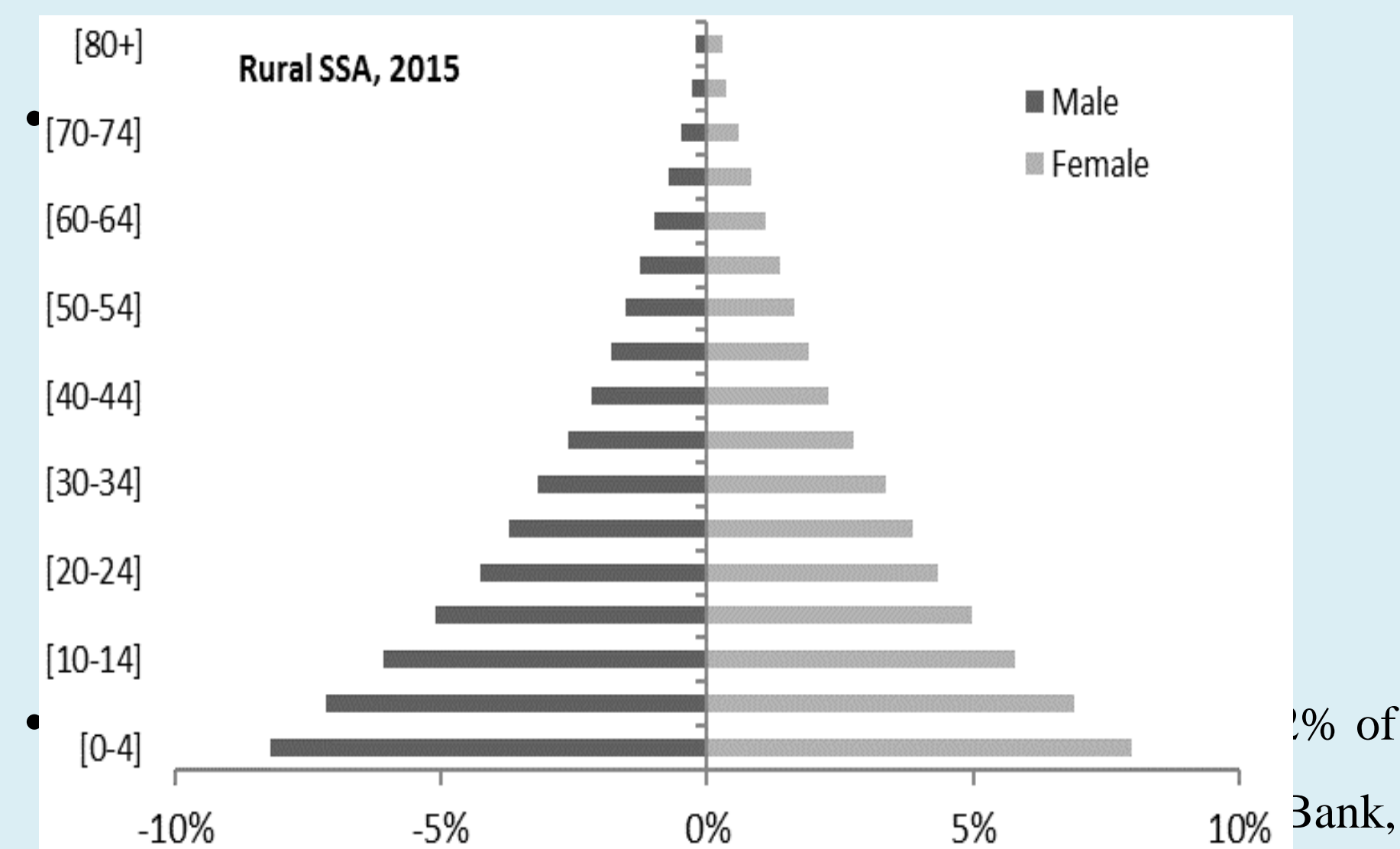# URBAN AGRI-FOOD SYSTEMS: THE SILVER-BULLET FOR AFRICA'S YOUTH?
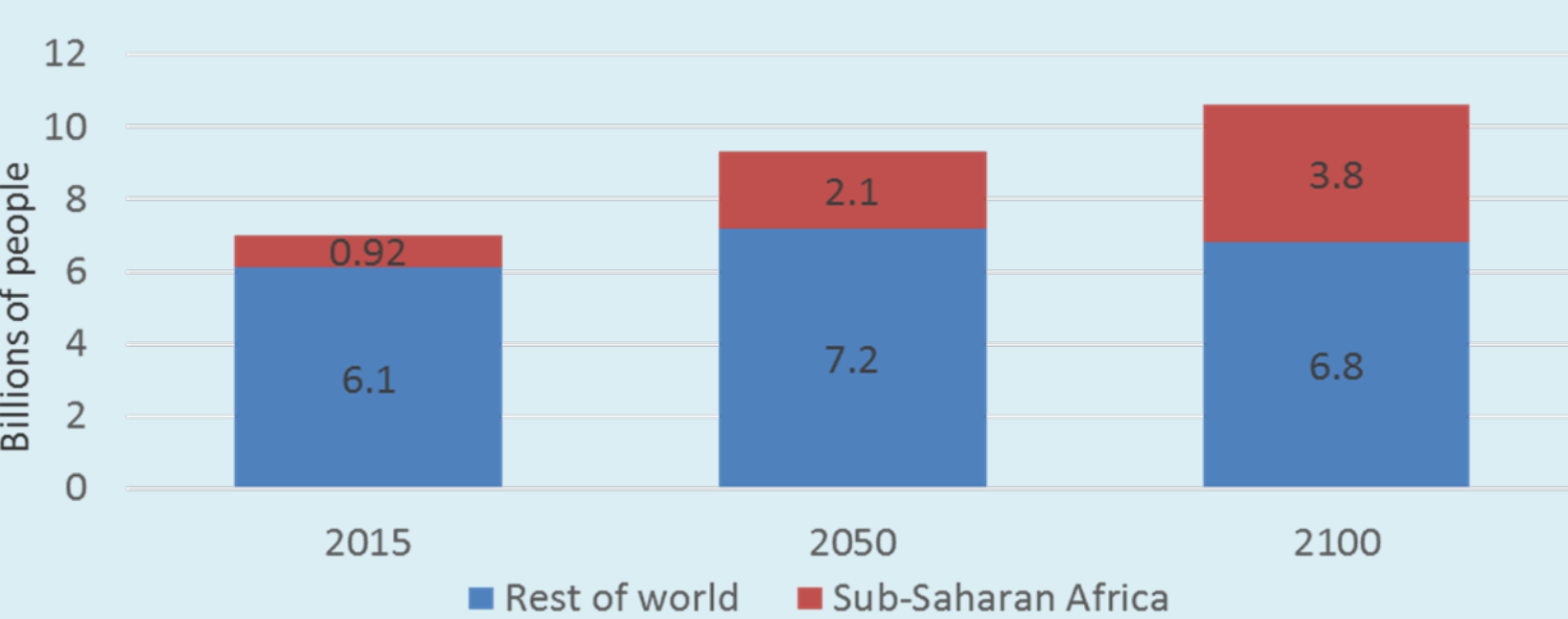## BY
THABILE NKUNJANA
(STELLENBOSCH UNIVERSITY)

Background

- Sub-Sahara Africa has a relatively young and rapid growing population migrating to urban centres. Approximately 62% of SSA rural population is under the age of 25 years.

- Population growth estimates indicates that by 2050, 22% of the world's population will reside in SSA (World Bank, 2015).


Source: World Bank Development Group, 2015.

- Africa is the fastest growing continent in the world and it is estimated that between now and 2050, more than half of the worlds' population will happen in Africa.
- Given these demographic trends, the challenge facing African governments is to create an enabling environment that fosters effective investments in Agri-food system to feed the growing population while generating gainful wage employment.
- About 1900 times riots and protest have occurred only in Pretoria and Johannesburg between 1997 and 2016 more than any emerging mega cities in Africa (The African economic outlook, 2016).

- Yeboah and Jayne (2017) demonstrate across six SSA countries Agriculture and Agri-food systems accounted for at least 53% of jobs in full Time Equivalency (FTE).
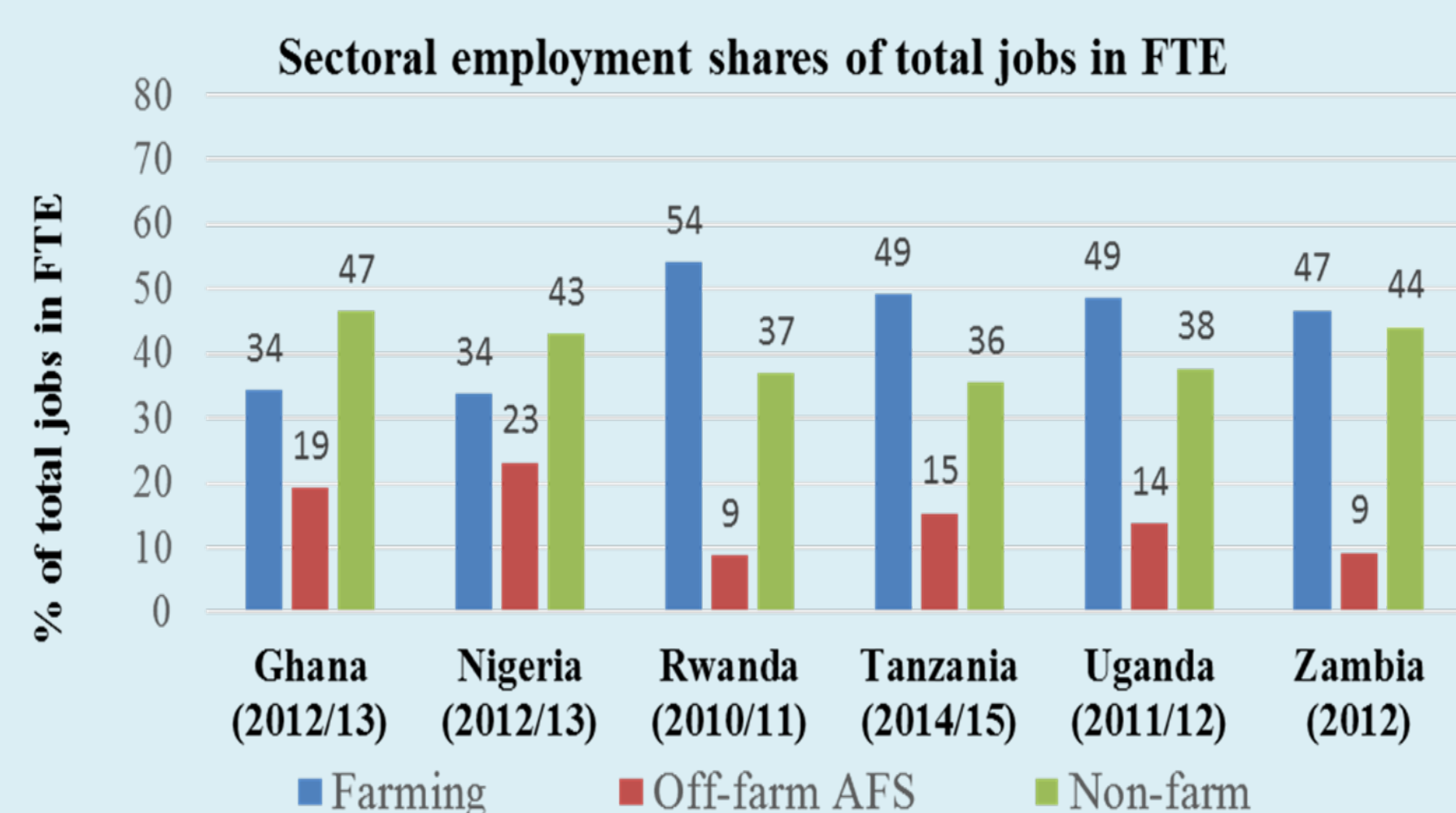
Source: Yeboah and Jayne, 2016.

Given this context, this research aim to test the following hypothesis:

- Hypothesis 1: urban agri-food systems across SSA have the potential to create gainful employment for youth.
- Hypothesis 2: Minimizing transaction costs positively influences participation of youth in the agri-food system.

Methodology:

To address the stated hypothesis, two approaches are utilized; namely, descriptive and empirical.

Hypothesis: Hypothesis 1: Descriptive analysis; disaggregation of house employment by industry and employment overtime.

Hypothesis 2: Empirical analysis; The double-hurdle of market participation will allow looking at entrepreneurs and factors limiting youth participation in the market.
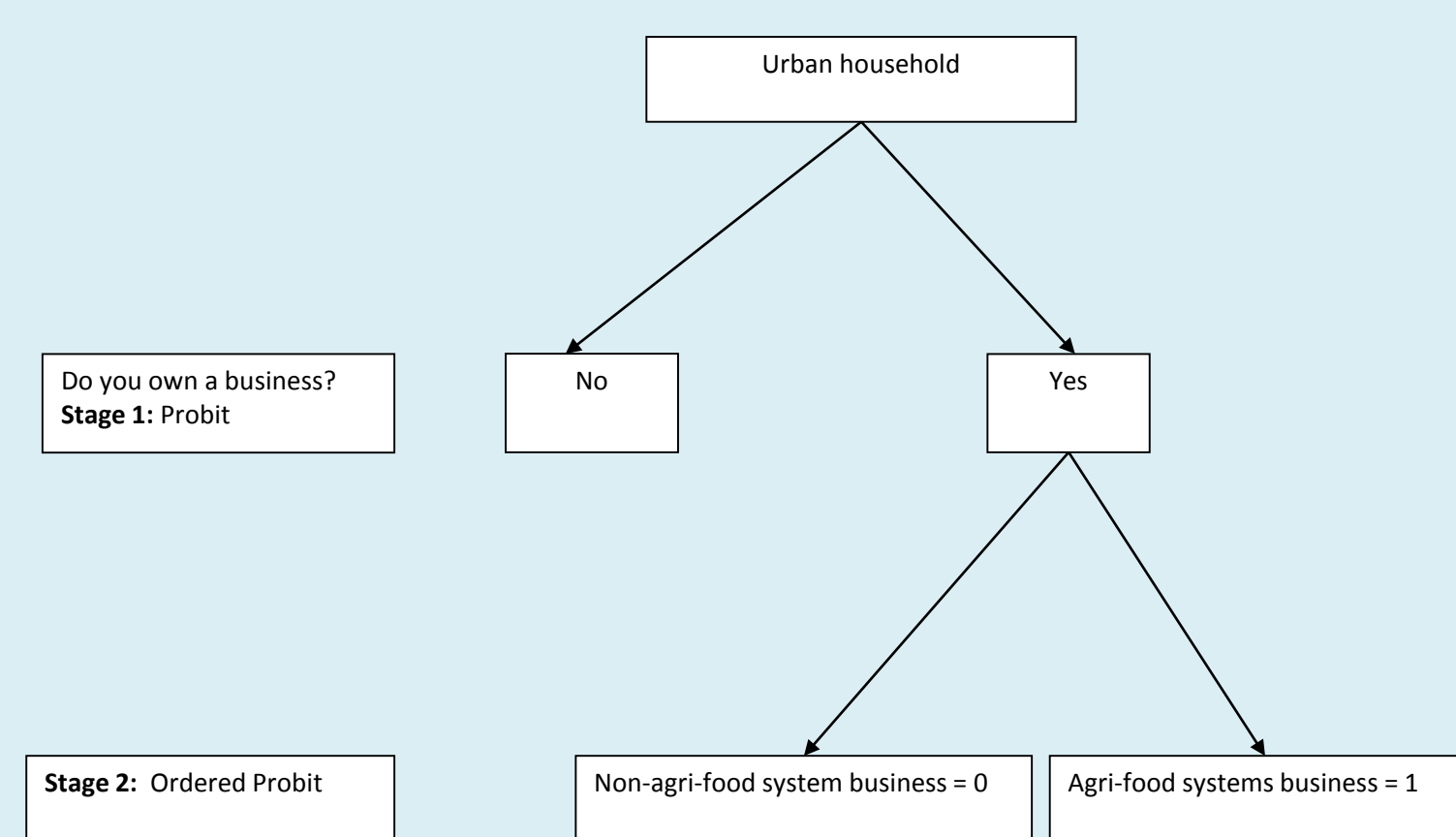
Based on Reyes et al. (2012) & Burke et al. (2009).

The double hurdle of market participation graphically represented as following will be used:

Stage 1: conceptual framework:

P (y=1/x) = G (tc, cc, bc, es, n, p).

Where y is the binary variable that takes on the value of 1 if the household is a participant and 0 otherwise. The determinants of participation include transaction costs, community characteristics, business characteristics, exogenous shocks, technology and market participation. G is the standard normal cumulative distribution function that ensures that probability of participation in the market [p (y=1/x) falls strictly between zero and one.

Stage 2: conceptual framework

As seen from the decision tree, the second hurdle separate the owners to non-agri-food system businesses (0) and agri-food system businesses (1). There are two outcomes this study explores in stage two which are the probability of 1) business is a non-agri-food system 2) or an agri-food system. Based on the hypothesized factors that influence this decision is an appropriate method to address the research question. In stage two, an ordered probit is the elected method that predicts the probability of a household falling within one of the two specified categories. Consider the latent variable model:

$$y* = X\beta2 + e$$

The observable criteria for the outcome values that $y*$ can take, m are defined as;

$y* = m$ if $\alpha m - 1 \leq y* \leq \alpha m$ for $m = 1, \ldots, M$

Where: $\alpha 0 < \alpha 1 < \alpha 2 < \ldots < \alpha M$ and $\alpha 0 = -\infty$ and $\alpha M = \infty$

The alphas, α denote the thresholds that define the cutoff points for the ordinal values of the dependent variable. Therefore, given the two outcomes, the predicted probabilities of each ordinal outcome is;

$Pr(y=0) = p(y* \leq \alpha 0) = \Phi(\alpha 0 - X\beta 2)$

$Pr(y=1) = p(\alpha 0 \leq y* \leq \alpha 1) = \Phi(\alpha 1 - X\beta 2) - \Phi(\alpha 0 - X\beta 2)$

Data:

The study relied on a three wave Tanzanian National Living Standards Measure (LSMS) panel data. Sampling method used, the survey was based on households and not necessarily businesses. A total of 3, 265 households was interviewed and this represented national level data with urban/rural and major agro-ecological zones covered. The determinants of participation include:

• Transaction Costs: measured as the ability of the business to access formal credit

• Community Characteristics: which include distance to regional headquarters, and whether or not key institutions such as secondary-schools, health centres/dispensaries, daily markets, banks, police stations and a court existed within the community.

• Business Characteristics: such as the gender, age, level of education, and employment status of the business owner; as well as the size (measured as number of employees), location, age, customer base, average net income, and total value of physical capital stock owned by the business.

• Exogenous Shocks: which include business failure, loss of salaried employment and victim of violent crime.

• Technology: measured as access to access to telephone (landline), mobile phone and a computer.

Results forthcoming

	Employment numbers			Net income		
	2008/9	2010/2011	Annual growth rate	2008/9	2010/11	Annual growth rate
Agri-food						
Non-agri-food						