only if, significant political and financial investment is made in recognizing both these priorities, then the result could be a lasting solution. The objective must be a win-win solution for both host communities and forcibly displaced persons and they must be actively engaged. All the risks and negative effects on host communities (in particular, some segments of host communities) must be minimized, as well as all the potential positive opportunities for those segments of host communities must be promoted. This is not just a good omen: the development response should also aim to help reduce problems, poverty and unemployment among the hosts (that already existed), as they adjust to a transformed context.

Third, we can say that the scale and complexity of the refugees crisis affecting Europe is new, but the crisis of forced displacement is not new and we can manage it if we approach this as both a humanitarian and a development challenge (development in countries of origin, transit and destination), also because it is not a European emergency crisis in terms of numbers. The management of this crisis requires adequate effort and collective action. If someone presumes that it is a problem of a country of origin's own making that must be resolved in that country or in the partnership with specific host country

and not at regional and global level, or just as a security or humanitarian problem, then that is just shortsighted selfishness. International solutions are needed, and political, security, humanitarian, development and diplomatic dimensions must be all addressed. Only a comprehensive response may represent a sustainable solution. It is not just a security issue or a humanitarian issue. It is a comprehensive political challenge and the nexus between security-humanitarian and development dimensions must be properly addressed at political and diplomatic levels. This means complexity and this imply significant investment.

Based on such premises, the purpose of this thematic issue is to present and discuss three different disciplinary theoretical and empirical approaches to understanding migration issues that transcend the current emergency of refugees and asylum seekers in the Mediterranean region, whilst focusing on the same region.

In fact, the first two articles take stock of the general state of art and analyze the North African characteristics of the same phenomenon that is the mobility of medical doctors.

The first article by Ahmed Driouchi presents the conceptual and theoretical framework of the research on the migration of medical doctors, from an economic perspective.
The article analyzes the phenomenon of this specific type of high-skilled migration comprehensively from a variety of different angles, with a brief review of many contributions on the field. Besides those who migrate, the migration of high-skilled workers affects both sending and receiving countries and the article shows how migration of medical doctors is critical to all countries.
A combination of shortage of health-care providers and poor distribution of providers within the same country affects developing countries, with additional stratifications due to the disparities between urban and rural areas.
Shortages and imbalances of medical personal are seen as an international problem, and this shortage includes more than physicians and nurses: it includes also pharmacists, dentists, laboratory technicians, emergency medical personnel, public health specialists, health sector management, and administrative staff.
All over the world, the needs for medical doctors have been increasing through time and countries under the effects of the changes occurring in health technologies and the increasing demand for health care. The implied shortages have been growing while accounting for new niches related to the expression of the demand for health and improvements in the welfare of the populations. The shortage of medical doctors could be also related to the nature of the labor supply curve that may not respond positively to new incentives. And the deficit of medical doctors is also affecting the universal health care coverage. Therefore, a resulting competition for attracting high-skilled migrants occurs among rich countries and very serious problems are faced by the poorest countries that are not capable of attract or hold talent.

Empirical evidence on labor supply determinants as well as on the different push and pull factors leading to the emigration of medical doctors shows how migration of medical doctors involves many costs and legal barriers and could be managed by cooperative policies to generate further benefits with win-win outcomes to both Northern and Southern economies.

The second article by Mohamed Saib Musette, Hocine Abdellaoui and Ahcène Zehnati is an overview of medical doctors' migration from Maghreb through the sociology of migration lenses. An analysis of Maghrebian skilled migrants shows the significant concentration in France and Canada. To quantify this phenomenon, the authors use and cross multiple data sources: those of the Health Ministries of the three Maghreb countries, the employment survey and other sources collected in France and at international level.
An empirical evaluation of the "brain drain" rate involving particularly physicians migrating to France shows that the different specialties are not affected to the same extent by the phenomenon of medical specialists born and trained in the Maghrebian countries of origin. Psychiatry remains the specialty registering the highest migration rate, and half of Maghreb anesthesiologists practicing in France have graduated in their origin country.
The authors underline the fact that an expected decrease of remittances in the long run and that high skilled workers contribute far less to remittances than those who are less skilled. Therefore, it is necessary to reconsider the theories according to which countries of origin do benefit from a deal in with the losses caused by the departure of skills are compensated by migrants' remittances. The classical sociological vision of migration as a social success for social mobility needs also to be revised.
In the third section, the authors suggest to open a new social dialogue with a multi-faceted view on migrant's integration. According to the authors, the current context calls for a revision, if not a break with past visions of integration, laying new foundations for social dialogue aimed at the prosperity of countries of both shores. In particular, three tracks are suggested to initiate a renewal of a social dialogue between the two shores of the Mediterranean on integration through migration: relationships between migration and development, harmonization of the models of governance of migration flows from Maghreb, building bridges between the shores.

The third article, by Paola Abenante, provides some insights from an anthropological and cultural studies' perspective, as shown by the title reference to cultural essentialism. This concept refers to "*a system of belief grounded in a conception of human beings as 'cultural' (and under certain conditions territorial and national) subjects, i.e., bearers of a culture, located within a bordered world, which defines them and differentiates them from others*", to cite Ralph Grillo, a relevant social anthropologist who has had a long-standing concern with transnational migration and ethnicity in Africa and Europe. The arrival of migrants and asylum seekers on the shores of the Mediterranean basin is giving rise to an increasing populist and xenophobic use of culture concept in political arena.

Culture can easily lead to essentialism by "*preset[ting] people's individual behavior as entirely defined and constrained by the cultures in which they live so that the stereotype becomes the essence of who they are*", as Adrian Holliday reminds us in his 20'10 volume on Intercultural Communication and Ideology.
Based on these premises, the article helps to understand the different and competing understandings of 'proper Islamic praxis' between Egyptian Muslim immigrants and Italians converts to Islam within the Italian branch of an Egyptian-Sudanese Sufi brotherhood, in Rome.
As a confirmation that culture may lead to uncountable misunderstandings (or a series of miscomprehensions between a migrant and his hosts in the country of destination, in a case study), the Italian brethren foreground intellectual engagement with texts and scriptures over ritual performance and the role of the body, elements to which immigrants instead give prominence. The author suggests that such polarization and the reasons of its persistence may be best understood by focusing on the performative role of cultural essentialisms against immigrants and of stereotypes concerning the definition of 'orthodox' Islam circulating in Italy and beyond. The author argues that two different forms of knowledge, one intellectual, the other practical have a role to play in these phenomena that generate subject positions and relations of authority.

The e-journal also contains a Book & Report Review section, by Sara Hassan and Alberto Mazzali, CeSPI, Rome. This section covers many recent publications across the whole field of migration studies: from the theoretical to the policy-focused and from the regional to the global. In this issue, new works published by academic experts, international organisations and practitioners are reviewed as clustered as referred to both international migrations as a global issue (on migration and development nexus, distress migration and protracted crisis, migration within the SDGs framework, migration and rural-urban relations, and migration's perceptions) and the regional level.

A regular article by Mahmoud K. El-Jafari aims at investigating the determinants behind the Palestinian households willingness and ability to pay bills for water and electricity services.
The author uses primary data, which were gathered on household expenditures and consumption of water and electricity in the West Bank, to investigate the determinants of household decision to pay for consumption of public utilities. Through the application of an econometric model to analyze the personal, economic, social and legislative variables as the major determinants behind households' behavior toward payments of bills for the consumption of water and electricity.
Based on the results of data analysis, the author suggests that areas of cooperation, between providers of water and electricity on one hand and customers on the other hand, should be enhanced to improve the situation.
The article casts a critical eye over living conditions in Palestine, and that is what makes it very interesting.
The Palestinian society and economy have been struggling for years, due to the conflict with Israel – one of the strongest military in the world – and the

consequent closure policies the latter put in place, which restrict the movements of Palestinians.
Gaza and the West Bank (whereas East Jerusalem is still annexed by Israel) each undergo periodic cycles of collapse and recovery, usually driven by Israeli retaliatory measures for Palestinian attacks, reactions and invasions as well as international aid inflows.
Everyday life is dramatically affected by bloody armed conflict and violence, the Israeli military occupation, settlements and closures (including the "separation barrier" along and inside the West Bank border, checkpoints and roadblocks), structural dependence on international aid, acute fiscal crisis, huge unemployment and internal political tensions between and within Fatah (governing in Palestinian-administered areas of the West Bank), Hamas (in control of Gaza) and other groups such as the Salafi organizations in Gaza.
Population numbers clarify the unsustainable conditions of daily life after decades of instability, violence and occupation. The Palestinian population of 4.5 million have troubles in getting to their destinations: children have problems getting to school, parents to work, the sick and injured to hospitals, while between 420,000 and 470,000 Israeli settlers – encouraged by settlement expansion policy but illegal under international law (as reaffirmed by the UN Security Council resolution 2334, passed in December 2016) – live in the West Bank and these settlements complicate efforts for a two-state solution.

A final long article by Marco Zupi can be counted among the preliminary proposals aimed at offering a starting point to advance the beyond-GDP debate. In particular, there is an urgent need for a change of approach where the measurement of (sustainable) production and correlated productivity is concerned.
The article outlines the meaning and role of productivity, in terms of its definition and conceptualization, presents some debated points on the various components of productivity (labour, capital and total factor productivity) and underlines the importance of contextual conditions (political context, institutions, geography and market integration).
To go beyond the narrow GDP measurement should mean to rethink productivity as a measure of the developmental process of production. Development is conceived as a combination of quantitative and qualitative dimensions of the nested concept of sustainable development: economic growth, social development, environmental sustainability, conducive to political transformation. Al that implies a critique extended to economic productivity as the very and narrow principle and process of translating inputs into outputs and results.
Some key questions are specifically presented and discussed with reference to agriculture and, adding usual caveat, general concluding remarks can be deducted from various measures as possible sources of inspiration on sustainable productivity.

Bruno Amoroso: a Man for all Seasons

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I met Bruno for the first time back in 1985. I had just come back from one year of doing research in Italy – being a Jean Monnet Fellow at the European University Institute (EUI) in Firenze. During my stay at EUI I had been working on a book called 'Imbalances of the Danish economy: What to do?' It was an academic work with a number of policy suggestions of how to reduce unemployment. I sent a copy of the book to colleagues, which I thought would take an interest into the 'political economy of Denmark'. The only one who responded spontaneously was Bruno. He invited me without hesitation for lunch in his lovely house in the centre of Copenhagen. It was a sunny spring-day we sat at first floor, and Bruno listened more than he spoke – at that occasion. He was already at that time deeply involved in research into the political and economic aspects of the Danish society with special reference to the functioning of the Scandinavian welfare states.

Bruno's life-long academic interest was to understand the dynamics of the present political economic systems at the national level, the European level and the global level. My book could help him to get more insight into the dynamics (and macroeconomic implications) of the Danish welfare state within a European context.

Quite quickly, we started to collaborate on his project of organizing a yearly conference and collection of papers, called 'social economics year book' (socialøkonomisk årbog). This project was running for 4-5 years with the aim of bringing mainly young scholars together by asking them to contribute to the conference with themes from the real world, which cause social concern.

Bruno was docent at Roskilde University. His realist view on society was quite a challenge (and novelty) to a number of his colleagues at these days. At Roskilde University the theoretical view on political economy was by most scholars during

the 1970s and further on into the 1980s taken from a rather strict Marxist orthodox viewpoint. Bruno's aim was different. From the very beginning of his academic carrier the focus point was on the understanding of the dynamics of the real society, not a hypothetical one and the conditions for a 'good society'. He saw the Danish welfare state as a practical and functional case of class collaboration rather than class antagonism (and struggle). For him this real outcome of political economics did correspond with his study of economics at Rome University la Sapienza under the supervision of Frederico Caffé, an internationally well-known post-Keynesian scholar.

Theoretically, Bruno and I shared common ground. At that time I was teaching international economics at the Copenhagen Business School and had been trained in conventional Keynesian economics – one could call it orthodox ISLM – economics with a very mechanical view on (macro-)economics, hardly taking the political perspective into consideration. I learned a lot from conversations with Bruno. I can easily recall his wise eyes, when he with a smile on his face could say «*How can you be so naive, Jesper? Look at the real world, the economy does not function as your models tell you*». To Bruno the conventional economic arguments were much too often dominated by an unhappy mixture of ideology and naive academic thinking: people (with power) saying one thing, but with another intention, which the neoclassical economists supported by the use of mathematical models detached from the real world. Bruno was always sceptic when he heard arguments dressed up with phrases like: this is a 'necessary politics' although causing hardship to ordinary people. He always double-checked such arguments. Other examples of his often-used phrases were: «*There are at least two sides of any case*» or «*don't fool yourself by a single number*».

Bruno directed me to a number of seminal works by political economists that, in fact, often were more philosophers than economists: Keynes, of course, we already shared, but Karl Polanyi, John Kenneth Galbraith and Gunnar Myrdal I learned to appreciate from him. I learned to be a critical realist from working with Bruno.

Fortunately, I got the opportunity to move from Copenhagen Business School to Roskilde University in the early 1990s. The tide was changing in political economics even at Rokilde University. Marxism was in decline. Unfortunately, at the benefit of neoclassical economics. Therefore, Bruno and I had to stand up against this change of political fundamentalism within political economics from one dogmatism to another. We had to insist on pluralism in teaching economics at Roskilde University. It took quite some years and struggle to establish a critical realist position and to write the needed textbook. Without Bruno's active support we would not have succeeded in creating and get acceptance for this pluralist breathing space in political economics, which we managed to establish

at Roskilde University.

During the years, we wrote a number of books together on political economy mainly with a shared focus on European Economics and with an institutional/post-Keynesian analytical out-set. For instance, we developed an analytical argument against the introduction of the Euro as a single currency in Europe (and especially in Denmark). The outcome of our analysis was already in the late 1990s that the euro could be a disaster to the weakest nations and to the most vulnerable part of the population in any euro-country, because of increased macroeconomics imbalances and lack of national policy instruments. The conventional neoclassical economists of course rejected this analysis. They only saw reduced transaction costs, safeguard against inflation and, hence, increased growth by all participating countries. They could not see in their models that the euro easily could be a highway for increased German hegemony, and hereby sow the seed for future antagonism and rising nationalism. This is just one example of how our work benefited from being critical realists: one cannot state an affirmative conclusion about the future; but analyses supported by real world arguments are more often than not also the most realistic ones.
This life-long collaboration with Bruno was very fruitful to me. I learned to consider methodology as an important discipline in social science. Research without deliberate methodology could easily lead the conclusion astray in an unreal direction. This heritage of how to undertake research I have benefited from ever since during my academic carrier leading up to my doctorate dissertation on Macroeconomic Methodology in 2007. It is not only ideology; but also methodology, which has an underestimated impact on the outcome of social sciences. This is one of the lasting conclusions from my conversations with Bruno during more than thirty years.

Bruno had many more interests than theoretical political economy. He had contacts with politicians, trade unionists, academics and organizations all over the world. He travelled a lot. China and South East Asia became increasingly his main concern. Setting-up a home for street-children in Hanoi was just one of his many outstanding initiatives to create a real 'good society'. For obvious reasons his best-known book had the title 'On Globalization' (from 1999). To Bruno the world was, after the cold war had ended, opening up, but also becoming smaller for good and for bad. He saw the opportunities and the risks; but he was never naive and therefore seldom disillusioned.

Bruno was a wise man: A man for all seasons. Fortunately, his thoughts and insights will be with us for many years to come.

Evidence and prospects of shortage and mobility of medical doctors. A literature survey[1]

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Abstract

This paper focuses on the shortage in health workforce, its causes and its consequences. The implied mobility is also introduced.
Series of issues are introduced to better capture the global prospects facing the health system. A literature review survey on the above dimensions is the main source of information used in this paper. The attained outcomes confirm the existing increasing current and future trends of shortage and mobility of the health workforce with emphasis on medical doctors.
The expected consequences on developing countries are discussed in relation to the increasing demand for healthcare but also to the technological changes taking place at the level of the sector and in its environment.

keywords: Shortage-Labor supply-Backward Bending Labor Supply-Migration-Brain drain.

1. Introduction

This paper shows how migration of medical doctors is critical to all countries. While the literature on brain-drain has had pessimistic policy outcomes, the relatively new literature on both brain-gain and brain-drain suggests new avenues for further promising policies. The global health systems as well as the specificities of health care require further collaborative actions and global strategies between migrant receiving and sending countries. The present paper builds on previous contributions by Driouchi, Baudassé, Zouag and Boboc (2009) besides the research on the migration of medical doctors (Driouchi & Kadiri, 2011). It also accounts for the contributions of Driouchi, Zouag and Malki (2011) and Driouchi (2014).
Issues are discussed with first, the introduction of shortage of medical doctors. This is followed by a focus on some factors that could lead to this shortage before discussing migration and then by the on-going related approaches and policies. Such components are likely to allow for an overall understanding of the links between shortage and migration besides the overall policies governing

[1] MPRA paper N. 59322.

education, migration and health.
This is part of the challenges faced by health workforce and that has been identified and excessively discussed with the publication of the WHO report (2006) with the analysis of the patterns, issues and trends related to the human resources operating in the health systems. Among the background papers in this report, there is the one by Dal Poz, Kinfu, Drager and Kunjumen (2006) that deals with counting health workers through data with showing the global results. But, the most promising publication on labor markets for the health workforce is the book edited by Soucat, Scheffler and Ghebreyesus (2013). While the book focuses on Africa, it provides important insights about the analysis of the health systems.
Ranson, Chopra, Atkins, Dal-Poz and Bennett (2010) argue that since human resources account for approximately 70% of recurrent expenditures in most health systems, inadequate human resource training, regulation, distribution and management can have enormous implications. To the authors, poor developing economies suffer from shortage of health-care providers and from the poor distribution of providers within the same country. These concern disparities in the distribution of health workers between regions, between rural and urban areas, and between public and private sectors. In Algeria with 8 % of the population in Algiers, 24% of specialist physicians are located in this city. Similarities are found in other countries (Argentina, Egypt, Uganda and Tanzania). The working time, the levels of efficiency in private and public sectors are also discussed as expressions of implicit discriminations. But, to the authors this is a more general trend that is exaggerated in poor developing countries. Ranson et al. (2010) have discussed the priorities for research on human resources for health in low and middle income countries. The authors use interviews of different stakeholders to find out about the major problems facing health workers and the type of research priorities needed. Twenty-one research questions are identified with some having never received attention in the reviewed literature. They include incentives for retention and attraction of health human resources to underserviced areas, the impacts of multiple employments and the use of optimal incentives to enhance quality of health care. A clear consensus about the type of policy problems faced by different countries and the nature of evidence needed to tackle them.
Humphreys, McGrail, Joyce, and Scott (2012) analyze the use of recruitment and retention incentives with applications to the targeting of rural areas in Australia. They suggest this new geographical classification that provides a better basis for equitable resource allocation of recruitment and retention incentives to doctors based on the attractiveness of non-metropolitan communities, both professionally and non-professionally, as places to work and live. These means are proposed as alternatives for reducing the current levels of disparities between urban and rural areas but also different rural regions of Australia.
These disparities are also observed in other developed countries including those

of OECD (2013). Different papers have been devoted to the situation in many countries. They all insist on the procedures to generate more incentives to attract and value the health services with a major focus on the importance of research. This latter needs to address health human resources as they are major needs to know the best ways of ensuring local and global policies for a better access to health.

Sheikh, Boerma, Cometto and Duvivier (2013) consider that the availability, distribution, capacity and performance of human resources for health varies widely, and many countries have fewer health workers than needed for coverage of essential health services. The authors say that signs of progress are emerging, though several countries that are successfully addressing their problems in the area. Signs of progress resulting in improvements in health outcomes are observed. But these new gains are not sustainable as shortages and inequitable access to health workers may jeopardize the implications of these efforts.

Love (2012) discusses the means for the promotion of R&D in health as a way to reduce shortages in the medium and long terms. The author considers that the primary mechanisms to support such research are an obligation on convention members to invest a certain percentage of national income in R&D in addition to a fraction in a new multilateral pooled funding mechanism. The proposal for a convention also included several other norms, such as a requirement to delink R&D costs from product prices, to enhance the innovative capacity of developing countries and transfer technology to such countries, and to expand access to scientific knowledge.

Schweitzer and Synowiec (2012) are examples of authors that count on the role of new health and also information technologies to ensure better solutions to health care. They focus on m-health (or mobile health) and e-health (i.e. is the use of information and communication technologies for health). These are considered to have the potential to overcome traditional obstacles to the delivery of health services to the poor in lower and middle-income countries— issues related to access, quality, time, and resources. But, to the authors, there is little evidence as to whether the expected benefits and savings can be actualized on a large scale. As a first step to developing investments on m-health and e-health, the paper outlines some of the key economic and financial questions that need to be answered in the context of developing economies.

Telemedicine (Njikang, 2012), is concerned with the provision of clinical services at distance. It could be also considered as ways to reduce shortages in medical doctors. Remote areas could be targeted to use these technologies and compensate for the reduction of local medical services.

The above contributions show that shortage of medical doctors besides their migration but also research related to human resources and new technologies are important interdependent elements that need to be searched form different publications. Six interdependent sections form the core of the present paper. They successively deal with shortage, its causes, the patterns of migration

besides migration policies and the positioning in relation to the literature on brain drain with the specificity of brain drain in the health system.

2. The increasing shortage of medical doctors

There are very important reports by international organizations and mainly by the World Health Organization (WHO, 2006) that address the global and country shortages in health workforce. O'Brien and Gostin (2011) produced a good report dealing with health worker shortages. These authors consider that the world is experiencing a critical and growing shortage of health workers particularly in the poorest countries. They claim that the global human resource shortage is certainly much greater than 4.3 million health workers. To the authors, this shortage includes more than physicians and nurses. It includes also pharmacists, dentists, laboratory technicians, emergency medical personnel, public health specialists, health sector management, and administrative staff. The WHO estimates that there is a shortage of about four million health workers needed to deliver essential health services, and has called for immediate action to resolve the accelerating crisis in the global health workforce.

Shortages and imbalances of medical personal have been seen as an international problem with the works of Mullan, Politzer and Davis (1995), Health Canada (2005) but also by Miller, Langesen, Lee and Mick (1998). Zurn, Mario, Dal Poz, Stilwell, and Orvill (2004) suggest that economic theory considers that a skill imbalance occurs when the quantity of a given skill supplied by the work force and the quantity demanded diverge at the existing market conditions. These authors emphasize that labor market supplies and demands for occupational skills continuously fluctuate implying labor market imbalances or shortages.

In theory, all economies are facing shortages in medical doctors as these deficits relate not only to aggregated needs of growing populations, but also to the coverage of specific demands in well defined areas and in particular medical domains. Since shortage of medical doctors is universal, it is directly affecting the reforms aiming at making universal health care. The deficit of medical doctors is also affecting the universal insurance health care coverage. On the other hand, the boosting of universal health care and health insurance lead to further shortages in medical doctors. Smith (2008) among others, talks about global shortage in health care professionals and that Governments and health rights movements are both responsible of this global shortage. Other authors such as Noree, Chokchaichan and Mongkolporn (2008) have been insisting on the unequal distribution of human resources of health that can generate abundance for some but shortage for others. The spatial distribution of medical doctors between regions in the same economy and between urban and rural areas can

also show important deficits of medical doctors.
If health emergencies can be easily included in the identification of shortages, the needs of some specialties and the waiting time of patients are among the factors that can also express acute shortages in medical doctors. Seward (2007) has claimed that the waiting time for medical doctors can be more than seven weeks in the Boston area, in the USA. Other studies show that waiting can lead to the progression of diseases, which leads to further social and economic burdens. Abdullah (2005) investigates the possible operational problems that may lead to excessive waiting time for patients in Malaysia. He shows that 73.2% of the patients spend between 4 and 5 hours waiting to obtain a treatment from a doctor. He also demonstrates that this long time gives a negative perception on the quality of services in hospitals. Merritt Hawkins and Associates (2009) examine patients waiting times in fifteen states in the USA, with a focus on five medical specialties. This study shows that waiting times differ depending on the medical specialty and also from one city to another. In addition, this study underlines that despite the high number of physicians per capita in the cities of USA; many of the patients experience very long waiting times. For instance, the average time in Philadelphia is 27 days and in Los Angeles is 24.2 days. Another contribution based on OECD countries suggests that while the waiting time is a serious health policy issue in Australia, Canada, Denmark, Finland, Ireland, Italy, Netherlands, New Zealand, Norway, Spain, Sweden, and United Kingdom, it is not that high in Austria, Belgium, France, Germany, Japan, Luxembourg, Switzerland, and the United States. The main reasons for this, reside in registration time and the limited medical staff (Abdullah, 2005).
The growing progress and the new discoveries in health technologies are also likely to increase the demand for new medical areas implying an enhancement of the level of shortages. While all countries are concerned with these shortages, developing economies are likely to suffer the most from their implications relative to developed countries. These latter economies have better planning and management of their medical human resources in both public and private health sectors. The limited planning and management is itself among the sources of emigration of medical doctors from developing to developed economies even under a most pronounced shortage in the first types of economies. Besides that, developed economies do attract with their overall working and living conditions. But there are also differential incentives between developed countries. For Skinner (2002), the design of Medicare in Canada is considered as generating a monopoly provider of publicly-financed health insurance and as a coercive regulator of the health services industry. The author considers that this creates incentives to reduce labor wages in order to contain costs. The wage differentials between Canadian and American health professionals create a powerful incentive for Canadian medical personnel to emigrate to the USA. To the above author, this is continuing to produce loss of medical doctors and nurses contributing thus to a labor shortage in the health care system and reductions in

public access to health services that may be negatively affecting health outcomes in Canada.

In practice, each country has plans for its medical human resource needs and also programs for their fulfillment. But, these plans are contingent on risks and uncertainties that take place locally and at the aggregate levels. Medical education is among the sources that are assumed to help cover these needs. But, risks related to emigration are likely to be limiting the realizations of these plans. At the same time, compensations of the eventual losses from emigration cannot prevail unless possibilities of attraction of immigrant medical doctors are embedded in the staffing plans, both at the public and private health sectors. This attraction can take place in developed countries and under some co-operation and bilateral arrangements in some developing economies. Richer developing countries can proceed to covering their shortages through open, co-operative and direct hiring of medical doctors. But, most developing countries may not be capable of offering the latter options. For these countries, emigration of medical doctors is synonymous to real shortages as increasing population health needs is not covered under a decrease of health staffing. Further shortages in medical doctors can be observed in these economies placing thus more risks on the health of their populations.

The above descriptions and trends are supported through the use of aggregate information about world shortages and density of medical doctors. The world map of shortage of medical doctors (largely available on the Internet) highlights the fact that the shortage of medical doctors is present all over the world, but can be described as critical in most developing countries and poorer regions such as in Sub-Saharan Africa and South Asia. It is also highly expected to be occurring in countries such as Morocco, Indonesia, Costa Rica, and Peru.

When referring to the density of medical doctors per country and region, this shows an overall high numbers of inhabitants per doctor. This is larger in developed countries but also in some developing parts of the world. In sub-Saharan Africa, it can attain 50,000 inhabitants for one doctor.

Besides the above, shortage of medical doctors is more sensitive at the individual and aggregate levels as it affects human lives in comparison with deficits in other services that can either be compensated for, or have limited short run effects. This can be the case deficits in engineers and in teachers and faculty members but shortages in medical doctors are more critical to any economy. The emigration of medical doctors is consequently more critical than that affecting other types of skills.

While the development in international trade in services is promising as it can provide solutions to local and national deficits and as it can cover series of domains that need expertise and access to skilled labor, the area of medical doctors can be hardly concerned with this trade. Special arrangements and requirements are needed in this area even with the development of advanced technologies.

The statistics about total health workforce, health service providers and health management and support workers as provided by World Health Organization (WHO, 2006). The claim is that the total health workforce is estimated to be 59,220,000 people among whom 64.76% are in Europe and Americas. The health service providers are estimated to be 3.45% in Africa as compared to 31.57% in America. The percentage of total health workforce is estimated as 17% in Africa, compared to 43% in America. These figures highlight the prevalence and universality of health care shortages, but their exaggeration in most developing economies.
These shortages are certainly among the causes of mobility of health workforce and especially of medical doctors as there are countries that can offer better incentives and thus better conditions to reduce their deficits.
Other authors and publications are still addressing the issue of shortage in the health workforce with its implications on the provision of health care.

3. Labor occupations, backward bending labor supply curve among the causing factors

The obvious source for the reduction of shortage in medical doctors is in relation with the outputs of medical education. Any shortage in the number of medical doctors, leads to deficits in the number of medical doctors through time. Apart from this, other factors have been discussed in the literature. Besides that, the labor supply of medical doctors has appeared to follow the normal trend expected relative to changes in incentives. Andreassen, Di Tommaso and Strøm (2012) focus on a longitudinal analysis of the labor supply of married physicians in Norway from 1997 to 1999. The model utilized for estimation considers that physicians can choose among 10 different job packages which are a combination of part time/full time, hospital/primary care, private/public sector, and not working. Their current choice is influenced by past available options due to a taste persistence parameter in the utility function. The estimation accounts for the budget constraint, including all features of the tax system. The results imply that an overall wage increase or a tax cut moves married physicians towards full time job packages, in particular to full time jobs in the private sector. The overall and aggregate labor supply elasticities in the population of employed doctors are rather low compared to previous estimates. Such a role is not all the time observed as discussed in the following papers.
In a very interesting recent book by Barnow, Burt, Trutko and Pitak (2013), employment shortage and occupations are discussed in different book chapters. Many concepts tried to explain the term “labor shortage” but are finally judged irrelevant to the study of occupational shortages. These refer to series of

approaches defined as based on sustained market disequilibrium between supply and demand in which the quantity of workers demanded exceeds the supply available besides the willingness to work at a particular wage under specific working conditions. The causes of labor shortage are attributed to the geographic scope of the shortage, the period of the shortage, its severity and the subspecialty of shortages. This is the key determinant of whether there can be shortages for some parts of an occupation besides the consideration of the substitution effects. If not, a shortage can exist within an occupation while other subcategories are in equilibrium or even in surplus. According to the book, analyzing the causes of labor shortage is important because it helps in awareness of the appropriate market signals to look for in assessing whether or not shortage exists and to identify and assess potential public and private policies for dealing with shortages. Among the factors that are cited to cause labor shortage, there is the phenomenon of backward bending labor supply that occurs in situations where workers are free to allocate their time between the professional and other alternatives.

There are two main effects related to determining labor supply. The substitution effect states that a higher wage makes work more attractive than leisure. Therefore, supply increases. The income effect states that a higher wage means workers can achieve a target income by working fewer hours. Therefore, because it is easier to get enough money they work less. When the wage is low, the substitution effect may dominate. As wages increase, the income effect can start to dominate for a worker, when there is a choice between work and leisure. If wages increase, then work becomes relatively more profitable than leisure (substitution effect). However, with higher wages, he/she can maintains a decent standard of living through less work (income effect). The substitution effect of higher wages means workers will give up leisure to do more hours of work because work has now higher rewards. The income effect of higher wages mean workers will reduce the amount of hours they work, because they can maintain a target level of income through fewer hours.

These effects can be translated into other economic activities where labor has more choices to ensure economic activities, such as in the paper by Gautam, Strandand and Kirkley (1996) on leisure/labor tradeoffs in fisheries. Economists have understood that the open-access nature of fishing grounds can cause the long-run fishery supply to bend backward. There is also increasing speculation that fishermen respond to falling output price either by increasing or decreasing effort, depending on the circumstances. This suggests a short-run backward-bending supply of fishing labor. A dynamic, utility-theoretic model of fishermen's behavior is developed to address this possibility. The model highlights both contemporaneous and inter-temporal tradeoffs between labor and leisure. The model is tested and the results indicate that the short-run labor supply in fisheries may exhibit backward-bending properties. In addition, changes in current prices may trigger changes in expectations of future prices, causing

potentially greater counterintuitive behavior. These results challenge many traditional regulatory strategies that address problems of open access.

Brown and Lapan (2007) introduce a model of the supply of physicians' services based on the assumption that physicians are price-taking utility maximizes. The paper assumes that physician's services are produced using physicians' labor and purchased inputs. It shows that the impact of changes in final product or input prices on the supply of physicians' services depends on the physicians' labor-leisure choice and on the degree of substitutability between physicians' labor and purchased inputs. The empirical results presented indicate that the physicians' labor supply curve is backward-bending, but that the supply curve of physicians' services is positively sloped.

Green (1978) addresses the theoretical models designed to ascertain the existence of a variable level of physicians' activity in shifting the demand of their patients. Two basic approaches are followed: equilibrium models of the demand for health care, and disequilibrium models. Within the former category, both competitive and monopolistic behaviors are studied. Using the monopolistic model, a statistical test of the hypothesis of "no induced demand" is constructed, and fails to reject it. The disequilibrium analysis of other writers is analyzed and an alternative specification of such a model is set out.

Keher (1976) looks at the income differences between men and women physicians. These are analyzed using data from the American Medical Association's 1973 Eighth Periodic Survey of Physicians. While women tend to possess less favorable professional characteristics in terms of income-earning potential, the returns too many characteristics associated with higher incomes are greater for women than for men. Additional evidence on differences in weekly hours worked is presented in an effort to explain the lower incomes of women doctors. The woman who becomes a physician gains entrance to one of the highest paid of all professions. Yet, even within medicine, women's incomes are considerably lower than those earned by men. This paper reports on an analysis of incomes from medical practice earned by men and women physicians based on data obtained from a recent American Medical Association (AMA) survey.

Boulier (1979) investigates the supply decisions of medical practitioners while many previous studies have examined the relationship between hours worked by dentists and physicians and net income per hour. There are two important short-comings to previous approaches and estimations. First, variations in net income per hour among self-employed practitioners (the majority of dentists and physicians) are caused not only by variations in the price of output but also variations in hours worked, quantities of other inputs employed, and the prices of those inputs, so that the relation between hours worked and net income per hour is complex and not analogous to that between hours worked and wage rates for employed persons. Second, the results of these studies provide only inferential evidence about the supply of one of the inputs into the production of

medical services-not output. It is conceivable, for instance, that an increase in the price of output might result in a decrease in the number of hours worked by a dentist or a physician, yet result in an increase in output if the practitioner is led to substitute a sufficient quantity of other inputs (e.g., auxiliary personnel) for his own time. The next section of this chapter outlines a theoretical model of a dentist's practice which describes the relations among the price of output, the prices of inputs, hours worked by the dentist, the quantity of inputs used, and the supply of output. The succeeding section presents the results of an empirical investigation of the determinants of hours worked and the supply of output by non-salaried dentists.

Brown and Lapan (1972) comment the article of Feldstein (1970) who attempts to explain the pricing of physicians' services in the United States between 1948 and 1966. In his attempt to measure the demand for physicians' services, Feldstein (1970) finds a positive price coefficient. Further, since his estimates imply a backward-bending supply curve for physicians' services, the infers that government policies to reduce price inflation, may increase excess demand but will not decrease and may even increase the quantity of physicians' services provided.

Ellis (1981) introduces the debate over the last several decades about the backward-sloping supply curves of labor in Africa. This debate has occasioned much confusion not only as to what has in fact been observed, but confusion within and without the discipline of economics as to how the behavior might best be interpreted. Vahovitch (1977) looks at how physicians do as they tend to cut down on their work hours and weeks, and, if they do, how this will affect the supply of services available to their patients. These questions open up an important area of research, because the information gained can be extremely useful in estimating accurately the future supply of physicians' services and in determining government policies directed at affecting that supply. The hypothesis that an individual will choose an extra hour of leisure over an extra hour of work, once he/she reaches a certain wage level, is tested empirically by Vahovitch (1977). If the supply curve for a physician's market time is backward-bending, the supply of services offered may be dramatically reduced as a consequence of rising affluence.

Jeon and Hurley (2010) show that an effective solution to the problem of access to physician services in Canada must extend beyond an over-exclusive focus on the number of providers to consider the behavior of physicians in greater depth. The amount of labor and associated services supplied by physicians depends importantly on their attitudes regarding work, on practice and non-practice income opportunities, and on the policy environment in which they practice. Hence, the amount of labor supplied by a given stock of physicians can change over time. Only by considering the full range of factors that affect the labor supply of physicians can we effectively plan for physician resources.

Mitchell (1984) considers that because of the large public investment in medical

education, it is important to understand why women physicians work significantly less than men physicians. National survey data on office-based private practice were used to estimate (using two-stage least squares technique) hours and weeks worked for men and women physicians separately. Contrary to conventional wisdom, shorter work weeks for women physicians are not the result of child care responsibilities. Nor would higher earnings encourage women physicians to work longer hours. Instead, we found significant work reductions among married women physicians (but not men), implying subordination of careers by women where combined family incomes are high.

Chanel, Paraponaris, Protiere and Ventelou, (2010) devote their paper to the analysis of the General Practitioners' (GPs) labor supply, specifically focusing on the physicians' labor supply responses to higher compensations. This analysis is mainly aimed at challenging the reality of a 'backward bending' form for the labor supply of GPs. Because GPs' fees only evolve very slowly and are mainly fixed by the National Health Insurance Fund, the authors design a contingent valuation survey in which hypothetical fee increases are randomly submitted to GPs. Empirical evidence from 1,400 French GPs supports the hypothesis of a negative slope for the GPs' labor supply curve. Therefore, increasing the supply of physicians' services through an increase in fees is not a feasible policy.

Kleven (2009) wants to see if there have been any changes in the labor supply of hospital physicians after the implementation of the hospital reform in 2002. Several studies have shown that physicians spend less time on patient related work and that the productivity has decreased.

The data material in this thesis is based on second handed data. Two surveys were conducted in 2001 and 2006 on randomly collected hospital physicians by the Physician register. The total respondents were 1131 physicians in 2001 and 1298 physicians in 2006.

Hospital physicians have decreased their total working time with approximately 1 hour in 2006. This may be due to a shifting trend in the society where people are valuing more leisure, and less working time. While decreasing the total working time, the hospital physicians have increased their amount of patient related work by approximately 3 % (1 hour) in 2006.

There have been modest changes in working time, with approximately 1 hour decrease in total working hours in 2006, and approximately 1 hour more on patient related work in the same year.

It cannot be concluded that the hospital reform have had any effect on working hours and time allocation, but there are indications in the study that trends and tendencies towards more family life and leisure are influencing the labor supply among physicians.

Clerc, L'Haridon, Paraponaris, Protopopescu and Ventelou (2010) present an adaptation of the labor supply model applied to the independent medical sector. First, the authors model simultaneous decisions on both the leisure time and the consultation length for two payment schemes that are fixed and unregulated

fees. The objective of this econometric study is to validate the theoretical prediction that doctors under unregulated-fees may make choices about the length of patient consultations independently of their personal leisure decision. Indeed, according to the empirical results, the bidirectional link between leisure choice and consultation length are verified with fixed fees but does not hold any longer under unregulated fees. These findings can be seen as a necessary but not sufficient condition to legitimize unregulated fees in general practice.

4. Mobility of medical doctors

Migration of highly skilled labor is an area of interest to policy makers all over the world. Historical records show that this phenomenon represents the concern of many countries and is subject to different interpretations, disputes and expressions of fear (Bhorat, Meyer, & Mlatsheni, 2002). International migration among skilled workers shows a trend of noticeable growth in last decades: globalization, economic growth and the explosive growth in information and communication technologies are some of the reasons suggested by Bhorat et al. (2002). In addition, data from OECD (Organization for Economic Co-operation and Development) countries indicate that the medical doctors initially trained abroad make up a significant percentage of the medical doctors. Most them are (21%) in Australia, (23%) in Canada and (9%) in Finland.

An interesting map could be extracted from the 2009 Human Development Report (HDR). It illustrates international migrants' movements. The map shows important intra-regional movements within Europe, Asia and Africa; whereas this movement is less important in the Americas and Australia. It also highlights important migrants outflow from countries with medium to low human development index toward countries exhibiting high human development index.

Incentives to migrate differ from an individual to another. Some migrate looking for better financial conditions; others seek higher standards of living, better education (visa and immigration services, 2011). These can be grouped into push and pull factors between the origin country and the country of destination. However, in the case of highly skilled labor, the salary gains are noticeable. Data from the 2009 HDR show the gaps in average professional salaries for selected country pairs for different specialties, namely engineers, physicians, nurses and professors. Physical doctors earn over 100 thousands US dollars in Canada per year compared to about 10 thousands per year in Zambia. Immigrant doctors from Ivory Costs to France can have up to 60 thousands US dollars of annual salary gain.

Salary gains can be at the origin of remittances. In fact, as salary gains are considerable for skilled workers, part of the income tends to be expatriated to

worker's home countries. In fact, data from the Human Development Report show flows from international remittances in the years 2006-2007. These data highlight the presence of intra-regional remittances especially at the level of Asia and Europe. In addition, remittances from North America totaled 30.1 billion US dollars toward Asia, 17.3 billion toward and 36.3 billion toward Latin and South America. Other income outflows happen between Europe, Africa and Asia. The 2002 World Bank report highlights that countries in MENA region are among the most important countries to receive remittances. However, it is argued in the literature that remittances from skilled labor are relatively smaller as shown in Faini (2006), but also in Siddiqui and Chowdhury (2003). Skilled individuals are more likely to spend longer time periods in the host country and are more likely to bring their family members to the host country, as found in Faini (2006). Therefore, salary gains and possibility for remittances among other incentives that encourages doctors and other health care professionals to emigrate from their home countries to other places. Ryan (2011) has looked into the different push and pull factors leading to the emigration of medical doctors. The push factors include low salaries, job conditions, risks, and limited implementation of human rights. For the pull factors, they include economic reasons (better pay & improved socio-economic status), access to professional development opportunities, furthering of career, easy access to communication and technology, promise of better education for children, job security, and aggressive recruitment by other countries.

Pull and push dynamics between developed and developing countries have historically generated disparities between stocks and flows of health care professionals in and between these countries. In fact, Mejia and Pizurki (1976) in their WHO study looked at the global flows of physicians and nurses and showed increased disparities between developed and developing countries. Existing data indicate the total stock of physicians and nurses in both classes of countries while distinguishing the inflows and outflows. The above study shows that 89% of total inflows of health care professionals migrants are into the developed countries; whereas, 56% of total outflows are from developing countries. In addition, the same authors argued that between, 1960 and 1970, about 16% out of the total stock of physicians were on the move, mostly migrating to the US and UK from countries like Ireland, India, Sri Lanka, the Philippine, Korea and Latin America.

Despite the important migration among health professionals around the world, the flows are far from being free. There are direct and indirect costs that migrants face in the process of settling in their new destinations that can be considered as a barrier to migrate. In fact, Beine, Docquier, and Özden (2011) argue that migrants face significant legal barriers, social adjustment costs, financial burdens and many uncertainties while they are trying to live in their destination countries. The authors distinguished two main costs: assimilation costs that include time and effort needed for the migrant to adjust to new social

and cultural norms, in addition to the new linguistic and economic environment. "Policy" costs include all the legal entry barriers as well as the work requirements the migrant needs to deal with before arriving to destination (Beine, Docquier, & Özden, 2011). Some might argue that legal requirements might be less tough on skilled migrants, but they are still significant enough to hinder their free movement.

Even when considering that immigration policies in receiving countries are tilted in favor of skilled migrants (Beine, Docquier, & Rapoport 2003) compared to non skilled, the legal and professional requirements of the medical profession can be real barriers for the medical doctors to exercise in a developed country. The entry restrictions are justified in order to assure the quality of professional services as argued by Garoupa (2006). In Germany for example, it is very difficult for a foreign doctor (from non EU countries) to get a work permission to work with a German heath institution. Foreign doctors need to have a residence permit, working permit, and the license to practice medicine. This license can only be given if the doctor/applicant works with a preliminary permit between 12 and 18 months in a hospital. In addition, doctors have to demonstrate sufficient knowledge of German language (German Medical Association, 2011).

Therefore, despite the promising incentives of migrating to Germany, doctors face legal and professional constraints that make it extremely difficult if not impossible to be a practitioner in developed countries.

Studies suggest that physicians move abroad for training purposes to seek out additional professional qualifications or to gain experience with innovative techniques in the medical field (Mejia & Pizurki, 1976). For Ryan (2011), medical doctors emigrate from developing countries to acquire skills that are available in more developed economies. According to this study, doctors initially leave as students, but after few years, they become established emigrants for different reasons. This creates a cycle where more skilled workers from the home country are disposed to join them (Ryan, 2011).

Trade in higher education services has known a considerable growth in volume and value (Bashir, 2007). This trade is taking two main forms: students moving to universities abroad and foreign universities are providing higher education partnership with local institutions, through in country presence or virtual presence, as presented by the author. Statistics by World Bank show that between 1999 and 2004, Sub-Saharan African countries showed a strong 77.8 percent increase, MENA and Eastern and Central European states had increases of 57.9 and 58.3 percent respectively, while both North and Latin America had a 50 percent increase in students studying abroad (Bashir, 2007). Trade in education services combined with higher incentives and work opportunities can push international students to become recognized emigrants. In the UK for example, doctors who came to attend postgraduate training make up 37.3% of all physicians in National Health Service (NHS) in the year 2000. Migrating while being a student in a medical school the elimination of the professional

constraints foreign doctors are subject to in host countries.

The elements discussed above among others, provide evidence about medical doctors' emigration to different parts of the world. Following the increasing trend of this phenomenon, the concept of trade in health services emerged. In fact, Chanda (2004) pointed out that in OECD countries only, health care sector generates about 3 trillion US$ per year, and this amount is expected to raise in the following years as the demand for health care services increases (Bureau of labor statistics, 2010). The economic globalization in addition to the revolution in information technologies have urged and encouraged international trade in health services. Therefore, as any traded service, there are modes of service supply used in the estimation of trade in health services. Chanda (2004) has looked into these modes and summarized them as follows. Cross-border delivery of health services (Mode1) concerns the shipment of laboratory samples, diagnosis, clinical consultations and second opinions via traditional mail channels and electronic ones. The author argues that tele-health services are popular among countries, for example, Indian doctors provide tele-pathology services to hospitals in Bangladesh and Nepal whereas some hospitals in the US provide tele-diagnosis and consultation services to other hospitals in the Central America and Eastern Mediterranean (Chanda, 2004).

The second mode of interest to trade in health services is medical tourism. This phenomenon occurs when people from developed nations travel to other countries around the world seeking medical treatments, due to the high costs of the same medical service in their own countries. Chanda (2004) argues that, in addition to the high costs of health care in countries like the US and UK, the convenience of international travel via air, the rapid advancement of medical technologies in less developed nations all around the world, the exotic and the fun experience of traveling abroad have all contributed to the growth in medical tourism. Herrick (2007) pointed out the main destinations for tourists seeking health services. He claimed that most Americans look for treatment in Latin and South American countries, namely Mexico, Brazil and Argentina. India and Thailand are popular destinations for serious medical procedures as they benefit from high tech facilities. Other popular destinations especially for Europeans include East and Central Europe, Singapore, and South Africa.

Mode 4 concerns temporary movements of health care professionals. For Chanda (2004), this area of international trade is gaining importance in developing countries. This mode is about the outflow of qualified medical personnel from their home countries, usually seeking better living standards and carrier development opportunities in industrialized and rich countries. The author argues that this migration alleviate the shortage at the level of developed countries and benefits the source countries in terms of remittances. The movement is not limited to South/ North, but can occur within developed nations. For examples, given the shortage of medical doctors in Portugal and the high number of doctors in Spain, many Spanish doctors have moved to work in

Portugal (Garoupa, 2006).
Facing migration and the global shortage in medical doctors, many countries have been reacting around the world to put in place global policies that will help promote health care through medical doctors.

5. The role of migration policies

The related literature suggests that migration is not a free process since it involves many direct costs, indirect costs, social and legal barriers that migrants are exposed to while settling in the new destination. As migration engages human capital, it is of a great concern to policy makers. High skilled emigration benefits from special attention as it is believed to be bringing gains to the destination country while having important direct and induced negative effects in the country of origin. Beine, Docquier, and Özden (2011) confirm that there is evidence of policy effect on migration; although this effect is larger for unskilled labor and those originating from low income countries, it is still significant for skilled individuals. Bhargava, Jamison, Lau, and Murray (2001) argue that emigration of medical doctors deserves special attention from policy makers as it involves connections between population's health and economic growth especially at the level of developing countries.
In fact, Bhargava, Docquier and Moullan (2011) argue that the supply of medical doctors in developing countries is highly linked to the improvement of human development indicators.
Stark and Fan (2001) found that when developing economies open up to migration of skilled workers, unemployment is exacerbated. Their study demonstrates that government policies with regard to employment affect policies to restrict or open up to skilled labor migration, medical doctors included. The reasons discussed above give strong arguments of the extent to which migration of medical doctors and critical and how it affects development, global heath, and unemployment. Policy makers around the world have raising concerns about this issue and strive to define a health system that alleviates the shortage while taking into consideration medical education as the supply mechanism of physicians. There is a prevalent need for alternative policies. Bourgain, Pieretti, and Zouand (2008) consider that substitution policies are strategies sometimes chosen for curtailing the shortage of health professionals especially caused by the outflow of medical personnel.
In this regard, the EU is suggesting the new policy approach of "chosen migration". As the EU is experiencing a clear economic need for high skilled immigrants, its members are embracing policies to promote job dependent migration (Kahanec & Zimmermann, 2011). In other words, EU members are

allowing labor market to select immigrants according to its needs.
Those authors argue that the selection is based on skills or education while giving preferences to immigrants with university degree or professional qualifications. On the other hand, those policy projects are still in their infancy phase. In fact, there is still ambiguity about immigration policies and how they are handled between the different member states. There is a lack of an effective and generalized immigration policy that allows for the alleviation of shortages and the mismatches between supply and demand of migrants. Therefore, in the case of medical doctors and taking into consideration the fact that shortages and migration seem to be irreversible facts; policymakers have to define an economic model that will allow for a win-win situation between the parties involved. The model has to capture the different incentives at all levels and get to a kind of balance between developed countries willing to overcome shortages and developing countries seeking human development.

6. Mobility in relation to the brain drain and brain gain debate

Brain drain in relation to emigration of already trained skilled labor or as potential candidate to be trained abroad with possibilities of not returning to the home country after graduation, has been considered for a long time as a major source of losses to the economy of origin. Major debates have been taking place on this issue and its related impacts. Most of the discussions that have been developed at the level of countries and at the level of regional and international organizations have been considering the emigration of skilled labor as a major engine for human capital flights in relation to the number of skilled emigrants leaving or not returning to their countries of origin. These discussions recognize the importance of skilled labor for an economy besides recognizing the negative impacts of their departure and non return. They also underline the likely massive flows of departures and non return, but later on the stocks of skills that are away from the economy of origin. While the emigration flows might be considered as having limited effects, countries may start wondering under massive accumulations of skilled labor abroad.
Different publications, such that of George (2006), refer to the historical background of skilled migration. This author emphasizes the role of political unrests, wars and natural hazards besides policies that have also contributed to forced brain drain to other countries that offer more favourable conditions of life. This author cites the movements developed in 1930s, 1940s and even recently in some countries. He also refers to major destinations such as USA and UK. Different books and reports besides a large set of papers have been produced to underline the negative effects of brain drain.

Dugger (2005) considers that 'Brain drain' is damaging the poorest countries in Africa, Central America and the Caribbean. These are losing sometimes high portions of their college-educated workers to wealthy economies as shown in a World Bank study (World Bank, 2005). The findings are based on an extensive survey of census and other data from the 30 countries in the Organization for Economic Cooperation and Development, which includes most of the world's richest countries. In contrast, less than 5 percent of the skilled nationals of the developing world, like India, China, Indonesia and Brazil, live abroad in an OECD country. These patterns suggest that an extensive flight of educated people is negatively affecting poorer countries, with the largest developing countries better able to have relatively smaller losses of talents. They can even benefit from them when they return or invest in their countries of origin.
The book by Adams (2003), entitled "International Migration, Remittances & the Brain Drain," found that from a quarter to almost half of the college-educated nationals of poor countries like Ghana, Mozambique, Kenya, Uganda and El Salvador live abroad in an OECD country - a fraction that rises to more than 80 percent for Haiti and Jamaica.
Another book by Schiff and Ozden (2005) looked at different aspects of international migration with its enormous economic, social and cultural implications in both origin and destination countries. This book examines also the determinants of migration, the impact of remittances and migration on poverty, welfare, and investment decisions, and the consequences of brain drain, brain gain, and brain waste.
Jun (2010), in his article about attracting talent from abroad, considers that these are the fiercest of times in the competition for talent. China has issued a Medium and Long terms Talent Development Plan (2010-2020) in response to the rapid economic growth and the large needs for skilled labor. The number of Chinese returning from overseas has been growing in relations to the series of incentives provided. The author insists also on the great changes that have taken place in the global economic. The high competition among countries and that has shifted toward emerging strategic industries and a talented person is recognized by the author as the main driver for the new Chinese policies.

7. Mobility of medical doctors and brain drain in healthcare

Torres and Wittchen (2010) consider that healthcare is generally under-provided in developing economies and its accessibility also tends to be biased towards urban and relatively privileged patients. Several authors have been addressing the issues related to the deficits of medical doctors in developing economies.

Chen and Boufford (2005) insist on the detrimental nature of the movement of physicians from poor to rich countries. To the authors, the existing statistics do clearly address the extent of this problem for series of countries. They refer to Mullan (2005) who emphasizes that 25 percent of U.S. physicians are international medical graduates, with higher figures for the United Kingdom, Canada, and Australia.

Apart from the economic losses (investment in education of doctors and nurses, their service and tax collection from their incomes), Kirigia, Gbary, Muthuri, Nyoni and Seddoh (2006) identified other losses of a social and moral nature. This loss of role models and guardians of human rights occurs particularly in rural areas.

Hooper (2008) refers to the reports by the United Nations and the World Health Organization to emphasize that the brain drain of healthcare professionals from the developing to the developed world is decimating the provision of healthcare in poor countries. The migration of these key workers is driven by a combination of economic conditions and the policies pursued in the rich world. The author assesses the impact of the healthcare brain drain and argues that wealthy countries have a moral obligation to reduce the flow of healthcare workers from the developing to the developed world.

Mills, Schabas, Volmink, Walker, Ford, Katabira, Anema, Joffresg, Cahn, and Montaner (2008) introduce statistics showing the shortages of healthcare staff in sub-Saharan Africa. They find on average that one physician serves 8,000 people. According to Clemens (2009), the level of medical care provided by doctors in Africa depends on a vast array of factors.

Other publications have looked at the links between development issues and migration of medical doctors. Moullan (2009) analyses the impact of foreign health aid on the emigration rates of physicians using a panel data to investigate the emigration of physicians from 192 source countries to 17 destination countries between 1995 and 2004. Bhargava, Docquier and Moullan (2011) analyze the effects of physician emigration on human development indicators in developing countries for the period 1991-2004. They find that reducing medical brain drain may likely only induce small benefits for child mortality and vaccination rates as they are other variables that affect the attainment of the Millennium Development Goals. But a large number of publications insist that medicine has a strong tradition of international collaboration, with high mobility of medical doctors moving around the globe to gain further training and different clinical experiences. Some authors such as Johnson (2005) said that “We gain in the North, but developing countries lose out by losing their doctors permanently” (Johnson, 2005). Murdoch (2008) has discussed the issue for Poland.

8. Conclusion

The above survey of literature shows that the needs for medical doctors have been increasing through time and countries under the effects of the changes occurring in health technologies and the increasing demand for health care. The implied shortages have been growing while accounting for new niches related to the expression of the demand for health and improvements in the welfare of the populations. The shortage of medical doctors could be also related to the nature of the labor supply curve that may not respond positively to new incentives. These needs and processes have been leading to the acceleration of the migration of physicians to economies where higher expected benefits and better working conditions. Developing countries appear to be mainly sources of this migration but developed economies have been also concerned.
The overall picture that has been developed by different researchers is that brain-drain is the consequence of the on-going trend of migration. This has had implications on both international and national debates and policies. Series of contributions in different disciplines related to social sciences have been developed around this approach.

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Medical Brain Drain from Maghreb to Northern Countries: for a new social dialogue?

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Abstract

Migrant seems to be a threat for the security of many European countries. However, there is a global war to attract the most talented migrants, particularly for health care. Skilled migration from the Maghreb countries has become a hot issue since the beginning of this millennium.
Combining different recent datasets, this paper reveals two key profiles of migrants with high level of education: engineers and medical doctors.
The results indicate a high rate "medical brain drain" from the Maghreb countries and a low educational progress of migrants in France. The authors also reveal the profiles of specialists. Algeria registers a higher rate than its neighbours in three fields: psychiatrists, ophthalmologists and radiologists. The expenses for medical training are very heavy: this drain is a "deadweight loss" for the benefit of advanced economies without any compensation. Finally, the authors suggest the opening of a new social dialogue across the Mediterranean shores, enlarged to Sub-Saharan Countries.

keywords: Maghreb; Algeria; Brain drain; Medical skills; Employment; Mediterranean policies.

1. Introduction

This analysis of the brain drain is quite different from more classical studies based on the push-pull theory. This is not so much an analysis of the low retention capacity of countries of the South; rather, it calls for the adoption of an active attractive policy of scientific migration.
This paper is structured on three levels. First, an overview of migration from Maghreb shows the current trend of scientific migration. Secondly, a thorough analysis of Maghrebian skills, particularly in France where there is a high concentration of Maghrebian migrants, with an empirical evaluation of the "brain drain" rate involving particularly physicians migrating to France. In the third section, the authors suggest to open a new social dialogue with a multi-faceted view on migrant's integration.
Finally, some proposals are put forward for a dialogue for a 3-Win policy and for a real strategy for skills mobility hitherto exclusively practiced among the

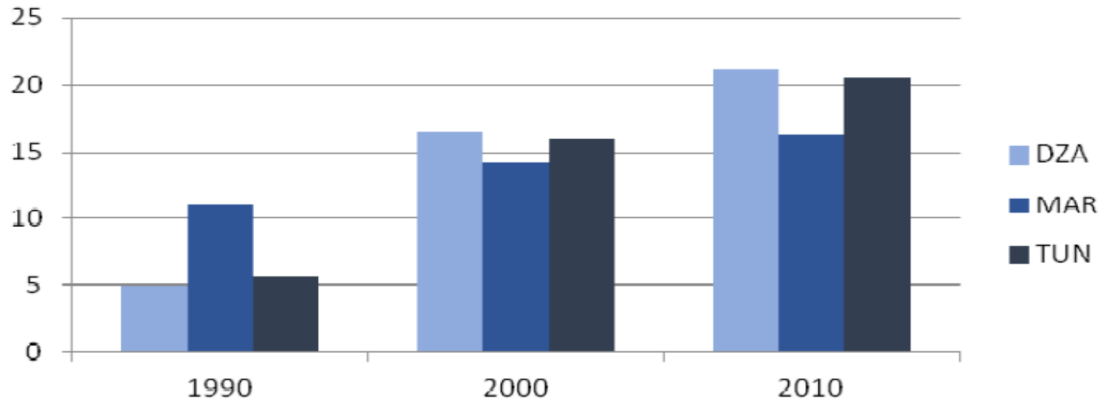
Northern countries. The dream of a transition from brain drain to brain circulation in the Mediterranean is also shared by Maghreb analysts, but the means of achieving it are different.
These results come timely in the climate of deep fear surrounding the “crisis migration” not only in Europe but also in the USA, where migrants are seen more as “devils” than “angels”. Global talents like medical practitioners, but also engineers and artists from third world countries, are in fact a “blessing” for Northern countries which lack high-end skills to sustain their growth rate and the wellbeing of their aging societies.

2. Overview of migration from Maghreb countries

The issue of "brain drain" is not new in the literature on international migration. Indeed, there is a rich literature on this phenomenon. There is also a need to update the scientific views of brain drain in the era of globalization.
What do we know about this phenomenon? Some answers are sufficient to point out the need for renewal. A synthetic review of the literature has been produced by Gaillard & Meyer (1996) focused on the evolution of the perception of the "brain drain" phenomenon. Some years later, the World Bank analysts (Bollard et al, 2011) also revisited the links between brain drain and remittances.
The transnationalism theory nevertheless insists that the Diaspora should not be addressed only from the point of view of remittances. Peggy Levitt (2006) argues that the relationships between migration and development are not only financial but must also include social remittances.
Among developing countries the phenomenon was raised by the African Union, particularly in the NEPAD program. At the country level of the Arab Maghreb Union (UMA), some thoughts have been advanced by researchers (Bouklia, 2010) without however developing a synthesis of the Maghreb countries.
Our approach builds on the progress made in the study and knowledge of the phenomenon. It also brings a new vision. It considers scientific migration as a potential resource which can be mobilized in order to contribute to the economic, technological, scientific and social development of the country. Drawing on a strategy designed for migrant remittances, this "resource" is not exclusively material but it is also immaterial (Musette, 2011).
Central Maghreb countries (Algeria, Morocco and Tunisia) registered just over 80 million population in 2015, more than double the 27 million in 1960 (UNDESA, 2015). These countries are also known to be emigration countries particularly since their independence in the 1960s. It must also be recalled that they have long been a land of immigration from Northern countries, particularly

from colonial France.
By now there is a stock of 5 million migrants abroad - nearly 90% in Europe according to the same UN data - representing 6.2% of Maghreb population. The quantity of North African highly educated migrants is estimated at around 800.000 in OECD countries, an average rate of 20% in 2010 against 10% in 1990 (OECD, 2014). The rate has doubled over the last two decades. It should be noted that Maghrebian migrants are not located exclusively in OECD countries.

Fig. 1 - Growth rate of Maghrebian Highly-Educated Migration to OECD countries from 1990 to 2010



DZA: People's Democratic Republic of Algeria
Source: authors' elaboration based on OECD data

These data show that the growth rate is different for the three countries. Algeria registered a higher growth from a rate of 5% in 1990 to 21% in 2010, four times higher than Tunisia (2) and Morocco (1.5). This raises a few questions. Does this growth mean brain drain, as put forward by OECD analyst? An in-depth analysis is necessary to distinguish non migrants from migrants. Moreover, measuring the brain drain rate requires to differentiate people who have been trained in the country of origin from those having graduated in host countries.
Maghreb high skills migrants (over 25 years old) in France are estimated at about 324.000, according to the French 2012 Labour Force Survey (INSEE, 2014).

Tab. 1 - Distribution of Maghrebian High Skills Migrants in France by countries of origin

Graduation	MAR	DZA	TUN	TOTAL
High level graduate	**87.294**	**95.630**	**26.782**	**209.706**
Of which medical doctors	5.106	17.658	5.106	27.870
Of which BA level	4.961	21.034	4.961	30.956
Of which engineers	6.787	14.115	6.787	27.689
Bachelors	52.407	44.255	17.325	113.987
Of which technicians	8.891	17.762	8.891	35.544
Total High Skills	**139.702**	**139.885**	**44.107**	**323.694**
Employed Migrants (25-64 years old)	640.046	453.395	230.402	1.323.843
High Skills Migration Rate (%)	21,8	30,9	19,1	24,5

Source: authors' elaboration based on INSEE - LFS 2012 data - France

These data show a number of details so far little known. Let's focus particularly on engineers and doctors. The supply of these two profiles is almost the same as a whole. Algeria is still the exception, originating three times as many doctors and twice as many engineers than the two neighboring countries. If the phenomenon of North African engineers is fairly well-known, the second profile, that of doctors, is quite unknown. What are the profiles of the doctors? Are all Maghrebian doctors migrants? Have they have been trained in the countries of origin? These data do not consider "citizenship" as a criterion and include also nationals, whatever their date of departure from the Maghreb countries. From a historical outlook these data can be questioned. However, the Human Development Report (CNES, 2015:27) shows that 73.3% of doctors from Algeria have graduated in the home country, while the rate is only 3.8% for Tunisians and 20.4% for Moroccans.

3. The medical brain drain from Maghreb countries

The medical brain drain (MBD) phenomenon is not exclusively Maghrebian. It affects many countries in the world: Caribbean and Pacific islands, Ireland and sub-Saharan African countries register the highest emigration rate of doctors. The economic size of island countries and their limited absorption capacities largely explain the high emigration of doctors from these regions. These high emigration rates can be explained by other factors too: The official language of these countries is English; their geographical proximity to the United States, to Europe or even to the Arab Gulf countries, which represent a large area of

physician recruitment (Moullan and Bourgueil 2014).
The Sub-Saharan African countries (South Africa, Uganda, Nigeria in particular) are severely affected by the MBD penalizing their weak health systems. They have the lowest medical densities in the world. Half their doctors have emigrated during the period of the structural adjustment policies. A study of Bhargava and Docquier (2008) shows that the medical emigration rate in Sub-Saharan African countries has increased significantly between 1990 and 2004. This has contributed to the weakening of the health systems of these countries in the face of major pandemics. WHO data show that about 57 countries are suffering from an acute shortage of doctors, and 36 of them are in Sub-Saharan Africa (WHO 2006).
At the Maghreb level, the medical density in Tunisia is similar to that registered in Algeria. Morocco registers a lower density. Overall, the medical density in the Maghreb countries has improved significantly over the last three decades, even though regional differences persist. The pace of physician training is much higher in Algeria than in Tunisia and Morocco. This latter shows a deficit of doctors to meet the needs of its population. The WHO classified Morocco, among the 57 countries worldwide, as a country with acute shortage of medical staff. Aware of this situation, Morocco has launched a training program to improve the rate of medical density by 2020.
Despite their need for medical staff, the Maghreb countries seem to face to the MBD phenomenon. They lose each year many doctors who prefer to go abroad, mainly to France and Canada.
To quantify this phenomenon, we have used and crossed multiple data sources: those of the Health Ministries of the three Maghreb countries, the employment survey conducted by INSEE (2012) and data from the Council of the Medical Association (CNOM, France).

Tab. 2 - Global Medical Brain Drain rate in the Maghreb (country of birth)

Employment Status of Physicians	**Algeria**	**Morocco**	**Tunisia**
Doctors born in the Maghreb, settled in France (INSEE Survey,2012)	14.847	6.230	3.846
Active physicians workforce in native country (Countries Data)	48.184	19.770	13.640
MBD rate	**24%**	**24%**	**22%**

Source: prepared by the authors based on data from MSPRH, MSM, MST, CNOM and INSEE

The average emigration rate is 23% in 2012 for the whole Maghreb.
This rate takes into account all the doctors born in North Africa, whatever their

place of training (France and Maghreb countries) and practicing as a doctor in France. The emigration rate is even more important if we include all doctors established in France and engaged in the medical or other sector: it reached almost 30%. Like other developing countries or Sub-Saharan Africa, the Maghreb countries are experiencing a remarkable MBD phenomenon. The rates in these countries are not far from those registered by sub-Saharan African countries: Ghana and South Africa show 38% and 24% rates, according to data provided by Bhargava et al. (Bhargava, Docquier, Moullan 2011).
The majority of North African doctors migrate to France for historical, cultural, geographical reasons and because of a training system inspired by the French model and the existence of inter-university agreements. The number of North African doctors registered in the French Physicians Order (TOM) was 16.821 in 2014[1]. Almost 92% of doctors held a regular job.

Tab. 3 - Medical workforce according to the type of activity

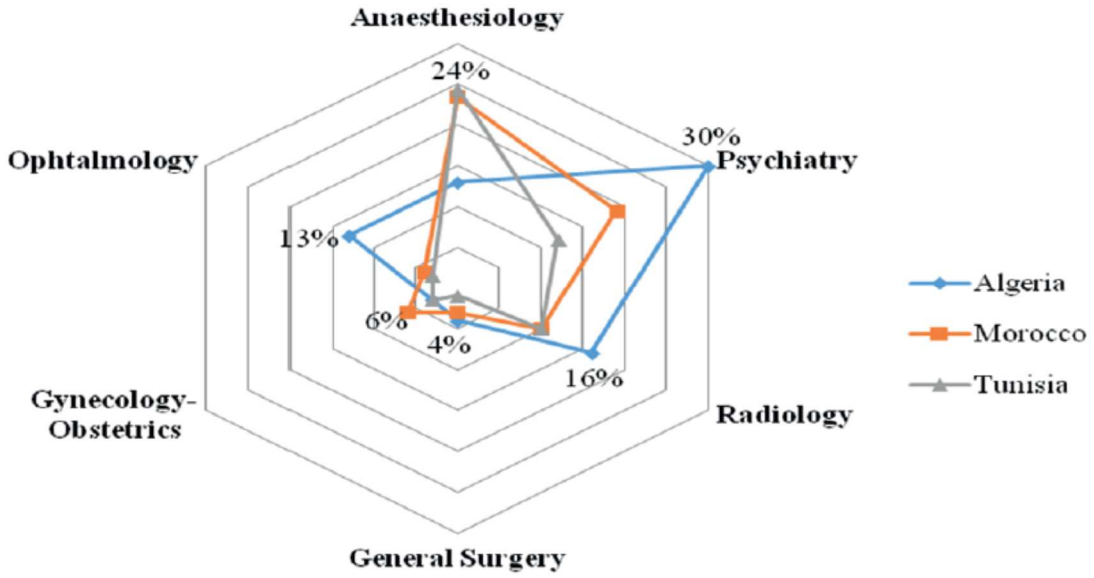
	Algeria	**Morocco**	**Tunisia**
Temporary	274	159	73
Substitute	484	250	169
Regular activity	9.561	4.598	2.662

Source: authors' elaboration based on data from CNOM, 2014.

The recent survey of CNOM (Le Breton-Lerouvillois 2014) indicates that the number of doctors born outside the European Union and working in France rose by 10.4% between 2007 and 2014 and will very likely continue to grow in 2020. More than one out of two doctors born outside the EU was born in a Maghreb country. The specialties are differently affected by MBD. The following figures show the emigration rate in some specialties where data were available.

[1] Not all practicing doctors in France enrolled in TOM. The number of practicing physicians is therefore higher.

Fig. 2 - Brain Drain Rate of medical specialists born and trained in Maghreb countries and migrated to France (%)



Source: prepared by the authors based on data from CNOM, 2014.

This figures show the emigration rate of doctors born and trained exclusively in the Maghreb. Psychiatry remains the specialty registering the highest migration rate: 30%, 19% and 12% respectively for Algeria, Morocco and Tunisia. North Africans represent in total 63.9% of psychiatrists trained outside the EU and working in France, and Algeria topped the list with 41%. Anaesthesiology comes second with an emigration rate of 24%, 23% and 13% respectively for Tunisia, Morocco and Algeria. Half of Maghreb anesthesiologists practicing in France have graduated in their origin country. Radiology is in third position with 16% coming from Algeria, 10% from both Morocco and Tunisia. Almost 50% of Algerian radiologists graduated in their native country. One third of Moroccan radiologists established in France have graduated in their native country. Finally, 25% of Tunisian radiologists arrived with their diplomas in France. Ophthalmology ranks fourth with an emigration rate of 13% for Algeria, 4% for Morocco and 3% for Tunisia. 37% of Algerian ophthalmologists established in France have been trained in Algeria, 12% in Morocco and 13% in Tunisia. Obstetrics and gynecology shows a brain drain rate of 6% for Morocco, 3% for both Algeria and Tunisia. The percentage of North African gynecologists established in France who obtained their degree in their home country is 41.4% for Algeria, 57.5% for Morocco and 45.8% for Tunisia. 41%, 23% and 6.5% of gynecologists have been trained respectively in Algeria, Morocco and Tunisia. General surgery shows the lowest rate at 4%, 3% and 1% respectively for

Algeria, Morocco and Tunisia.
These data show that the specialties are not affected to the same extent by the MBD phenomenon. This craze for emigration matches with health personnel needs in host countries that will register a significant growth in coming years. In the absence of qualitative surveys, it is difficult to identify the rationales of the MBD. The reasons are certainly multifaceted. In a recent research conducted in the Algerian context (Zehnati, 2016), we tried to check whether the public sector doctors were underpaid. Our results show that doctors (regardless of their grades) are relatively better paid than the rest of the socio-professional categories. Thus, the MBD is not related to financial constraint. New tracks are to be explored together within a broader social dialogue.
Our results suggest that a decrease of remittances is to be expected in the long run. It is related to the continuing brain drain. How to avoid the end of the transfers and how to turn the brain drain into brain circulation?
First, it is necessary to reconsider the theories according to which countries of origin do benefit from a deal in with the losses caused by the departure of skills are compensated by migrants' remittances.
Then new actions need to be taken at the level of the Maghreb countries, although these countries are relatively better endowed with human resources than the rest of Africa, with a few exceptions.
The theory of remittances as compensation from abroad was reversed for the Maghreb countries already some years ago by the MIREM (2007) study. High skilled workers contribute far less to remittances than those who are less skilled. However, intangible gains are possible but cannot be measured and weighted. Further detailed analyses are needed on remittances to reduce informal flows.
The thesis of the "brain gain", inspired by the human capital theory, is quite attractive for the Maghreb countries, with some nuances. The human capital gain proceeds from a migration desire of new generations who strive to acquire "exportable" skills. The negative image created by the failure of high skills because their diplomas cannot be validated needs a new dialogue with Northern countries.
The classical sociological vision of migration as a social success needs also to be revised. Migration is expected to represent a mechanism for social mobility, but often such is not the case, as doctors who are not allowed to practice overseas become taxi drivers. Qualitative studies are needed on the image of qualified North African migrants abroad. The renewal of the European Blue Card in 2015 could shed more light on the quality of new Maghreb skills, as these countries have recently adopted the LMD system.
The theory of the role of intellectual Diaspora networks should be an asset for Maghreb authorities. Its potential is confirmed by studies conducted in Algeria and Morocco, despite the lack of very detailed data (due to the advent of new communication technologies, more precise big data set would be necessary for a correct analysis and monitoring). Continuous observation of network activities

should first distinguish the demographic data (birth and death), the legal aspects of different actions implemented and then assess eventual forms of compensation that would benefit the country of origin.

4. New Social Dialogue towards the integration process

The integration of the Euro-Med countries by means of international migration is rooted in the political, economic, social and cultural context. The concept of integration has taken on new dimensions since the beginning of the new Millennium. Today we witness an accelerated process of globalization and the intensification of geopolitical conflicts around the Mediterranean. Globalization requires strong economic ties for the prosperity of the countries of the region. The intensification of geopolitical conflicts tends to the dissolution of societal, if not civilizational links, with risks of violence endangering the security and stability of all countries of the two shores of the Mediterranean.
The current context calls for a revision, if not a break with past visions of integration, laying new foundations for social dialogue aimed at the prosperity of countries of both shores. This social dialogue requires, in turn, taking into account the dimensions of the environment. Regional and international organizations will continue to push with all their weight towards the desired integration. It is in this sense that the integration of peoples on both sides should be revisited through North-South but also South-South Societal Dialogue.
Integration through international migration is not new in literature. The European Union has set up an observatory for the integration of migrants, with a set of indicators aimed at assessing and monitoring the strategies of EU member states. This observatory is backed by the border security system (FRONTEX) and a large-scale information system.
Similarly, the EU has funded a series of studies and programs (I-MAP, EUROMED migration ...) in the region. It should also be remembered that migration was an early subject of consultation in the region (such as the 5 + 5 Group, the Barcelona Process, UPM Initiative Rabat) and recently the Europe-Africa Valletta Summit (2015). Despite these efforts, the Mediterranean has become a "graveyard" of migrants and refugees, with increasing numbers. On the one hand, fear is settled in several countries of Europe, fueled by sensational press which demonizes migrants. On the other hand, all demographic indicators confirm the need for immigration in order to maintain the level of economic growth and "wellbeing" of European countries.
Several questions arise from these remarks: How can we revisit integration through international migration in the light of new realities? Is economic integration a prelude to shared prosperity? By reducing economic inequality, can we bring on a growth of "wellbeing" for all peoples of the Mediterranean?

Integration, in the Durkheim sense of "living together", is compatible with the plurality of models of migration governance? Can integration - often opposed to assimilation - lead to interculturalism?
Three tracks are suggested to initiate a renewal of a social dialogue between the two shores of the Mediterranean on integration through migration.

(i) Relationships between migration and development

Despite the restrictions imposed on both sides of the Mediterranean, the migration flow cannot be interrupted. The movement patterns (regular, irregular, mixed ...) will continue. Prospective studies should be constantly updated in both the North and the South, especially as far as the needs of the international labor market are concerned, which currently operates without rules or ethical basis. If for the mobility of skilled people head hunters are engaged in a war for talent, for the less skilled the informal economy without borders exploits a workforce made vulnerable by the illegal working conditions which are often imposed on them. Studies undertaken on remittances indicate that migrant remittances will be decreasing in the long run. Moreover, initiatives are undertaken through the networks of the North African Diaspora for investments in the countries of origin.

(ii) Harmonization of the models of governance of migration flows from Maghreb

Migratory movements are powered by population displacement caused by cyclical crises created by geostrategic issues in the Mediterranean region, both in the Sahel and the Middle East. The investments made by countries to secure their borders with the construction of "walls" are heavy and unsustainable in the medium and long term. The costs of humanitarian protection of forcibly displaced people require a strong contribution of the civil society that could dwindle over time. Other forms of "migration crisis" are expected as climate changes affects the countries of the region. The different Maghreb countries have undertaken a review of their migration management strategies while excluding to serve as a tool of European externalization of migration control policies.

(iii) Building bridges between the shores: Mediterranean as an area of wellbeing

Migratory movements, considered in their two dimensions (economic and political), call for a new social vision for the peaceful coexistence of peoples on

the two shores of the Mediterranean. A perspective grounded on interculturalism is a wealth of the Mediterranean: the market for global talent (medical practitioners, engineers, artists, sportsmen ...) deserves greater visibility to build social dialogue in this region. Transnational migration, and the correlated assets and capabilities embedded in binational individuals, can be the bridge between the two shores.
Around these three dimensions, a new outlook on integration through migration can be developed. Our peoples are "condemned" to live together.

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Essentializing Difference. Text, knowledge and ritual performance in a Sufi brotherhood in Italy[1]

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Abstract

The paper explores the different and competing understandings of 'proper Islamic praxis' between Egyptian Muslim immigrants and Italians converts to Islam within the Italian branch of an Egyptian-Sudanese Sufi brotherhood, in Rome.
The Italian brethren foreground intellectual engagement with texts and scriptures over ritual performance and the role of the body, elements to which immigrants instead give prominence. I suggest that such polarization and the reasons of its persistence may be best understood by focusing on the performative role of cultural essentialisms against immigrants and of stereotypes concerning the definition of 'orthodox' Islam circulating in Italy and beyond. Whereas these prosaic essentialisms and binaries do not actually map socio-cultural realities, they are on their turn performative: essentialised discourses orient everyday praxis, make sense of experience and support forms of empowerment and of domination within the brotherhood.

keywords: Migration; Italy; Islam; Ritual; Performance; Cultural essentialism.

1. Prologue

In March 2004, the Italian converts to the Tariqa Burhaniya, a Sufi brotherhood of Egyptian-Sudanese origin[2], read an article I had written about my research, carried out for my master thesis, on the Italian branches of the Tariqa (Abenante 2004). My text sparked off an animated discussion among the Burhani disciples attending the *zāwiya* (lodge) in Rome, led by Abdel Ghafour, – an aged intellectual man belonging to the high Italian bourgeoisie who had encountered Islam some twenty years earlier through a group of intellectuals and academics devoted to the study of mystical texts. According to Abdel Ghafour, I had placed

[1] in I. Weinrich (2016).

[2] Founded in the middle of the 20th century by Shaykh Muḥammad ʿUthmān ʿAbduh al-Burhānī [henceforth Shaykh Mohammed Uthman] in Atbara, Sudan, the Tariqa Burhaniya [arab. al-Ṭarīqa al-Burhāniyya] spread rapidly from Sudan to Cairo during the 1960s, achieving great success among the middle classes and a certain visibility among foreigners. In the 1980s the Burhaniya concentrated its efforts on its European branches that had been thriving since the 1970s, especially in Germany. See Pierre Jean Luizard (Luizard 1991, Luizard 1990) and Valerie Hoffman (Hoffman 1995).

far too much stress on the role of bodily practice and ritual performance on the journey of mystical progression, thereby devaluing the intellectual and spiritual engagement required by the Sufi path. I went through an informal trial that finally judged me guilty of misunderstanding the real core of Sufism. The Italians decided to further submit my case to an expert, namely to Safwat, 'the' international Burhani teacher, so that my presence in the Tariqa could be reconsidered. I met Safwat on 'hostile' territory, Abdel-Ghafour's living room, one spring afternoon in Rome. To my great, and Abdel-Ghafour's even greater, surprise, Safwat praised my insight. The body and the performance of rituals had an indispensable role within the Burhani spiritual journey, he maintained. His verdict was that the European converts, and especially the Italians, were overly influenced by their study of Islam and by their previous Catholic education, to the point that they did not acknowledge the importance of the body on their spiritual journey and the material efficacy of Burhani ritual performances, be it the *ḥaḍra* (the weekly collective ritual), the *awrād* recitation (the individual litanies), or the singing of *qaṣā'id* (the odes written by Shaykh Uthman, the founder).

I was thus reintroduced into the community. However, following this episode, my presence was looked upon with some suspicion. Safwat's decision continued to generate gossip and some dissatisfaction among the converts for some time. His decision, together with my article circulating among the milieus of Italian Islam, was held responsible for stoking the reformists' fire against Sufism by insinuating the suspicion of heterodoxy and the backwardness of Burhani practices.

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This episode familiarized me with a tension present within the Burhaniya concerning the proper way of practising Sufism, informed by an alleged opposition between intellectual engagement with the scriptures and the bodily performance of ritual. This opposition was framed by my interlocutors in terms of the Sufi/anti-Sufi debate, a prominent and enduring issue among Muslims, that has gained momentum with the rise of Islamic reformism and according to which Sufi ritual life is coupled with backward practices and set against an allegedly 'orthodox' scriptural Islam (De Jong and Radtke 1999; Sirriyeh 1999). As scholars have noted, Sufism and Islamic reformism are not opposed realities, and many studies have described how reformist ideas and practices, scripturalist tendencies, as well as popular ecstatic rituals, charismatic leadership and supererogatory ritual praxis are all elements that belong to both Sufi and non-Sufi movements. By the same token, in Islam as in many other religious settings, reading and performance, the work of the intellect and that of the body, are not in principle two distinct practices. On the contrary, the Qur'an itself is a text that

contains Revelation both in the semantic dimension of the words and in the sound of its performance. Iqraʾ, "read out loud", is the imperative given to the Muslim who is invited to vocalize the prescription of the Qur'an in order to both apprehend the manifest meaning conveyed by the propositionality of language – the *ẓāhir* in Sufi vocabulary – and perform its inner, symbolic meaning – the *bāṭin* –, conveyed by the sound of the Arabic letters (Nelson 2001).

From an analytical point of view, scholars of Islam, anthropologists and linguists, beyond confuting the existence of a concrete doctrinal and socio-cultural distinction between Sufis and non-Sufis, rightly insist on breaking down the binary between the semantic/propositional and the embodied/material dimensions of language, showing how words (and texts) call into play the human being as a whole, his/her moral physiology, and how the embodied and emotional dimensions are one with reason and reflection (Csordas 1997, Hirschkind 2006, Hodgson 1974, Metcalf 1993, Weinrich 2009). Whereas I agree with the analytical importance of this insight, at the same time I also stress the importance of acknowledging the fact that people actually, if more or less consciously, employ these binaries in making sense of their way of living Islam. As ethnographers, we should not overlook people's prosaic use of essentialisms and oppositions. On the contrary, we should make them the object of ethnographic analysis, as I set out to do in this paper[3].

By looking at the dynamics of the polarization between text/ritual, reading/performing, intellect/body within the Italian branch of an Egyptian-Sudanese Sufi brotherhood, I suggest that such a polarization, together with the reasons for its persistence, may be understood through the ways in which it blends and overlaps with other discourses and dynamics of Islam in Europe, particularly in Italy, and the work these discourses[4] do in the practice of Islam and in people's lives.

[3] I use ethnographic analysis in the sense employed by Pnina Werbner (Werbner 1997) and Bruno Riccio (Ricco 2004).

[4] By 'discourse', I mean a group of statements which provide a language for talking and thinking about a particular subject.

2. *The Italian Branch. First converts: traditionalism and the intellectualist approach*

The Tariqa Burhaniya arrived in Italy more or less 40 years ago, brought by an Egyptian migrant and *murshid* (spiritual master), Jalal, who had moved to Rome with his wife in search of a job. Until 1984 the disciples of the Italian branch were very few, in the number of two or three immigrants. They met for the weekly *ḥaḍra* in a specific mosque on the outskirts of Rome, on piazza Pitagora.

The first Italian to approach the brotherhood was a man, Matteo Abdel Haq, a secondary school philosophy teacher, with an academic background in philosophy and history of religion. Some years before meeting Jalal, in 1980 to be precise, Matteo had converted to Islam under the guidance of his academic friends. He recounted his experience as follows:

> My path towards Islam has been very long and complicated. I have always been interested in the mysteries of the world, in the search of truth, beauty and wisdom. Following my BA in philosophy I continued my studies but with much dissatisfaction, so I started studying, all alone, Christianity, its history... I embarked upon the path and I spoke with a number of monks, I visited many monasteries, even in Greece. After that came my interest in Hinduism – it was fashionable then in the sixties – and I practised yoga... but also this path was not satisfying for me. Concerning Islam... well I had avoided it altogether because I had many prejudices... when I discovered that an 'inner' Islam existed beyond 'exterior' Islam I understood that it was possible, also for Westerners, to become Muslims. I had some friends from university who knew a lot about Islam because of their studies, and had already converted to Islam. I asked them to help me to approach it and they introduced me to the study of the religion[5].

It was at this moment that Abdel Haq met, by chance, Jalal, in the mosque on piazza Pitagora where he used to pray, and had been fascinated by the practice of the *ḥaḍra* ritual.

Soon after, in the mid-eighties, three other Italians joined this pioneering group: Abdel Ghafour, Abdel Rahim and Leila. Before encountering the Burhaniya they had tried out several other Sufi brotherhoods. Abdel Ghafour and Abdel Rahim, just like Abdel Haq, had converted to Islam through their studies, having read much about Islam and Sufi spirituality. Abdel Rahim's wife Leila had followed him on his Sufi tours from brotherhood to brotherhood until they both stopped and became affiliated with the Burhaniya in 1986. After their divorce, Leila stayed in the Burhaniya, while Abdel Rahim changed brotherhood once again.

[5] Interview with Abdel Haq, Rome 2002.

Starting from the above four cases of conversion, we can draw the contours of the first generation of Italian Burhanis and gather the threads of their representation of Islam and the expectations they linked to the practice of Sufism. Abdel Haq, Abdel Ghafour, Abdel Rahim and Leila had all joined the brotherhood at the beginning of the 1980s, their journey towards Islam burgeoning from their academic studies or from their intellectual engagement with Islamic texts. The intellectual and the spiritual discovery of Islam overlapped, following a pattern of conversion common to a broad generation of Italian (and more generally European) converts to Sufism (Allievi 1999, Allievi 1999b, Marchi 1999). Indeed, many of these converts, including the first Italian Burhani constituency, accessed Islam through the door of Traditionalism (Sedgwick 2004, Sedgwick 2004b, Marchi 1999), a syncretic philosophy postulating the loss of a spiritual tradition in the West and the necessity of seeking it in an allegedly spiritually superior Orient. In this sense, the converts' intellectual approach to Islam is associated with a quest for 'Oriental philosophies' and with a fascination for Oriental meditation practices and exotic styles of life[6].

On the basis of its first constituency, the Italian branch of the Burhaniya could be classified as belonging to an elitist group of brotherhoods spread across Italy and mainly composed of converts coming from a university education background and equipped with an intellectual knowledge of Islam[7]. Within these brotherhoods the study of Islamic and mystical treaties is given primacy over ritual practice and the converts enjoy a sense of distinction because of their knowledgeable approach to Islam, their leaning towards spiritual matters and their neglect of worldly religious engagements. Such an approach to Islam is considered more adaptable to Italian society than the approach proposed by other brotherhoods and Sunni movements, the latter two often being criticized for practising a traditional, cultural form of religion, and for their strict rules of conduct.

[6] Traditionalism was a loose movement of people in Europe between the 1920s and 1960s, without formal structure, connected by a common debt to the work of René Guénon. Guénon (1886-1951) was a French author and intellectual working and writing on Eastern metaphysical doctrines considered to have a universal character and to be the last heirs of spirituality in the modern world. Having converted to Islam during his youth, he saw in Sufism the best route towards universal spirituality. A number of European intellectuals were inspired by his writings and example; in some cases European branches of Sufi brotherhoods were based on his teachings. See Mark Sedgwick (Sedgwich 2004b).

[7] On the Italian panorama of Sufi brotherhoods see in particular Fabrizio Speziale (Speziale 2000), Elisabetta Marchi (Marchi 2001, Marchi 1999).

3. Burhaniya in 2002: beyond traditionalism

By the time I started my fieldwork in 2002, the Italian branch owned an apartment of roughly 50 square metres in the north of Rome, in Valle Aurelia. Approaching the location, the repetition of the *awrād* and the singing of the *qaṣā'id* could be heard from the street and upon entering the apartment the visitor was met with the intense smell of Sudanese *bakhūr* (incense) and the kindness of the disciples. A pair of curtains was drawn, roughly dividing the one-room apartment into two spaces on the occasion of the *ḥaḍra*, the weekly collective ritual, for men and women to sit apart. The walls were decorated with photos of Medina and Mecca and several other photos of the *maqām* (tomb) of Mohammed Uthman, the founder himself, and of his son and grandson, and of all Shaykhs of the Tariqa. A green moquette covered the floor and at the far end of the room stood a small console, holding a Qur'an, that functioned as *miḥrāb*, pointing in the direction of Mecca. On the right of the entrance stood a closet, containing the Burhani rosary, Italian translations of books on Sufism and spirituality by René Guénon, Titus Burckhardt and other Traditionalists (Nelson 2001), the *awrād* booklets and several copies of the *Baṭā'in al-asrār* (The Hidden Secrets), that is, the book containing the collected *qaṣā'id* of the founder.

In 2002 the branch in Rome counted approximately 30 disciples, a group which consisted of different types of converts and an equivalent number of immigrants, mainly Egyptian and Sudanese *murshids* (teachers) and *munshids* (singers) belonging to the Tariqa. After the phase of its first converts, beyond the increasing number of immigrants, the Burhaniya progressively witnessed a change among its Italian constituency: a wave of new converts, ignorant about Islam, approached the Tariqa as a consequence of professional or personal troubles (illness, family quarrels, work problems etc.). Leila, Abdul Rahim's (former) wife, who had followed the Tariqa since the beginning, commented on the progressive change of the constituency and its orientation:

> The idea of Islam came upon me because during that period reading René Guénon was really in fashion. In fact all the old disciples who are now in the brotherhood, the men I mean, come from that school. I was married to Abdul Rahim and I was the only woman taking part in the discussions. They were theoreticians who talked only philosophy, theology and philology ... I really felt that this was totally useless. Once I even said to them: why do you talk all the time instead of taking action and practising? Today only a few of these theoreticians are still in the Tariqa, the others have left. The Shaykh has taught us that the primary tool is the method, the individual *awrād* ritual path organized by the *murshid*[8].

[8] Interview with Leila, Rome 2002.

Leila's words testify to the emergence of the polarity between an intellectual and a practical approach to Sufism, linked to the disciples' different approaches to Islam and amplified by the progressive assertion of the Egyptian direction. In 2002, the Italian Burhaniya qualified as a mixed brotherhood, and not only in terms of its diverse ethnic composition, but also because of its ambivalent ideology and praxis of Islam, caught between the need to include the immigrants' specific culture of Islam and the converts' more intellectual approach. In this sense, the comment by Abdul Rahim, Leila's ex-husband and one of the converts who left the Burhaniya, is revealing:

> The level that Shaykh Mohammed Uthman calls the maqām (stage) of liberation can be reached through two different paths: either following a regular path with regular awrād, or through an overabundance of ritual performance. This is why I think that the Burhaniya is a ṭarīq (path) and not a ṭarīqa (path organized by a brotherhood), because even if someone manages to reach the maqām of liberation through an excess of rituals and a good intention, he then anyway stops there and is not able to advance in his spiritual life. It is a fact that the Burhaniya has lost all of the intellectuals among its disciples. Just like all the other Guénonians, I too left the brotherhood[9].

Dissatisfied with the present-day constituency of the Burhaniya, Abdul Rahim emphasized that the Shaykh did not select his followers and was welcoming to anyone who wanted to approach Sufism, whether Muslim or not. Abdul Rahim added that many of the new converts did not know the Qur'an, they were ignorant about the Sunna and were not interested in studying religious matters, therefore they could not aspire to truly understand Islam. By accepting followers who lacked the elementary notions of Islam and Sufism, the Burhaniya, from his point of view, was not a proper Islamic Sufi brotherhood, and came close to heterodoxy. In Abdul Rahim's words, the intellectualist tendency of the Traditionalist converts converges with the reformist approach of objectifying Islam (Starret 1998), that is to say, transforming Islam into an object of intellectual analysis, something to be understood. By criticizing the Burhanis for their lack of attention to texts, scriptures and intellectual engagement, Abdul Rahim was positioning the Burhaniya right in the middle of the Italian debate around Islam.

The panorama of Islam in Italy is fragmented into different ideologically and politically competing parties, which make it impossible for 'Italian Islam' to acquire an identity and to have, even today, a coherent voice in its dialogue with Italian institutions[10]. This range of different parties includes at one end of the

[9] Interview with Abdul Rahim, Rome 2002.

[10] The Italian Constitution recognises freedom of religion and the right of all religions to self-organise. Their relations with the Italian state are regulated by law in the form of bilateral agreements between representatives of a religion and the state. As of 2014 there is no

spectrum a conservative extreme, represented by the UCOII (*Union of the Islamic Communities in Italy*). Ideologically linked to the Muslim Brotherhood, the UCOII has a reformist mindset that espouses a scripturalist approach, foregrounding individual critical reasoning about Islamic texts, before the role of ritual practice and mystical experience. At the other end of the spectrum come the Sufi brotherhoods that make up, themselves, a very inhomogeneous lot: there are brotherhoods consisting prevalently of immigrants, such as the Senegalese Muridiyya, as well as brotherhoods composed predominantly of converts, such as the COREIS (*Communita Religiosa Islamica*), an association of Sufi-oriented movements linked to the milieu of converts and Guénonians. In the middle of this wide range of movements there are other formations such as the so-called "nations's Islam", or the "Islam of the mosques", an expression of the political orientation of the nations of emigration (Saint-Blancat 1999, Guolo 2004).

In 2002 the Burhaniya did not fully fit into either of these parties and found itself in the position of confronting, on the one hand, the reformist/Islamist criticism against rote and 'heterodox' ritual practice, and the need to speak to the more universalizing and spiritualist tendencies of the COREIS and the converts' approach to Oriental philosophies on the other. Early on in the course of my fieldwork, I realized that such an increasing polarization of the practice and understanding of Islam within the Burhaniya, together with the brotherhood's idiosyncratic collocation within the ideological panorama of Italian Islam, mapped onto yet another discourse: a form of cultural essentialism played out in the difficult encounter between Italian converts and Egyptian immigrants.

4. Cultural essentialisms: intellectualist versus embodied knowledge

In the course of our interviews and conversations Jalal, the first murshid of the Italian branch, often mentioned that the Italians were yet unable to manage the Tariqa's teachings and ritual life by themselves, because they were too young to Sufism, and he thus concluded that his guidance was indispensable. Because of his Egyptian background and his competency in the Arabic language, which allowed him access to the 'secrets' of the sacred language of the Qur'an, Jalal claimed for himself the exclusive entitlement to manage the Italian branch of the Tariqa and its pedagogical path. A year or so before my encounter with the Burhaniya, Jalal had been accused by the converts of wanting to seize control of the Tariqa, and of betraying the Shaykh and his rules. The news of this unhappy incident soon reached the brotherhood's centre, in Egypt. The Shaykh immediately discharged the Egyptian *murshid* from his duties and assigned

such agreement concerning Islam because there is no organisation unanimously agreed upon as representative of the various parties of Muslims in Italy.

Abdel Ghafour the temporary management of the *irshād* (spiritual guidance). Safwat, another and more highly qualified Egyptian *murshid*, was to arrive a few months later in order to take charge of the spiritual advancement of the Italian branch. Eagerly awaited, Safwat's arrival in Italy, however, very soon thwarted the Italians' expectations.

Introduced by the Shaykh as an international teacher of the Burhaniya, Safwat was expected to be very knowledgeable in spiritual matters and mystical treaties and was welcomed by the Italians with open arms: the Italian brothers paid the expenses for his trip and Abdel Ghafour acted as his legal guarantor in the issuance of the visa. Safwat was well aware that his future in Italy greatly depended upon his performance as a teacher and upon his ability to gain the Italian brethren's confidence. And, as he later told me, he had immediately felt inadequate to the role he had been chosen for:

> When Abdel Ghafour fetched me at the airport he wanted me to translate one qaṣīda. We spent the entire drive on just one verse. So he knew I did not speak English … My English was terrible. When explaining religion I could not talk in English. For 20 years I hadn't spoken English, since secondary school … [11]

This episode was the first in a series of miscomprehensions between Safwat and his Italian hosts: miscomprehensions that sprang from the ambiguity of him being, at once, a teacher and an immigrant, the ambiguity between what the Italians expected from him as a teacher and the prejudices they held towards him as an immigrant. Soon enough Safwat discovered that his lack of competence in the Italian and English languages was but a first and superficial expression of what the Italian perceived as a deeper inadequacy which was rooted in the way he inhabited and used his body in religion and, notably, in his whole conception of Islamic knowledge. The converts expected Safwat to be a knowledgeable teacher who could help them navigate the sea of spiritual knowledge contained in mystical Sufi texts, helping them to fully master Islamic literature. To their great disappointment they had to cope with a man who could barely speak English and who mechanically practised his rituals.

These miscomprehensions fed into a deeper tension that had been vexing the Italian branch since the beginnings and was linked to a form of cultural essentialism driving the converts' attitudes towards their fellow disciples coming from abroad, the 'immigrants'. Shams, one of the first Italian converts, summarized this tension in an interview he held with me right after the scandal:

> Many of these, let's call them extra-communitarians, come to Italy to work. They already belong to the Tariqa in Egypt before arriving, but they do not perceive it as

[11] Interview with Safwat, Rome 2003.

> we do ... they are not at our level ... we, we are seeking a spiritual path, a spiritual lineage ... for them the Tariqa is a .. a natural thing .. they start the *awrād* and they are not conscious of what they are doing ... Many of them say: tell me what I have to do, I don't want to know the theory ... they don't want to know, understand ... For us instead understanding is the core of inner growth, for both spiritual and cultural advancement ... we may call it knowledge[12].

Shams speaks for all the converts: the priority of intellectual knowledge is beyond discussion, and hence the engagement with Islamic and Sufi treaties is deemed essential to being a proper Muslim. The dissatisfaction with Jalal, Safwat and their understanding of Islam easily slips into a form of cultural hierarchization in which 'we' becomes one with 'knowledge', 'high culture' and the search for the 'spiritual', while 'they', the immigrants, the extra communitarians, are seen as driven by habit, nature and lacking in spirituality. A racial discourse on the 'Oriental's' lack of consciousness and the disparagement of the racialized body as a symbol of irrationality are culturalized. Difference is reified and asserted on cultural grounds (Grillo 2003). The converts' suspicion towards an approach to Sufism based on ritual performance is mapped onto a prejudice against an alleged Egyptian form of Islam, according to which Islamic practice is an unconscious habit driven by societal factors and associated with traditional, if not backward, customs. By contrast, the path of Sufism, from the Italians' point of view, is a conscious striving for Knowledge, and Islam itself is understood as carrying a set of beliefs to be consciously learned rather than unconsciously apprehended. A 'cultural' hierarchy is established, and social difference is essentialized: by asserting authority on cultural grounds, the Italians' at the same time reinforce the already existing relationships of power between converts and Egyptians brought about by the latter's status as immigrants. Indeed, the inequality in the relationship between Safwat and the converts grew parallel to Safwat's dependence upon the converts for financial and bureaucratic support.

Falling in the middle of the wider debate on the position of Sufism in Italy (and in Egypt[13]), in which the Burhaniya needed to find its standpoint, this tension was

[12] Shams, Rome 2002.

[13] Indeed, in those same years, in the face of the Islamic revival and the renewed focus of reform-minded Muslims on Islamic scriptures, the main branch of the Burhaniya in Egypt found itself at the centre of a harsh debate concerning the heterodoxy of their cosmologies and practices. The critics raged against allegedly esoteric and heterodox doctrinal points within the Shaykh's teachings and against Burhani practice, defined as backward and superstitious. Most importantly, the Burhani method was accused of keeping the disciples in a state of ignorance of the Islamic doctrines and texts and of promoting a totalizing submission of the disciples to the direction of the Shaykh, depriving them of the right to challenge the scriptures. The Burhaniya, which counted a vast constituency among the educated middle classes, was a hindrance to the reformist and Salafi movements. With its stress on the Shaykh-disciple relationship and ritual life, it conflicted with the reformist-minded aspiration to form 'modern Muslims' as persons capable of cultivating an individual relationship to

soon framed in the terms of the anti-Sufi debate: the cultural stigmatization of rote performance and ritual body practice dovetailed with the fear of a possible critique coming from the reformist parties in Italy such as the UCOII, which at the time was leading the dialogue with Italian institutions. From the converts' point of view, Jalal's and Safwat's approach to Sufism foregrounded ritual performance at the expenses of intellectual knowledge and the study of both mystical texts and Islamic scriptures, preventing the Burhaniya from legitimately positioning itself among the Italian 'orthodox' Islamic movements.

5. Cultural essentialism reversed: the value of performance

The same prosaic essentialism characterizing the converts' discourse was deployed by the Egyptians themselves as a form of defence against the Italians' hostile attitudes: on the one hand, by assuming and foregrounding an essentialized representation of Islamic knowledge as primarily an embodied form of knowledge, Safwat stressed his position as a proper Muslim. On the other, he asserted his authority by describing the Italians' ignorance in matters such as ritual performance and the Arabic language. When I got to know him in 2001, Safwat's status had changed: he had just married Leila, an Italian convert to the Burhaniya and Abdel Rahim's ex-wife, and he had finally given up his stressful search for work since his Italian brethren were now willing to sustain him economically. His authority had increased so much that thanks to his intervention I solved my first ethical conflict in the field. To understand how this inversion of status was possible it is necessary first of all to explore in depth the architecture of the Burhani *awrād* pedagogy, and the specific form it has taken in its journey to Italy.

6. awrād *pedagogy in Italy*

From my interviews with Shaykh Ibrahim, then Shaykh of Tariqa, on the subject of the *irshād* (teaching), I soon gathered that he considered the *awrād* practice to be 'the' method of spiritual growth and the foundation of *irshād*, the Burhani pedagogy. The *awrād* keep the Tariqa together, Shaykh Ibrahim told me in response to my questions.

textual sources. A reflective relation of the believers to the texts was to substitute, according to the reformists, the practice of *taqlīd*, the 'blind and rote' imitation of living models. At the same time, the Burhaniya made official Islamic institutions, such as the National Sufi Council, particularly uncomfortable in their struggle to come to terms with the growing revival movement by curbing the 'excesses' in Sufi praxis and reinforcing its scriptural dimensions. See, among others, Hoffman, Sufism.

As the Shaykh explained, *awrād* (sg. wird), are a set of standardized litanies composed of Qur'anic *āyāt* (verses) rearranged by the Shaykh, which regulate the disciples' individual paths through progressive spiritual stages (*maqāmāt*) towards the *fanā'*, annihilation in the Shaykh. Officially, a *murshid* (teacher) is responsible for assigning the *awrād* to his disciples and for their *irshād* (teaching). Every *murīd* (disciple) who has achieved the first three levels of initiation can, theoretically, become a *murshid* to someone else. Once the method of the *awrād* is established, the Tariqa grows all by itself, added the Shaykh. In practice, however, things are somewhat more complicated. Indeed the management and the performance of the *awrād* method within the Italian branch generate relations of authority which result in continuous tensions between Egyptian and Italian *murshids*.

In its diffusion to Europe, in the 1980s, the Tariqa had to face the risk endemic to many Sufi brotherhoods of losing the charismatic power of its central authority. Alongside the extension of the brotherhood across the globe, which made gatherings more problematic to attend, an additional problem resided in the converts' lack of knowledge of Arabic, which made them more difficult to guide. Translations, transliterations and a strict organization of the spiritual path were needed to keep the Tariqa going. The *awrād* themselves have been translated into the various languages of the converts and, most importantly, transliterated in various alphabets in order to be accessible to any disciple. All the Burhani branches have been provided with booklets collecting the *awrād* in their transliterated form, alongside an *irshād* handbook describing the main tasks of a spiritual guide and the management of the *awrād* repetition sequence in relation to spiritual progression. The converts themselves, independently of the time and the modalities of their affiliation to the Tariqa, are allowed to take up the role of spiritual masters by attentively following the rules of the *irshād* handbook. With the aim of obviating the converts' ignorance of Arabic, particular attention has been redirected to the transliterations, provided with diacritical signs that establish the correct pronunciation of the corresponding Arabic letters and the correct prosody of the verses. The *awrād* booklets provide the non-Arabic readers with a rendition of the *tajwīd* style, i.e. the set of prosodic rules that define the pronunciation of the single letters composing the *awrād*, together with the tempo and rhythm, and that are normally used in Qur'anic recitation.

This systematization of the spiritual path, pursued in order to organize the Tariqa in the absence of a daily direct relationship between the Shaykh and his followers, has actually deepened the cleavage between an embodied spiritual knowledge and intellectual knowledge of the texts. In the process of transliteration and the regulation of the repetition sequences, the *awrād* lose their importance as meaningful texts. Their efficacy is attributed nearly

exclusively to performance, which calls into play the sonic dimension of the revelation, contained in the sound of the Qur'anic verses forming the *awrād*. The literal semantic meaning of the texts is backgrounded with respect to the symbolic knowledge contained and channelled by the material work of the sacred Arabic letters on the soul and the body. The significance of the *tajwīd* style and the correct pronunciation of the sacred texts are indeed supported by the *'ilm al-ḥurūf*, the science of letters, established definitively by Ibn al-ʿArabī in the 13th century, which presupposes a specific relation between Arabic letters, cosmology and bodies. On the grounds of this science, the Burhani Shaykh warns that an incorrect performance of the *awrād* is not only spiritually void but may even be dangerous for the performer, unleashing powerful spiritual forces. The value of performance for the spiritual path, and, precisely, the correct ritual performance, is foregrounded with respect to oral teaching, the reading and the study of texts and Islamic scriptures.

The restructuring of the *irshād* method, working towards the decoupling of the performance of the sacred word from the semantic dimension of reading, changed the relationships of authority among disciples on the basis of their different intellectual and practical skills, and turned out to be a tool of empowerment for the immigrants within the Italian branch.

7. Performance and embodied knowledge

Between Jalal's departure and Safwat's arrival, the Italian disciples had been guided in their spiritual path by some of the oldest converts to the Tariqa who focused much of their efforts on the written lectures of the Shaykh, beyond other mystical treaties. Once enrolled as the Italian *murshid* (teacher), Safwat, with the Shaykh's compliance, started implementing the *awrād* method within the Italian branch of the Burhaniya, gradually sidelining the importance of oral or written lectures. As a consequence, the role of bodily techniques became primary on the path of spiritual learning, backgrounding the 'intellectual' and textual knowledge of Sufi literature and mystics. Safwat's ignorance of English and Italian and his difficulty in giving lectures became irrelevant to the successful outcome of his teaching. Conversely, his 'natural' fluency in Arabic and his embodied abilities in perceiving the spiritual power of the *awrād* letters and sounds were foregrounded: within the Italian branch Safwat was, by far, the most competent in teaching the *tajwīd*, the correct pronunciation and prosody of the *awrād*. During our interviews, Safwat eventually placed much stress on these embodied aspects of the *awrād* method, saying how essential it was for the Italian disciples to learn the proper body techniques in order to articulate the *awrād*'s sounds. The repetition of the *awrād* implies a correct movement of the lips and of the

tongue, the correct pronunciation of guttural letters, alongside a concentration on proper images and the ability to glide the rosary (Egypt. coll.: *sibḥa*) through one's fingers in order to keep count of the repetitions. These are competencies, according to Safwat, that require practice in order to be acquired and naturalized as a habit. Abdel Ghafour was soon superseded in his role as Italian teacher, a role he had been holding – as the oldest and most erudite convert – since the very beginnings of the Burhaniya in Italy. All of Abdel Ghafour's symbolic capital, based on his knowledge of Sufi literature, lost importance once confronted with Safwat's embodied capital.

This reorganization of the structure of learning – from intellectual and textual to embodied and practical – corresponded with a reconfiguration of the converts' subjectivity, starting from a reordering of the hierarchy of the senses. The Italians had long been training themselves to read the transliteration of the litanies in Latin letters using a written aid. Once Safwat took over the teaching responsibilities, he asserted his competence by teaching the sound of sacred Arabic letters by means of oral repetition (as the *tajwīd* prescribes) rather than the importance of reading the litanies from the written aid. This implied as a consequence an increased attention to the bodily techniques of repetition. By preserving the oral and acoustic character of Qur'anic Revelation and its symbolic dimension implicit in the letters, the *tajwīd* is in the first instance a method that works corporeally through the art of listening and reciting (Nelson 2001). By stressing the pre-eminence accorded to the sound (through pronunciation and prosody) of the *awrād* and the art of listening and reciting, i.e. the *tajwīd*, over the ability to visualize and read the written text of the *awrād*, Safwat, with his embodied capital, was once again challenging Abdel Ghafour's leading position which was based on his spiritual knowledge. Both intellectual knowledge of the Sufi texts and the competence in reading written transliteration were not comparable with the spiritual insight provided by the embodied knowledge of the secret science of the letters. Of all those who belonged to the Italian *zāwiya*, only Safwat possessed this knowledge capital, or better put: only his body possessed this knowledge as an embodied memory. His past life, his long-standing practice of Sufism in Egypt, the opportunity to live within the aura of the Shaykh and, not least, the opportunity to live in Cairo, the city of the *ahl al-bayt* (the prophet's family), were all now present in his ability to recite with a perfect *tajwīd*.

By virtue of the *awrād* performance, the Italians reshaped their hierarchy of the senses as well as their way of understanding knowledge. By changing the Italians' horizons of perception, their understanding and practice of Islam, Safwat soon became an irreplaceable teacher, thereby also shifting the power relations between immigrants and converts. The relevance of this reconfiguration of the hierarchy of the senses to the Italians' path in the

brotherhood was confirmed to me by many of my subsequent interviews. Most of the converts highlighted the importance of *qaṣā'id* singing (the singing of mystical poems) and the beauty of the sound of the Arabic language as a determining factor in their spiritual engagement. Today the international offices of the Tariqa produce records of the best Egyptian and Sudanese voices of the Burhaniyya singing *qaṣā'id*, and sell them to the disciples. Many Italians have replaced their music cassettes with cassettes of *qaṣā'id* singing which have become the soundtrack of their car journeys or their ipods. In this case, too, Safwat's embodied memory of the *qaṣā'id* singing in Cairo was unmatched. The 'intellectual' capital of knowledge owned by the converts was twice undermined and subverted: as a form of 'textual' knowledge, it was inessential to the appraisal of the bodily techniques essential to the practice of the *awrād*, as well as to the symbolic knowledge comprised in the oral, thus acoustic, dimension of the *tajwīd*.

8. Conclusions

"Existence is a letter of which you are the meaning" (Ibn al-ʿArabī 1997 [1329]).
"… The realm of letters is endowed with
the most pure of languages and the most evident of eloquence"
Ibn al-ʿArabī Ibn al-ʿArabī 1997 [1329].

In these Ibn al-ʿArabī quotations the Arabic letters, and by extension the words and texts, reveal their full meaning, which invests the believer in his/her entirety with a meaning that is at once material, manifest, spiritual, intellectual, inner, *bāṭin* and *ẓāhir*. This ethnographic study has looked at how the act of reading and performing the sacred Arabic letters are set apart and perceived as two different practices within the Italian branch of a Sufi brotherhood. I have argued how the difference between the material and the semantic dimensions of letters and words, between text and performance, is polarized by the specific dynamics of Islam and conversion in Italy, and further articulated through cultural stereotypes.

The point of view of the Italians converts, I have argued, is rooted in their exposure to two mutually reinforcing discourses which converge in foregrounding an intellectual engagement with the scriptures over the performance of rituals: on one hand a discourse that blends Sufism, Oriental philosophies and the Orient, informing certain Italian milieus of converts linked to Traditionalism, and on the other hand the long shadow of Islamic reformist discourse, which finds echoes in the debate on Italian Islam. Such a text/performance binary is then further enhanced by its coupling with a form of

cultural essentialism current in contemporary Italian discourse about immigrants and that is embraced by both immigrants and converts in the face of the social problematics of a mixed brotherhood. Indeed, the Burhanis I met while attending the Italian *zāwiya* consciously overlapped the text/performance binary onto a reified cultural difference distinguishing 'Italians' from 'Egyptians'. Whereas these prosaic essentialisms and binaries do not actually map onto socio-cultural realities, they are in turn performative: essentialized discourses orient everyday praxis, make sense of experience and support forms of empowerment and of domination. My interlocutors consciously uncouple the intellectual mastery of Sufi knowledge from the performance of the spiritual path, linking them with two different forms of knowledge, one intellectual, the other practical. In turn, these different forms of knowledge call into play different cultural competencies and configurations of subjectivity which are played out in the encounter, at times difficult, between Italians and immigrants, generating subject positions and relations of authority.

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Books and Reports Review

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Migrations in a changing world: global and regional perspectives

Migrations are powerfully shaping globalization trends and national and international political debate of the second decade of the new millennium. The total number of international migrants in the world has been increasing and has reached 244[1] million according to recent estimates, representing an increase of 40% since 2000. They include 150 million migrant workers[2]. One-third of all international migrants are aged 15 to 34[3]. The phenomenon of internal migration is even larger in scale with an estimated 740 million internal migrants in 2013[4]. In addition, in 2015 an unprecedented 65.3 million people around the world have been forcibly displaced[5], including over 21 million refugees, 3 million asylum seekers and over 40 million internally displaced persons (IDPs). The average length of displacement due to war and persecution is 17 years[6]. One-fourth of all global refugees (mostly from Afghanistan, Iraq and Syria) reside in Lebanon, Pakistan and Turkey. In 2014, more than 19 million people were internally displaced because of natural disasters[7].

Forced migration due to conflicts and environmental and climate issues has anchored the debate on migration to the climate agenda on one side and to human security agenda on the other.

In fact, data show new emerging challenges, due to migration's increasing and multiple connections with global epidemics and conflicts, which offers a series of meaningful examples of its cross-border implications on development and on multidimensional wellbeing. Such analysis cannot avoid to deal with the implications of climate change, land and ecosystem degradation as key drivers of

[1] UNDESA – United Nations Department of Economic and Social Affairs (2015), *Trend in International migration 2015. Population Facts*, December 2015, no. 2015/4.

[2] ILO (2015), *Global estimates on migrant workers. Results and methodology. Special focus on migrant domestic workers*, Geneva.

[3] UNDESA (2011), *Youth and Migration Factsheet*, New York.

[4] IOM – International Organization for Migration (2013), *Migration and the United Nations Post-2015 Development Agenda*.

[5] UNHCR (2016), *Global Trends. Forced Displacement in 2015*.

[6] OCHA, UNDP, UNHCR, UNICEF, WFP and the World Bank, supported by the Center on International Cooperation (2015), *Addressing protracted displacement: a framework for development-humanitarian cooperation*, December.

[7] IDMC – Internal Displacement Monitoring Centre (2014), *Global Estimates 2015. People displaced by disasters*.

migration, which is attracting particular policy attention on the challenges and opportunities that it poses for food security, sustainable agriculture and rural development.

Although migration has grown further as a primary multifaceted challenge for the globalized world, it is tackled and discussed by public opinion and media mainly in terms of prevention and impact mitigation at the expenses of the Migration and Development topics that have been more and more overshadowed in the political debate. On the other side, the inclusion of migration in the 2030 Agenda for Sustainable Development confirms and reinforces the important relation between migration and development[8] and the thrusting of migration into the spotlight has been contributing to the flourishing of studies, investigations and estimates that enrich data availability and the scientific debate.

Finally, increasing attention is paid to the fact that such complex scenario requires cross-border interventions to coordinate efforts in origin, transit and destination countries. Effective policy coherence is recognized as fundamental in guaranteeing the integration of migration into development at all relevant levels (regional, national and local), calling for a revised, widened and integrated approach, which will be better at dealing with present and future changes and challenges. Scholars and policy makers at all levels keep acknowledging that migration needs to work for development and that development needs to work for migration, while not underestimating the potential negative impacts and that in the future the unavoidable human mobility across the world will become more and more complex, thus presenting new challenges, risks and opportunities.

The following selection briefly presents some of the most interesting volumes issued in the last years and includes reports based on data analyses, estimates and case studies, as well as policy-oriented surveys and historical overviews.

The reviews are organized in two main sections. The first proposes some recent studies on the global phenomenon of international migration discussing trends, main topics, problems and opportunities. The second section considers migration movements, their potentialities and challenges in a regional perspective, suggesting openings for specific lines of research that distinguishes causes, effects, depending on the geographical range of human mobility and proposes the supranational regional policy level as the most appropriate to valorize potentialities and minimize risks.

[8] Migration and human mobility are explicitly recognized in the 2030 Agenda for Sustainable Development, which establishes a number of migration-related targets across the 17 Sustainable Development Goals. The 2030 Agenda also recognizes that unemployment, especially youth unemployment, as well as natural resource depletion and adverse impacts of environmental degradation are major challenges to sustainable development. Empowering vulnerable people, including youth, refugees, IDPs and migrants is key to ending poverty in all its forms and dimensions, as they all make a positive contribution to inclusive growth and sustainable development.

A. International migrations as a global issue

(i) On Migration and Development nexus: a new policy approach

OECD, Perspectives on Global Development 2017: International Migration in a Shifting World, OECD Publishing, Paris (2016).

The fourth edition of OECD Development Centre's Perspectives on Global Development series continues investigating the increasing economic weight of developing countries in world economy, a phenomenon referred to as "shifting wealth", focusing on the issue of international migration and development.

The report builds on a body of research on the drivers and impacts of migration in developing countries, South-South migration and the interrelations between public policies, migration and development. It examines to what extent and how the shifting of economic activity to developing countries has affected migration patterns, and secondly the many ways in which international migration contributes to development. It aims at enriching the debate by steadily focusing on international migration from the perspective of developing countries, analysing the main trends, drivers and impacts of international migration on developing countries of origin and destination and discussing potential scenarios on the future of migration.

Recommendations to governments in origin and destination countries, as well as to the international community incorporate the development dimension in migration and labour policies, fostering policy and institutional coherence also taking advantage of the inclusion of migration-related targets in the Sustainable Development Goals to establish commitments that can be monitored multilaterally, regionally and nationally and to find durable solutions that address the future challenges of an increasingly mobile world.

Dilip Ratha, Supriyo De, Sonia Plaza, Kirsten Schuettler, William Shaw, Hanspeter Wyss, Soonhwa Yi, Migration and Remittances – Recent Developments and Outlook, Migration and Development Brief 26, World Bank, Washington, D.C., April (2016)

The Migration and Development Brief reports a comprehensive update on global migration and remittance flows.

A first part features an outlook on migration and remittance trends with a specific chapter focusing on risks. The refugee crisis is one of the main issues highlighted by

data. The conflict in Syria keeps producing refugees flows towards neighbouring countries and Europe and new refugee movements are also taking place in other parts of the world.

Moreover, the international community currently lacks a common policy to cope with the crisis; a lack of consensus on burden sharing has prompted to a tightening of border controls in some countries and areas producing a further worsening of the legal and institutional framework.

A relevant section of the report is devoted to the analyses of remittances trends with an interesting annex that explains the methodology applied for the forecast. The estimates evidence a slowdown in the growth of remittances to developing countries which have fallen from 3.2 % in 2014 to 0.4 % in 2015 due to the economic weakness in the major remittance-sending countries as well as the decrease of oil prices and currencies in some major remittance-source countries such as Russia.

Forecasts indicate a rise to a 4% yearly growth rate in 2016–17, although fluctuation of oil prices may strongly influence the global trends and the widening of black market premia linked to capital controls could limit formal inflows in some countries.

The monitoring of the remittance costs indicates a slight decrease in the global average cost while Sub-Saharan Africa, with an average cost of 9.5% on transferred amount, remains the highest-cost region.

A last section considers the theme of the relationships between migration linked to natural disasters and epidemics on one side and remittances on the other. Empirical country case studies and review of regional aggregates indicate that remittances to developing countries tend to rise moderately following a disaster while remittances role in helping people cope with natural disasters and epidemics can be diminished when disasters disrupt the money-transfer infrastructure.

Therefore, the report suggests that the international community should engage in developing principles and agreements required to deal with migration due to natural disasters and favour diaspora assistance following disasters also by facilitating financial transfers.

OECD, Interrelations between Public Policies, Migration and Development, OECD Publishing, Paris (2017).

The report is the result of a project carried out jointly by the European Commission and the OECD Development Centre in ten developing countries. The report empirically examines the links between four dimensions of migration (emigration, remittances, return migration and immigration) and five key policy sectors with most relevance accorded to migration and development: the labour market, agriculture, education, investment and financial services, and social protection and health.

It also looks at the impact of these five sectorial policies on some migration outcomes, such as decision to emigrate or return, remittances sent and how they are spent, migrants' integration. Data were gathered from surveys of more than 20 500 households and interviews with 590 local authorities and community leaders and 375 stakeholders.

The relationships between the migration dimensions, outcomes and sectorial policies are measured through regression analysis. The impact of policies and their interrelations strongly depends on context and implementation choices. There is therefore no one-size-fits-all solution to curb (or encourage) migration, turn remittances into productive investment or better integrate immigrants into host country societies.

The fact that public policies often work in silos neglecting their potential implications on other areas, such as migration, is highlighted as one of the main issues at stake. Many examples are provided to show how the combination of different policies is more likely to influence the impacts of migration. A coherent policy framework and the inclusion of migration as a cross-cutting issue in the different sectorial policies are therefore recommended to enhance migration's role in development.

Elizabeth Mavroudi, Caroline Nagel, Global Migration: Patterns, processes, and politics, Routledge, London (2016)

This textbook, aimed primarily at undergraduate and Master's students, proposes a quite accessible view of the contemporary migration movements and on complexity of building local and international migration policies. After a comprehensive introduction to the main concepts and definitions, a first section provides a perspective on historical migration patterns and trends as well as an overview on the role of migration in the economy presenting examples and significant case studies.

A second section examines the main challenges for policy makers and international community with a chapter on the complex issue of migration and development nexus followed by an interesting outlook on the more politicised topics and the main questions of inclusion, exclusion, and citizenship in the chapters dealing with refugees, border controls and flows management.

The student-friendly feature of the work combines with a sizeable body of analyses and updated examples that make the book an interesting overview on the historical context of contemporary migration, introduces many debated and sometimes still not completely explored matters, including the role of gender, race and national ideologies, as well as the perspective of immigrants themselves, and provides the references for further readings on scholarly research at the end of each chapter.

Josefina Domínguez-Mujica (ed.), Global Change and Human Mobility, Springer, Berlin (2016)

The volume offers a selection of studies developed by members of the International Geographical Union Commission taking into consideration both thematic and geographical perspectives and looking at a changing world from the focus of a new disciplinary approach. Migrations conceived as processes between points of origin and destination are transformed and analysed in terms of mobility, thus as fluidity of the relations between spaces, proposing new interpretations of old and new tendencies in the context of globalization.

The book has a strong interdisciplinary character gathering contributions and points of view of diverse social sciences such as geography, sociology, economics, political sciences, anthropology. The 15 chapters cover a broad geographical spread with case studies on migration to and from developing, emerging and industrialized countries. Various topics recur and intersect within the volume, such as the new patterns of mobility, new policy challenges of border controls, refugee movements, marginalization and social empowerment of irregular migrants, integration issue, the environmental hazards and migration nexus, gender issues, social cohesion and access to employment.

Moreover, interesting reflections on the "regional element" of transnationalism and mobility especially in the case of young generations connect this volume to the ones presented in the second section of the present selection that address the regional risks and opportunities of migrations in the building and shaping of regional social and economic systems.

Douglas J. Besharov, Mark Hugo López, Adjusting to a World in Motion: Trends in Global Migration and Migration Policy, Oxford University Press, Oxford (2016)

The volume brings together a wide range of research on various topics featuring both academic and policy perspectives with the ambitious main aim of favouring a continued international dialogue of research and analysis on migration and of allowing readers to draw lessons for their own countries in the spirit of mutual learning. The base assumption of the book is that "there seems to be no turning back the clock", and the problem for both sending and receiving countries is to "adjust to this continuing reality".

The book is structured in five main parts starting with an introductory description of the global trends and a summary of the key information about the pattern of migration and the causes of migration around the world.

The following four parts contain thoughtful analyses of some of the most critical issues raised in both receiving and sending countries.

The second, third and fourth parts include analyses on policies to control entry, encourage high-skilled immigration, develop refugee policy, and speed assimilation in

three important receiving regions: North America (with the title "The Western Hemisphere", Europe and Middle East and Asia. South-South Migration, though being one of the main trends highlighted by recent data, is not one of the chapter topics.

The fifth part considers the sending country "Diaspora Engagement Strategies" designed to encourage continuing cultural, economic, and sometimes political ties among migrant communities abroad and national development.

(ii) On distress migration and protracted crisis

FAO, Addressing Rural Youth Migration at its Root Causes: A Conceptual Framework, FAO, Rome (2016)

Distress migration is particularly acute among rural youth, while agriculture and rural development are central to the rate of rural out-migration to urban areas.

This study explores the main factors determining the propensity of rural youth to migrate, and also provides an assessment of the likely impacts of distress migration of rural youth in terms of rural development for local areas of origin. Finally it Illustrates some of the most promising policies and programmes to reduce distress migration of rural youth and maximize its developmental benefits for the communities of origin.

This paper develops a conceptual framework about how agricultural and rural development policies can reduce the need for distress migration of rural youth; and how rural youth migration and remittances can contribute to sustainable agriculture and rural development, poverty reduction and food security in the areas of origin.

Based on available evidence, it may be concluded that within the ongoing processes of sustainable agricultural intensification and structural rural transformation in SSA and North Africa, the root causes of distress migration of rural youth need to be addressed by offering more and better on-farm and off-farm employment opportunities. The subsequent reduction in rural poverty and improvement of food security can contribute to ease migratory pressures.

This conceptual framework identifies a number of key areas for intervention at policy and programme levels.

First, obtain a better understanding of the drivers and impacts of distress migration of rural youth, through improved data and increased evidence to subsequently inform policies and programmes.

Second, ensure that agriculture and rural development (ARD) policies and strategic planning processes account for migration, labour mobility and remittances, while ensuring policy coherence. Third, implement ARD programmes explicitly targeting rural

youth to create viable on-farm and off-farm employment opportunities, which are productive, decent and in line with youth aspirations.

OCHA, UNDP, UNHCR, UNICEF, WFP, WB, CIC, Addressing Protracted Displacement: A Framework for Development Humanitarian Cooperation A think piece drawing on collaboration between OCHA, UNDP, UNHCR, UNICEF, WFP, and the World Bank, supported by the Center on International Cooperation, CIC (2015)

This paper is a think piece on how approaches to protracted displacement need to change if the world is to reverse the escalating crisis seen in recent times. It is not a prescriptive paper, but is designed to spur further thinking and to inform debates on policy and programming.

The think piece drew on collaboration between the Office for the Coordination of Humanitarian Affairs (OCHA), United Nations Development Programme (UNDP), United Nations High Commissioner for Refugees (UNHCR), United Nations Children's Fund (UNICEF), World Food Programme (WFP), and the World Bank, supported by the Center on International Cooperation (CIC) to inform their own policy and practice, but it is hoped that the analysis will also be of interest to other development and humanitarian actors.

The approach in the paper is based on four proposed shifts in how development and humanitarian assistance works in countries with significant numbers of refugees and displaced people.

(1) From seeing the needs of refugees and internally displaced persons as a challenge separate from development and meeting them through short-term humanitarian strategies and appeals, to ensuring their welfare as a core part of the Sustainable Development Goals (SDGs) commitment to "leave no one behind", requiring joint analysis and multi-year planning and engagement from development and humanitarian actors to achieve collective outcomes;
(2) from care and maintenance regimes targeted primarily at displaced people in camps, to localized systems that benefit both displaced people and host societies/communities;
(3) from approaches that marginalize refugees and internally displaced persons, to ones where the legal, regulatory, fiscal and organizational actions necessary for them to contribute to economic and social life are in place;
(4) from treating refugee-hosting situations as a short-term, country-specific resourcing problem and meeting the needs of IDPs through international humanitarian aid, to supporting refugee-hosting countries for the global public good they are providing and ensuring internal financial transfers are in place to help municipal, state and local governments absorb IDPs.

(iii) On migration within the SDGs framework

IOM, International Dialogue on Migration No. 26: Follow-up and review of Migration in the Sustainable development Goals, IOM (2017)

This publication contains the report and complementary materials of the two workshops held in 2016 under the overarching theme "Follow-up and Review of Migration in the Sustainable Development Goals (SDGs)" within the framework of the International Dialogue on Migration (IDM), IOM's principal forum for migration policy dialogue. The two workshops were held in New York on 29 February and 1 March, and respectively in Geneva on 11 and 12 October 2016.

The first workshop addressed the implications of migration being included in the Sustainable Development Goals. It discussed tools and mechanisms that could help Member States to measure progress on achieving relevant migration-related SDG targets, as well as it looked, inter alia, at options for "thematic review" of migration-related SDG targets and at the role of International Organizations in achieving the migration targets.

Building on the conclusions of the first workshop, the second workshop assessed progress in the implementation of the migration-related SDGs.

It discussed the state of migration policies one year after the adoption of the 2030 Agenda from the perspective of States and other stakeholders in the migration area. It also presented best practices in countries making progress on the migration-related SDGs, and looked at how can the institutional capacity of States to measure and report on progress on achieving the migration-related targets be improved.

By dedicating its major policy discussion forum to discussions on implementation, follow-up and review of migration aspects of the SDGs, IOM wished to open a space for IOM Member States and relevant key players in migration and development area.

The aim is to present strategies and measures that they are putting in place to achieve the migration-related targets, including good practices, challenges, lessons learned and areas that need support and shared experiences.

(iv) On migration and rural-urban relations

IOM, World Migration Report 2015 – Migrants and Cities: New Partnerships to Manage Mobility, IOM (2016)

Nearly one in five of all migrants live in the world's top 20 largest cities. In many of these cities migrants represent over a third or more of the population. Other cities have seen a remarkable growth in migration in recent years. In Asia and Africa, rapidly growing small cities are expected to absorb almost all the future urban population growth of the world and this mobility pattern to cities and urban areas is characterized by the temporality and circularity of the internal migration process.

The fast rate of urbanization, and rising migration to cities, brings with it both risks and opportunities for the migrants, communities and governments concerned. The World Migration Report 2015 explores how migration and migrants are shaping cities, and how the life of migrants, in turn, is shaped by cities, their people, organizations and rules.

The report contributes to the global debate on migration and urbanization in three ways.

First, it documents how migration is shaping cities and the situation of migrants in cities. Much of the current discussion about migration trends and migration policy tends to focus on the national level. Taking the migration enquiry to the city level increases our understanding of the local political economies of migration and the close connection between migration and urban development.

Second, the report draws attention to the livelihood of migrants in the cities of the Global South. The existing discussions on migrants and cities are inclined to concentrate primarily on the Global North and the integration of international migrants.

Third, the report examines both internal and international migration with cities across the development spectrum having to manage growing mobile and diverse populations.

The final part draws conclusions and makes recommendations for future initiatives to develop migrant-inclusive urban governance, with reference to the inclusion of migration in the post-2015 global sustainable development framework.

(v) On migration's perceptions:

Neli Esipova, Julie Ray, Anita Pugliese, Dato Tsabutashvili, Frank Laczko, Marzia Rango, How the world views migration, IOM (2015)

This piece provides, for the first time, an insight into public attitudes towards immigration worldwide. The findings presented in the report – based on interviews with over 183,000 adults across more than 140 countries between 2012 and 2014 – represent the first steps towards understanding the lenses through which people view immigration at a global level.

Adults surveyed in Gallup's World Poll were asked two questions about immigration:

(1) In your view, should immigration in this country be kept at its present level, increased or decreased?
(2) Do you think immigrants mostly take jobs that citizens in this country do not want (e.g. low-paying or not prestigious jobs), or mostly take jobs that citizens in this country want?

One of the key findings of the report is that in every major region of the world – with the important exception of Europe – people are more likely to want immigration levels in their countries to either stay at the present level or to increase, rather than to decrease. This contrasts with the negative perceptions of migration often portrayed in the media in certain regions of the world.

European residents appear to be, on average, the most negative globally towards immigration, with the majority believing immigration levels should be decreased. There is, however, a sharp divergence in opinions among residents in Northern and Southern Europe.

The report also shows that certain sociodemographic characteristics are more consistently associated with favourable or opposing attitudes to immigration. For instance, adults with a university degree are typically more likely than those with lower levels of education to want to see immigration kept at its present level or increased in their countries.

Another key finding is that people's views about their personal and their countries' economic situations may be the strongest predictors of their views of immigration: those who perceive economic situations as poor or worsening are more likely to favour lower immigration levels into their countries, and vice versa.

In terms of perceived job competition between immigrants and nationals, there appears to be a clear divide based on national income: residents of high-income economies overall are much more likely to say immigrants take jobs citizens do not want than jobs that citizens want. In all other economies, residents are more likely to say immigrants take the jobs that citizens want.

The full results from this report were released for the first time at the Global Forum on Migration and Development summit in Istanbul, during a side event on 15 October. The presenters will also discuss the merits of how a regularly conducted global barometer of public opinion on migration could contribute to the dialogue about migration in relation to the United Nations Sustainable Development Goals.

B. The regional level: reports and policy-oriented analysis

Tony Fielding, Asian Migrations: Social and Geographical Mobilities in Southeast, East, and Northeast Asia, Routledge, London (2015)

The textbook objective is to provide students with an understanding of the causes and consequences of the many types of contemporary migration flows in East Asia.

The geographical boundaries of the phenomena taken into consideration are clearly defined with the aim of filling the knowledge gaps of both students and decision makers concerning East Asia societies and their changing caused by and causing migration movements.

The author's goal is to describe and analyse the extremely complex reality with a very strong interdisciplinary approach and methodological inclusiveness, combining theoretical debate and detailed empirical analysis.

All forms of migration are considered, including labour migration, student migration, marriage migration, displacement and human trafficking in a region where some migrations within national borders imply far bigger social changes because of distance moved, cultural, social and legal barriers to be overcome – such as in China - than some short-distance international migrations among Singapore, Malaysia and Indonesia.

The proposed case studies embrace the three main sub-regions of Southeast Asia, China, including Hong-Kong, Macao, Taiwan and Mongolia, and Northeast Asia that encompasses here Japan, the two Republic of Korea and the Far East provinces of Russia.

The volume aspires to offer a comprehensive coverage of both broad structures influencing migrations and factors affecting the individual agency and behaviour of migrants, with emphasis on the policy implications of the trends and processes discussed.

Yuk Wah Chan, Heidi Fung, Grażyna Szymańska-Matusiewicz, The Age of Asian Migration: Continuity, Diversity, and Susceptibility Volumes 1 And 2, Cambridge Scholars Publisher, Cambridge (2016)

The book assembles the two volumes already published in 2014 and 2015 featuring the outcome of the Asian Migration Conference held in Hong Kong in September 2013, co-hosted by the City University of Hong Kong and the International Organization for Migration and that resulted particularly helpful to understand the specificities of Asian migration and their evolution since the latter part of the 20th century and to stimulate academic discussion and analyses of migration-related policy-making in the region.

War, politics and economic turbulence has caused mass migrations in Asia throughout the second half of the 20th century and the continent is presently the world region that produces the most of international migrants and the second migrant receiving area.

The almost 700 pages provide a full span discussion of Asian migration from historical perspectives to updated analyses of current migration flows and diasporas, addressing an entire range of often heated debates on entry and exit policies, trans-border dynamics, host-migrant interaction, migrant governance, transnational identity, migrant integration, multiculturalism issues and relationships between arrival of new migrants and the adjustment experiences of former migrants.

The first volume contains eleven chapters focusing on specific themes referring to six sub-regional areas and highlighting the especially crucial migration dynamics and the new issues that have characterised each of those regions over roughly the past half-century.

The eleven chapters of the second volume are differently arranged under three migration themes: the feminisation of Asian migration since the early 1990s, the refugee migration in the region with the cross-border movements between neighbouring countries and the transformation of many borderlands as temporary or permanent refugee settlements and migration economy and remittances that are significant factors for economic growth in a number of regions in Asia.

Lamin O. Ceesay, From Intraregional West African Migration toward an Exodus to Europe. A Case Study on Ghana, Anchor Academic Publishing (2017)

The study highlights a neglected point of view on migration from developing countries on the basis of the case of Ghanaian skilled workers migration patterns. The brain-drain issue is here considered in the more extensive regional perspective.

The shifting towards Europe of the intraregional brain circulation that ensured skilled workforce to regional development is here identified as one of the main hindrances that are paralysing the social and economic development of Western Africa.

Core of the analysis is the review of existing investigations and documentations, where the author concentrates on surveys that feature the viewpoint of the migrants and their families.

The dependency on secondary data partially limits the strengths of the research. Nonetheless, the book provides an original synthesis of data evidencing push factors for the skilled, semi-skilled, professionals and unskilled youth migration.

Conclusions are focused on policy recommendations for African decision makers still pointing out the importance of worker's mobility and brain circulation for development in a regional perspective.

The European responsibilities in creating conditions that favour the African outmigration are also highlighted, e.g. the EU subsidises to its agriculture sector that make African agriculture, which is the largest employer, unproductive and thus unattractive to the local youth.

Coherent policies that can change the migration trends are therefore suggested to both European and African countries for the benefit of both sending and receiving societies and economies.

IOM, Assessing the risks of Migration along the Central and Eastern Mediterranean Routes: Iraq and Nigeria as Case Study Countries, IOM (2016)

The purpose of this study is to give breadth to the concept of "safe migration" by analyzing patterns of migration and return from two case study countries: Iraq and Nigeria. IOM's Global Migration Data Analysis Centre completed this research study for the United Kingdom's Department for International Development as part of a wider project entitled "Mediterranean Migration Response, Reducing the Risks of Unsafe Migration: Linking Research, Data and Policy".

The report is based on 147 in-depth qualitative interviews with migrants and key informants in Nigeria, Niger and Italy (for the Central Mediterranean route) and Iraq, Greece and Germany (for the Eastern Mediterranean route). It presents an update on the dynamics of migration through these two Mediterranean routes, looking specifically at routes and the risks that present on exit, during the journey, at destination and on return. It also provides a first insight into the experience of Iraqi asylum seekers in Germany, after the large number of arrivals in 2015.

Ayala Wineman and Thomas S. Jayne, Intra-rural migration and pathways to greater well-being: Evidence from Tanzania, Department of Agricultural, Food, and Resource Economics Michigan State University (2016)

Migration between rural locations is prevalent in many developing countries and has been found to improve economic well-being in sub-Saharan Africa.

This paper explores the pathways through which intra-rural migration affects well-being in rural Tanzania. Specifically, the paper investigates whether such migration enables migrants to access more land, higher quality land, or greater off-farm income generating opportunities that may, in turn, translate into improved well-being.

Drawing on a longitudinal data set that tracks rural migrants to their destinations, the authors employ a difference-in-differences approach, validated with a multinomial treatment effects model, and find that migration confers a benefit in consumption to migrants.

Results do not indicate that this advantage is derived from larger farms or from more productive farmland.

However, across all destinations, migrants are more likely to draw from off-farm and non-farm income sources, suggesting that even intra-rural migration represents a shift away from agriculture, and this is likely the dominant channel through which migrants benefit. The authors conclude that intra-rural migration merits greater attention in the discourse on rural development and structural transformation.

Filiz Garip, On the Move: Changing Mechanisms of Mexico-U.S. Migration, Princeton University Press, Princeton (2016)

The book is an in-depth investigation of Mexican migration to the United States that constitutes the great part of Northern American intraregional mobility.

The author is mainly interested in describing and analysing the characteristics of the flow patterns and migrants profile and of their evolution over time.

The use of a consistent body of survey data from over 145,000 Mexican migrants spanning from 1965 to 2010, substantiated with nearly 140 in-depth interviews, allow Garip to provide an accurate outlook of the migration dynamics revealing massive changes in the average migrant outline during the four major waves.

A glaring true diversities emerging from the data analyses shows how the push and pull factors dynamics and, jointly, how the socioeconomic composition of migrant flows have been changing in the passages from one stage to the other.

One of the leading thesis of the study is therefore: “when we look at an average migrant, we dismiss such heterogeneity a priori”. Stereotypes considering typical Mexican

migrants as young male, poor, undereducated in search of any employment, still contribute to the narrative of undesirability that permeates the political debate and marketing.

The proposed analyses orient the reader to correct this view capturing how different reasons underlying migration decisions are shaped on individual interests and how these are strongly influenced by structural and cultural context mobilising different groups of migrants and modelling their behaviours.

Marek Okólski (ed.), European immigrations: trends, structures and policy implications, Amsterdam University Press, Amsterdam (2015)

This book aims at providing a Continent-wide outlook on migration processes by addressing the long term transition of different European countries from net emigration to net immigration areas and by analysing the migrant inflow specificities, migrant integration patterns and related policies.

Based on the single country migration history and migration cycle, three main groups are taking into consideration: the old immigration countries where transition occurred in the fourth quarter of the twentieth century, the new immigration countries where the change occurred in the fourth quarter of the twentieth century and the future immigration countries where the transition is to be completed in the twenty-first century.

Common trends and country and area distinctive dynamics and underlying factors are pointed out in different contributions from authors representing various European academic centres using original empirical evidence. These include some sub-regional and country case studies that highlight Southern and Eastern European perspectives focusing on the making of immigration model in the Mediterranean new immigration countries and in the post-enlargement Europe.

The concluding chapters propose insights into migration visions and policies, comparing forecasts and different prospects regarding possible development and policy options.

Maurizio Ambrosini (ed.), Europe: No Migrant's Land?, Edizioni Epoké (2017)

The book focuses on the recent sudden upsurge of migrants reaching Europe's shores as a consequence of the political instability and conflicts in the Middle East and North African countries, demographic and economic trends.

While international cooperation is urgently needed, national responses are prevailing. Coordination is insufficient and the European response has been slow and fragmented and migration remains mainly a matter of national governments.

The raising attention of a nervous public opinion has been contributing to the volatility of national policies and diminished the capacity of finding shared solutions to address a long-trend migration challenge of this magnitude.

The volume aims at providing a better analysis of the national approaches of the last two decades, investigating the structural factors of the European political slow response and its inability to agree a common strategy.

The first two of the five contributions included in the book deal with the ongoing debate on the management of the refugee crisis, mixed migration, profiles and needs of asylum seekers, relationships among transnational problems and national priorities, focusing on the above mentioned European shortcoming capacity to coordinate to tackle emergencies and seize opportunities.

The third contribution concentrates on the role of immigrants in the European labour markets which need to address the European demographic transition, while the fourth one analyses the integration policies between multiculturalism and assimilation trends.

The last closing contribution introduces the questions about citizenship in the changing framework strongly guided by the debate on security and terrorism.

Palestinian Household Willingness and Ability to Pay for Public Utilities in The West Bank: The Case of Electricity and Water

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Abstract

In spite of the fact that demand for water and electricity in the West Bank (WB) had increased sharply over the past decade, local providers of those services are suffering from continuous fiscal deficits. However, the collection efficiency of bills paid for water and electricity consumption is still below international standards. The main objective of this study is to assess the main factors behind the willingness and ability of Palestinian households to pay the bills for the two public utilities: Water and Electricity in the WB.

To achieve this objective, the degree of willingness and ability model have both been developed and estimated in a two equation model.

The empirical results suggest that both providers and consumers should be adopt and implement several areas of cooperation to improve the collection efficiency of bills. Furthermore, certain types of support packages should be carried out by the providers of water and electricity services in order to increase the area of efficiency in running public utilities in the WB .

keywords: Palestine; Public utilities; Water; Electricity; Willingness to pay; Ability to pay.

1. Introduction

This study investigates the determinants behind the Palestinian household expenditure on the two major public utilities: Water and Electricity. Data, available from the Palestinian Central Bureau of Statistics (PCBS), indicate that while household consumption of those commodities tends to increase over time, household expenditure on those utilities shows a declining trend, particularly since 2002. Concurrently, data available from suppliers of those utilities indicate that they suffer from accumulated huge fiscal deficits (PCBS, Standard of Living Reports, Several, Issues; PCBS, Water and Energy Statistics, Several Issues).

Suppliers of public utilities, Water and Electricity attribute the acceleration of fiscal deficits to abstention of many customers from paying bills. In fact, it has become obvious that while consumption of those utilities increased over time, revenues received by providers of public utilities showed a shrinking trend through focus on demand side. Due to unavailability of data on administrative,

operational and rehabilitation costs, the role of the supply side of public utilities providers will be examined indirectly (PCBS, Water and Energy Statistics, Several Issues 2010, 2011).

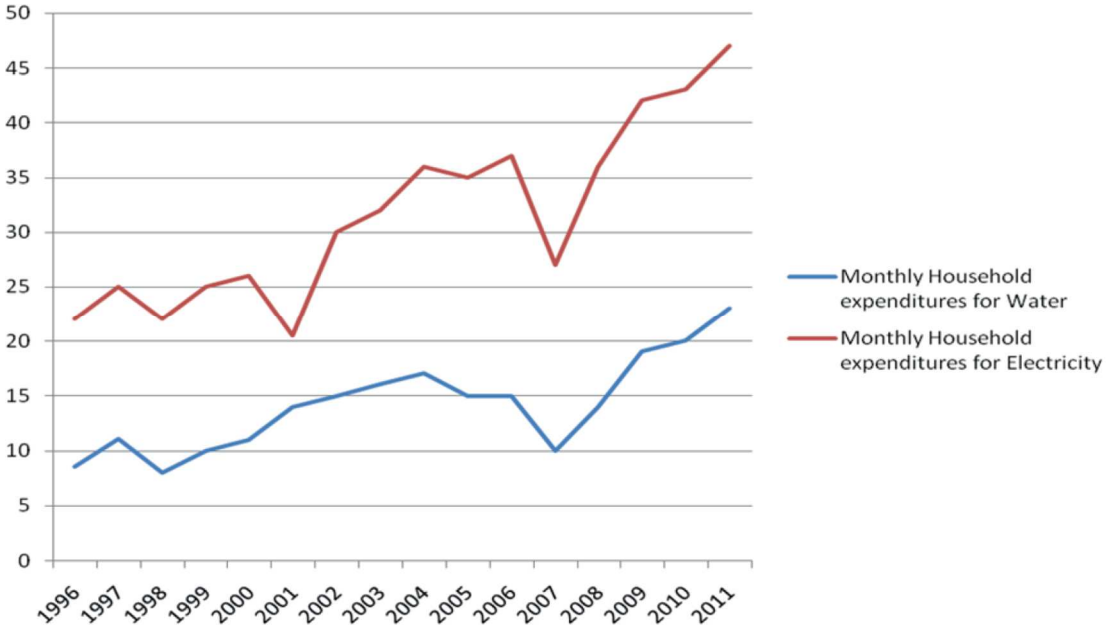
Although annual household income rose rapidly from $10,000 in 1996 to $12,000 in 1999, it showed a reverse trend in the years from 2000 until 2006. In 2002, this annual income dropped to $9,000, a decrease of 25% from its reported level in 1999. However, by the year 2007, household income showed a recovery; its level rose almost to that of 1996. Since then, annual household income rose to $ 12,726 in the years 2010 and 2011 (PCBS: National Accounts, Several Issues).

On the other hand, household consumption expenditures showed a similar trend to that of household annual income. It increased from $7,000 in 1996 and reached a peak of $9,122 in 2011. However, it showed some variation from one year to another in the period between 1999 and 2007. During the period 2000-2007, household consumption expenditures were below their level in 1999. Since the year 2008, household consumption expenditures tended to increase compared to their level in 1996-1999. Household consumption expenditures increased from $8412 in 2008 to $9122 in 2011; it constituted an annual increase of 15%. The reduction in household income and consumption expenditures during the period 2000-2007, compared to its levels, during 1996-1999 and 2008-2011, could be attributed to several factors as listed below:

i. Israeli restrictions imposed on Palestinian labor mobility. Since the outbreak of the Second Uprising in the WB, the number of Palestinians working in Israeli economic sectors had dropped by 70%. It went down from 200,000 in 1999 to less than 80,000 during 2008-2011. As a result, many workers lost their jobs during 2000-2007; the rate of unemployment tripled and reached (36%), compared to its level of (10%) in 1999.
ii. Transfer payments showed a significant drop since the year 2000, for most of the donor aids were allocated to humanitarian relief.

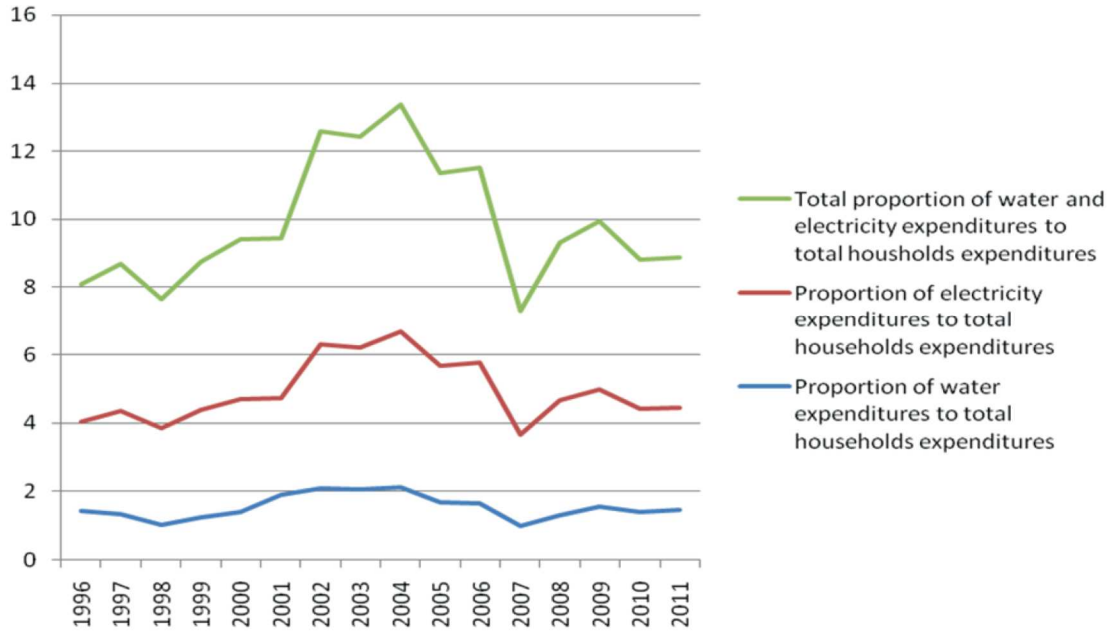
As a result, proportions of household expenditures on public utilities to household income have increased. Over the past decade, it rose from 8% in the year 1996 to 13% in 2004 and it rose up to 9% by the year 2011. Since water and electricity are considered life necessities, a decrease in household income exerted pressure on its consumption expenditures. Figure 1 shows an increasing trend of average monthly expenditures on water and electricity over the period 1996-2011, with some variations. In the year 2011, average monthly expenditures were $45 and $23 for water and electricity, respectively (PCBS, National Accounts, Several Issues).

Fig. 1 - Average monthly household expenditures on water and electricity in the West Bank (Jordanian Dinar. Jordan Dinar = 1.42 U.S Dollar)



Source: Palestinian Central Bureau of Statistics, Standard of Living, Several Issues.

Fig. 2 - Proportion of electricity and water expenditure to total household expenditures in percentages (%)



Source: Palestinian Central Bureau of Statistics, Standard of Living, Several Issues.

Since 2007, in Figure 1, sharp increases in average monthly expenditures on water and electricity services have been attributed to increases in the prices of these two services. In contrast, Figure 2, the proportion of average monthly expenditures on water and electricity services to average monthly household consumption expenditures showed a slight increase particularly in the years 2007-2011. This trend followed a decrease trend in the proportion of water and electricity expenditures to total household consumption expenditures, between 2003 and 2007. The green line, in Figure 2, shows the total proportion of household expenditures of electricity and water to total household consumption expenditures.

However, average monthly household expenditures (bills paid by customers) were on the decrease. Consequently, it was not surprising to find out that the gap between the value of consumption of public utilities and that of the bills paid by customers has widened over time. As a result, the fiscal deficit tended to increase. For example, the fiscal deficit of Jerusalem District Electricity Company went up from $30 million in the year 2000 to $100 million in the year 2011; an increase of 233%; with an annual growth rate of 13%. Similarly, the fiscal deficit of Palestinian Water Authority has doubled 15 times over the period 1996-2011. It had increased dramatically from $5 million in 1996 to $85 million in 2011 (PCBS, Standard of Living Reports, Several Issues; PCBS, Water and Energy Reports, Several Issues).

Data available on collection efficiency indicate that this ratio ranged between 69% in Tulkarem Governorate and 90% in Qalqilia. Collection efficiency is defined by the ratio of revenues received by Water Authority from customers to that of the current annual year billing. An increase of this ratio indicates an efficiency of collection in the value of bills issued by the Water Authority to customers. In Qalqilia and Ramallah, granting promotional discounts to customers is one of the policies practiced by water authorities to collect payments. (Palestinian Water Authority; Annual Regulation Report, Various Issues).

In addition, the administrations of public utilities have intensified investment in the public utilities, mainly water and electricity. Performance and efficiency improvement of infrastructure of both electricity and water sectors, through a decrease in loss rates, has been considered as the main reason behind intensification of investments in those sectors. The inefficiency has been manifested by increases in loss rates which reached over 30% of total utilities distributed from original supplier to final customers. In general, the value of loss rates is considered as a cost which is covered through an increase in the final price paid by customers. In addition, loss rates in water and electricity have been perceived as the major source for accumulation of debts for both Palestinian

Water Authorities and Electricity Companies. Over the period, 2000-2011, gross investments exceeded one billion U.S dollars (World Bank Reports, Several Issues).

Despite intensification of investments in water and electricity utilities toward rehabilitation and upgrade of their quality, fiscal deficits showed a persistent and continuous trend. Palestinian Water Authorities received loans to invest in upgrading and rehabilitation of their networks. However, loss rates remained above normal level (PCBS, Performance of the Palestinian Economy, Various Issues).

The main objective of this study is to assess the key factors behind Palestinian household willingness and ability to pay bills for these two public utilities: water and electricity. In particular, the gap between the value of actual consumption of these utilities and that of household expenditures on them, through payment of bills, calls for analysis of household behavior. Therefore, the imbalance, between the actual consumption of the utilities and bills paid by customers, has led to an increase in fiscal deficits which eventually led to an accumulation of debits of Public Utilities Authorities. However, the specific objectives of this study are intended to determine the factors behind household willingness and ability to pay bills received after one to two months following actual consumption of electricity and water. To achieve this objective, an ordered probit model of willingness and ability has been developed and estimated. It is expected that the empirical model would indicate the variables that most likely have an impact on decision making by the household to pay bills for water and electricity consumption. Based on empirical results, several recommendations and policies are formulated to decision makers in both Electricity and Water Authorities, separately and jointly. It is anticipated that these recommendations would be very helpful to enable them to mitigate their fiscal deficits, on one hand, and to pay their debts to Israeli suppliers of water and electricity services on the other.

2. *Performance and function of West Bank public utilities: water and electricity*

In this section, performance and function of the WB public utilities: electricity and water are outlined below. The performance of water public services is mentioned followed by an analysis of the electricity sector.

(i) Water authorities in the West Bank

Currently, there are six water authorities which provide services in the WB. They include:

i. Jerusalem Water Undertaking. It is a public and independent water supply utility. It provides services to northern areas of Jerusalem, Ramallah, Albeera, Betonia and several villages and camps located in the governorate.

ii. Water Authority of Bethlehem, Beit Jala and Beit Sahour. It is non-governmental body. It provides services to a population of 180,000 in the governorate, and it is located in four cities, three camps, and fifteen villages.

iii. Nablus, Tulkarem, Qalqilia, Salfeet Water Departments; each city has a water department, directed by municipality. They are classified as public providers and non-profit organizations.

The performance and function of each water authority or/and provider varies from one to another. While the average selling price per cubic meter to the end users (households and industry) is $1.5 in Bethlehem, Jerusalem, Ramallah and Nablus, it approximates $1 in Tulkarem and Salfeet and less than $0.5 in Qalqilia. In general, determination of sale price to end users depends mainly on operating costs per cubic meter of water. While it is the highest in Jerusalem, Ramallah, Bethlehem and Salfeet, the ratio of operating costs per m^3 of water to the selling price approximates 110%. In contrast, it accounts for less than 80% in Qalqilia (Palestinian Water Authority, Annual Reports).

Each provider supplies water from wells, springs located in each governorate and purchased water through WB Water Department (WBWD) from different sources such as Israeli Water Company (Mekorot) to cover shortages in water supply in the West Bank. WBWD is a governmental body. It plays the major role in regulating the function of water providers in terms of sale prices and volume of water in cubic meters pumped to end users. Also, WBWD, as a regulator, approves and monitors water prices to each water supplier located in the governorate. This policy aims to make this commodity reachable and attainable to each consumer (final user) on one hand and to ensure financial viability and sustainability of water services providers (Palestinian Water Authority, Annual Reports).
Due to the unique situation of the Palestinian economy, the determination of household expenditures for electricity and water depends, not only on the

economic situation in Palestine, but also on macroeconomic variables in Israel. While 60% of the WB water needs are imported from Israel, imports of electricity and energy account for more than 20% of total merchandise imports. In many WB governorates, 100% of electricity needs is imported by Palestinian Electricity Authorities to be distributed through them to the end-user in the Palestinian districts (PCBS, Foreign Trade, Statistics, Goods and Services, Several Issues).

In northern areas such as Tulkarem, Jenin and Salfeet, Water Authorities produce the total quantities of water distributed to end users. In contrast, Nablus, and Southern areas : Ramallah , Jerusalem , Bethlehem , and Hebron , their purchases from Israel water companies account for more than 60% of total water supplied to end users (Palestinian Water Authority , Annual Reports).

(ii) Palestinian electricity sector

Although the Electricity sector in Palestine depends on external energy sources, its role in determining tariffs and prices is highly considered. This sector consists of four major companies. They have a single source of power from Israeli Electricity Corporation; they are listed below:

i. Jerusalem District Electricity Company Limited. This is the largest company specialized in distributing electricity to concession areas located in the four central governorates: Jerusalem, Ramallah, Bethlehem and Jericho.
ii. Southern Electricity Company. It provides services to three major cities. Yatta, Dahriya and Dura.
iii. Hebron Electric Power Company. It provides services to Hebron and Hahoul cities.
iv. North Electricity Distribution Company. It provides services to only 40% of the population in the Northern districts of Nablus, Tulkarm, Jenin, Salfeat, Qalqilia, Tubas.

Currently, a specific tariff has been proposed for each electricity company by Palestinian Electricity Regulatory Council (PERC). Tariff rates are determined based on operating costs to enable companies to provide services through reducing technical and nontechnical losses (Palestinian Electricity Regulatory Council, Annual Reports).
While household consumption of water reaches peak levels during summer season (June, July, August, September), it tends to reach lower levels between November to March. It is obvious to find out that values of water bills show an

increasing trend during summer season compared to other months of the year. In contrast, electricity bills are usually greater during winter season compared to their levels in other months of the year.

Due to high values of electricity bills compared to low value of water bills in winter months, households' willingness and ability to pay bills for water are more than those for electricity. In the same manner, during the summer season, the values of electricity bills are relatively lower than those of the water bills. Consequently, households have more willingness and ability to pay electricity bills than water bills in summer seasons.

The evaluation of water depends on volume of cubic meters received by household and the number of days; water services are provided to end users monthly. Therefore, any decrease in service days or/and volume of cubic meters of water would push consumers to buy water from private companies. Usually, the price of selling water from private companies to end users is four times more than that charged by Water Authorities during the summer season. Consequently, water bills have become very high particularly, when consumers pay for water needs purchased from private sources.

By the same token, while a consumer would pay in advance to private companies in order to receive water services, he/she may not pay water bill received from public authority. However, although household demand for water is very latent and water consumption depends on household needs, particularly in summer, household purchases of water from private sources are largely dependent on price level and household income.

3. Conceptual framework

Household affordability and ability to pay for water and electricity consumption have been extensively discussed, particularly over the last decade (Ahmad, Goldba and Misra 2005; Merrett 2002). While research on those issues had been conducted at micro levels, several methodologies are employed. Although research on affordability and ability to pay is multidisciplinary (Sociology, Economics and Political Sciences) and a major concern for decision makers, at this stage, only applied Economics research studies are reviewed.

At the micro level, Fankhauser (Fankhauser 2005, 2006, and 2008) investigated the affordability and ability concepts on household expenditures for public utilities in transitional economies in Eastern Europe. Also, Pavlova (Pavlova 2004) discussed willingness and ability to pay for health care services in

Bulgaria. The impact of socio-demographic and economic factors on the responses to willingness to pay was examined. Also Snowball (Snowball et al. 2008) examined willingness to pay and preferences for water in South Africa. The empirical results indicate that prices have a direct and significant effect on determining preferences. The paper suggests that lower income and educational levels can be used in the model to state household choices. In this study, ordered probit model has been employed to investigate factors affecting household behavior toward payment of bills for electricity and water public utilities. This technique has been extensively used to determine the degree of household willingness and ability to pay bills for electricity and water consumption. On the other hand, AlGhuraiz and Enshasi (AlGhuraiz and Enshasi 2005) examined how water pricing could be integrated with socio-economic objectives to effectively meet cost and make water prices affordable to consumers (Greene 2012; Haghjou et al. 2013; Teker et al. 2013; Sukant et al. 1991).

For the analytical framework, the model specified and estimated in this study is based on research works done by Yang and Raehsler (Yang and Raehsler 2005), Raehsler (Raehsler et al. 2012), Duncan (Duncan et al. 2005), Chan, Miller and Tcha (Chan, Miller and Tcha 2005).
In this study, willingness and ability to pay for water and electricity services are considered in formulating the model. Due to unsystematic payment of bills, degree of willingness and ability to pay are investigated. The gap between payment of bills and actual value of electricity and water consumption is attributed to the following reasons:

1) Although tariff rates for electricity and water services are constant for all users, the level of actual payment by households varies from one month to another. Therefore, total or partial payment of bills or even non-payment at all depends on the WTP and ATP.
2) Consequently, the analysis focuses on the degree of WTP and / or of ATP. While previous research work used binary variables (1, 0) to quantify the WTP and ATP toward a change in tariff rates and selling prices to end users, in this study, a range of values is employed to quantify WTP and ATP. For example, WTP=5, if the household shows a very high degree of willingness to pay the full bill of the service (electricity or water). Similarly, WTP=4, if the household has high degree of willingness to pay the whole bill of the service; he or she may pay a portion of the bill. The third degree, WTP=3, is when the household has a reasonable willingness to pay the bill of the service. However, the scale of willingness to pay could be represented as follows:

   WTP=5, Household shows a very high degree of willingness to pay the full bill.

WTP=4, Household shows a high degree of willingness to pay the bill.
WTP=3, Household shows a reasonable degree of willingness to pay more than 50% of the bill.
WTP=2, Household shows a low degree of willingness to pay small portion of the bill.
WTP=1, Household shows a very low degree of willingness to pay the bill.
WTP=0, When the household lacks willingness to pay the bill totally.

Similarly, ATP could be scaled following the same manner of measuring WTP, which can be represented as follows:

ATP=5, Household shows a very high degree of ability to pay the bill.
ATP=4, Household shows a high degree of ability to pay the bill.
ATP=3, Household shows a reasonable degree of ability to pay the bill.
ATP=2, Household shows a low degree of ability to pay the bill.
ATP=1, Household shows a very low degree of ability to pay the bill.
ATP=0, When the household lacks the ability to pay the bill.

Based on the above considerations, an economic model will be utilized to analyze the expected impact of the economic, social and political factors on the degrees of WTP versus ATP which causes the gap between actual consumption and household payment of bills for public utilities namely, electricity and water. In other words, through analyzing the determination of collection inefficiency of bills, a better billing and collection mechanism is proposed.
This study has identified the major elements behind household expenditures on public utilities within the context of the following factors:

(1) Economic factors,
(2) Social factors,
(3) Legal factors.

Investigation of factors behind widening the gap between actual value of household consumption of water and electricity and household expenditures for these utilities represents the key issue in this study. Therefore, this study will provide a better understanding of the extent that Palestinian households can afford and/or be able to pay bills when she/he receives them separately or jointly at the end of the month. The impact of factors behind the decision made by customers to pay bills totally, partially or abstain from doing so, is the most significant subject matter of this study.

In the case of water and electricity, the customer consumes and/or utilizes the service and then she/he pays for consumption. This case is different from other goods and services when payments are made before acquiring the services such

as health and education. However, payment of water and electricity bills is made at the end of the month, households set up priorities for their payments for services such as transportation, health and education. In such situations, household payments become subject to various degrees of willingness and ability to pay when he or she succeeds in allocating the budget to finance household needs.

It seems that the degree of WTP is determined based on his/ her degree of ATP and other socio-economic factors. ATP reflects the level of consumption expenditures allocated by the household on commodity sets. It is expected that someone (a household) may show one of the thirty six options towards paying the bill after consumption of water and /or electricity services, shown, below in Table 1.

Tab. 1 - Cross-Tabulation of possible options of the degree of willingness and ability to pay

	Degree of Willingness to Pay					
Degree of Ability to pay	Very high =5	High =4	Reasonable =3	Low =2	Very low =1	Lacking =0
Very high = 5	25[1](1)[2]	20(2)	15(3)	10(4)	5(5)	0(6)
High = 4	20(7)	16(8)	12(9)	8(10)	4(11)	0(12)
Reasonable = 3	15(13)	12(14)	9(15)	6(16)	3(17)	0(18)
Low = 2	10(19)	8(20)	6(21)	4(22)	2(23)	0(24)
Very low = 1	5(25)	4(26)	3(27)	2(28)	1(29)	0(30)
Lacking = 0	0(31)	0(32)	0(33)	0(34)	0(35)	0(36)

Each cell presents the interaction between the degree of willingness and ability to pay bills. For example, cell number 1 indicates the highest level of willingness and ability to pay. The value of cell 1 is calculated by multiplying the degree of willingness to pay in the first column (Very high =5) by the degree of ability to pay in the first row (Very high =5). Consequently, the value of cell 1 equals 25. In the same manner, the value of cell number 7 equals 20. However, the value of cell 36 is the lowest; it equals zero. On the other hand, Table 1 shows the interaction and compensation between willingness and ability to pay, and

[1] The value of the cell that indicates the interaction between the degree of willingness and ability to pay bills.

[2] The number of the cell.

consequently the rank or the index of payment bills. For example , the value of cell 2 , indicates that degree of ATP is greater than the degree of WTP. On the other hand , the value of cell 7 equal cell 2, but it shows that the that degree of WTP is greater than the degree of ATP.

Moreover, Table 1 shows 36 outcomes that would represent the probabilities of household behavior toward payment of bills for water and electricity. Each cell contains the number of respondents, showing their attitudes toward willingness and ability to pay bills. It is obvious that the relationships between the degree of WTP and the degree ATP is indeterminate. In other words, the relationship between the degree of WTP and ATP could be complementary or independent. The horizontal axis shows scale measures of potential willingness to install payment for bills of consuming and/or utilizing electricity and / or water services. The vertical axis shows potential ability to pay bills for consuming water and electricity services. Each cell in Table 1 shows the interaction between various degrees of willingness and ability to pay bills for water and electricity consumption. As the degree of WTP increases, it becomes closer to 5.

4. Specification of the model and methodology

The decision made by a household who has willingness and/or the ability to pay his/her bills following the elapse of a certain period of time of consumption of water or electricity can be expressed by the following model.

(i) Equations of Degree of willingness to pay (DWTP)

The following equation represents the degree of willingness to pay the bills after consumption of water and electricity services; it could be represented as follows:

$$\mathbf{DWTP_{ij} = Bo + B_{1k}ECOn_{ij} + B_{2l}PRFi_{jj} + B_{3m}LAW_{ij} + B_{4h}DATP_{ij} + U_{ij}} \qquad (1)$$

Where:

$DWTP_{ij}$ = Degree of willingness to pay bills for water or electricity consumption by the jth household. The value of the variable $DWTP_i$ ranges between 0 and 5. If the value equals zero, the WTP does not exist. On the other hand, if DWTP=5, the household has the highest degree of willingness to pay the bills for water and / or electricity consumption. i=1 for water; i=2 for electricity. Bo, B1k, B2l, B3m, B4h are parameters to be estimated. K, l, m, h, are set of parameters to be estimated with respect to variables included in each group of variables.

The value of DWTPij or /and $DATP_{ij}$ for paying bills for water and /or electricity was estimated from data obtained by questionnaires filled by Palestinian families in the West Bank, see section 2 in the questionnaire attached as appendix . In this regard, the values of DWTPij or /and $DATP_{ij}$ were constructed based on the perceptions of the Palestinian families (respondents) as demonstrated in the questionnaires. Although Table 1 shows that there is a trade-off between DWTPij and DATPij on one hand , there is a positive and mutual relationship between them . Variables included in the right hand have selected based on economic theory. Therefore, it is not expected to have inconsistency in the specification of the model.

$DATP_{ij}$ = Degree of ability to pay bills for water or electricity consumption by the jth household. The value of the variable $DATP_{ij}$ is coded between 0 and 5. If the value equals zero, the ATP does not exist. On the hand, if DATP=5, the household has the highest degree of ability to pay bills for water and / or electricity consumption (Cooper and Schindler 2011).

PRF_{ij} = Group of personal factors related to household respondents. They include age, marital status, family size, education.

$ECon_{ij}$ = Group of economic factors such as incomes received by the household, family members who received incomes; number of appliances owned by the household; household debts of unpaid bills for electricity and water consumption; proportion of bills value to household consumption expenditures; exemptions and discounts; debts accumulations; debts interest rates.

LAW_{ij} = Group of legislative factors related to law enforcement such as notice sent by Water Authorities and Electricity Companies to households to pay debts.

U_{ij}= Disturbance terms, normally distributed with zero mean and constant variance.

Variables included in equation (1) above were based on the empirical models specified and estimated in the empirical work (Haghjou et al. 2013;Teker et al. 2013; Sukant et al. 1991).
While certain variables are quantitatively classified, others are considered qualitative. Following Cooper and Schindler, 2011, qualitative variables were quantitatively transformed to evaluate the attitudes and behaviors of consumers when they decide to pay bills for water and electricity consumption. In this regard, measurements of qualitative variables were developed based on Likert scale, for more details see Appendix 1.

(ii) Equations of Degree of ability to pay (DATP)

The following model represents the degree of ability to pay the bills of electricity and water consumption by household. It could be represented as follows:

$$DATP_{ij} = Bo + B_{1k}ECOn_{ij} + B_{2l}PRF_{ij} + B_{3m}LAW_{ij} + B_{4h}DWTP_{ij} + U_{ij} \quad (2)$$

Where variables are defined as above in equation 1.

Equations (1) and (2) represent households' behavior toward their payment for actual demand for public utilities: water and electricity. In the WB, consumption of water and electricity precedes paying bills. They include the price and the amount of money that a household should pay as a result of his/her consumption of those services. In this model, the degree of WTP has been considered to range from 0 to 5. When the degree of WTP equals 0, it indicates that the household lacks interests and willingness to pay bills for consumption of electricity and water, regardless of his/her ability to pay (income). If the degree of WTP approaches 5, customer proceeding to pay the bill is subject to his / her ATP (income) and other socio-economic and legal factors. On the other hand, ATP is subject to WTP. It implies that when ATP approaches 5, the household has a high degree of ability (income) to pay bills, and this is subject to the degree of WTP. The relationship between the DATP and DWTP is expected to be positive. As mentioned above, several possibilities could be stated regarding interactions or combinations of relationships between ATP and WTP.
As income increases, standard of living could rise and acquisition of electrical appliances that use water and electricity would increase. Therefore, it is expected that ATP and WTP would move jointly. On the other hand, ATP reflects the allocation of consumption expenditure to a different set of commodities. In the real world, each household allocates consumption expenditures to a set of commodities to maximize his/her utility. This is called "multistage maximization". While priorities are given to food, housing and clothes, consumption expenditure on water and electricity services usually comes in the lowest rank. However, as household income increases the DATP would increase. Similarly, DWTP would be positively associated with the level of education, age, and location in the city and so on. In the case of a high degree of WTP customers are satisfied with the quality of services (water or /and electricity).

5. Data sources and sample characteristics

Primary data were gathered on household expenditures and consumption of

water and electricity in the WB. Moreover, a questionnaire was designed to gather data on the variables related to household decision to pay for consumption of public utilities. More data were gathered on the economic, social and academic variables related to the customers. The model examined how a payment decision is made after the consumption of public utilities. In addition, semi-structured interviews were conducted with senior personnel in the Palestinian Water Authority and Palestinian Electricity Regulatory Council during the years 2011 and 2012.
The field work for the study was undertaken in the period between July 2011to February 2012. Field workers, who helped us in collecting the data, are highly trained and qualified. They gathered data from the head of the family, by handing questionnaires to him/or her directly. Although gathering data was relatively expensive with respect to average cost rate, the approach followed by the field workers to collect the questionnaires was very rewarding. To meet the objectives of the study, the data for this study were collected via a face-to-face questionnaire. The survey was conducted among Palestinian households in the WB cities, villages and camps. Household distribution of the sample was based on secondary data published by Palestinian Central Bureau of Statistics (PCBS). The questionnaire was distributed on a sample of 500 households across the WB governorates using random sampling. The sample (N= 500) indicates that the response rate was 100%.

The questionnaire consisted of four parts. Data gathered on personal and social demographic variables were in the first part. The second part was designed to collect information on electrical appliances used by households and whether their use depends on water and electricity. Also, it included information on household loans used to pay for water authorities and electricity companies.

The third part of the questionnaire dealt with data on household satisfaction with consumption of water and electricity services. The reasons and factors that push households to pay or abstain from paying electricity bills were included. Those factors include proportion of expenditures to income, receiving bills on time, receiving exemptions, receiving water, electricity and other bills at the same time.

Policies and incentives that were provided by water authorities and electricity companies to encourage households to pay their bills regularly were presented in part four. An empirical analysis of the degree of willingness and ability to pay was conducted based on the primary data collected during 2011 and early 2012. For more details, see appendix A.

Table 2 shows the main indicators of the sample of Palestinian household expenditures on public utilities (Electricity & Water) in the WB during 2011 and

early 2012. They are outlined below as follows:

1) 87.4% and 88.6% of the households respondents were males and married, respectively. These indicators are consistent with statistics published by PCBS . They indicate that that for more than 85% of Palestinian families are headed by men.
2) The age distribution was dominated by customers at the age of 45 or less. They accounted for more than 80%.
3) On the other hand, family size with more than 5 members accounted for more than 60%.
4) The highest level of education of the respondents was high school 50%. However,
5) heads of households who hold B.Sc. degree and above accounted for 33%.
6) Regarding ownership of houses, 84% of respondents owned houses.
7) Monthly household income averaged $600 for 46% of the respondents[3].
8) 96% of the income is generated by the father.

Table 3 summarizes the expected outcomes of the attitudes of households in the WB toward bill payments for water and electricity consumption. Due to the lag period from one to two months between consumption and expenditures of electricity and water services, household behavior toward payments and appreciation of the services could be outlined as follows:

1) 31% of the households appreciate the quality of water services, and they pay bills on time.
2) On the other hand, around 62% of the households do not appreciate the quality of water services. In fact the demand for water is very latent due to high shortages in fresh water supply in the WB. While 31% of the respondents have the ATP, 31% are unwilling to pay their bills; they do not recognize the quality of water services which makes them declare that they are unwilling to pay.
3) While only 15% of the respondents realize the quality of water services (willingness to pay) they do not have the ATP. This segment of customers should be treated positively to help them pay their bills.
4) For electricity, around 78% of the respondents disregarded the quality of these services.
5) While 37% of the households have the ability to pay, 41% are unwilling and unable to pay.
6) Only 4% of the respondents ignore the quality of electricity, regardless of their inability to pay for the bills of this service.
7) It is obvious, in Table 2, that households in the WB are willing to pay

[3] U.S dollar= 3.9 new Israeli Shekel(NIS).

bills for water consumption more than their willingness to pay for electricity consumption bills. Around 78% of the respondents underestimated the quality of electricity services. In contrast, 62% of the respondents ignored the quality of water.

Tab. 2 - Sample Characteristics of Palestinian Household Expenditures on Public Utilities (Electricity & Water) in the West Bank, 2011

Variables	Categories	N.	%
Gender	Male	437	87.4
	Female	63	12.6
Marital status	Married	428	85.6
	Single	65	13.0
	Divorced	7	1.4
Age structure	20-30	172	34.4
	31-45	236	47.1
	46-60	85	17.1
	Above 61	7	1.4
Family size	2	44	8.7
	3	67	13.5
	4	79	15.9
	5	89	17.8
	>6	220	44.1
Academic Qualification	High school and less	251	50.1
	Intermediate Diploma	84	16.8
	B.Sc. and above	165	33.1
Family Income	Less than $599	232	46.2
	$600-800	150	30
	$900-1,499	86	17.1
	Greater than $1,500	32	6.25
Source of income	Father	480	96
	Mother	20	4
Housing	Owns the houses	422	84.2
	Rent Houses	78	15.7
Place of Residency	City	261	52.1
	Villages	194	38.9
	Camp	45	9
governorates	Bethlehem	78	15.6
	Hebron	75	15.1
	Jerusalem	36	8.2
	Jericho	80	15.8
	Ramallah	10	2
	Nablus	75	15
	Jenin	88	17.6
	Qalqilia	58	11.4

Tab. 3 - Distribution of Household Expenditures for Water and Electricity in the West Bank with respect to their WTP/UWTP and ATP/ IATP

I: Water services[4]

Attitudes	IATP	ATP	Total
	23.0% (115)	15% (75)	38.6% (190)
	31% (155)	31% (155)	62% (310)
	54.6% (270)	46% (230)	500

II: Electricity services

Attitudes	IATP	ATP	Total
WTP	18% (90)	3.9% (20)	21.9% (110)
UWTP	37% (185)	41% (205)	78% (390)
Total	55% (275)	44.9 (225)	500

1-percentage of the sample in that option
Numbers in parenthesis are absolute values
WTP= Willingness to pay.
UWTP= Unwillingness to pay.
ATP=Ability to pay.
IATP= Inability to pay.

Around these three dimensions, a new perspective on integration, through migration may be incurred. Our people are condemned to live together.

6. Empirical results

In this section, the empirical results of the estimated equations are presented and discussed. The estimated equations, presented in Table 4, concerning the degree of willingness and ability to pay water bills are discussed. Then, the estimated equations of the willingness and ability to pay electricity bills, shown in Table 5, are also analyzed.

Given that primary data utilized to estimate the model, the first consideration for estimation procedure is the statistical specification of the equations and selection of the appropriate estimation technique. Since DWTP and DATP are

[4] Numbers in parenthesis are the subset of the sample in that option.

polychotomous variables and in natural order, they reflect only ranking where, the dependent variable is coded from 0 to 5, as shown in Table 1.
Equations (1) and (2) are classified ordered probit model. In this case, estimation is undertaken by maximum likelihood, where DWTP or DATP is an unobserved index of satisfaction of willingness and ability to pay by the household consumption of water and electricity services j=1 electricity; 2= water (Yang and Raehsler 2005; Kennedy 2003; Kutner Nachtsheim Neter 2005; Greene 2003).
With the ordered probit model, a positive coefficient indicates higher probability of degree of willingness and / or ability to pay for bills. However, since most of the independent and dependent variables are qualitative variables, they have been transformed into quantitative variables. The discussion of the estimated coefficient is kept general. Therefore, the effects of the explanatory variables are computed at the sample average of the variables.

Significant and insignificant variables in the estimated equations are presented in Tables (4) to (5). The coefficient estimates with standard error of estimates for each estimated coefficient are shown as well as F- test and R2 to show the degree of significance of each estimated equation. Most of the coefficient estimates of those variables are highly significant at .01 percent level. The coefficient estimates measure the degree or level of impact of each explanatory variable with respect to the endogenous variable on one hand and the other explanatory variable in each estimated equation on the other.

(i) The estimated model of the willingness and ability to pay water bills

The empirical results indicate that DWTP is more likely to increase with respect to changes in the following variables:

Personal variables: Household respondents aged above 31, married, with a large family size, living in the city; households with university qualifications affect positively household attitudes towards willingness to pay bills. These results explain that the degree of willingness to pay would increase when the household respondents acquire those characteristics. Therefore, households, who acquire those characteristics have a positive attitude toward water services. On the contrary, for a given income, large families may have a lower willingness to pay their bills. Similarly, large families would reduce the household ability to pay water bills, particularly, when one of the parents is the major source of income.

Economic variables: It is expected that the DWTP would rise as the level of households with higher income classes' increases, particularly when more than one person generates income in the family. In addition, a coefficient estimate of the number of electrical appliances denotes that this factor is highly correlated

with income and standard of living. As a result, the households will spend more money on their prosperity through acquiring electrical appliances, which require more utilization of water and electricity. Also, the empirical results showed that the DWTP would increase when households feel that they pay a fair tariff to water authority. These variables appeared to be highly significant. On the other hand, DWTP would decrease gradually with respect to the following variables.

- When proportion of bill values to total consumption expenditures increases over time.
- When the value of debts per household becomes larger for Water Authority, DWTP would decrease.

From the customer side, abstention from paying water bills would lead to accumulation of debts. Therefore, when the law is not enforced, Water Authority usually lacks the power to force households to pay their bills. The only measures used by Water Authority were to impose fines on household debts.

The coefficient determination implies that 89% of variations in the DWTP are attributed to changes in personal and economic variables in the right hand side of the model. The empirical results of the estimated model of the DATP are similar to those discussed with DWTP. With respect to personal and demographic variables, the coefficient estimates signify that households aged above 45 were more highly significant than those with respect DATP compared to those variables with respect to DWTP. In addition, DATP was highly sensitive and significant with respect to economic variables, particularly, income classes above 3000 NIS and number of workers in the family. However, DATP would decrease if the level of debts to Water Authority increases.

Coordination and cooperation between water authorities and other public utility providers would enable households to pay these bills. It implies that DATP would increase. For example, when households receive a number of bills at the same time, DATP would decrease. Therefore, receiving the electricity or water bills month by month would enable the household to pay the bill on time.

The absence of law enforcement remains one of the major factors behind the decline in DATP. Therefore, enforcement of law has a positive impact on DATP and leads to an improvement of collection efficiency. In this regard, one could conclude that the gap between DWTAP and DATP would be bridged through approval of a set of legislations and eventually transfer them into law enforcement.

The existence of a law with other measures could increase the degree of DWTP and DATP. Households would pay bills when they are granted exemptions and

discounts along with a waiver on debts interest rates.
Based on the empirical results in Table 4, households with high degree of ability to pay were highly greater than those with a high degree of willingness to pay; therefore, several measures should be applied to improve collection efficiency of DWP and DATP jointly since households recognize that they consume a high quality service.

(ii) The estimated model of the willingness and ability to pay electricity bills

Table 5 indicates that DATP were more highly sensitive than DWTP to personal, economic and legal factors. These results could be attributed to the fact that electricity companies and authorities can apply several measures and practices toward household users. Households, aged above 20 have DATP greater than DWTP. These results indicate that households aged between 20 and 60 years olod are more likely able to pay bills than households who are above 60 and less than 20. In addition, households with income ranging from 3,000 to 5,000 NIS, living in their own houses and do consider prices, are more able to pay electricity bills.

Similar to those results discussed about DATP and DWTP for water, the increases in the proportion of bills value to total consumption expenditures would increase household debts to Electricity Company. Therefore, increasing debts has a negative impact on the DATP. On the other hand, household debts above 2,000 and increase in proportion of bill value to total consumption expenditures, receiving more than one bill at the same time and absence of law enforcement have a negative impact on the ability to pay electricity bills. Consequently, it was not surprising to find out that only 37% of household respondents have high degree of WTP and ATP to pay electricity bills. However, around 18% of the respondents showed a very low degree of WTP. 41% expressed inability to pay and unwillingness to pay electricity bills.

The empirical results signify that DWTP and DATP are highly sensitive to law enforcement. Over the past three years, law enforcement in the WB has been enhanced. Payment in advance is a new mechanism that has been applied by electricity companies. When the customers' debts increase over time, the electricity company would cease the services and then he/she must pay in advance before consumption. This measure has pushed many household users to pay electricity bills on time. However, this case is not applicable on water services. According to domestic laws and regulations no one can prevent households from receiving water services.

The regression results presented in Table (5) show that the academic

qualifications (Bachelor Degree), households owning houses, households receiving incomes above NIS 2,000, price satisfaction, households aged above 45, bills received on time, households with debts less than NIS 1,000 and granted exemptions, appeared to be the most significant factors behind enhancement of the DWTP. These results imply that households are concerned about economic variables. In contrast, family size, income with less than NIS 1,000, increase in debts values, absence of law enforcement and receiving more than one bill at the same time are the main factors that would have negative impacts on the DWTP. However, adjustment of those variables would be very helpful to increase DWTP. It is obvious that few factors have impacted the attitudes of the households toward the DWTP. In this regard, the degree of DWTP requires an enhancement of other factors that could promote awareness among households.

Tab. 4 - Estimated Model Based on the Degree of Willingness and Ability to Pay for Water Bills

Independent variables	DWTP		DATP	
	Coefficient estimates	Standard error of estimates	Coefficient estimates	Standard error of estimates
Constant	0.543	0.86	0.343	0.55
DWTP5	4.412	1.69*		
DWTP4	2.397	0.85**		
DWTP3	1.195	0.34*		
DWTP2	0.98	0.26*		
DWTP1	0.69	0.16*		
DATP5			4.56	0.15*
DATP4			2.451	0.061*
DATP3			1.299	0.084*
DATP2			0.66	0.096
DATP1			0.45	0.16*
DATP/ DWTP	DATP/0.35	0.12*	DWTP/0.65	0.26*
Personal variables				
- Sex (Male)	0.75	0.26*	0.85	0.33*
- Age				
20-30	-0.15	-0.17	-0.25	-0.35
31-44	0.39	0.17**	0.49	0.22**
45-60	0.2	0.008*	0.3	0.006*
60 and above	0.1	0.002*	0.15	0.02*
- Marital Status (Married)	0.5	0.0113*	0.65	.0006*
- Family Size	0.35	0.11*	0.55	0.022*
- Housing Style (Owner)	0.6	0.06*	0.7	0.336*
- Residence				
City	0.7	0.4**	0.8	0.22*
Village	0.39	0.33	0.49	0.33**
- Education				
Less than high	-0.13	-0.1	-0.23	-0.55
Bachelor Degree	0.45	0.15**	0.35	0.03*
- Income				
Less than 2,000 NIS	-0.09	-0.005*	-0.19	-0.02*
2,000-3,000	0.65	0.335**	0.55	0.22**
3,000-5,000	0.55	0.005*	0.45	0.033
5,000 and above	0.2	0.001*	0.3	0.009*
- Family provider (father)	0.22	0.005*	0.42	0.05*
- Mother (worker)	0.27	0.02*	0.17	0.06**
- N. of electrical appliances	0.55	0.3**	0.75	0.33*
- Debt to Water Authority (500-1,000) NIS	0.1	0.006*	0.2	0.065*

Tab. 4 - continue

Independent variables	DWTP		DATP	
	Coefficient estimates	Standard error of estimates	Coefficient estimates	Standard error of estimates
1,000-2,000	0.23	0.020**	0.43	
2,000-5,000	-0.19	0.003*	-0.29	-0.055*
More than 5,000	-0.12	-0.0042*	-0.25	0.0321*
- Quality Satisfaction	0.05	0.03	0.1	0.003*
- Price Satisfaction	0.09	0.004**	0.09	0.004*
- Service Continuity	0.11	0.045	0.16	0.0365*
Economic variables - Proportion of bill value to consumption expenditures				
- Bills received on time	-0.15	-0.005*	-0.15	-0.009*
- Granted exemptions	0.21	0.005*	0.28	0.12**
- Increase of debts values	-0.13	-0.06**	-0.17	-0.05*
- Encouragement to pay	0.15	1.006	0.13	0.069**
- Received > 1 bill at the same time of other services (Electricity and Telephone)	-0.6	0.004*	-0.8	-0.006*
- Absence of law	-0.7	0.005*	-0.5	0.002*
- Imposing investor debtor Authorities and Companies request customers to pay back debts	-0.2	-0.005*	-0.3	-0.0045*
R^2=	0.0.91		0.85	
F=	30.3		45.5	
Df =	454		454	

Tab. 5 - Ordinal Probit Model Based on the Degree of Willingness and Ability to Pay for Electricity Bills

Independent variables	DWTP		DATP	
	Coefficient estimates	Standard error of estimates	Coefficient estimates	Standard error of estimates
Constant	0.65	0.85	0.59	0.1.5
DWTP5	2.96	0.74		
DWTP4	1.19	0.23		
DWTP3	1.62	0.27		
DWTP2	3.18	1.06		
DWTP1	2.2	0.44		
DATP5			3.55	0.88
DATP4			2.36	0.59
DATP3			1.84	0.23
DATP2			2.06	0.34
DATP1			1.5	0.3
DATP/ DWTP	DATP=0.36	0.15	DWTP=0.55	0.22
Personal variables	0.46	0.18	0.66	035
- Sex (Male)				
- Age				
20-30	-0.1	-0.05	-0.15	0.0225
31-44	0.3	0.1	0.35	0.095
45-60	0.25	0.105	0.4	0.162
60 and above	0.20	0.05	0.3	0.06
- Marital Status (Married)	0.37	0.21	0.47	0.33
- Family Size	-0.21	-0.11	-0.31	-0.15
- Housing Style (Owner)	0.6	0.33	0.7	0.54
- Residence				
City	0.105	0.05	0.116	0.007
Village	0.09	0.06	0.14	0.09
- Education				
Less than high	0.1	0.2	0.14	0.19
Bachelor Degree	0.2	0.012	0.25	0.036
- Income				
Less than 2,000 NIS	-0.66	0.22	-0.56	-0.35
2,000-3,000	0.33	0.18	0.77	0.64
3,000-5,000	0.66	0.135	0.52	0.235
5,000 and above	0.33	0.16	0.25	0.17
- Family provider (father)	0.27	0.14	0.37	0.19
- Mother (worker)	0.05	0.007	0.08	0.005
- N. of electrical appliances	0.3	0.23	0.32	0.123
- Debt to Water Authority (500-1,000) NIS	0.08	0.009	0.16	0.1

Tab. 5 - continue

Independent variables	DWTP		DATP	
	Coefficient estimates	Standard error of estimates	Coefficient estimates	Standard error of estimates
1,000-2,000	0.33	0.18	0.39	0.156
2,000-5,000	-0.43	0.13	-0.45	-0.16
More than 5,000	-0.5	-0.03	-0.6	-0.04
- Quality Satisfaction	0.05	0.02	0.1	0.027
- Price Satisfaction	0.25	0.032	0.41	0.232
- Service Continuity	0.1	0.003	0.16	0.006
Economic variables				
- Proportion of bill value to consumption expenditures	-0.36	-0.171	-0.56	-0.175
- Bills received on time	-0.19	-0.08	-0.27	-0.864
- Granted exemptions	0.31	0.07	0.43	0.16
- Increase of debts values	-0.12	0.18	-0.4	-0.65
- Encouragement to pay	0.11	0.06	0.13	0.07
- Received > 1 bill at the same time of other services (Electricity and Telephone)	-0.18	-0.015	-0.31	-0.13
- Absence of law	-0.8	-0.25	-0.95	-0.45
- Imposing investor debtor Authorities and Companies request customers to pay back debts	-0.15	-0.098	-0.28	-0.09
R^2=	0.85		0.90	
F=	113.0		144.0	
Df =	455		455	

7. Policy implications and conclusions

This paper has highlighted the major determinants behind the DWTP and DATP bills for water and electricity consumption. The empirical results of the estimated model indicate a set of personal, economic, social and legislative variables as the major determinants behind households' behavior toward payments of bills. Advance payment for water and electricity is an inefficient and insufficient mechanism to improve collection efficiency. Instead, areas of cooperation, between providers of water and electricity on one hand and customers on the other hand, should be enhanced to improve the DWTP and DATP jointly. Furthermore, certain types of support packages should be carried out by providers of water and electricity services to widen the scope of efficiency in running public utilities in the WB. Therefore, they should count on economic factors such as incomes, prices and tariffs to enable customers to pay their bills.

In order to make use of enhancing DWTP and DATP and pushing them to be associated positively, a number of measures must be taken by the water and electricity authorities and companies. Empirical results indicated that coefficient estimates of personal factors showed differences between customers' attitudes that should be taken into account in collecting water bills from those of electricity. Therefore, several areas of cooperation between provider side and demand side should be applied by both in order to improve collection efficiency of bills.

The study concluded that enhancement of DWTP and DATP could be achieved through different mechanisms and behavioral directions. In this study, only 23% and 18% of the households showed that they have high DWTP and DATP to pay bills for water and electricity consumption, respectively. The next in importance were 31% and 37% of the respondents who have high DATP but UWTP to pay bills for water and electricity consumption.

It is expected that applying the following measures would lead to an increase of payments and settlement for water and electricity bills. Therefore, based on empirical results, water authorities and electricity companies should work with their customers on the following levels:

1. Enhancing the DWTP through applying several measures to make water and electricity services more attractive to households. At the same time, the DATP would increase not only as a result of increase in income but also with the introduction of a set of arrangements to ease payment of bills for water and electricity consumption.
2. It is obvious that collection efficiency would improve and

consequently the gap would be narrowed down between revenues and expenditures of water authorities and electricity companies. This could be achieved through investigation of the positive factors that could mobilize households' willingness and ability to pay bills.

3. Water Authorities and Electricity Companies should discuss their plans with household and private sectors and the government to promote their willingness and ability to pay bills for water and electricity consumption. In fact, each sector is interested in a certain type of mechanism to be carried out directly or indirectly, totally or partially to convince customers of those parties, in particular the household sector, to settle their debts. Patterns of payment by households could be applied to promote their willingness and /or ability to pay should be implemented.
4. The empirical results indicate that cooperation between the government and water and electricity authorities and companies should focus mainly on advancement of main legislations and law enforcement. Therefore, they should work jointly to develop laws that aim to regulate and protect their rights particularly with households who have high DATP and low DWTP. Around 31% and 37% of the households have high DATP and low DWTP to pay bills for water and electricity consumption, respectively. Unfortunately, households which lack high DATP, but acquire a high DWTP for water and electricity were 15% and 4%, respectively. For the case of high DATP and low DWTP, law enforcement is required to push customers to pay bills for consumption of water and electricity. Also, a package of incentives and subsidies should be set-up to deal with the segment of households who lack ATP, but own a high DWTP.
5. On the other hand, establishment of support programs that have the potential subsidies to households with low DWTP and low DATP to isolate interaction between them. This segment of households should be persuaded to pay bills once their ATP is improved. Consequently, DDWTP would increase. It is concluded that the increase in unemployment rates among households and those receiving low incomes are is the main reason behind the increase in this segment of customers. These segments of customers are waiting to receive a package of assistance through price support and a rescheduling of their debts resulting from water and electricity consumption.

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Appendix A

This research aims to evaluate the current water and electricity practices by households in the West Bank. Most of the questions focus on whether the head of the household and /or spouse is able and willing to pay bills of water and electricity after one month from consumption. Answers will only be used for the purposes of this study .They will be kept very confidential.

I. First Part: Personal Data

Please put an X mark in the provided box for the answer that you see is suitable for the following questions:

1-**Sex**: Male ☐ Female ☐

2-**Age**: 1- From 17 to 30 ☐ 2- From 31 to 44 ☐ 3- From 44 to 58 ☐

4- More than 58 ☐

3- **Marital status:**

1- Single ☐ 2- Divorced ☐ 3- Widowed ☐ 4- Separated ☐

5- Married ☐

4- **Family size**:

1- Two ☐ 2- Three ☐ 3- Four ☐ 4- Five ☐

5- More than five ☐

5- **Housing Style:**

1- Owned ☐ 2- Rented ☐

6- **Place of residency**: 1- City ☐ 2- Countryside ☐ 3. Camp ☐

7-**Name of your Governorate** : _

8- **Educational qualifications of the head of family**:

1- Illiterate ☐ 2- Primary ☐ 3- Lower secondary ☐ 4- Secondary ☐

5- Institute ☐ 6- University ☐

9- **Breadwinner of the family**: 1- Father ☐ 2- Mother ☐

10- **The sector in which the breadwinner works**:

1- Private ☐ 2- Public ☐ 3- Has own work ☐ 4- Non-governmental ☐

5- Jobless ☐ 6- House keeper ☐

11- **Income of head of family**:

1-Less than 1,000 NIS ☐ 2- Between 1,001 and 2,000 NIS ☐
3- Between 2,001 and 3,000 NIS ☐ 4- Between 3,001 and 5,000 NIS ☐
5- More than 5,000 NIS ☐

12- **Career of wife (if the father is the head of family):**

1- The wife works ☐ 2- She is a housewife ☐
If the wife works, she works at:
1- Private sector ☐ 2- Public sector ☐ 3-Has own work ☐
4- NGO ☐

13-**Number of workers in the family, including parents**:

1- None ☐ 2- One ☐ 3- Two ☐ 4- More than two ☐

II-Second Part: Socio-Economic Data

1- Does the family has?

	NO	YES	Single meter	Multi- meter	The number
Water meter	☐	☐	☐	☐	☐
Electricity meter	☐	☐	☐	☐	☐

2- Source of receiving electricity:

i-Jerusalem District Electricity Company ☐ ii- Israel ☐ iii-private meter ☐

3- The source of getting water:

i-Municipality ☐ ii-Water Authority ☐ iii-Other ☐

4- Electrical appliances owned by the family (please tick X in the appropriate box):

Appliances	No	Yes	Number
Television			
Computer			
Electrical iron			
Washing machine			
Dishwasher			
Water Heater (electric)			
Electric oven			
Electric fan			
Microwave			
Blender			
Air condition			
Fridge			

5- If you are subscribed one of the following services please tick X in the appropriate box

-Do you have debts to?

	Subscriber	Less than 100 NIS	Between 100 to 500 NIS	Between 500 to 1,000 NIS	Between 1,000 & 2,000 NIS	Between 2,000 & 5,000 NIS	More than 5,000 NIS
1	Water						
2	Electricity						

Third Part: Economic and Financial Decisions

This section identifies the participant's point of view about the decision of spending on public services (Research topic)

1- Select the appropriate answer for each of the following questions (The degree of satisfaction)

	Satisfied with quality	Satisfied with the price of the service	Satisfied with continuity of the service
Water	excellent ☐	excellent ☐	excellent ☐
	very good ☐	very good ☐	very good ☐
	good ☐	good ☐	good ☐
	acceptable ☐	acceptable ☐	acceptable ☐
Electricity	excellent ☐	excellent ☐	excellent ☐
	very good ☐	very good ☐	very good ☐
	good ☐	good ☐	good ☐
	acceptable ☐	acceptable ☐	acceptable ☐

2- Select the appropriate answer for each of the following questions (The degree of approval of each of the five proposed reasons)

If you pay an invoice for one of the following services (water or electricity) or do not pay, it is because of:

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
You pay the value of the monthly invoice because it is affordable					
You pay the value of the invoice (every two months)because it is affordable					
You pay the invoice regardless of its value constantly					
You pay the invoice when you have the required sum					

3-There are many accumulated debts on the customers of water and electricity services, from your point of view, what is the actual reason for these non-payment debts. Is it?

Service	The reason of non -payment	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
water	1-The value of invoice is higher than my income					
	2-The invoices are not received on time					
	3-Expect to receive exemptions					
	4-There are a lot of accumulated debts					
	5-Others encourage non-payment					
	6-Unwillingness to pay					
	7-Several invoices received at the same time					
	8-Absence of Law					
	9-The company does not claim payment					
	10-Impose delay fines on past debts					
Electricity	1-Value of invoice is higher than income					
	2-Invoices are not received on time					
	3-Expect to receive exemptions					
	4-There are a lot of accumulated debts					
	5-Others encourage non –payment					
	6-Unwillingness to pay					
	7-Several invoices received at the same time					
	8-Absence of law					
	9-Company does not claim payment					
	10-Impose delay fines on past debts					

Forth part:

Way of payment of debts for water and electricity (Please determine the degree of approval to each of them).

1- The way that you suggest to be adopted by the Electricity Company and Water Authority and expect it will give better results in paying water and electricity invoices.

	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
Water					
Discount on imposed interests on debts					
Discount on debts					
Debt rescheduling (Installment only)					
Debt rescheduling and discount interests					
Reduced pricing					
Electricity					
Discount on imposed interests on debts					
Discount on debt					
Debt rescheduling (Installment only)					
Debt rescheduling and discount interests					
Reduce pricing					

Dear participant, what are the appropriate ways for paying invoices regularly?

Initiation of the next months, to avoid cutting off electricity or water and legal liability, what are the ways and methods that you see for paying invoices without delay?

Proposed mechanism	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Budget allocation of monthly invoices (Distribution of spending)					
Urge others to pay the invoices (Awareness)					
Design a system for volume of consumption (when the consumption increases the price will increase)					
Activation of collection of follow-up by suppliers					
Start to pay debts by installments					

2- Please determine the degree of acceptance to each of the proposed ways that could lead to a facilitation of payments of Debts.

Do you think this is achieved by?

The way	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Reduce the use of unnecessary hardware					
Use of lighting when needed					
Create behavior in family members about savings					
Reduce spending on other goods and services					

Beyond traditional measures of productivity. The challenge of defining, conceptualizing and measuring sustainable productivity

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Abstract

This paper outlines the meaning and role of productivity, in terms of its definition and conceptualization, presents some debated points on the various components of productivity (labour, capital and total factor productivity) and underlines the importance of contextual conditions (political context, institutions, geography and market integration).
To go beyond the narrow GDP measurement should mean to rethink productivity as a measure of the developmental process of production. Development is conceived as a combination of quantitative and qualitative dimensions of the nested concept of sustainable development: economic growth, social development, environmental sustainability, conducive to political transformation. Al that implies a critique extended to economic productivity as the very and narrow principle and process of translating inputs into outputs and results.
Some key questions are specifically presented and discussed with reference to agriculture and, adding usual caveat, general concluding remarks can be deducted from the HDI, DEA and MuSIASEM measures as possible sources of inspiration on sustainable productivity.

keywords: Productivity; Sustainability; Accounting; Measurement; Development; Agriculture; GDP.

1. Introduction

Far more than at any previous point in the last decades, the search for a new, different and better measure of progress, development and quality of life seems to be at the top of the international political agenda. Academic, international civil society organizations, business and political communities share a common interest in measuring progress beyond GDP.
But "Our words are never neutral", to cite the title of a paper written by Sana Nawaz and her colleagues (Nawaz et al., 2013). To cut a long literature review very short, one of the most influential scholars of the Critical Discourse Analysis (CDA), Teun Adrianus van Dijk, recommends helpful precautions in using keywords, as political ideologies are largely reproduced by discourse and words

(van Dijk, 2006). Therefore, we should be very careful in using and confounding progress, development and quality of life: not only according to the Pasolinian specific vocabulary there is a clear distinction between (the Marxian term of) "progress" and (the bourgeois term of modernization called) "development" (Pasolini, 1999), but the so called post-development critique is a loose term describing an heterogeneous and wide-spread corpus of theories that existed prior to current epigones, influenced by Ivan Illich and post-colonial literature (Ziai, 2011).

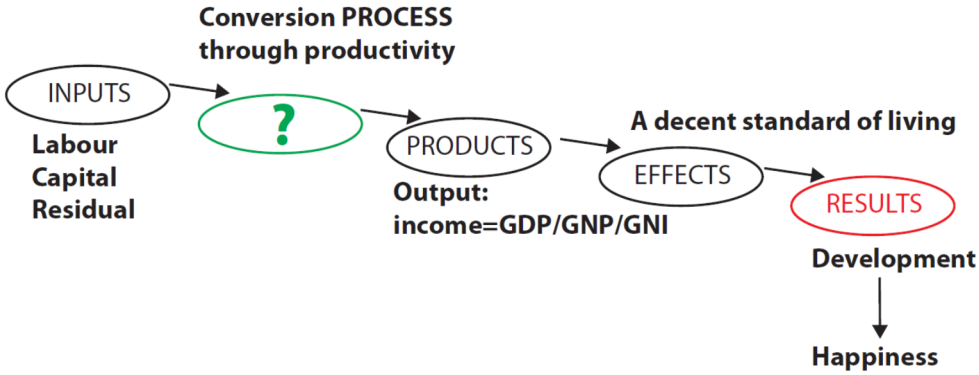
However, even if the importance of rethinking synthetic indicators and batteries of disaggregated indicators on economic growth, development and performance measurement was underlined in the past, as on the eve of the 1995 World Summit for Social Development (UNESCO, 1995), it is undoubtedly true that criticism of the GDP (and, by extension, GNP, GNI and disposable GNI) measure has multiplied over the past ten years. Again, there is abundant theoretical and empirical literature exploring this issue, so that we can simply refer the readers to an article written by Enrico Giovannini - who did relevant work during his term as OECD Chief Statistician - for further information (Giovannini, 2013).

We now have a broad consensus on going beyond GDP. At international level, the new 2030 – so called universality and transformative – United Nations Agenda for Sustainable Development Goals (SDGs) was agreed on September 2015. On March 2016, the United Nations Statistical Commission's Interagency and Expert Group on SDG Indicators (IAEG-SDGs) agreed on some preliminary 230 individual indicators to monitor the 17 goals and 169 targets of the SDGs (UNECOSOC, 2016).

Around half of the 230 indicators lack acceptable country coverage, agreed-upon methodologies, or both. In any case, such a wide SDG agenda to "Leave No One Behind" includes targets relating to broader systems of capital accounting, looking beyond GDP and incorporating social, human, and environmental capital in viewing poverty and development.

In the light of this debate, we start from the premise that the expected output of the developmental process of production is more than just GDP. The conventional causal chain of mainstream economic theory (mainly, the marginalist theory of value and neo-classical economics, still prevailing at level of micro-economics) is built on very strong assumptions: over time, production or output of final goods and services leads to a virtuous cycle of employment, capital accumulation and economic growth and, by virtue of a trickle-down effect percolating through the social fabric, the engine of growth is automatically transformed into the improvement of living conditions for the whole population, and this is conceived as the best practical means to promote the favorable conditions to approach the ultimate end of individual and collective happiness.

Fig. 1 - The conventional causal diagram expected to promote development through GDP



There is no escape from two critical points - related to the topic of this paper - in the belief behind such a conventional causal chain. First, the causal relationships depicted in the graph of Fig. 1 considers that the variable of primary interest is the output (=Y) and that the causal effect to be estimated is the effect of resources or inputs on Y through the conversion process represented by the "miracle" linked to higher productivity. Even in such a narrow and linear mechanism, productivity is a rather elusive concept. Better than anything else, we can cite two famous quotes: "... the marginal productivity theory of distribution is all bosh" (Robinson, 1961) and that the (large) residual usually called Multi-Factor Productivity (MFP) or Total-Factor Productivity (TFP) is at best "a measure of our ignorance" (Abramowitz, 1956).
In practice, after many decades of empirical work economists are still none the wiser as to what causes growth (Easterly 2002). Recent empirical studies, conducted through cross-country regression models, have investigated no fewer than 145 variables and most were found to matter (Durlauf, Johnson, Temple, 2005). Xavier Sala-i-Martin found that at least 62 different variables have been included in the production function to explain growth, in addition to the growth of capital and labor (Sala-i-Martin, 1997). William Easterly and Ross Levine pointed out that TFP refers to the something else besides physical factor accumulation, so that it does not provide a clear guidance (Easterly and Levine, 2001).
Second critical point on the conventional causal chain, in wider terms change always has its own environmental, social, political, cultural and historic dimensions which go beyond the narrow GDP measurement that incorporates the monetary value of final goods and service – that is, those that are bought in the market by the final user –, without including, for example, unpaid work (such as that performed in the home or by volunteers). Therefore, if the Beyond-GDP approach holds true, then we have to move from the idea of productivity as the key engine to more (and - only implicitly - better) output and lower prices as a boon to consumers (as cost per unit decreases and elastic demand leads to an increase in employment) to productivity as a measure of the developmental (in

terms of a combination of quantitative and qualitative dimensions of the nested - rather than additive - concept of sustainable development: economic growth, social development, environmental sustainability, conducive to political transformation) process of production as a boon to empower all the citizens, without exception (in particular the disadvantaged and vulnerable ones).
This implies a critique extended to productivity as the very principle that induces the ongoing commodification of nature and social relations (Rist, 2011).
GDP is just the result of the mode of production. The key technical mechanism of such a mode of production is productivity. If the idea of sustainable development is not just lip service, then a new paradigm for development is needed. Managing the interlinkages among rural and urban areas, natural resource conservation and the environment must be an integral part of a transformative agenda. According to economist Alain de Janvry (A. de Janvry, 2010), until now land expansion has been the main source of growth in cereal production in Africa, contrary to other developing regions where rising yields have been the main source. Land expansion is not a long-term sustainable strategy, and land scarcity is already on the rise. And the cost in terms of contamination of soil and water due to the (ab)use of chemical fertilizers and pesticides is just a negative externality, which is not taken into account in the productivity calculation.
This is the main idea of the paper. If we recognize that economic growth is instrumental in character and welcomed only if social, environmental and economic objectives are harmonized and made favorable for the most vulnerable groups in order to become politically transformative and environmentally sustainable, then it is difficult to continue arguing the relevance of productivity per se as a measure of economic efficiency. Rather, productivity has to be conceived as the measure of the critical transformative and comprehensive process of inputs in a given context into progress in the political, social, economic and eco-system spheres, combining individual and collective well-being and regarded as the very objective of development reconciled with progress.
The implications of this for re-conceptualizing and measuring sustainable productivity in terms of developmental relevance, impact, effectiveness and sustainability rather than efficiency will be great, and oriented to be translated into operative terms both at macro level (to revise national accounts) and micro level (to identify and evaluate small scale initiatives) of indicators. These implications require a note of caution: although micro- and macro-levels are interrelated, the fallacy of composition - what is true for micro-level is automatically true for macro-level - is a common pitfall to be avoided and the micro and macro analysis must proceed in parallel; this holds particularly true in the case of production function (Felipe, McCombie, 2013).
All this is a very sensitive topic, politically speaking. The interactions between long-term processes of transformations and short-term changes both at national and international levels bring to the surface persisting structural difficulties and,

at the same time, new opportunities to be seized. National development and international policies are grappling with a highly vexing conundrum: an urgent focus on short-term crisis responses tends to be detached from the medium/long-term socioeconomic dimensions of development. This despite the fact that it is essential to define emergency policy solutions with long-term prospects, looking towards sustainable development. Otherwise, any solution we may find is doomed to fail.

We are all living through a crisis period following the 2015 Paris Agreement on climate change and the agreement on the SDGs. From one side, the planetary future is at risk, at different scales, from localized deforestation to air pollution from cars, hits the planetary ceiling (WWF, 2016).

From another side, in 2015, the number of unemployed people reached almost 200 million (at the same time, 244 million people, or 3.3 per cent of the world's population of 7.4 billion people, lived outside their country of origin). Based on the most recent growth projections, global unemployment is expected to rise by nearly 2.3 million in 2016 and by a further 1.1 million in 2017. Vulnerable employment – the share of own-account work and contributing family employment, categories of work typically subject to high levels of precariousness – accounts for 1.5 billion people, or over 46 per cent of total employment. In both Southern Asia and sub-Saharan Africa, over 70 per cent of workers are in vulnerable employment. And there are also significant gender gaps in job quality: women face a 25 to 35 per cent higher risk of being in vulnerable employment than men in certain countries in Northern Africa, sub-Saharan Africa and the Arab States. In 2015, an estimated 327 million employed people were living in extreme poverty (those living on less than US$1.90 a day in PPP terms) and 967 million in moderate or near poverty (between US$1.90 and US$5 a day in PPP terms) (ILO, 2016).

In 2015, the number of working-age individuals who did not participate in the labor market increased by some 26 million to reach over 2 billion. Falls in the working-age population and labor force participation rates as well as rising inequality, vulnerable employment and poor job quality do not appear to be cyclically induced. In China itself, unemployment remains relatively steady but it reflects state-sector dominance and prevalence of low-end, "low-productivity" activities, with a considerable hidden unemployment in China's state sector and many informal jobs characterized by high turnover. If government will continue to be under great pressure to pursue state-sector restructuring, unemployment will rise.

In the last five years, sustained and rapid economic growth in many African economies has generated a debate led by the IMF on the persistence of a so-called 'African growth miracle'. But if we look at the World Bank dataset on per capita income level and compare 1990 and 2014, there was no miracle. Twenty-five countries languished and still languishes in poverty (that is, they were and still are low income economies); one country (Zimbabwe) has fallen into

poverty; seven countries have been lifted from poverty but still live around the poverty line; three Western African countries are now above the poverty line; eight countries have been lifted out of poverty and are now in the upper-middle income brackets; eight countries have always been middle-income countries; and there is just one country that moved from the middle-income to the high-income group (Seychelles). If we look at the twelve countries with an average growth rate above 3% in the 2011-14 period, the underlying structure is not new. Valuable natural resources – oil, minerals and commodities – provide the bulk of wealth, without distribution and employment. Informal economy and under-employment still prevail. Between- and within- countries inequality are dealing with these problems all the time.

The key political challenge that world policy must face up to is that short-term emergencies and long-term issues are not aligned and they may look like alternative options. It should be obvious that 'business-as-usual' is not the recommended option for policies.

If decent employment for all is considered a key goal (is it really feasible and sustainable in the long run? What about the 'gig economy' on a global scale?) and biodiversity conservation another unquestionable goal, we should recognize that increased value of labor productivity may be translated into fewer hours worked (more unemployment to get the same output value) and not necessarily into increased wages for workers. And the same thing happens to an increase of cultivated land: each worker produces more outputs as each one has more land to cultivate and the value of the marginal product of labor rises at any given level of employment. Here we should also consider the issue of environmental degradation and resource depletion as a concrete trade-off between more quantity of output and worse quality of environment.

But a dethronement of productivity in the name of conceptualizing (and, much more difficult, measuring) a new sustainable productivity destroys the overarching paradigm for mainstream growth at global level. This means rethinking economies so as to reflect new societies and territories, as well as the challenges and opportunities represented by new technologies and automation. It is also a way to reconsider the trade-off between labor, capital and natural resources, to determine whether and how economic growth is embedded into development, without the simple shortcut of de-growth. However, when you think about it, if there is no war at home, it is much easier for development policies to be led by emergencies, and to looking at short-term reactions and at ways to and think how to reduce migration flows as a goal in itself (like in Europe right now).

The paper is organized as follows. Section 2 outlines the meaning and role of productivity, in terms of its definition and conceptualization. Section 3 presents some debated points on the various components of productivity and Section 4 underlines the importance of contextual conditions. Section 5 details some stylized facts and key questions applied to agriculture, as a practical example.

Section 6 offers a brief description and discusses sustainable productivity in terms of measurement. Some conclusions are drawn in Section 7.

2. Productivity: definition and conceptualization

During the last decades, the micro-foundation approach to economic theory and modeling has become dominant. A tendency toward the reconciliation of opposites seemed to prevail as a consequence of a net dominance of the associated concepts and assumptions of rational agents, uncertainty, the removal of "Walrasian auctioneer" that instantaneously finds the wages (and prices) that clear all markets, contestable markets (rather than pure or perfect competition), market failure (transaction cost, information asymmetry, externalities, public goods), policy ineffectiveness. Notwithstanding this dominance, it can be argued that two alternative approaches to economic growth and productivity have continued to fight in conceptual terms as alternative ways to think about the market relationships (exchange values or prices) between commodities produced for sale.
The mainstream marginalist or neoclassical theory (Mankiw, 2012) argues that a country's standard of living depends on its ability to produce goods and services and productivity refers to the quantity of goods and services produced for each unit of a given input, called factor of production or resource.
In the classical political economy - in the late eighteenth and early nineteenth - the factors of production were labor, capital and land, corresponding to the labourers (wage-earners), the capitalists and entrepreneurs who own the stock or capital (profits-earners) and the land owners (rent-earners). Today the neoclassical inputs are the following:

i. labor,
ii. capital, divided into physical capital (or simply capital, consisting of manufactured resources such as equipment, buildings, and machines), human capital (education and knowledge embodied in the workforce), and natural capital,
iii. technological knowledge.

Following this conceptualization, a nation's standard of living is determined by the productivity of its inputs, because the factors of production directly determine productivity: output per worker (Y/L), which is the typical measure of productivity (i.e., the quantity of goods and services that a worker can produce from each hour of work), depending on physical capital per worker (K/L), human capital per worker (H/L), natural resources per worker (N/L), and the state of technology (A).

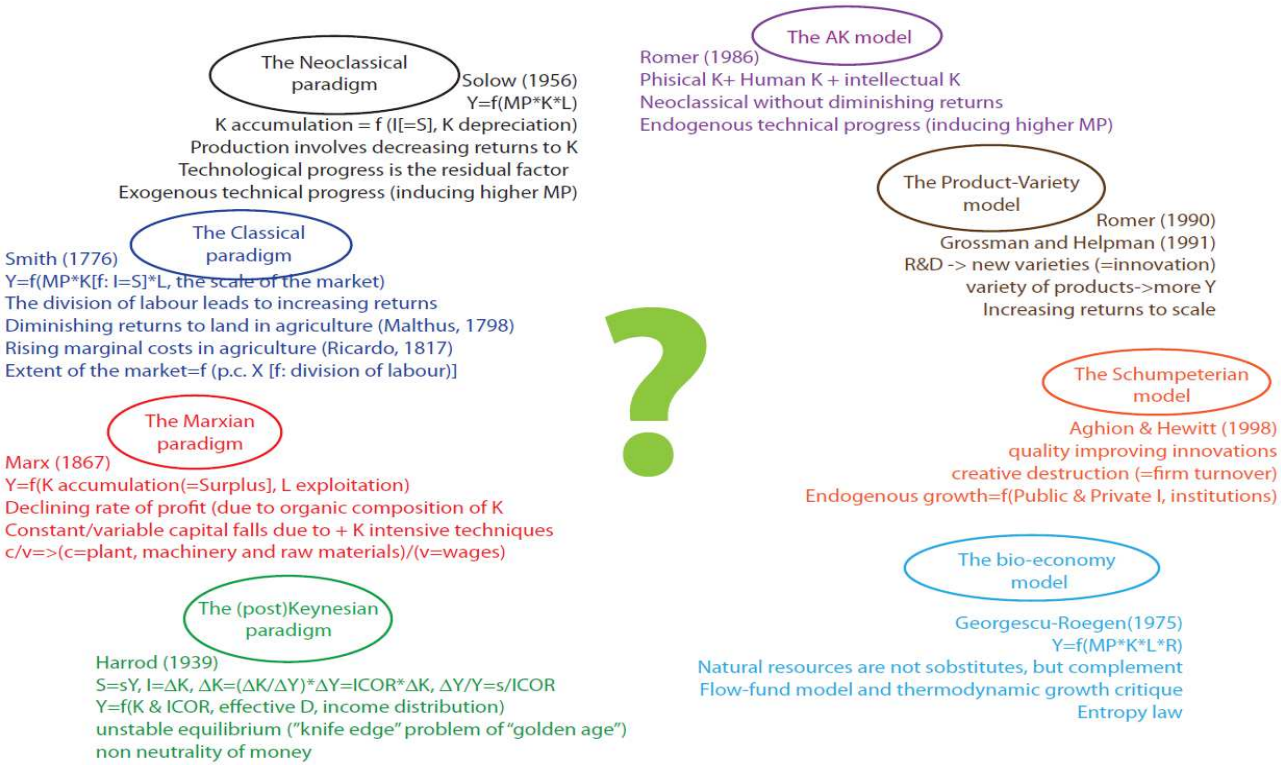
It is a set of crucial assumptions that forms the foundation of the marginalist theory:

1) production is considered as a purely technical process within which factors of production are employed in certain technically determined proportions to produce goods;
2) the factor of production prices correspond to marginal productivities (productivity at the margin), and marginal productivity is a diminishing function of factor supply: the law of diminishing returns (diminishing marginal returns or increasing relative cost) states that in all productive processes, adding more of one factor of production while holding all others constant (the so called *ceteris paribus* assumption), will at some point yield lower per-unit returns;
3) the presence of a negative association, or inverse relationship, between the rate of profit and the capital labor ratio (and the capital-output ratio);
4) as a consequence, the re-allocation of factors can only reduce the total product, measured at current prices, and so the total utility (the disutility of additional effort is the other side of the principle of productivity at the margin). Thus any intervention in the pricing or allocation of factors or products that disturbs the attainment of competitive equilibrium is bound to reduce (or at least cannot increase) total utility;
5) competitive forces operate through variation in relative prices and factor substitution (considering the so called Marginal rate of technical substitution or MRTS, that is the rate at which one factor can be substituted for another while holding the level of output constant), that is, in response to variations in demand prices rise and fall, as they are flexible in both directions and an inverse relation between the quantity of factors of production employed and their relative rates of remuneration is ensured by a regular substitutability between the factors of production;
6) in equilibrium, if the price of the factors of production corresponds to their marginal productivity (with downward-sloping marginal productivity curves) and to their utility cost or marginal disutility, then market solution is considered socially satisfactory and morally and legally correct (optimal allocation), and the general price is found also to be the just, or equitable, price;
7) the sum of wages, rent and profit exhausts the total product and the theory of distribution is simply derived from the initial distribution of resources and the correlated analysis of prices, by explaining the returns to the various factors of production without any consideration of historically specific frameworks of conflictual social relations or ecosystems and social systems interactions.

It was mainly during the 1960s and 1970s that a radical critique of the marginal productivity theory of distribution acquired an important place in discussions of economic theory. Much was written by Piero Sraffa, and then by Richard Kahn, Nicholas Kaldor, Joan Robinson, Luigi Pasinetti and Pierangelo Garegnani. They developed the so called Sraffian and Post-Keynesian theory of growth and distribution, and even if they did not comprise a unified body of theory, it is also useful to mention Kaleckian, Marxian and radical views (including the bio-economy model) as alternative views to the mainstream marginalist school.
Basically, they represent a radical departure from neoclassical theory, because of the importance of changes in the social relations of production (that is, power relations) and in technology, rather than in factor substitution. In 1966, the validity of the famous Sraffian critique on capital theory and on the full Arrow-Debreu general equilibrium model was acknowledged by an important neoclassical economist - Paul Samuelson - who admitted the inconsistency of the traditional belief according to which, by virtue of the substitution principle, production techniques that are more capital intensive will become optimal as the rate of interest is lowered, and accepted the so called general case of occurrence of capital-reversing (the fact that a less productive, less capital intensive technique may be associated with a lower value of the rate of profits or interest rates) and reswitching (there is no simple monotonic relationship between the nature of the techniques of production used and the rate of profit) results.
It is interesting to note that, despite the fact that Cambridge capital controversy was conclusive on the impossibility to conceive a single capital magnitude in the required terms of independence of distribution and prices, and on the necessity to include both demand and supply and not just supply to measure economic performance, the mainstream theory has proceeded since the 1980s as if this critique never existed, rather than opening the space for the alternative conflictual and surplus-founded classical theory of distribution of the classical political economists, by contesting a direct relationship between capital intensity and real-wage rates and a theory of distribution completely absorbed in a general theory of prices (Garegnani, 2010 and Finn, 2013).
In practice, there are two opposite views, summarized by the nineteenth-century classical conflictual analyses of Ricardo and Marx from one side, and the twentieth century optimistic analyses of Simon Kuznets and Robert Solow of a “balanced growth path”, according to which output, incomes, profits, wages, capital, asset prices progress at the same pace, so that every social group would benefit from growth to the same degree (Piketty, 2014).
We must admit that this oversimplification of two alternative views ignores the more complex reality of different paradigms such as those showed in the graphical representation (Fig. 2). Nevertheless, the reader may be surprised by the fact that if the standard methods for measuring (total factor) productivity were invalidated by the above mentioned critiques, then it did not affect mainstream theoretical and empirical works on aggregate production function,

as clearly demonstrated by the endogenous growth theory, the new generation of contemporary short period or neo-Walrasian inter-temporal and temporary general equilibrium models and the fact that neoclassical economics is still dominant.

Fig. 2 - Alternative views on growth accounting



If Keynes suggested that productivity growth, in the absence of sufficient aggregate demand, may become a social problem and lead to long-term unemployment, an additional radical critique to the narrow vision on development based on productivity growth comes from a bio-economy perspective, according to which labor productivity growth has historically been supported by an increase in the proportion of material and energy inputs to labor inputs (N/L and, more specifically, the energy labor ratio E/L), leading to an increased environmental degradation (Harris, 2009).

A broader view of productivity and production should reframe them by adopting a nested concept, combining various goals, including environmental sustainability, social mobility, economic redistribution and political empowerment of the most vulnerable groups, in particular women.

To concentrate on environmental sustainability component, the fact that rising labor productivity (and per capita income) has been usually correlated to an

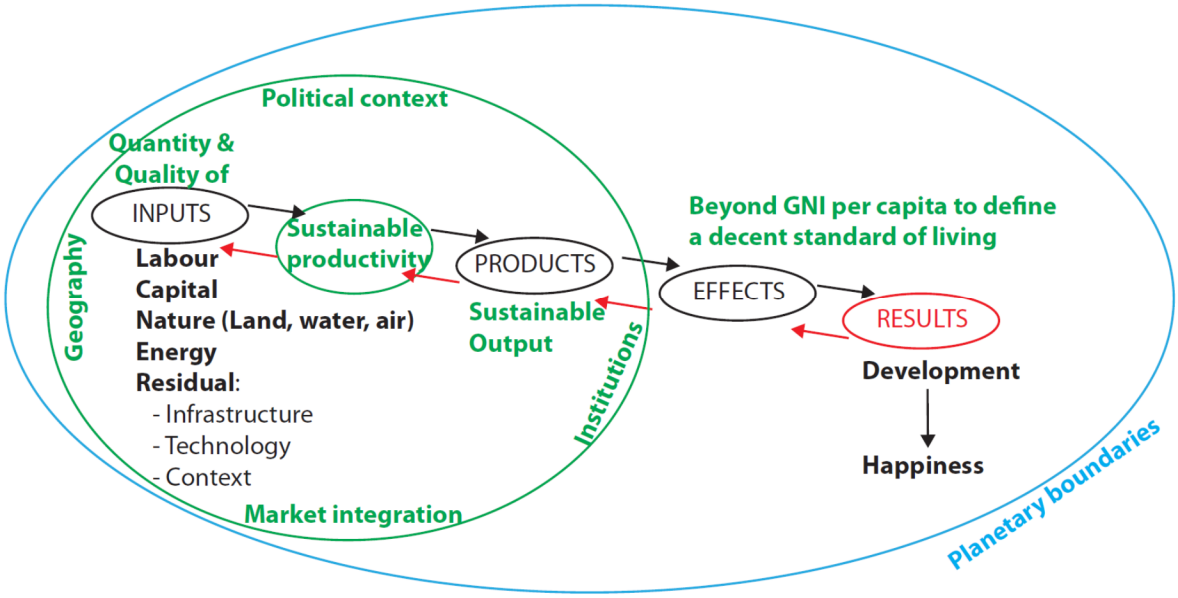
increasing use of energy (with fossil fuel and biomass being the larger fraction and the most responsible source of carbon dioxide - CO2 - emissions per unit of energy) implies that the production-environment trade off has to be investigated and structurally incorporated into analysis.
One implication may be that lower carbon dioxide emission levels - the main driver of global warming - may be due to a more efficient utilization of energy sources, but also to a shift to a massive usage of renewable hydro, solar and wind power, and to a drastic cut on per capita and per unit of economic output energy use, that is through a really transformative Green mode of production (coupled with increasing resilience and biodiversity preservation), with a lower intensity of resource use (Taylor, 2009). Adopting the so called "planetary boundaries" analysis, nine Earth-system processes must be included:

(1) climate change,
(2) rate of biodiversity loss,
(3) interference with the nitrogen and phosphorous cycles,
(4) stratospheric ozone depletion,
(5) ocean acidification,
(6) global freshwater use,
(7) change in land use,
(8) chemical pollution, and
(9) atmospheric aerosol loading (Griggs et al., 2013).

If the neoclassical idea to accept the Say's Law, which states that supply creates its own demand, is wrong and the Post-Keynesian Kaldor-Thirlwall growth model of effective aggregate demand is correct (i.e., the increase of investment is an injections of new demand for goods and services into the circular flow of income stimulating further rounds of spending - a multiplier effect - and this accelerates capital accumulation), then it is not true that from higher marginal productivity we can automatically earn more output or product (Y), which determines more sell and more export, that is a solution or vent for surplus (products are paid for with products and "general gluts or excess cannot exist").
What really occurs is quite the opposite: the so called Thirlwall's Law (1979) says that output growth depends on sell and trade (i.e. on effective demand) and Verdoorn's Law (1949) says that growth in output increases productivity due to increasing returns. This is the basic idea of the so called cumulative causation models of growth, in which demand (and structural change) rather than supply leads the pace of accumulation (Thirlwall, 2006). Therefore, a key question is: what type of demand has to be encouraged to promote long-term development and not just short-term economic growth?
A broader view of productivity and production should imply the importance of cultural values, beliefs and attitudes that motivate citizens behaviors (including when they behave like savers and consumers) to pay attention to environmental sustainability, social mobility, economic redistribution, political empowerment

and agency of the most vulnerable groups (according to which individuals and groups should decide what matters for themselves as active participants in change, rather than passive recipients of aid: D. Crocker and I. Robeyns, 2009). Governments and public policy can do many things to orient society, State, market and the agents (by introducing sanctions, incentives and rules) and to disseminate and promote a culture of sustainability and solidarity, in order to raise a sustainable productivity-led rather than just productivity-led perspective.
If the above mentioned assumptions hold true, we should move from the idea of productivity as the key engine to more output (and lower prices) to productivity as a measure of the complex and nested developmental process of production, considering the various inputs and the specific context (at least in terms of market integration, geography, political and institutional dimensions) as part of the residual. This idea has direct implications on both macro and micro levels, leading to dethronization of efficiency from the economic development throne.

Fig. 3 - The sustainable causal diagram expected to promote development through GDP



The dethronization argument presented here can remind the reader somewhat similar to the words used some twenty years ago by Paul Krugman (1994) against the rhetoric and obsession of competitiveness diffused by Michael Porter (1990) and Lester Thurow (1993), according to which to maintain or increase the standard of living a country has to learn to compete in an ever tougher world marketplace and high productivity, product quality have become essential and the high-value sectors are those that will generate jobs for the future: "The only meaningful concept of competitiveness at the national level is national productivity" and "A new theory must move beyond comparative advantage to

the competitive advantage" (Porter, 1990). Krugman reacted by saying that "competitiveness would turn out to be a funny way to saying “productivity” and would have nothing to do with international competition" (Krugman, 1994). Here, our attempt is to demystify economic productivity conceptually.
As Krugman once said, "productivity isn’t everything, but in the long run it is almost everything" (Krugman, 1990). In practice, the limitation encountered in the definition and conceptualization of productivity is coupled with measurement difficulties.
We can briefly summarize some points, considering that output growth accounting by definition is decomposed into its sources: changes of quantity as well as of productivity of labor, capital, and the residual (the TFP or MFP dynamics). And as the same holds true for many basic economic concepts, both productivity growth and productivity levels (that is, the value of output per hour worked, in case of labor productivity) are important.

3. Debatable and debated points on partial and total productivity

Product is a key concept, but it is extremely difficult to define it and agree upon. It can be a service or a good, in physical or in a virtual form, based on different production technologies. As well, productivity is a key concept, causally linked to product and difficult to measure.
Technically, there are different components, factors, resources or inputs, to be considered as determinants of final product, and their productivity is determined by the available know-how and a complex interaction of key ingredients for converting resources into outputs.
Such a multifactor productivity is commonly estimated using growth accounting. In mainstream economics, labor and capital are the key inputs, intermediate products are the outputs and the multifactor or total factor productivity is the measure to assess the residual output growth that cannot be explained by the rate of change in the key inputs.

(i) Labor productivity

At aggregate level, the first productivity component to be considered is labor productivity, which is often called productivity and equals the output per worker (Y/L). It is (or should be) measured by dividing output by the total number of hours worked in a year by all the employees. In such a way, productivity is conceived as the amount of output produced by the average work (the unit input) or the efficiency and intensity with which resources (labor in this case)

are utilized. As the output is a proxy of the effectiveness of the results achieved in terms of quantity of market value of goods and services produced in a given period, then labor productivity (Y/L) can be perceived as the arithmetic ratio between the effectiveness (Y) and the resources utilized (L), that is the level of performance or efficiency reached by using the given amount of resources.
A key concept in economic theory is the extra value of output (Y) that is generated by employing one more unit of labor (L); this concept is known as the marginal product of labor, and its value is obtained by multiplying the marginal product of labor by the price per unit of output (P). The general rule is that a profit-maximizing price-taking producer employs each factor of production up to the point at which the value of the marginal product of the last unit of the factor employed - even if we should know that there is heterogeneity among workers - is equal to that factor's price (Krugman, Wells, 2013).
If the price of the good that is produced with labor changes, then the value of the marginal product of labor - that is a linked but different concept from marginal productivity - changes as well: when the price of strawberries grown in Burkina Faso increases, then the value of the marginal product of agricultural labor in Burkina Faso rises at any given level of employment and this increase implies that the profit-maximizing level of employment rises when agricultural wage rate remains unchanged. As a consequence, increased value of the labor productivity may be translated into more profits or fewer hours worked (more unemployment, in case of lower production of strawberries to get the same output value) and not necessarily into increased wages for workers (that is labor cost, by considering that in a perfectly competitive economy each worker - and not only the last worker - should be paid its equilibrium value of the marginal product). And the same thing happens to an increase of cultivated land: each worker produces more strawberries as each one has more land to cultivate and the value of the marginal product of labor rises at any given level of employment. However, the latter increase of the value of marginal productivity should be attributed to land rather than labor, as the value of the additional output will be generated by employing an additional unit of land. Here one should also consider the issue of environmental degradation and resource depletion as a concrete trade-off between more quantity of output and worse quality of environment. But, in terms of single factor productivity, the key element to measure is whether a change of output (ideally, an improvement of quality and quantity at the same time) per labor hour, output per single machine, or output per unit of land occurs.
In theory and practice, we know that non-marketed (or non-traded) goods and services, which do not go through a market, are not counted as part of GDP (or GNP or GNI), even if they can be a significant part of what is produced and consumed by the given country's total population. Moreover, most of those working on the land in poor countries are either subsistence farmers (producing only for themselves), tenant farmers (with no land rights and no incentive to

increase output), or landless laborers (selling their labor in a daily labor market). As a consequence, much of what is produced is never be counted as part of output if one follows the rule and labor productivity is inferred from limited historical information available to help evaluate labor performance.

Even more so, much of what is called labor compensation (such as wages) is really a return on human capital, so that the distinction between labor and human capital is rather fuzzy; huge wage differences among men and women or ethnic groups don't reflect real differences in marginal productivity and if these differences arise from differences in human capital they are not necessarily fair, as they simply reflect different opportunities, capabilities, contextual environments.

We should also take into account that developmental implications of increased or decreased labor productivity are not obvious, even if we don't consider the broad notion of sustainable development. Labor productivity can increase by reducing labor cost. But if real wages are neither determined by the level of the marginal productivity of labor (neoclassical assumption) nor by the technology of production and if labor and capital remuneration as well as their productivity are inseparable and determined by a political conflict, then the reduction of labor cost is not necessarily an objective to be reached.

This is particularly true in a context in which income and wealth unequal distribution has worsened and polarized between and within most countries. As output per capita equals productivity times hours per capita, if output increases with workers who work fewer hours, then labor productivity rises more rapidly than output, but an hour not worked because of longer vacations or a shorter work week has different developmental implication from an hour not worked because higher unemployment or lower labor-force participation (Fitoussi ed., 2013). The entry of females and of marginalized groups (such as migrants) into the labor force can induce an increase of output per capita faster than productivity, but it does not automatically create the same developmental effect as the entry of children of forced labor into the labor force, even if the effect on output per capita and on productivity may be the same. The assumption according to which the various factors of production are viewed in the abstract as homogeneous entities is a serious pitfall.

In the light of the classical-Marxian theory of value and surplus value in the exploitation of productive labor (Foley, 2013), as well as of the need to re-conceptualize productive labor in terms of environmentally sustainable productive labor, the quality and quantity of jobs is the key factor to be considered and assessed:

i. to create decent jobs and improve the quality of existing jobs in line with the pillars of the decent work agenda (that is to guarantee access to full and productive employment with rights at work, social protection and the promotion of social dialogue),
ii. to bring inequality down to nationally and internationally defined

levels (that is to reduce the widening gap between the top class and the most vulnerable groups - women, but also migrants and refugees, small-holder farmers, ethnic and national minorities, indigenous peoples, children and young people, elderly persons, disabled persons - by transferring income, wealth and power),

iii. to promote structural transformation of the economy and enabling business environment (by supporting an economic, business and political empowering process to enable the most vulnerable people's active involvement in self-determined development of their lives and environment),

iv. to end all forms of legal discrimination against women and girls and improve their economic and social opportunities (by prioritizing gender equality and women's rights to land, property, inheritance and control of natural resources and business activities).

v. to develop a society in harmony with nature, shifting from a merely environmental approach to one that is genuinely ecological (Kovel, 2007), avoiding a narrow economistic interpretation of environmental resources or inputs and talking in terms of ecosystems conservation.

(ii) Capital productivity

The second single factor to be considered is capital productivity. Capital is often conceived in its narrow sense of as the sum total of non-human assets that can be owned and exchanged on some markets: all forms of real property (including residential real estate) as well as financial assets (including bank accounts, mutual funds, bonds, stocks, financial investments of all kinds) and non-financial assets (land, dwellings, buildings, machinery, plants, infrastructure, patents, and other directly owned professional assets), physical and immaterial, used by firms and government agencies.

Capital is also conceived as an input into the production process that in the past was an output from the production process (a produced factor of production). It is defined as the stock of equipment and structures that are used to produce final goods and services (physical capital), the knowledge and skills that workers acquire through education, training, and experience (human capital, that is an individual's labor power, skills, training, and abilities) and renewable and non-renewable environmental resources used in production that are provided by nature, such as land, rivers and mineral deposits (natural capital, by using a narrow economistic interpretation of environmental resources or inputs).

In practice, if land per person dominated income determination before the XIX century, land rents have fallen to a minimum share of total output in modern OECD economies (Clark, 2007), so that natural resources are not considered anymore necessary per se for an economy to be highly productive in producing

goods and services, whereas technological knowledge is the understanding of the best ways to produce goods and services (and this understanding is transmitted to the labor force through human capital). Moreover, it is difficult to distinguish between the value of virgin land and the value of improvements due to human intervention or between the value of dwellings and the value of the land on which they are built. Thereafter the concrete and practical measurement of factor productivity is rather difficult at both micro and macro levels.

Post-Keynesians and neoclassical economists share the view according to which growth is basically driven by capital investment, but the former considers investment endogenous to aggregate demand and assume that growth may itself generate forces making for oscillation.

In particular, at the end of the 1930s Roy Harrod defined the Incremental capital-output ratio (ICOR) as the reciprocal of the marginal productivity of capital (the output-capital or output-investment ratio). The higher the ICOR, that is the higher the amount of capital required to produce a single unit of output in the economy (K/Y or $\Delta K/\Delta Y$) the lower the productivity of capital, so that the ICOR can be thought of as a measure of the inefficiency with which capital is used (Harrod, 1939).

Following the Harrod model, which assumes no substitution between labor and capital and also shows constant returns to scale, the rate of growth of GDP ($\Delta Y/Y$) is determined jointly by the national saving ratio (s) and the national capital-output ratio: the more an economy save and invest out of a given GDP, the greater the growth of that GDP will be. By multiplying the rate of new investments (I/Y) by its productivity, the rate by which national income will increase is obtained. The demand for investment is given by the accelerator principle, that is the required amount of extra capital (or investment) to produce a unit flow of output at a given rate of interest, determined by technological conditions. This model has both descriptive and prescriptive value and this is why it is a topic still and widely discussed and cited in economic growth and economic development theory, even if this early Post-Keynesian model was replaced by new generations of growth models such as those presented in Fig. 2.

Some examples include the widely cited estimates of a $50 billion need in additional annual aid to meet the Millennium Development Goals (MDGs), which were largely based on two studies, one by a group known as the Ernesto Zedillo Commission (Zedillo Commission, 2001) and another by Shanta Devarajan and his co-authors at the World Bank (Devarajan, Miller and Swanson, 2002). They were both based on another study (UNCTAD, 2000), which adopted the Harrod model by assuming that, if capital flows were to somehow be sufficient to raise investment to 22 percent of GDP in Sub-Saharan Africa, real GDP growth in that region would necessarily be 6 percent per year. Based on some simplistic assumptions, without any empirical support, such as that in Africa all aid becomes investment and all investment becomes growth, this model estimated roughly a $10 billion capital 'need' for Africa, which the Zedillo report simply

doubled to account for other developing regions and then, it settled on $30 billion for the rest of the goals, for a total of $50 billion, and used this final figure throughout its text.

Jeffrey Sachs and the UN Millennium Development Project also anchored the MDG framework to the need of increasing investment in development, by assuming that the poorest countries save too little to achieve economic growth, and aid is too low to compensate for the low domestic saving rates. Detailed data on actual saving, investment, aid, and growth rates differ greatly by region and by income level, but the authors presented a report with specific policy recommendations, which were based on the adoption of the Harrod model (UN Millennium Project, 2005).

In general, the capital coefficient in the process of economic growth has been the pivotal parameter. A fundamental property of the aggregate production function is that there are diminishing returns to the accumulation of capital. Given the ceteris paribus assumption, that is holding all other factors of production constant, in general an additional unit of capital has difficulty in "cooperating" with the other inputs. For example, the use of inorganic or synthetic fertilizer improves crop production on farms, but if one continues to equip farmers with more and more of the same fertilizer without adopting new uses for it, then a point will be reached where the extra-capital goods become redundant and additional fertilizer improves the yield less per unit of fertilizer (the marginal product of capital is negligible), and excessive quantities can even reduce the yield, so that fertilizer pollution should be treated as an environmentally detrimental input. In formalized terms, the marginal product of capital is decreasing in the stock of capital: $F'(K) > 0$ and $F''(K) < 0$ for all K (Aghion and Howitt, 1998).

Overall, excessive quantities of fertilizer tend to be negative particularly in the long-run, so that one should also take into account the discrepancy between the (positive) short-term effects of capital on output and the (negative) effects in the long run.

One should also consider the law of diminishing marginal utility, meaning that the first unit of consumption of a good or service such as a strawberry yields more utility than the second and subsequent units, with a continuing reduction for greater amounts. Both diminishing (marginal) returns and diminishing (marginal) utility of capital are expected to be taken into account in planning development strategies.

At the same time, costs of capital projects are known to be subject to economies of scale: the cost of a unit of capacity of many types of equipment, such as electric motors, pumps and gasoline engines, decreases as size increases; therefore, also the efficiency increases with size, leading to lower variable cost as well, because cost per unit of output generally decrease with increasing scale as fixed costs are spread out over more units of output.

From a demand side perspective, also positive network externalities are

becoming more and more important, in the case of network technologies, such as the sitting of mobile phone masts: the more masts are installed and the more valuable the masts already installed are, as the value of the technology is determined by the dimension of the network, by creating a so called bandwagon effect among the customers.
A comprehensive understanding of the complex and dynamic interaction across diminishing (marginal) returns, diminishing (marginal) utility, economies of scale and positive network externalities is judged as a pre-requisite for analyzing capital productivity.
Moreover, one should also consider the effect of an increase of all inputs and not only of capital in the long run. In mainstream micro-economics, the long-run returns to scale are purely technologically imposed and are not influenced by economic decisions or by market conditions. This is why a firm's production function could exhibit different types of returns to scale in different ranges of output at different stages of development: there could be increasing returns (with output increasing by more than that proportional change in inputs) at relatively low output levels, decreasing returns (with output increasing by less than that proportional change in inputs) at relatively high output levels, and constant returns at one output level between those ranges.
In general, the mainstream economics' assumptions – according to which financial and real capital are identical, the return to the first is the return to the second, all resources are fully employed and the economy is on its production possibility frontier – are not realistic hypotheses. From a Marxian perspective, the neoclassical idea of capital as an agglomeration of physical objects has to be rejected in favor of the theory of capital as the means of control of the means of production, the dominant class power and authority to extract surplus from the worker class, that is to make decisions.
From this point of view, capital is conceived by Marx as a social, political, and legal category, rather than a physical or financial one. However, the confusing neoclassical view is still dominant and the famous economist Thomas Piketty persists in such a neoclassical approach to capital, too. As emphasized by James Galbraith, in his book entitled "Capital in the Twenty-First Century" Piketty adopts a financial measurement and valuation of capital rather than physical quantity. He measures physical capital equipment with all forms of money-valued wealth, excluding human capital, and estimates the market value of that wealth, so that he still repeats the neoclassical fallacy - made clear by the Cambridge critique in the 1960s - to deploy an empirical measure to calculate a capital input in the growth model that is unrelated to productive physical capital and is based on the assumption that a the technological return on capital, depending on its marginal productivity, has usually averaged a certain value (Galbraith, 2014).
At aggregate level, more than fifty years ago Simon Kuznets analyzed the proportions of gross capital formation to GDP (K/Y). He found that such a

marginal ratio of K/Y registers a sequential evolution, passing through an initial stage of low level, a second stage of rapid increase, and a final maturity stage with an intermediate level (Kuznets, 1961). Interpretations abounded: the common view is that K/Y declines with the transformation of productive structure (that is with sector with a lower K/Y ratio that gain weight) and when the economy moves to the more efficient threshold or take-off stage, but then declines after having reached high efficiency, in the maturity stage, when scale economies are fully exploited and product reaches market saturation.

(iii) Technological progress (and TFP in general)

A third crucial component, additional to labor and capital (which absorbs environmental inputs as well), is technological progress, which means more output produced from the same level of K (including natural capital and energy) and L inputs. Following mainstream theory, we can measure technological progress indirectly by observing increases in capital, labor, and output; that is, through the residual, which can be conceived as a measure of technological progress, but also of the role of externalities, the change in sectoral composition of production and so on.
A reductionist view on that "something else", which is commonly considered as the most important factor in explaining GDP growth (much more than diminishing returns, factor accumulation, and constant returns to scale), emphasizes the role of technological progress as the key component of that "something else".
Recent growth-accounting analyses consider the Information and Communication Technology (ICT, that is technology linked to Computers and Internet) as the main source of the OECD productivity growth. According to a Schumpeterian view, ICT applications have been characterized by high growth of patenting activity, high rate of entry of new innovators, high concentration of technological activity across firms, a diversified knowledge base in terms of technological domains and actors involved (Corrocher et al, 2007).
Innovation and the exploitation of inventions are crucial for economic growth and for catching up, as the technological frontier provides developing countries with technologies that should be copied.
Automation and digitization are directly contributing to the diffusion of part-time and temporary jobs, with an increasingly mobile workforce around the world, and to a decrease in jobs by replacing some types of work (the so-called gig economy). This may also question the idea that a society is built on the concept of employment, pushing us to think about a future with new forms of work (not necessarily paid jobs). Some people may think that such a scenario might even lead to development and a better life for all; but the key question always remains the same: is this an agenda for action to start delivering on the

promise 'to leave no one behind', that is what about the lives of the poorest and most discriminated?

However technology as well as capital and labor is not homogenous in terms of quality. For example, short-lived capital goods like PC have much faster depreciation rates than long-lived capital goods like structures. Therefore, they earn higher profits per dollar of investment and, as a consequence, it should be better to give more weight to short-lived capital, as recommended by Jorgenson and his colleagues (Jorgenson, 2008).

Technology is rarely neutral in terms of implications on other inputs: productivity impact of computers tends to involve a substitution of capital for labor. The problem of potential non neutrality of technology might be undermined by changing business models associated with the use of new technologies, in terms of imposing some conditionalities of sustainable process of production (in terms of productive, decent, inclusive and sustainable jobs, conducive to political transformation), but in practice it is extremely unlikely.

A puzzle in the growth accounting derives from the fact that the marginal productivity is assumed while holding other inputs constant in quantity (and quality): in practice, this assumption is not realistic, as the marginal productivity of an input depends on how much of the other inputs are used. In other terms, the marginal productivity generally depends on all the inputs, that depend on changes in other inputs. We should thus consider contextual conditions as well, given the importance of holistic and nested view.

For example, labor productivity and work hours are inseparable: what makes labor more expensive reduces also the demand for labor. In theory, as if we had gender equality, workers who lose their jobs are presumed to be those who are least productive and those who are not fired are more productive, and so average labor productivity is artificially raised. The shrinking demand for labor may be accompanied by a rapid increase in the capital-labor ratio, as the rise in the cost of labor created an incentive to substitute capital for labor.

But also the assumption of labor and capital productivity occurring independently of innovation and context does not hold. Rather, the various sources of growth accounting are complementary and not mutually exclusive (Fitoussi ed., 2013).

From this perspective, there is nothing new in it: Kaldor stressed that capital accumulation and technical progress go together, as most technical progress requires capital accumulation for its embodiment and new capital accumulation depends on more technical progress (Thirlwall, 2003).

One should also split the quantity and quality of different inputs (and context): the level of skilled labor, the quality of raw materials, intermediate products, but also other inputs (land, water, energy, infrastructure, technology…) and context.

It is difficult to separate the contribution of factor inputs to growth from the contribution of increases in output per unit of inputs (increases in TFP) and there are other factors (such as economies of scale) which are due both to

technical change and to increases in factor supplies.
It is also difficult to distinguish between some factors that may contribute to increases in the productivity of factors, such as education, improvement in the quality of capital and economies of scale.
Basic principles of mainstream economic theory say that increases in factor supplies, increasing returns (technological economies of scale, with which output rises more than proportionately to the increased in combined inputs), and technical progress (anything that increases the productivity of factors other than increasing returns) are three broad sources of growth. Technical progress is also artificially divided into exogenous (not dependent on capital accumulation) and endogenous (introduced by new investment).
Traditionally, technical change was viewed as factor-neutral. For example, Robert Solow - as well as the pioneering Roy Harrod - defined TFP advancement as an increase in output without changing marginal rates of transformations for L and K inputs (Solow, 1957). In practice, the proportion of K/L is constant after technology progress is realized, but technology progress can also be seen as transformation of production function: it is capital-saving when the proportion of K/L is lower after technology progress is realized to produce a given output level under the same factor price vector; it is labor-saving when the proportion of K/L is higher than before.
In theory, as stressed by Nicholas Kaldor, a higher K/L ratio will not automatically lead to higher unemployment rates (with negative impacts on later wages), if higher output growth brought about by technological progress embodied in new capital investments generates greater employment opportunities (Kaldor, 1960). In practice, the idea that the higher the rate of capital investment, the greater will be technological progress, which in turn will lead to higher aggregate output growth, resulting in additional demand for labor, has to be empirically verified.
Ranald Taylor found that unemployment rates declined significantly in Malaysia when the country switched from a labor-intensive production technique to a capital-intensive and labor-saving one, because the addition of new capital equipment to the existing stock of equipment accelerated technical progress, which in turn induced higher labor productivity, resulting in increases in demand (in terms of higher quality and lower prices), and drove production and employment upwards (Taylor, 2004). This means that new technical changes made in terms of improved technology can be embodied in investment (the so called embodied technological progress), but it is also possible that improved technology, which allows increase in the output, is produced from given inputs without investing in new equipment. Hence, technological progress may or may not be sufficient to generate additional employment growth; and this is also true in terms of total energy consumption, use of resources and environmental impact in general.
To sum up, conceptually growth accounting is a straightforward decomposition,

and it has given rise to a large literature. But one has to be very careful in interpreting such decompositions because accumulation and productivity growth are themselves endogenous. The relationship is expressed with a questionable economy-wide production function, with the residual factor that should captures the technical efficiency level of the economy due to unmeasured inputs or human capital (the stock of knowledge and expertise measured through education and Research and Development) and inducing factor productivity increases, that is output growth not due to inputs increases - efficiency or quality combination and use of inputs rather than quantity of inputs -, or a measure of allocative efficiency with which resource are distributed, economies of scale.

4. The importance of context

It is impossible to measure and aggregate heterogeneous capital goods in physical units. In practice, aggregate models are rough tools.
As a consequence, almost all the key terms of current glossary of development studies can be placed on the intersections of the three sets representing the developmental objectives areas (economic, social and environmental ones), with the afore-mentioned risk to have the night in which all cows are black: what dimension comes first in the conundrum of these multiple capital puzzles to promote development?
Contexts shape values and opportunities, whereas autonomy is an individual capability (feasible to be exercised). Capability is determined by three main factors: entitlements (= access to resources), agency (=competences and pro-active and empowered participation) and multilevel structural contexts, which are to be studied individually and in interaction.
We can identify four contextual dimensions of interest at least: geography, market integration, institutions and political context. They are the inescapable and interrelated prerequisites influencing the attainment of the three interlocked goals via various ways.
Geography (and climate) relates to the advantages and disadvantages posed by a zone or country's physical location (latitude, proximity to navigable waters, climate, presence of important disease vectors, and so on). To recognize geography as determining the limits of economic growth is not a new phenomenon: classical economists did it. More recently, Jared Diamond explained how climate differences, geographical advantages and economies of scale have long played a powerful role in the differences in worldwide income (Diamond, 1998). Disease environments and agricultural productivity are directly dependent on geographic conditions: only three tropical economies –

Hong Kong, Singapore, and Taiwan – are classified as high-income by the World Bank, while all countries within regions zoned as temperate had either middle- or high-income economies. Geography is also the only exogenous contextual factor, not co-evolving with economic performance, influencing growth. However, the interaction between geography, labor and technology abound: when population is very small and there is a lot of fertile land for each person to work with, new technology is not required and used as it does not take advantage of the abundant factor. Geography matters a lot for identifying investment needs; however, any attempt to apply general rules of thumb, despite the relevance of heterogeneity across cases and countries, risk to be counterproductive.

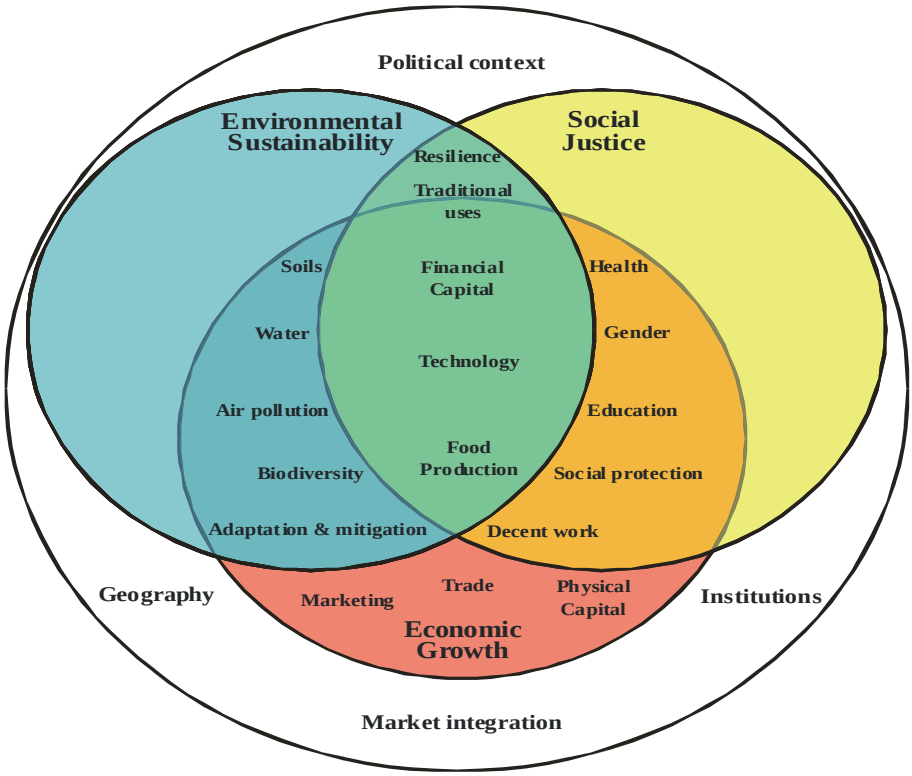
Institutions refer to the quality of formal and informal socio-political arrangements – ranging from the legal system (including the extent of legal protection of property and how well such laws are enforced) to broader political institutions (including the limits placed on political leaders) – that play an important role in promoting or hindering economic performance. Almost fifteen years ago, Daron Acemoglu, Simon Johnson and James Robinson reacted to geography determinism, by arguing that geography affected growth in a indirect way, through institutions, which play a crucial role: countries in which the European settlers faced greater mortality are the countries in which they chose not to settle and adopted extractive institution, whereas when colonizers could adapt to local climate and geography, they chose to settle and adopted good rule of law and institutions created during the colonization period persist after independence (Acemoglu, Johnson, Robinson, 2001). Following a Post-Keynesian view, institutions develop as a result of a specific cultural framework, that is, social experience and social norms, and by local characteristics, so that institutions should be conceived as a path-dependent process that necessitates readjusting existing institutions to the changing economic framework since institutions are both outgrows and reinforcers of routinised thought, and they impose form and consistency on the activities of human beings (Hodgson, 1993).

Market integration relates to market size, and the benefits (as well as costs) of participation in international trade in goods, services, capital, and possibly labor. This is another channel by which a specific type of institution (the linking of capital, labor, and goods markets within wider markets) can change the dynamics and behavior of required investment: the promotion of economic integration as well as market concentration could orient investors towards different strategies. The study of the economics of international trade in agricultural and food products, under imperfect competitive setting dominated by multinational corporations and agribusiness, is perhaps one of the biggest challenges facing agricultural investment in developing countries and demanding governmental interventions, but this topic would clearly require much more space than a short mention.

Political context refers to the conditions of (political and macroeconomic)

stability and absence of violence (revolutions, coups). Overall effects of political violence are much higher than just the direct capital destruction: the risk of civil war and violent conflicts, social and ethnic radical fractionalization are frequently associated with rough geographical terrain and have negative and direct effect on economic growth and institutions, mediated by democracy. Sub-Saharan Africa is highly affected by risk of civil war and experienced widening income differential relative to the rest of the world, and this is a disincentive to agricultural investment.

Fig. 4 - The conundrum of different areas of investment in the three pillars of sustainable development embedded in the four contextual dimensions



The importance of context makes the story more complex, also because small changes in the background environment (the planetary boundaries) can yield a significant increase in economic activity (Rodrik, 2007). And the linkages between the investment context and investment are many: for example, human and social capital can be conceived as the on-farm human elements that mediate how policy, institutions, but also technology and infrastructure affect input and physical capital use. Basically, the linkages are uncertain.

5. Some stylized facts and key question on productivity in agriculture

Trying to go beyond GDP is challenging and may be a frustrating task at the macro level, due to the lack of reliable data on regular basis and troubles unraveling variables' complex connections and causal links. Going beyond traditional productivity measures is even more difficult – by combining many dimensions embedded in the specific context – and it has attracted a much more limited interest, if not "no interest" we should say.
Nevertheless, its relevance as a prerequisite for going beyond GDP cannot be circumvented: the (developmental and multidimensional) output, alternative to GDP, depends on the process of conversion of inputs into such a multidimensional output, and identifying critical assumptions and causal links is crucial for specifying appropriate indicators to monitor and evaluate it.
Let us take productivity in agriculture as a practical example.
According to the UN statistics, in the coming years rural population will still represent the majority of the world population and will peak at around 3.2 billion by 2020. So far, increasing outputs have been achieved also by eroding genetic diversity: FAO estimated that 30 plant and 13 animal species provide 90% of our food.
Globally, we have about two billion malnourished people: one million of undernourished and a similar figure of over-nourished. While we struggle to yield more food, often with a negative impact on our ecosystems, almost one third of the total production is lost or wasted.
Given this contextual premise, a reduced version of agricultural productivity is found crucial across alternative theories of economic development. If we defined agricultural "productivity" not as dollar or cereal yield per acre of harvested land, but as the number of people fed (in a proper qualitative and quantitative way as food security and food safety) per that same area (employing vulnerable people on decent and equal conditions, and dynamic ecosystem conservation, including healthy soils, water and air), we would find that the US - the world's third largest agricultural producer - ranks behind the world average, because much goes to animals and biofuels and a capital intensive business model is dominant, with agrochemicals being responsible for the vast majority of the eco-toxicity of freshwater sources (with cotton alone accounting for 40% of the damage), according to a study released by UNEP (UNEP, 2010).
Conventional definitions of agricultural productivity measure the quantity of output relative to the quantity of inputs. Be they yields per hectare for individual crops, global data average productivity measures for land, labor or capital across all agricultural production provide strong evidence of a decline in agricultural productivity for the most recent twenty years. Moreover, productivity growth should be produced by minimising water loss (this is particularly true in developing countries, starting from North Africa and South Asia) and this

situation is likely to worsen as a result of climate change. Natural resource degradation interlinked to climate change accelerates the use/abuse of resources (in particular, demand for energy), while the food imports of developing countries will increase.

Investment on natural resources is considered vital to avoid a drastic fall of land productivity and to guarantee long-term sustainability of the mode of production (the well functioning of capital accumulation). At the same time, it is considered important to invest in the quality of human and social factors (and institutions) as a way to contribute to the increase of labor productivity (against diminishing returns on labor), by focusing on the empowerment of the most vulnerable groups.

Additional problems derive from the fact that the data on factor inputs is most readily available for the non-farm private business sector and Arthur Lewis's assumption of disguised unemployment labor is questionable (as informal sector has expanded), and the number of agriculture workers is not clear (due to the overwhelming role played by the informal sector). As mentioned before, land as a separate factor of production tends to be subsumed into capital, on the basis of the fact that the notion of land as a fixed factor of production (assumed true in the long run, not in the short-run in developing countries) and land without the application of capital is judged of little use, but the consequence is the adoption of an unrealistic homogeneity of capital.

Empirical evidence showed that high-productivity commercial agriculture is a small proportion of total agriculture activity in poor countries, and is unable to contribute to fight effectively against mass unemployment, growing inequality and to promote a sustainable and inclusive mode of production. Nevertheless, high-productivity commercial agriculture and increased agriculture production are quite often defined as specific targets of public policies. Agriculture is also defined as a diminishing returns activity: land is a fixed factor of production and the law of diminishing returns dominates (if a variable factor is added to a fixed factor its marginally product will fall). By adding labor to the land, the marginal product of labor first of all rises (because it requires a certain amount of labor for each unit of labor to work with maximum efficiency), but then declines and could become zero (or even negative).

Another stylized fact in economics is that the demand for most agricultural products and other primary products derived from the land is income inelastic. The rise in demand is proportionately less than the rise in income and less than the growth of supply potential determined by the growth of the labor force plus the growth of labor productivity.

Not surprisingly, if we observe African statistics, despite the impressive economic growth on the continent in general and Sub-Saharan Africa in particular, most of African people live in rural areas, agriculture is still a relevant part of GNI (on average it is 25.5 percent, compared to 3 percent of OCED) and agricultural income is relatively low compared to urban income. Thus

urbanization and migration are two main options: by 15 years the number of urbanized people will double and migration will increase. As a consequence of such shocking pressure, environmental degradation is increasing.
Producing food and increasing agricultural productivity is important but it is only part of the challenge. The struggle for food security and sustainable agriculture must address the disparities that often marginalize rural people – and especially smallholder households, women and rural workers– excluding them from national and even local political, economic, social and cultural developments.
If sustainable agriculture is to be the main way to preserve fertile soil, fresh water, biodiversity and preventing land degradation, desertification, mitigate climate change by preventing deforestation and reforestation, then this can be achieved only through the empowerment of rural people who can preserve the main basis of their livelihoods through climate resilient farming. The discussion on an innovative measurement of productivity should consider the necessity of including a computation of ecosystems' restoration and the provision of services. Local governance and common resources management depend on adaptation to local agro-ecological and social conditions.
If productivity must be sustainable, in agriculture emphasis should go on food (eco-) systems and labor, rather than merely on agricultural or production systems, because sustainability goes beyond the farming or production systems. Sustainability takes into consideration the whole value chain and implies a clearer focus on nutritional, public health, community development and cultural issues in order to achieve broader and longer-lasting results in development.
But the amount of output as well as of labor productivity, even if conceived in conventional terms, is not properly measured in small-holder agriculture. A key question is whether increased average labor productivity decreases agriculture jobs. The most frequent answer is yes, in the long run; no, in the short run if compensated by an expanding market. Therefore, two alternative scenarios can be associated to the integration into the global value chain or to an adherence to the so-called "Km. Zero" or "Farm-to-Table" movement, according to which consumers buy local products directly from the farmer's market, which means that food is produced, distributed and eaten in and around a very limited area.
The FAO estimates on cumulative gross investment requirements make no distinction and have been made without any direct respect to the potential source of the required capital. A clear definition, conceptualization and measurement of sustainable productivity in agriculture is not only a methodological issue, but it becomes also a key means to political and normative judgements.
A first important key question is the following:

A. More sustainable investment in agriculture for food production? By whom? And production of what (quantity and quality), for whom?

The premise may be to recognize that there is an international polarized debate, a matter of intense controversy with, at the opposite extremes:

i. those - including the agribusiness sector, many government agencies and private foundations, such as the Bill and Melinda Gates Foundation - who think that the answer is mainly (or uniquely) through the integration of poor agricultural economies into the world economy (through global value chains and links between TNCs and domestic producers);
ii. those - such as *Via Campesina* (an international movement of peasant organizations of small-scale producers, agricultural workers, rural women, and indigenous communities), but also International NGOs such as Oxfam (Oxfam, 2011) - who think that the only sustainable and fair solution is by reorienting economies toward a local ecosystem and family-farm-based sustainable agriculture and pastoralism, to encourage farming of plants, seeds and livestock characteristic of the local tradition, guaranteeing the right to produce food on one's own territory (food sovereignty).

FAO is not embracing just one of these views, and the same holds true for IFAD that has a strong propensity to consider smallholder agriculture development as the key core mission (IFAD, 2013). In any case, an important key question is to explore the implications (opportunities and threats) faced by small farmers in the context of a scenario dominated by the renewed interest in the global value chains.

The question of "more investment" itself has to be presented on the basis of a given framework based on a definition of sustainable productivity. As the FAO and IFAD have repeatedly declared, the volume of food production cannot explain the persistence of hunger, and it is important to combine three objectives associated to (more) agricultural investment for food production:

i. to reduce poverty and food insecurity (and the fact that poverty is changing geographical profile is relevant),
ii. to improve sustainability and resilience (and there is the risk that an increasing food production will worsen the problem if the mode of production is as always, that is "more of the same"),
iii. to increase productivity and growth in food-crop agriculture, but adopting a broader definition and conceptualization of productivity.

Another element to be considered is that FAO and IFAD are also recognizing that the question is not just to increase agricultural investment for food production, as "one of the first mean to fight imbalances and reduce tensions between the necessary increase in consumption and the challenging increase in production, but it is also to promote food loss reduction which alone has a considerable potential to increase the efficiency of the whole food chain. In a world with

limited natural resources (land, water, energy, fertilizer), and where cost-effective solutions are to be found to produce enough safe and nutritious food for all, reducing food losses should not be a forgotten priority as roughly one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons per year. This inevitably also means that huge amounts of the resources used in food production are used in vain, and that the greenhouse gas emissions caused by production of food that gets lost or wasted are also emissions in vain" (FAO, 2011).
A correlated contextual element is to recognize that an accelerated change in the worldwide geography of poverty and development, together with the urgency of climate change challenges, pose the question of adequate investment strategy in the globalized world under such a new environment with direct consequences in terms of new market opportunities and threats and associated specific strengths and weaknesses for different developing countries.
Moreover, the jurisdictional and geographical coverage gap (as well as legitimate difference of interests) between the main agents of agricultural investment (multinational corporations, governments, domestic firms, households) implies the need to clarify this point, if we recognize the importance of different and conflictual interest among actors.
A sub-question related to the previous point is to explain what type of countries and within-country territorial systems are or can be integrated into high value market chains and what about the rest of the world (marginalized economies and marginal agricultural sectors in integrated economies).
Descending from and correlated to the previous key question is the fact that "agricultural investment for food production does not mean only investment going into agricultural production itself, but into a wide range of small and large scale activities along value chains that involve supplying farm inputs, and processing, storing, distributing, wholesaling, retailing and exporting farm products" (Hazell, Syed, Zupi, Miyazako, 2011). Therefore a correlated question is the following:

B. More sustainable investment by different agents for what type of capital accumulation into this range of value chain activities? And, consequently, where should FAO and IFAD, as well as other national and international organizations, public and private entities, place their focus?

The multi-faceted dimensions of capital means that capital accumulation may be focused on fixed or physical capital, financial capital, human capital, social capital, knowledge capital, institutional capital and, above all, natural capital.

By focusing in terms of investment results, that is food production (in terms of its quantity and quality), it is important to analyze, for a given type of investment:

C. What are the most appropriate business models (in terms of different arrangements involving large-scale and small-scale farmers into an international or national value chain: see L. Cotula and R. Leonard, 2010) to be encouraged in order to create the appropriate value chains, facilitate integration in local, national or world economy, stimulate sustainable productivity?

Corporate financial structure, technology and innovation, efficiency, labor and land implications (in terms of quality and quantity) affect core productivity measurement.
For what concerns the financial structure of firms' investment, based on a World Bank's survey conducted in 2008, UNCTAD (2009) showed that retained earnings, that is self-funding, is the main financial source for each type of firm (small-, medium- and big-sized) in every country, representing between 60 and 70 percent of total funding. This confirms what "Pecking order theory" (Myers 1984) says: there is a precise hierarchy according to a strategy of financial self-sufficiency. Companies prioritize their sources of financing (from internal financing to equity) according to the principle of least effort, preferring to raise equity as a financing means of last resort. Hence, internal funds are used first, and when that is depleted, debt is issued, and when it is not sensible to issue any more debt, equity is issued. Therefore, another key question to address agricultural productivity is:

D. What are the public policy conditions and reforms necessary to enhance farm-level savings and to mobilize (more and different types of) sustainable agricultural investment and encourage companies to be oriented towards sustainable productivity improvements?

In terms of favorable conditions, it is also important to analyze:

E. What are the institutional conditions and institutional reforms necessary to mobilize a trigger (more and different types of) sustainable agricultural investment?

Institutions mean procedural devices and regulatory frameworks, formal and informal rules governing human interactions: property rights and legally binding contracts, market-regulating institutions, institutions for macroeconomic stability, social insurance institutions and institutions of conflict management.
Another important contextual dimension to analyze is the following:

F. What type of market integration has to be considered as an essential prerequisite to earn the expected gains on sustainable food production by promoting (more and different types of) agricultural investment in the value chain?

And, in terms of favorable contextual conditions to create a competitive advantage that ultimately results in superior value creation, a question is:

G. Is it possible and relevant to classify different types of country's physical location or territories (latitude, proximity to navigable waters, climate, presence of important disease vectors, and so on) to be related to different recommendations?

This may be important against pretensions to have general rules to be always applied.
Finally, in terms of favorable contextual conditions to create a proper environment:

H. What about effectiveness of efforts launched to establish international principles for responsible investment in agriculture – such as the UNCTAD-FAO-IFAD-WB initiative (Principles for Responsible Agricultural Investment that Respects Rights, Livelihoods and Resources, now called the "RAI Principles"), the preparation of Voluntary Guidelines on the Responsible Governance of Tenure of Land and Other Natural Resources, led by FAO, IFAD in a broad partnership with member nations, civil society, and other United Nations agencies, the Santiago Principles adopted by SWFs to improve transparency, and the more general OECD guidelines for Multinational Enterprises – to enhance the benefits of FDI in agriculture while mitigating its potential downsides?

I. What is the practical ways to promote coherence and complementarity between sustainable agricultural investment by international and national private firms, farmers and public sector, and what are the key policy implications?

This is based on the assumption that "private sector investments along value chains are highly complementary to public and private investments made in agricultural production, often enhancing the returns to farmers' own on-farm investments and to public investments in agriculture, making both more attractive".
According to the Committee on World Food Security hosted by FAO, new interest in agro-investment has to match country food security strategies, minimize risks and maximize positive outcomes for local populations; therefore land and natural resource rights of local land users have to be protected and expanded. Public investment in agriculture and rural development, the quality of governance of land tenure (i.e. land tenure policy), the choice of incentive framework (including market and trade policy), together with the level of organization of local farmers in producer groups and cooperatives and the

degree of social responsibility of foreign investors can bring very different patterns of investment in the agricultural sector.
For all the above mentioned questions, the adoption of a more comprehensive measure of sustainable productivity may be essential to avoid an overproliferation of just rhetorical, vague, ambiguous and even contradictory requests for investment in agriculture.

6. Difficulties in measuring what we would like to measure

An appropriate definition and conceptualization of sustainable productivity is critical to address the next point concerning the adoption of a precise set of measures, which are needed to translate the key idea into policy and operative terms.
The choice of measure depends certainly on the conceptualization, but not only that. By definition, measurement of "reality" is very difficult, perhaps impossible.
There are a lot of methodological and technical problems to consider in measuring social, economic, environmental, political and cultural phenomena, in addition to conceptual problems and to the scarcity of the information available.
Measurement of sustainable productivity is a core empirical challenge at both micro and macro levels, and it should be strictly linked to and reflect what the concept and measure of sustainable product implies.
Looked at from this point of view, there is a lesson to be learned from the GDP and beyond-GDP debate and measurement.
GDP (and GNI) is the most important evidence in debates on poor countries economic development and it has a strong political power. Measurement problems affect all countries, but there are particular problems of measuring GDP in poor countries: GDP growth estimates are misleading where informal economy prevails, because only parts of the economy are recorded. In particular some important sectors such as food production often remain unobserved and few individuals, households and farms record or report income, production and expenditure. For example, few African countries have recently conducted a household survey, some of them have never conducted it. Undoubtedly, as reliable statistics are crucial for improving knowledge and policy-making a new agenda for data development is needed (Jerven, 2013).
Developing countries face many challenges to improve data quality for achieving and monitoring sustainable development, as underlined by the UN Secretary-General's Independent Expert Advisory Group (IEAG) on a Data Revolution for Sustainable Development (IEAG, 2014). And the last decade has produced new ambitious demands, from poverty statistics to MDGs and now to a new generation of so called Sustainable Development Goals (SDGs) on weak statistical

offices in developing countries.
In general, the selection and adoption of development goals and targets should take into account (in practice, depend on) a set of existing and available indicators to diagnose the situation and measure the improvement. At any point in time and for any country the goals, targets and indicators are interrelated. Finally, the choice of goals and targets is determined and influenced by existing indicators, affected and being in turn affected by development priorities. If we do not consider the list of available indicators, then the risk is to have an interesting conceptualization of goals and targets that cannot be translated into indicators in a coherent way.
A new SDGs framework should be both simple and comprehensive at the same time. The MDGs, as well as GDP, have been a particularly attractive tool for development policies because of their inherent clarity and associated simplicity: clear about what one should try to achieve (a few social goals: fight against poverty and hunger, equal opportunity - with equality associated to gender issues - and human development in the MDGs case) and how it will be achieved (specific targets and put in place a monitoring system with measurable indicators).
The post-2015 SDGs should still be simple in terms of clarity (effective in communication), but comprehensive (combining three intertwined dimensions: social, environmental and political economic ones).
Viewed over such a perspective, it can be said that today the main objective of development policies must be clear and, in this sense, simple in a complex world of rapid transformations: poverty eradication, well-being and security for all people, communities and countries within the planetary boundaries as an effective slogan and a practical way to promote prosperity and well-being, and in particular to strengthen or empower individual and collective capabilities of the more vulnerable groups and, to this manner, be transformative; to enhance adaptive capacity and resilience of social-ecological systems.
As a consequence, we should recognize that development goals have to increase in complexity rather than in number: the world is not complicated - adding more and more goals, without giving any indication of their priority -, it is complex.
This means to reject the idea of an expansion of the goals area and correlated indicators for development cooperation and to insist on the importance of intertwined dimensions: environmental goals have to be clarified and detailed, but then translated into operative terms as cross-cutting issues.
At the same it is important to reduce the risk of overburdening weak statistical offices in developing countries. The over-proliferation of SDGs can become an unsustainable challenge to be accomplished, being very expensive in terms of time, finance, human resources, institutional capacity.
On the other hand, good indicators have to have several qualities, being an appropriate - rather than a misleading - measurement of the phenomenon under study based on reliable data, having a cost-efficiency ratio, yielding clear

interpretations and being relevant to the formulation of policies (Sachs, 1994).
We do not need to (re-)invent anything, just (re-) design goals. Based on the point 2, what was the idea of RIO MARKERS (expanded to include what, over the course of time, has been given more emphasis) is still convincing if we are able to transform them from a ritualistic to a substantial and cogent prerequisite to development. This can be a practical, simple and effective way to make the work on SDGs convergent with the review of the MDGs. At European level, we have a common framework and this implies Strategic environmental assessment (SEA), that is a "structured, rigorous, participative, open and transparent environmental impact assessment (EIA) based process, applied particularly to plans, programmes and projects": this can be a significant and cogent way to adopt a comprehensive approach to combine the three intertwined dimensions of development.
The combination of SDGs should not be conceived as a sum of different factors defined as uncorrelated components (the silo approach). There is a clear overlapping among interlinked factors: if we consider the geographical maps of conflicts, violence, extreme poverty, environmental vulnerability and degradation, hunger, institutional fragility, immediately we discover a strong overlapping in geographical terms. A holistic and integrated approach is the key paradigm to face the challenge of development in an effective way.
Definitely, food security and nutrition is a priority area of action. It combines local, national and global dimensions, territorial perspective, environmental priority, vulnerability, new dimensions of human security, gender and development, markets and states, focus on extreme poverty, inequality and decent jobs, sustainable consumption and production patterns (involving cultural aspects) and resource efficiency, food and energy prices volatility, mass migrations. The intertwined connection among many economic, social and environmental dimension is clear and also the complexity of development process and its specific political relevance.
Sustainable agriculture is a universal challenge. Water scarcity, over-nutrition and food waste imply that the Minority and the Majority worlds, and all the citizens (poor and rich) in a given country have mutual but differentiated responsibilities, which means goals and targets to accomplish.
Necessarily, sustainable agriculture has to be associated to health, education, children, gender (the main social dimensions of development, summarized within the framework of the MDGs), as well as to SDGs and to a more sustainable mode of production and consumption (linked to the urbanization process), that is a new economic development paradigm. This is the most critical world-wide challenge in an inter-generational perspective and based on the projected world population dynamics with a population expected to rise to 9.1 billion by 2050.
Considering the OWG-SDG proposed process of clustering objectives (crucial and welcome: it represents a critical enduring understanding of development), it is arguable: it seems to be responding more to a need of assigning separated

operating fields to the different institutions involved in discussing and developing the process rather than to the need of better clarifying (Depth of Knowledge - DOK - problem) the whole Millennium Goal architecture in terms of three intertwined and nested pillars (social, economic and environmental) for a unified framework (to promote transformative and sustainable political process of empowerment of the poor).
The weaknesses showed by the two processes above mentioned go back over some of the weaknesses of the setting up of the post MDGs discussion. The focus areas and targets articulation mix general goals (such as poverty eradication, equality, climate, above all, which can also be viewed as conditions without which the other main goals cannot be achieved), and means to achieve them (MoI, but also sustainable consumption and production, for example).
Unfortunately, the integration of sustainability and equality into the SDGs as well as into the consolidated MDGs structure still resembles more an addition of some questions rather than a real change of paradigm. The persistence of focus areas denominated economic growth, industrialization, energy and infrastructure (instead of sustainable human development affecting economic growth, sustainable industrialization, etc.) testifies that it is still conceivable that an unsustainable and unequal economic growth could be a progress for humanity.
The concrete risk is to lose an opportunity to make a really transformative and effective (in terms of empowerment of the poor) new post-2015 development agenda, addressing three dimensions of sustainable development – economic growth, social equality and environmental sustainability, with a more rapid move toward the low-carbon transition and inclusive development (New Climate Economy, 2016).
In such a perspective, it is useful an in–depth analysis and assessment of the SDGs indicators as well as various alternatives and complements to GDP that have been used successfully in various levels of planning and evaluation to measure progress and impact of public policies. In the EU context, reflection on the post-2020 cohesion policy framework has re-ignited the 'Beyond GDP' debate and a European Parliament's policy briefing provides a synthetic and updated review of current literature (European Parliament, 2016). In practice, Eurostat battery of indicators as well as national composite indicators, such as the Equitable and Sustainable Well-being (*Benessere equo e sostenibile*, BES) measurement in Italy, are useful tools to think about an innovative measurement of human wellbeing, looking at development in an effective multidimensional perspective. In the case of BES, that would mean choosing some indicators between the 134 that are proposed and that refer to 12 different sectors or domains of human well-being (ISTAT-CNEL, 2013), in order to individuate some possible indicators suitable for the measurement of the goals and targets and the impact evaluation of public policies that Italy would like to recommend.
In parallel with this 'Beyond GDP' debate, there are other areas of theoretical and measurement debates related to development. The Bejing Platform for Action

(PfA) adopted in 1995 clearly recognized gender equality as the main goal for achieving sustainable development and defined it as equal rights, opportunities and obligations of women and men. The challenge of proper women's empowerment measurement and indices is a concrete example of on-going debates on conceptualizing multi-dimensional issues, with different indices being proposed (M. Zupi, 2015).

7. Some general concluding remarks. A few leads and suggestions for measuring sustainable productivity

There is an urgent need for a change of approach where the measurement of (sustainable) production and correlated productivity is concerned. One cannot be expected to go beyond GDP without conceptualizing productivity beyond current definition.
The reality is that statistical indicators and measures are just imperfect attempts to translate into operative terms definitions and correlated conceptualizations, and both measures and definitions contribute to confusion (R. Lister, 2015).
On approaches to innovative productivity measurement, here, we are merely reporting some practical suggestions and ideas as possible sources of inspiration. Ideally, the requirements for this kind of measures are simple (G. Dijkstra, 2006): (i) a proper measurement should cover a limited number of indicators, but (ii) these indicators together should cover as many dimensions as possible; (iii) data should be available at micro and macro levels; (iv) it should be simple to calculate and to understand; (v) it should allow comparisons between firms and territories but also over time.
Above all, and this is very important, we are not starting from scratch.
In this respect, we can benefit from the interesting experience of innovative productivity measurement. Here, among other examples, the HDI, DEA and MuSIASEM provide us with some practical suggestions and ideas as possible sources of inspiration.

(i) Human development index

Human development index (HDI) is the first and key source of inspiration, because of its simplicity. HDI a composite index calculated based on three criteria of social- economic indices: Longevity, Educational attainment and Standard of living. Longevity is measured by life expectancy at birth. Educational attainment is the measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering

age. Standard of living is measured by Gross national income (GNI) per capita and a non-linear transformation is applied – by using a logarithmically transformed variable – to take into account diminishing returns of higher incomes (utility adjustment) (UNDP, 2015).
The HDI is the geometric mean of normalized indices for each of the three dimensions, measuring achievements in each dimension. The adoption of the geometric mean as functional form provides indicators that are more discriminating and rewards balanced performance: countries cannot fully compensate for poor performance in one dimension by another. This is important if we conceive sustainable productivity as a nested concept, rather than additive and silo concept, because poor performance in any dimension (economic growth, social development, environmental sustainability) is directly reflected in the geometric mean. A low achievement in one dimension is not linearly compensated for by high achievement in another dimension, as the geometric mean reduces the level of substitutability between dimensions and at the same time ensures that a given percent decline in index of one dimension has the same impact on the index as the same percent decline in another dimension. Thus, as a basis for comparisons of achievements, this method is also more respectful of the intrinsic differences across the dimensions than a simple average.
Indices are calculated according to the general linear transformation:

$$index = (V - MINV)/(MAXV - MINV),$$

where V is the country's actual value for the specific indicator and MINV and MAXV are fixed minimum and maximum values, respectively, set for the indicator.
The HDI captures these basic dimensions of human development, not all the important dimensions of development, so that it is not a comprehensive measure of human development. It cannot provide a complete picture of human development and it has to be supplemented with other useful indicators in order to get a comprehensive view. Moreover, it shares all the limitations of composite measures.
From the perspective of human development, GNI is not the best measurement of real economic gains, but a traditional measure of economic growth is included as a key dimension of HDI. We can think of sustainable productivity in exactly the same way: departing from the standard approach to productivity measurement focusing solely on the amount of output produced by the unit inputs, the efficiency and intensity with which resources are utilized can be considered a component of a comprehensive measure of sustainable productivity. A more comprehensive measure cannot leave out important factors which are increasingly more important to sustainable development. A conventional measure of productivity does not reveal whether that output translates to better

human development outcomes in terms of social and environmental dimensions and cannot be considered as proper means for sustainable development. Therefore, the same approach as in the HDI can be used for sustainable productivity.
It is apparent that equity and sustainability raise complex and difficult questions and that the concept of human development is much wider and richer than what can be caught in the HDI. But the HDI is useful in focusing attention and simplifying the problem, by showing up the inadequacies of GNI (P. Streeten, 1995) and it can be considered the simplest and most suitable index to use for our purpose as well.

(ii) Data Envelopment Analysis

Data Envelopment Analysis (DEA) can offer some other ideas in support of a sustainable productivity direct measurement, by testing its development. DEA is a "data-oriented" approach and a technique of mathematical programming for evaluating the performance of a set of entities called decision-making units (DMUs) whose performance is categorized by multiple metrics. These performance metrics are classified as inputs and outputs under DEA, with DMUs that convert multiple inputs into multiple outputs, by assessing the relative efficiency of a number of entities using a common set of incommensurate inputs to generate a common set of incommensurate outputs (J. Zhu, 2016). From this point of view, DEA has a strong link to what we mean by "efficiency".
In particular, there is a particular kind of efficiency, referred to as "technical efficiency" in economics, on the basis of which a DMU is to be rated as fully efficient if and only if the performances of other DMUs does not show that some of its inputs or outputs can be improved without worsening some of its other inputs or outputs. This definition avoids the need for explicitly specifying the formal relations that are supposed to exist between inputs and outputs. It also avoids the need for recourse to assumptions of weights, which are selected a priori and are supposed to reflect the relative importance of the different inputs or outputs. Moreover, DEA is a methodology directed to frontiers rather than central tendencies and it proves particularly adept at uncovering relationships that would remain hidden from other methodologies. (W. W. Cooper, L. M. Seiford, and J. Zhu, 2011).
In practice, limiting our coverage to the first and basic model introduced in 1978 (A. Charnes, W. W. Cooper, E. Rhodes, 1978), one assumes that there are *n* DMUs to be evaluated and each DMU consumes varying amounts of *m* different inputs to produce s different outputs. We can interpret the basic DEA construction as the reduction of the multiple-output/multiple-input situation (for each DMU) to that of a single "virtual" output and "virtual" input, so that we can compare the ratio of outputs to inputs to measure the relative efficiency of each DMU. For a

particular DMU the ratio of this single virtual output to single virtual input provides a measure of efficiency that is a function of the multipliers. In mathematical programming terms, this ratio, which is to be maximized, forms the objective function for the particular DMU being evaluated and the efficiency of a DMU is measured relative to all (W. W. Cooper, L. M. Seiford, and J. Zhu, 2011).

(iii) Multi-Scale Integrated Analysis of Societal and Ecosystem Metabolism

What is known today as the Jevons Paradox simply means that an action taken to conserve resources (i.e. the economical use of fuel) reduces the cost of it to such an extent that entirely different kinds of environmental damage become affordable and new modes of economy will lead to an increase of consumption (i.e. the quantity of coal used will diminish in comparison with the yield, the profits will increase, so that the demand for it will increase). It suggests that efficiency, conservation and technological improvement, the very things urged by those concerned for future energy supplies, may actually worsen our energy prospects (John M. Polimeni, Kozo Mayumi, Mario Giampietro and Blake Alcott, 2008).

The same thing applies to doubt the environmental and social efficacy of the economic efficiency standards. Efficiency increases trigger some additional input consumption, known by the technical term rebound. Using innovative concepts derived from Complex Systems Theory, Mario Giampietro developed an innovative scientific approach called Multi-Scale Integrated Analysis of Societal and Ecosystem Metabolism (MuSIASEM) to integrate different narratives used in quantitative analysis. This approach makes it possible to generate quantitative representations of the viability and desirability of the metabolic pattern of modern societies using simultaneously technical, economic, demographic, social and ecological variables defined on different hierarchical levels and scales (M. Giampietro, 2003).

Originally developed for analyzing the metabolic pattern of energy, MuSIASEM was subsequently adopted as an integrated accounting method to analyze simultaneously the energy-food-water nexus (M. Giampietro et al., 2013).

In practice and differently from input /output analysis, the MuSIASEM approach defines the nature and the size of a given system in terms of flows (e.g., consumption and production of food, energy, water, money) in relation to fund elements (e.g., human beings, cropland, rivers), defined in both qualitative and quantitative terms. For example, the relation between water flow and human beings is qualitatively defined as drinking water (flow) for human beings (fund).

The approach involves the following six steps:

(i) definition of the socio-economic system as a set of functional compartments essential to guarantee its survival, reproduction and

adaptability;
(ii) selection of relevant fund elements and their quantification across the various functional compartments of the system;
(iii) definition and quantification of the various flows (included the losses) used by the selected fund elements associated with the various functional compartments at different levels;
(iv) description of the metabolic pattern across different hierarchical levels and dimensions (e.g. demographic, economic, biophysical dimensions) of analysis;
(v) definition of the internal constraints of sustainability (check of the viability and desirability domain for the metabolic pattern);
(vi) definition of the external constraints of sustainability (check of resource requirement and environmental loading).

The HDI, DEA and MuSIASEM can be some useful and interesting sources of inspiration.
But, based on the above, it is clear that the delivery of a proper measurement of sustainable productivity is far from easy.
One important reason is that a measurement which aims at being comprehensive and fully and detailed representative of the sophisticated and complex reality is likely to be ineffective, too abstract and unfeasible in practical terms. In other terms, there is a potential trade-off between being ambitiously comprehensive and being of little or no practical use (D. Rodrik, 2015).
Ideally, the overarching principles must be that of simplicity (a needed virtue), multi-dimensionality (a proper representation of the complex reality), data availability (the contextual constraint) at micro-level and macro-level, understandability, relevance, reliability and comparability across time and space.
All these principles show how difficult it is to have a practical and ambitious measurement to be translated into operative terms.
By definition, each and every measurement is powerful and useful if it is a stylized abstraction and simplification of the reality.
However, as long as current productivity and output indicators are inadequate to achieve a proper measure of sustainability, we cannot give up our principle of going beyond GDP, which we consider to be fundamental.
These criteria must be met for making planning, monitoring and evaluation feasible, even though we know that the effective capability to evaluate the impact of policies would be very difficult in any case, particularly when the complexity of multi-level and multi-dimensionality accounting is adopted.
At present, there is no perfect measure, but there is no doubt that current measures can and must be improved to reflect new views, principles and political priorities.
And if there were even merely a provocative preliminary proposal, a new trail to

follow, offering a starting point to advance the debate and open to critique, we should accept the challenge and pursue the quest for right and relevant paths. It is necessary, in such a context, to navigate across different alternatives and to figure out which one captures the most relevant features of the reality and principles that allow us to define targets, such as sustainability, and try to reconcile and close the gap between current indicators and ideal examples of measures that fit in with the ideas behind current political principles and priorities. In practice, there is no excuse for tardiness.

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