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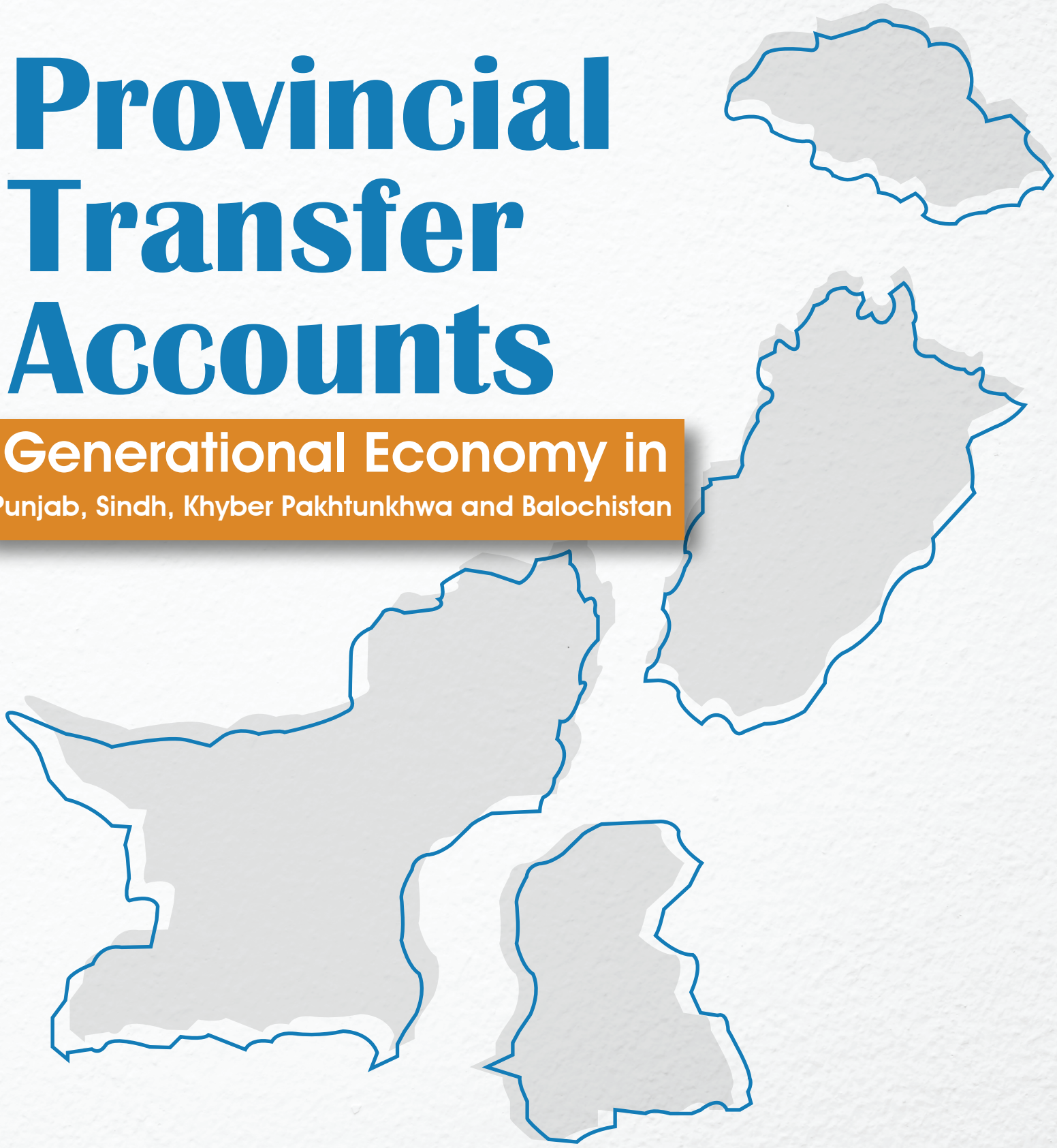
Provincial Transfer Accounts

Generational Economy in
Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan



PROVINCIAL TRANSFER ACCOUNTS

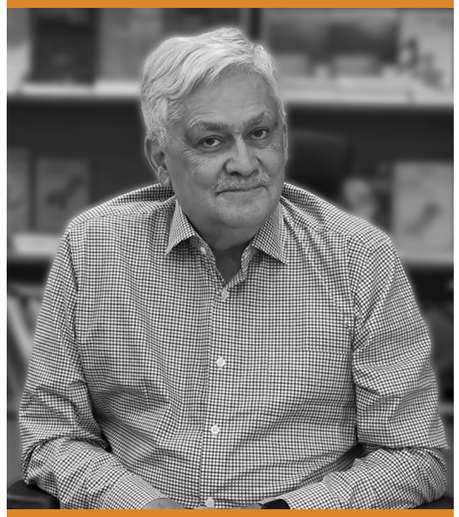
GENERATIONAL ECONOMY IN
PUNJAB, SINDH, KHYBER PAKHTUNKHWA AND BALOCHISTAN

DURRE NAYAB
(Joint Director, PIDE)
&
NABILA KANWAL
(Research Fellow, PIDE)

PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS

with support from the

UNITED NATIONS POPULATION FUND



FOREWORD

The economy emerges from the combined transactions of people in different age groups known as generations. Young families need resources to raise kids and grow old to retire and depend on those kids. Looked at in that manner, young people through their effort are supporting both the children and the elderly (dependency ratio). Several transactions take place to make this happen—savings, investments, physical and human and pensions.

In Pakistan we have always been concerned with our low savings rates (saving/GDP ratio). Despite much debate and policy interventions the saving rate remains very low. These NTA studies shed important light on this issue.

Dr. Durre Nayab of PIDE with UNFPA support has brought generational accounting to Pakistan. This accounting known as National Transfer of Account (NTA) provides a complete, systematic, and coherent accounting of economic flows from one generation to another. Another issue that is often fleetingly in the headlines and policy pronouncements is the demographic dividend—a seminal research of Dr. Nayab of PIDE. NTA allows us a deeper understanding of the demographic dividend and how to affect it with labor market, education, and other interventions.

For development planning grounded in evidence this report provides indispensable evidence and I do hope that our policymakers as well as academia and civil society will study, understand, and debate its analysis, messages, and implications.

PIDE's NTA reports also contribute significantly to the global discourse on demographic analysis. Now we can compare our life cycle saving, income patterns with other regions and countries and see possible interventions for enhancing productivity and savings. For example, NTA evidence suggests that that the saving age begins much later and ends much earlier than other countries. In addition, in their productive years people save less than other countries indicating lower productivity or labor market imperfections. In short Pakistan is experiencing a shorter demographic dividend than the possible and the potential.

Building up on our earlier NTA reports, this report develops provincial generational accounts. Now not only the federation but all provinces can align policies to address the specific needs and opportunities unique to each province, fostering more effective and targeted socio-economic development. In each province there is clear evidence of a shorter working life as well as lower productivity jobs.

It seems people in Pakistan are working for a lower proportion of their lives than other countries while also in jobs that are less productive or yielding lower incomes. This invites a serious debate on our labor market and our working lives. The world over with increasing age at mortality people are working longer. Why is this not happening in Pakistan?

Once again PIDE has provided research of high quality and depth to inform policy and academia. We hope that our NTA reports enable provincial and federal governments to make strategic investments that will yield long-term benefits for their populations. We also hope that students will adopt NTA as an area for research in Pakistan further understanding the interface of demography and economics. Through the insights provided in this report, provincial governments can effectively navigate the challenges and seize opportunities arising from demographic diversity, steering their provinces toward a brighter and more prosperous future.

I extend my sincere gratitude to Dr. Nayab and her team at PIDE for this path breaking work in Pakistan. Heartfelt thanks are due to the UNFPA, especially their Country Representative, Dr. Luay Shabaneh, for their support in making this report a reality. I anticipate a substantial impact of this report on provincial development planning.

PIDE in its agenda setting role will also push this line of research in Pakistani academia.

Nadeem Ul Haque

(Vice Chancellor, PIDE)

FOREWORD

National Transfer of Account (NTA) constitute an important policy tool that provides a complete, systematic, and coherent accounting of economic flows from one generation to another. In Pakistan, population structure and demographic profile vary from one province to another. It is, therefore, important to compile NTA at the provincial level particularly that all economic and social agenda policies and programming powers after 2018 amendment were mandated to provincial governments. UNFPA and PIDE worked together to compile NTA for all four provinces of Pakistan as a contribution to improve understanding of the dynamics between demographic profiles and macroeconomics.

This report marks a substantial progression in our dedication to development planning grounded in evidence. I extend my genuine appreciation to all those who have played a role in bringing about this milestone and contributed to this important undertaking.

The NTA reports encompassing all provinces offer a comprehensive framework for analysing the demographic structure of each region. These reports illuminate the intricate relationship between population age structures, economic productivity, and social investments. In providing this nuanced understanding, the reports empower provincial governments, policymakers, and stakeholders to make informed decisions regarding resource allocation, public services, and social programs. This tailored approach ensures that policies are finely

tuned to address the specific needs and opportunities unique to each province, fostering more effective and targeted socio-economic development.

In alignment with international best practices, the NTA reports contribute significantly to the global discourse on demographic analysis. This contribution ensures that Pakistan not only adheres to but also advances in the realm of data-driven policymaking on the world stage. The knowledge and insights offered by these reports are invaluable, playing a crucial role in the pursuit of sustainable development and inclusive growth across all provinces of Pakistan.

This report serves as a powerful tool for progress, enabling provincial governments to make strategic investments that will yield long-term benefits for their populations. Through the insights provided in this report, provincial governments can effectively navigate the challenges and seize opportunities arising from demographic diversity, steering their provinces toward a brighter and more prosperous future.

I extend my sincere gratitude to PIDE, the UNFPA team, and all contributors who played a role in making this report a reality. I anticipate the substantial impact of this report on provincial development planning and commend all involved for their valuable contributions to this endeavor.

Dr. Luay Shabaneh

UNFPA Representative

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01 INTRODUCTION

While the national-level analysis of National Transfer Accounts (NTA) provides valuable insights into the generational economy and its macroeconomic implications, a more granular understanding of the provincial dynamics is essential for effective policymaking in Pakistan. Each province in the country exhibits unique demographic patterns, economic structures and social contexts, which necessitate a localized examination of the generational economy. The passage of the 18th Amendment of the constitution devolved many major subjects to the provinces, including health and education, making such a disaggregated estimation imperative.

To fully harness the benefits of the ongoing demographic transition and the potentials provided by the 'demographic dividend', policymakers in Pakistan must be equipped with accurate and province-specific data on the age structure changes and their economic

consequences. This information is crucial for making informed decisions and allocating public resources optimally to leverage the advantages presented by the changing age structures.

By adopting the NTA framework at the provincial level, policymakers can gain deeper insights into the wealth flows occurring within each province's population, allowing for a more nuanced understanding of the generational economy. The provincial NTA[1] analysis enables the construction of accounts that measure how individuals across different age groups within a specific province produce, consume and share resources, at both private and public levels.

Understanding the province-specific economic lifecycless, consumption patterns, and resource utilization is paramount for designing tailored public policies. By examining the age-specific needs, challenges, and opportunities within each province, policymakers can formulate targeted strategies in areas such as healthcare, education, social protection, gender equality and economic development. Furthermore, the provincial NTA analysis sheds light on the implications of population aging and generational equity within the specific context of each province, offering valuable insights into the provinces' long-term economic sustainability.

By conducting a detailed analysis of the generational economy at the provincial level, this report aims to provide policymakers with the necessary information to make evidence-based decisions that address the unique demographic and economic challenges faced by each province in Pakistan. The findings from the provincial NTA analysis will contribute to a more nuanced understanding of the provincial economies, facilitate effective resource allocation, and foster inclusive and sustainable development across all regions of the country.

[1] The current study is the application of the National Transfer Accounts methodology at the provincial level, so it is not 'national' per se. We will, however, use the term NTA, instead of PTA (provincial transfer account) because it is basically the NTA framework that is being used in the study to understand the provincial generation economy.

02 OBJECTIVES

The objective of this report is to conduct a comprehensive analysis of the National Transfer Accounts (NTA) at the provincial level in Pakistan. By focusing on the provinces, we aim to provide a deeper understanding of the linkages between population dynamics, economic development, and their economic implications for each region within the country.

This analysis will incorporate the most recent demographic data, labour market information and household surveys to ensure accuracy and relevance in capturing the current economic landscape of each province.

The specific objectives of this provincial NTA analysis are as follows:

1. Estimating age-specific economic indicators: By utilizing the NTA framework, we will estimate

age-specific economic indicators, such as income, consumption, lifecycle deficits, and reallocations for each province. These estimates will provide insights into how individuals at different stages of life contribute to and benefit from the economy within their respective provinces.

2. Assessing interprovincial disparities: By comparing the NTA indicators across provinces, we will identify variations in economic behaviours and resource flows. This analysis will shed light on interprovincial disparities in terms of income generation, consumption patterns, and intergenerational resource transfers. Understanding these disparities will help policymakers tailor region-specific strategies to address the unique challenges and opportunities in each province.

3. Analysing public and private resource allocations: The NTA analysis will focus on quantifying the contributions of public and private sources in filling any existing deficits, wherever possible, particularly among age groups that consume more than they produce. By examining the mechanisms through which income is reallocated and transferred between generations within each province, we can identify the role of familial support systems, government programs, and market dynamics.

4. Informing provincial policy interventions: The findings of the provincial NTA analysis will serve as a valuable resource for policymakers at the provincial level. The insights gained from this analysis can inform the design and implementation of policies and interventions that address the specific needs and challenges faced by different age groups within each province. These policies may encompass areas such as healthcare, education, social protection, and economic development, taking into account the unique demographic and economic characteristics of each region.

5. By conducting a provincial-level NTA analysis with updated data, this report aims to provide policymakers, researchers, and stakeholders with a deeper understanding of the generational economy within Pakistan's provinces. The findings will contribute to evidence-based decision-making and facilitate the development of targeted policies and strategies that promote inclusive economic growth, intergenerational equity, and sustainable development at the provincial level.

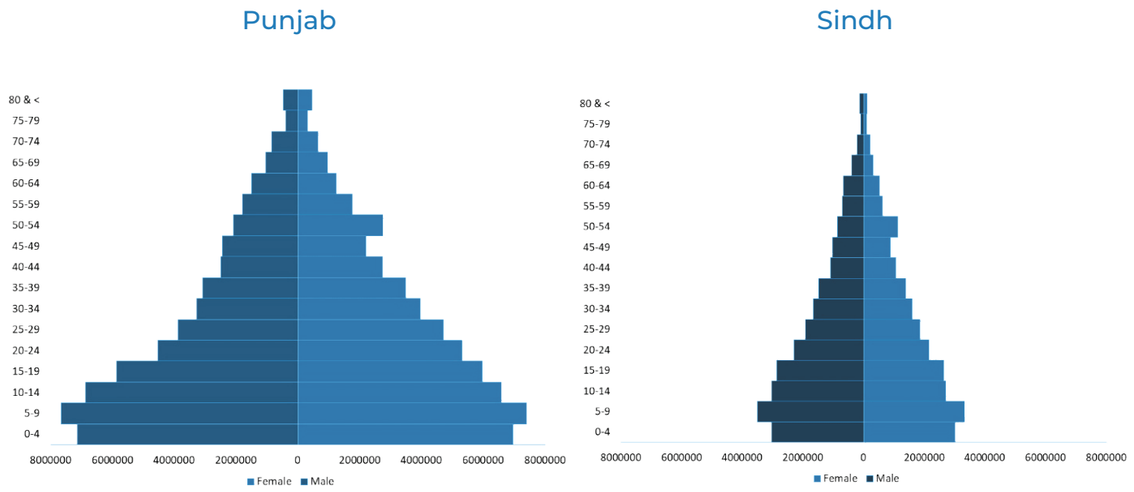
03 POPULATION STRUCTURES

Figure 1 presents the age-sex structure of the four provinces of Pakistan, as estimated using the Pakistan Social and Living Measurement Survey, 2018-19. The scale of all the four population pyramids have been kept same to have an idea about the relative size of the provinces.

As can be seen from Figure 1, the size of Punjab is much bigger than the other three provinces, and that of Balochistan much smaller. The impact of these numbers would be visible in the aggregate estimates for each province. This is a factor that must be kept in mind while understanding the estimates in this report.

Figure 1

Age-Sex Structure of the Four Provinces



Source: Authors' visualisation using PSLM 2018-19 weighted data.

04 METHODOLOGY AND DATA DESCRIPTION

The estimations in this report follow the methodology given in the manual (UN, 2003). In brief, the National Transfer Accounts (NTA) provide an accounting of economic flows to and from residents of a population classified by their age. The accounts are comprehensive in that all economic flows that arise as a consequence of the production of goods and services during the year are incorporated into the accounts. National Transfer Accounts classify all flows by the age of the individual. The classification of economic flows by age is the central feature of NTA and essential to its purpose of providing the basic economic data to study the generational economy.

[2] UN (2003) Measuring and Analysing the Generational Economy: National Transfer Accounts Manual. UN Department of Social and Economic Affairs.

National Transfer Accounts are structured to emphasize the generational economy and its key features are economic lifecycle and age reallocations. The economic lifecycle cannot exist without economic mechanisms and social institutions that facilitate the reallocation of resources across age. Two economic mechanisms lead to reallocations. First, transfer systems embodied in families, non-profit institutions and governments channel resources across age. Second, assets provide a store of value that allows economic resources to be shifted over time and across age.

Economic flows that are resources from a particular age to another are referred to as inflows. Resources used by that particular age are referred to as outflows. Saving is a balancing item. When individuals save, they generate an outflow and when they dis-save they generate an inflow.

The National Transfer Account is based on the following flow identity:

$$Y^l(x)+ \tau^+(x)+Y^k(x)+Y^{p+}(x)= C(x)+ \tau^-(x)+ Y^{p-}(x)+S(x)$$

The left-hand-side consists of all current inflows to the age x, including, labour income $Y^l(x)$, transfer inflow, $\tau^+(x)$, capital income $Y^k(x)$, and property income inflows, $Y^{p+}(x)$. The right-hand side consists of all outflows from the age x, including, consumption C(x), transfer outflows $\tau^-(x)$, property income outflows $Y^{p-}(x)$, and saving S(x), which as stated earlier is the balancing item in the NTA. The flow identity holds for both aggregate values and per capita values at each age. The equation above shows all values indexed by age x, but the identity also holds for national aggregates, in other words, all age groups combined.

The terms inflows and outflows in a way that match the conceptual foundations for National Transfer Accounts by highlighting the economic lifecycle and the economic mechanisms used to reallocate resources across ages. The economic lifecycle is represented on the left-hand side of the equation by the lifecycle deficit, that is the difference between consumption and labour income ($C(x)-Y^l(x)$). The right-hand-side represents the reallocation system that consists of two economic mechanisms: net transfers, $\tau(x)=\tau^+(x)-\tau^-(x)$ and asset-based reallocations, $Y^A(x)-S(x)$, where asset income, $Y^A(x)$, is equal to capital income plus property income, $Y^A(x)=Y^k(x)+Y^{p+}(x)-Y^{p-}(x)$:

$$\underbrace{C(x)-Y^l(x)}_{\text{Lifecycle Deficit}} = \underbrace{\underbrace{\tau^+(x)-\tau^-(x)}_{\text{Net Transfers}} + \underbrace{Y^A(x)-S(x)}_{\text{Asset-based Reallocations}}}_{\text{Age Reallocations}}$$

The study uses the established NTA methodology to estimate the accounts for the four provinces of Pakistan. According to this methodology, the NTA consists of 3 accounts:

i. Economic lifecycle, including consumptions and labour income.

ii. Private age reallocation account, including private transfers (both inter-household and intra-household), private asset-based reallocations and private saving.

iii. Public age reallocation account, including public transfers (cash and in-kind), public asset based reallocations and public saving.

The methodology designed to construct the NTA has massive data needs and requires individual and/or household micro survey datasets along with public expenditure data conforming to the System of National Accounts (SNA), which is the internationally agreed standard of how to compile measures of economic activity. General issues in the estimation process of NTA include data availability, cleaning, weighting, and smoothing. However, for estimating the various segments of the NTA for Pakistan, the data constraints are daunting, even more so for the estimations at the provincial level.

As stated earlier, the present study has made use of the following datasets for the estimation of the NTA:

- Household Income and Expenditure Survey (HIES)- 2018-2019
- Pakistan Social and Living Measurement (PSLM)- 2018-2019
- National Health Accounts 2018-2019
- Public spending data from:
  - Public Sector Development Program 2018-2019
  - Ministry of Finance
  - PRSP budgetary expenditure reports for 2018-19

Shortcomings in the data and the current estimation

A major handicap in estimating the NTA for provinces is the non-availability of macro-indicators, on the design of SNA, for the provinces. The implications for the estimation are that we cannot make macro-controls for the provincial accounts. It may be added here that; wherever possible, as in health and education, public accounts have also been calculated using data of public spending from different sources (see above). Existing literature and consultations with NTA experts suggest that complete NTA, with macro-controls, at disaggregated administrative levels are not found for any country because of the same reason. Macro-controls are aggregate measures of economic flows, as measured in the System of National Accounts. Application of macro-controls help to scale NTA age profiles so that the NTA aggregate estimates equal the estimates from the SNA.

Methodology to Ctonstruct Profiles

Before we go into the details for each profile constructed for the estimation of the NTA for the four provinces, the methodological summary of the account is presented here first.

a) Economic lifecycle Input Parameters

The economic lifecycle input parameters include labour income and consumption. Both the variables are calculated at the individual level.

Labor income is estimated using two kinds of earnings, namely labour earnings and self-employment labour income. The present study also gave value to the work of those who reported working but were not paid for their effort, and this estimate becomes part of the self-employment income. The data for per capita labour earnings were taken from the Household Income and Expenditure Survey (HIES) 2018-19, which has individual-level information for every member's economic

activity and income (age 10 years and above). Using the weights, the analysis is conducted for the entire population both at per capita and at the aggregate level. The estimations so reached are then smoothed using Friedman's Supersmoother as provided by the R statistical package.

Consumption profile consists of two components, private and public consumption. The private consumption is available in the HIES that consists of consumption of food and non-food (non-durables) at the household level, and consumption on education and health at the individual level. Keeping this in view, estimations are carried out for:

- *Private consumption* on food and non-food excluding the durable goods, and excluding education and health. The HIES 2018-19 is used where consumption is calculated at the household level. All household consumption is allocated to individuals using an equivalence scale based provided by the NTA methodology. The estimations so reached are then smoothed using Friedman's Supersmoother as provided in the R statistical package.
- *Public consumption* is partly collective in nature and also some that is individual in essence. The prior includes consumptions like agriculture, transport, defence, law and security, justice, administrative expenditures, and infrastructure. These consumptions are allocated to all members equally.
- *Consumption on education*, both public and private, on formal education by individuals at various educational levels including primary, secondary, tertiary, and professional levels. Formal public education consumption by age is estimated by calculating the unit cost per student for each level of schooling.
- *Consumption on health*, both public and private, for individuals' consumption on doctors' consultation fee, medicines, laboratory tests, and hospital services. Using the NHA 2018-19, the per capita profile was constructed directly by tabulating all kinds of health expenditures by age. The profile so constructed was smoothed by R program's Supersmoother.

b) Private Age Reallocation Input Parameters

The lifecycle deficit is funded through private and public age reallocations. Private age reallocations are those mediated by households, families, and other private institutions. The private age re-allocations are divided into two parts, transfers and asset income.

Transfers are further subdivided into two parts: inter-household transfers and intra-household transfers. Both transfer inflows (received by household residents) and outflows (given to other households) are required for inter and intra-household transfers. The data used for constructing this account were taken from HIES, which has modules containing the relevant information. Data for these transfers are available at the household level, but instead of assigning it to the individuals the value of the total transfers is assigned to the household head.

- *Inter-household transfers*, by NTA methodology, consist of direct transfers between households, and transfers to and from rest of the world (ROW). Inflows are current economic transfers received by resident households and rest of the world. Outflows are donations and gifts given to households. Inter-household transfers are assigned to the household head. The HIES has a dedicated module on inter-household transfer inflows and outflows. Since provincial level data is not available for ROW and NPISH, macro-controls cannot be caluculated for this account.
- *Intra-household transfers* are estimated indirectly as the balancing item between private consumption and disposable income (labour income plus net private transfers plus public cash transfer inflows less taxes paid). Household members with a deficit (disposable income less than current private consumption) receive transfers from household members with a surplus (disposable income greater than current private consumption). If disposable income is insufficient to fund household consumption, the household head makes additional intra-household transfers out of asset income and if necessary, by dis-saving. If disposable income is more than sufficient to fund household consumption, the residual is transferred to the household head and saved.

The components of private asset income are private capital income and private property income.

- *Private capital income* includes the capital income of corporations (financial and non-financial), capital from owner-occupied housing, and capital income from mixed-income, i.e., self-employed income of head of household. Owner-occupied housing is not an actual expenditure rather the value of the flow of housing services to those who own the house. Value is imputed for such occupied houses by gauging the value it would have in the market if rented.
- *Private property income* consists of interest payments, dividends and rent. The HIES provides information on both sort of payment, received and paid by the households.

As discussed in the aforementioned discussion, due to paucity of data at the provincial level, the third component, *public age reallocation*, cannot be estimated.

05 LIFECYCLE DEFICIT

The economic lifecycle account is composed of consumption, labour income and the difference between the two—the lifecycle deficit or surplus, whatever the case may be.

The total consumption includes both private and public consumption. The private consumption items include both durable and non-durable goods at the household level. Non-durable items include food items, fuel and lighting, tobacco, personal care items, household laundry and paper items, and other housing expenditures. The durable items include household textile, furniture, kitchen equipment, personal durable items, recreation, transport, communication etc. The data for the consumption of these items are present for different time period preceding the survey, i.e. some items are consumed monthly, fortnightly and yearly, so all the consumptions were converted into yearly use.

Public consumption includes expenditures by the government on a number of public services. The data is taken from the PRSP 2018-19 expenditure reports, where government spending on a number of services (i.e., education, health, rural development, agriculture, transport, defence, law and security, justice, administrative expenditures and infrastructure, etc.) are reported.

The aggregate household consumption is calculated and then divided across household members following the standard National Transfer Account (NTA) methodology. The equivalence scale is used to adjust per capita consumption across members, that is constant at 0.4 for those age 4 or younger, increases linearly from age 4 to age 20, and is equal to 1 for adults age 20 and older. The consumption is further smoothened by using Friedman's Super Smoother method.

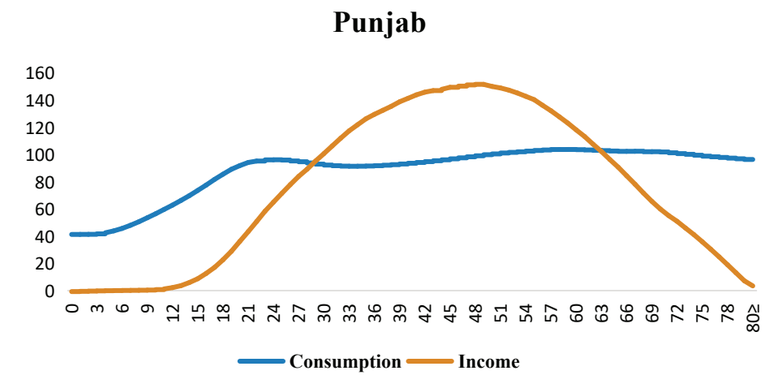
The labour income is estimated using two kinds of earnings, namely labour earnings, and self-employment labour income. The data for this profile was used from the HIES 2018-19 dataset and the labour income includes income from various employment sources including employer, self-employed, paid worker, and unpaid family helpers at the individual level. The per capita annual income is calculated, and it is further smoothened by using Friedman's Super Smoother method.

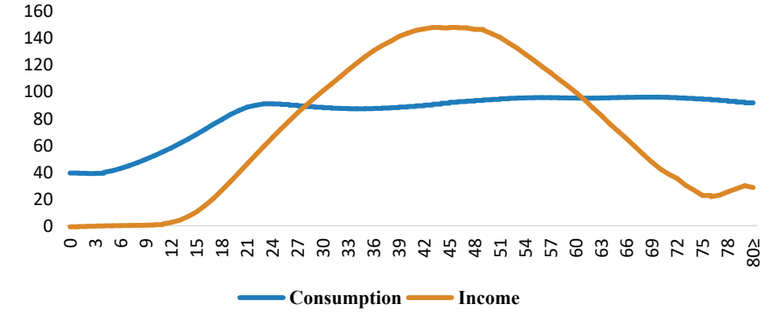
Figure 2 presents the average per capita consumption and labour income at the provincial level with respect to age. The difference between the two is the lifecycle deficit or surplus, whichever be the case. The graphs show that variation exists in the income and consumption pattern with respect to age groups among the provinces. As one would expect, the younger cohorts tend to consume without any earning or negligible earning irrespective of the province. In Punjab and KP the income and consumption are in equilibrium by the age of 30, while, in Sindh and Balochistan consumption and income meet by the age of 29 and 28, respectively. The peak earning is at the age of 50 in Punjab and KP, and at 48 in Sindh and Balochistan.

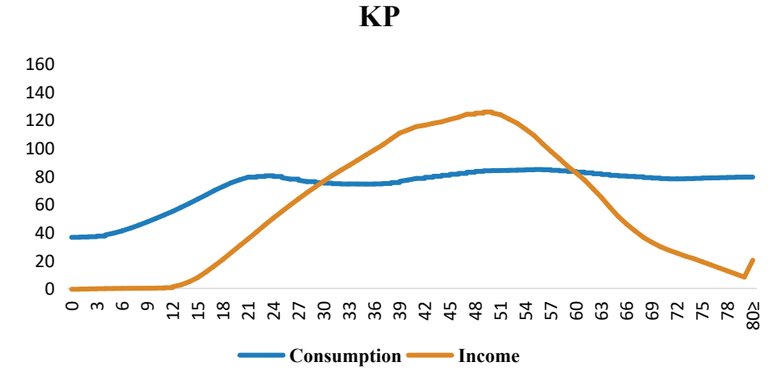
In a nutshell, the graph depicts that earnings are low or negligible in the younger and older age, with consumption far exceeding their income. There is a surplus in the middle of the lifecycle i.e. between the age of 30-60. Irrespective of the province, on average more than half of the life span, consumption exceeds earning, as can be seen in Figure 2.

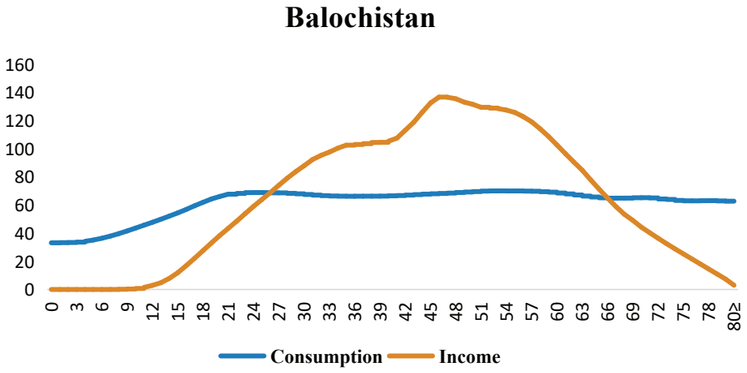
Figure 2

The Lifecycle Deficit: Per Capita Consumption and Labour Income by Province (Thousand Rupees)









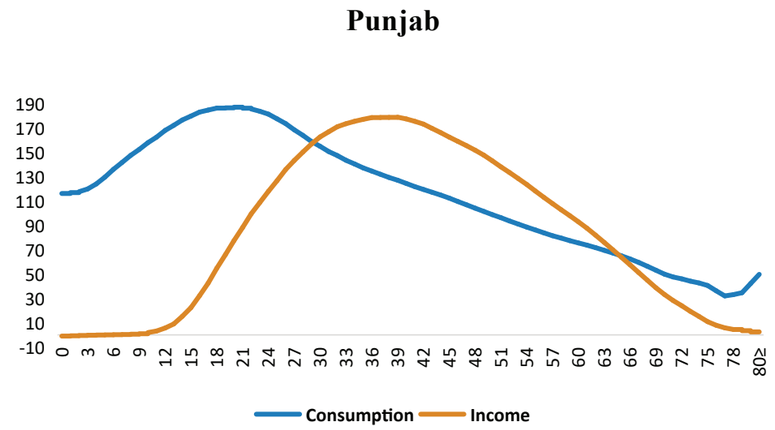
Source: Authors' estimations.

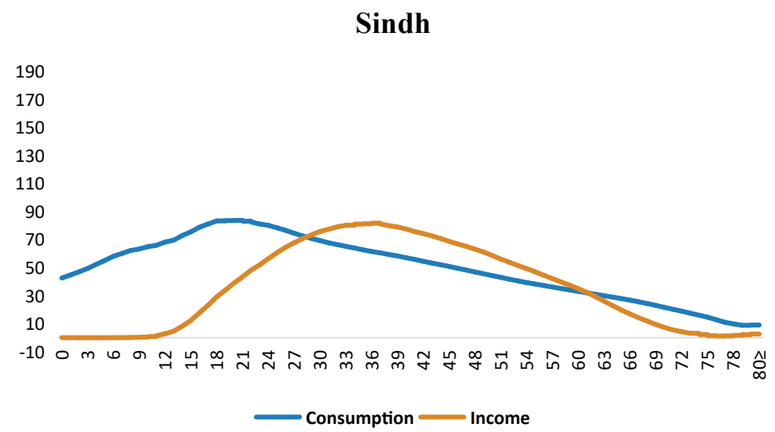
Across provinces, the trend is the same where the income of the individuals in working ages exceed their consumption. This conforms to the ***Lifecycle Theory*** that working adults save and old people dis-save. The provincial analysis, however, shows that the income opportunities vary across provinces. For example, the trends in Punjab and Sindh are much closer where the average per capita income stands at Rs. 86,000 and Rs. 81,000, respectively (for ages 10 and above years), however the income significantly declines in KP and Balochistan provinces with Rs. 64,000 and Rs. 73,0000, respectively. In Balochistan however, income across ages is almost flat, reflecting lack of decent jobs in the province. The provincial variation in income is reflected in the consumption and deficit/surplus pattern of each province. One sees lower consumption in both the KP and Balochistan; imaging the lower income levels of the two provinces.

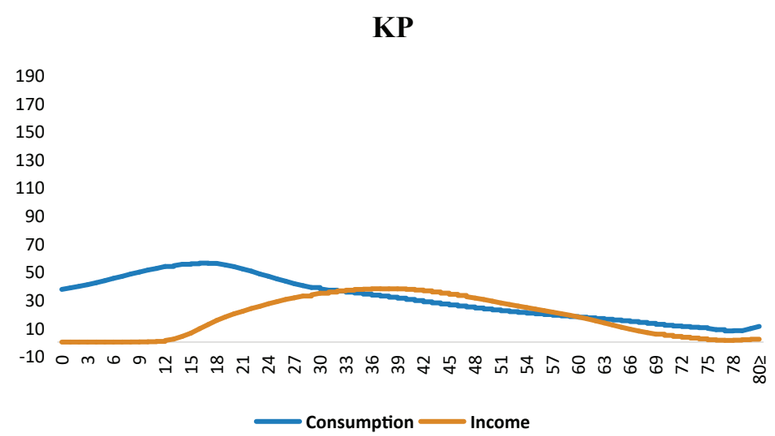
Figure 3 presents the estimates for aggregate labour income and consumption across the four provinces. The aggregate number is the weighted income and consumption of the whole population at a particular age. The finding largely reflects the concentration of population in various age cohorts, as one may see high consumption in early ages (till age 20) in all provinces due to the young age-structure of the population. Overall the lifecycle deficit in each province persists roughly till 29 years of age. The surplus cycle begins at the age of 31 till 65 in Punjab, from 30 to 62 years in Sindh, from 35 to 61 years in KP, and from 35 to 65 years of age in Balochistan. Furthermore, on average after 60s, it again moves to the deficit cycle in all provinces.

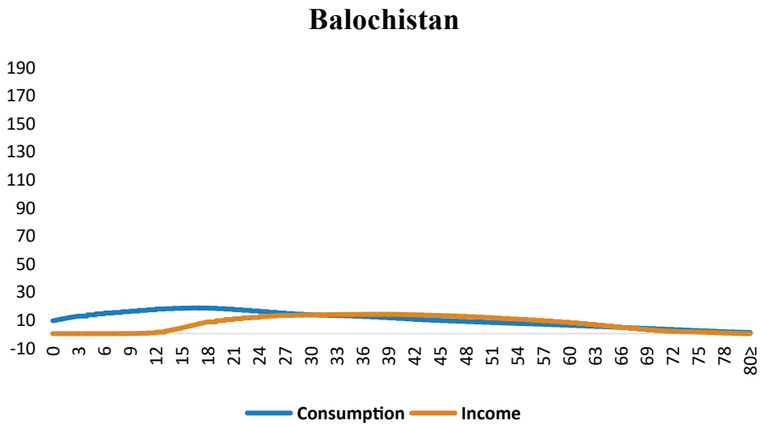
Figure 3

The Lifecycle Deficit: Aggregate Consumption and Labour income by Province (billion rupees)







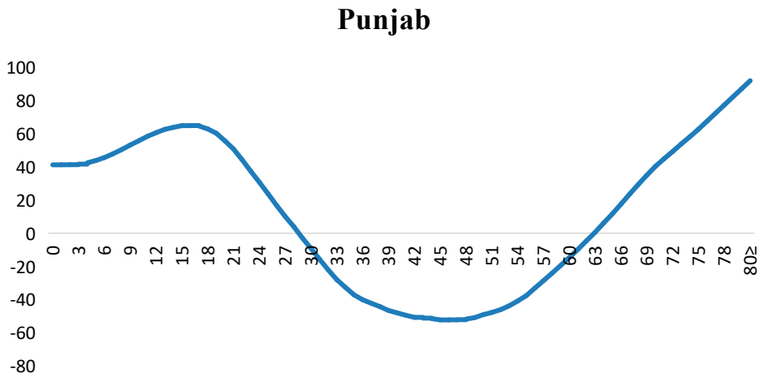


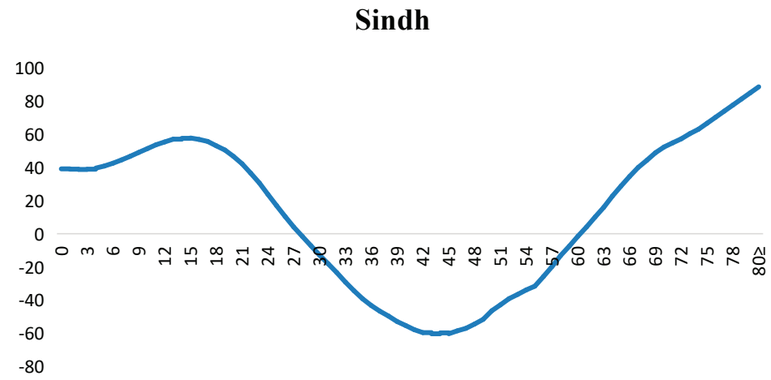
Source: Authors' estimations.

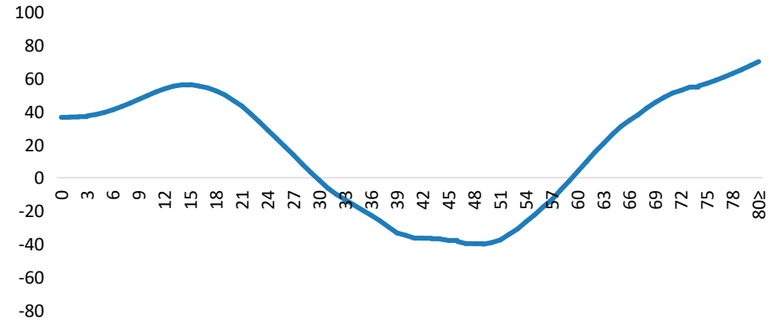
Figure 4 shows the trend of per capita lifecycle deficit (differences between per capita consumption and income) by age cohorts. The positive numbers indicate the presence of deficit and the negative numbers show a surplus in the lifecycle in terms of balancing income and consumption. As shown in Figure 4, the deficit gradually declines and reaches the equilibrium where the income is just equal to the consumption by 27 to 30 years of age in different provinces respectively. There is a surplus for almost 30 years during the potential earning ages, however the surplus is at the peak during the 40s as at this age most adults' earning is at its peak. The balance again goes towards a deficit with the start of the older ages. To sum it up, on average, more than half of the life of an individual remains in deficit in Pakistan.

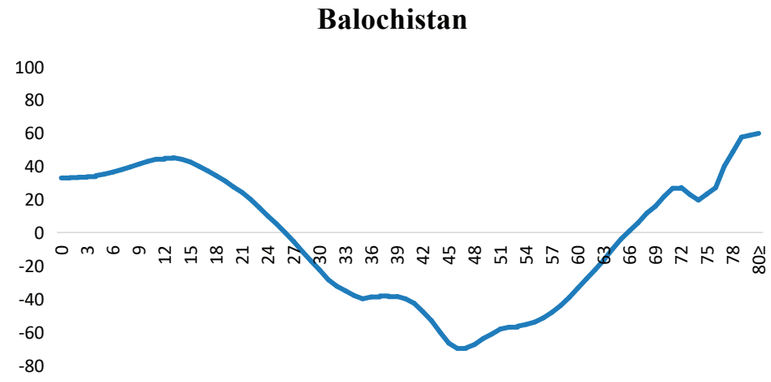
Figure 4

Per Capita Lifecycle Deficit across Province (thousand rupees)







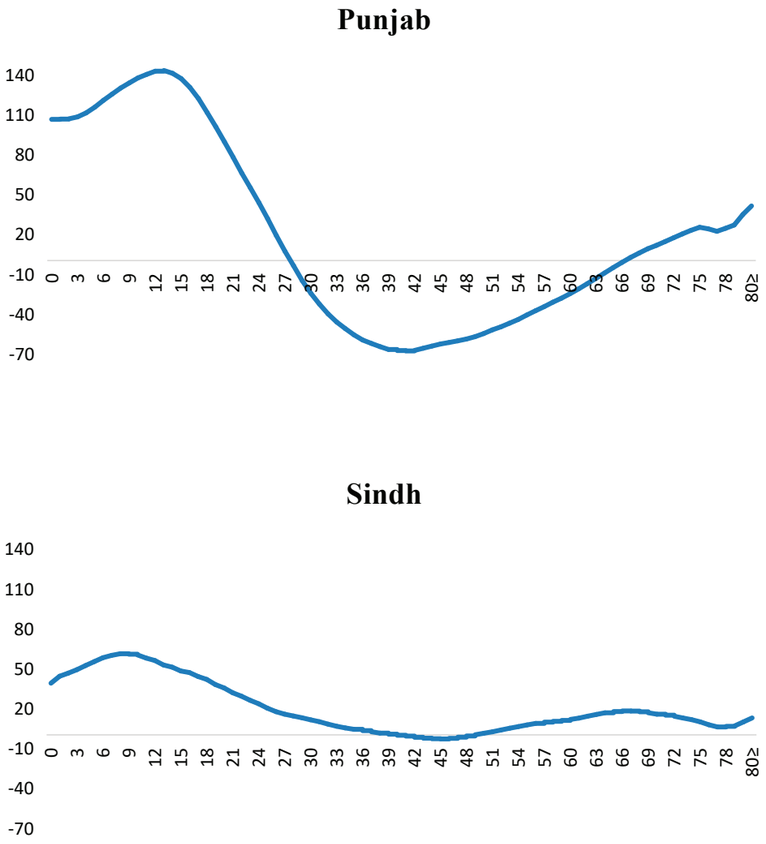


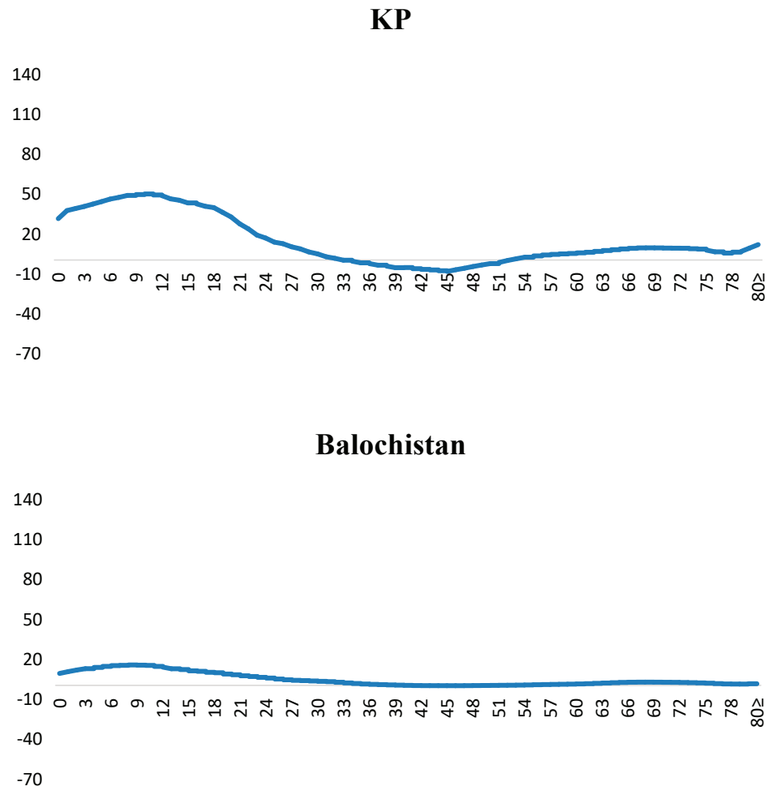
Source: Authors' estimations.

Figure 5 highlights that the aggregate deficit (consumption minus income) is most pronounced among the younger age groups, primarily due to the heavy concentration of population in these age cohorts, lower labour force participation rates and lack of income generating opportunities. With an increase in age, the deficit declines as individuals begin to earn from various sources. Resultantly, it is close to zero or negative in peak labour force participation age, that is age (35-50 years). As the population reaches the age of 62 and above, the deficit consistently and steadily increases. Conversely, the younger age groups, particularly those below 28 years, tend to consume more than they earn, resulting in a net deficit. The surplus reaches its peak around the age of 45 years and gradually declines thereafter, until it turns into a deficit by the age of 62. The low aggregate numbers for Balochistan are due to the small population in each cohort (see Figure 1), along with low income and consumption levels, as can be seen in Figure 5.

Figure 5

Aggregate Lifecycle Deficit by Province (billion Rupees)





Source: Authors' estimations.

06 LIFECYCLE ACCOUNTS

6.1. Labour Income

Labour income comprises of two types of earnings: labour earnings and self-employment income. This study also acknowledges the value of unpaid work performed by individuals who reported working but did not receive any monetary compensation. In this study, the estimated value of unpaid work is included in the calculation of self-employment income. Labour earnings refer to the income earned by employees from their employers in exchange for their labour. This income encompasses wages and salaries before any taxes are deducted, and it also includes fringe benefits. Data on per capita labour earnings were sourced from the Household Income and Expenditure Survey (HIES) 2018-19, which provides individual-level information on economic activity and income for each member of a household. According to the

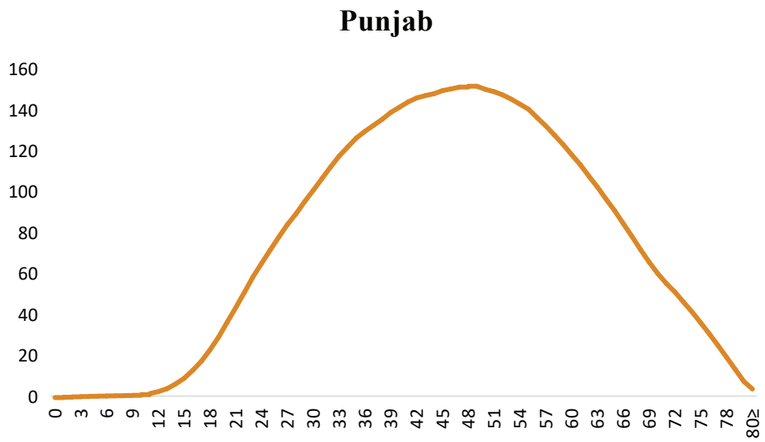
NTA methodology (UN, 2003), two-thirds of the mixed-income is allocated to self-employed income. The other component of labour income, self-employment labour income, is estimated as a two-thirds share of the mixed-income. Mixed-income refers to the earnings from labour for individuals who are self-employed.

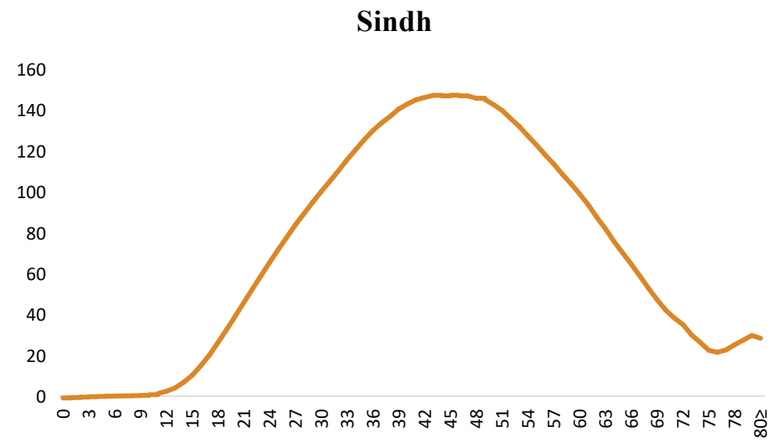
Figure 6 indicates the per capita labour income across provinces with respect to age. The pattern is almost consistent across the four provinces, where labour income increases as the increasing labour force participation rises with age, reaching its peak between ages 35 to 50 years. During this age, the wage rate also increases largely due to skill accumulation.

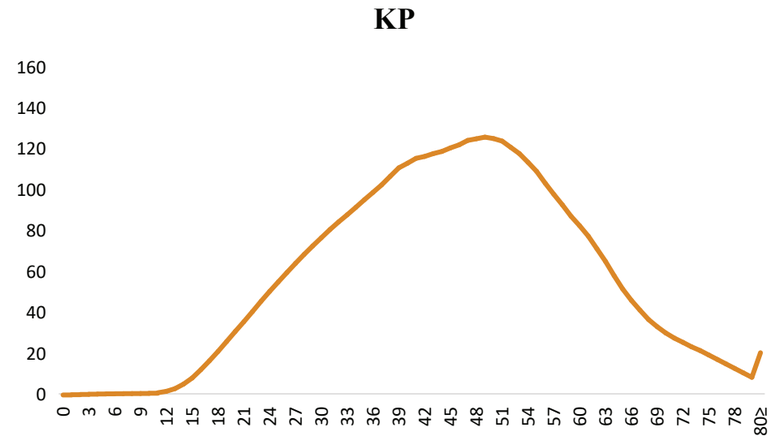
The per capita income is zero till the age of 10 in all provinces. Along with the very low LFPRs as they should be, the HIES does not capture income till the age of 10 years, leading to zero income at those ages. Income starts at age 11 years, and reaches the peak level at age of 48, 44, 50 and 47 in the province of Punjab, Sindh, KP and Balochistan, respectively. In the same way, the per capita income in all the provinces starts coming down after the age reaches the 50s. Additionally, the figure indicates the variation in per capita income across the provinces. The per capita income is the highest in the province of Punjab followed by Sindh and Balochistan, and the lowest for the KP province (see Figure 6).

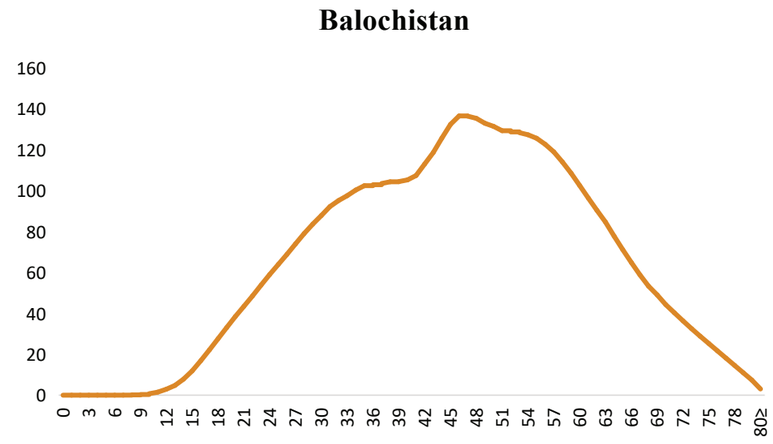
Figure 6

Per Capita Labour Income across Provinces (thousand Rupees)







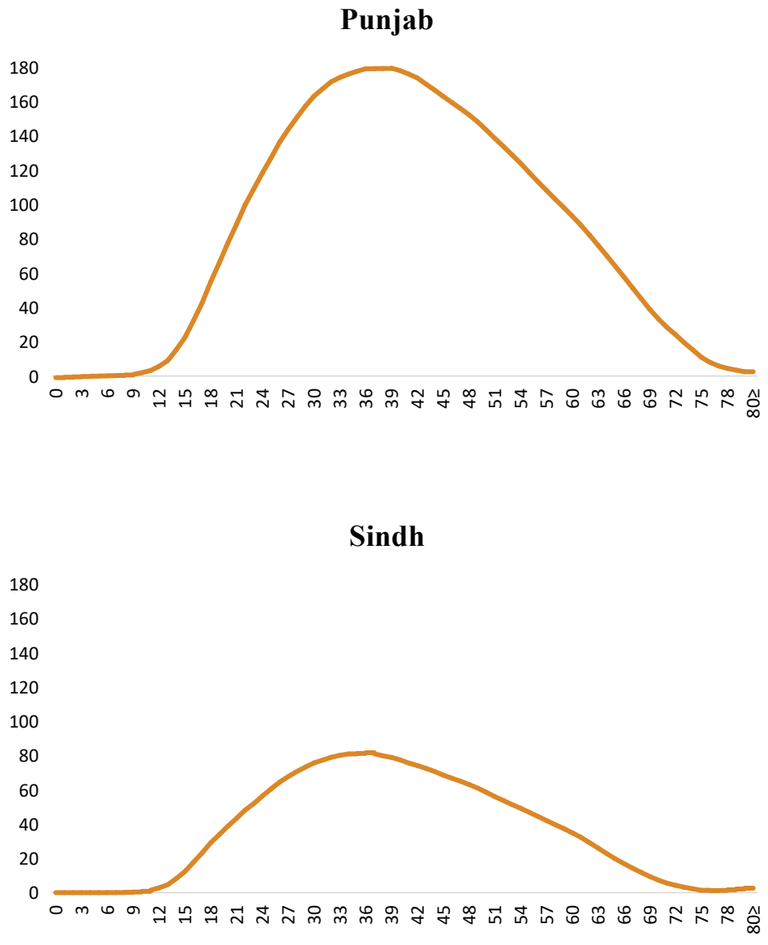


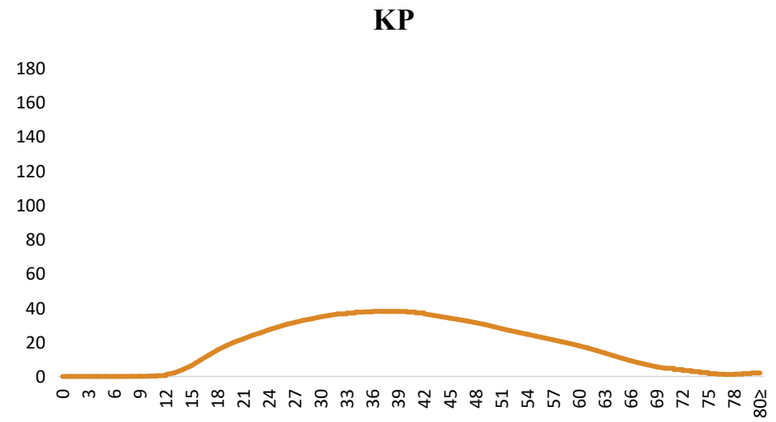
Source: Authors' estimations.

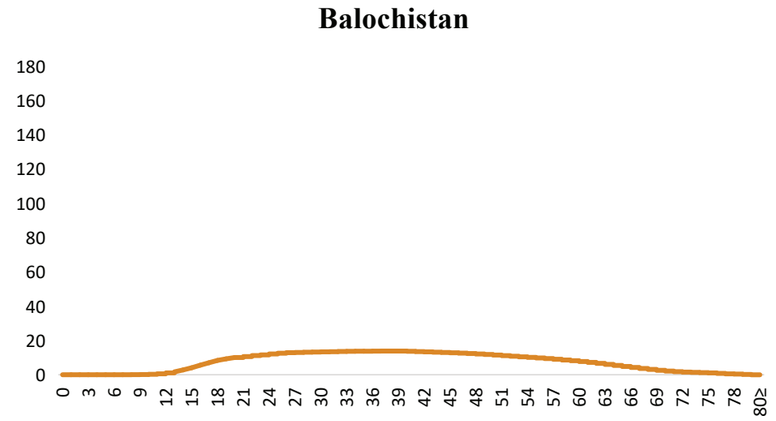
The provincial share in the aggregate labour income is depicted in the Figure 7. As can be seen in the figure, Punjab has the highest aggregate due to its larger population numbers as well as high labour force participation in the province. On the other hand, the magnitude for Balochistan is very small due to small population, low female labour force participation and lower wage rates.

Figure 7

Aggregate Labour Income by Province (billion rupees)





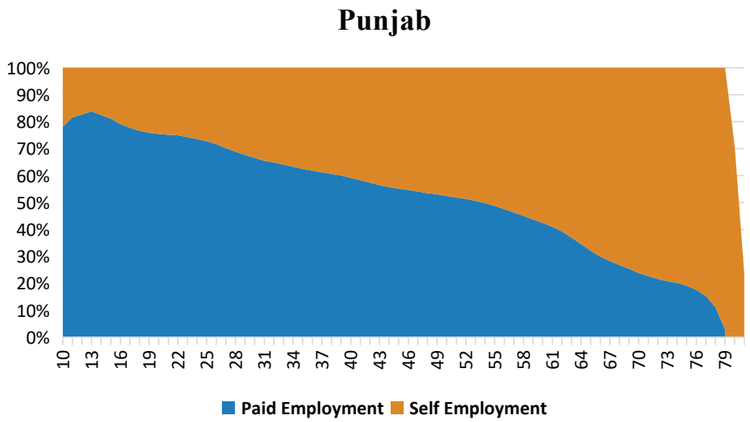


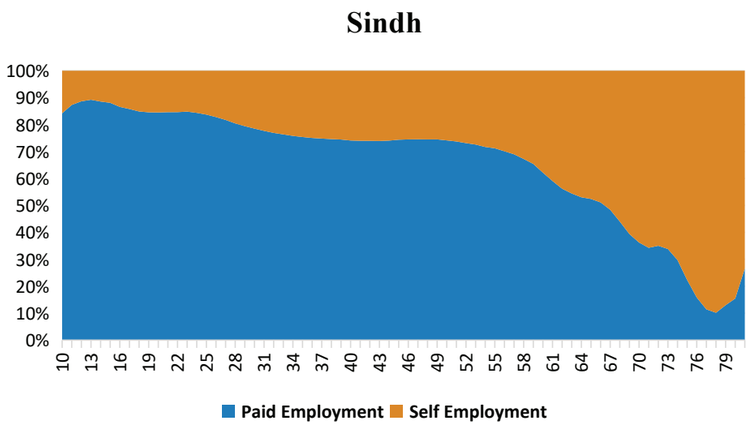
Source: Authors' estimations.

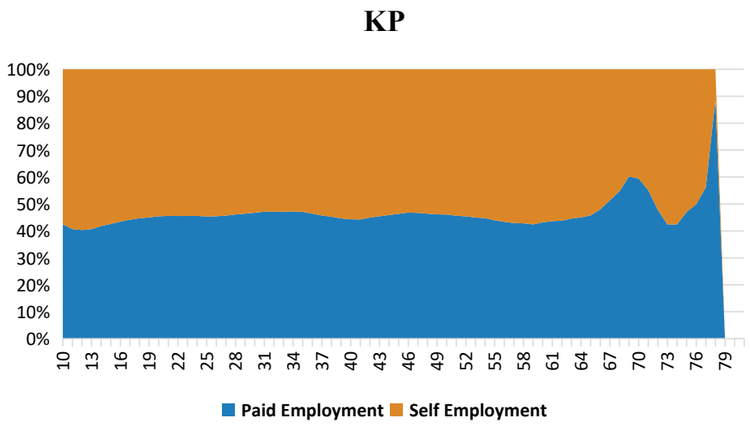
As we have mentioned earlier, labour income can be divided into two parts: paid income and income from self-employment activities. Almost two-third of the income comes from the paid earning activities across provinces. There is an interesting trend and variation across provinces where the income shares (of paid and self-employment) vary, as can be seen from Figure 8. For example, in Balochistan, people largely depend on paid income activities and self-employment earning tends to start after the age of 50 years. On the other hand, the self-employment share in province KP starts at the younger age where young population might find self-employment activities in their early ages and share remain consistent at all the age cohorts. Except for KP, the share of self-employment rises after the age of 50, showing the movement of individuals out of paid jobs (intentionally or otherwise) and/or retirement from the formal sector.

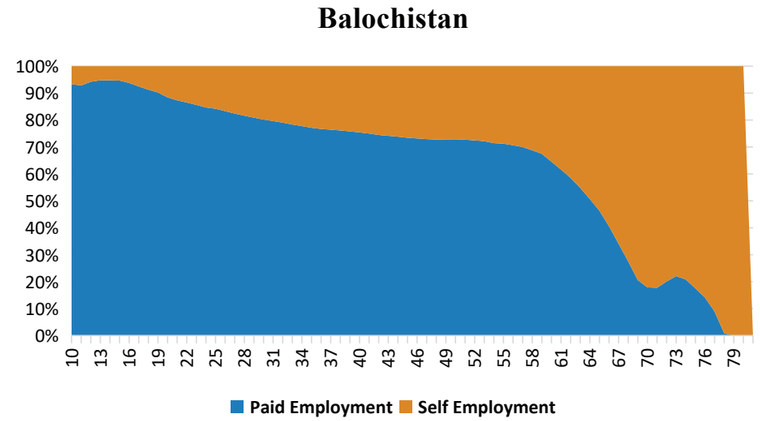
Figure 8

Per Capita Labour Earnings and Self-Employment Labour Income: Percentage Share in Total Labor Income









Source: Authors' estimations.

6.2 Consumption

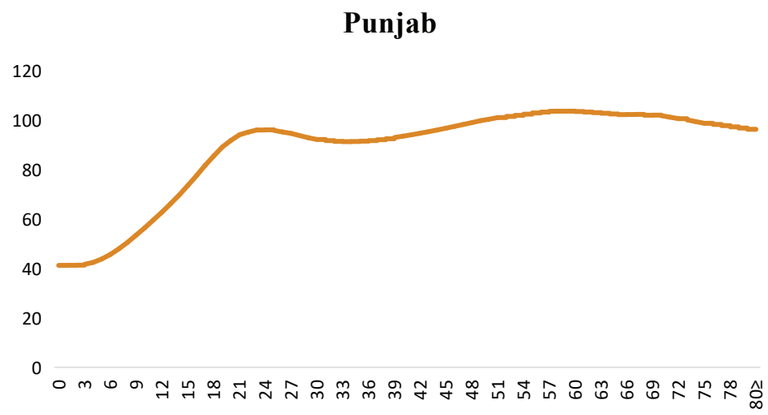
There are two principle types of consumption: private consumption (spending by the individuals on food and non-food items) and public consumption (spending by the government for various purposes). Each of these components have further sub-profiles. The sub-profiles estimated for the present study include education, health, and other consumption, for both private and, wherever data are available, public expenditure.

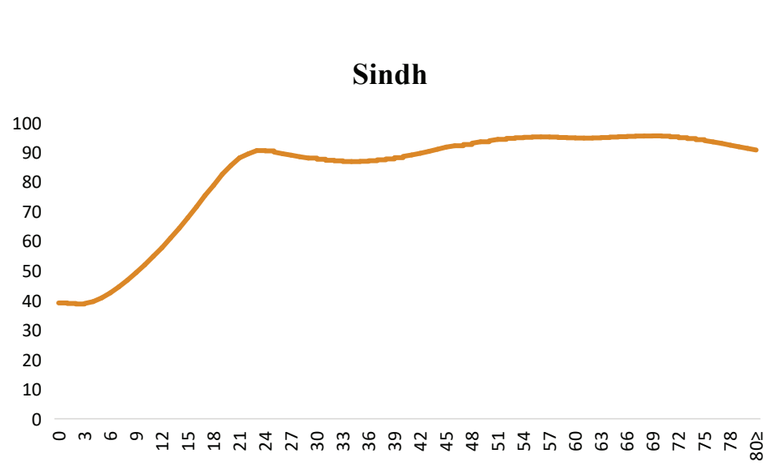
Before delving into the sub-profiles, let us first examine the overall total consumption. It is worth mentioning here that total consumption includes both the private and public consumption, as was discussed in Section 6 while explaining the lifecycle deficit.

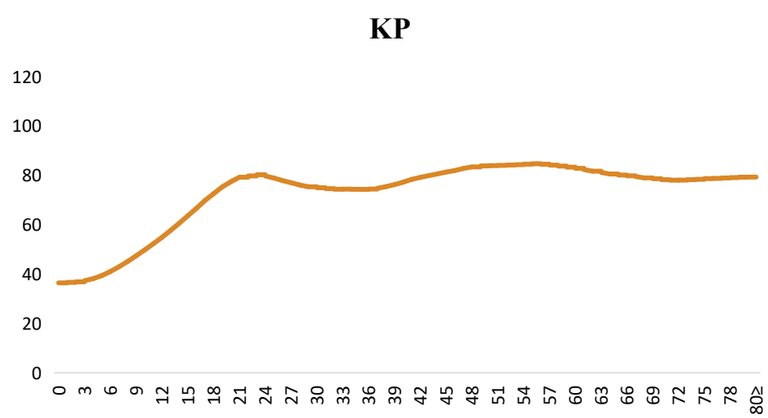
Figure 9 shows the per capita total consumption in the four provinces. It can be seen that the highest level of total consumption is found in Punjab, while the lowest level is observed in Balochistan and KP provinces. It can be linked with the income levels in the four provinces. The lower consumption levels at the early ages also reflect the adoption of equivalence scale where a less weight is assigned to the individuals below 18 years of age.

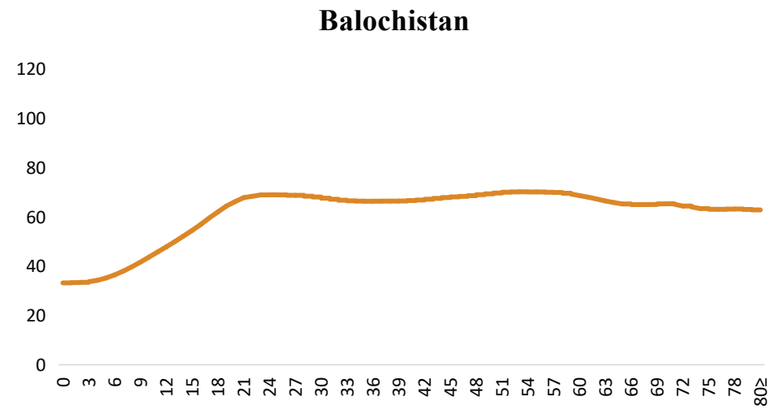
Figure 9

Per Capita Total consumption by Province (thousands rupees)







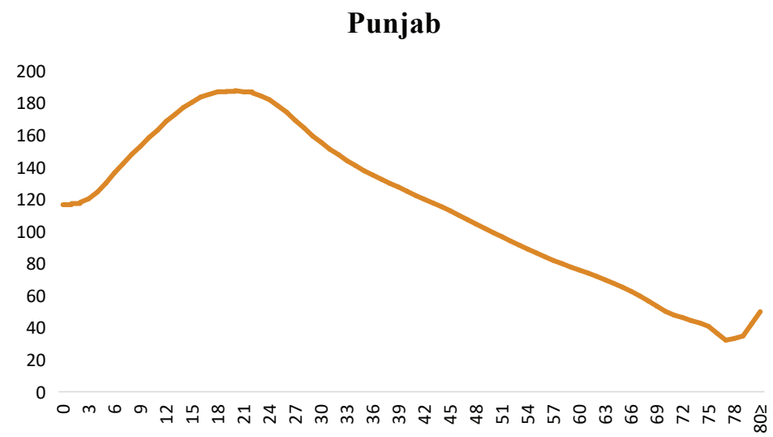


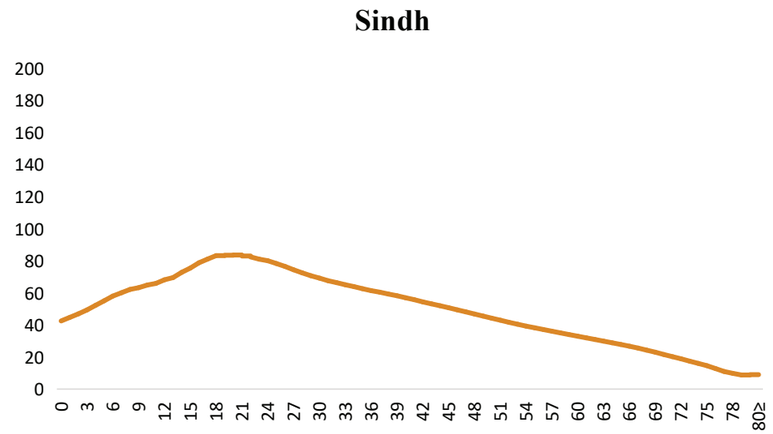
Source: Authors' estimations.

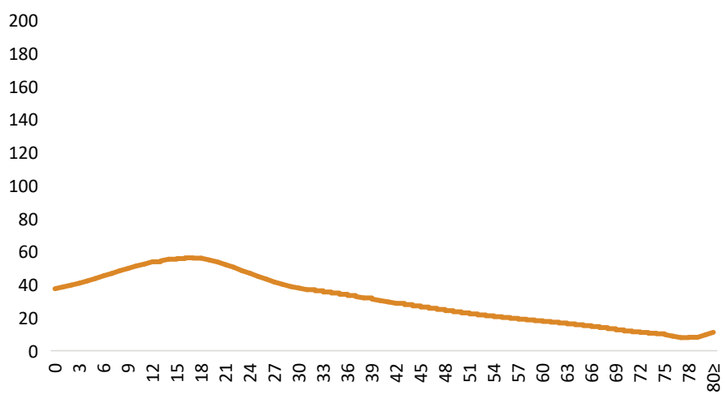
Figure 10 presents the aggregate consumption taking into account both the weighted age structure and consumption patterns. Notably, the highest level of consumption is observed among individuals aged 16 to 20 years, primarily due to the concentration of population in these ages. Subsequently, the aggregate consumption shows a continuous and steady decline for all the provinces.

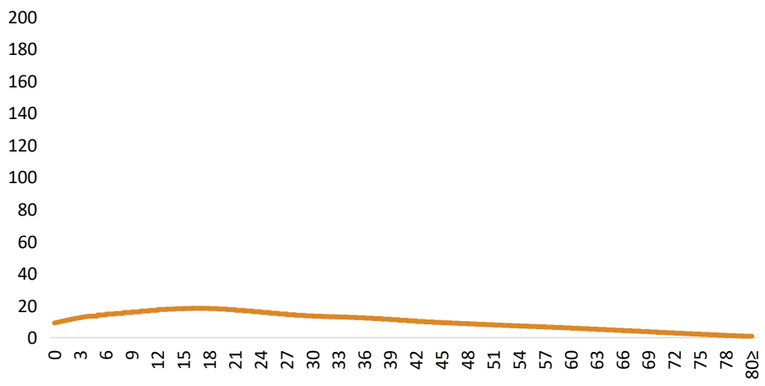
Figure 10

Aggregate Total Consumption by Province (billion rupees)









Source: Authors' estimations.

6.2.1 Education Consumption

The HIES 2018-19 dataset contains information on education consumption for individuals during the last one year, therefore, the relevant information is extracted directly from the dataset to construct the per capita private education age profile. Data are available in the education section of the survey with the cost broken down into tuition fee, admission fee, registration, books and other school supplies, transport, and other education expenses. The public education consumption is estimated using the PRSP data from the same year.

Private Education Consumption: Per Capita and Aggregate

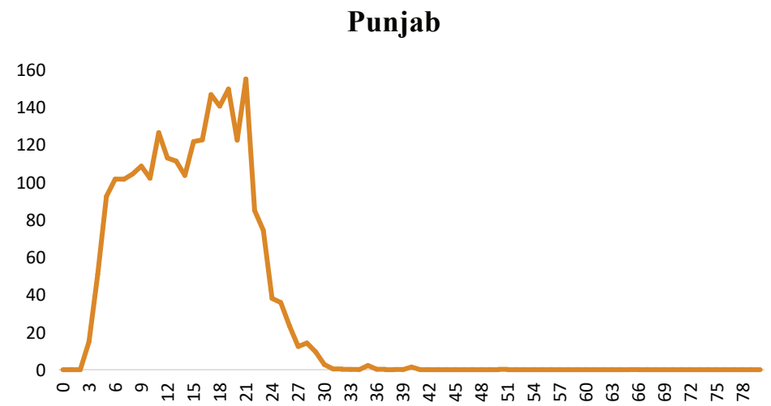
Figure 11 depicts the per capita private education consumption in Pakistan. The graph shows a notable trend where expenditure on education commences from the age of 3 and experiences a sharp increase during early childhood. Consumption continues to rise steadily until reaching a peak around late adolescence or early adulthood. In contrast to most profiles, the education consumption profile is not smoothed due to its distinct age distribution characteristics.

Why there are large provincial variations? The probable explanations can be that:

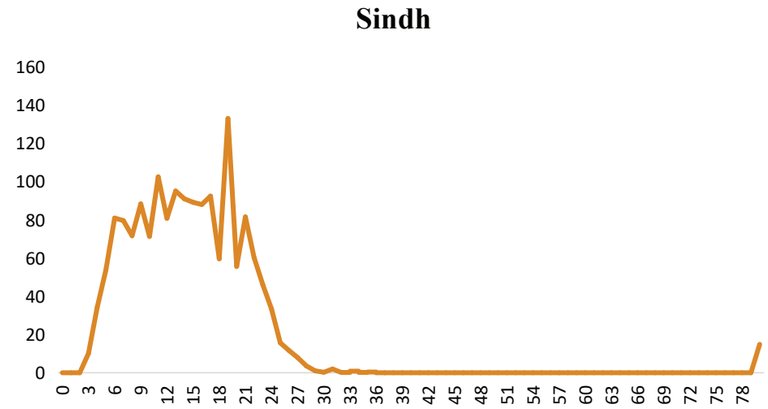
- The high expenditure in Punjab is due to decent enrolment rates for both boys and girls at each age.
- In Balochistan, there are high drop-out rates at primary, middle and matric level. As a result, per capita spending goes low.
- Poverty, education facilities and subsidies also contribute to private education spending pattern found in each province.

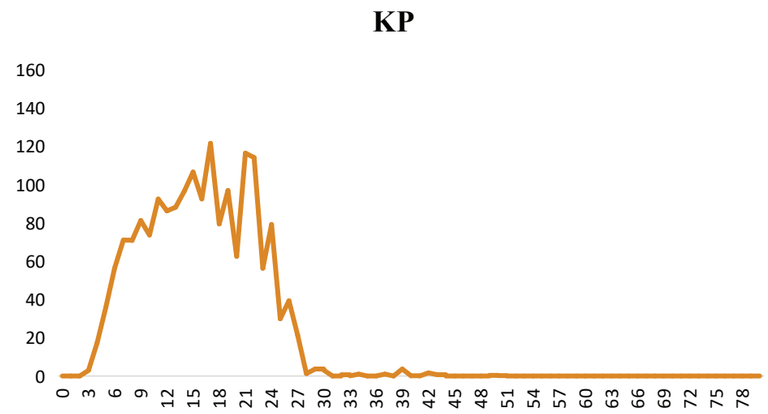
Figure 11

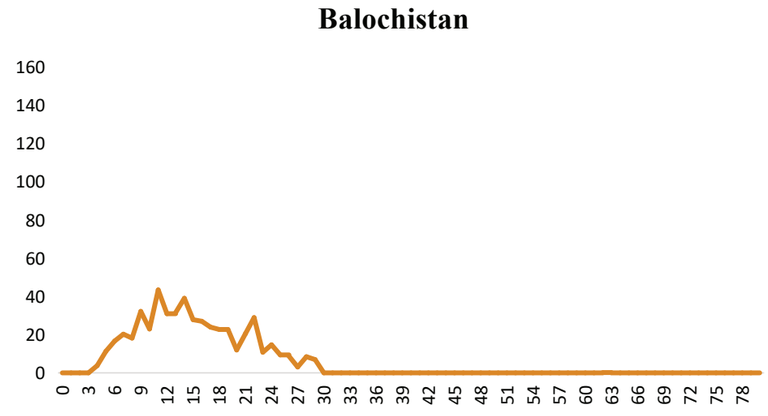
Per Capita Private Education Consumption across Province (hundred rupees)



Provincial National Transfer Accounts





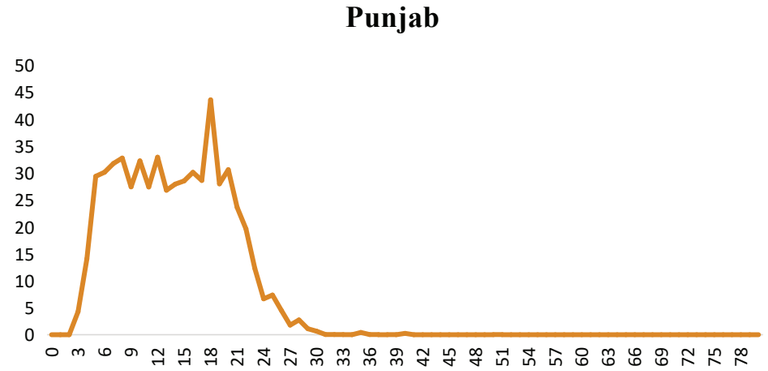


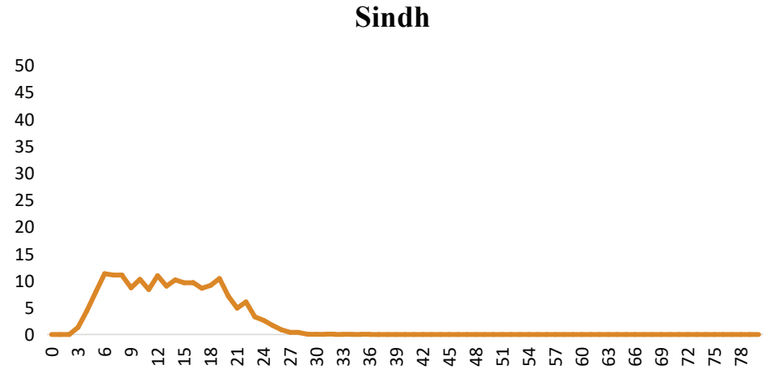
Source: Authors' estimations.

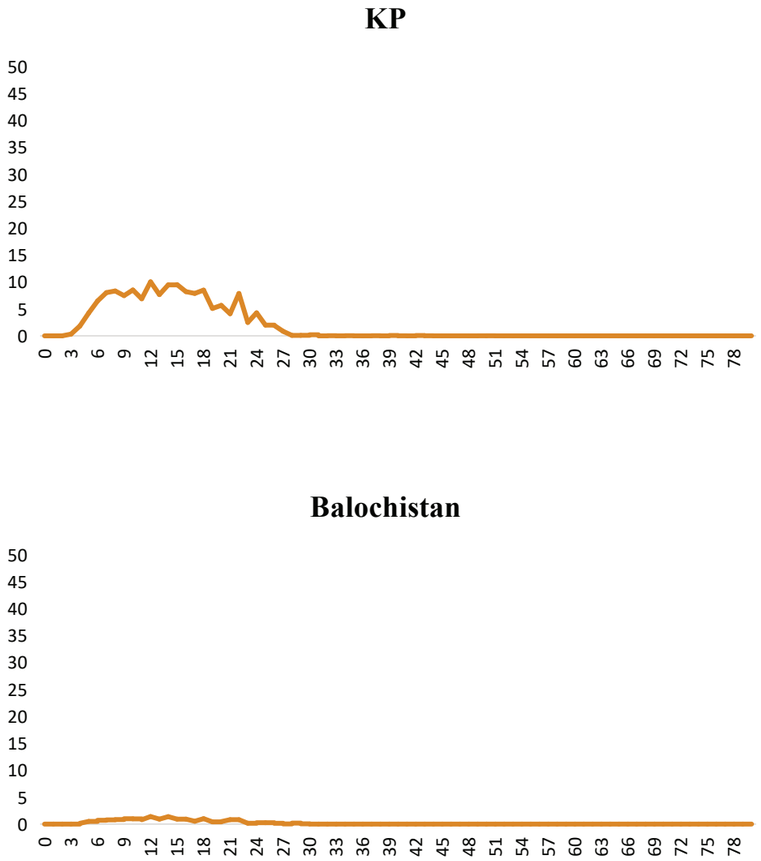
Figure 12 shows the aggregate private education consumption. In other words, it shows how much total private expenditure is made on education in each province at a particular age. The figure shows that the expenses are the highest in Punjab province due to the population size, accompanied by higher per capita education consumption. Balochistan has the lowest aggregate for private education, not just because of smaller population size, but also the meagre per capita education consumption.

Figure 12

Aggregate Private Education Consumption by Province (billion rupees)







Source: Authors' estimations.

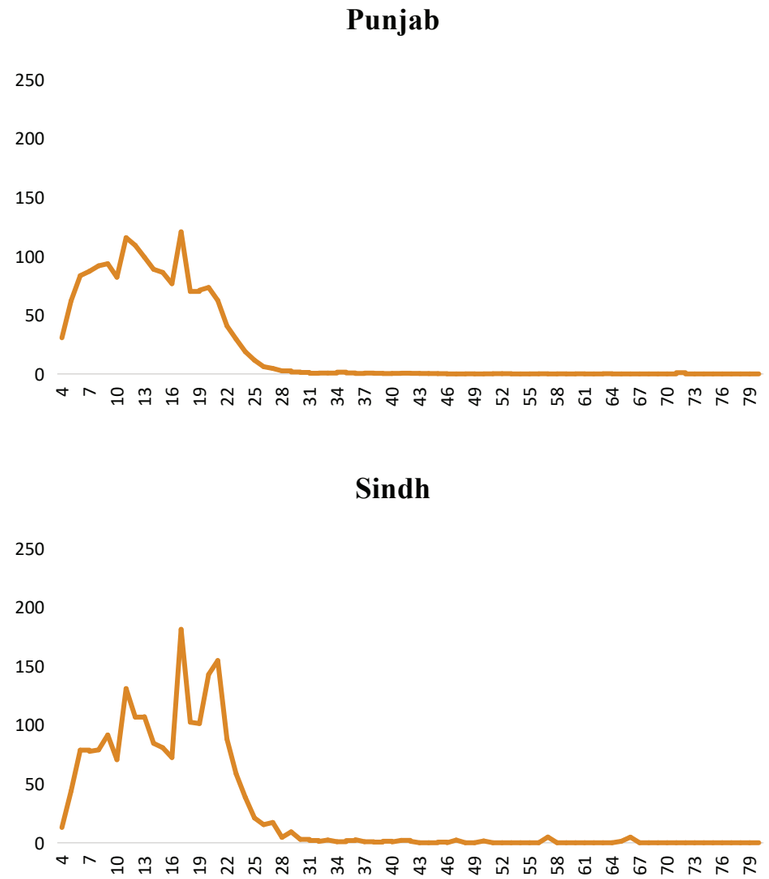
Public Education Consumption: Per Capita and Aggregate

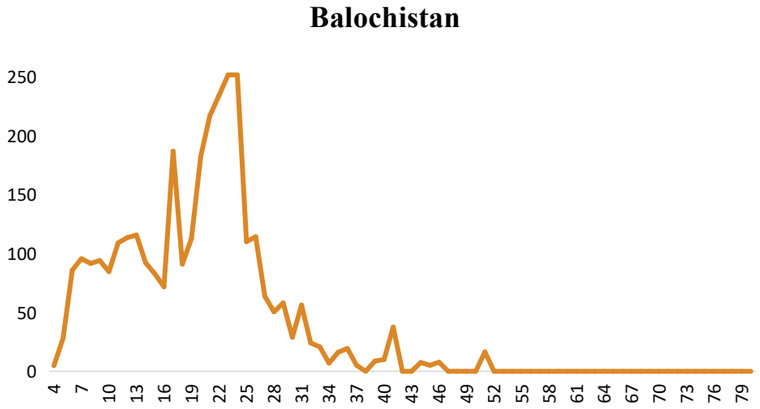
Figure 13 presents the per capita public education consumption in Pakistan. The graph shows a trend where expenditure on education commences from the age of 3 and experiences a sharp increase during early childhood. Consumption continues to rise steadily until reaching a peak around late adolescence or early adulthood (age 15-18 years).

Provincial National Transfer Accounts

Figure 13

Per Capita Public Education Consumption across Province (hundred rupees)



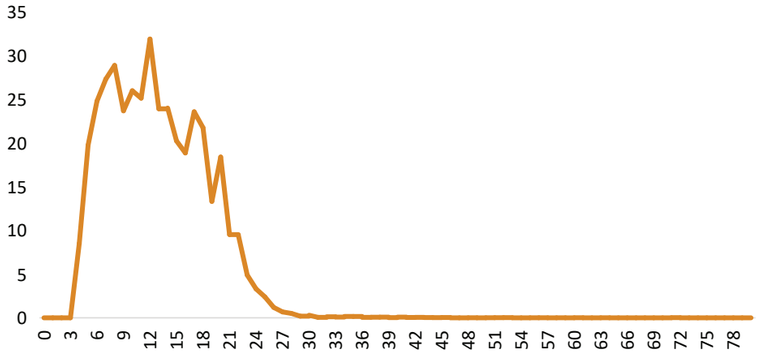


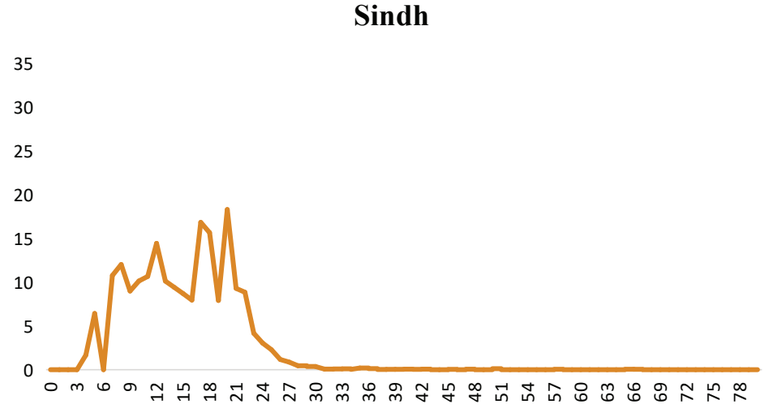
Source: Authors' estimation.

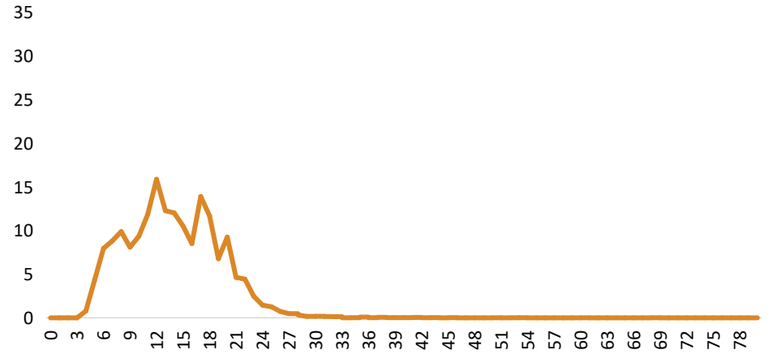
Figure 14 presents the aggregate public education consumption. Punjab has bigger aggregates due to larger population. As one would expect, KP and Balochistan, following the population size, show much smaller aggregates.

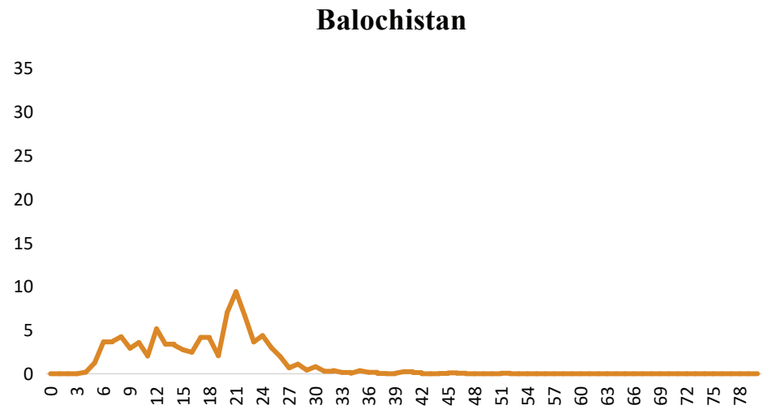
Figure 14

Aggregate Public Education Consumption by Province (billion rupees)









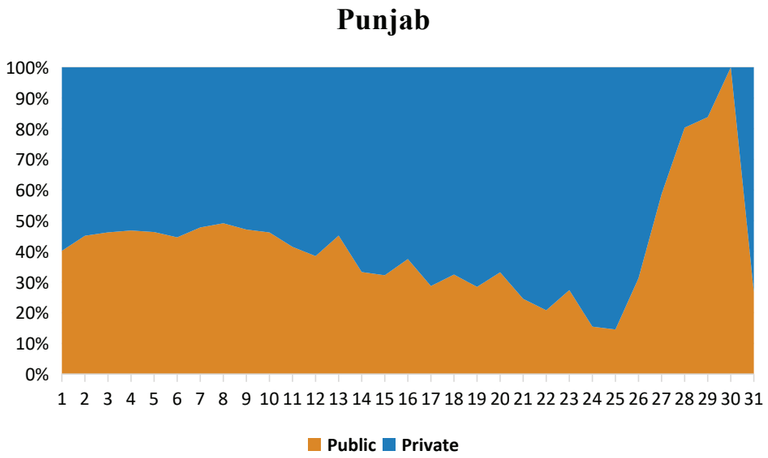
Source: Authors' estimations.

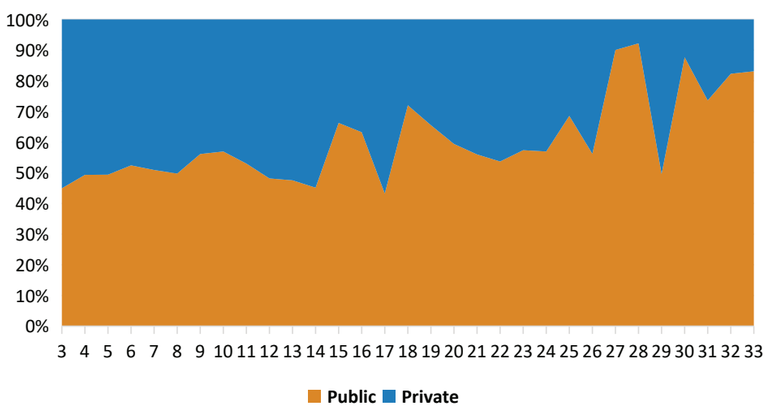
Education Consumption: Public and Private

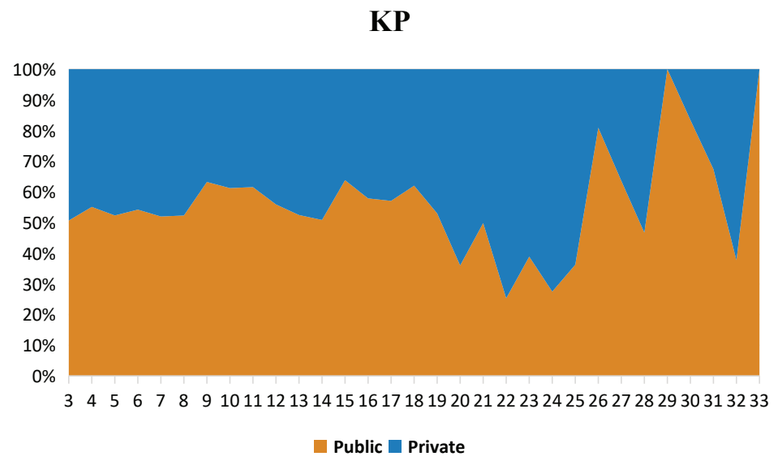
Figure 15 provides share of per capita education consumption by public and private education at each age in the four provinces. The spikes in consumption largely reflect the public and private education facilities available in the province, along with the government incentives to promote education and enrolment rates. We see that the share of public consumption in education is much higher in Balochistan than other provinces. On the other hand, in Punjab it is mainly private education consumption that is larger for most ages. At higher education/degree level, public spending is very clearly the main source of consumption in all the provinces.

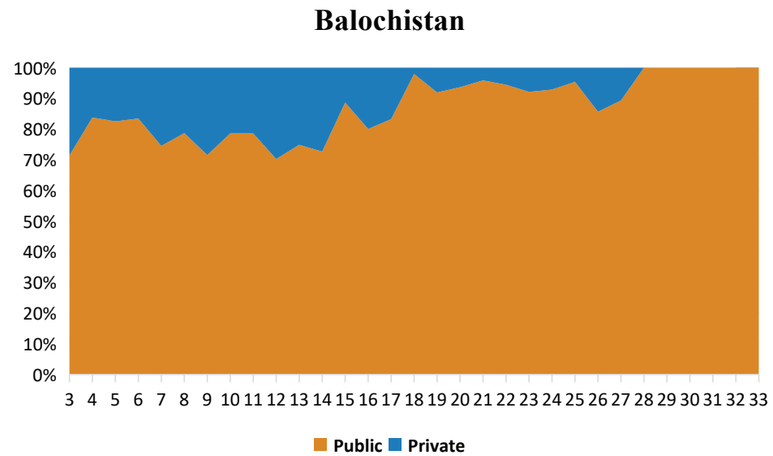
Figure 15

Share of Public and Private in Per Capita Education Consumption: Proportions in Total Education Consumption









Source: Authors' estimations.

6.2.2 Health Consumption

The NHA 2018-19 dataset contains information on out-of-pocket health expenditures made by individuals during the year preceding the survey, therefore, the relevant information was extracted directly from the dataset to construct the per capita health consumption age profile. Health consumption through public sources was estimated using the available from the PRSP 2018-19.

Private Health Consumption: Per Capita and Aggregate

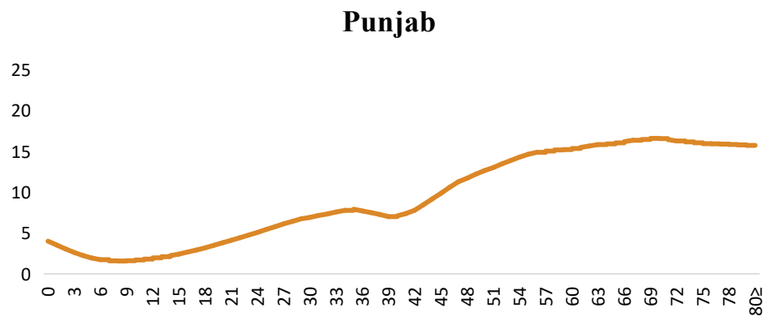
The Figures 16 shows private health per capita consumption by province. As can be seen, private health per capita consumption increases with age, irrespective of the province. The private health per capita consumption is higher at all ages in KP, and lowest in Balochistan. The trends indicate that the private health per capita consumption

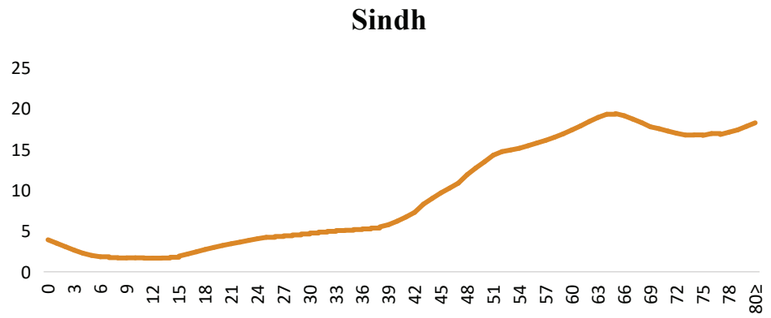
moves towards the peak around the age of 65 in all the provinces.

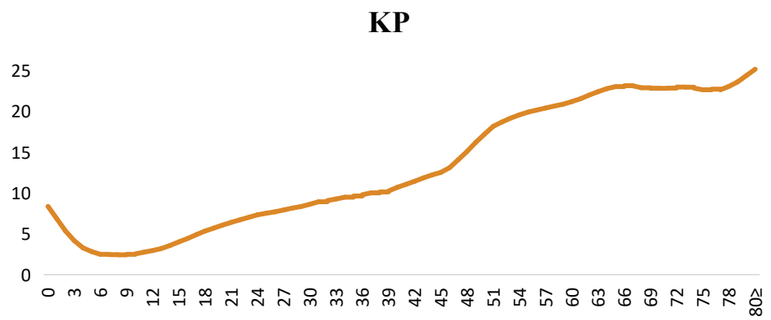
The rise in per capita health consumption with age primarily reflects the disease burden as the older age population mostly face high disease burden. Another factor leading to health consumption is the perception of health condition and the decision to seek help, which appears highest in KP.

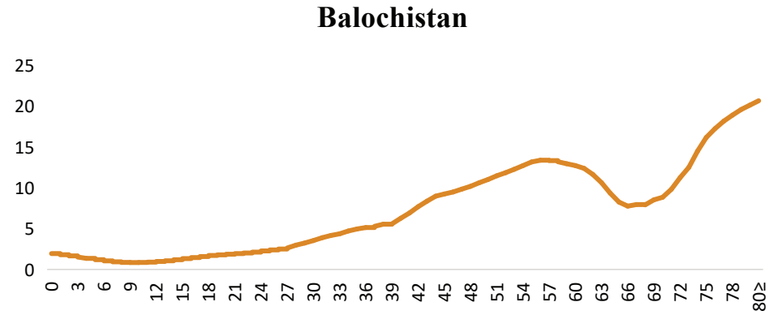
Figure 16

Per Capita Private Health Consumption by province (hundred rupees)







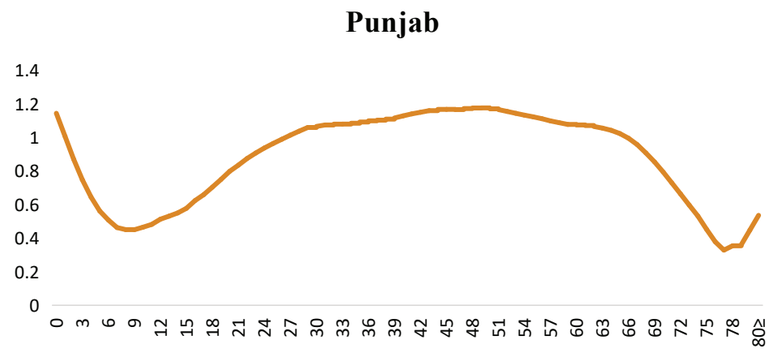


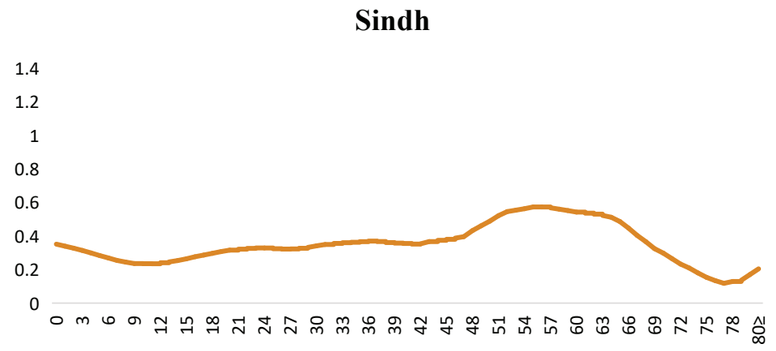
Source: Authors' estimations

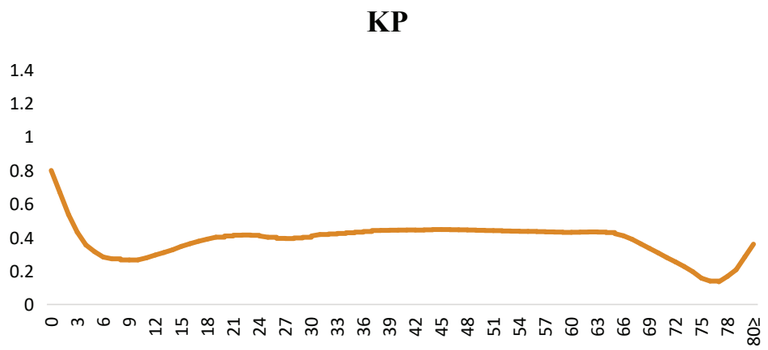
Figure 17 shows the aggregate private consumption on health. The expenses are high in Punjab province, mainly due to the population base, followed by the Sindh, KP and Balochistan. The young age structure in all the provinces and poor infant and child health is reflected in high private health consumption at the younger ages.

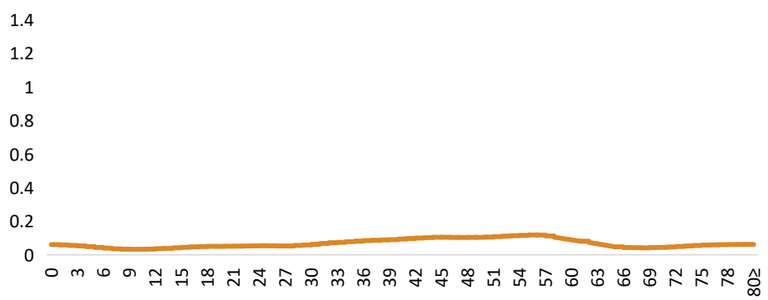
Figure 17

Aggregate Private Health Consumption by Province (billion rupees)









Source: Authors' estimations.

Public Health Consumption: Per Capita and Aggregate

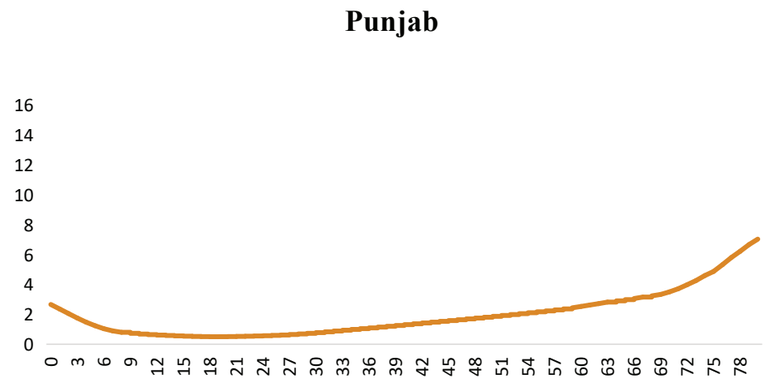
Figure 18 presents the per capita public health consumption in Pakistan. The graph shows a notable trend where expenditure on health after an initial volume, declines to increase again with the age reaching 50 years. On average, the public spending is less than the private spending in all provinces. This concurs with the findings in literature that the out of pocket expenditure on health is high in Pakistan.

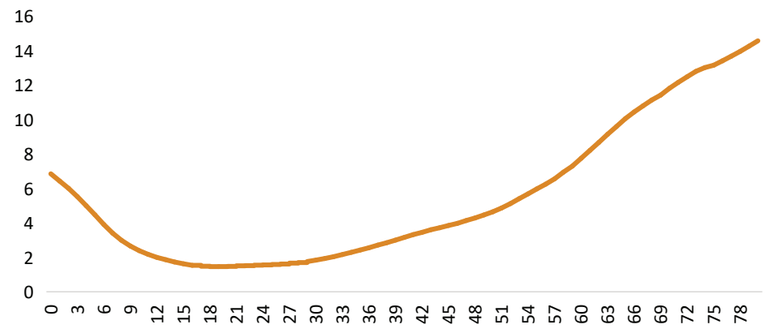
The question arises, why there are large provincial variations? The answer is manifold:

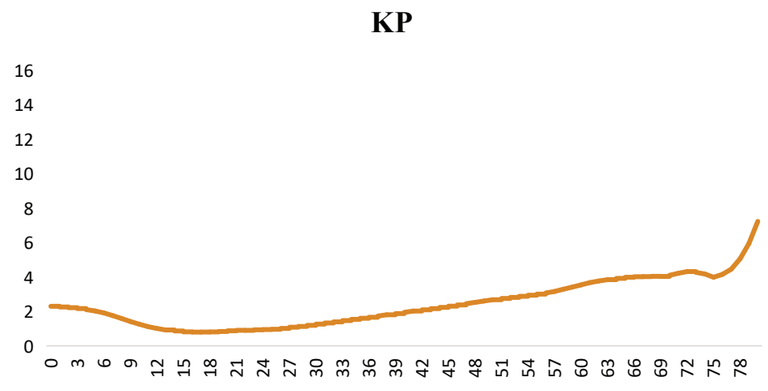
- The lower expenditures in Punjab is due to better availability of private hospitals and the preference of people to use those. On the other hand, the population of Balochistan, with little private health facilities, tend to use public health facilities.
- Public behaviour of availing any particular health facility also matters where such decisions are influenced by the education, poverty and access to health facilities.

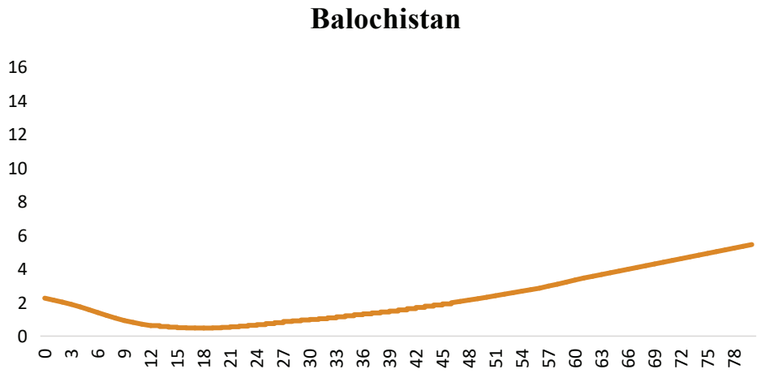
Figure 18

Per Capita Public Health Consumption by province (hundred rupees)









Source: Authors' estimations.

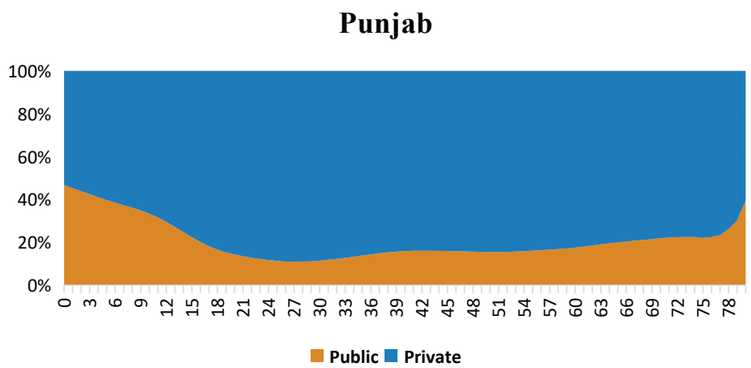
Total Health Consumption: Public and Private

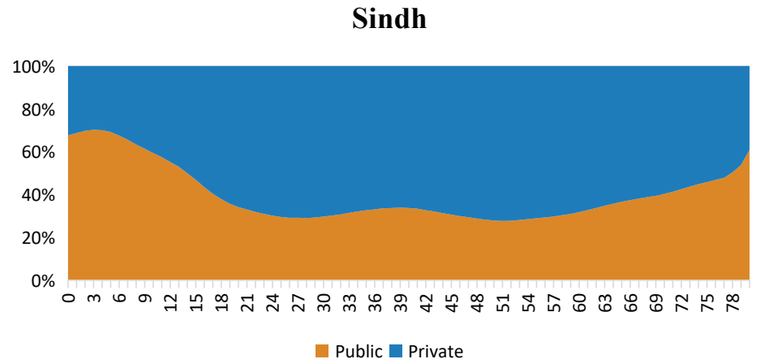
Figure 19 provides valuable insights into the share of public and private health consumption in the total per capita health consumption at each age. Examining Figure 19, which provides share of per capita public and private health consumption in the country, we see out of pocket health expenditure to be much higher than public in all four provinces.

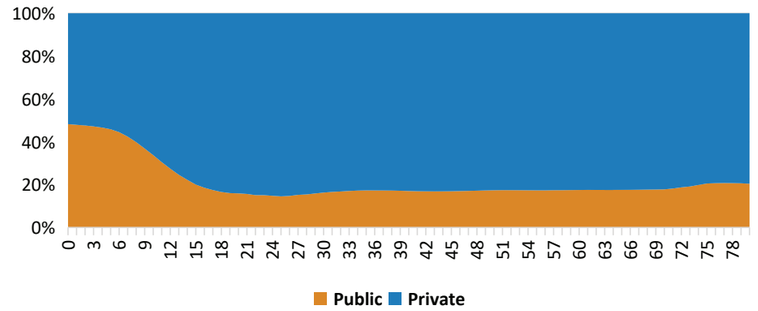
Despite the out of pocket expenditure being high in all provinces, there still exist variation in the public-private proportions in health consumption. Along with the various individual preferences and presence or absence of services, certain administrative and legislative reasons can also be behind it. For instance, the comparatively higher public share in KP's health consumption could be because of the universal health service introduced by the provincial government to avail in-door treatment.

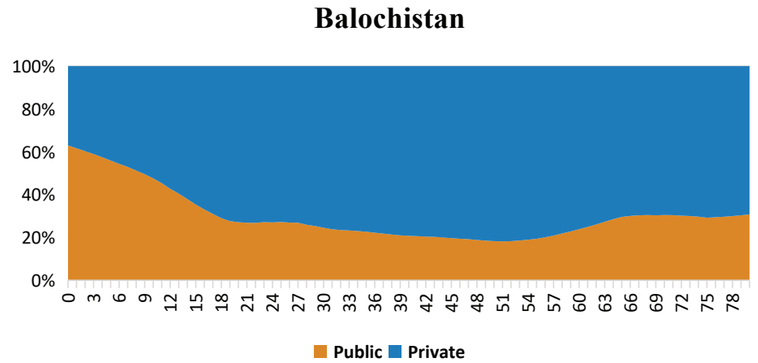
Figure 19

Share of Public and Private in Per Capita Health Consumption: Proportions in Total Health Consumption









Source: Authors' estimations.

6.2.3 Other Private Consumption

Private Other Consumption: Per capita and Aggregate

Figure 20 presents the per capita profile for other private consumption, which encompasses household consumption of goods and services excluding health and education. The data used for this profile is obtained from the HIES 2018-19 dataset and includes both durable and non-durable goods. To reiterate, durable items comprise food items, fuel and lighting, tobacco, personal care items and services, household laundry and paper items, and other housing expenditures. And durable items consist of household textiles, furniture, kitchen equipment, and personal durable items.

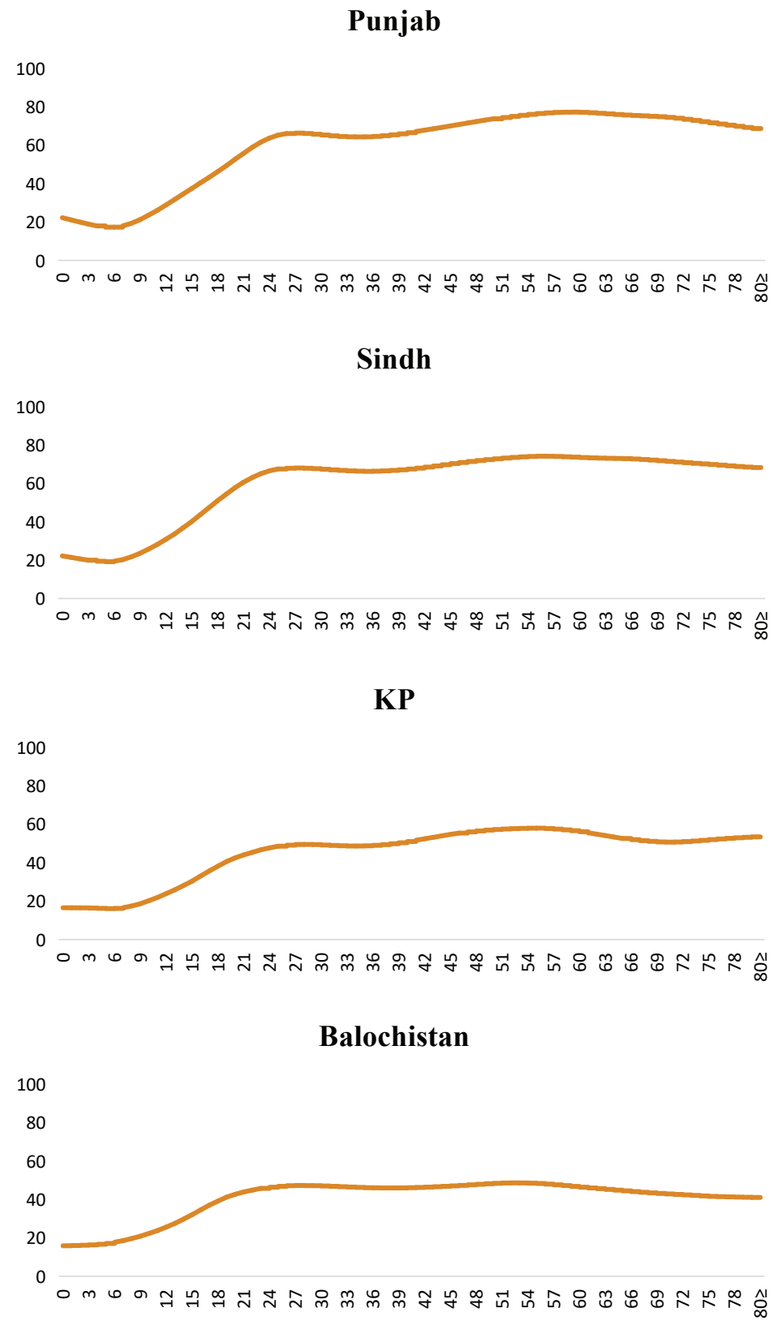
To ensure consistency, the consumption items are standardized on a yearly basis, even if they were originally reported on a monthly, fortnightly, or yearly basis in the dataset. All consumption items are summed to create a variable representing other private consumption. The HIES dataset provides information on household-level private consumption, therefore, it needs to be converted to the individual level. To achieve this, an equivalence scale based on the NTA methodology is applied, which assigns weights to individual household members based on their ages.

For individuals aged 4 and younger, a constant proportion of 0.4 is assigned, and this proportion increases linearly from ages 5-19, reaching a constant proportion of 1 for adults aged 20 and above. The weights assigned to individuals are then aggregated at the household level to obtain the sum of weights for all household members. By dividing individual weights by the sum of household weights, the proportion of individual share is determined.

A slightly different procedure is followed for tobacco consumption due to its distinct consumption pattern by age. For ages 0-14, it is assumed that tobacco is not consumed, and thus a value of zero is assigned to these ages. For the remaining ages, 5-year age groups are created, and a value of 1 is assigned if the age group is present in the household, and zero otherwise. Regression analysis is then conducted, without a constant term, with a household's tobacco consumption as the dependent variable and the number of household members in each age group as independent variables. The resulting beta coefficients against each dummy variable of age groups provide the weights for constructing the profile.

Figure 20

Per Capita Private Other Consumption across province (thousand rupees)



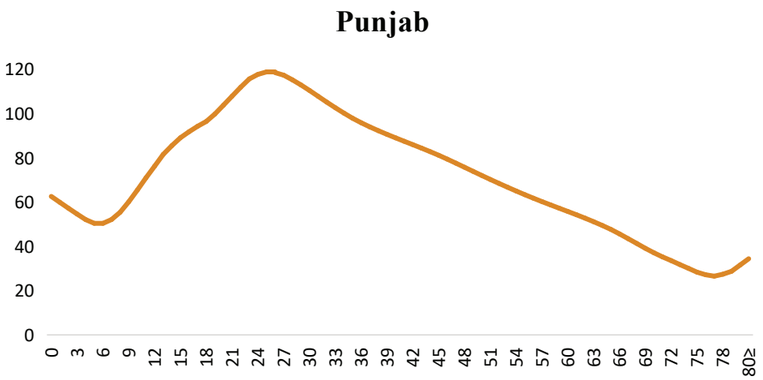
Source: Authors' estimations.

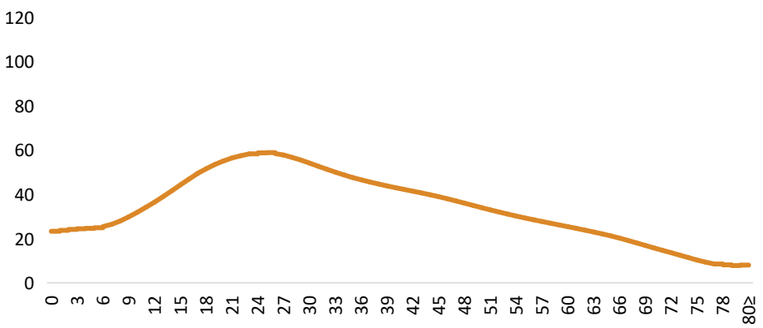
The private other consumption reflects the overall standard of living. The highest per capita consumption in Punjab and the lowest in Balochistan can also be reconciled with the poverty level in these provinces. Figure 20 illustrates that the per capita private other consumption starts to rise with age, reaching a plateau at approximately 56 years of age.

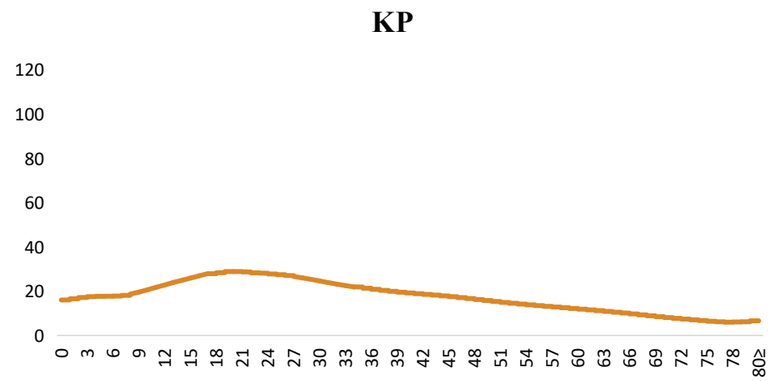
Considering the age structure, the aggregate private other consumption reaches its peak during the early 20s, as can be seen in Figure 21. Subsequently, the trend displays a sharp decline after the age of plus/minus 25 years. The size of the population in each province is reflected in the aggregates for all ages.

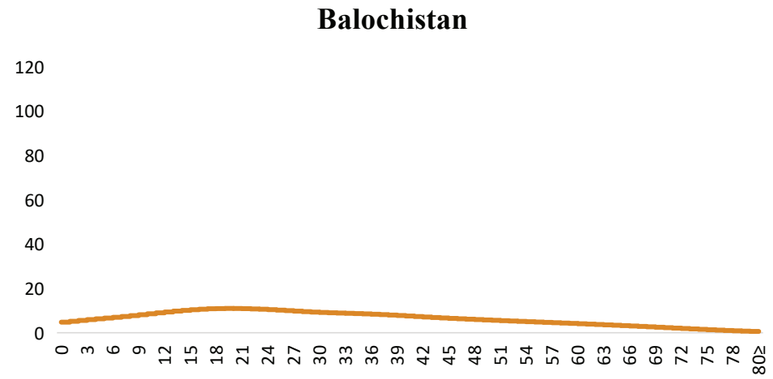
Figure 21

Aggregate Private Other Consumption by Province (billion rupees)









Source: Authors' estimations.

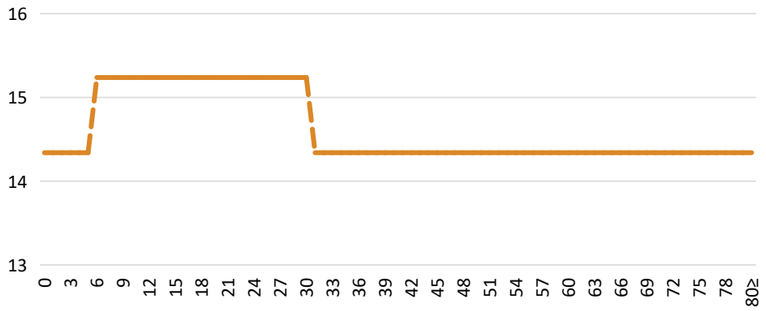
6.2.4 Other Public Consumption

The NTA methodology divides public other consumption into two types. One that is collective in nature and the other that is individual in essence. The prior includes consumptions like agriculture, transport, defence, law and security, justice, administrative expenditures and infrastructure. These consumptions are allocated to all members equally. On the other hand, there are certain consumptions that are more focused, targeting a certain age group, like public vocational programs for youth, trainings for females or certain schemes for the elderly. Such public expenditures are added to the profiles of only the ages that are relevant.

Figure 22 presents the per capita public other consumption, and in most parts a horizontal line, because of equal allocation for most of the public consumptions. There was no need to smooth this profile because it does not show any abrupt changes or elbows.

Figure 22

Per Capita Public Other Consumption across All Province (thousand rupees)

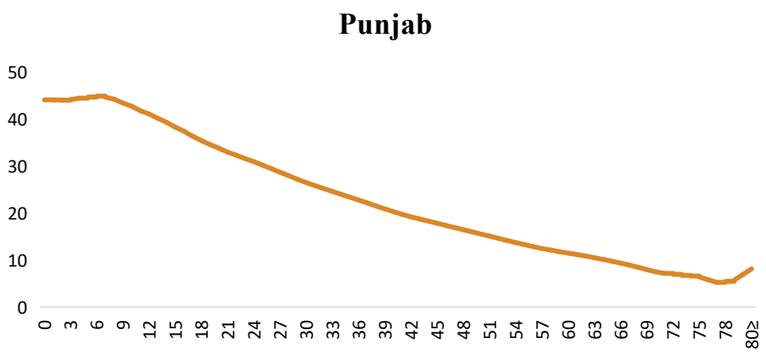


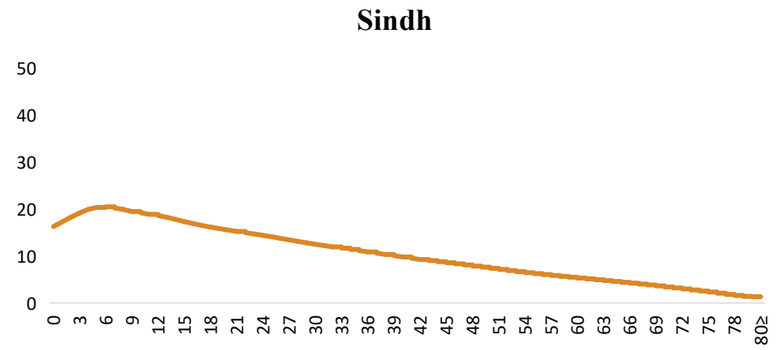
Source: Authors' estimations.

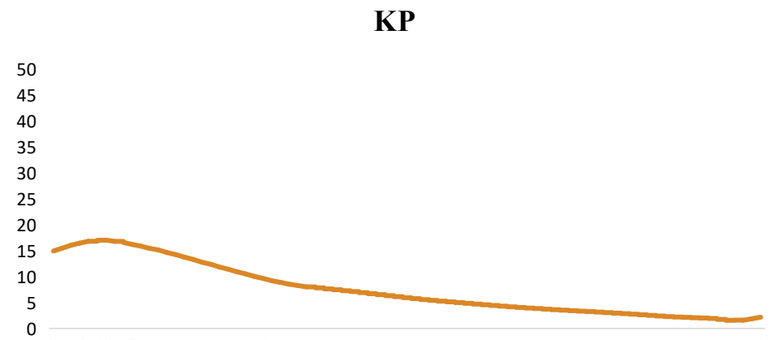
Given the scenario presented above, where the public other consumption in each province mirrors the other, the aggregates by age are solely influenced by the number of people at that particular age. Punjab with its highest population is bound to have the highest aggregates for each age, followed by Sindh, KP and Balochistan, as can be seen from Figure 23.

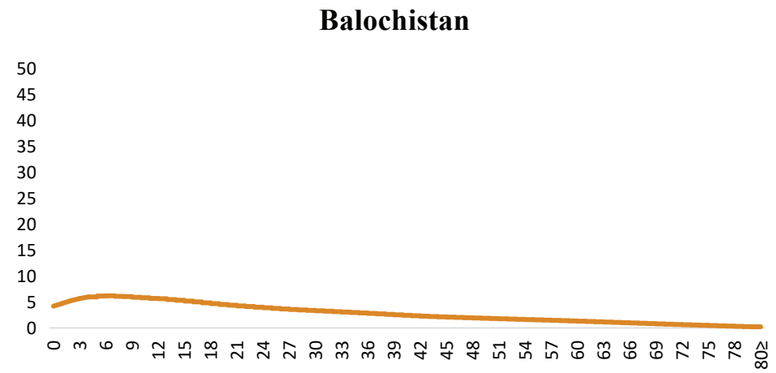
Figure 23

Aggregate Public Consumption in Total Aggregate Consumption by Province (billion rupees)









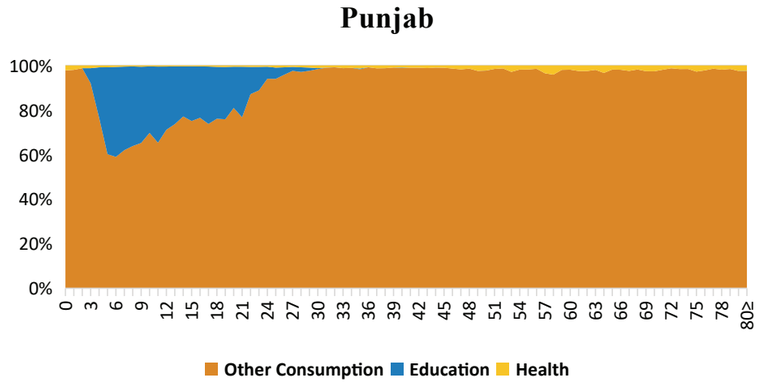
Source: Authors' estimations.

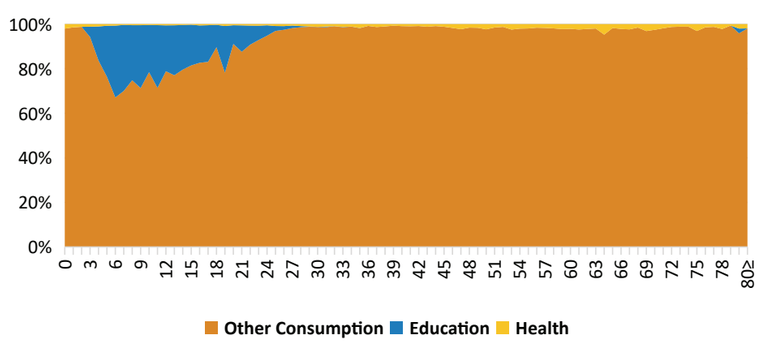
Which component of consumption comprises the biggest chunk of the total consumption? As in the previously presented profiles, we estimate the share of each type of consumption in the total per capita consumption at each age. Figure 24 shows that other consumption forms the major chunk for all ages, in all the provinces. Magnitude, however, differs across provinces for the proportions consumed for health and

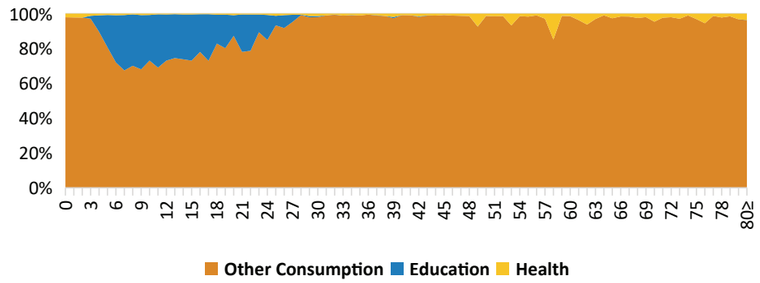
education. For instance, education forms a much larger chunk in Punjab as compared to Sindh or Balochistan (see Figure 24).

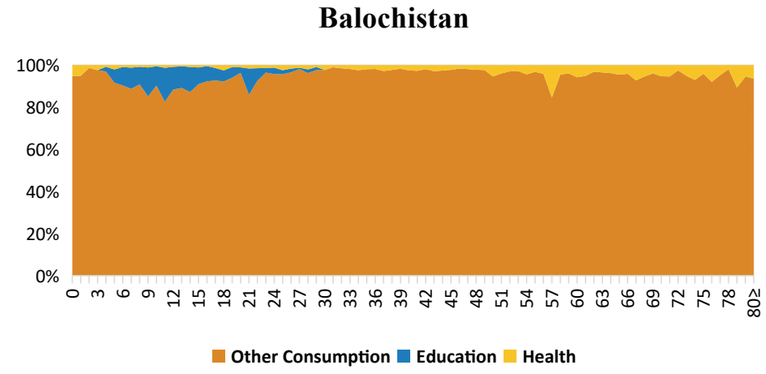
Figure 24

Share of Public and Private in total Per Capita Other Consumption by Province (% share)









Source: Authors' estimations.

07 PRIVATE AGE REALLOCATIONS

7.1 Private Transfers

The national transfer flow account includes current transfers, that is, the transfer of current income across households or from households to non-profit institutions and the transfer of current income within households. Capital transfers such as bequests, dowry, and similar large transfers are not current transfers and are not included in the flow account.

7.1.1: Private Inter-Household Transfers

a) Private Inter-Household Transfer Inflows: Per Capita and Aggregate

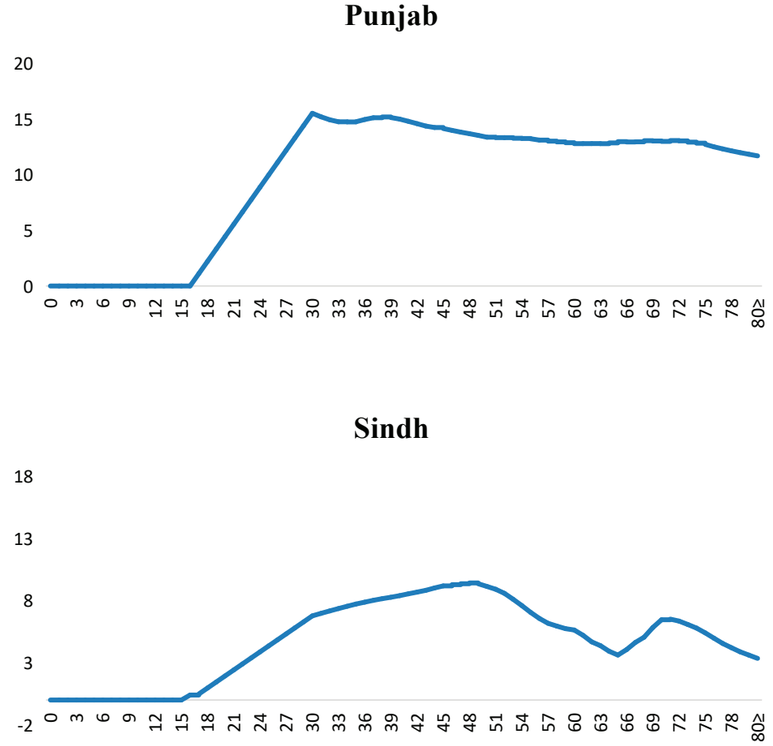
Inter-household transfers consist of direct transfers between households, government, and transfers to and from the Rest of the World. Inflows are current economic transfers received by resident households and ROW. Outflows are

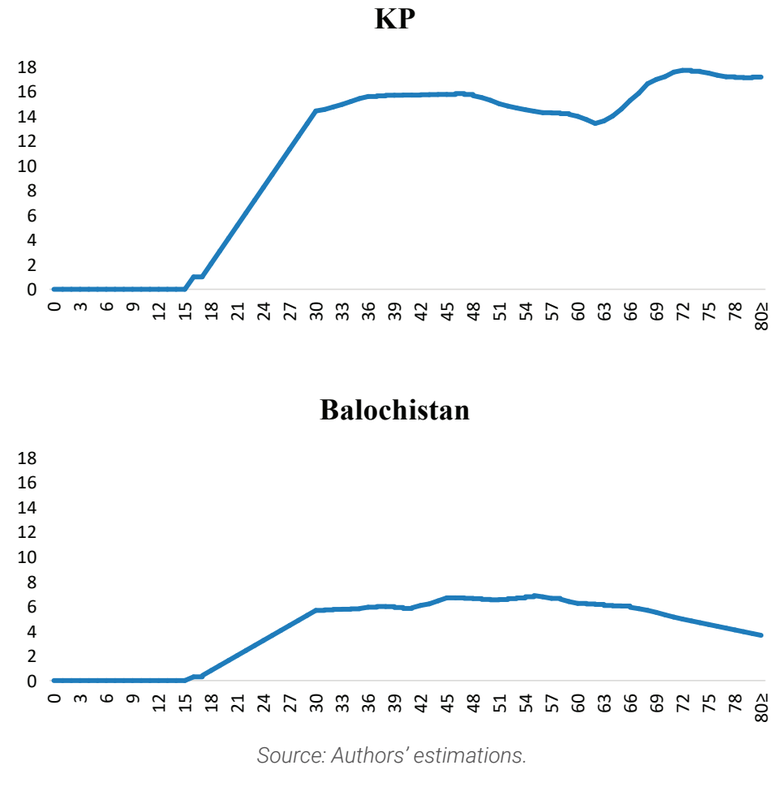
donations and gifts given to households and to the ROW. According to the NTA methodology, inter-household transfers are assigned to the household head. Since the current estimations are for the provinces, the ROW are not available at the provincial level so the estimations are done without that data.

The per capita private transfer inflows are presented in Figure 25. The per capita private inter-household transfers are highest in the Punjab province, followed by KP, as the data shows that the province receives more remittances, charity and other sources. It is worth mentioning again that inter-household transfers, either inflows or outflows are assigned to the head of the household. The provinces, on the whole, show quite different patterns of inter-household transfers, reflecting their peculiar socioeconomic and cultural milieus. In KP, the transfers continue till late ages, while in Balochistan and Sindh they plateau before declining at older ages.

Figure 25

Per Capita Private Inter-Household Transfer Inflows across province (thousand rupees)



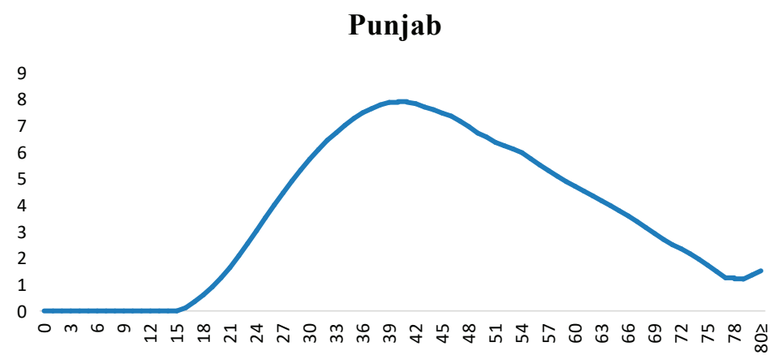


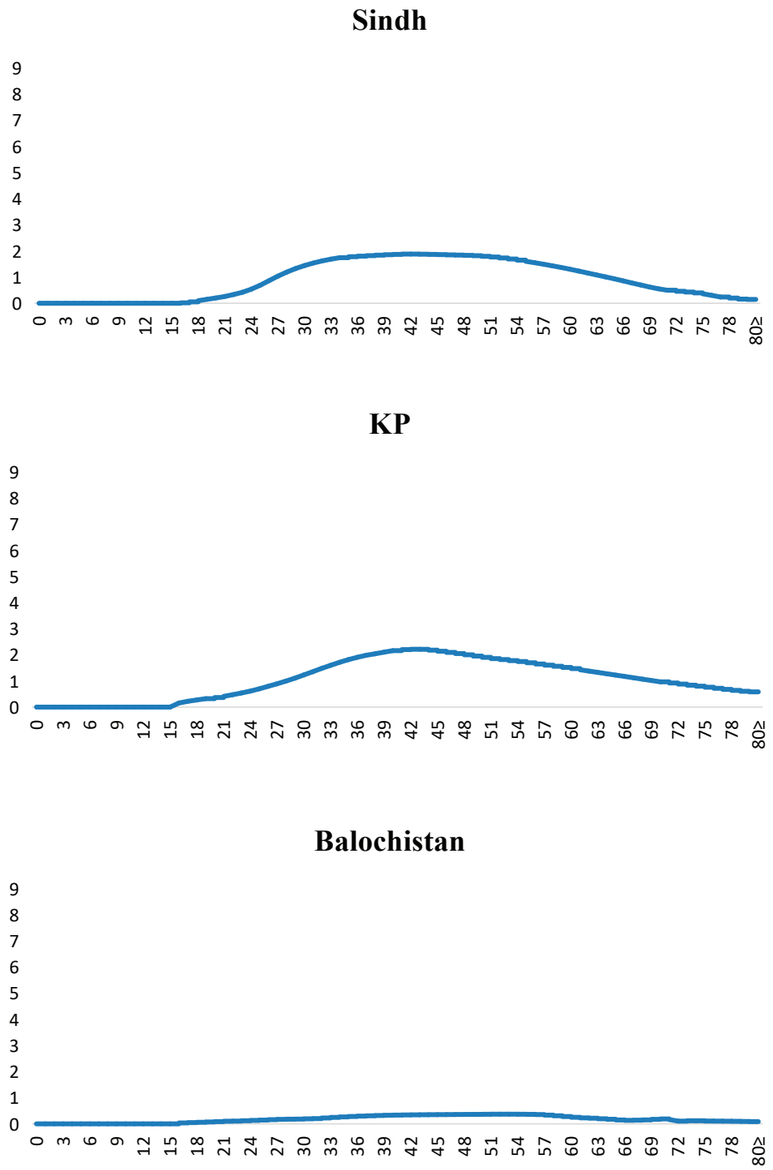
Source: Authors' estimations.

Since Punjab has the largest population, the province shows the highest aggregate for inter-household transfer inflows (see Figure 26). The province of KP, despite having a much smaller population than Sindh, equals or at times surpasses the amounts transferred between households. High remittances can be ascribed as the biggest reason for this trend.

Figure 26

Aggregate Private Inter-Household Transfer Inflows by Province (billion Rupees)





Source: Authors' estimations.

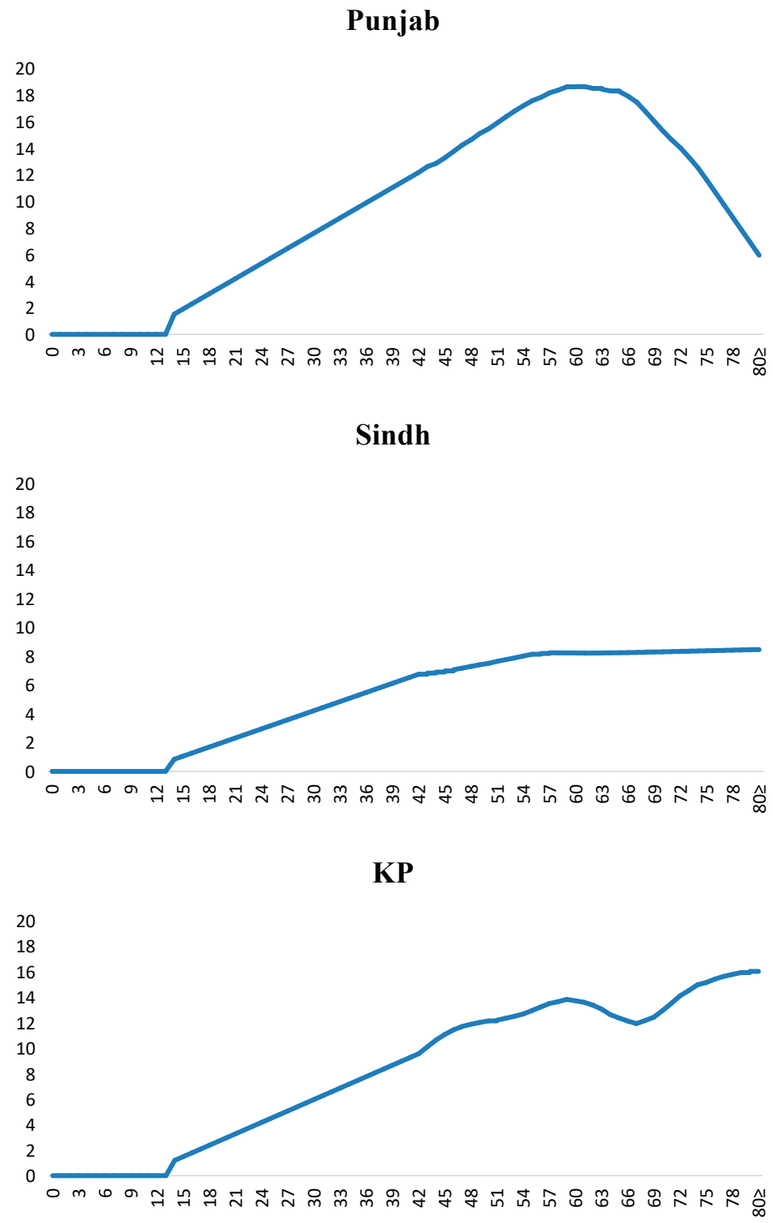
b) Private Inter-Household Transfer Outflows: Per Capita and Aggregate

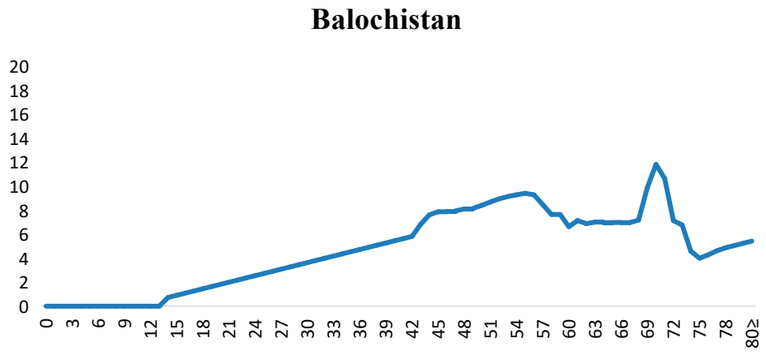
The age profile of transfer outflows is estimated using reported cash and in-kind gifts and donations. Examples include, but are not limited to, congratulatory gifts, obituary money, farewell presents, regular/irregular donations, remittances, etc. As compared to the inflows, outflows for private inter-household transfers occur at a significantly later age (Figure 27).

Mirroring the pattern for inflows, Punjab province exhibits a higher outflow per capita as well, as can be seen in Figure 27. The age-patterns shown by the four province are again reflecting the peculiar conditions prevailing in each of them.

Figure 27

Per Capita Private Inter-Household Transfer Outflows across province (thousand rupees)



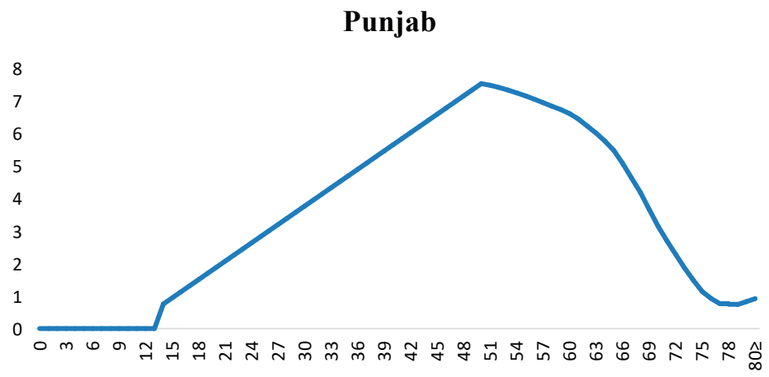


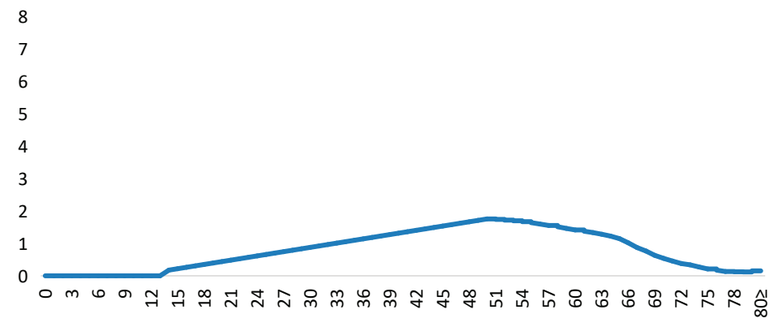
Source: Authors' estimations.

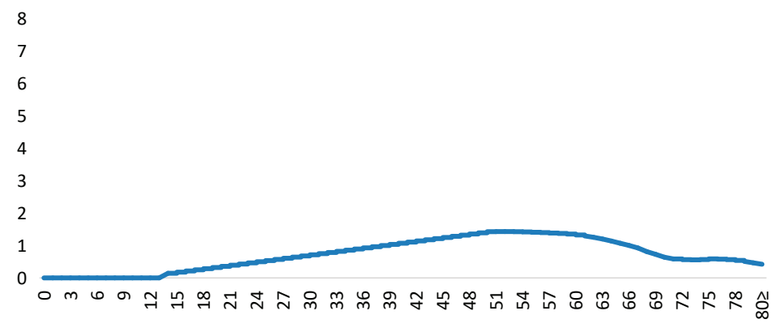
Figure 28 shows the aggregates of inter-household private transfer out-flows at each age, and we see that the size of the population in each province becomes the primary deciding factor for the aggregated amounts. As can be seen, the aggregates are highest for Punjab, and lowest for Balochistan. KP and Sindh, despite having quite different population sizes, show somewhat similar aggregates because of higher out-flows in KP.

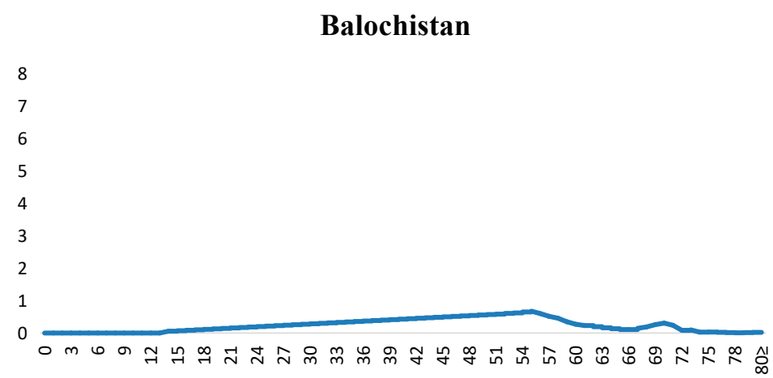
Figure 28

Aggregate Private Inter-Household Transfer Outflows by Province (billion Rupees)









Source: Authors' estimations.

7.2 Private Asset-Based Reallocations

Various age groups engage in different economic behaviours to generate or accumulate resources. For instance, younger individuals may acquire debt to generate resources, while prime age working adults may save for specific purposes like purchasing a house, funding their children's

education, or saving for retirement. Older adults often rely on pensions and personal savings to support their post-retirement lives.

Asset-based reallocations are a fundamental aspect of the lifecycle and contribute to the understanding of why labour income and consumption patterns differ across age groups. In the context of Pakistan, where informal sector is huge and society still following quasi-traditional values, private asset-based reallocations hold extra importance.

7.2.1 Private asset income

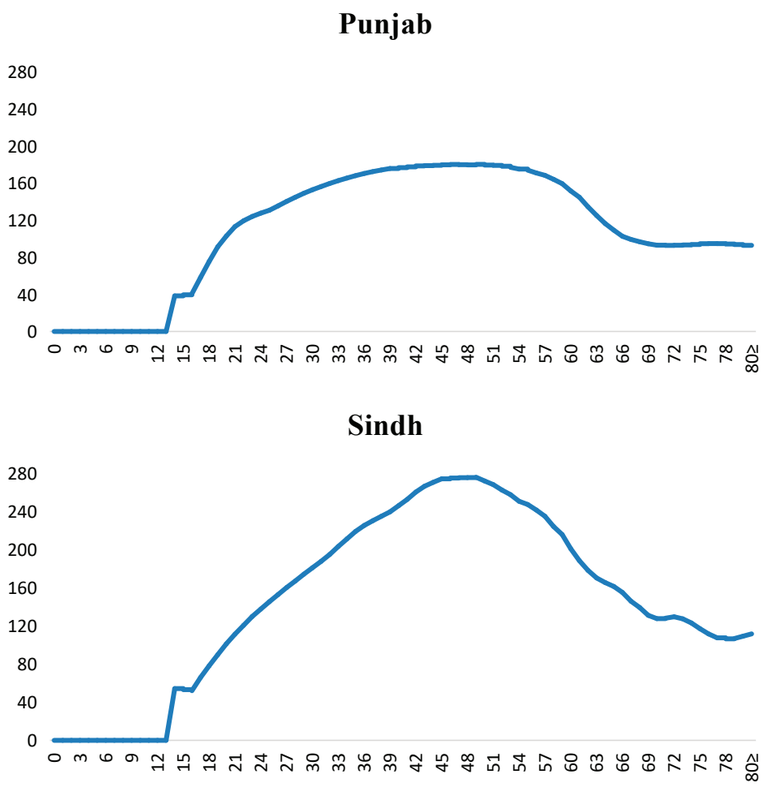
The components of private asset income are private capital income and private property income, which are discussed below.

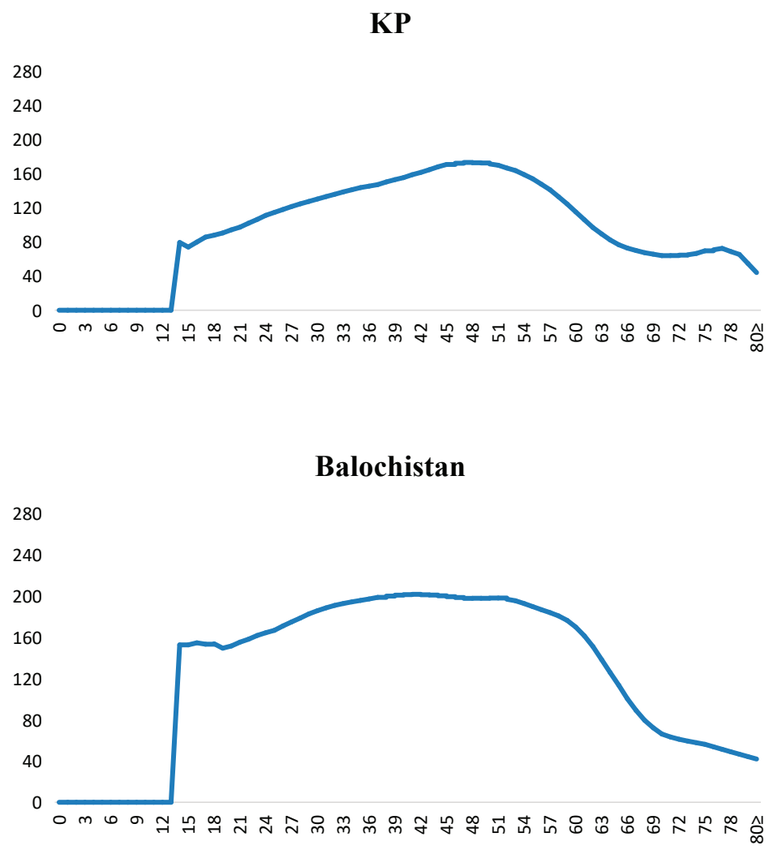
Private Capital Income

Figures 29 and 30 display the private capital income in terms of per capita and aggregate values across provinces. The HIES captures the capital income from various sources. Interestingly, the provincial analysis shows highest per capita income in Sindh province, overtaking Punjab that is otherwise a frontrunner for most indicators. This is largely due to more concentration of financial institutions and imputed rent in the province. The capital income is allocated to the head of household.

Figure 29

Per Capita Private Capital Income across Province (thousand rupees)



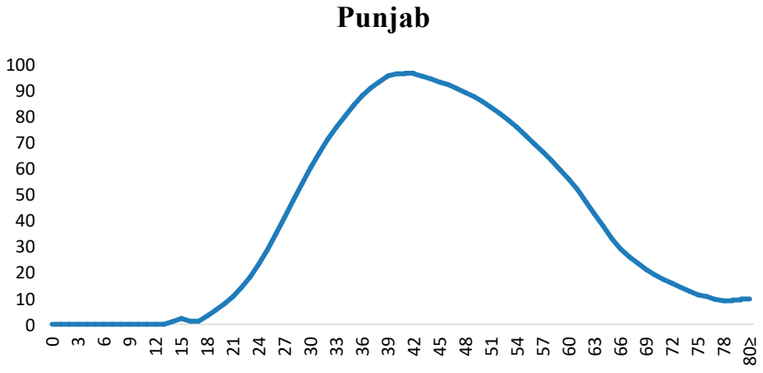


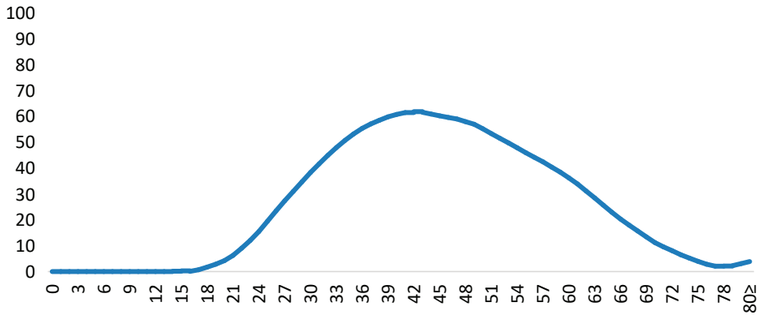
Source: Authors' estimations.

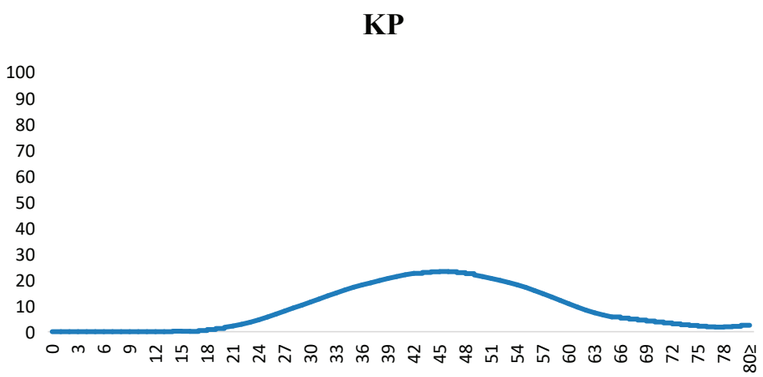
Despite the more per capital income in Sindh, the aggregate capital income is higher in Punjab province due to the population base. Figure 30 shows the share of aggregate income at the provincial level, and we again see the population numbers influencing the total amounts at each age.

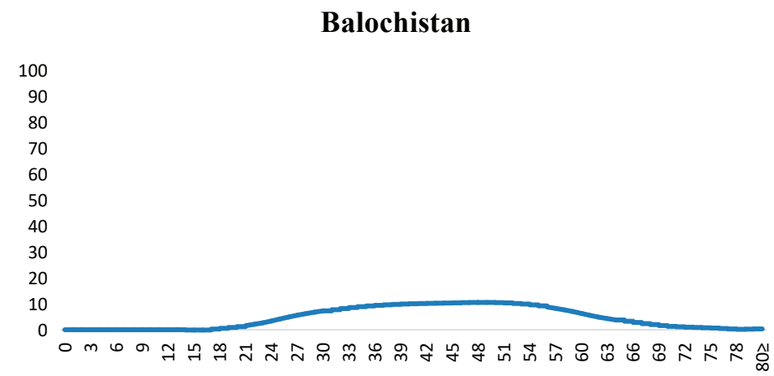
Figure 30

Aggregate Private Capital Income by Province (billion Rupees)







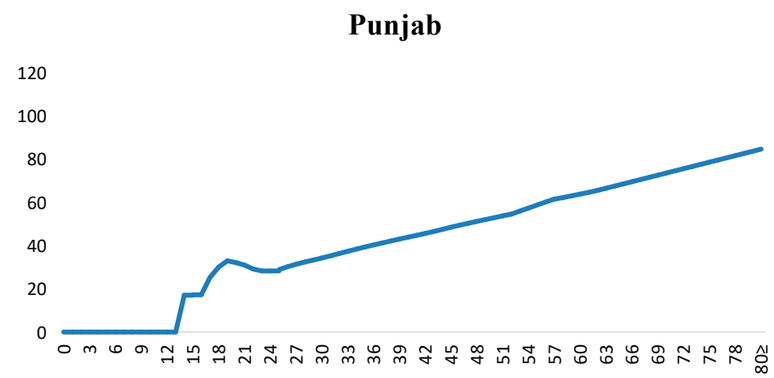


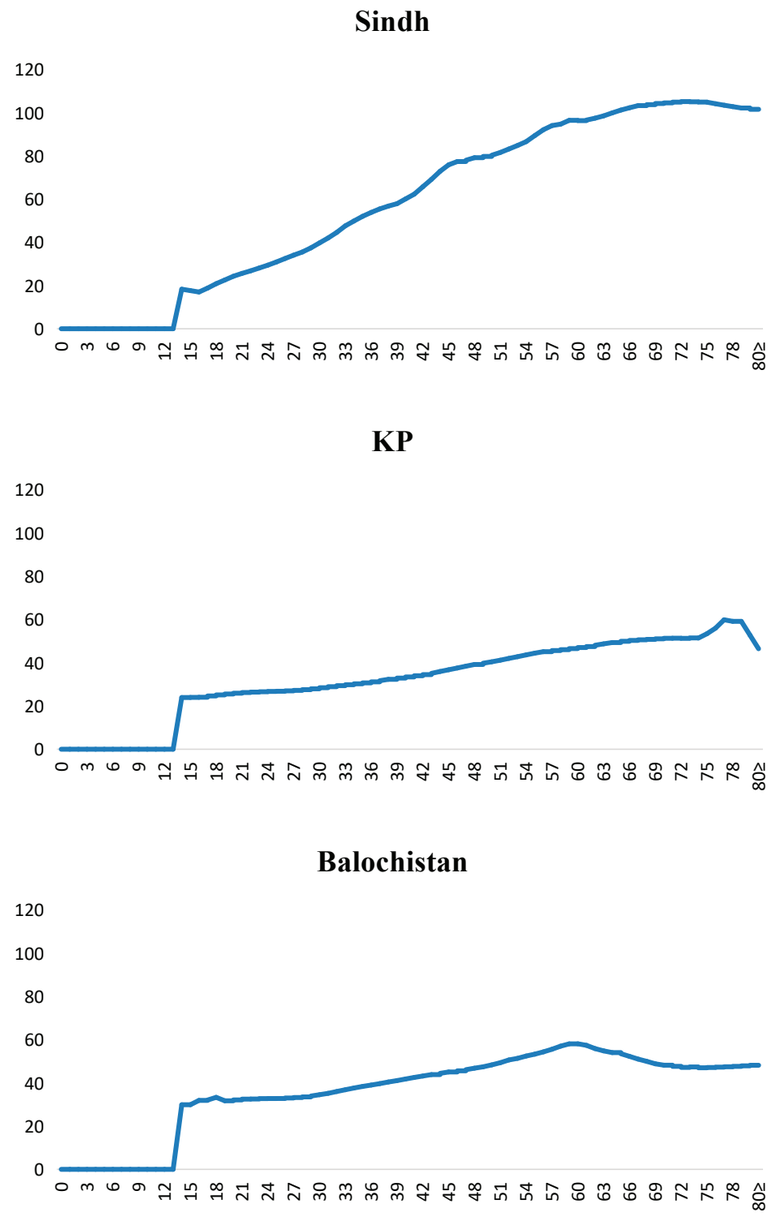
Source: Authors' estimations.

One main component of the capital income is the owner-occupied housing. Owner-occupied housing is not an actual expenditure rather the value of the flow of housing services to those who own the house. Value is imputed for such occupied houses by gauging the value it would have in the market if rented. The HIES 2018-19 dataset has this information that was used to build this profile. Owner-occupied housing can be conceptualized as imputed rent that the households pay to themselves of the housing that they own. Therefore, the income from the owner-occupied housing is treated as capital income that accrues to the households from the operation of the rental business. Put differently, it is the income that the occupiers of the owned housing would have received had they rented out their houses. The aggregate figure for capital income from owner-occupied is derived by subtracting the consumption of fixed capital from the gross operating surplus of households. Per capita and aggregate age profiles of owner-occupied housing are presented in Figures 31 and 32, respectively.

Figure 31

Per Capita Private Owner-Occupied Housing Capital Income across Province (thousand rupees)





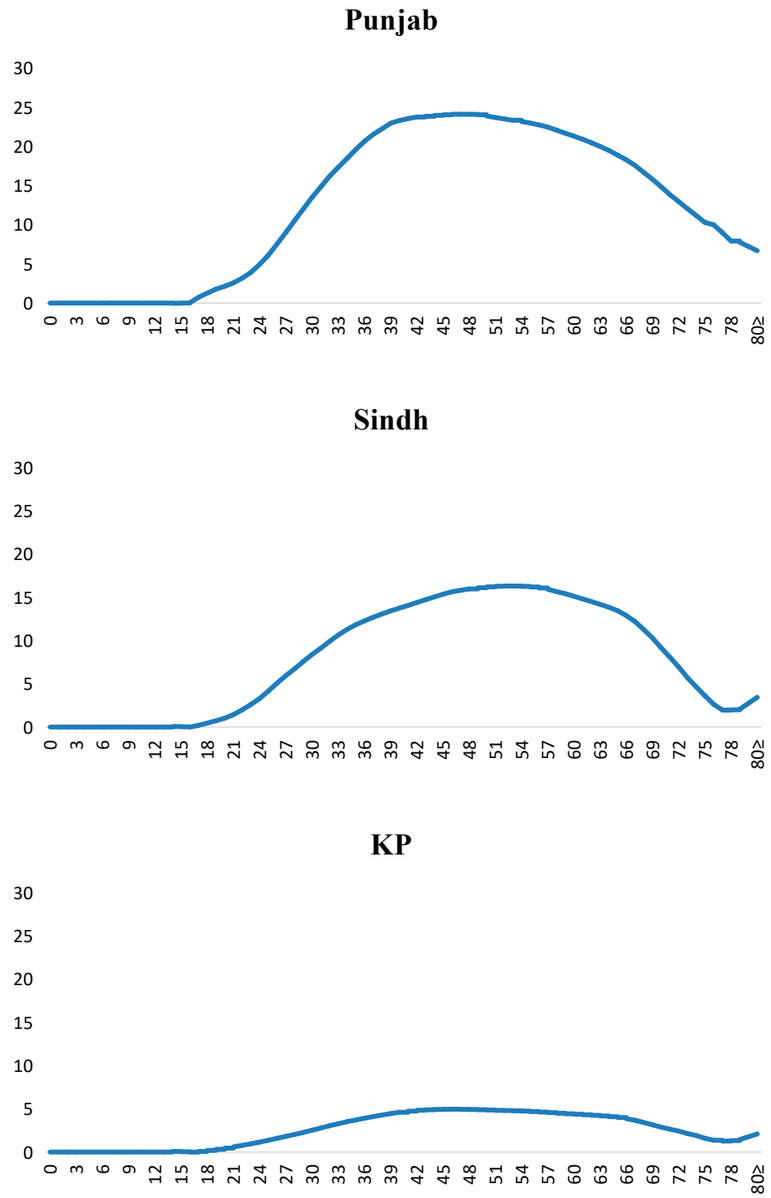
Source: Authors' estimations.

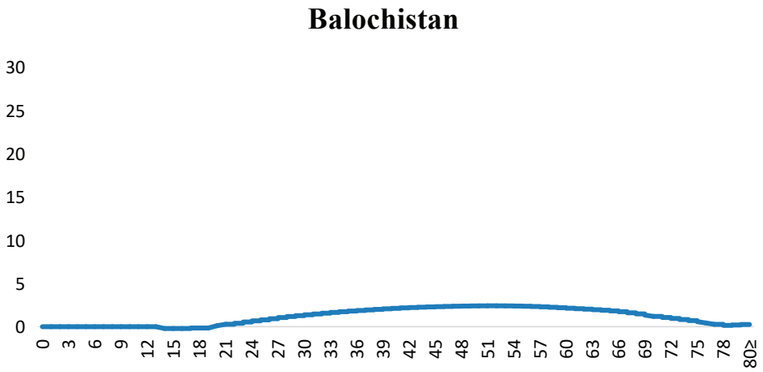
Figures 31 and 32 show that the capital income from owner-occupied housing increases with age. The effect of the age of the head of the household is visible in this profile as well because capital income from the owner-occupied housing is allocated to the household's head. Figure 31 shows the capital income from owner-occupied housing peaks between the age 40-60 years, before declining. The aggregate capital income from

owner-occupied housing shows the value peaking at around the same age, before monotonically declining. Slight variations can be found between the four provinces, with the peak appearing at an earlier age in Punjab than in other provinces.

Figure 32

Aggregate Owner-Occupied Housing Capital Income by Provinces (billion Rupees)





Source: Authors' estimations.

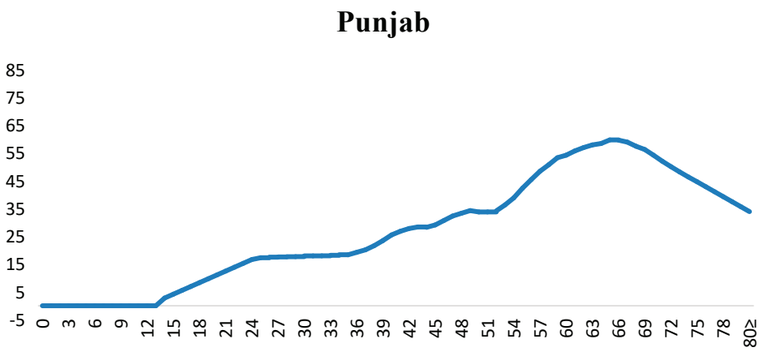
Private Property Income

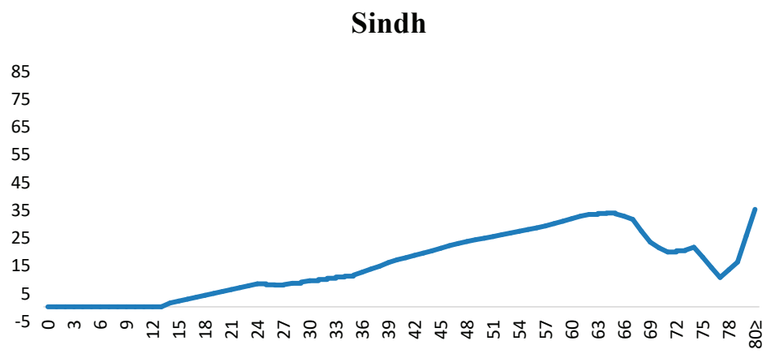
Net private property income is calculated as private property income inflows less private property income outflows. The private property income inflows are composed of receipts of private interest, private royalties, private rent, and private dividends by the private sector. On the other hand, private property outflows, are payments on accounts of interests, royalties, rent, and dividends. The aggregate-level figures for calculating the macro control to estimate private property income are property income receivables by the private sector.

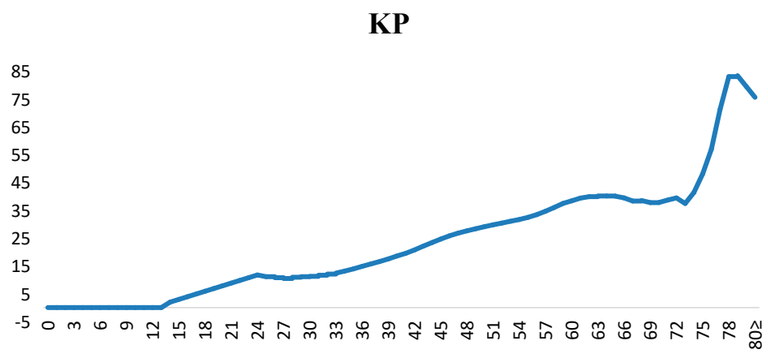
Figure 33 presents the per capita age profile of private property income inflows. The private property income inflows rise with age and hit the peak at the age of 59 before declining from the age of 60 onwards.

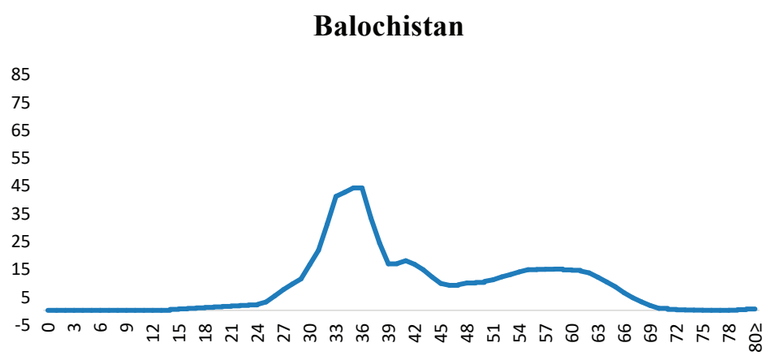
Figure 33

Per Capita Private Property Income Inflows across Province (thousand rupees)







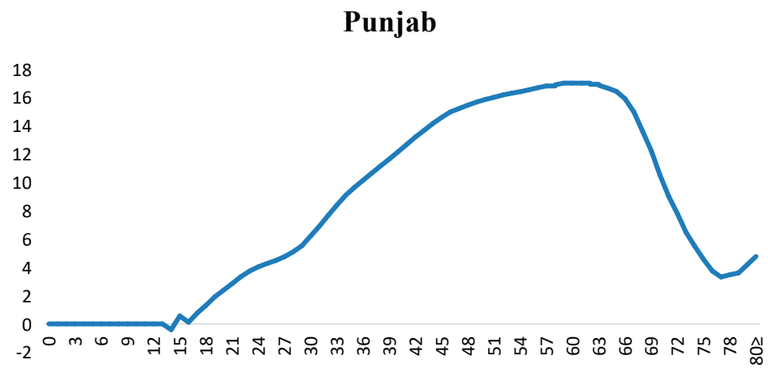


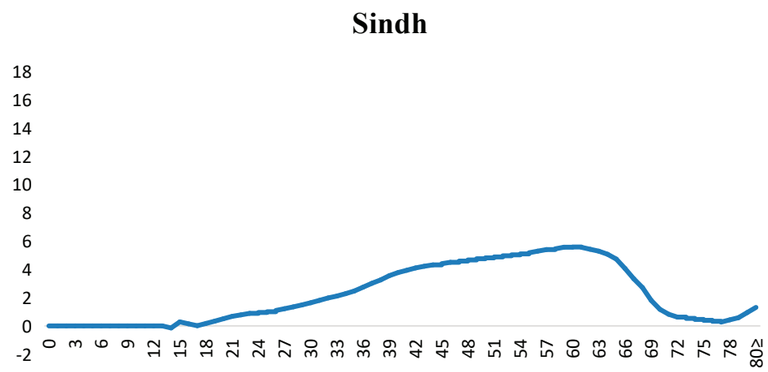
Source: Authors' estimations.

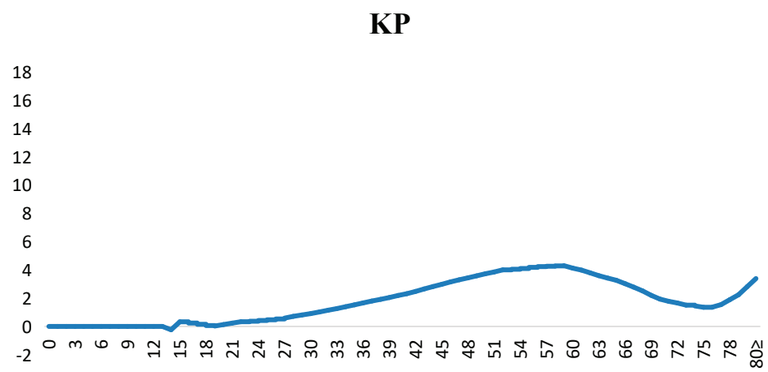
The aggregate estimate for the private property income inflows shows a similar trend with the inflows peaking at the early 40s (see Figure 34). The profiles are greatly impacted by the age structure of the head of the households along with the age structure of the total population. That is the reason why the shape of the aggregate age profile is similar to that of per capita capital income age profile.

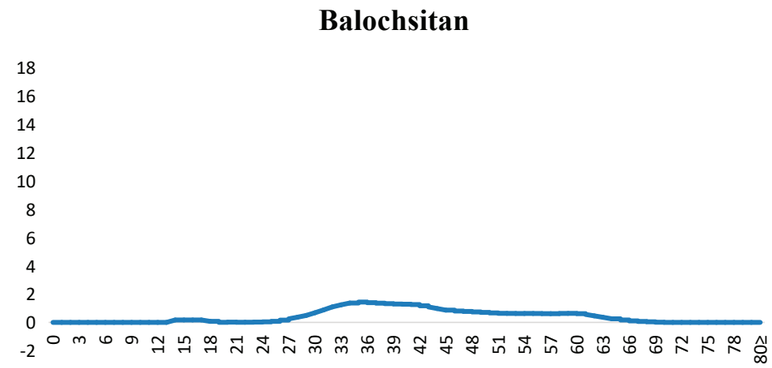
Figure 34

Aggregate Private Property Income Inflows by Province (billion Rupees)







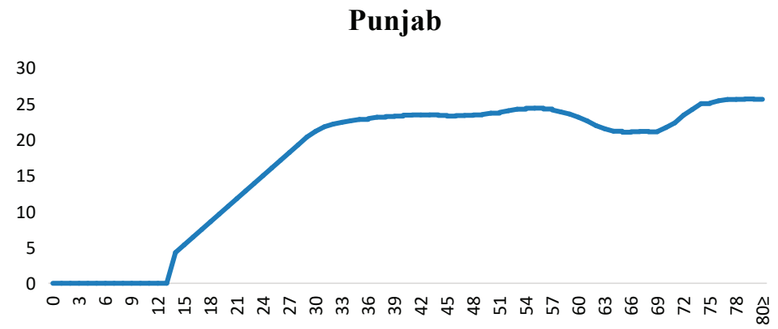


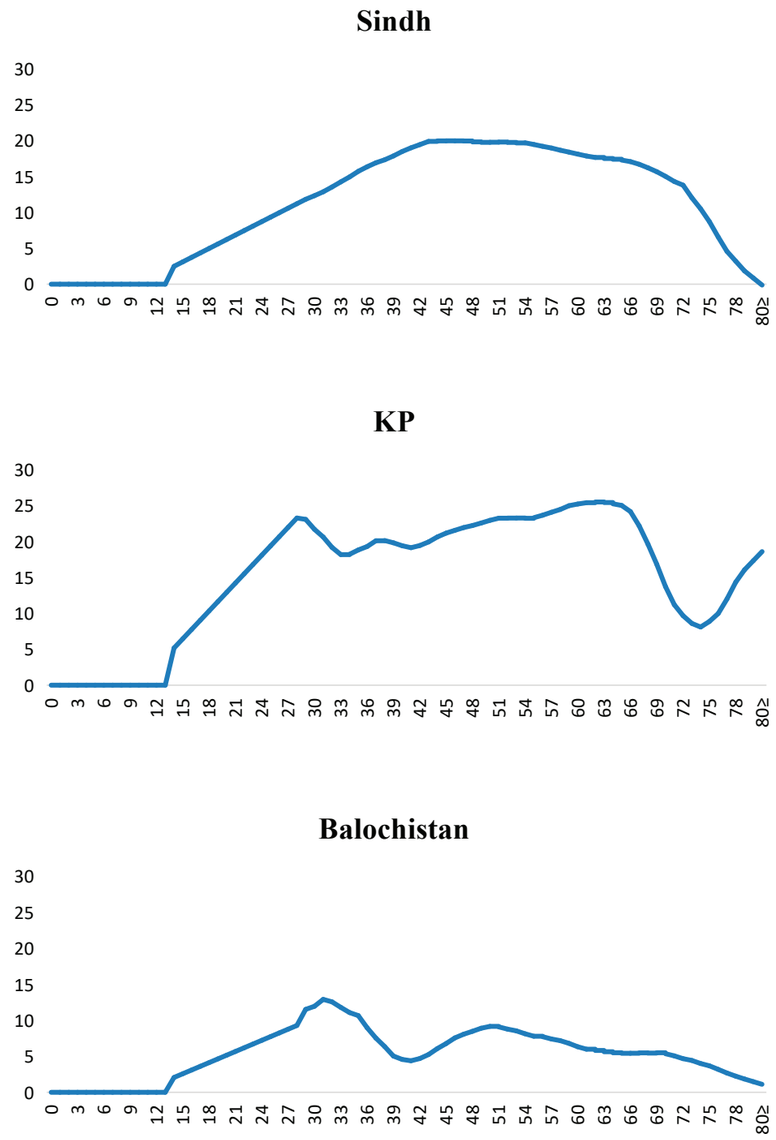
Source: Authors' estimations.

The age profiles of per capita and aggregate private property income outflows are given in figures 35 and 36, respectively. The National Accounts counterpart for the private property income outflows is the property income of the private sector. As can be seen from Figures 35 and 36, the private property income outflows rise with age till the working ages and decline thereafter. Also, worth noting is the similarity in the shapes of private property income inflows with that of outflows. The difference lies in the amount being given and received at each age.

Figure 35

Per Capita Private Property Income Outflows across province (thousand Rupees)



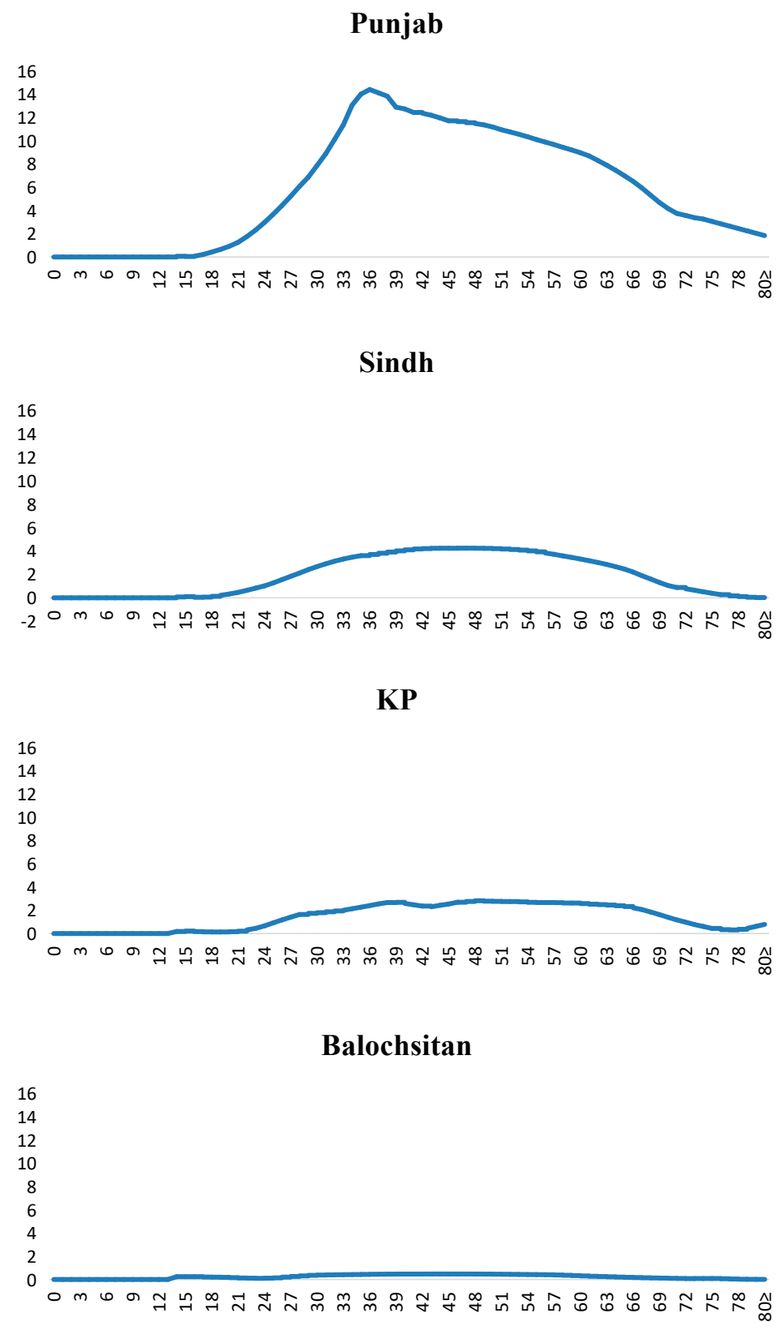


Source: Authors' estimations.

The aggregate private property income outflow profiles for the four provinces correspond to their population and age structure (see Figure 36). It may be repeated here that for the sake of ease in comparison, scale has been kept consistent across all provinces, leaving the amounts for the small population too close to the x-axis.

Figure 36

Aggregate Private Property Income Outflows by Province (billion Rupees)



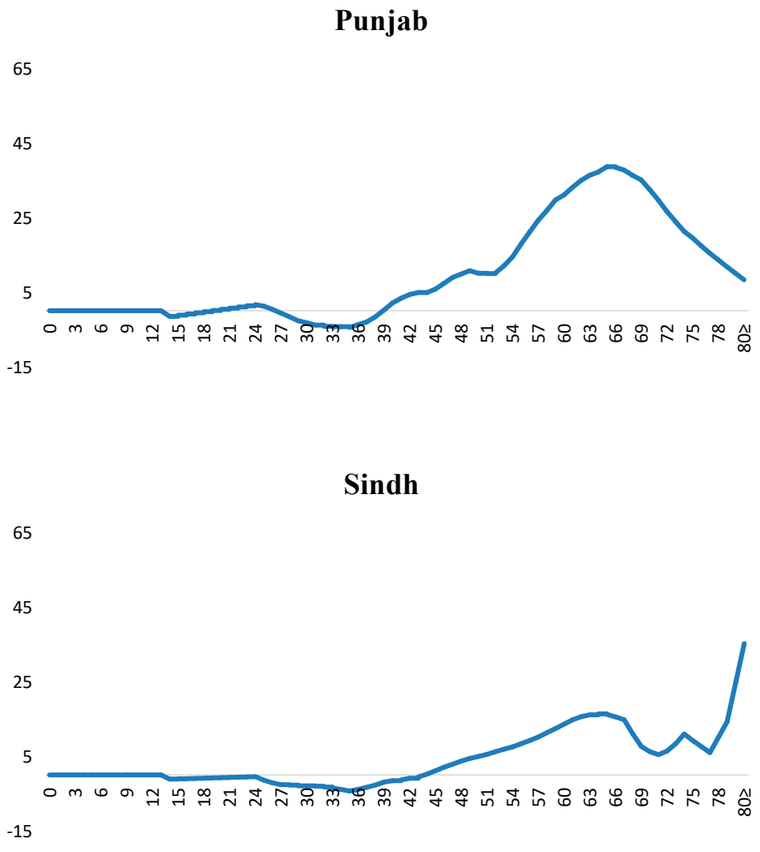
Source: Authors' estimations.

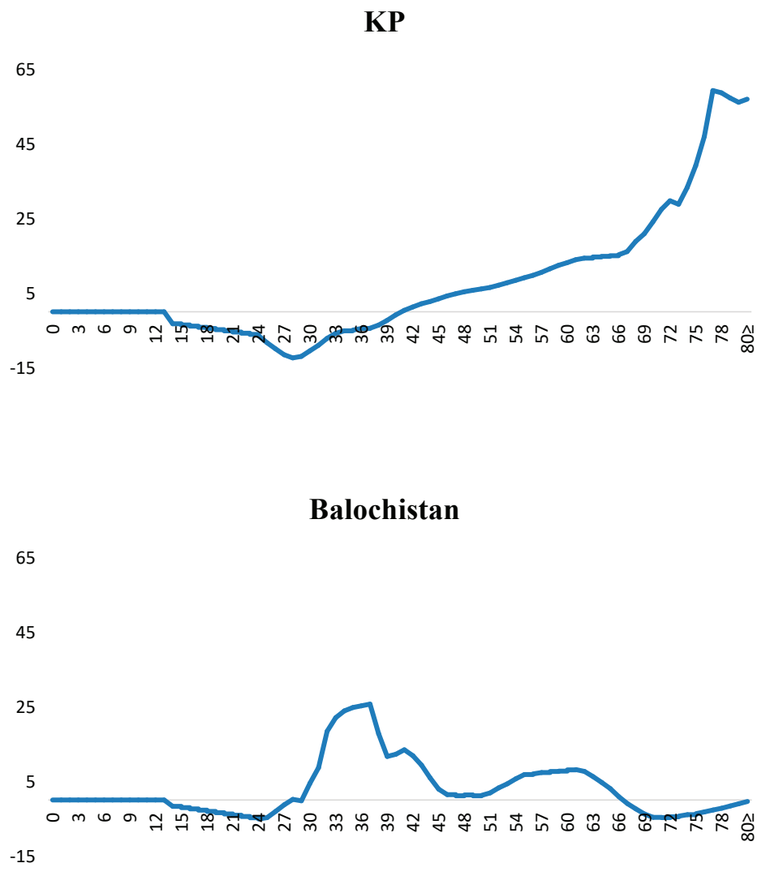
As discussed above, private property income is net of inflows and outflows. Private property income arises as one party pays for the use of an asset owned by another party. Figures 36 and 37 present the net per capita and aggregate age profiles of private property income.

We can see from both the figures that inflows are in excess of outflows for those aged under 14 years and above 72 years. Again, it is those in the working ages who are giving more than they are receiving (Figure 36). Almost a similar trend is shown by the aggregate account where also the outflows exceed inflows for the working ages and otherwise for the other two age groups, namely the young and the elderly (see Figure 37). The whole idea demographic dividend, linked with the demographic transition and resulting changes in age structure, seems to be working in profiles constructed during this study.

Figure 37

Net Per Capita Private Property Income Flow (thousand Rupees)



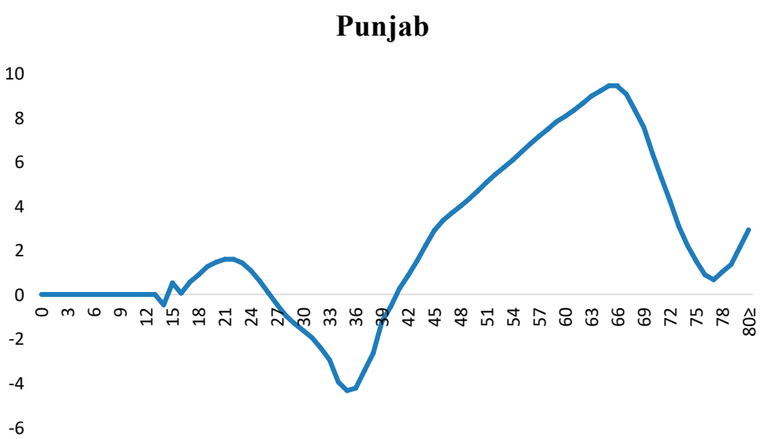


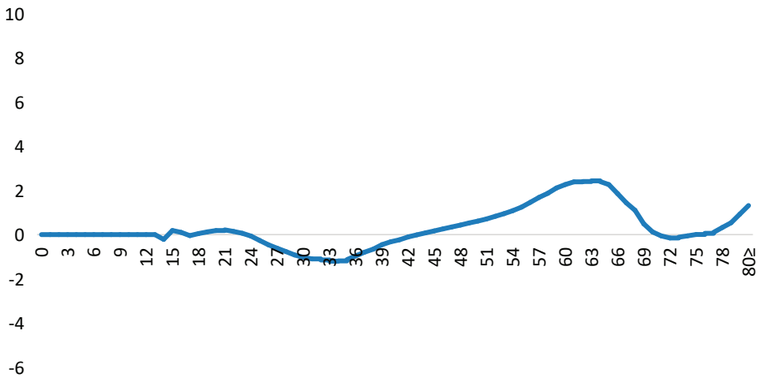
Source: Authors' estimations.

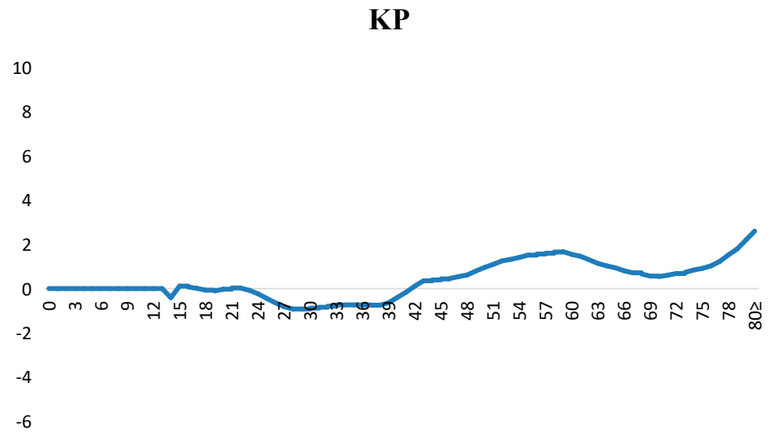
The net aggregate private property flows for Punjab, Sindh and KP show a larger outflow for a few years during the peak working years, clustering around age 30 years (see Figure 38). Balochistan again shows a different trend with net inflows surpassing outflows for almost all ages. Invariably, Balochistan shows different trends from other provinces for most of the profiles.

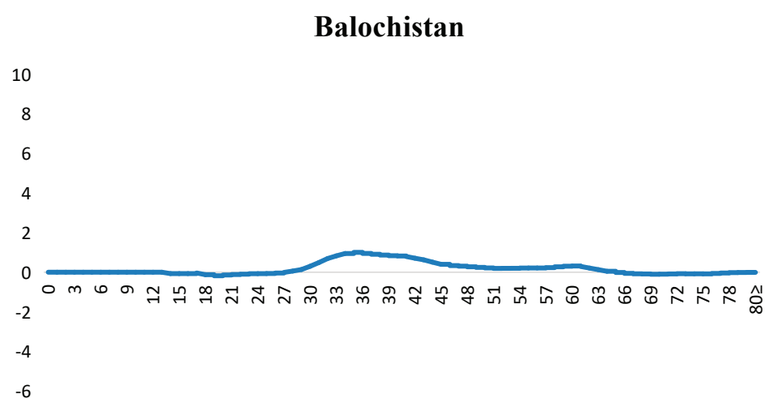
Figure 38

Net Aggregate Private Property Income Flows by Province (billion Rupees)









Source: Authors' estimations.

Provincial National Transfer Accounts

08 CONCLUSIONS AND IMPLICATIONS

With the passage of the 18th Amendment in the constitution, areas like education and health fall into the provincial domain. At the same time, there is a consensus that all the federating units, that is the four provinces, are not alike in their size, structure, economy, governance, and socio-cultural environment. The NTA methodology provides us with a tool to measure and understand the link between population dynamics and its economic expressions and implications.

The current study estimates generational economy, using the NTA framework, for the four provinces, to measure how much people produce and consume at each age, and at what ages they have a deficit/surplus. Because of the paucity of data, the public profiles, other than health and education, cannot be calculated for the provinces, leaving us with a partial picture of the generational economy. From the estimations made in the study, it can be concluded that:

- There are visible differences among the provinces, stressing the need to not take the country as one big whole. Policies made without taking the local context into account can be ineffective because what can work in one province might not work in the other because of these differences.
- Despite the provincial differences, a large lifecycle deficit exists for the young and the elderly at the per capita level in all the provinces. The deficit reduces during the working ages in all the provinces but with varying magnitudes. The prime productive age also varies among the four provinces.
- When we look at the aggregated estimates, because of the age structure, the younger ages consume relatively more in all provinces. The aggregated surplus, however, at each age varies with provinces, with Balochistan having very small surpluses even at prime working ages.
- 'Other consumption' tops the consumption category in all the provinces at all ages, however, for the younger ages it is the education consumption and for the elderly it is the health consumption that is the second biggest consumption category.
- Clear differences are found in the source of education, public or private, among the provinces and for the level of education. Public consumption is the main source of education in Balochistan for all levels. On the contrary, it is private education that is prevalent in Punjab. For higher education, it is more of public consumption than private consumption in all the provinces.
- Health consumption is the highest for the elderly in all provinces, and private health consumption far exceeds public health consumption.

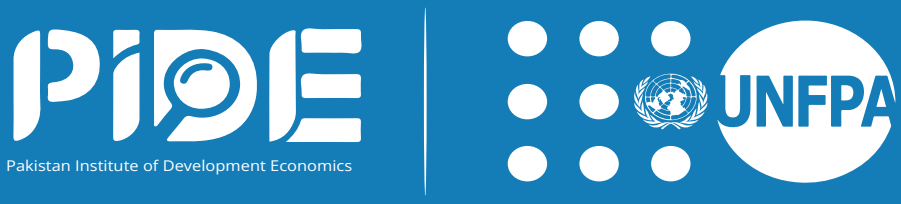
The very idea of reaping the demographic dividend premises on the notion that with a lowering dependency ratio, working-age people can earn, and consequently save, more. If that does not happen, the dividend cannot materialise. Looking at the estimates for the provinces in Pakistan, the chances look bleak. Even at ages when there is a surplus of income, it is not much to trigger any major savings or investment, as is the case with the KP province that has the smallest per capita surplus.

The findings of the current study have significant implications for policymaking in the four provinces. These include:

- *Increase public spending on health*: Out-of-pocket expenditure on health far exceeds public expenditure in all provinces. It is an expense that pushes many households into poverty. There is an urgent need to increase public expenditure on health.
- *Encourage fertility decline*: All provinces, some more than others, have a very young age structure, reflected in the huge aggregates for most consumption

profiles. There is an urgent need to formulate policies that improve access to sexual and reproductive health and family planning services for those who want to space births or limit fertility. The very idea of demographic dividend originates from fertility decline, but none of the provinces is seeing any significant fertility decline. It is about time a large-scale program is initiated to encourage people to lower fertility levels.

- *Create better employment opportunities*: Demographic dividend is all about better earnings and more savings and investment. The surplus income, for those having a surplus, in all the provinces is not adequate to meet the deficits at the younger and older ages, let alone for building savings. The property and capital income found in the current estimations cannot continue if the income levels do not grow. Thus, there is a dire need to create more gainful jobs.
- *Enhance spending on education*: For a better tomorrow, at both personal and national levels, quality education is imperative. The per capita amounts being spent on public education, in all four provinces, are too small to create any quality human capital. Also noticeable is the higher per capita public spending for higher education. If this spending is at the cost of early schooling, it needs to change. The government, be it provincial or federal, is responsible for twelve years of education and they need to policies that ensure fulfilling this responsibility.
- *Improve provincial data collection*: NTA requires enormous amounts of data, both macro and micro in nature. In a situation where not all required data is available even at the national level, availability at the provincial level is not a possibility. Lack of data, especially macroeconomic data included in the SNA, leads to a partial estimation of intergenerational accounts for the provinces. There is an urgent need to improve data gathering at the provincial level. The Pakistan Bureau of Statistics (PBS) has regional/provincial offices, and it is about time they improve their performance.



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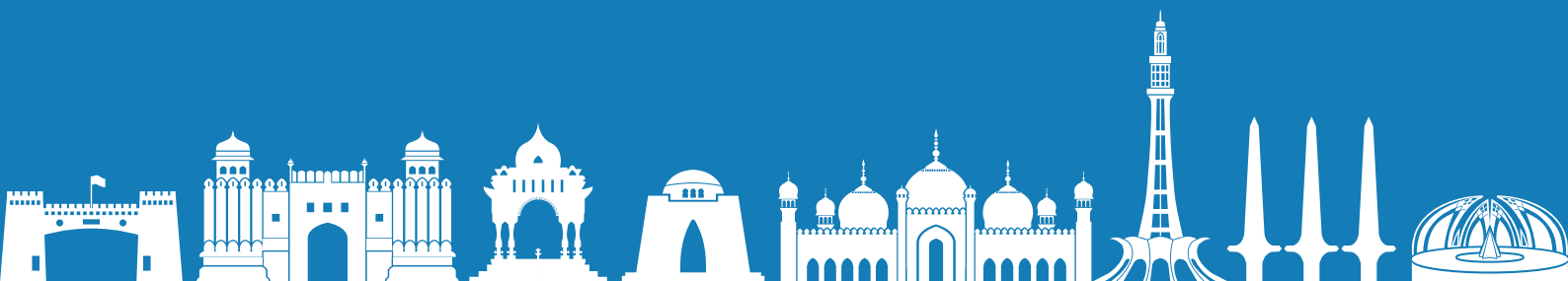
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