International Seminar on New Challenges in Population and Development

Belo Horizonte, Brazil, 14-15 June 2011.

REPORT

This seminar was jointly organized by the IUSSP Scientific Panel on New Challenges in Population and Development and the Center for Regional Development and Planning of the Universidade Federal de Minas Gerais (CEDEPLAR), with financial support from UNFPA, the State of Minas Gerais Research Council (FAPEMIG) and the Federal Agency for Tertiary Education (CAPES). This seminar was preceded by a one-day seminar on Current Issues and Frontiers in Demographic Methods to honour Professor Jose Alberto de Carvalho for his retirement and new position as Emeritus Professor of Demography at CEDEPLAR. He was also honoured as former President of the IUSSP. The next two days were devoted to the IUSSP seminar, which was attended by 44 participants. Fifteen presentations were made by some of the main international experts in the field of population, including scholars in demography and economics, and policy makers. The aim of the seminar was to highlight new issues in population and development and contribute to the debate on the new agenda for the next ten years. The seminar addressed four main themes: Population Growth and Economic Growth Models; Age Structure and Economic Growth; Demographic Transition and Economic Development; and the Demography of BRICS and New Challenges for Developing Countries in Advanced Demographic Transition Stage. Both seminars were broadcasted live by Cedeplar on a web-link also made available on the IUSSP website.

Key questions addressed at seminar:

The general idea of the seminar was to stress new issues in population and development aiming to contribute to the debate on the new agenda for the next ten years.

I-   Population Growth and Economic Growth Models

The relationship between population and economic growth can go back to Malthus. In the last century's post-war, this agenda was revived under Solow's model. During the last thirty years there has been a new development of Solow's model leading to different interpretations of the relationship between population and economics. One strand is the development of a unified framework that tries to incorporate internal historical dynamics to escape from the Malthusian trap to a post-Malthusian regime, and the modern growth regime. Other simulation studies using this framework try to access the crucial role of the demographic transition in the establishment of

a modern growth regime. Empirical studies on the decomposition of economic growth showed that factor accumulation is not sufficient to explain all income per-capita growth. Total factor productivity may alter the predicted negative relationship between population and per-capita income growth predicted by Solow's model. Evidence associated with geography, climate, institutions, health investments are advanced to explain growth in per-capita income. The goal of this session is to draw on elaborated models, to be summarized in a non-economist language, in order to suggest sound economic foundations for population and development.

II-   Age Structure and Economic Growth

There are three lines of studies taking into account the demographic transition and the continuous gain in life expectancy with age structure effects that interact with economic growth: the demographic dividend approaches; the intergenerational transfer approach; and the labor market aging productivity studies. All three approaches deal with the relationship between population and economic growth following theoretical models that are not directly linked to the economic growth models addressed in the previous session. Some approaches such as the demographic dividend are more popularized than the others. This theme is very broad not only due to the number of approaches, but also because of its relevance both to developing and developed countries. As in the other sessions of the seminar, the aim is to draw in elaborated studies in transition to a non-economic synthesis aiming at setting a new policy agenda.

III-   The Big Picture: Demographic Transition and Economic Development

The demographic transition is so central to demography that there is a risk of to it being taken for granted in the field. On the other hand, the very same demographic transition is crucial to the debate on economic growth, age structure effects, and the emerging economies. These are the topics highlighted in the seminar, and this session on some important global processes linked to demographic transition contribute to provide the big picture to the other three themes.

IV-   The Demography of BRICS and New Challenges for Developing Countries in Advanced Demographic Transition Stage

The concept of "large developing countries" became popular in the last decade of the 20th century;, within the IUSSP this concept was promoted by the late Pravin Visaria. Brazil, India, and China, along with Mexico, Indonesia, Nigeria, among others, were countries classified under this category. Behind this classification there was the idea that population policy interventions would have a more effective global impact than in the case of a universal policy for all developing countries. The concept did not flourish, but the BRIC (Brazil, Russia, India, and China) agenda brought these large developing countries back to the scene, now with the combination of large population size, advanced stage of demographic transition, and rapid economic growth. The demography of the BRIC is the development of an agenda of population and development for these countries that are facing poverty, inequality, advanced stage of demographic transition, low fertility, and aging. Other developing countries facing an advanced stage in the demographic transition were also addressed in this session.

Highlight of the sessions:

I-   Population Growth and Economic Growth Models –

- This session brought to demography a group of economists that do not usually attend IUSSP meetings and other international meetings focusing on population, but their models include the key demographic variables and the demographic transition is central to them. In the discussion they acknowledged their pleasure to interact with demographers and appreciated demographic concerns with fit and data quality. Nevertheless, they are more concerned with issues such as endogeneity of variables, and the simulation of economic models that could explain the connection between economic growth and the demographic transition.

- Three presentations dealt with the theoretical economic models that could explain the link between sustained economic growth and the demographic transition. Andrew Mountford focused on an overview of the "Unified Growth Theory" as developed by Oded Galor. David de la Croix described how the trade-off between quality and quantity of children can be calibrated in a model that differentiates skilled and unskilled parents, with direct impacts on productivity. Rodrigo Soares also dealt with such trade-off, but his main focus was on the central role played by exogenous mortality decline on the accumulation of human capital. Hypollite D'Albis also dealt with the importance of health on development, his paper focused on the effect of changes in the dispersion of age differences between sexual partners on the HIV epidemic. A general conclusion of this session is that although demographers and theoretical economists present a common ground that is even less developed than that of applied economists, there is room for a positive interaction that would benefit both sides. Demographers would benefit from the theoretical rigor of the economic approaches regarding the sustainability of economic growth in connection with human capital in a broad sense. And, the economists would benefit from the demographers stylized facts on the demographic transition, that are usually carefully done.

II-   Age Structure and Economic Growth –

- The demographic dividend approach, as developed in the context of Bloom and Canning models, was not represented in the seminar or this session, although some demographic dividend results, related to approach developed by Lee and Mason, were presented. The National Transfer Account (NTA) group was well represented in this session, although developing a transfer account was not the main focus of the session.

- The presentation by Tomas Lindh was very important to distinguish the micro and macro impacts of aging on economic productivity. The focus should not be on the impact of aging on individual productivity but rather on the impact of aging on dependency rates. In this sense, the demographic dividend issue, associated with savings and expenditures is more important to determine the economic consequences of aging. Intergenerational transfer systems are important determinants of the connection between economic performance and demography, although there is a need for further exploration on this issue.

- Tim Miller's presentation was focused on the NTA project, but he stressed the contrast between expenditure with the elderly and with children. Expenditure with the elderly is not correlated with expenditure with children in Latin America, a fact that reinforces inequality.

Miller introduced the concept of aging economies as those where the consumption of the elderly (60+) exceeds the consumption of youth (0-19 years old). In several countries, he showed, economy ages faster than the population, thus the fiscal burden of aging will not be specific only to countries that have already completed the demographic transition, such as the case of Europe.

- David Lam and Leticia Marteleto study the comparison between family size of children and family size of mothers as way to access the impact of fertility decline on the availability of resources to the children at the family level. They conclude that 20% less resources are available to the family in comparison with what would happen if fertility decline had a total impact on family size of children.

- Ralph Hakkert measured the direct impact of demographic dividend on poverty reduction in Brazil, but warned that partial decompositions do not account for the overall effect of age structure. He calls attention for offsetting indirect effects due to age structure changes.

- A general conclusion from this session is that studies should account for micro and macro effects of changing age structure. These results may be offsetting. It is desirable to develop a framework for proximate and distal effects associated with population aging, in order to better assess the direct and indirect effects of the demographic dividend.

- Other dimensions are directly associated with age structure effects: education, health, environment and migration. Specific issues associating education and health expenditures with economic growth, inequality, and poverty should be pursued in the future. Another issues that should be address in the future is the possible impacts of population changes on environment and climate change and the question of international migration.

III-   The Big Picture: Demographic Transition and Economic Development

- David Lam's presentation was based on his PAA Presidential Address presented in Washington, D.C. on April 1, 2011. It presented a very nice review of the demographic transition in the world. It also reviewed the classic debate between optimists and pessimists regarding the world's capacity to accommodate its population size. Regarding population size, on a review of the doubling time issue, Lam concludes that regarding the uncertainties of the global population projections, the world might never reach the population size of 12 billion. He took the empirical evidence to investigate the consequences of population growth (through population size) on food, natural resources, and poverty. Food production accommodated population growth. The price of non-renewable natural resources did not explode, as the pessimists would expect, and the poverty rate declined substantially in the world. If you don't take China into account the decline in poverty is much reduced, though still strong. There is regional variation in the decline in poverty, East and South Asia presented strong declines in poverty rates while the decline is more limited in Latin America, and there is virtually no decline is sub-Saharan Africa. Lam suggests three economic and three demographic reasons why the expected pessimistic picture did not occur. On the economic side, Lam mentions market responses, innovation, and globalization. On the demographic side, he mentions urbanization, fertility decline, and investment in children. On the fertility decline, Lam highlights the importance of fertility response to falling infant mortality. A very important conclusion of Lam's presentation regards education of children. He calls it demographic, but

reminds us that this is also economic. In Lam's discussion, demography is viewed as a more independent variable, whereas in the economics approach it is more dependent on the quantity-quality trade-off. Children's schooling and fertility are negatively correlated through time, but the role of fertility on education obtained using decomposition corresponds to about 25%. Lam concludes on the optimistic side, although he warns about environmental problems, including climate change.

- George Martine presentation focused on the urban transition in developing countries, a point briefly mentioned by David Lam in the previous presentation. If historically population policy focused on fertility change, Martine argues that now the urban transition is the most important demographic trend. Urban growth is expected to continue during this century, with the majority of growth taking place in developing countries. A central issue today is the link between population and global climate change . Martine disputes a "Northern Perspective" focused on population growth and family planning. He argues that population momentum is more important now than fertility decline, so that urban growth becomes a crucial dimension. Martine suggests three propositions: first, population is not consumption; second, family planning has no retroactive effect; third, the environmental future will be determined by what takes place in the cities. In global terms, the urban transition is only half way; he suggests that the mistakes that took place in the urbanization of some regions such as Latin America can be used to advise good policies regarding the urbanization in other regions of the world. Most urban growth expected to take place between 2005 and 2050 will take place in Africa and Asia. China and India alone are expected to account for almost one third of this urban growth. Martine argues that urbanization can be good for the sustainable use of space. He lists six misconceptions regarding urbanization: urbanization is inherently bad; most urban growth occurs in mega-cities; urban growth comes mainly from migration to cities; rural-urban migration can and should be stopped; the poor are a marginal minority in cities; and urbanization inevitably harms the environment. Martine asserts that urbanization is essential to the preservation of the environment by generating technological solutions, and protecting the biodiversity and the ecosystems. Regarding the link between urbanization and global climate change, there is a confounding effect of urbanization with economic growth, higher income, and consumption. Martine argues for a cultural change that would separate this confounding effect. He suggests that urban density can be an ally for the mitigation of poverty and environmental degradation, if policies are set right. The issue of urban poverty and vulnerability is crucial. He argues that the bad experiences regarding vulnerability in urban growth should be used to generate good policies. The promotion of a social and sustainable use of space is the reason for a positive view on urbanization.

- Bernardo Queiroz and Eduardo Rios-Neto focused on the link between the demographic transition and development. By focusing on developing countries that are experiencing advanced stages of their demographic transition, they expect to find pathways for developing countries that are at earlier stages of the transition. The centrality of the demographic transition relates to its impact on the age structure during the different phases. The authors stressed a recent revival of overviews on the demographic transition in the literature, as it is the case in Tim Dyson's recent book and on a *PDR* supplement (2010). A typology of countries developed by Jim O'Neill, chairman of Goldman Sachs Asset Management, highlights the BRICS countries (Brazil, Russia, India, China, and South Africa) and the N-11 countries (Mexico, South Korea, Nigeria, Indonesia, Philippines, Bangladesh, Egypt, Iran,

Pakistan, Turkey, and Vietnam). These two groups of countries account for a substantial portion of the global population and represent a large share of global GDP. These countries are experiencing different phases of the demographic transition, with different momentum on their age structure. An important typological framework linking the age structure with economic growth is provided by Malmberg and Sommestad. They suggest four phases: child phase, young adult phase, population maturity phase, and phase of aging. Most economically advanced developing countries are now experiencing or entering the population maturity phase, and they have to be prepared to the phase of aging that will come in the long run. The speed of demographic change that these countries will experience is much faster than the one experienced by the developed countries. These countries will double the share of population 65 years or older from 7% to 14% in a quarter of a century, something that took 115 years in France and 85 years in Sweden. A look at the dependency rates (youth and old age) of these countries indicated that most countries are somewhere between Malberg's second and third phases. The NTA project helps to organize the data so that the economic replaces the demographic dependency rates. Regarding the first demographic dividend among the BRIC-S, Brazil and China are ending their harvest around 2020, while India and South Africa will experiment this bonus beyond 2040. The picture is similar to the N-11 countries, South Korea is well advanced while the others lag the BRIC pioneers (Brazil and China, Russia was not included in the analysis).

IV- The Demography of BRICS and New Challenges for Developing Countries in Advanced Demographic Transition Stage

- Three BRIC-S countries were reviewed on this session: Brazil, India, and China. Eduardo Rios-Neto and Bernardo Queiroz presented the Brazilian case. A key point posed by the presenters interlinked the demographic transition and some related transitions in Brazil: the epidemiological transition, the nutrition transition, and the urban transition. As these interlinked processes advance, the window of opportunities for reducing inequality and poverty closes up, thus a major issue relates to whether the country will face unfinished or truncated transitions. In the latter case, the danger is to reach a stationary state without solving major human development problems. On a more optimistic aspect, population and economic projections suggest that Brazil is entering Malmberg's population maturity phase, which is the one warranting the transition to become a developed economy. Regarding education, projections suggest that the country will experience a much higher prevalence of educated labor force until 2030. If these two trends are confirmed, there is a chance to avoid the truncation and inequality behind the transitions previously mentioned.

- K.S. James presented the case of India. A first point presented shows that the demographic transition in India presents a later timing compared with Brazil and China, so that the demographic dividend can be potentially reached throughout a great portion of this century. James has shown some particuliarities of the fertility transition in India. It is taking place without major reductions in inequality, female literacy, and even, in some cases, without a decline in infant mortality. In addition, there is a continuation in the pattern of low mean age of childbearing while female sterilization is the main contraceptive use, being adopted at early reproductive age. Finally, fertility transition in the country is taking place in the context of strong regional heterogeneity regarding the demographic outcomes. The potential of a demographic dividend to be realized is threatened by the low education performance and huge

regional heterogeneity. If the labor market outcomes do not improve with increasing labor absorption, then this potential dividend may become a possible burden. Internal migration is becoming an interesting equilibrating factor, with people moving from poor states to the ones at a more advanced stage of the demographic transition.

- Qiang Ren presented the case of China. The Chinese case is important not only due to the country's population size, but also because the country experienced a pattern of early fertility transition and education improvement well before economic growth was sparked. The country experienced unprecedented economic growth during the last three decades, a major portion of this process benefiting from cheap labor as well. The phase of growing working age population ended between 2000 and 2010, so that population aging is starting to become a major reason for concern. If China is at a more advanced stage in the demographic transition than Brazil, and more so than India, the urban transition in China lags behind the one that took place in Brazil. Thus, like in the Indian case, internal migration is a major issue for the future. Education outcomes in China are better than for Brazil and India. Primary and secondary enrollment rates reached universalization by the year 2000. The last decade have witnessed a major increase in the coverage of tertiary education. A major demographic problem experienced by the country is the huge increase in the sex ratio at birth. As the total fertility rate in China has been below replacement for a long time, the severity of the aging process is likely to become a major challenge to the country. The old age dependency rate is projected to be around 60% by the middle of the century. In terms of Malmberg's phases, China will be the first BRIC country to enter the phase of aging. This aging process poses a major question regarding the role of China in the global economy during this century. The country's economic leadership will depend upon a positive synergy between aging and economic growth in the country.

List of Participants

Presenters:

Andrew Mountford – Department of Economics – University of London

Bernardo Lanza Queiroz – Department of Demography, Cedeplar, Federal University of Minas Gerais

David de la Croix – Catholic University of Louvain

David Lam – Department of Economics – University of Michigan

Diana Oya Sawyer – International Policy Centre for Inclusive Growth – UNDP and Emeritus Professor at School of Economics, Cedeplar, Federal University of Minas Gerais

Eduardo L.G. Rios-Neto – Department of Demography, Cedeplar, Federal University of Minas Gerais

George Martine – Consultant, former President of ABEP – Brazilian Population Association

Hipollyte d' Albis – Toulouse School of Economics (LERNA) – University of Toulouse I

K.S. James (Kuriath Sebastian James) – ISEC – Bangalore, India

Leticia Marteleto – Population Research Center, University of Texas at Austin

Qiang Ren – University of Beijing, China

Rodrigo Soares – Department of Economics, Pontifical Catholic University of Rio de Janeiro.

Tim Miller – CEPAL – United Nations – Chile.

Tomas Lindh – Department of Economics – Linnaeus University

Other participants:

Carl Schmertmann – Florida State University

Charles Wood – University of Florida at Gainesville

Hania Zlotnik – Population Division – United Nations

Hans-Peter Kohler – University of Pennsylvania – Virtual Participation

John Wilmoth – University of California at Berkeley

José Alberto Magno de Carvalho – Emeritus Professor at School of Economics, Cedeplar, Federal University of Minas Gerais

Márcia Castro – Harvard University

Samuel Clark – University of Washington

Vladimir Canudas Romo – Johns Hopkins University

SEMINÁRIO 2:

New Challenges in Population and Development

Organized by

IUSSP Panel on New Challenges in Population and Development

Cedeplar, Universidade Federal de Minas Gerais (UFMG)

Supported by

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Faculdade de Ciências Econômicas, UFMG
Belo Horizonte, Brazil
June, 14th - 15th, 2011

TUESDAY, JUNE 14th, 2011

9:15 to 9:45 - OPENING

Welcome addresses

- Reynaldo Maia Muniz - Director School of Economics – FACE-UFMG

- Hugo da Gama Cerqueira - Director Cedeplar

- Tadeu Barreto - Minas Gerais State Government – Office for Strategic Priorities

- Harold Robinson - Representative UNFPA Brazil and Director for Argentina and Paraguay

- Ralph Hakkert – UNFPA Headquarters – New York

9:45 to 11:45 – Population Growth and Economic Growth Models

Chair/Discussant: David de la Croix – Catholic University of Louvain

- Hypollite d´Albis – Toulouse School of Economics (LERNA) – University of Toulouse I

- Andrew Mountford – Department of Economics – University of London

- Rodrigo Soares – Departament of Economics – Pontifical Catholic University of Rio de Janeiro- PUC-Rio

- David de la Croix – Department of Economics – Catholic University of Louvain

    The relationship between population and economic growth can go back to Malthus. In the last century's post-war, this agenda was revived under Solow's model. During the last thirty years, there has been a new development of Solow's model leading to different interpretations of the relationship between population and economics. One strand is the development of a unified framework that tries to incorporate an internal historical dynamics to escape from the Malthusian trap to a post-Malthusian regime, and the modern growth regime. Other simulation studies using this framework try to access the crucial role of the demographic transition in the establishment of a modern growth regime. Empirical studies on the decomposition of economic growth showed that factor accumulation is not sufficient to explain the all income per-capita growth. Total factor productivity may alter the predicted negative relationship between population and per-capita income growth predicted by Solow's model. Evidences associated with geography, climate, institutions, health investments are advanced to explain growth in per-capita income. The goal of this session is to draw on elaborated models, to be summarized on a non-economist language, in order to suggest sound economic foundations for population and development.

11:45 to 12:15 – Coffee Break

12:15 to 13:00 – Discussion

13:00 to 14:15 LUNCH

14:15 to 16:15 – Age Structure and Economic Growth

Chair/Discussant: Paulo Paiva – Fundação Dom Cabral

- Tomas Lindh – Department of Economics – Linnaeus University
- Tim Miller – CEPAL – United Nations – Chile
- David Lam – Department of Economics – University of Michigan and Leticia Marteleto – University of Texas at Austin
- Ralph Hakkert – UNFPA Headquarters – New York

There are three lines of studies taking into account the demographic transition and the continuous gain in life expectancy with age structure effects that interact with economic growth: the demographic dividend approaches, the intergenerational transfer approach, and the labor market aging productivity studies. All three approaches deal with the relationship between population and economic growth following theoretical models that are not directly linked to the economic growth models dealt in the previous session. Some approaches such as the demographic dividend are more popularized than the others. This theme may break in more than one session not only due to the number of approaches, but also due to its relevance both to developing and developed countries. As in the other sessions of the seminar, the aim is to draw in elaborated studies in transition to a non-economic synthesis aiming at setting a new policy agenda.

16:15 to 16:45 – Coffee Break

16:45 to 17:30 – Discussion

WEDNESDAY, JUNE 15th, 2011

9:15 to 11:15 – The Big Picture: Demographic Transition and Economic Development

Chair/Discussant: Hania Zlotnik – United Nations – Population Division

- David Lam – Department of Economics – University of Michigan
- George Martine – Consultant, former President Brazilian Population Association
- Bernardo Lanza and Eduardo Rios-Neto - CEDEPLAR

A global perspective is accounted by three general approaches associated with the population dynamics during the last hundred years. A first approach accounts for the causes and consequences of population growth during this period. A second approach accounts for the urban transition that took place during this period, including the lessons that countries with low to middle urbanization can learn from developing countries completing the urban transition. A third approach accounts for the demographic transition on a global perspective, classifying the large developing countries in accordance with the stages in the demographic transition. Beyond the classification, new issues that developing countries at the highest stage in the demographic transition face are presented as challenges to large developing countries at earlier stages in the transition.

11:15 to 11:45 – Coffee Break

11:45 to 12:45 – Discussion

12:45 to 14:15 LUNCH

14:15 to 16:15 – The Demography of the BRIC-S Countries and New Challenges for Developing Countries

Chair/Discussant: Diana Sawyer – International Policy Centre for Inclusive Growth - UNDP

- K.S. James – ISEC – Bangalore, India
- Qiang Ren – University of Beijing, China
- Eduardo Rios Neto – Cedeplar, Brazil

The concept of "large developing countries" became popular in the last decade of the 20th century, in the IUSSP scene this was promoted by the late Pravin Visaria. Brazil, India, and China, along with Mexico, Indonesia, Nigeria, among others, were countries classified under this category. Behind this classification there was the idea that population policy interventions would have a more effective global impact than in the case of a universal policy for all developing countries. The concept did not flourish, but the BRIC (Brazil, Russia, India, and China) agenda brought these large developing countries back to the scene, now with the combination of large population size, advanced stage of demographic transition, and rapid economic growth. The demographic of the BRICS is the development of an agenda of population and development to these countries that are facing poverty, inequality, advanced stage of demographic transition, low fertility, and aging. Other developing countries facing an advanced stage in the demographic transition also can be contemplated in this session.

16:15 to 16:45 – Coffee Break

16:45 to 17:15 – Discussion

17:15 to 18:00 - Wrap up of the Seminar
- Ralph Hakkert - UNFPA Headquarters – New York
- IUSSP Panel Members