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The Interlinkage between Social Exclusion and Financial Inclusion: Evidence from Pakistan

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Abstract

Using the data from Pakistan Panel Household Survey (2010), this paper assesses the role of financial inclusion in reducing social exclusion. The findings from regression analysis confirm a statistically significant negative impact of financial inclusion on social exclusion including deep [multidimensional] social exclusion. Deep exclusion for population having financial inclusion drops to 34.8% from 81% otherwise. Most importantly, none of the women was found having deep social exclusion if she has access to financial services. Results from logistic regression analysis confirm that having access to finacial services lowers the likelihood of facing marginal exclusion by 0.54 times and deep exclusion by 0.28 times compared to those having no access. Further, results from sum score method corroborate that Pakistan has higher prevalence of minor and marginal exclusion as compared to deep [multidimensional] social exclusion. The evidence further suggests that rather than income and consumption, old age, low education and gender contribute to multidimensional social exclusion mainly. The ratio of population within age groups 35-44 and 45-54 facing the multidimensional exclusion is 53.1% and 70.8% while the number rises to 85.5% and 80.5% for age groups 55-64 and 65 and above. Similarly, percentage of population with only primary education facing multidimensional social exclusion is 36% as compared to 4.7% for population having a degree. Finally, 23.3% of women face multidimensional exclusion as compared to 14.1% of men. We conclude that government needs to rethink the social design as well as to ensure improved access to financial services.

Keywords: Social Exclusion; Financial Inclusion; Pakistan

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The Interlinkages between Social Exclusion and Financial Inclusion: Evidence from Pakistan

Nasim Shah Shirazi[1], Sajid Amin Javed[2], Dawood Ashraf[3]

1. Introduction

To understand the social, cultural, and economic drivers of poverty and inequality, a policy framework is required that can address larger social issues including poverty. We argue that existing measures such as poverty and social protection do not address the needs of the society. In this context, social exclusion as an analytical tool could help us in restructuring the debate on deprivation and disadvantage in Pakistan.

Social exclusion, systematic blockade of individual or group of individuals from participating in prevailing social system/society, provides an alternate measure for social policy. It provides a broader framework in which policymakers address the social issues beyond the existing ambit of poverty and inequality. The strength of a policy addressing social exclusion is in its capacity to disclose relational aspects of deprivation. As a development policy yardstick, the policy to address social exclusion not only improves the quality of services but also provide the services more inclusively.

To reduce the social exclusion, it is important to break monopoly power and ensure equal rights to all social groups without discrimination. This perception provides important insights to study social exclusion in developing countries where oligopolistic structures of market are pervasive, labor markets are highly segmented, geographical disadvantages are common and access to public services is mediated through informal political associations.

Social policy in Pakistan has neither attained sizeable political attention nor economic consideration throughout its history (Irfan, 2003). The proportion of budget for human development and protection remained negligible despite the overwhelming poor population (Zaidi, 2005). One of the possible reasons for lower spending on human development is the historical needs for higher spending on national security (Ahmad, 2013; Alavi, 1972; LaPorte, 1969).

Economic growth received much more attention without looking into its effects on social factors. Social development almost lost its potential political appeal since 1977 as the

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development paradigm started its tilt towards more market-centered approaches to economic growth in contrast to state planning of earlier years. This trend was in harmony with the changes in international thinking about economic growth and development.

Certainly there were few legal and institutional reforms at macro level including introducing Zakat fund, Benazir Income Support Program and constituting departments like Bait ul Mal and Zakat & Usher for social protection. However, there is a need to work more seriously on the underlying factors creating deprivation, disadvantages and poverty. Failure of Pakistan in meeting the Millennium Development Goals (MDGs) also raised concerns about re-conceptualizing and assessing the underlying frames and tools of social policy design. Presently, in order to meet the challenges of Sustainable Development Goals (SDGs), social policy needs to redeem the negligence. Social protection strategy in Pakistan is limited to targeted delivery of protection to economically vulnerable households and anti-poverty policies also follow the similar design (Nishtar, 2007).

These policies and strategies lacked any social justice perspective embodied in a social service model. The narrowness of perspective raises the need to look beyond poverty to understand the social, cultural, and economic drivers of poverty and inequality. We argue that there is a need for an overarching social policy that provides equal opportunities of social and economic mobility to citizens. In this context, social exclusion as analytical tool could be helpful to initiate the discussion on deprivation and disadvantage in Pakistan.

Against this backdrop, we map the scale and nature of social exclusion and access to financial services using data from Pakistan Panel Household Survey [2010]. We claim that financial inclusion can reduce social exclusion significantly, access to financial services can be one of the major strategies to combat social exclusion, and limited or no access to financial services increases the risk of social exclusion (Smyczek & Matysiewicz 2014).

Using some score method, we provide the estimates for social exclusion and financial inclusion as well as their interrelation in the context of Pakistan. Findings from exploratory data analysis suggest that majority of people in Pakistan face minor and marginal social exclusion and that Pakistan has alarmingly low level of financial inclusion. The evidence from regression analysis corroborates that financial inclusion has significant negative impact on social exclusion.

The findings of the study have multiple implications for policy design including poverty reduction strategies, social policy and access to financial market in the country. We recommend that social policy in general, and poverty reduction policy in particular, need to go beyond income or semi income based measures of poverty and that social exclusion must set the bases for the formulation of these policies. We further recommend that access to affordable financial services must be ensured, particularly to those who are marginalized.

The rest of the paper is divided into five sections. Section 2 discusses social exclusion, its emergence and evolution in the historical context. An explanatory framework for social exclusion is also developed to identify the domains and channels that cause social exclusion. This survey also encompasses different experiences of countries fighting against social exclusion and how financial exclusion has been used globally as a policy tool. Section 3 provides background theory and methods of construction of composite index for social exclusion and financial inclusion. Section 4 discusses results. Last part of this section provides evidence on association between financial inclusion and social exclusion. Section 5 concludes the study.

2. Social Exclusion, Poverty and Policy Discourse

Efforts of poverty alleviation in developing countries under the Millennium Development Goals remained short of achieving targets. There is a realization that poverty entails multidimensionality of the causes and therefore a new set of development agenda known as Sustainable Development Goals (SDGs) reorients the focus towards attaining development that must be inclusive and sustainable. The need for a broader concept was rationalized as the debate for poverty alleviation was more centered on economic outcomes at the cost of relational features of a social order (Reimer, 2004). An alternative and broader understanding of social exclusion is required to incorporate the changes in income distribution, discrimination against certain social groups and lack of political and financial inclusion impacting deprivation.

2.1 Social Exclusion versus Poverty as a Policy Tool

Reducing poverty, in most of its definitions, is limited to increasing income and enhancing better living standards of individuals in a particular society. There are two possible differences between social exclusion and poverty. First social exclusion in contrast to poverty emphasizes the *relational* aspect of deprivation (Levitas et al., 2007; Reimer, 2004; Silver, 2006). Second, poverty is only an outcome while social exclusion is both a condition and process (Gordon et al., 2000; Silver, 2006). For example, an individual may be considered as socially excluded if her relationship with different resources, groups or institutions is undermined although she/he meets a minimum amount of food, income or resources.

Social exclusion is generally considered as a product of the monopolization of material resources and the power of social closure practiced by the elite groups to exclude others (Silver, 1994). It is a complex and multi-dimensional process which involves the lack/denial of resources, rights, goods and services; the inability to participate in the normal relationships and activities available to the majority of people in economic, social, cultural or political arenas of a society (Levitas et al., 2007). Social exclusion not only encompasses all elements of traditional definition of poverty (economic exclusion) but also emphasizes on social and political elements of exclusion. This definition also highlights another important fact of exclusion, that it is involuntary and forced.

Both poverty and social exclusion can be multidimensional and share relational and distributional concerns, but social exclusion has more explanatory power of defining deprivation and disadvantages in institutional terms. Sen (2000), while articulating about interlinkages between capability approach to poverty and social exclusion, emphasized the importance of the latter in comprehending the relational factors which lead to capability failure. He argued that relational features of deprivation developed through social exclusion are among the distinct contributions to the literature on social policy. Table 1 provides basic paradigms of social exclusion.

Table 1: Paradigms of Social Exclusion

	Solidarity	Specialization	Monopoly	Capability
Exclusion	Lack of Group Solidarity	Specialization/separate spheres	Social Closure	Capability failure
Source of Integration	Moral Integration	Exchange	Citizenship Rights	Freedom
Political Discourse	Republicanism	Liberalism	Social Democracy	Liberalism

In this context, social exclusion provides a larger explanatory power of the underlying processes that create poverty. It is also noted that current complexities in social and economic life make it difficult to capture deprivation by a single dimensional measure such as poverty, even if it is measured in MPI. Whereas, social exclusion provides the multidimensionality to understand dynamics of deprivation (Rawal, 2008). In developing countries bad health conditions, low quality of education and distance from the city is inversely related to the labor market performance and potentially increase poverty. Similarly, in developing countries with little social protection and health insurance, even the non-poor could be excluded from accessing quality health and education. Using social exclusion as a policy measure not only helps improve the quality of services but also makes it possible to provide better services more inclusively.

3. The Conceptual Framework: Social Exclusion and Financial Inclusion

Social Exclusion both as a process and outcome is a multidimensional process covering economic, social and cultural aspects of exclusion (Levitas et al., 2007). The conceptual framework of social exclusion includes both access to resources and integration of individual into society (Kabeer, 2000; Silver, 1994). Since social exclusion is more prevalent among marginalized segments of society, a lower financial inclusion may lead to higher social exclusions (Kempson et al. 2000; Sarma & Pias, 2011)[4]. In this section, we provide conceptual foundation for social exclusion and financial inclusion index.

The first step in constructing a social exclusion index is to identify the underlying sources of exclusion. Carraro and Helen (2005) identified six variables creating poverty in Pakistan, namely caste, gender, religion, access to land, disability and language. Castillejo (2012) identified four main axis of exclusion in Pakistan, namely a) regional exclusion; b) exclusion from access to land; c) exclusion of religious minorities; and d) youth and gender exclusion. Focusing on identifying the link of social exclusion with the social and political instability of Pakistan, this study used the term 'axis' around which exclusion is created.

For better comprehension, we made some changes to the axes. For example, the role of services sector has increased tremendously in the recent past for employment generation, so we replace the access to land with the broader access to labor and financial market. Similarly, kinship and gender are both bivalent collectivities as both adjust the social status of an individual and access to economic resource such as land. However, being a woman or belonging to low-caste does not mean exclusion from land, but exclusion from education, health, employment in formal markets, affordable housing and, most of the time, from social safety nets. Furthermore, job opportunities and access to labor market in Pakistan depend upon level of education which depends upon the socioeconomic position of the family (Javed & Irfan, 2014). Land distribution also tends to be unfavorable for the minorities, women and non-agricultural caste groups. Presence of strict social hierarchies and economic endowment inequities, therefore, overwhelmingly determine the access to labor market and chances of social mobility.

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[4] Financial inclusion refers to provision of access to appropriate financial products and services at an affordable cost to all sections of the society including vulnerable groups such as poor, disadvantaged and low income groups (Chakrabarty, 2011).

Another axis that adds to the risk factors of exclusion is the regional location of any individual or group. Statistics on poverty and vulnerability indicate that incidence of poverty varied along regional axis (Arif & Farooq, 2011) which leads to increased concentration of exclusion as number of the excluded increases in any particular area. Exclusion of groups such as transgender, rural landless and women make them prone to multiple forms of disadvantages that could be comprehended by using an institutional typology comprising of micro, meso and macro levels. Kronauer (1998) suggested that regional exclusion the dyad of 'center' and 'periphery' may cause further social exclusion. A region that has remained primarily producers of raw materials can be excluded from new opportunities available in more modern sectors[5].

In this context, we develop a conceptual framework outlined in Figure 1. It delineates the dynamic relation between different structural and institutional levels of exclusion and its relational aspect with individuals mediated through macro and meso level institutions.

3.1 Quantifying Social Exclusion and Financial Inclusion

Since social exclusion is a multidimensional concept and is influenced by national and idelogical context of any particular region or country. Social exclusion transcends chronic poverty analysis because it includes non-material (relational) dimensions of disadvantaged (Silver, 2006). The explanatory power and policy importance of social exclusion lies in its analytic value that helps in understanding the relationship between economic growth and social change (Silver, 2007). This section discusses the measurement of social exclusion and financial inclusion.

Political dimension of social exclusion is also very important. In Pakistan, access to political institutions is mediated and determined by informal social institutions like kinship (Qadeer, 2006) and control over economic, informational or other material resources (Güneş-Ayata & Roniger, 1994). Then in return, political institutions distribute rewards to the participants through provision of social services, i.e. education and health, access to credit markets and labor market. Therefore, it is important to note that role of political institutions is of intermediation between markets and public goods/services and categorical variables like gender, caste, and class[6].

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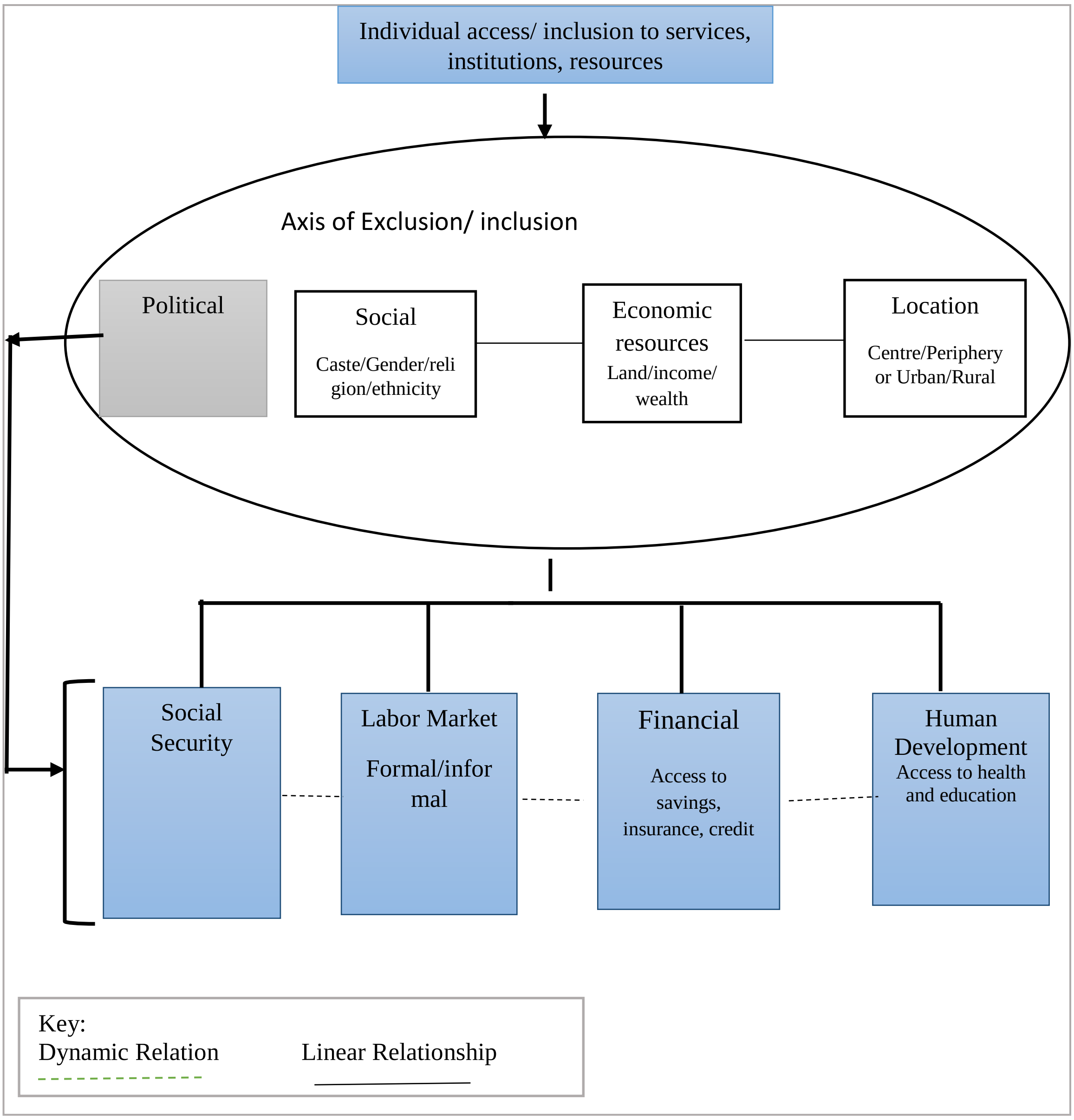
[5] As an individual could belong to any disadvantaged social group and region, this makes the depth of exclusion more severe.

[6] However, in Pakistan to this date there is no comprehensive data set available to monitor political inclusion or exclusion.

Figure 1: Conceptual Framework



As the role of financial markets are growing, financial inclusion is also seen as a means to sustainable economic development and a source of social mobility for poor, marginalized and excluded groups in developing countries (Adeyemi, Parmanik, & Meera, 2012). An individual or household is considered as financially included if the individual or household has access to financial services comprising of credit, savings, insurance and payment (Goland et al. 2010)[7]. However, several social, regional and economic factors affect financial inclusion (Akudugu, 2013; Kuri & Laha, 2011). Furthermore, financial exclusion can be voluntary and non-voluntary (Adeyemi et al. 2012)[8]. Non-voluntary factors of financial exclusion are: distance from financial institutions, trust on financial institutions, gender, literacy, economic conditions and low transaction and time cost of services use (Akudugu, 2013).

In case of Pakistan especially, it has been noted that access to microfinance for the poor is dispensed through group lending, which actually keeps the poorest segments of the society excluded from these services[9]. Even financial services meant for poverty alleviation could not reach the poor in the presence of gender and caste based social exclusion. Same way the peripheral regions and rural areas could not access financial services for limited physical access. Lastly, the economic and social status of an individual also determines the access to the financial market. Without owning any form of capital, social or economic, access to financial capital is difficult. Furthermore, access to financial services also depends on factors such as social group to whom the individual belongs, income bracket or class and location (urban/rural).

3.1.1 Construction Social Exclusion Index: Selection of Domains

Following work of Headey (2006) and Saunders *et al.* (2007), we use six domains for the construction of social exclusion index for Pakistan[10]. These domains include the material resources, educational and skills, personal safety, health and disability, social security, and employment. Table 2 reports the components of each of the domains with a list of exclusion indicators used.[11]

The selected components in each domain are guided by the theory but limited by availability of data in Pakistan Panel Household Survey (PPHS) 2010[12]. Material resources

[7] In this study we are not expanding our analysis towards informal financial markets exists in developing countries.
[8] We will keep our focus limited to only non-voluntary determinants as we are studying financial inclusion in context of social exclusion.
[9] For detailed discussion on pitfalls of group-lending in context of Africa see (Adeyemi et al., 2012). While in case of Pakistan see forthcoming study on practices of poverty alleviation in Pakistan by Javed & Rehman (forthcoming).
[10] Similar set of indicators is used by Kostenko et al. (2009). However, we were not able to incorporate all the indicators mentioned in Kostenko et al. (2009) because of data limitations. So we did not mention it as major source of Table 2.
[11] Limitation of data set forced us to digress from our conceptual framework. As data about land access was scarce, political domain is completely missing and social dimension was relatively narrow.
[12] Refer to Nayab and Arif (2015) for details on PPHS
http://www.pidelms.com/pphs/phocadownload/PDR/Pakistan%20Panel%20Household%20Survey.pdf

domain covers poverty originating from low income, lower net worth of assets, low expenditures and financial hardship. Household income is measured by the total annual disposable income of individuals above the age of 15 years. An individual is called 'excluded' if his/her income is less than 60 percent of the median income of the population (Eurostat, 2013).

Net wealth is obtained by subtracting aggregate debts (unpaid bills and loans) from aggregate assets (housing, agriculture land, motor vehicles and business owned). In this category, an individual is identified as "excluded" in similar fashion as identified for income. Similarly, low expenditure is defined as those individuals whose amount of expenditure is less than 60% of the median expenditure[13]. Lastly, individuals facing financial hardships for material domain are also included to capture the exclusion that any individual experience in accessing formal financial services.

Table 2: Domains and their Components of Poverty and Social Exclusion in Pakistan

Domain	Component	Exclusion Indicator
Material resources	**Household income**	Income less than 60% of median income
	Household wealth	Household Assets (less than 60% of median assets) Debts to subtract
	Financial hardship	Pawned or sold something Went without meals Asked for financial help from friends or family
	Expenditures	Consumption Receipts: Total value of purchase last period (less than 60% of median expenditures)
Education and skills domain	**Learning Skills**	Literacy Formal Education
Health and Disability		General Health Physical Health Disability Household with a disabled child
Personal safety	**Violence**	Victim of violent crime Victim of property crime Subjective Safety (Section 11 Security)
Social security		feeling safe in community
Employment	**Unemployed**	If a person has not worked in the last week, has looked for work within the last four weeks
	Marginally Attached	looking for work and, while not available to start within one week, is available within four weeks
	Household	If no member of the household is in paid employment and at least

[13] The items include cigarettes and tobacco; public transport and taxis; meals eaten out; motor vehicle fuel; clothing and footwear; footwear; fees paid to health practitioners; medicines, electricity bills, gas bills; education fees; rent on housing; and child care

Joblessness	one member is of 'working age' (defined to be 15-64 years).
Underemployed	If employed part-time currently (usual weekly hours of employment in all jobs are less than 35) and worked less than the hours per week in all jobs the individual would like to work.

Third domain, education and literacy, captures human capital dimension of social exclusion. It includes the social capital, access to information and opportunity for social mobility of an individual in the society. In addition, education determines the access to job market and income level. Two indicators: 'formal education' and 'literacy' are included in this domain. Literacy is an important indicator in accessing information especially for manual jobs micro and small businesses. Health is the second component of human capital formation. This domain captures the relational access of individuals to the public health services that shapes up mobility, social interactions and access to the formal education, and job market.

Personal safety of an individual is a function of the rule of law in any modern society. Insecure property and life of an individual leads to a relative exclusion of the individual from society. To capture this aspect of social exclusion, we use three indicators namely victim of violent crime, victim of property crime, and subjective safety. An individual is considered as 'victim of violent crime' if the individual has personally experienced injury due to incident of conflict in last 12 months. Similarly, those individuals who feel more unsafe with regard to their property in last 12 months are counted as 'victims of property crime'. Finally, 'subjective safety' is determined on the basis of perceived personal safety rated from 1 to 10 and a score of below 5 score is considered as low safety.

The social aspect of exclusion index directly captures the core function of relativism of deprivation of social capital. Unfortunately, there is very little information available for this domain in any data set that exists in Pakistan. Therefore, we have used a proxy variable of "feeling safe in community" to assess the subjective satisfaction that an individual feels while living, travelling and interacting with the community.

Lastly, employment for an individual serves multiple purposes of production, income and recognition (Sen, 2000). We divide unemployment into five categories depending on the nature and social impact. The categories include from underemployed to long-term unemployed. Standard definitions are followed while defining these categories as explained in Table 2.

3.1.2 Construction of Social Exclusion Index: The 'Sum-score' Approach

To obtain an overall measure of social exclusion, 'sum-score' method is used as the principal approach. Since the previous versions of the PPHS do not contain all the indicators, we use data from PPHS 2010 only[14]. Before we outline the sum-score approach[15], some points are worth noting. PPHS provides household level data on wealth, assets and income. This has implications for estimation of social exclusions. For example, the annual family income of Rs 100,000 for a family of 10 might indicate exclusion but it is more than enough for a family of 4.

Furthermore, we used OECD's Equivalence Scale[16] to adjust the income for each household member to capture relative exclusion of children and adults within a household. Based on this scale, we have assigned a value of 1 to head of household, 0.5 to additional adult members of the household and 0.3 to children in a household. This process was repeated for consumption and income.

In the next step, each indicator of each domain was transformed to binary indicators. To derive an overall measure of individual exclusion, each domain average was summed up to a single number falling between 0 and 6. For instance, taking the example of education and skills and assuming that an individual with low literacy, low English proficiency, low formal education and 'low work experience' will carry the score $K_{education\ and\ skills} = \frac{1+1+1+1}{4} = 1$, whereas an individual having only low literacy and low English proficiency will carry the score given as $K_{education\ and\ skills} = \frac{1+1+0+0}{4} = 0.50$ wherein the former is relatively highly social excluded as than the later. Based on the range 0 to 1 for each domain, the upper and lower limit of total exclusion measured at a point in time lies between 0 and 6 where a high score indicates higher social exclusion.

Algebraically, the sum of scores across the six domains is expressed as follows: $x_i^s = \sum_{d=1}^{6} x_{id}$ Where x_i^s is the overall measure of exclusions, *i* represent individuals and x_{id} is the proportion of indicators present in each domain. Also x_{id} is defined as $x_{id} = \frac{\sum_{k=1}^{k_d} x_{id}^k}{K_d}$

[14] Earlier versions (2001 and 2004) contain data of 2127 and 1907 rural households respectively while the 2010 version of PPHS data contain data of 4142 rural and urban households. Furthermore, the PPHS (2004) dataset did not provide full coverage and include households from two provinces (Punjab and Sind) only while the 2010 version provided country-wide survey of households.

[15] We follow this sum score approach from (Kostenko et al., 2009)

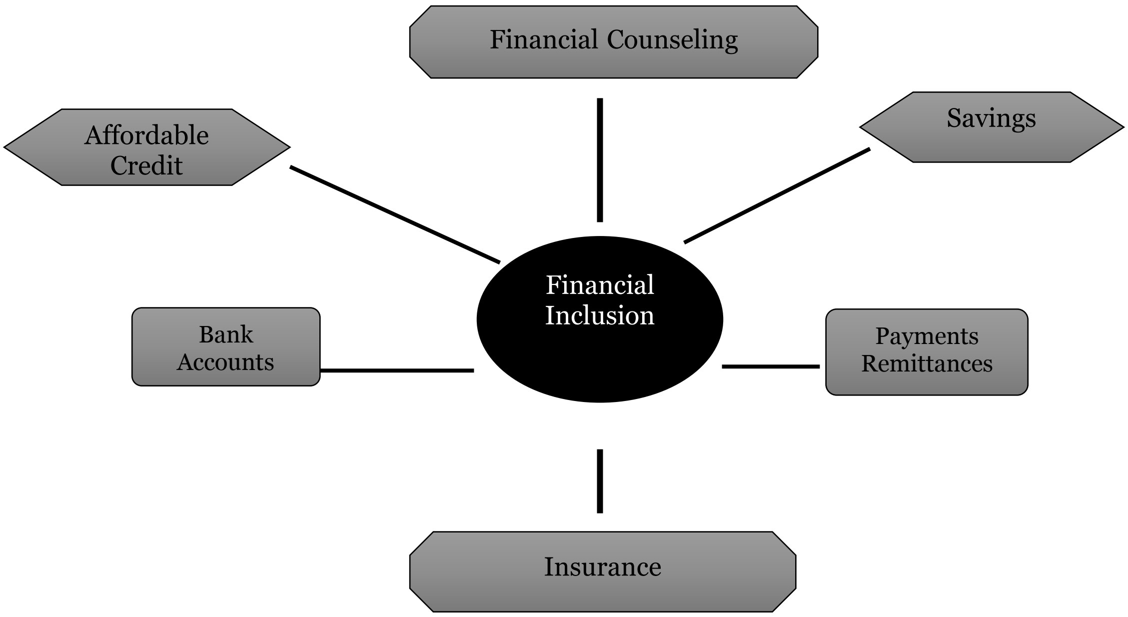
[16] For details see Note on "What is Equivalence Scale" (http://www.oecd.org/eco/growth/OECD-Note-EquivalenceScales.pdf)

and represents a binary indicator representing the presence of indicator *k* of social exclusion in life domain *d* for individual *i*, and K_d refers to the total number of indicators for domain *d*. Higher sum-score represents higher rate of exclusion while a lower sum-score represents low rate of exclusion. To draw a comparative picture, we divide the index into four categories. A sum-score of 0 means that the individual is not socially-excluded while a sum-score of less than or equal to 1 denotes minor exclusion, also known as wider exclusion. Similarly, marginally excluded group of individuals consists of those individuals whose sum-score is less than or equal to 2. Lastly, individuals with sum-score greater than two are considered to be deeply excluded denoting multidimensional exclusion.

3.2 Constructing Financial Inclusion Index

We construct financial inclusion index [FINDEX] based on the global financial indicator identified by the World Bank. The Global FINDEX indicator is based on the five dimensions, including use of bank accounts, savings, borrowing, payments, and insurance as shown in Figure 2.

Figure 2: Financial Inclusion



PPHS 2010 provides information about the first four indicators missing information on insurance. Therefore, we construct the financial inclusion index using sum-score approach on the basis of first four indicators. In the first step, the four indictors are converted in to binary outcome (i.e. 1 and 0) where 1 indicates the individual has access to the particular financial service and 0 indicate the individual is excluded from the service. This exercise has been repeated for every indicator. In the next step, an individual is said to be financially included if he has access to at least any one of the four financial services.

4. Results

Table 3 provides percentage of people against each indicator for selected domains. When measured in terms of financial hardships and feeling unsafe [subjective safety], we find 56.7% and 65.7% of population facing the problem as compared to 27.6% and 27.7% when low income and consumptions is criteria. These findings suggest that though income poverty and low consumption[17] are two very important problems, one needs to broaden the measure to other domains to get the a broader picture for social policy design.

Table 3: Incidence of Exclusion against Selected Indicators

MATERIAL RESOURCES DOMAIN	%
Low income	27.6
Low net worth	41.6
Low consumption	27.7
In financial hardship (Taken credit from friend/Pawned HH object/Food security)	56.7
EMPLOYMENT DOMAIN	
Long-term unemployed	0.6
Unemployed	5.9
Seeking work in last 4 weeks	32
Available for work during last week	2.3
Did nothing during last week	68.7
Underemployed (casual paid employee)	15.1
Marginally attached	3.2
Seeking work in 1 month	9.1
Unemployed within 12 months	3
Household Joblessness	19
Unpaid Family Worker	28.7
HEALTH DOMAIN	
Difficulty in performing tasks due to some illness or disability last week	
Poor physical health (cannot do anything due to some illness or disability)	28.4
Long-term health condition – permanent disability	0.8
Disabled child in the household	0.1
EDUCATION AND SKILLS DOMAIN	
Low literacy (read or write something)	10

[17] A state of an individual not holding any valuable/marketable assets or property

Illiterate	52.3
Incomplete intermediate	81
Low lifelong learning (work exp. less than 3 years)	12.6
SOCIAL AND COMMUNITY DOMAIN	
Feeling unsafe in community	57.3
PERSONAL SAFETY DOMAIN	
Victim of violence	4.6
Victim of property crime	21.2
Low subjective safety	65.7

Similarly, we find that temporary unemployment [32% and 68.7%], feeling unsafe in community [57.3%] and illiteracy [52.3%] are major concerns when it comes to designing a better social policy.

4.1 Social Exclusion - Decomposition

To further understand the extent to which individuals face social exclusion, we divide the sample into three categories: minor social exclusion, marginal social exclusion, and deep social exclusion. Table 4 presents the extent of social exclusion by different social demographic categories.

Table 4: Social Exclusion: Demographic Characteristics

Attributes	Levels	Minor exclusion (Sum of Score <1)	Marginal exclusion (Sum of Score ≥1)	Deep exclusion (Sum of Score ≥2)
Population	Child (0-14 years)	75.0	22.6	0.2
	Adult (15 years and above)	85.2	74.2	33.3
Age	15 – 24	79.4	56.7	6.3
	25 – 34	84.6	70.1	29.8
	35 – 44	87.6	82.8	53.1
	45 – 54	93.6	91.5	70.8
	55 – 64	96.5	96.0	85.5
	65 and above	97.2	95.6	80.5
Provinces	Punjab	82.3	62.7	17.8
	Sindh	88.5	75.4	18.5
	Khyber Pakhtunkhwa	61.4	31.7	18.0
	Balochistan	84.2	50.5	19.7
Gender	Male	79.0	53.7	14.1
	Female	82.9	64.7	23.3
Area	Urban	78.6	47.2	15.4
	Rural	81.9	63.5	19.7
Schooling status	Never attended school	99.9	99.8	99.0
	Attended school in the past	78.8	49.3	16.3
	Currently in school	66.2	10.9	0.1
Literacy Skills	Illiterate	67.9	23.8	
	Low literacy	100.0	100.0	
Education	Primary	90.3	75.6	36.8

levels	Middle	79.0	46.7	16.9
	Secondary	71.0	34.2	10.4
	Higher Secondary	72.9	34.4	8.1
	Bachelors/Graduation	65.6	26.9	4.7
	Eng/Med/Agri/Law/Med/Master/MPhil/PhD/Postgraduate	68.8	27.0	8.5
	Others	71.0	41.9	18.2

One of the important findings as shown in Table 4 is that the lower portion of the population faces deep exclusion. This reflects lower rate of multidimensionality of social exclusion, relative to wide exclusions. It is evident from Table 4 that majority of the population in Pakistan is faced with minor exclusion irrespective of domicile, age groups or educational background. However, one must note that higher age and low education emerge as major drivers of multidimensional [deep] social exclusion. We find 53.1% and 70.8% population within age group 35-44 and 45-54 facing the multidimensional exclusion while the number rises to 85.5% and 80.5% for age groups 55-64, and 65 and above. The ratio of illiterate population facing the deep social exclusion is alarmingly high [99.0%].

The comparison reveals that minor exclusion is higher in the province of Punjab while the extent of marginal exclusion (≥1), population excluded in more than 1 domain, is higher in the province of Sindh. The exclusion gap among genders is the highest in the marginal exclusion category where the extent of gap is 11 percent as compared with about 4 percent in minor exclusion category and 9 percent in the deep exclusion category. The presence of wider gap of social exclusion among genders especially in the marginal exclusion and deep exclusion highlights the presence of gendered inequities in Pakistan. A similar trend can be observed along the rural-urban divide where the social exclusion gap is the highest in the marginal exclusion category i.e. 16.3 percent as compared 3 percent in minor exclusion and 4.3 percent in deep exclusion category.

4.1.1 Social Exclusion by Gender

Gender inequality is quite common even across the developed world. Women face exclusion on many fronts for being in weak position vis-à-vis society at large. Table 5 presents the social exclusion by gender by provinces. Minor exclusion is at the highest in the province of Sindh followed by Punjab. Khyber Pakhtunkhwa reflects the lowest exclusion across both genders but the gender exclusion gap is the wider relative to Punjab and Sindh.

The gender-based social exclusion disparity in Khyber Pakhtunkhwa can be attributed to social constraints such as tribal norms where women have limited access to health and education facilities. In the case of Baluchistan, 62.4 percent of women face marginal exclusion as compared with 39.3 percent of male population. Most importantly however, the numbers and gender gap in deep exclusion are alarming. It can also be observed in the case of deep exclusion. More than one-third [39%] of women face deep exclusion suggesting that women are deprived of participation in most of our 6 domains of life including education, health, inheritance, wealth, social safety etc. Gender gap in deep social inclusion is highest for Baluchistan [36.9 percentage point] followed by Khyber Pakhtunkhwa [14 percentage points].

Table 5: Social Exclusion by Province and Gender

Regions	Gender	Minor exclusion (Sum of Score <1)	Marginal exclusion (Sum of Score ≥1)	Deep exclusion (Sum of Score ≥2)
Punjab	Male	81.9	60.3	17.2
	Female	82.8	65.1	18.5
Sindh	Male	87.6	70.9	18.7
	Female	89.6	79.7	18.3
Khyber Pakhtunkhwa	Male	55.8	27.7	12.2
	Female	68.1	37.6	26.2
Baluchistan	Male	81.8	39.3	1.9
	Female	87.2	62.4	39

4.1.2 Social Exclusion by Provinces and Age

Table 6 presents the distribution of social exclusion based on province and age cohort. Social exclusion, in all its forms, increases with increase in age across all provinces and categories. The marginal exclusion is the highest among age groups from 45 to 65 and above. One of the possible explanations of widespread exclusion in the senior age groups could be the historically lower level of literacy that has a direct impact on exclusion level.

Table 6: Social Exclusion by Province and Age Cohort

Regions	Age	Minor exclusion (Sum of Score <1)	Marginal exclusion (Sum of Score ≥1)	Deep exclusion (Sum of Score≥2)
Punjab	less than 15	74.5	20.6	0.3
	15 – 24	85.6	69.1	9.6
	25 – 34	86.1	72.7	29.5
	35 – 44	86.8	82.3	48.4
	45 – 54	93.1	91.2	66.4
	55 – 64	95.2	94.8	76.8
	65 and above	96.7	94.6	69.6
Sindh	less than 15	82.0	40.3	0.5
	15 – 24	93.3	87.1	20.0
	25 – 34	95.4	91.6	48.3
	35 – 44	95.1	94.0	66.2
	45 – 54	96.6	95.7	69.0
	55 – 64	97.6	97.7	87.2
	65 and above	96.5	94.1	57.9
Khyber Pakhtunkhwa	less than 15	55.0	3.8	0.0

	15 – 24	52.0	7.3	1.5
	25 – 34	64.7	35.2	20.6
	35 – 44	72.5	65.1	50.0
	45 – 54	87.6	84.4	73.5
	55 – 64	96.5	95.8	92.6
	65 and above	99.2	99.1	98.1
Baluchistan	less than 15	77.6	6.7	0.0
	15 – 24	84.4	54.0	9.4
	25 – 34	86.6	66.5	43.0
	35 – 44	95.3	87.1	67.6
	45 – 54	96.2	92.3	80.0
	55 – 64	98.3	96.2	88.2
	65 and above	98.9	96.4	75.0

4.1.3 Social Exclusion across Provinces on Rural-Urban Divide

We find that social exclusion is more prevalent in rural areas across all the provinces (See Table 7). Since access to most of the facilities including employment, health services, educational facilities and utilities is easier in urban areas, that helps in reducing the social exclusion. Endowments at rural areas, for example land, have very skewed distribution that makes rural markets oligopolistic and little or no opportunities could be developed for all income level groups and classes. This exclusion in rural areas asks for a new approach of economic development.

Table 7: Social Exclusion by the Provinces Residence

Regions	**Minor social exclusion (Sum of Score <1)**		**Marginal social exclusion (Sum of Score ≥1)**		**Deep social exclusion (Sum of Score ≥2)**	
	Urban	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**
Punjab	77.5	85.3	42.1	72.0	10.5	23.6
Sindh	87.6	89.0	65.2	78.5	13.3	20.8
Khyber Pakhtunkhwa	59.5	61.9	36.4	30.4	20.1	17.5
Baluchistan	79.0	86.8	43.7	54.6	26.1	14.1

4.2 Financial Exclusion in Pakistan

This section summarizes the results for financial inclusion. In the first step, we provide some estimates about financial inclusion/exclusion in the full sample as well as across different demographic dimensions. Table 8 presents prevalence of financial inclusion by indictors of Financial Index (FINDEX). It is evident that 'cash deposit to banks' is the lowest on the financial inclusion index suggesting the lower level of savings and prevalence of traditional means of payment without the use of financial institution. Access to financial services by remittances through the banking sector is a major form of financial inclusion. One plausible explanation could be stronger anti-money laundering laws in the last decade or so pushing the diaspora to use formal channel of remittances.

Table 8: Incidence (%) of each individual indicator of Financial Index (FINDEX)

	No	Yes
Credit through bank or micro financial institute	84.2	15.8
Borrowing from bank or micro financial institute	82.1	17.9
Remittances through banks	79.1	20.9
Cash deposit to banks	92.2	7.8

Table 9 presents the share of population having financial inclusion. Financial inclusion is low across regions and provinces. These results are in line with other studies that categorically assert that access to financial services is very low, even by regional standards (Raza et al. 2016). Our results illustrate that on average 93 percent of Pakistanis are excluded from financial services. In other words, on average, only 7% of the population has financial inclusion. The higher financial exclusion clearly indicates that there is very little penetration of financial markets in Pakistan[18]. Khyber Pakhtunkhwa (KP) and Baluchistan provinces show a relatively greater financial inclusion. Qualitatively similar intra-provincial patterns for financial inclusion are documented [Table 10].

Table 9: Financial Exclusion/Inclusion by Demographic Characteristics [Percentage of Full Sample]

Attributes	Level	Inclusion	Exclusion
Gender	Male	7.4	92.6
	Female	2.7	97.3
Age	15-25 years	6.8	93.2
	26-50 years	1.6	98.4
	51-75 years	8.0	92.0
	76 and above	11.7	88.3
Area	Rural	5.9	94.1
	Urban	10.2	89.8
Provinces	Punjab	5.7	94.3
	Sindh	4.1	95.9
	Khyber Pakhtunkhwa	14.4	85.6
	Baluchistan	11.7	88.3
	Overall	7.2	92.8

Table 10: Financial inclusion/Exclusion across Provinces as percentage of Full Sample

Province		Gender		Age				Area		
	FINDEX	Male	Female	15-25	26-50	51-75	76+	Urban	Rural	Total
Punjab	Excluded	94.1	97.8	94.4	100.0	93.9	90.0	91.7	95.5	94.3
	Included	5.9	2.2	5.6		6.1	10.0	8.3	4.5	5.7
Sindh	Excluded	95.7	100.0	96.0	98.3	95.2	95.8	93.9	96.6	95.9
	Included	4.3		4.0	1.7	4.8	4.2	6.1	3.4	4.1

[18] Reasons could be both voluntary and non-voluntary but with existing data sets we could not identify the causal mechanism of this exclusion. By restricting analysis to observations and literature it could be said that both demand and supply side variables of financial inclusion need re-orientation in Pakistan.

Khyber Pakhtunkhwa	Excluded	85.1	100.0	87.3	100.0	84.7	76.9	82.2	86.6	85.6
	Included	14.9		12.7		15.3	23.1	17.8	13.4	14.4
Balochistan	Excluded	88.7	50.0	87.4	91.3	88.7	100.0	81.8	92.0	88.3
	Included	11.3	50.0	12.6	8.7	11.3		18.2	8.0	11.7

Note: Empty cell provides the not eligible calculation due to insufficient sample size

4.3 Association between Social Exclusion and Financial Exclusion

4.3.1 Exploratory Data Analysis [EDA]

Now we turn to association between two sets of indexes, i.e. social exclusion index and financial exclusion index. The objective of this exercise is to assess whether financial inclusion can help in alleviating social exclusion. Next section provides evidence on association between financial and social exclusion. However, as we have mentioned earlier, the data limitation forced us to measure both financial and social exclusion at household level. Figure 3 reports the financial exclusion among socially-excluded quintiles. It is evident that a greater social exclusion follows financial exclusion which limits their ability (households) to fight against social exclusion. In other words, those who are financially excluded are socially-excluded as well.

Figure 3: Distribution of Social Exclusion Index by Financial Exclusion Index

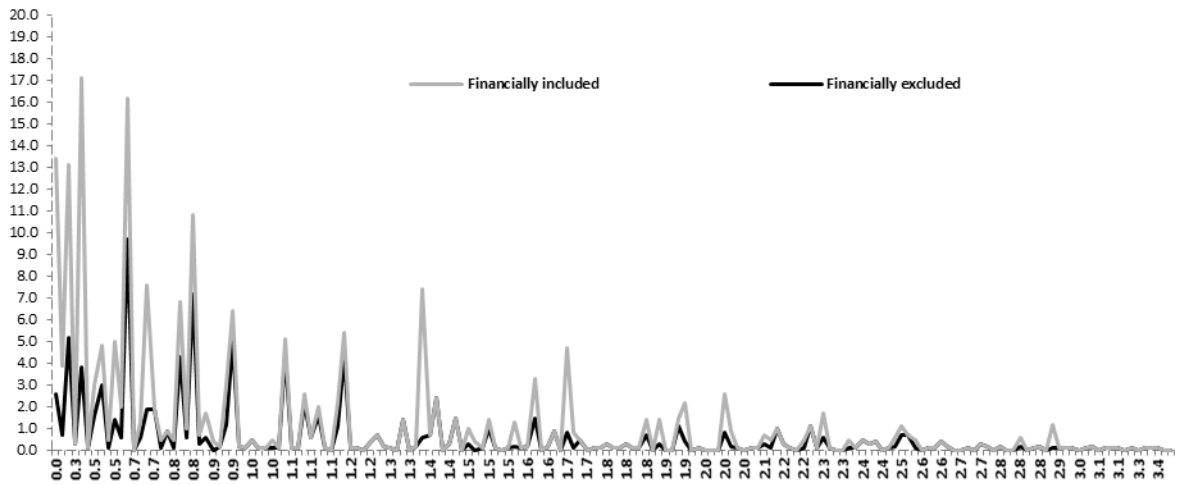


Figure 4 explains the relationship between those who are socially-excluded and their access to different individual indicators of financial inclusion. Almost 93 percent of socially-excluded population does not deposit with banks and about 85 percent of socially-excluded people do not have access to credit through banks or micro financial institutions which means such low access to formal institutions may push them to alternative/informal financial services, which are costly and less trustworthy.

Figure 4: Socially-Excluded Population: Not Seeking Financial Services

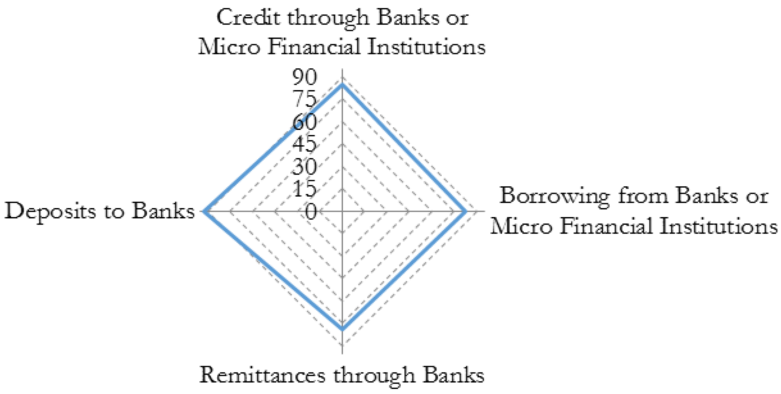
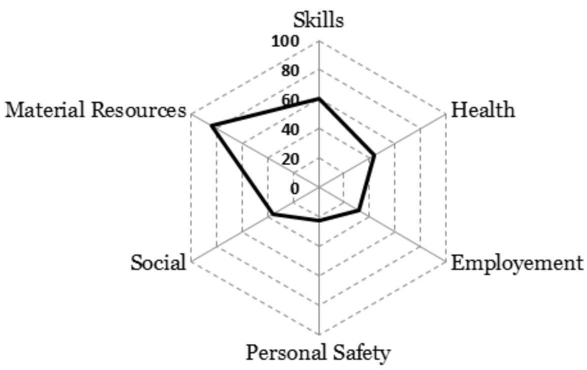


Figure 5 exhibits the relationship between the financially excluded population by social deprivations. It is evident that financially excluded population severely lacks material resources (84%) to access the financial markets. Besides material resources, financially excluded group also lacks learning skills (61%) and social security (36%) suggesting that access to any entrepreneurial opportunity is limited. Unfortunately, for financially excluded group getting financial help from friends and family is also limited due to their lower social capital.

Figure 5: Financially excluded population by Social deprivations



4.4 Association between Financial Inclusion and Social Exclusion

Table 11 suggests a strong relationship between financial exclusion and social exclusion. Social exclusion across three categories is very high for the financially excluded sub-sample. This suggests that majority of the individuals with financial exclusion from formal channels have higher probability to be socially-excluded in all of its forms. On average, 81% of population having no access to financial services faces deep exclusions. The ratio of financially excluded women facing deep social exclusion reaches to as high as 94%. Markedly low ratio is documented for people having financial inclusion [Table 12].

Table 11 Social exclusion of financially excluded cluster (%)

	Minor exclusion (Sum of Score <1)	Marginal exclusion (Sum of Score ≥1)	Deep exclusion (Sum of Score ≥2)
Full sample	95.2%	94.5%	81.0%
Male	95.1	94.3	80.4
Female	98.4	98.8	94.7
Rural	92.8	88.8	65.4
Urban	96.4	96.3	86.8

Table 12 presents statistics on social exclusion by categories of the financially included group. One of the major differences in the social exclusion of financially included group is the lower level of social exclusion especially in the deep exclusion categories [as compared to Table 11]. One of the important findings shown in Table 12 is that females who are financially included do not face marginal or deep exclusion at all. This signifies the role of financial inclusion leading to social inclusion.

Table 12: Social exclusion of financially included cluster (%)

Sample Characteristics	Minor Exclusion (Sum of Score <1)	Marginal Exclusion (Sum of Score ≥1)	Deep Exclusion (Sum of Score ≥2)
Full Sample	84.5%	74.1%	34.8%
Male	84.1%	74.1%	34.8%
Female	100.0%	0.0%	0.0%
Rural	78.9%	71.4%	30.4%
Urban	88.0%	76.7%	39.1%

Deep exclusion for full sample with financial inclusion drops to 34.8% from 81% [Table 11] for population excluded financially. Only 34.8% of males who have access to financial services face deep exclusion as compared to 80.4% belonging to the group having no access to financial services. Similarly, a marked difference is documented for rural and urban population having access to financial services as compared to those having no access to financial services. 86% of population residing in urban areas faced deep exclusion in the absence of access to financial services while the share declines to 39.1% for those who have access to these services.

The above findings clearly establish that financial inclusion can be adopted as a policy tool to reduce social exclusion. To find a statistical association between both samples, we use the Chi Square independence test to confirm whether the financially included/excluded (categorical variable) population in full sample, across gender and regions, have any association with socially-excluded/included (another categorical variable) population. The test is based on the null hypothesis that the two categorical variables (financial inclusion and social exclusion) are not associated with each other, where the reverse is true for alternative hypothesis. Results are reported in Table 13 clearly showing a strong association between financial inclusion and social exclusion, suggesting that financial inclusion can be used as a policy tool to reduce social exclusion.

Table 13: Statistical Association between Financial and Social Exclusion/Inclusion

Strata	Null Hypothesis	χ^2	p-value	Decision
Full Sample	The proportion of financially included are not linearly associated with socially-excluded	54.832	p≤0.000	Null hypothesis rejected, association exists
Male	The proportion of financially included in male population are not linearly associated with socially-excluded	54.343	p≤0.000	Null hypothesis rejected, association exists
Female	The proportion of financially included in female population are not linearly associated with socially-excluded	0.028	p≤0.867	Null hypothesis accepted, there is no association
Urban	The proportion of financially included in urban population are not linearly associated with socially-excluded	16.968	p≤0.000	Null hypothesis rejected, association exists
Rural	The proportion of financially included in rural population are not linearly associated with socially-excluded	31.437	p≤0.000	Null hypothesis rejected, association exists

4.5 Regression Analysis: Impact of Financial Inclusion on Social Exclusion

This section provides results from regression analysis. We use binary logistic regression to model the impact of financial inclusion on social exclusion, controlled for other socioeconomic characteristics. Separate models were estimated for overall, minor, marginal and deep social exclusion. Results, against predictors which include area, province, financial inclusion, age groups, education status and working occupation, are reported in Table 14.

Table 14-Estimates of Binary Logistic Regression

Predictors	**Levels**	**Oversall (SS>0.00)**	**Minor (0<SS<1)**	**Marginal (SS≥1)**	**Deep (SS≥2)**

Area	**Rural**	Reference	Reference	Reference	Reference
	Urban	0.66* (0.42-1.03)	0.51** (0.31-0.84)	0.71 (0.44-1.15)	0.44** (0.22-0.91)
Province	Punjab	0.65 (0.27-1.6)	0.4* (0.15-1.05)	3.12* (0.88-11.08)	2.18 (0.23-20.86)
	Sindh	1.22 (0.47-3.16)	0.83 (0.3-2.3)	5.15** (1.39-19.09)	5.97 (0.57-62.25)
	Khyber Pakhtunkhwa	0.48 (0.19-1.22)	0.13** (0.04-0.37)	4.62** (1.27-16.85)	1.34 (0.13-13.8)
	Balochistan	Reference	Reference	Reference	Reference
Financial Inclusion	No	Reference	Reference	Reference	Reference
	Yes	0.62* (0.37-1.04)	0.54** (0.31-0.92)	0.71 (0.39-1.31)	0.28** (0.1-0.8)
Age Groups	15 – 24	2.01 (0.61-6.61)	2.67 (0.78-9.21)	1.41 (0.26-7.48)	1.76 (0.18-17.06)
	25 – 34	1.08 (0.35-3.29)	1.5 (0.47-4.84)	1.53 (0.43-5.45)	2.15 (0.42-11.01)
	35 – 44	0.96 (0.31-2.9)	1.51 (0.47-4.85)	0.85 (0.26-2.78)	1.35 (0.28-6.58)
	45 – 54	1.95 (0.56-6.88)	3.26* (0.87-12.29)	0.65 (0.2-2.13)	0.66 (0.14-3.21)
	55 – 64	1.23 (0.25-6.03)	1.17* (0.22-6.18)	1.36 (0.36-5.1)	3.3 (0.56-19.47)
	65 and above	Reference	Reference	Reference	Reference
Education Status	**Uneducated**	Reference	Reference	Reference	Reference
	Lower Secondary	0.02*** (0.003-0.15)	0.03*** (0.004-0.23)	0.01*** (0.0013-0.08)	0.013*** (0.0016-0.1084)
	Secondary	0.01*** (0.001-0.07)	0.01*** (0.002-0.11)	0.004*** (0.0006-0.03)	0.005*** (0.0006-0.0459)
	Higher Secondary	0.01*** (0.001-0.05)	0.01*** (0.001-0.07)	0.003*** (0.0003-0.02)	0.002*** (0.0002-0.0179)
	Tertiary	0.01*** (0.001-0.04)	0.01*** (0.001-0.06)	0.002*** (0.0003-0.02)	0.002*** (0.0002-0.0232)
Working Occupation	Casual Paid/Piece rate or work performed	Reference	Reference	Reference	Reference
	Regular Paid Worker	0.98 (0.54-1.79)	0.89 (0.47-1.69)	0.96 (0.5-1.88)	0.56 (0.22-1.4)
	Contract/Own Cultivator	1.61 (0.71-3.62)	1.02 (0.43-2.44)	1.93 (0.81-4.59)	1.25 (0.41-3.82)
	Share Croper	1.1 (0.54-2.21)	0.92 (0.44-1.93)	1.14 (0.53-2.45)	1.26 (0.47-3.42)
	Own Account Worker	0.92 (0.25-3.43)	0.59 (0.15-2.33)	1.08 (0.27-4.26)	0.62 (0.12-3.09)
	Misc.(employer/members of producers cooperative etc)	0.42 (0.14-1.24)	0.28** (0.08-0.91)	0.74 (0.19-2.94)	0.11 (0.01-1.68)
Intercept		**7.432**	**7.115**	**23.15**	**4.765**

It is clearly evident that financial inclusion reduces social exclusion and the impact is statistically significant. Population with financial inclusion is 0.62 times less likely to face social exclusion in any of its forms as compared to the counterparts. The results further show that people with financial inclusion have almost half (0.54 times) chances of minor social exclusion as compared to those who don't have access to financial services. Most importantly, financial inclusion reduces likelihood of multidimensional social exclusion by one fourth (0.28 times) than otherwise. Between minor, marginal and deep social exclusion, it can be observed that people with financial inclusion have lower odds of social exclusion as compared to people with no financial inclusion.

The area of residence contributes to status and level of social exclusion significantly. People living in urban areas are 0.66 times less likely to be socially excluded as compared to the people of rural areas. In other words, living in rural area increases the likelihood of social exclusion. Compared with their counterparts in rural areas, odds for facing minor social exclusion are half (0.51) for people living urban areas. Similarly, those who are living in urban areas are 0.44 times less likely to face deep social exclusion. Overall results suggest that people from rural areas are more likely to be socially excluded than those from urban areas.

Province of residence emerges to be a significant predictor of social exclusion. People in Sindh are 1.22 times more likely of being socially excluded compared to people in Balochistan, while those in Punjab and Khyber Pakhtunkhwa are less likely to be socially excluded. Khyber Pakhtunkhwa and Punjab were, respectively, 0.13 and 0.4 times less likely to be socially excluded as compared to Balochistan. People living in Khyber Pakhtunkhwa, Sindh and Punjab are respectively 4.62, 5.15 and 3.12 times more likely to face marginal social exclusion. The difference in odds is significant statistically. Likewise, these three provinces have increased likelihood of multidimensional social exclusion compared to Baluchistan.

Education is the most important predictor of social exclusion in societies. Educated people are less likely to be social excluded as compared to those who are not educated. The odds of being socially excluded, significant statistically, register a similar pattern across all the levels of social exclusion. Occupation surfaced as insignificant determinant of social exclusion in Pakistan.

5. Conclusion

Social exclusion has implications for socioeconomic mobility that can affect the poverty and income inequality. Groups facing higher order of social exclusion are more likely to face higher income poverty and lower economic mobility. We contribute to the understanding of multidimensional nature of social exclusion in Pakistan. The chief contribution of this work is providing evidence for impact of financial inclusion on social exclusion at household level. Further, we contribute to the scholarship by providing estimates of social exclusion for Pakistan disaggregated by demographic, socioeconomic and background characteristics. Going beyond the macro level understanding of the concept, this work constructs the minor, marginal and deep social exclusion indices at individual level.

We conclude that there is a higher incidence of minor and marginal social exclusion in the country as compared to multidimensional social exclusion. We document that access to financial services significantly lowers the odds of social exclusion across all strata. This is particularly true for deep exclusion. In addition, financial inclusion has strongest social exclusion reducing impact for females. But we find that more than 90% of the population of Pakistan is financially excluded. In order to gain from social exclusion reducing effect of financial inclusion, Pakistan needs to improve the coverage of financial services multifold.

Alongside improving financial inclusion, Pakistan needs to design better social safety nets scheme for old-age population of the country, and provide better public infrastructure in health and education. Rural urban divide in social exclusion shows that living in certain regions improves access to education, employment and health opportunities, resulting in lower social exclusion in urban areas. People residing in rural areas are excluded from these opportunities, resulting in lower access to education and employment, and consequently lower socioeconomic status. Equitable distribution of these opportunities across the regions may help tackle this dimension of social exclusion.

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