**分组讨论一：人口转型和宏观经济**

**Session 1- Demographic Transition and Macro economy**

**万众楼二楼 2/F of Wanzhong BLD**

**Do changing population age distributions and NTA profiles drive macroeconomic change? A decomposition analysis**

Ronald Lee

How did changing population age distributions affect the US economy, 1960 to 2011? While it is easy enough to project changes on the assumption of fixed NTA age profiles combined with changing population age distributions, does the macroeconomy in fact respond in the way projected? Or do general equilibrium feedbacks or random perturbations dominate the outcome, overwhelming the projected impacts? This question is of fundamental importance for policy makers, policy analysts, NTA researchers, and macroeconomists.

**The role of demography in macroeconomic development after financial crisis in Finland**

Authors: Risto Vaittinen, Finnish Centere for Pensions (ETK) and Reijo Vanne, Finnish Pension Alliance (TELA)

A distinguishing feature of the Finnish society is that, in relative terms and compared to other countries, the post-war baby-boom generations are exceptionally large. Finland has already entered the stage of demographic transition where the share of the working age population is declining because of the population ageing. The largest post war generations has entered the retirement age during 2008–2013 causing a sharp decline to the share of the working-age population in the 2010s. The decline will continue at an accelerating rate during the next decades. The change in demographic structure has coincided with the financial crisis.

**Demographic Transition and Economic Growth in Benin**

Barthelemy BIAO, Idossou Jean-Baptiste OGA, Dètondji Camille GUIDIME

Around the world, countries are experiencing substantial changes in their age structures. Particularly, fertility is declining and the support ratio is rising in the developing countries. These changes have many implications for economic growth. The aim of this paper is to estimate the economic Life cycle deficit of Benin and generate evidence on its Demographic dividend.

Using NTA methodology as developed by Mason and Lee (2011) and adopted by United Nations (2013) and data from the 2007’s household survey and administrative sources, we found that below the age of 30 years and above 61 years, consumption is greater than production. The age group 30-61 years supports youth and old age people. A big part of the life cycle deficit comes from young age groups. The overall life cycle represents 30.7 % of the GDP. The results also show that Benin began to enjoy its first demographic dividend starting from 1998.

As main policy implications of our findings, the government has to facilitate jobs access to young and improve social protection for elders.

**Analyzing Economic Growth through an Integrated Economic and Demographic Framework, the Case of the Netherlands**

Authors: Arjan Bruil & Jan W. van Tongeren

This paper studies the impact of a graying population on the totals and age profiles of macro-economic aggregates such as HH consumption, HH disposable income, saving and investments, and on pension funds and other social insurance schemes. It also deals with the effects on the composition of HH disposable income between the components of labour income (compensation of employees and mixed income of own account workers), social transfers and asset income, and how this influences wealth and worth of the HH sector in terms of fixed assets, pension fund and other asset holdings, and transfer worth.

**Age structure changes and economic growth in Vietnam**

Pham Ngoc Toan ，Giang Thanh Long

Demographic changes have various impacts on economic growth via shrinking labor force and productivity growth. In this paper, using the population projections by General Statistics Office (GSO) for Vietnam in the period 2009-2049, we will apply NTA framework to estimate age structure changes on employment and industrial productivity, from which we will estimate demand for investment in human development as well as job creation in the coming decades for Vietnam.

**分组讨论二：人口转型和人口红利**

**Session 2- Demographic Transition and Demographic Dividend**

**万众楼大教室 Classroom No.1, 1/F Wanzhong BLD**

**The Contribution to Change in Dependency Ratios from Fertility and Mortality Declines during 1960-2010: an Analysis of 201 Countries**

Qingfeng Li and Saifuddin Ahmed

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Summary

Background

 Rapid reductions in fertility and mortality during the last half-century triggerd a major shift to a favorable population age structure in many countries, which has proven to be conducive to economic development. Countries with a high proportion of working age population are better able to use their human resources for economic development due to reduced expenditures related to caring for children. The efficient utilization of the economic opportunities that result from a favorable demographic transition is known as the demographic dividend. Changes in both fertility and mortality have impacts on the population age structure. Our aim is to estimate the contribution to the change in the dependency ratio of non-working age population (younger than 15 and older than 64 years) to the working-age population (15-64) from the decline of each component of demographic transition, fertility and mortality, during the past halfcentury.

Methods

We applied the cohort component method (CCM) to the data from 201 countries in the World Population Prospects: 2012 version (WPP) released by the United Nations (UN) and decomposed the net contributions of fertility and mortality reduction by comparing between the observed population age structure and counterfactual projection of population with constant fertility and mortality rate of 1960.

**Decreasing Fertility, Aging Populations and Life Cycle Deficit: The Case of South Korea**

The age structure of the population of South Korea has experienced significant changes in recent years. In particular, the population age structure of South Korea receives worldwide attention because of the unprecedented rapid progression of decreasing fertility and aging populations. The change of the population age structure can have potentially important implications on economic development. In practice, many researchers have examined the population-development linkages.

This research also attempts to examine the population-development linkages using the National Transfer Accounts (NTA) framework to estimate age profiles of labor income and consumption over the lifecycle for South Korea. An important feature of the NTA is the central role played by intergenerational transfer of resources in explaining the link between population and development. This research quantifies inter-age monetary flows of labor income and consumption and subsequent economic lifecycle deficits based on the NTA framework using the South Korean data, which covers the years from 2009 to 2010.

The main purpose of this research is to provide an overview of the NTA system and then describe the methods and data used in the application of NTA in South Korea. The NTA system of South Korea is consistent with the System of National Accounts drawn by the Bank of Korea (BOK). It provides methodologies for assigning labor income and consumption to population age groups. This research presents some South Korean NTA results, specifically the age profiles of current labor income (YL), consumption (C) and the life cycle deficit (LCD), which covers the years from 2009 to 2010.

The age profile of labor income is found to be an inverse U-shape curve which starts from the age of 17 then gradually increases with age, attains its peak in the early thirties, and thereafter declines with age till the age of 84. Also, the age profile of consumption describes rising levels of consumption when entering school, remains nearly flat during the economically active period and old age. In addition, the profiles of public consumption are that children and the elderly tend to increase. And finally, this paper examines age profiles of labor income and consumption which have similar patterns between 2009 and 2010.

**分组讨论三：财政和公共转移**

**Session 3- Fiscal and Public Transfer**

**万众楼二楼 2/F Wanzhong BLD**

**The Fiscal Dividend and its Demise: Public Sector Finances in Developing and Developed Countries**

Andrew Mason, Ronald Lee, Maurizio Bussolo

Changes in population age structure over the demographic transition have a profound impact on public finances. Many countries are realizing a fiscal dividend as the number of taxpayers is rising relative to the number of beneficiaries. Public sectors have responded to demographic forces and other factors in ways that vary widely around the world. Some countries have exploited favorable demographics to enact major expansions of public sector programs for education, health, and pensions, for example. Others have undertaken more modest expansions of public sector programs exploiting favorable demographics to maintain lower taxes and/or to improve public finances.

A new demographic phase has begun or is on the horizon for the rich countries and for a few rapidly aging middle-income countries. The fiscal support ratio will undergo a long period of decline leading inevitably to a long period of shrinking benefits, rising taxes, and or deteriorating public finances.

Lower income countries are at an earlier point in this process. They have relatively under-developed public sectors and the prospect of a substantial fiscal dividend in the coming decades. Will they follow the trail blazed by European welfare states and many Latin American countries? Will they go down the road favored in East Asia and North America? Or will they choose some different approach altogether?

The paths that countries choose over the coming decades are unknowable. But in this paper we will explore the implications of alternatives for the size of the public sector and spending on health, education, and pensions, public finances (deficits and debt), and intergenerational equity.

The prospects for public sector finances are declining in part because people are healthier and living longer than in the past. Can people work longer and public pensions delayed? Can health care spending on older adults be reined in? We will address this issue and explore the extent to which appropriate public sector reform can offset the impact of population aging.

**Social insurance transfers in Poland**

The paper investigates age profiles of social insurance transfers in Poland. It looks into long-term benefits such old-age, disability and survivor pensions and early retirement transfers as well as short-term ones: sickness, maternity and work injury compensations and changes in these profiles observed between 2004 and 2012. Additionally, age profiles of contribution revenues are presented for the same period. Age profiles are estimated separately for men and women. Estimation of the age profiles allows to identifying the scale of intergenerational transfers in the public pay-as-you-go scheme in Poland, including also selected tax-financed transfers, such as social pensions and pre-retirement benefits and allowances.

By observing development of the age profiles in time, I also assess the impact policy changes, such as reduction of access to early retirement benefits that came into force from 2009. The selected time period also allows to see how changing economic conditions and worsening labour market situation, caused by economic slowdown affected social insurance contribution flows and the extent to which they cover social insurance benefit expenditure. By using age profiles Ie can identify what is the impact of policy and socio-economic changes for different gender and age groups.

Directions of changes in the age profiles of social insurance benefits is also used to assess, how social insurance system is adapting to the population ageing and long-term sustainability, understood as capacity of working-age generation to cover social insurance transfers from current contributions.

**The Fiscal Impact of Population Aging: the case of Brazil**

Cassio M. Turra, Bernardo Queiroz, Elisenda Renteria

Cedeplar, Federal University of Minas Gerais, Brazil

In this article we examine the fiscal impact of future changes in the age distribution of the Brazilian Population. We apply a novel simulation methodology developed by the NTA team to examine the extent to which population aging will affect public transfers outflows and inflows by purpose (Pensions, Public Health and Education) during the next three decades. As we have reported elsewhere (Turra, Queiroz and Rios-Neto, 2012), net public transfers are already relatively larger among the elderly than children (on a per capita basis) despite Brazil still being in the middle of the demographic transition process and the high demand to expand the country’s human capital stock. Current public policies in a context of population aging will add fiscal pressure and limit Brazil’s economic growth and development. We expect our simulations to reveal the probable scenarios of fiscal imbalances in the future and cast light on ways to mitigate the fiscal risk that arise from the demographic transition.

**分组讨论四：生命周期负债**

**Session 4- Lifecycle Deficit in General**

**万众楼小教室 Classroom No.2,1/F Wanzhong BLD**

**National Transfer Accounts for Turkey**

The purpose of this research is to build the aged based consumption and labor income profiles of the Turkish population following the National Transfer Accounts methodology. This methodology provides a system of measuring flows and stocks in an economy consistent with national accounts and allows the estimation of lifecycle patterns for labor income and consumption from public and private sources. In this paper, Turkey’s per capita and aggregate lifecycle deficits and surpluses are obtained for the year 2006. Moreover, using the United Nations demographic projections, the aggregate lifecycle deficits for future years are presented. Results show that the productive period begins at age 29 and age of 62 marks an early exit from this period implying that the Turkish economic lifecycle has 33 years of surplus.

**Demographic Changes and Economic Lifecycle Deficit for Malaysia**

Sharifah Azizah Haron, Tengku Aizan Hamid, Maliki Achmad, Jariah Masud, Mohd Sofi Ali, Alim Jihen

The study attempts to assess the extent of Lifecycle Deficit (LCD) for Malaysia in 2009 and discuss about implications on public policy. Specifically, the objectives of the study are: to develop age profile of consumption and labor income over the lifecycle, to determine the LCD for Malaysia and to identify which ages contribute to the LCD.  The results show that total consumption has four peaks; at age 15, 31, 57, and 95. While the peak at age 15 due to educational cost, the last hump at age 95 may due to health cost. Lifestyle-related expenditure such as recreation and cultural expenditure such financing children’s wedding may explain the two other humps at age 31 and 57.

Government of Malaysia has invested a great amount of their expenditures on public education. It can be shown that public consumption on education is especially high during the school ages of 6 through 19 – i.e. from primary to high school education. The high level of private consumption especially during adulthood was mostly contributed by “other consumption”. The labor income profile for Malaysia in 2009 follows the usual bell-shaped pattern. The labour income peaked at the age of 46 years old. The results indicate that, given the profiles of consumption and income over the lifecycle, child dependency in Malaysia occurs in the first 26 years of life, while old age dependency occurs from the age of 57 onwards. The period of lifecycle surplus spans for 31 years from 26 to 57 years.

**How Life Cycle Deficit is Financing in Senegal?**

Latif Dramani, Fahd Ndiaye, Ouarmé Alaya

The expected benefit to be derived from falling fertility rates and decreasing mortality rates in Africa behoves policy makers to consider approaches that can be adopted to encourage high investment in the human capital of children through improved education and enhanced health care delivery as a way of enjoying the ensuing so-called demographic dividend accompanying these changes.

The objectives of this paper is for Senegal country to:

* Provide estimates of the individual’s consumption at each age group
* Provide estimates of the individual’s income at each age group
* Provide estimates of the individual’s asset at each age group
* Provide estimates of the individual’s transfers (received and paid out) at each age group

**Private Consumption in Taiwan, 1981-2011**

Kevin Hsieh, Nicole Mun Sim Lai, An-Chi Tung

Per capita private consumption, whether in real terms or as a percentage of GDP, exhibits a long upward trend in Taiwan. Moreover, some studies report that consumption age profile estimated each year varies considerably over time, and younger cohorts experience faster growth than older ones. These findings pose a strong challenge to the consumption smoothing predictions of the Life Cycle/Permanent Income Hypothesis (LCPIH).

The literature has mixed empirical results on LCPIH, and does not agree on the relations between growth, demographic change, and consumption (or saving). With better methodology and more up-to-date data, we re-examine these two issues by estimating the age, period and cohort effects of private consumption, test whether prudence and habit formation determines consumption, and study how economic growth or demographic changes affect the level, shape, and changes of consumption.

Our data are estimated under the NTA framework, based on the Family Income and Expenditure Surveys of 1981-2011, which can be re-arranged by cohorts. For our dependent variable, we experiment with different definitions (all, non-durables, or by sub-category) and estimating techniques (equivalence scale or regression). For the independent variables, besides the usual age, period, and cohort dummies, we may include real income (to reduce the over-sensitivity of consumption data), income uncertainties and so on. We employ dynamic pseudo-panel models. We begin with the age-period-cohort analysis, then test various consumption theories, and study whether there are structural breaks (e.g., the implementation of the National Health Insurance in 1995 may have greatly reduced the consumption of health services, which is non a non-durable, however).

Our findings have important implications for the future. Simple exercises will be performed to compare the impacts of different economic growth rates with different population forecasts. The results would indicate how economic stagnation and population aging, the two challenges Taiwan faces now, alter consumption growth in the future.

**On the effect of forward and backward family transfers on capital accumulation**

Gema Abio, Concepció Patxot, Miguel Sánchez Romero, Guadalupe Souto

There is an ongoing debate on the extent to which the demographic transition occurring in most developed countries is driven by economic factors. In this context, it is clear that the role of the welfare state is not neutral as long as it alters the way in which resources move across age groups in the economy. In this paper we aim to shed some light on this issue by developing an overlapping generations model calibrated using the National Transfer Accounts data set, which contains the flow of resources moving from one age group to another by means of private and public transfers or through the capital market. In particular we opt for a strategy which follows naturally from the NTA methodology. By assuming that the observed set of public and private transfers –and other key variables measured in the NTA estimates- are constant in the future we analyze the extent to which savings –the residual variable in NTA- and wealth are affected by the evolution of demography. Cross country comparisons will allow as to disentangle the role of public and private transfers on capital accumulation.

**分组讨论五：性别公平及其影响**

**Session 5- Gender Inequality and Effect**

**理教409 Classroom No.2,1/F Wanzhong BLD**

**Who Benefits from Women's Invisible Work in India?**

Laishram Ladusingh

Women's household work are largely for consumption by members of household and do not conform to the definition of work as any productive work for which remuneration is paid and is market related. This makes women's work invisible in the market based economy though women perform about two-thirds of all housework. Women in India spent on the average 4 hours 30 minutes daily for preparation, cooking and serving food and beverages, cleaning house, laundry and house maintenance as against about 20 minutes a day on the average by men. Intra-household allocation on per capita basis shows that children in 6-14 years, adults in 15-59 years and elderly in 60 years and more consumed on the average 1 hour 15 minutes, 2 hours 15 minutes and 1 hour respectively of the women's time of household management and maintenance. For caring of children, sick and elderly women on average spent about 40 minutes a day but women 20-34 years on the average spent 1 hour and 10 minutes for the household unpaid work as have the dual responsibility of their own children besides responsibility to look after sick and elderly members of household. Out of this time of women, children in 6-14 years consumed maximum time of 45 minutes, elderly in 60 years or more consumed 15 minutes and 10 minutes are consumed by adults in 15-59 years. Invisibility of women's household work in increasing the value of purchased goods and services and contribution to the formation and upkeep of human capital is partly because of the reluctance of national accounts to impute market values for the household non-market production. Failing to recognize women's invisible grossly underestimate the contribution of informal sector in the GDP. Imputation of women's household work by types of production satisfying third party criteria leads to escalate GDP by 30 percent.

**Gender Differences in Cognitive Abilities among the Elderly Poor of Peru**

Javier Olivera (Presenter), University of Luxembourg; and Rafael Novella, Inter-American Development Bank.

The decline of cognitive abilities in old-age is a well documented fact in human biology and also in social sciences thanks to the emergence of large-scale and representative household surveys aimed at assessing the well-being of the elderly. As any other indicator of accumulated human capital, cognitive ability also depreciates at certain rate. As noted by McFadden (2008) individuals can take some measures for cognitive maintenance or repairing in order to retard or smooth cognitive depreciation. Working is an important protective measure against the accelerated decline of cognition in old-age as shown by Rohwedder and Willis (2010). Apart from labour, some other factors such as education attainment, health conditions and nutritional status are also important in explaining the stock of cognitive abilities and the rate of decline. Once all these factors that might have differently affected males and females along years are taken into account, one would not expect gender differences in cognition in later life. Lee et al. (2014) report some studies suggesting that in developed countries there are no significant gender differences in cognitive functioning, while that in developing countries there are important differences in detriment of women. The usual explanation for this disparity in developing countries is rooted on important gender differences in education attainment and nutrition in early childhood. These results lend support for calling on equalizing opportunities in accessing education between boys and girls as a vehicle to enhance cognition in old-age and to reduce disparities.

Cognitive impairments in old-age make individuals less autonomous and able to deal with decisions, ranging from daily activities to more complex choices such as financial decisions. In addition, the relative size of the elderly population is growing in the majority of countries because of the demographic transition, being the share of elderly women even higher due to biological reasons. All of this might represent a major public health problem and press for increasing public health expenditures. Cognitive decline also indirectly affects other family members who have to allocate resources and time to take care of the elderly individual. In this scenario, individuals with larger cognitive impairments might represent a burden for the family. For poor households, this might be even more detrimental given their tight budget constraints. In this regard, the literature that focus on gender differences in old-age cognition in developing countries and rural areas is scarce, although exceptions are Lei et al. (2012) and Lei et al. (2013) that carried out their analysis with Chinese data, and Lee et al. (2014) that use Indian survey data. However, there is a lack of studies that focus on the elderly poor of rural or developing countries. It is possible that among the poor, gender differences in education attainment, health and nutrition indicators are less evident as everyone in this group is in the bottom part of the distribution of such attributes. But another possibility is that gender differences in education and in the other variables are even more pronounced if cultural or economic reasons for favouring boys over girls are more entrenched among the poor. In this paper we assess this empirical question by looking at the gender disparity in cognitive functioning among the elderly poor Peruvians from the Survey of Health and Well-being of the Elderly (ESBAM). This is a recent survey for the poor aged 65-80 in Peru and resembles in some aspects the leading surveys on old-age such as the HRS and SHARE. Importantly, ESBAM includes questions on cognition and a large set of socio-demographic and subjective and objective health measures.

This paper contributes to the empirical literature on gender differences in old-age cognitive abilities by controlling for a comprehensive set of different confounders, such as schooling, sex, age, urbanity, ethnic group, community-level unobserved characteristics, and objective and subjective health indicators. After controlling for these attributes, we find that females perform better than males in some of the cognitive measurements. In comparison to males, females have better cognitive functioning in *episodic memory* (measured with immediate and delayed word recall) and *command* (a series of commands to be orderly followed by the interviewed) but worse functioning in *orientation* and *drawing* ability. In an overall measure of *mental intactness* -that includes *orientation*, *command* and *drawing* scores- females perform worse than males. Furthermore, we find that educational attainment and variables related to childhood and actual nutritional status are very important in determining the level of cognitive functioning. We present evidence of differential effects of education by sex, meaning that females can boost their cognitive abilities more than that of males if they were more educated.

**An Analysis of Gender Disparities in Time Transfers According to Individual Characteristics, Household Structure and Regional Differences.**

**The Case of Italy**

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Non-cash familial contribution to the welfare is an almost hidden dimension, which poses several measurement issues. Although non-market production of goods and services is less significant compared to the past, it still represents a fundamental component of intergenerational transfer of resources. Informal care provides a particularly strong argument to go beyond the traditional overlook of welfare literature on cash transfers, especially in the perspective of an aging population and the consequent increasing differentiation and complexity of needs.

Unpaid domestic work is the area where the necessity to incorporate gender in the analysis of welfare regimes becomes more evident. Gender disparities in household production, and consequently in time transfers, are affected by a complex interaction of micro and macro level factors. Among the former individual (i.e. education, level of income, labor market participation) and household (i.e. number of children, age of the youngest child) characteristics appear to be of particular relevance. While, among the latter, social policies, labor market regulations as well as the underlying socio-economic context exert a strong influence.

The analysis builds on micro-data from the latest Italian Time Use Survey (2008/2009). The research aims to complement existing studies in gender disparities in unpaid work and measures of intergenerational transfers, accounting for household production, consumption and time transfers according to individual, household and country-specific characteristics. In particular, given the existence of significant socio-economic differences across Italy, estimates will be provided for three regional levels: the North, the Center and the South.

**Eliminating Reproductive Risk Factors and Reaping Female Education and Work Benefits: A Constructed Cohort Analysis of 50 Developing Countries**

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Abstract

Context

Proponents of the Demographic Dividend (DD) framework recommend investing in human capital quality, including schooling, nutrition, health care and job skills training, to boost economic growth and productivity in the first phase and continuation through the second. The gendered perspective advocates prioritizing

investments in the female population to capture their potential contributions to the DD. Our analysis assesses the impacts of reproductive risk factors prevailing at the time of daughters’ births on their subsequent health, reproductive and socioeconomic outcomes in adulthood. Measuring the benefits for female schooling and paid work from the elimination of early childbearing, higher parity births and short birth intervals risks can provide insights on the DD’s potential in low and/or middle income countries (LMICs) and the Sub-Saharan Africa (SSA) region.

Objectives

The first study aim is to test a pseudo-cohort approach to gain a longitudinal perspective on life course changes. Second, we assess whether a daughter born to a young mother (under age 18), at high birth order (parity 4 or more) or soon after the previous sibling (within 18 months) shows elevated probabilities of experiencing adverse reproductive and improved adult health and social welfare outcomes, particularly with respect to years of schooling or paid work in adulthood. We simulate for adult female cohorts the expected mean years of schooling and mean proportion with paid work with the elimination of reproductive risks. Third, we examine if these cohort summary measures differ appreciably for the SSA region.

Methodology

Single-year birth cohorts are constructed using the birth histories of and respondent socioeconomic data from cross-sectional rounds of Demographic and Health Surveys (DHSs) conducted in 50 developing countries between 1986 and 2012. Overall 2,542 cohorts and 1,386 for SSA are linked by year of birth across DHS rounds such that risk conditions at birth for daughters come from birth histories provided by their mothers as female respondents in the first DHS round and the adult socioeconomic outcomes are provided by female respondents in subsequent DHS rounds belonging to the same birth cohort year. Generalized linear modeling is used to estimate the effects of each reproductive risk on outcome proportions. Postestimation simulation is carried out with the systematic elimination of each and all reproductive risk factors.

Results

The results show that eliminating early childbearing and short birth spacing can increase average years of schooling for female cohorts from an observed 6.42 years to 6.63 and 6.99 years respectively and for SSA cohorts, from an observed 5.21 nominally to 5.22 with no early childbearing and more robustly to 6.14 years with no closely spaced births. Eliminating high parity births in SSA cohorts increases the average years of schooling to 6.20 years or by nearly one year. The elimination of all three risks generates a predicted gain of 0.81 years for all cohorts and 1.94 years for SSA ones. Across the three reproductive risks, eliminating early childbearing shows the highest gain in the mean proportion having paid work--from 0.286 to 0.326. The individual elimination of the other two risk

conditions does not increase the mean cohort proportion with paid employment; however, the elimination of all three does raise it from 0.286 to 0.305. Eliminating of any and all risk conditions in the SSA cohorts does not increase the mean proportion with paid work.

**Demographic Dividend in Bangladesh :An Application of National Time Transfer Accounts with Age and Gender**

In this paper, demographic dividend of Bangladesh with respect to national transfer accounts and national time transfer account is described for 2010 based on age and gender. According to data for 2010, the Gross Domestic Product (GDP) of Bangladesh is Taka 7,967 billion and aggregate household consumption is 5,969 billion. According to the population census 2011, total population was 149.8 million and male female ratio was 100.3:100. Using the information of the surveys (i.e. household income and expenditure survey, 2010-HIES); Labor force survey, 2010-LFS and time use survey, 2012-TUS) and population census we estimate the national transfer accounts and national time transfer accounts. We show how gender and age based population is contributing to the economy through formal and informal economic activities. We also demonstrate that how Bangladesh is experiencing the demographic dividend with its huge working age population and how does it contribute to national income through labor income. Moreover, in this paper we show how private and public consumption affects the macroeconomic activities. Finally we deal with the policy issues with respect to demographic dividend with aging population and gender.

**分组讨论六：健康和人力资源**

**Session 6- Health and Human Capital**

**万众楼二楼2/F Wanzhong BLD**

**India’s Proposed Universal Health Coverage Policy:**

**Evidence and Implications for Age Structure Transition**

**Effects and Fiscal Sustainability**

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Health expenditure is predominantly private and household expenditure in India. For instance, India’s National Health Accounts [Planning Commission, 2009] showed that the share of private health expenditure was 78.52 per cent in total health expenditure of INR133.77 billion; household health expenditure constituted the largest share in total health expenditure (71.13 per cent) and within total private health expenditure (91.13 percent); total health expenditure was 4.25 per cent of India GDP, largely contributed by the private sector (3.35 per cent of GDP) rather than the public health expenditure (less than 1 per cent of GDP); and public expenditure on health in total expenditure on health(21.48%) was lowest as compared to many developing Asian countries including China(38.8%), Malaysia (44.8%), Indonesia (46.6%), Pakistan (17.5%), Sri Lanka (46.2%),Bangladesh (29.1%), and Nepal (28.1%).

**Optimal Revenue Structure of Public Health Insurance: Political Economy Approaches**

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We try to identify the optimal revenue structure of the public health insurance (PHI) from the political economy perspectives. Chun (2014) showed: (i) that the increase in the tax-financing in the PHI revenue, which changes the tax base from wage income to the whole income and consumption, increases the public health expenditure; (ii) that rise in the progressivity of the tax burden increases the public health expenditure; and (iii) the proportion of tax-financing in the PHI revenue is higher for the countries with higher tax progressivity. These results indicate two political economy perspectives for the determination of the public health expenditure. Firstly, increasing dependence on the subsidy financed by tax revenue, is likely to reduce the incentive of the healthcare administration organization, that intends to maximize its budget and power, to control the public health expenditure, because the administration does not have to make much effort to increase the contribution revenue, if the problem of the health insurance budget deficit is relieved by the subsidy. The result (i) supports this budget-maximizing behavior. Secondly, the results (ii) and (iii) indicate that the median voter theorem may apply in this problem. Under progressive tax structure, the revenue-neutral change in revenue structure, which increases tax-financing, will reduce the fiscal burden of the median voter, and induce a political equilibrium with PHI policy parameters causing larger health expenditure.

**The effects of children on households’ fixed and transitory wealth: Insights from a longitudinal study of periurban communities in Ghana and Ethiopia**

Amy Tsui, Qingfeng Li, Julia Driessen, Assefa Seme, and Emmanuel Nakua

Abstract

Context

Asset indices have been used to gauge household wealth and occupants’ welfare. Their construction circumvents a number of issues plaguing direct measures of income and wealth, such as expenditure data. The standard household asset index used in multi-national survey programs is comprised of items related to ownership of property, housing construction quality and amenities. Principal components analysis has been applied to derive household scores.

Asset goods stand in contrast to consumption goods owned or purchased by the household, the latter often relevant for a short period of time. Because of the transitory presence of these household goods, they are not considered reflective of a household’s true long-term economic status, and instead may represent temporary fluctuations in a household’s economic resources. The resources required to support young children, e.g., schooling fees, health care, food and nutrition, can reduce or increase household transitory wealth in the short term. Little research evidence on this relationship is available for households in low and/or middle income countries (LMICs), particularly based on longitudinal studies.

Objectives

This study aims to better understand the relationship between the number and ages of children under 15 years and transitory and permanent wealth. It also looks at whether recent medical expenditures (health shocks) and recent births (fertility shocks) lower transitory and permanent wealth.

Methodology

Data. The data come from two waves (rounds) of the Family Health and Wealth Study (FHWS), conducted in 2009/2010 and 2011/2012., the objective of which is to investigate individual- and family-level health and economic consequences of childbearing patterns. Two (Ethiopia and Ghana) of the six peri-urban study sites have acceptable follow-up and completion rates to warrant inclusion in this panel analysis. Criteria for household eligibility include having a resident married couple with the wife of childbearing age. For each periurban community, all enumeration areas were mapped and households listed. In the baseline round, a probability sample of households was selected and occupants enumerated. Households with eligible couples were selected (one at random if more than one couple). Following informed consent, interviews were conducted with the household head and male and female partners individually. Physical measurements (weight, height, blood pressure, and pulse) were also gathered on all household occupants. In Wave 2 all original households were revisited and any transitions in household residents were recorded. Nearly the same questionnaires were repeated at follow-up. A third wave is planned for the Ghana and Ethiopia sites.

Across all sites, couple participation rates were above 95% and interview completion rates were likewise uniformly high. The completed sample sizes of couples in households were 998 (Ethiopia), 800 (Ghana), 602(Malawi), 777 (Ife, Nigeria), 497 (Ibadan, Nigeria), and 488 (Uganda). This analysis is based on Round 2 data for 742 couples (64%) from the Ethiopia sample and 640 couples (80%) from the Ghana sample. The cases Tsui et al., Effects of Children on Household Fixed and Transitory Wealth, July 2014 are weighted using a propensity score model1 to classify household follow-up. The inverse of the predicted probability is then used to weight observed cases. All results are thus based on weighted data to mitigate potential bias from loss to follow-up.

Analysis.Household data on ownership of home, basic furnishings and consumer assets, housing construction materials and quality, available water and electricity, and cooking fuel comprise the fixed wealth index (FWI), while ownership of non-essential consumer items (e.g., microwave, washing machine, electronics) and expenditures (on eating out, clothing, books, newspapers, child care) as well as household financial health (spending on taxes, having no debt, making loans, and having savings) comprised the Transitory Wealth Index (TWI). The latter index is aimed at capturing expenditures that rely on disposable household income and thus are vulnerable to reallocation by significant life events, such as births and health care needs. Principal Components Analysis was used to construct each score which was then normalized. The Cronbach alpha values for the Fixed Wealth Index with the household samples were 0.77 (Ethiopia) and 0.64 (Ghana) and for the Transitory Wealth Index were 0.67 (Ethiopia) and 0.66 (Ghana). These indices and their validation against household wellbeing measures are described elsewhere (Driessen et al., 2014).

Guided by micro-economic household theories, we construct a panel model to assess the effects of Round 1 predictors on Round 2 wealth measures. Following exploratory data analysis, we estimate two models for each of the two measures using OLS for each of the two sites. The Round 2 values for TWI and FWI are modeled separately and for each of these models, one model adds two covariates--recent births (between Round 1 and 2) and its statistical interaction with the wife’s parity (4 or more births). The covariates of interest, largely measured at Round 1, are of three types: Round 1 Fixed Household Wealth, fertility and health needs, and characteristics of the partners. Fertility is measured through the presence of children under age 5 in the household and between 5 to 14 years, number of births since Round 1, and wife’s high parity status. A second household economic “shock” measure is the percent of total household income spent on health care in the past year, set to a value of 1 if this exceeds 10% and 0 otherwise. The partner covariates include the husband’s and wife’s years of schooling and her age.

**分组讨论七：公共转移的变迁**

**Session 7- Public Transfer Transition**

**万众楼小教室 Classroom No.2,1/F Wanzhong BLD**

**Case Study of Thailand: Aging and the Changing Nature of Intergenerational Flows in Developing Countries**

Suphannada Lowhachai

Over the past decade, Thailand has experienced rapid demographic change toward an aging society. This brings about both economic and social impacts to the country. In order to formulate policies appropriate with the changing demographic structure, it is important that such impacts are first investigated. As part of the Aging and the Changing Nature of Intergenerational Flows in Developing Countries project, this paper analyzes the fiscal impact of changes in age structure of the Thai population. The latest National Transfer Account (NTA) data of Thailand will be used as the main data source for analysis. For the model, the paper will use the two models recently developed—one that incorporates economic feedbacks and another that does not. It will first look at the population-aging situation in Thailand. Then, the fiscal impacts from such demographic change will be analyzed in order to finally arrive at policy implications.

**Socioeconomic differences of the lifecycle deficit in Spain and consequences for the demographic dividend**

Elisenda RENTERÏA, Guadalupe SOUTO, Ció PATXOT

The demographic dividend refers to the impact of changes in the age structure of the population or the dependency ratio on economic growth. National Transfer Accounts methodology allows to improve the measure of age dependency introducing the concept of economic dependency and using the ratio of producers over consumers instead of working-age groups over non-working age groups. However, the relationship between producers and consumers can be further decomposed into the contribution of each educational group. Here, we decompose the demographic dividend into the change of age structure as well as into the composition of each educational category, showing that an expansion of educational attainment among producers can also have a positive impact on economic growth.

**Changing patterns of transfers in Slovenia in the last three decades: transition from socialism to the market economy**

Jože Sambt, Tanja Istenič & Janez Malačič

In the paper we present the historical NTA for Slovenia for years 1983, 1988, 1993, 1998, 2000, 2003, 2005, 2008, 2010 and 2012. We apply detailed and comparable data available for years 2000–2012. During that period the retirement was postponed for about 3 years, however, in about the same extent also the entering into the labour market was postponed. Compared to the earlier results for 2004, the main characteristic of the Slovenian NTA results therefore remains a very “narrow” labour income age profile, resulting in only about 32 years age interval in which labour income exceeds consumption. This is particularly worrisome in the light of high and rapidly increasing longevity (being 80 years in 2012 and increasing by almost 4 years during the last decade), low fertility and baby‑boomers starting to retire. It is also the shortest interval among European NTA countries and one of shortest when compared to NTA countries from other parts of the globe. During 2000–2012 period the share of public transfers relative to the private transfers for financing the consumption of children is gradually increasing. Thus, the public sector continues to overtake from the families the function of caring for children. We are now finalizing the results for the period 1983–1998. The aggregate controls are not fully comparable due to the change in the definition of GDP and because the survey data on income is available only on household level but not on the individual level. However, the estimates for those years are especially interesting because at the beginning of 1990’s Slovenia turned from being a socialist country to the market economy. We will present how this change in the socio‑economic systems is reflected in the NTA results.

**The Effect of Public Transfer on Private Transfer in Korea between 2006 and 2011**

Namhui Hwang, Korea Institute for Health and Social Affairs, Seoul, Korea

Korea has considerably increased public expenditures related to social welfare for the elderly since the mid-2000s. The Basic Old-age Pension System has begun to support to low income elderly since January 2008 and the Long-Term Care Insurance system has introduced to improve old age health and stable living since July the same year.

But we are not sure that the life quality of the elderly is better than after implanting these systems just because we do not know whether there is the crowding-out effect of public transfer on private transfer. If there exists, economic burden just shifts family to government not making quality of elderly’s life higher. Beyond that, only have some efforts begun to emerge to shed light on the effects of Korean’s social welfare policy for elderly on family support system in Korea. Even scarcer have been studies that aim to explore this issue in terms of micro approach in Korea.

This study attempts to address this deficit by using National Time Transfer between 2006 and 2011 to analyze the effect of public transfer on private transfer in Korea focusing on the macro level. Although the time series is not sufficient to explore the relationship between public and private transfer, it can be provided the roles of government and family in the era of aging population.

**Benefit Incidence of Public Transfers: Evidences from China**

SHEN Ke, WANG Feng, CAI Yong

China’s economic hyper-growth has been accompanied by an equally rapid increase in the level of inequality in the past three decades. In response to the great concern on rising inequality, the Chinese government has made great strides in intensifying public transfers in terms of education, health care and pension, to benefit citizens, especially the young and elderly population, and other disadvantaged groups. Utilizing the framework of National Transfer Account, this study systematically examines how public transfers are distributed across generations and across income groups in recent China.

Our analyses are based on the micro-level data from the 2010 wave of China Family Panel Study as well as macro-level data from the System of National Accounts and government financial statistics. We estimate age profiles of per capita total public transfer with education, health care and pension transfers combined, and then further disaggregate age profiles of public transfer by sector and by income quartiles.

The results show that current public transfer largely tilts towards the elderly: per capita total public spending per person aged 65 and above is twice the spending per child below age 19. Disaggregation of public transfer by sector and income quartiles provides further insights. Three lower income quartiles follow the similar age profiles of per capita public education transfer, while the top quartile receive more government transfers for pre-primary education and college education largely due to their higher enrollment rates. Although public health care transfer is almost equally distributed across income groups under age 60, it is skewed in favor of the richer groups at senior ages as well. Richer groups, the majority of whom are urban dwellers and engaged in formal sectors before retirement, tend to be covered by more generous health insurances, which would significantly improve their utilization of public health services at advanced ages. The incidence of per capita public pension is strongly regressive, with older people at the top of income distribution enjoying much higher pension benefits. This is attributed to both higher contributions before retirement andthe more generous pension packages for the wealthier groups.

The results from this study highlight the challenges faced by the Chinese government in struggling to deliver essential and equitable social services. Generational imbalances in benefit incidence should be paid attention to. Otherwise, expansion of senior citizens combined with higher levels of spending on the elderly would exert heavy pressure on government fiscal budget in the coming years. Furthermore, the currently fragmented health insurance system and pension system need to move towards a unified system, so as to reduce inequalities in benefit incidence across income groups.

**分组讨论八：时间利用研究和方法创新**

**Session 8- Time Use and Methodology Development**

**理教409 Classroom No.2,1/F Wanzhong BLD**

**Can We Measure Time Consumption for Unpaid Work? An Analysis for European Countries**

Abstract

During the last decades, time devoted to housework and family care has received an increasing recognition of its economic and social value. There have been many different efforts to evaluate the extent of household production developing satellite accounts, while a more limited number of studies have focused on gender differences in unpaid domestic work during the life course. The National Transfer Time Transfer Accounts (NTTA) greatly contributed to the research in this field extending the analysis to the consumption, in addition to the production, of unpaid work. The difference between consumption and production at each age, provide us with a measure of time transfers. However, estimating the consumption of unpaid work is a fairly complex task given the existence of very limited, or completely absent, information at the regard. This paper uses time use surveys (TUS) data to estimate equivalence scales for the consumption of different housework and care activities focusing on European countries. Different approaches and assumptions on the age patterns of non-market consumption will be experimented relying on a number of countries with detailed TUS data.

**What is the time and monetary value of caring for the children, the sick, the disabled and the elderly in Mexico? Current and future estimates**

**Estela Rivero and Anairis Hernández Jabalera**

The causes and consequences of the sexual division of labor are fairly well known. Something that has not been as well documented, and that can have important implications for women, their families and society in general is that the population structure of Mexico will change importantly in the next years, and with this transition will come a change in caregiving needs. With the objective of providing a guideline for the formulation of public policies, in this paper we analyze the needs for caregiving, in time and monetary units, for the present time and the following 50 years. We also analyze who is responsible for these tasks. A last component of this paper links the demographic changes in the next fifty years with the demands for caregiving, with the objective of demonstrating how the dynamics of these two phenomenon will interact, if the current trends continue. This exercise is useful to illustrate the possible consequences of the increased demand in the caregiving times, and costs that this would imply for the society in general.

**Bayesian estimation in NTA frameworks**

**Authors: Jan W. van Tongeren and Arjan Bruil**

This is a parallel paper to the first paper “Analyzing Economic Growth through an Integrated Economic and Demographic Framework, the Case of the Netherlands”. It is not about NTA concepts and analysis, but about the methodology of compilation of NTA. It includes an explicit NTA framework, with age profiles for an extended HH sector, but also data for other sectors without age profiles. Explicit links are included between the inflows and outflows of the HH and other sectors and the balance sheets of those sectors. A concept of transfer wealth is included in the HH sector. The data based on the 2010 national accounts for the Netherlands are included in order to illustrate the conceptual framework, and micro data are used to estimate age profiles of data. Discrepancies between micro data totals and macro aggregates of the national accounts are explicitly included, so that they can be reconciled in a Bayesian estimation process.

Structural ratios characterizing the graying population in the micro data, such as consumption, composition of disposable income and wealth/worth of different age groups, are measured only for 2010. For an earlier year 1990, macro totals are measured, so that measurements can be made of macro ratios characterizing the graying population (see footnote 1). The changing ratio values are used in alternative scenarios for projections of data (see below).

**Four Levels of Intergenerational Indicators**

**Robert I. Galand Lili Vargha**

Indicators of intergenerational reallocation can be calculated at the level of public programs, (such as pensions or health care), more generally at the level of the general government and in an even further generalized way at the level of the national economy. For example the Economic Support Ratio (ESR, Cutler et al 1990), which captures both the effect of age-composition and the age patterns of producing and consuming income by comparing the effective numbers of producers and consumers, can be defined at other levels of the reallocation system. The Fiscal Support Ratio (FSR, Miller 2011) compares the numbers of effective taxpayers and effective beneficiaries. The Pension Support Ratio repeats the same exercise with the effective numbers of contributors and pensioners.

In our paper we extend these measures by incorporating time transfers into the reallocation system. We introduce a generalized version of the support ratio, the Total Support Ratio (TSR). The TSR extends the age profile of labor income with the age profile of the value of household labor and the age profile of consumption with the age profile of the consumption of unpaid household labor. In this way reallocation patterns in the total economy are taken into consideration. Estimates of the age profiles of produced and consumed household labor are based on the Time Use Survey. We demonstrate that the conclusions drawn from the support ratios defined at these four different levels are varying and the projection of TSR predicts a significantly less dramatic effect of aging on society.

We extend this generalization to two other intergenerational measures, the Benefit Generosity Ratio (BGR, Miller 2010) or Elderly Bias of Social Spending (EBiSS, Vanhuysse, 2013), two similar indicators measuring the generational asymmetry of public expenditures; and the Lee arrow (Lee 1994), which indicates how "old" a reallocation pattern is. We demonstrate that incorporating production and consumption of unpaid household labor largely rewrites the conclusions drawn by these indicators.

**Comparison of Internal Rates of Return from Intergenerational Transfer Systems**

**Michael R.M. Abrigo**

Income flows do not necessarily match consumption levels at different stages of the lifecycle. Transfers among different generations are thus necessary to cover this income-consumption gap. While the extent at which different economies mix public and private institutions-mediated transfers are well studied in the literature, the mechanisms through which the optimal mix is arrived at are not well understood. Using modified internal rates of return calculated for different public and private transfer systems, gains (or losses) from the different systems are compared. Preliminary results show a striking conundrum: among the intergenerational transfer systems surveyed, economies with higher-than-market implied rates of return rely more on asset-based reallocations rather than transfers to finance lifecycle income-consumption gap.