In rajan (2014) signifies that financial inclusion encompasses

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In the literature, both definition of financialinclusion and index formation to define financial inclusion have beenextensively discussed.

Studies of causes of financial inclusion either focusedon particular regions or covered all countries. First, index formation will bediscussed then literature looking at financial inclusion’s impact on growth, stability and income equality will be presented. Definition ofFinancial Inclusion and Index Formation Existing literature on financial inclusion hasdifferent definitions of the concept and the notion of financial inclusion attracteda mounting interest from the academia. Numerous studies define the concept interms of financial exclusion instead which is linked to a broader context ofsocial inclusion. Sinclair(2001) indicated that the notion of financial exclusion was theincapability to access essential financial services while Leyshon and Thrift (1995)defined it as the processes which serve to preclude some social groups and/or personsfrom accessing the formal financial system. Similarly, Carbo et al.

(2005) defined financialexclusion as the incapacity of some groups in accessing the financial system. On the other hand, Government of India’s definition offinancial inclusion lies on the basis of creating a system thatguarantees/ensures access by exposed groups (including low income ones) tofinancial services with (i) acceptable credit conditions and (ii) with an affordablecost, in a timely manner. Rajan(2014) signifies that financial inclusion encompasses the deepening offinancial services for those people with limited access as well as extension offinancial services to those who do not have any access. Furthermore, Amidži?, Massara, and Mialou (2014) and Sarma (2008) directly define financialinclusion. The former describe financial

inclusion as an economic state where personsand firms have access to basic financial services. (Other studies have results that certainly could havesignificant policy implications with regards to increasing the level of financialinclusion.

For instance, Burgessand Panda (2005) found that the expansion of bank branches in ruralIndia had a significant impact on alleviating poverty. Meanwhile, Allen et al. (2013) exploredthe factors behind the financial development and inclusion amongst Africancountries.

Particularly, Bruneet al. (2011) conducted experiments in rural Malawi examining how accessto formal financial services improves the lives of the poor, pertaining tosaving products. Although it appears that there is a consensus on how financial inclusion is defined, there certainly is no standard way ofmeasuring it.

Hence, existing studies offer differing measuring techniques of financial inclusion. For example, Honohan(2007 and 2008) constructed anindicator measuring financialaccess by taking into account the overalladult population in an economywith access to formal financialintermediaries. For countries with existing data onfinancial access, the compositeindicator is formulated byutilizing household survey data.

For those without householdsurvey, the indicator is formed using the information on bank account numbers incombination with GDP per capita. The data is constructed as across-section series using the mostrecent data as the reference year varying across economies. However, Honohan’s (2007 and 2008) calculations only deliver a snapshot offinancial inclusion across

various countries and is not appropriate for comprehending the relative trends andchanges across countries over time. In order to overcome the aforementioned deficiencies, Sarma (2008, 2010, and 2012) and Chakravarty and Pal (2010) suggested constructionof composite indices of financial inclusion that combine various banking sectorparameters.

Importantly, these indices assign equal weights to all parametersand dimensions, with the assumption that these dimensions have equal effect onfinancial inclusion. These indices are created in order to gauge the availabilityand accessibility; as well as the usage of banking services. Sarma (2008) described financial inclusion as thelevel of ease for any individual or a group to access, to reach availabilityand to make use of the formal financial system. The study followed amultidimensional approach with an index of financial inclusion (IFI). Themulti-dimensional index captured information on various dimensions of financialinclusion under one single digit between 0 and 1. On the one extreme, 0 displayed complete financialexclusion; while on the other side of the spectrum 1 reflected completefinancial inclusion in an economy at a given point in time. The easy tocalculate index contains information on various dimensions of an inclusivefinancial system. The calculated index in this paper could be utilized tocompare different levels of financial inclusion across economies at a specifictime point.

It could also be utilized for observing the advancement of policyinitiatives for financial inclusion over a time period. These two attributeswere the biggest advantage of this study. In other words, this paper filled thegap of a comprehensive measure that can be utilized to measure the extent offinancial inclusion across economies.

The construction methodology and computation for thisindex was relatively similar to the well-known development indices of the HDI, the HPI, the GDI. Similar to these indices, the study proposed a dimensionindex for each dimension of the financial inclusion. The dimension is calculatedby subtracting the minimum value from the actual value and dividing it by thedifference between the maximum and minimum values.

Once each dimension arecomputed, the index then was determined by the normalized inverse Euclidiandistance of the ideal point. The IFI index took into account three fundamental dimensionswhich were selected mainly due to the data availability for large number ofcountries as well as the recent trends in literature. banking penetration which is measuredby dividing number of bank accounts by the total population; availability of the banking serviceswhich is proxied by the number of bank branches per 1000 inhabitants; and, banking system usage which isestimated by dividing the volume of credit and deposit by the GDP of the country. Diverging from the methodology utilized by the UNDPfor the HDI, the HPI, the GDI which is the simple arithmetic average; the IFIindex was a measurement of the distance from the ideal. Moreover, the choice ofminimum and maximum values for the dimensions was also different since the UNDPmethodology preferred pre-fixed values for the minimum and maximum values foreach dimension to calculate the dimensional index.

Instead, this study tookinto account the minimum and maximum values within the dataset for eachdimension. It was difficult to determine the minimum and maximum for anydimension of financial inclusion. For several dimensions such as the literacyrate and life expectancy, used in UNDP’s HDI,

it was easy to define limits. However, this was adynamic index where minimum and maximum values for any dimension may alter atdifferent time points. In sum, Sarma (2008) followed a different approach tocalculate the indicator. He first computed a dimension index for each financialinclusion dimension and then aggregated each index as the normalized inverse ofEuclidean distance.

The distance is calculated with respect to an idealreference point, and then normalized by the number of dimensions in thecomposite index. The index did not impose any weights for each dimension. The index had some limitations; it did not have countryspecific information, geographical aspects and gender dimension. Due to lack ofappropriate data, Sarma was not able to combine numerous aspects of an inclusivefinancial system including financial services' affordability, timeliness and quality.