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University of Southampton

Faculty of Social Sciences

School of Economic, Social and Political Sciences

**Women's Economic Empowerment and Household
Wellbeing in Sub-Saharan Africa: Case study on Malawi**

By

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Thesis for the degree of Doctor of Philosophy

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University of Southampton

Abstract

Faculty of Social Sciences

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Doctor of Philosophy

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The ratification of the United Nations' Sustainable Development Goals (SDGs) in 2015 calling for efforts to achieve inclusive economic growth and improved lives for all by 2030, re-focused the discourse highlighting the need for equal access to economic resources among women, and their full and effective participation at all levels of decision-making. The SDGs called for consolidation of efforts to accelerate women's economic empowerment (WEE) globally, with WEE increasingly viewed as the cornerstone to achieving the SDGs and inclusive economic growth. Thus, government efforts should focus on empowering women economically by providing them with an equal playing field with men. To achieve this, there is a need to understand the extent of WEE, its drivers and barriers, and its relationship with various key areas for economic development. To contribute to this knowledge, I explore the extent of WEE in sub-Saharan Africa and the association between WEE and household wellbeing with a focus on children's education outcomes and household consumption patterns.

I focus on sub-Saharan Africa (SSA) as the region lacks research on WEE, and has the highest gender inequality and poverty rates globally. Poverty is an issue particularly among women. In parts of the thesis, I use Malawi as a case study for further investigation to better understand the association between WEE and household wellbeing. Malawi has unique characteristics where women have relatively better decision-making opportunities, such as high levels of land ownership and female household headship. Its dual lineage system provides opportunities to study WEE in the context of varying levels of access to and control of assets and decision-making between men and women.

In the first empirical chapter, I investigate the heterogeneity of WEE in sub-Saharan Africa. Using the Demographic and Health Survey (DHS) data from 33 countries, I estimate the level of WEE in

each country and identify the associated factors. I demonstrate that WEE is overall low but varies markedly by country. It is mainly driven by one or more of the following factors among women: educational attainment, employment, and land ownership. I identify five typologies of WEE: 1) instrumental agency driven by high educational attainment; 2) instrumental agency driven by land ownership; 3) individual economic advancement driven by high employment rates; 4) basic level economic empowerment; and 5) low-level economic empowerment.

In the second empirical chapter, I investigate the association between WEE and children's education outcomes in Malawi. I analyse mothers and their school-age children (6–25 years) within the household using the 2016 Integrated Household Survey (IHS). I fit two-level random-intercept logistic regression models to estimate the association between WEE and three outcomes: i) timely progression through grades; (ii) ever attending school; and (ii) current school attendance. I demonstrate that mothers' WEE is significantly associated with their children being on-time for grade and having ever attended school, but not with current school attendance. The association depends on place of residence: children in urban areas were more likely to be on-time for grade than those in rural areas when their mothers were economically empowered.

The third empirical chapter explores the association between WEE and patterns of consumption expenditure within the household using the Malawi 2016 IHS dataset. Around 12,000 households including a female household head or a wife of the male household head (index woman) were included. I examine whether the share of total household expenditure allocated to essential goods (food, education, health, and clothing) or non-essential goods (alcohol and cigarettes) depended on the level of WEE of the 'index woman', and whether the associations varied between matrilineal and patrilineal households and the gender of the household head. I fit linear regression models separately for urban and rural households as the consumption patterns vary considerably between the two. I show that higher WEE is associated with higher relative budget shares allocated to children's education, health, and clothing, but lower shares for food consumption. There was no association between WEE and expenditure on alcohol and cigarettes. There were differences between urban and rural households in the association between WEE and household expenditure that could suggest that better outcomes in urban households.

The key contribution of my thesis is threefold. It 1) identifies five typologies of WEE in sub-Saharan Africa mainly driven by educational attainment, employment, and women's land ownership; 2) quantifies the positive association between WEE and children's education outcomes; and 3) quantifies the association between WEE and household consumption patterns. These findings provide better insights of the dynamics of WEE in a low-income country context

and can be used as a baseline for future studies to explore the extent and progress of WEE over time. The results also inform policy development and programme interventions aimed at improving WEE, which may lead to positive outcomes in children's education and household consumption in sub-Saharan Africa and more specifically in Malawi. Finally, the results provide timely evidence for the heightened interest in achieving WEE.

Key words: Women's economic empowerment; agency; sub-Saharan Africa; education; land ownership; employment; Demographic and Health Surveys; economic advancement; resource allocation; Malawi; integrated household survey; income; household consumption; expenditure; education outcomes.

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Research Thesis: Declaration of Authorship

Print name: **Eunice Mueni Williams**

Title of thesis: **Women's Economic Empowerment and Household Wellbeing in Sub-Saharan Africa: Case Study on Malawi**

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. Parts of this work have been published in the *Demographic Research* Journal.

Eunice M. Williams, Heini Vaisanen, Sabu Padmadas. Women's economic empowerment in sub-Saharan Africa: Evidence from cross-national population data; *Demographic Research*, 2022: 47;15(415-452)

Signature: Date: 10/11/2022.....

Dedication

Dedication

I dedicate this work to my daughter, Kisten. I promise that the sacrifices you have endured for me to pursue this dream will be repaid to you with many opportunities for joy and success in your future. I love you forever.

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I am grateful to everyone who has helped me in my struggle to achieve my dream. I would like to express my sincere gratitude to my supervisors: Dr. Heini Vaisanen and Prof. Sabu Padmadas. You provided valuable guidance and feedback, and continuously challenged me to bring out the best in me and grow as a researcher. Your wisdom and experience are greatly appreciated. Thank you for your patience. I could not have imagined having better supervisors for my PhD study.

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Finally, I am grateful to have had the privilege of attending the University of Southampton. This experience has given me the opportunity to work with some of the best and brightest, and the resources for me to achieve great success. Thank you for this opportunity.

Definitions and Abbreviations

AfDB	African Development Bank
AU.....	African Union
CEDAW	Convention on Elimination of All Forms of Discrimination Against Women
CREATE	Consortium for Research on Educational Access, Transition, and Equity
DHS.....	Demographic and Health Surveys
DRC	Democratic Republic of Congo
EU	European Union
FAO	Food and Agricultural Organization
GDI	Gender Development Index
GDP	Gross Domestic Product
GEM	Gender Empowerment Measure
GII	Gender Inequality Index
HDI	Human Development Index
IHS	Integrated Household Survey
ILO	International Labour Organization
LFPR	Labour Force Participation Rate
LMIC	Low- and Middle-Income Countries
LSMS.....	Living Standards Measurement Study
MDGs	Millennium Development Goals
MSCE	Malawi School Certificate Examination
NGES	National Girls' Education Strategy
NSO	National Statistical Office
OECD	Organisation for Economic Co-operation and Development
OR.....	Odds Ratio

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PCA	Principal Component Analysis
PSLCE	Primary School Leaving Certificate Examination
SACMEQ.....	Southern and Eastern African Consortium Measuring Education Quality
SCTP	Social Cash Transfer Programme
SDGs.....	Sustainable Development Goals
SES	Socio-Economic Status
SSA	sub-Saharan Africa
SWPER.....	Survey-based Women's emPowERment index
UN	United Nations
UNDP	United Nations Development Programme
UNECA.....	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
WEAI	Women's Empowerment in Agricultural Index
WEE.....	Women's Economic Empowerment
WEF	World Economic Forum

Chapter 1 Introduction

1.1 Why study women's economic empowerment

The 2015 United Nations (UN) Sustainable Development Goals (SDGs) slogan "leave no one behind" has drawn the attention of world leaders, policy makers and programme managers to the most marginalised regions and vulnerable populations with an aim to improve living standards and address the pervasive and challenging problems of inequality and exclusion (United Nations 2015).

Gender equality not only features as a standalone goal, but is a crosscutting concern in the agenda. The SDG number 5, '*Achieve gender equality and empower all women and girls*', highlights the need for equal access to economic resources including ownership of and control over land and property, as well as full and effective participation of women at all levels of decision-making (United Nations 2015). Focus on women is driven by evidence showing a disproportionate number of women and girls being the poorest and most excluded (Boudet et al. 2018). Women on average exhibit lower economic and education achievements and higher poverty levels than men (World Bank 2018b).

Women's economic empowerment (WEE) is recognized as a precondition for poverty reduction, and an essential catalyst for human and economic development (Golla et al. 2011). It offers an entry point into the processes of broader empowerment, by challenging the practises that hold women in subordinate status in society, including providing the bulk of unpaid work, and limited access to economic resources and opportunities (Kabeer 2009). WEE is increasingly viewed as a cornerstone for the achievement of the SDGs and inclusive economic growth (United Nations 2016). Subsequently, the UN Secretary-General established a high-level panel in 2016 to consolidate efforts and accelerate economic empowerment of women globally (United Nations 2016).

WEE is defined as a process enabling women to succeed and advance economically and to have the power to make and act on economic decisions (Golla et al. 2011). This definition combines both economic outcomes and autonomy in economic decision-making. The growing traction around WEE is partly due to the realisation that the economic dimension lags behind other dimensions of women's empowerment (United Nations Secretary-General 2017; World Economic Forum 2021), and thus more efforts are needed in the economic dimension if women's empowerment goals are to be achieved. This lag could be due to gender bias and discrimination in legislation, and government policies and socio-cultural norms constraining women's ability to take up decent jobs and other economic opportunities on equal footing to men.

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Although there is currently wider interest in creating policies for enhancing WEE across world regions, there is not enough data to monitor and understand the dynamics of WEE. There is no cross-country comparable data globally for comprehensively measuring WEE across countries. Limited data on WEE is due to inherent measurement challenges, such as lack of a standardised definition of WEE, and lack of standard, measurable and comparable indicators (Scott et al. 2016). This is because empowerment is a nuanced and context-specific construct, therefore indicators of empowerment in one context may not imply empowerment in a different context (Buvinic 2017).

Due to the lack of comparable data across countries, global gender inequality indices are widely used to examine the level of women's empowerment, and by extension, economic empowerment. This is problematic, because the indices exclude many key WEE indicators, such as decision-making or access to and control of resources. These indices are, however, useful in showing gender inequality in various domains caused by women's subordinate status in society, and which must be addressed for women to become empowered. For example, according to the 2021 World Economic Forum (WEF) report, only about 58.3% of the gender gap in economic participation and opportunities had been closed globally by 2020, and it is projected to take 267 years to achieve gender equality (World Economic Forum 2021). While there is a gap in labour force participation generally, gender inequality is wider among women taking on managerial or senior official roles, compared to general labour market participation and the taking on of technical roles. The best performing countries are spread across all the global regions, with sub-Saharan Africa (SSA) having four of the 15 countries in the top 5th percentile (with a remaining gap to close of about 20%) in employment and wage inequality (World Economic Forum 2021).

Thus, despite the policy importance of WEE, there remains a knowledge gap on the extent of WEE, and its role in promoting key areas of development. There is therefore a need for targeted studies on WEE, to advance knowledge on the concept, and to guide policy and programme interventions. This thesis addresses this knowledge gap by measuring the extent of WEE in countries of sub-Saharan Africa and its association with children's education and household consumption, with a particular focus on Malawi.

1.2 Why focus on sub-Saharan Africa?

SSA is the poorest world region, with the proportion of the population living below the poverty line of US \$1.96 per day being more than four times the global average (38.6% vs. 8.6%) (World Bank 2022a). Of the world's 20 poorest countries, 18 are in SSA, some with as high as three quarters of the population living in poverty (World Bank 2020). In addition, the region is experiencing slower reduction in poverty than other regions, leading to a stalled global poverty reduction rate (World Bank 2020). In six of the 48 countries in SSA, the Gross Domestic Product

(GDP) per capita is very low, below US \$500 (World Bank 2022a). As such, extreme poverty is increasingly becoming a problem in SSA when compared to other regions of the world.

Women are the face of poverty. Although poverty rates do not differ much by gender (43.3% among women and 42.9% among men), these averages mask variations according to demographic characteristics (World Bank 2018b). In 2018, the average gender gap in poverty rates for 20–34-year-olds in SSA was seven percentage points, compared to a global average of two percentage points (World Bank 2018b). Within households, women, particularly young women, exhibit higher poverty rates than men. This is because household resources are not shared equally between members, but also because women have limited access to resources and basic services, and they are more likely to withdraw from the labour force to take care of children, thus losing income (World Bank 2018b).

Education attainment is also low. The gross enrolment ratio in tertiary institutions in 2019 averaged 8% among women and 11% among men in SSA compared to 43% and 38%, respectively, in the world (World Bank 2022a). Although in the seven upper middle-income countries in SSA women have higher educational attainment than men, in the majority of the countries, women perform worse than men.

Sub-Saharan Africa has the highest level of gender inequality globally (gender inequality index (GII) of 0.57, while the corresponding figure globally stands at 0.44¹), characterised mainly by women's lower income and educational attainment compared to men (United Nations Development Programme 2020). Gender inequality impedes development, and the disadvantages faced by women and girls are among the greatest barriers to human development, as this inequality reduces the amount of human capital available in a society thereby reducing economic productivity (Cuberes and Teignier 2014). Gender inequality in earnings may lead to losses estimated as high as \$23,620 in per capita wealth globally. However, if equality in earnings were achieved, human capital wealth could increase by 22% globally and total country wealth by 14% (Wodon and de la Brière 2018).

Currently, the SSA region is missing its full growth potential because a sizable portion of its growth reserve – women's skills and abilities – is largely untapped despite there being a need for rapid economic growth. For Africa alone, the total annual economic losses due to gender gaps in effective labour are estimated at US \$255 billion (Bandara 2015). Thus, continuously leaving women out of the equation is detrimental. Women constitute half of the population but are

¹ The gender inequality index (GII) varies from 0 to 1, with 0 being full equality between men and women, and 1 being full inequality.

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denied an equal playing field with men in access to economic opportunities. They experience time-related underemployment as high as 40–50% of total employment, work relatively fewer hours in paid employment than men, and hold the burden of unpaid household and care work (International Labour Organization 2016). Improving livelihoods in SSA, particularly among women, by economically empowering them could be a key driver for improving the economic situation of the region, as well as achieving the SDGs and other development goals.

Focusing on SSA will not only benefit the continent but the world as a whole. The International Labour Organisation (ILO) estimates that Africa's share of the global workforce will increase from 10% currently to about 18% by 2030 (International Labour Organization 2018d). With an ageing workforce in most of the high-income world, many investors are looking for affordable labour. Africa will account for an increasing proportion of the global labour force in about a decade, ranking second after Asia and the Pacific by 2030 (International Labour Organization 2018b). Thus, developing human capital, particularly among women and girls, will position the region in the right direction to harness the global labour force windfall.

By undertaking this study in SSA, I will advance knowledge on WEE in the region, in addition to providing policy relevant results on the extent of WEE and its drivers and barriers, and its role in key development areas. My study findings could also provide evidence on strategies to leap-frog SSA towards achieving its SDG targets and other development goals, including the wider African Union (AU) development agenda (Agenda 2063).

1.3 A Case study: Malawi

To understand the role of WEE in key development areas, I focus on Malawi as a case study. I chose Malawi for four reasons: i) it is among the poorest countries globally, with low human capital development characterized by low access to and poor quality of education (Chimombo 2005; Chimombo 2009; Ravishankar et al. 2016); ii) more than a third of households (35%) are headed by women, which is among the highest in SSA (National Statistical Office 2019a); iii) about 39% of women solely own land, which is among the highest in SSA (ICF 2021); and, iv) Malawi has a dual lineage system (matrilineal or patrilineal), which presents an opportunity to understand how WEE varies under these family systems.

These characteristics of Malawi are important for several reasons. Firstly, household heads usually make decisions over resources in the household, even if not as a sole decision-maker (Djurfeldt et al. 2018). This implies that many women have decision-making opportunities in Malawi due to the high percentage of female household heads. Secondly, asset ownership, particularly of land, is a salient feature of WEE, as it is associated with high bargaining and decision-making power at the

household level (Kabeer 2011; Behrman 2017). Land is identified as a basic source of women's survival and development, providing a more stable and more secure financial resource than liquid assets such as livestock (Rehman, Ping and Razzaq 2019). Finally, women in matrilineal communities are often more autonomous than patrilineal communities because they have access to land and have more control over household labour decisions which attests to a woman's power within the household (Lowes 2018). Examining the importance of WEE on children's education outcomes and household consumption patterns in a context of a low-income country with overall poor education outcomes provides an opportunity for policy development and a better academic understanding of the dynamics of WEE.

1.4 Research purpose

The main aim of this thesis is to investigate the extent of women's economic empowerment in SSA countries and examine its association with children's and household welfare in Malawi specifically. First, I develop a composite WEE score in SSA based on existing literature and available data. I use it to classify African countries into different WEE typologies that show the main drivers of WEE for each set of countries, highlighting the areas that should be improved to further enhance WEE. Second, I analyse the relationship between WEE and children's education outcomes in Malawi. I focus on the link between the level of WEE of the mother and her children's school attendance and timely progression through grades. Third, I examine whether the level of female household head's or wife of male household head's economic empowerment is associated with the consumption and expenditure patterns of their households. In particular, I study the allocation of resources on essential and non-essential items. These results contribute to knowledge, understanding, and measurement of WEE in SSA and establish a basis for future studies to be conducted. In addition, the results provide timely evidence for improving WEE for social development and sustainable economic growth, highlighting potential priority areas for policy and programme interventions across sectors.

1.5 Research questions

My review of literature (Chapter 2) points to key gaps on WEE evidence in SSA. To the best of my knowledge, there are no comprehensive cross-country studies showing the extent of WEE in African countries. In addition, although WEE is positively associated with household welfare, most studies use women's bargaining power as a measure of WEE and focus only on social welfare including health and nutrition, and none has examined WEE explicitly as a multi-factor measure. There is a lack of evidence on the association between WEE and the household economy including

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income and expenditure patterns. This study will fill these knowledge gaps by addressing the following research questions:

1. What is the extent of women's economic empowerment in sub-Saharan African countries?
2. What domains contribute to this economic empowerment and how can countries be classified into typologies based on the main 'drivers' of it?
3. How is women's economic empowerment associated with children's education outcomes?
4. What is the association between women's economic empowerment and patterns of consumption expenditure within the household?

Questions 1 and 2 are multi-country analysis using data from the latest Demographic and Health Surveys in 33 countries in SSA, while questions 3 and 4 focus on Malawi using the 2016 Integrated Household Survey (IHS).

1.6 Significance of study

Women's economic empowerment is a goal on its own right and essential in realising women's rights, including to be educated, to own property, and to earn an equal wage. It is also important for broader development goals such as economic growth, poverty reduction, health, and children's education and welfare. I expect that WEE can reduce household poverty and improve welfare. Successful economic development can also benefit from decisions made within families. Human capital development is a central factor in development and is influenced by the decisions made at household level regarding whether to send children to work or to school, and how much effort and money to put into their education. The importance of getting women to participate in decision-making at the household level and ensuring that they are empowered to make their choices concerning their lives and welfare of the household members cannot be overstated.

The current momentum on WEE as a cornerstone for the achievement of many UN SDGs and inclusive economic growth presents an opportune time to address the historical disadvantages borne by women and girls. There is an increasing need to understand WEE in SSA, the poorest region globally, but also where women are highly disadvantaged and could benefit the most from the achievement of SDGs. My thesis provides baseline evidence about WEE in the region that can spur interest for detailed and targeted research to inform policy implementation.

Although the linkage between women's economic empowerment and the demographic dividend is not explored in this study, the focus on the demographic dividend particularly in SSA and the

investment areas that can trigger sustained economic benefits is worth a mention. The demographic dividend is the economic benefit that arises from a significant increase in the ratio of working-age adults relative to young dependents, driven by changing fertility and mortality patterns, which then lead to a shift in the age structure of the population. This dividend is not guaranteed unless the age structure change is accompanied by investments to improve human capital development (health, education, and skills) and economic reforms to create jobs and encourage savings (Bloom, Canning and Sevilla 2003). With quality education achievements and household wellbeing being identified as priority investment areas in harnessing the demographic dividend (Canning, Raja and Yazbeck 2015), exploring the relationship between WEE, children's education outcomes and household consumption will help provide relevant evidence on the role WEE can play in triggering long-term benefits not only at the household level, but also beyond.

With most studies focusing on individual indicators of WEE, this study, to the best of my knowledge, is the first of its kind to comprehensively show the extent of WEE (in terms of a score) and its association with children's education outcomes and household consumption using survey data in SSA. This study provides empirical evidence about the extent of WEE and its associations with outcomes of interest and thus fills a critical gap in knowledge. Therefore, it identifies potential areas for policy and programme interventions in SSA to improve WEE.

1.7 Outline of the thesis

The introductory chapter 1 outlines the main aims, motivation, and research questions of the study including a section on the rationale for focusing on SSA and Malawi. Chapter 2, 'Literature review', provides an overview of WEE definition and measurement. This chapter also includes a critical review of the literature on WEE in SSA. Chapters 3–5 present three empirical papers where each paper contains an introduction, a literature review, and data, methods, results, and discussion sections.

Chapter 3, 'Women's economic empowerment in sub-Saharan Africa: a cross-national analysis using Demographic and Health Survey (DHS) data', presents the first empirical study of the thesis. It uses DHS data from 33 countries in SSA to develop a WEE score, estimate the level of WEE in each country, and to classify countries into key typologies based on the 'drivers' of WEE observed.

Chapter 4, 'Association between women's economic empowerment and children's education outcomes in Malawi', presents the second empirical study of this thesis. I use the integrated household survey (IHS) of Malawi to investigate the association between WEE and children's education outcomes.

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Lastly, chapter 5, 'Women's economic empowerment and household consumption expenditure in Malawi', explores the relationship between WEE and expenditure patterns in both patrilineal and matrilineal kinship systems and whether these patterns differed by the gender of the head of the household using IHS data.

Chapter 6 concludes the thesis, with a summary and discussion of key findings highlighting key contributions to knowledge, policy, and programmes. This chapter also presents the study limitations and research gaps with a brief discussion on future research.

Chapter 2 Literature review

This chapter presents a critical review of the studies conducted on WEE. It includes empirical literature on the definition and measurement of WEE, benefits of WEE, and also WEE research specifically on SSA. The context of Malawi in terms of WEE and education attainment is also detailed here. The literature review is drawn from academic books, journal articles, and reports on WEE².

2.1 Women's economic empowerment

2.1.1 History: Roots in the women's empowerment movement

The women's empowerment approach to development started in the mid-1980s based on experiences of women's grass-roots organisations in raising the voices of the marginalised in developing countries (Singhal 2003). Women's groups sought to empower themselves through self-reliance, and to drive their own change and the right to determine their own choices in life. *Women's empowerment* entails increasing a sense of self-worth, decision-making power, access to opportunities and resources, power and control over one's life inside and outside the home, and increasing ability to affect change. Empowerment has multiple meanings relating to power, agency, self-direction, self-determination, liberation, participation, mobilisation, and self-confidence (Ibrahim and Alkire 2007; Eyben, Kabeer and Cornwall 2008). In its broadest sense, empowerment is an expansion of freedom of choice and action (Malhotra, Schuler and Boender 2002).

Although many researchers conceptualised empowerment as a binary variable, with women being either empowered or not, there has been a gradual change to viewing empowerment as a process, with women being at various levels of empowerment. Kabeer (1999) describes it as the process of acquiring the ability to make strategic life choices where that ability had been denied before. Similarly, Richardson (2018) notes that empowerment entails change, from a point of

² The search terms used include: 'agency', 'autonomy', 'decision-making', 'economic opportunities', 'women employment', 'empowerment', 'household income', 'household consumption', 'household economy', 'household expenditure', 'measurement', 'measure', 'resource allocation', 'women/female', 'Africa', and 'sub-Saharan Africa'. The search was conducted in various online databases including Web of Science and Google Scholar.

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having no power to having power, rather than it being a status or a fixed outcome (Richardson 2018).

The World Bank defines empowerment as the process of enhancing an individual's or group's capacity to make purposive choices and to transform those choices into desired actions and outcomes (World Bank 2012). According to Kabeer (1999), the ability to make life choices is influenced by three dimensions: resources (pre-conditions), agency (autonomy and self-belief to make a choice) and achievements (outcomes) (Kabeer 1999). These definitions raise several key points. First, empowerment entails change from a position of being disempowered to being empowered; second, there are forces that constrain women's empowerment; and third, women have to break these forces, even at the lowest level, for them to be empowered. As such, any effort made by women towards challenging the powers that hold them back should be counted as empowerment, not just the final outcome.

Empowerment which occurs at various levels (individual, household, community, and broader areas) is nonlinear and multidimensional, spanning economic, socio-cultural, political, and psychological dimensions. Although it is difficult to separate completely each dimension of empowerment, women can be empowered in one dimension in life, and not in others (Malhotra, Schuler and Boender 2002). Further, empowerment in one dimension can result in disempowerment in other dimensions (Bayissa, Smits and Ruben 2018). For instance, increasing women's wage employment can result in increased stress with childcare as the women are not in control of their time or to increased domestic violence as some men believe work outside the home means women are neglecting their household responsibilities.

2.1.2 Definition of women's economic empowerment

In this thesis, the focus is on the dimension of **economic empowerment**. While research on women's empowerment spans decades, economic empowerment is a more recent addition, especially in low- and middle-income countries (LMICs). The concept of WEE was first identified at the fourth UN's Conference on Women in 1995, as a strategic focus for advancing gender equality, emphasizing the promotion of women's economic independence, and ensuring equal access to resources, opportunities, and public services. The World Bank elucidated the concept further, highlighting the need for enabling and empowering women to compete in markets (World Bank 2006).

Several definitions of WEE have since been developed. Eyben and colleagues (2008) define WEE as the capacity of women to participate, contribute, negotiate, and benefit from growth processes while being able to recognize their contributions and exercise agency and choice (Eyben, Kabeer

and Cornwall 2008). WEE increases women's power over economic decisions that influence their lives and priorities. It can be achieved through equal access to and control over critical economic resources and opportunities, and the elimination of structural gender inequalities within the society (Tornqvist 2009). Kabeer notes that WEE enhances women's capacity for strategic choice and agency in the sphere of the economy and the potential spill-over in other spheres of their lives (Kabeer 2009).

More recently, definitions expanded the focus to include not only objective economic outcomes and subjective perceptions of empowerment, but also the 'process' or change over time (Fox and Romero 2017; Laszlo et al. 2017). WEE is a process because women move from being disempowered to being empowered, by expanding their economic agency, decision-making, and wellbeing. This process entails the efforts that women make to question, challenge, or change regressive behaviour, norms, and institutions that perpetuate their subordination, whether they achieve the intended change or not (Hanmer and Klugman 2016). Thus, WEE results from women overcoming existing oppression by exercising agency and having decision-making power to transform and benefit all areas of their lives at individual, household, and community levels.

Agency involves the ability to set goals and act on them, and is determined by actions that challenge power relations (Kabeer 1999; Donald et al. 2017). It is both intrinsic and instrumental. Intrinsic agency is the ability to question or reject normative beliefs that promote gender inequality (power within), while instrumental agency is the ability to exercise choice through influence or control over decision-making (power over) (Kabeer 1999; Yount et al. 2016; Donald et al. 2017; Martinez-Restrepo and Ramos-Jaimes 2017).

Agency is related to empowerment, but empowerment is broader (Donald et al. 2017), thus the need for resources, which according to Kabeer's (1999) framework, are referred to as preconditions for empowerment. The decisions should be transformative to contribute to deconstruction of unequal gender relations, while the resources should be strategic to provide women with greater capacity for agency and choice, and improve their wellbeing (Kabeer 2005). Women's intrinsic economic agency is often measured using their views on societal norms on work including women's participation in paid work, equity in domestic work, and gender segregation of work among others (Golla et al. 2011; Filgueira and Martinez Franzoni 2017; Martinez-Restrepo and Ramos-Jaimes 2017). Instrumental economic agency means participation in economic decisions within the household including large household purchases (Hanmer and Klugman 2016; Yount et al. 2016; Donald et al. 2017; Yount, Crandall and Cheong 2018).

In this study, I adopted the definition of WEE proposed by Golla et al. (2011): WEE enables women to have both the ability to succeed and advance economically and the power to make and

act on economic decisions. Golla and colleagues developed a framework on economic empowerment with two interrelated components: power/agency, and economic advancement. Both components are influenced by resources, norms, and institutions. Because the available cross-sectional data covers a point in time as opposed to change over a period of time, I operationalised WEE as the level of women's economic agency driven by access to strategic economic resources including educational attainment, income, and assets such as agricultural land. By agency, I mean women making decisions concerning their lives (e.g., whether to work, how to use their earnings), or at household level (e.g., household expenditure and budgeting of resources including husband's earnings).

2.2 Measurement approaches to women's economic empowerment

2.2.1 Women's economic empowerment indicators

There exists no standardised measure of WEE. This is because of the complexity of the definition of WEE, but also because WEE is nuanced and context-specific, and thus the use of universal indicators is challenging (Buvinic 2017; Fox and Romero 2017). In addition, measuring a process (of change) and agency are challenging as both relate to intrinsic issues, thus we need to rely on self-reported measures. Further, they require longitudinal data, which is lacking in most LMICs. Researchers, however, agree that economic empowerment should be measured as an outcome in its own right, without relying only on proxy indicators (Buvinic 2017).

The most commonly used indicators of WEE include data on employment, financial access and inclusion (incorporating access to credit), asset ownership, educational attainment, decision-making within the household and in the community, autonomy, and leadership roles including political representation (Kabeer 2012; Doss 2013; Quisumbing, Rubin and Sproule 2016; Fox and Romero 2017; Kabeer 2017; Martinez-Restrepo and Ramos-Jaimes 2017; Yount, Crandall and Cheong 2018). These indicators can either be objective or subjective. Objective indicators include educational attainment and labour force participation, while subjective indicators include self-reports on decision-making in households, happiness scales, self-confidence, and reduction in stress levels. Researchers recommend inclusion of subjective indicators based on women's own experiences and attitudes (e.g., self-perceptions including aspirations, confidence, and constraints on achieving set goals) (Scott et al. 2016; Fox and Romero 2017; Martinez-Restrepo and Ramos-Jaimes 2017; Yount, Crandall and Cheong 2018).

Decision-making and women's influence or control over household expenditures are the most commonly used economic agency measures. Decision-making indicators measure instrumental agency, while perception and autonomy indicators measure intrinsic agency. Most tools for

measuring empowerment combine decision-making and achievement approaches. Achievement reflects the final outcome of the empowerment process and consists of both objective and subjective indicators of empowerment and wellbeing.

The ease of measurement and standardisation of objective indicators has resulted in them being used more often than subjective indicators. However, objective measures of WEE should not be used without adjusting for gender effects, as the results may reproduce inherent structural inequalities. For instance, looking at increased income from own businesses without looking at who within the household controls the income might be neglecting possible disempowerment impacts of expanding businesses (Kabbeer 2012; Quisumbing, Rubin and Sproule 2016; Scott et al. 2016; Donald et al. 2017). Table 1 shows examples of subjective and objective WEE indicators identified in previous research (Fox and Romero 2017). These are particularly useful for designing tools for measuring WEE.

Table 1: Summary of women's economic empowerment measurement indicators in literature

Attitude (subjective) indicators	Behaviour (objective) indicators
<ul style="list-style-type: none"> • Believes women can work outside home • Believes can get/change jobs (aspiration to look for a job) • Believes she can improve her economic position • Confidence in saving, business, financial skills • Confidence in undertaking business related activities • Optimism about starting own business, producing on own or household land • Thinks she has right to be involved in household financial decisions • Perceives she has the freedom to receive/spend her income • Believes household should invest to reduce household chores/men and boys should do some chores 	<ul style="list-style-type: none"> • Looked for a job • Went for job-related training • Talked to parents/spouse about jobs • Opened a bank account • Got credit • Consulted/involved in decisions about agricultural production • Can decide how/when to invest in own business • Can have bank account • Consulted/involved in decisions about household spending/consumption • Owns (jointly or separately), and/or inherits land • Consulted on sale of assets • Negotiates 'fair' division of unpaid household chores

Source: Adapted from Fox and Romero (2017, P.15)

Current debates on disciplinary approaches for measuring WEE

To best understand WEE, it should be measured as a process rather than an outcome, and furthermore measurement should encompass subjective and objective individual-level indicators of access to and control of economic resources. There is consensus that sole focus on economic participation and advancement does not necessarily translate to broader empowerment, and

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further to an evolution to economic agency (Kabeer 1999; Buvinic 2017; Calder, Rickard and Kalsi 2020; Chang et al. 2020). Agency is complex and subjective, thus difficult to quantify and measure. Typically, we only observe the outcomes of what people do, not what they were able to choose from, thus the need for qualitative data. In addition, the link between survey-based market participation indicators of WEE (employment, entrepreneurship, income, financial inclusion) and women's role in household expenditure decisions has been questioned, with arguments that decision-making over household expenditure does not automatically follow from women's greater market participation or financial inclusion (Taylor and Perezniето 2014; Fox and Romero 2017; Chang et al. 2020). This is because women's ability to translate access to paid employment and assets into greater financial freedom depends in part on individual capabilities, existing household relationships, and societal norms. Mixed-methods research with a qualitative component could provide more information about these processes and the key mechanisms ensuring ability to participate in decision-making.

Because of the complex and non-linear process of empowerment, longitudinal data and qualitative indicators are particularly important for understanding relevant proxies such as decision-making capabilities and self-confidence (Markel 2016; Calder, Rickard and Kalsi 2020). Survey-based indicators are needed to facilitate quantitative comparison among countries/regions, but in order to understand the nuances of WEE, they should be complemented with context-specific measures that are informed by qualitative research. Qualitative data also helps in understanding the 'why' behind results and shifts in existing gender dynamics, providing a context-specific meaning of empowerment (Richardson 2018; Calder, Rickard and Kalsi 2020). There is therefore a need to balance trade-offs in comparability of data versus attention to local context, and in subjective versus objective measurement of WEE.

In this thesis, I only used quantitative data because of three reasons: 1) availability of multiple household surveys with various indicators on WEE, while qualitative data is highly non-existent; 2) to quantify the extent of WEE and show comparison between countries in SSA using the standardised DHS data; and 3) to show that despite its limitations, available quantitative data can still be used to measure WEE. This analysis thus highlights existing data gaps and the need for more suitable data, but also advances the knowledge on WEE.

2.2.2 Women's economic empowerment indices

In addition to individual indicators, some indices to measure WEE have been proposed. Indices provide a simple way to aggregate the different sub-dimensions of economic empowerment, and if the index is standardised, it can be compared across countries. The most common WEE index is

the Women's Empowerment in Agriculture Index (WEAI), developed for measuring the impact of the agricultural sector on women's empowerment (Alkire et al. 2013). The WEAI measures both attitudes and behaviours and aggregates across five domains of decision-making (production, productive resources, income, leadership, and time use). Although it provides the most complete existing index measure of WEE, it focuses mostly on women's empowerment in agricultural production thus excluding urban women, and uses data from bespoke surveys thus making its use with secondary data difficult.

Another example of an empowerment index is the Survey-based Women's emPOWERment index (SWPER) (Ewerling et al. 2017). This is a more broadly framed index and only three of its constituent indicators focus on economic empowerment as defined by a recent review on compendium of WEE tools, which are shown in Table 2 (Buvinic et al. 2020).

There is need for clarity on what constitutes indicators of economic empowerment, particularly for power and agency indicators. Some researchers propose inclusion of social (wellbeing) outcomes, norms, and gender attitudes in order to understand the interdependence of women's economic and social roles (Buvinic and Furst-Nichols and 2016). Although these indicators may influence economic empowerment, their inclusion makes it difficult to clearly differentiate economic empowerment indicators from the rest. As women can be empowered economically but not socially, or vice versa, a clear distinction between indicators under each dimension will help us better understand WEE as a separate dimension of empowerment. Examples of norms and gender attitudes indicators in the economic domain include women's attitudes towards participating in paid work, gender segregation of work, equity of domestic workload, and women's mobility to work (Golla et al. 2011). Table 2 shows the list of indicators on achievements, agency, and resources that constitute WEE. It provides a comprehensive list that can be used to measure WEE, depending on available data. This list informed the indicators used in developing the WEE score in this thesis.

Table 2: Women's economic empowerment measurement indicators

Elements and Dimensions of the WEE Conceptual Framework
<p>ACHIEVEMENTS (FINAL OUTCOMES)</p> <p>Income (all sources)</p> <p>Savings (financial)</p> <p>Household and business assets</p> <p>Amount of leisure time</p> <p>Vulnerability to shocks</p> <p>Type and quality of work (e.g., formal/informal, job security, and access to benefits)</p> <p>PROCESS (INTERMEDIATE OUTCOMES): Agency/Empowerment/Power to set goals and make strategic choices</p>

Elements and Dimensions of the WEE Conceptual Framework

Control over household expenditure
 Control over savings and investment
 Control over productive assets (including documented ownership, use, purchase, sale, transfer, and right to inherit and bequeath)
 Increased financial independence/autonomy
 Absence of stress/economic wellbeing (“peace of mind”)
 Leadership roles
 Self-confidence/self-esteem

RESOURCES (INDEPENDENT VARIABLES, DETERMINANTS)

Individual factors (Individual capabilities)

Health
 Education (including basic literacy and numeracy, digital and financial literacy)
 Willingness to take risks, optimism, determination (grit)
 Soft skills (e.g., teamwork)
 Work experience
 Personal access to networks
 Participation in women’s advocacy organizations, cooperatives, and labour unions

Household factors (Intra-household allocation of work and resources)

Division of household work and child/elder care
 Bargaining power inside the household
 Ability to make or participate in decisions about household expenditures

Context factors (Laws, regulations, policies of formal institutions)

Property rights (i.e., right to purchase, own, sell, transfer, and bequeath productive assets)
 Absence of gender discrimination in legal codes and regulations (e.g., work, marriage, and divorce)
 Protection against violence and sexual harassment
 Equal right to start and operate a business
 Social norms (informal institutions)
 Attitudes toward gender roles (e.g., work away from home or start a business)
 Women’s freedom of mobility

Context factors (Economic/job market features)

Availability of paid work
 Ability to work in male-dominated occupations
 Absence of discrimination in wages and benefits
 General business environment
 Women’s access to business and financial services (e.g., open a bank account or borrow money)
 Women’s access to markets (e.g., agriculture, business, and international trade)
 Availability of infrastructure (e.g., transportation, communications, electricity, and water and sanitation)
 Social capital (e.g., existence of networks, social cohesion, trust, and community cooperation)

Source: Mayra Buvinic et al., 2020, p.58

2.2.3 WEE conceptual framework

Golla and colleagues (2011) developed a framework on economic empowerment with two interrelated components: power and agency, and economic advancement. These two components are influenced by access to resources at both the individual and the community

levels, and the underlying norms and available institutions (Figure 1). Thus, for empowerment to be holistic and sustainable, changes are required at different levels: within the individual (capability, self-esteem, knowledge); within community and institutions (cultural and legal norms, and behaviours); and in access to resources and economic opportunities.

In Golla's framework, economic advancement entails economic gain and success, and is measured using productivity and earnings in terms of increased income, savings, or a good quality job or growth of business (Buvinic 2017; Buvinic et al. 2020). It is different from economic empowerment, and women can achieve economic advancement without being economically empowered, and vice versa. While economic advancement leads to greater economic empowerment, this empowerment also fosters economic advancement (Buvinic 2017). Economic advancement could be viewed as the 'achievements' or 'outcomes' in Kabeer's (1999) framework on women's empowerment.

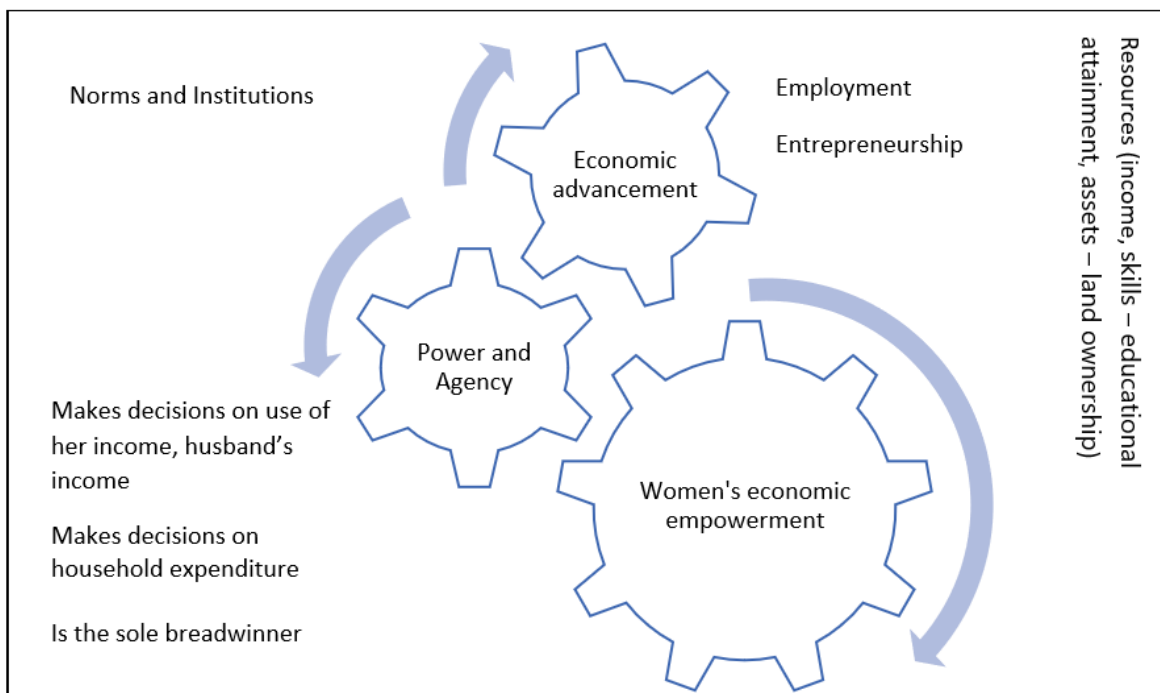
'Resources' are the medium through which agency is expressed (Kabeer 1999). They constitute the building blocks (enabling environment) at the individual or community level and include both tangible and intangible assets. *Tangible assets* consist of material (land, livestock, production machinery) and financial assets including bank accounts, and access to loans and credit. *Intangible assets* are skills, knowledge, expertise, and social capital—for example, professional networks and mentors. Some resources, for instance education, provide skills that enable one to choose from alternatives and acquire more resources, while land ownership provides livelihood alternatives. Kabeer (1999) argues that 'resources' and 'agency' form people's capabilities, that is, the ability to live the lives they want. Lack of resources, which is pervasive amongst the poor, compromises freedom of choice. In addition, people who occupy privileged positions, including men in patriarchal power structures, will have better access to resources than the less privileged (Kabeer 1999).

Lastly, 'norms and institutions' reflect the context and affect how resources are distributed and used. Institutions are the rules of game; they govern activities and mediate relations between the individual, and the social and economic environment. They include legal and policy structures, economic systems, and market structures, as well as marriage, inheritance, and education systems, among others. Norms include for example gender-defined roles, prohibitions, and expectations of women's behaviour. Kabeer (2012) observed that these norms, values, and practices become formalised in public institutions to reflect and reproduce preconceived notions of masculinity and femininity in their routine rules, procedures, and practises. Discriminatory social institutions thus limit women's voice in society and influence over policies (Kabeer 2012). Strong gender norms in many LMICs and the prevalence of patriarchal family and kinship systems can interfere with women using resources to facilitate their own choices and autonomy

(Jayachandran 2015). Discriminatory norms and institutions contribute to opposition to women’s empowerment.

Figure 1 illustrates the factors that contribute to economic advancement, such as employment and entrepreneurship, and how they enhance economic empowerment. Women’s participation in decision-making both at individual and household levels enhances their power and agency. Still, how WEE pans out is in part determined by the existing norms and institutions. Discriminatory norms and gender attitudes have to be challenged and changed to achieve empowerment. The totality of all these factors determine the extent of WEE. However, since WEE is a process and not an outcome, improvement in any of the indicators will spin the WEE wheel, resulting in better outcomes for women and their households.

Figure 1: Conceptual framework of factors contributing to women’s economic empowerment



Source: Adapted from Golla et al., (2011, P.4)

2.3 Benefits of empowering women economically

Women’s economic empowerment offers an entry point into the broader empowerment processes. Because it challenges the practises that form the core of women’s subordinate status in the society such as having the primary responsibility of unpaid work and unequal access to economic resources and opportunities, WEE promotes human rights and social justice (Kabeer 2009). Women usually spend a higher proportion of their income on improving the wellbeing of their families than men (World Bank 2012). Both human capital and demographic factors are important for economic growth. Greater access to secondary education, equitable labour market

participation, and active political participation among women can trigger economic growth (Cabeza-Garcia, Del Brio and Oscanoa-Victorio 2018). WEE brings about more balanced growth processes as they participate in, contribute to and benefit from growth processes on terms which recognize the value of their contributions and respect their dignity (Kabeer 2009). A recent review shows an increased labour force participation rate among women was associated with firm productivity, which in turn improved survival rates for children, increased school attendance among girls, and reduced fertility (Peters et al. 2016). The potential long-term accrued economic benefits at the national level are important. SSA could add an additional 12% to its annual Gross Domestic Product (GDP) (an estimated \$300 billion) by 2025 if the gender gap in employment between men and women were closed (Woetzel et al. 2015).

2.4 Women's economic empowerment in sub-Saharan Africa

Countries in SSA show the worst economic, poverty, education, and gender inequality outcomes globally (World Bank 2018b; United Nations Development Programme 2020). To the best of my knowledge, there are hardly any empirical multi-country studies showing the extent of WEE in SSA, perhaps due to insufficient data on WEE. Most studies in the region focus on women's empowerment in general, as opposed to WEE, or focus on micro-finance and/or micro-credit as a measure of WEE and draw from evaluation reports or studies of specific interventions (van Rooyen, Stewart and de Wet 2012). Global gender equality and empowerment indices have been used to illustrate gender inequalities in access to economic opportunities, including employment, educational attainment, and income inequality. These indices include gender development index (GDI), gender empowerment measure (GEM), gender inequality index (GII), African gender equality index and the World Economic Forum (WEF) global gender gap index (African Development Bank 2015; AfDB and UNECA 2020; United Nations Development Programme 2020; World Economic Forum 2021).

These indices rank countries by performance under multiple domains, including economic, political, and social domains. The economic indicators include labour force participation rates, wage equality, and education attainment. The most popular indices in SSA are the African Development Bank (AfDB) gender equality index, the World Economic Forum (WEF) global gender gap index and the United Nations Development Programme (UNDP) gender inequality index (African Development Bank 2015; AfDB and UNECA 2020; United Nations Development Programme 2020; World Economic Forum 2021). The UNDP index and the WEF are routinely released annually since 2010 and 2005, respectively, with the WEF covering additional countries in each round. The AfDB gender equality index was developed in 2015, and recently updated in 2020.

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According to the 2020 WEF report and the AfDB gender equality index, Namibia was ranked top in Africa in terms of closing all forms of gender gaps. The 2020 UNDP index ranked Seychelles as having the highest women's empowerment level in Africa. These indices measure different aspects of inequality using different measurement indicators, and they use data from different sources to estimate the economic empowerment indicator. For instance, AfDB includes 'access to loan from a financial institution' in addition to 'labour force participation', 'wage employment', and 'income earned', while WEF includes two additional indicators, 'legislators, senior officials and managers' and 'professional and technical workers'. The use of different operationalisation for the same dimension has made the indices non-comparable and attests to the inherent challenges in measuring empowerment. Moreover, these indices do not capture decision-making or access to and control over resources, as noted in previous studies (Phan 2016; Miedema et al. 2018).

The Women's Empowerment in Agriculture Index (WEAI) described in Section 2.2.2 was piloted in five rural districts in northern Uganda (Alkire et al. 2013). Although this index applies only to women in agriculture, the results show the extent of economic empowerment in rural areas. Those with adequate achievements in 80% of the weighted indicators or more are considered empowered. In the five districts included in the pilot study, 43% of women and 63% of men were categorised as empowered.

A multi-country survey conducted by CARE in Africa (Tanzania, Mali, Malawi, and Ghana) and Asia (India and Bangladesh) adapted the WEAI to measure empowerment, adjusting for country-specific thresholds (Njuki, Kruger and Starr 2013). Although based on a small sample and targeting rural women, this study presents the most comprehensive evidence on WEE in African countries. Table 3 summarises the study findings. Among African countries included, the WEAI score ranged from a low of 0.32 in Mali to a high of 0.66 in Malawi. Twenty-three percent of women in Malawi were empowered (achieved a score of 0.8), compared to lower numbers in other countries in the area: around 2% both in Ghana and Mali. Empowerment differed by sex of household head, with women living in female-headed households having significantly higher empowerment scores than women in male-headed households. In Malawi, 11% of women in male-headed households were considered to be empowered, compared to 60% of women residing in female-headed households. In Tanzania, the corresponding figures were 4% and 33%, respectively. Agency was measured using women's self-confidence; participation and leadership in community groups; and women's mobility. Malawi had the highest proportion of women expressing self-confidence (72%), while Mali had the lowest (45%). Tanzania had the highest proportion of women with sole or joint control of assets, both agriculture (82%) and household assets (61%).

Table 3: Cross-country comparison of indicators contributing to women's economic empowerment

Indicator	Malawi	Tanzania	Ghana	Mali
WEAI Score (range 0.0–1.3)	0.66	0.58	0.47	0.32
% women achieving empowerment (score <=0.80)	23.2	13.1	1.7	2.2
Mean empowerment score for all female respondents	0.62	0.57	0.47	0.32
% women expressing self-confidence (agency)	72.0	51.0	65.9	45.1
<i>% women with sole or joint control over household assets</i>				
Household assets	57.6	61.1	40.3	18.9
Agricultural assets	45.2	82.4	36.2	24.5
<i>% women with access to different inputs and services</i>				
Access and control of loans	31.8	14	82.1	55.9
Agricultural extension services	26.4	28	37.8	21.2
Agricultural inputs	77.1	33.3	59.2	53.4
Output markets	39.9	23.8	56.2	22.8
<i>Women's household influence and decision-making</i>				
Household Income & Expenditure Domains	64.2	52.2	45.1	33.6
Agriculture Income & Expenditure Domains	55.5	62.1	18.5	13.4
Household Asset Domains	57.6	61.1	40.3	18.9
Agricultural Asset Domains	45.2	82.4	36.2	24.5
<i>Women's perceptions of roles and decision-making within the household (% agreeing with statement)</i>				
The man should make most household decisions	38.2	50.6	32.4	74.0
There is men's work and women's work and the one shouldn't ever do the work of the other	39.9	53.8	33.5	64.3
If a woman works outside the home, her husband should help with childcare and household chores	93.6	88.9	91.3	82.4
Sample size	763	849	175	785

Source: Adapted from Njuki et al., (2013, P.11, 15, 17, & 19)

There are more recent multi-country studies, but they only focus on women's empowerment in general (Jennings et al. 2014; Ewerling et al. 2017; Asaolu et al. 2018; Miedema et al. 2018).

Although these studies include elements of economic empowerment, they lack many important dimensions on WEE as identified in Table 2. Jennings et al. (2014) identified three empowerment dimensions — economic, social, and legal — and included an empowerment score for each of these dimensions. This provides a glimpse of the extent of WEE in SSA, though based on a limited geographical scope of 8 countries. Among the included countries, Zimbabwe had the highest economic empowerment score of 3.0 out of a possible 9 units, followed by Rwanda with 2.1. Burkina Faso had the lowest score at 0.6.

Within Africa, Egypt has been studied more than the other countries. The focus has mostly been on measurement indicators for economic empowerment, and the achievement of Egyptian women in each of the included indicators. The studies report that wage employment and multi-dimensional economic agency are key to measuring WEE, but also report that using a single question on employment captures lower levels of employment among women than when using

an activities list (Yount et al. 2016; Salem, Cheong and Yount 2018; World Bank 2018a; Yount, Crandall and Cheong 2018).

2.4.1 Interventions on women's economic empowerment indicators

While there is only limited evidence measuring the extent of economic empowerment in African countries, there is literature focusing on the benefits of women's access to economic opportunities (economic advancement). This is related to economic empowerment interventions that were aimed at improving women's and, by extension, households' welfare through access to income. Since women had higher poverty rates than men, and they were more likely to use their income to improve household wellbeing (Mayoux 1999), many programmes aimed at poverty reduction targeted women as recipients, providing them with credit to start income generation activities, resulting in proliferation of micro-finance projects. Improving women's access to income was seen as economic empowerment, and it was assumed that it would result in empowerment in other domains. As such, micro-finance programmes were promoted as the gold standard in economic empowerment (Hashemi, Schuler and Riley 1996).

Micro-finance projects, at times used synonymously as WEE, motivated several studies seeking to understand their impact on household welfare and to women's empowerment in general. One study in Africa systematically reviewed the literature on the impact of micro-finance projects on income and women's empowerment (van Rooyen, Stewart and de Wet 2012). The results were mixed on the income of poor people: it increased in some studies and worsened in the case of others. This could be related to the fact that debt repayment could have weighed more on people whose enterprises were not profitable, while those with profitable enterprises could easily repay their debt. Micro-savings, however, resulted in increased household expenditure and accumulation of assets, as women had more income at their disposal.

There was limited evidence of increased women's decision-making at the household level. Combining micro-finance with business training, however, resulted in women gaining financial management skills, owning bank accounts, taking pride in contributing to household income and owning some household assets. Thus, merely providing increased income to women does not equate to economic empowerment in all of its domains. Taylor and Perezniето's (2014) review on WEE initiatives made similar conclusions; micro-finance increases access to credit and income, which contributes to increased profits, assets and smoothing of household consumption, but does not have an effect on social outcomes including increased bargaining power within the household for women (Taylor and Perezniето 2014). However, combining it with components including business training, banking and financial literacy can lead to transformational change in agency.

Kabeer (2009) notes that it is possible to increase women's access to land, jobs and credit in ways that are demeaning and exploitative without substantially expanding their agency (Kabeer 2009).

This is not to say that micro-finance programmes have not been beneficial to women in SSA. Most of the studies show economic advancement resulting from micro-finance interventions, and thus women have increased incomes, accumulation of assets including land and livestock, and increased expenditure on immediate and strategic needs (material pathway of empowerment) (Fafchamps et al. 2011; Roxin et al. 2011; Innovations for Poverty Action and Bureau of Applied Research in Anthropology 2013). However, the income from such schemes often is not high enough to drive transformational change within the household. As noted by Mayoux (1999) in his review of large micro-finance programmes in African countries, most of the micro-finance programmes follow a financial self-sustainability paradigm that assumes that incomes will result to individual economic empowerment which in the end drives empowerment in the other dimensions (Mayoux 1999).

2.4.2 WEE and household economy

The household economy is important for national development and poverty reduction. Therefore, there is a need to understand the contribution of WEE to it. There is limited literature on contribution of WEE to household income in SSA. Consequently, this section will summarise the available evidence from Asian countries, where numerous qualitative studies have explored the contribution of women's employment, particularly in the garment industry, to household economy (Scott et al. 2016).

Kabeer and colleagues, researched women's employment in the garment industry in Bangladesh, ranging from women's perception of employment to its impact at the individual level and how it challenges the patriarchal structural beliefs (Kabeer, Mahmud and Tasneem 2011). Employed women supported their families financially, spending their money mostly on food, shelter, clothing, and health, or investing in major assets such as a house or land (Kabeer and Mahmud 2004; Kabeer and Tran 2006; Kabeer 2011; Kabeer, Mahmud and Tasneem 2011).

Naved *et al.* (2001) showed that women workers constituted an important part of the economic potential for their families, and women were expected to pool money or savings to contribute to major household expenses, including siblings' education (Naved, Newby and Amin 2001).

In Bangladesh, employed women or those who participated in a micro-finance scheme contributed to the total household income, with more educated women and those who owned large farms contributing more. Women earning an income led to their higher participation in decision-making (Ahmed, Siwar and Idris 2011; Roy et al. 2017). Similar results were also reported

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in Pakistan among women who worked as teachers, nurses, farmers, workers in garment industries, or those who ran small enterprises (Mohyuddin and Irshad Hussain 2014).

Unlike in Asian countries, earning an income among women in SSA is both expected and desired, and often times, women take care of household consumption, and also control low revenue commodities such as rearing chickens (Mayoux 1999; Njuki, Kruger and Starr 2013). In addition, women's mobility outside the home to work or run enterprises is not restricted as in the Asian countries. Because of these contextual differences, the applicability of the findings from Asian countries to the Africa context may be limited. Despite this, the findings still provide evidence on women's contribution to household income.

Several studies on the contribution of WEE to household economy in SSA focus on consumption, based on evaluation reports or studies of micro-finance programmes focused mainly on women. These studies identify improved household consumption and food security as one of the positive outcomes (Fafchamps et al. 2011; Roxin et al. 2011; Innovations for Poverty Action and Bureau of Applied Research in Anthropology 2013). In some households, the loans end up as household expenses and transfers, with very little to invest in production (Mayoux 1999). In other cases, the increased contribution of women to household income results in men withdrawing their share of contribution to household consumption, with no net change in household consumption. These studies, however, do not quantify the contribution of women to the household income, probably because the loan amounts are small, and there are no records on how the loans are used (Fafchamps et al. 2011).

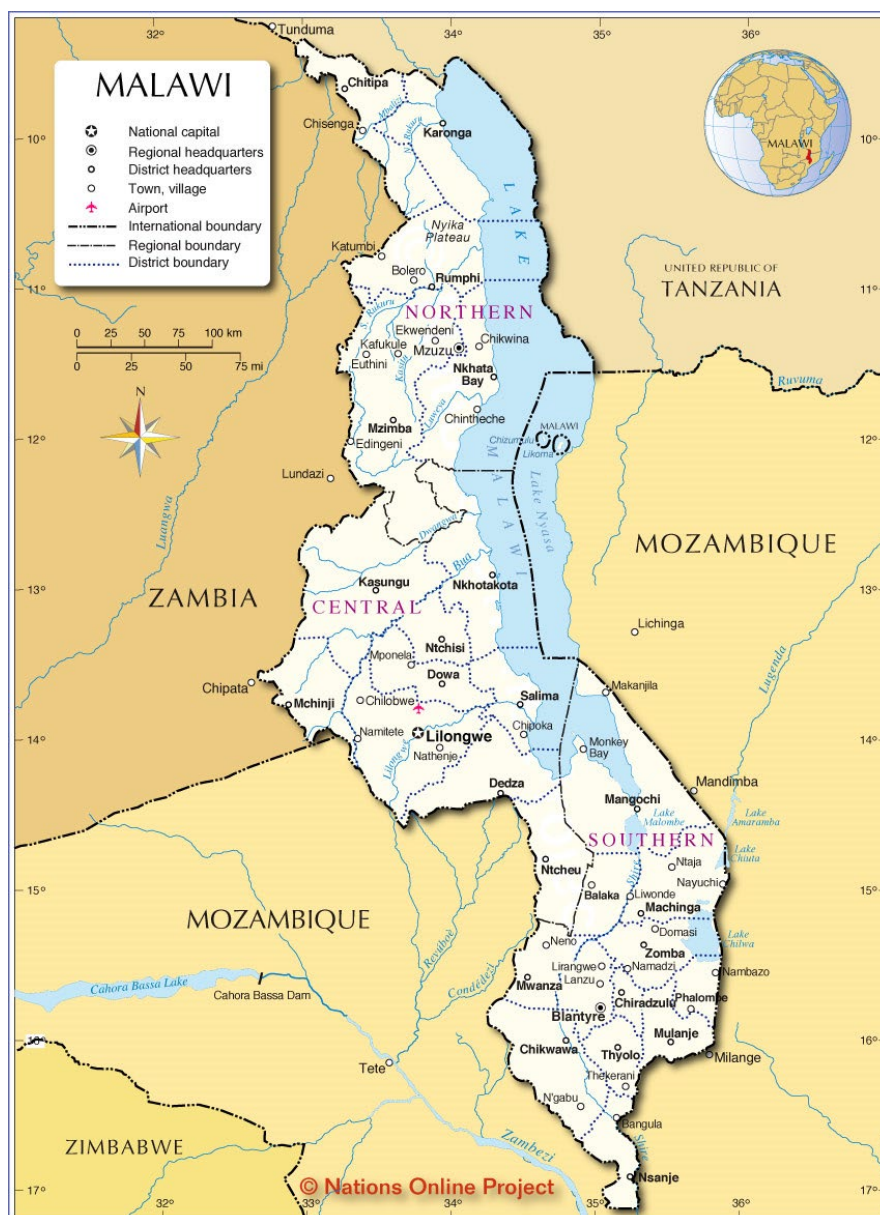
All these studies corroborate the previous conclusion that household expenditure is influenced by the proportion of household income contributed by women (Hopkins, Levin and Haddad 1994). Women's income often increases total household income, thus improving consumption patterns and family livelihoods. Improving economic empowerment among women may thus contribute to improved household economy, with resulting reduction in poverty. It can also be a key driver to better living standards.

2.5 Malawi Context

Two of the empirical sub-studies in my thesis focus on Malawi, which is a small, land-locked country bordering Tanzania, Mozambique, and Zambia in Southern Africa (Figure 2).

Administratively, the country is divided into three regions: North, Central, and South, each constituting of several districts. In 2018, the total population of Malawi was estimated at 17.6 million, and the vast majority (84%) lived in rural areas (National Statistical Office 2019a). The total fertility rate was 4.6 children in 2016 (National Statistical Office (NSO) and ICF 2017).

Figure 2: Administrative map of Malawi



Source: <https://www.nationsonline.org/oneworld/map/malawi-administrative-map.htm> (accessed January 2020)

According to data from the 2018 census, the median age of population was 18.1 years, and 43% of the population was below 15 years of age (National Statistical Office 2019a). This youthful population, if equipped with relevant education and skills, provides an impetus for accelerating economic growth that can substantially reduce poverty levels. Currently, the population, estimated to grow at an annual rate of 2.6%, puts pressure on public services including education and health care. Malawi is densely populated, with a population of 186 persons per square kilometres in 2018 (National Statistical Office 2019a).

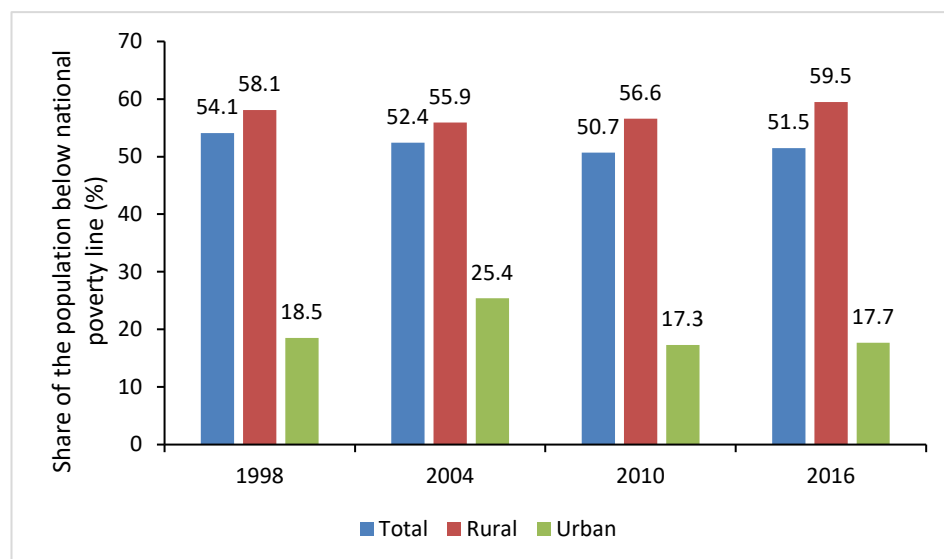
With a per capita gross domestic product (GDP) of US \$389 in 2018, Malawi is among the poorest countries globally (World Bank 2022a), and ranks 172 out of 189 countries on the 2018 Human

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Development Index (HDI) (United Nations Development Programme 2020). The national poverty headcount (percentage of population whose consumption is below the national poverty line— Malawi Kwacha (MWK) 164,191 per year in 2016) increased trivially from 50.7% in 2011 to 51.5% in 2017 (National Statistical Office 2019b). By international standards³, about 70% live below the poverty line of US \$1.90 a day (World Bank 2022a). Households headed by women show higher poverty rates (58%) than male-headed households (49%) (National Statistical Office 2019b).

As Figure 3 shows, rural areas exhibit more than three times the urban poverty rates (National Statistical Office 2019b). Urban poverty could be underestimated, as about 67% of the urban population in 2014 were living in slums (UN-HABITAT 2016). Regionally, poverty rates are the highest in the Southern region (56%) and lowest in the Central region (48%).

Figure 3: Malawi poverty rate: proportion of population living below the national poverty line (national poverty headcount)



Data source: National Statistical Office, 2019

Note: Poverty – Percentage of population whose consumption is below the national poverty line (MWK 164,191 in 2016)

In Malawi, inequality is high, with 57% of the total income being held by the richest 20% of the population, while the poorest 20% held only 6% in 2016 (World Bank 2022a). Malawi's economy is

³ The international poverty line is set at US \$1.90 per person per day at purchasing power parity (PPP) in 2011 prices. The purchasing power parity calculation establishes an exchange rate between currencies based on the value of a goods and services that the currency can buy rather than on the official exchange rate, and thus the international poverty line is higher than the national poverty line set by the government.

heavily reliant on small-scale agriculture which accounts for one third of the GDP, employs 64% of the working population, and is the main source of foreign exchange (Government of Malawi 2017). Because the country relies on rain-fed agriculture, weather shocks (drought and flooding) have heavily impacted food production with resultant food insecurity and economic volatility. Low agricultural productivity, limited employment opportunities outside agriculture, volatile economic growth, and rapid population growth are the main drivers of the observed poverty rates.

Malawi is ethnographically complex, with both patrilineal and matrilineal kinship systems. In matrilineal cultures, land is passed on through the female side of the family, and husbands reside with their wives' natal families. Women in matrilineal systems are often more involved in decision-making on the use and management of land and have more economic control over production than those in patrilineal systems (Peters 2010; Le Roy 2017; Slavchevska et al. 2017). In patrilineal systems, inheritance is passed through the husband's lineage. In this system, women do not inherit land or other forms of wealth from their fathers, as it is assumed that they will have access to their husband's land once married. However, they tend not to make decisions on land and if widowed or divorced are often forced to become landless. In Malawi, about 75% of the population is matrilineal (Peters 2010; Le Roy 2017). Patrilineal societies reside predominantly in the Northern region of the country and two other districts in the south, Chikwaka and Nsanje, while the Central and Southern regions are largely matrilineal.

2.5.1 Education system in Malawi

Malawi's 5-year development blueprint, "the third Malawi Growth and Development Strategy (MGDS III)", identifies education and skills development as one of the five priority areas of the government, and education is viewed as instrumental in advancing social and economic progress (Government of Malawi 2017). The MGDS III goal aims to improve quality and relevance of education and skills to the needs of the industry and promote productive employment opportunities both within and outside Malawi.

On average, about 69% of those aged 15 years and older are literate (72% among men and 66% among women), and those aged 25 and older have received on average 4.6 years of schooling (National Statistical Office 2019a; United Nations Development Programme 2020).

The formal education system in Malawi follows an 8-4-4 structure, with eight years of primary education (Standard 1 to 8), four years of secondary (Forms 1 to 4) and four years of university-level undergraduate education. The official school entry age is 6 years, but a third of grade one entrants are over-age (Ministry of Education Science and Technology 2019). After eight years of primary education, students take the Primary School Leaving Certificate Examination (PSLCE),

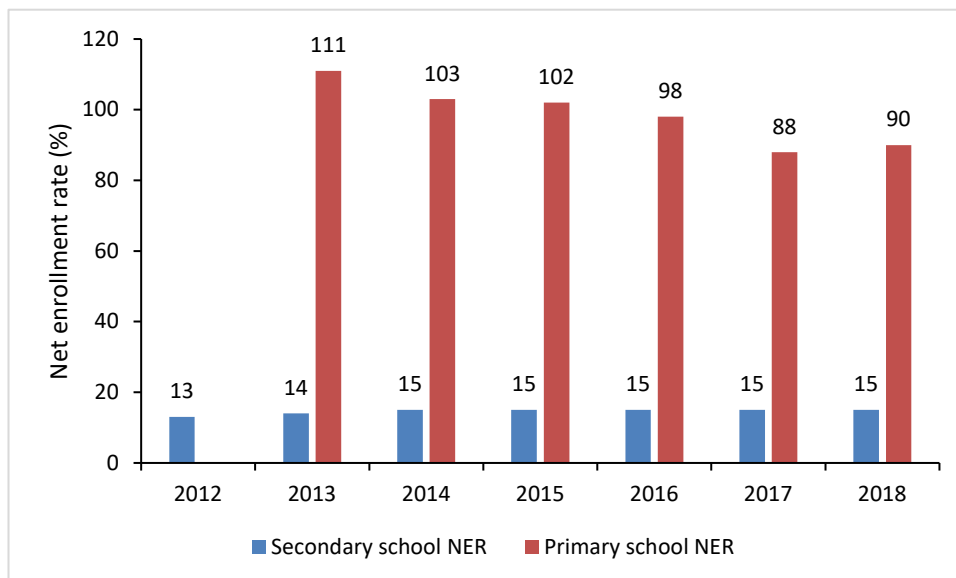
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which determines their eligibility for entry into secondary school. The Malawi School Certificate Examination (MSCE) comes after four years of secondary education.

Malawi has offered free primary education since 1994. Fees were abolished for secondary school in September 2018 (Kadzamira, Rose and Zubairi 2018; Ministry of Education Science and Technology 2019). However, no policy has been developed to guide its implementation, and current post-2018 data does not show the policy effect on enrolment rates. Despite free tuition, there are indirect costs including school uniform, transport, and school development fees, which often form a barrier to educational access particularly among children from poor households.

Malawi's education attainment is far from the targets set in its 3rd MGDS. According to the 2019 education sector performance report, net enrolment rate for primary school was 90%, with slightly more girls (92%) than boys (87%) enrolled (Ministry of Education Science and Technology 2019). As Figure 4 shows, the net enrolment rate trend has declined from 111% in 2013 to 90% in 2018. The validity of the earlier statistics (over 100% of net enrolment rate before 2016) has been questioned, with studies showing that over-age enrolment is not accounted for in computing enrolment rates (Ravishankar et al. 2016).

Figure 4: Trends in primary and secondary school net enrolment rates, Malawi 2012–2018



Data source: Ministry of Education, Science and Technology 2016; 2018

The net enrolment rate at secondary school is low, with less than 20% since 2012 for both boys and girls (Figure 4). Transition to secondary school is compounded by limited intake capacity, absorbing just over a third (37%) of all primary school leavers (Ministry of Education 2021). In addition, some may struggle to pay school fees at secondary level (which were only abolished in

2018). There are also problems with limited infrastructure and low-quality facilities at secondary schools. Although the government introduced overlapping and double shift systems in 2009 to increase secondary school intake, this policy is hardly followed, with almost all schools (98%) still running a single shift (Ministry of Education Science and Technology 2018a).

Indicators of education efficiency, including repetition, dropout, and school progression show that Malawi's education system has several challenges. Class repetition is very prevalent and has increased since 2011. Only 19% of students in Malawi proceed from grade 1 to grade 8 without repeating a year (Ravishankar et al. 2016). In 2018, more than 18% of all pupils in each grade had repeated a class, and this ranged from 33% in grade 1 to 19% in grade 8 (Ministry of Education Science and Technology 2019). Higher repetition in the 1st grade has been associated with under-age children not being motivated to study or not given automatic progression unlike the over-age children (Sunny et al. 2017). The repetition rate at secondary level is lower; about 3% of pupils of each gender had repeated a class in 2018. School dropout has declined marginally since 2011 but remains high at 10% and 9% for primary school girls and boys, respectively, in 2018. At secondary level, about 9% of boys and 13% of girls dropped out of school in 2018 (Ministry of Education Science and Technology 2018a).

High repetition and school dropout rates contribute to low progression to the last grade of primary school. In 2018, about 38% and 44% of girls and boys, respectively, progressed to the last grade in primary school, a 10 percentage point increase since 2014 (Ministry of Education Science and Technology 2018a). Consequently, school completion rate⁴ is low. Between 2014 and 2018, of the total children of graduation age, slightly more than half (52%) completed primary school, increasing to 58% in 2019 (Ministry of Education Science and Technology 2016; 2018a; 2019). Of those who completed primary school, about 38% transitioned to secondary school in 2018. Completion rates at secondary level are worse, with less than one in four of those enrolled completing secondary level in 2018. More boys than girls complete this level (26% versus 22% of boys and girls enrolled in the last grade of secondary school, respectively) (Ministry of Education Science and Technology 2019). Only about 8% of those who join secondary school transition to tertiary education, with higher enrolment among boys than girls (Ministry of Education Science and Technology 2016; 2018a).

⁴ Primary completion rate is defined as the number of new entrants (enrolments minus repeaters) in the last grade of primary education, regardless of age, divided by the population of the theoretical entrance age to the last grade of primary education

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Several reasons have been given for the high school dropout rates. Poverty, and thus inability to pay secondary school fees and other associated costs for both primary and secondary school, such as the cost of transportation, uniforms, and school supplies, play a big role in school dropout. According to the school to work transition surveys, around 57% of school dropouts left for economic reasons in 2012 and 2014 (Mussa 2016). A government report shows parental inability to pay school fees accounts for almost one third (28%) of dropouts (Ministry of Education Science and Technology 2019). Cash transfers have been used to increase enrolment among the poor, but programme evaluations show no increase in enrolment among the beneficiaries (Arias, David and Indhira 2019). Other drivers of school dropout are poor school infrastructure including limited availability of teachers and school facilities, and long distance to schools (Robertson, Cassity and Kunkwenzu 2017; Ministry of Education Science and Technology 2018a).

In addition, with late entry to school coupled with high rates of class repetition, children approach ages where boys and girls may be subject to growing pressure to contribute to household income or enter into marriage before they have completed primary school (Ravishankar et al. 2016; Sunny et al. 2017). Early marriage, particularly among girls, contributes to high school dropout rates. Malawi has among the highest rates of early marriage globally. Premarital pregnancy is highly frowned upon in Malawi and girls who get pregnant are often forced into marriage (Robertson, Cassity and Kunkwenzu 2017). The 2015 Marriage, Divorce, and Family Relations Act that set 18 years as the legal minimum age for marriage for both boys and girls was aimed at reducing early marriage. Despite the legal ban on children marriage, the practise still continues in some parts of Malawi. According to the 2016 DHS, about 13% of all women aged 25–45 were married before 15 years of age, while almost one in two (47%) were married by 18 years of age (National Statistical Office (NSO) and ICF 2017). More recent data show a slight decline of marriage before age 18 years to 43% among women aged 20-45 years (National Statistical Office 2021). The percentage of girls who dropped out of school to get married increased substantially from 8% in 2012 to 23% in 2014 (Mussa 2016).

Pregnancy is a major cause of school dropout. In 2016, about 29% of girls aged 15–19 years had begun childbearing (National Statistical Office (NSO) and ICF 2017). Malawi developed a re-admission policy for teen mothers in 1993 to promote gender equality and advancement of girl's education. However, the policy lacked clarity on readmission procedures and process, and was thus revised in 2006 to address these implementation challenges (Ministry of Education Science and Technology 2018b). Despite this, this policy has not been effectively implemented. A study in six districts in Malawi in 2014 reported that only 49% of girls dropping out of school had been readmitted. Further, even after readmission, most girls dropped out due to stigma associated with teenage pregnancy, economic constraints for the new mother, early marriages and lack of support services (Civil Society on Education 2014). In 2018, the policy was further revised to

provide guidance on implementation and improve access, retentions and completion of the education cycle for girls (Ministry of Education Science and Technology 2018b).

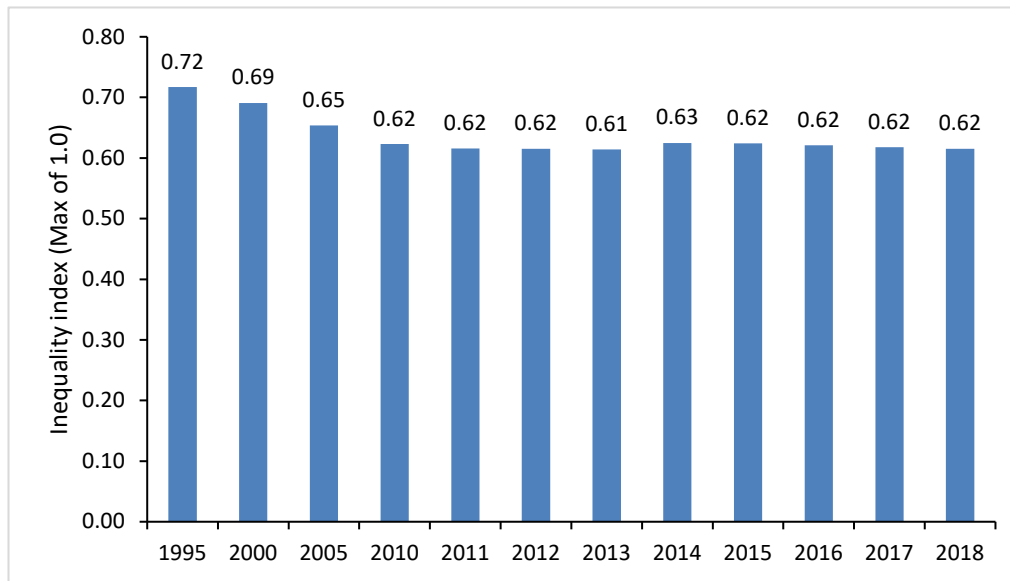
Another challenge that faces the education system in Malawi is persistently poor learning outcomes. According to the Southern and Eastern African Consortium Measuring Education Quality (SACMEQ) reports, Malawi's children perform below their expectations for their grade. Cognitive skills tests used to assess literacy and numeracy show poor learning outcomes. In 2007, none of the grade 6 pupils achieved the expected mathematics problem-solving competencies for their grade, while only 7% showed appropriate reading competency (Hungu et al. 2010). Also in 2012, only 10% of the grade 7 students surveyed demonstrated acceptable proficiency in mathematics, with 59% showing no proficiency at all (Ravishankar et al. 2016).

2.5.2 WEE in Malawi

Malawi has a very progressive constitution (from 1995) that calls for equal participation between men and women in all spheres, right to ownership of property, and elimination of customs and practices that discriminate against women. Achieving gender equality is identified as a fundamental component of Malawian development (Government of Malawi 2017). Legal frameworks have also been enacted that promote human rights, gender equality, and the rights of women including marriage, inheritance, property ownership, and civil liberties. Further, Malawi is signatory to major international conventions on gender equality, including the 1979 Convention on Elimination of All Forms of Discrimination against Women (CEDAW), the 1995 Beijing Plan of Action, the 2000 MDGs and the 2015 SDGs that call for equality and empowerment for girls and women. Enforcement of these frameworks has, however, been elusive.

As shown in Figure 5, although these efforts have brought some changes since 1995, these stagnated in 2014 when the gender inequality index (GII) jumped from 0.61 in 2013 to 0.63 (with 0 being full equality between men and women). The most recent GII was 0.62 in 2018 and the country ranked at 149 globally, implying persistent inequality between men and women (United Nations Development Programme 2020).

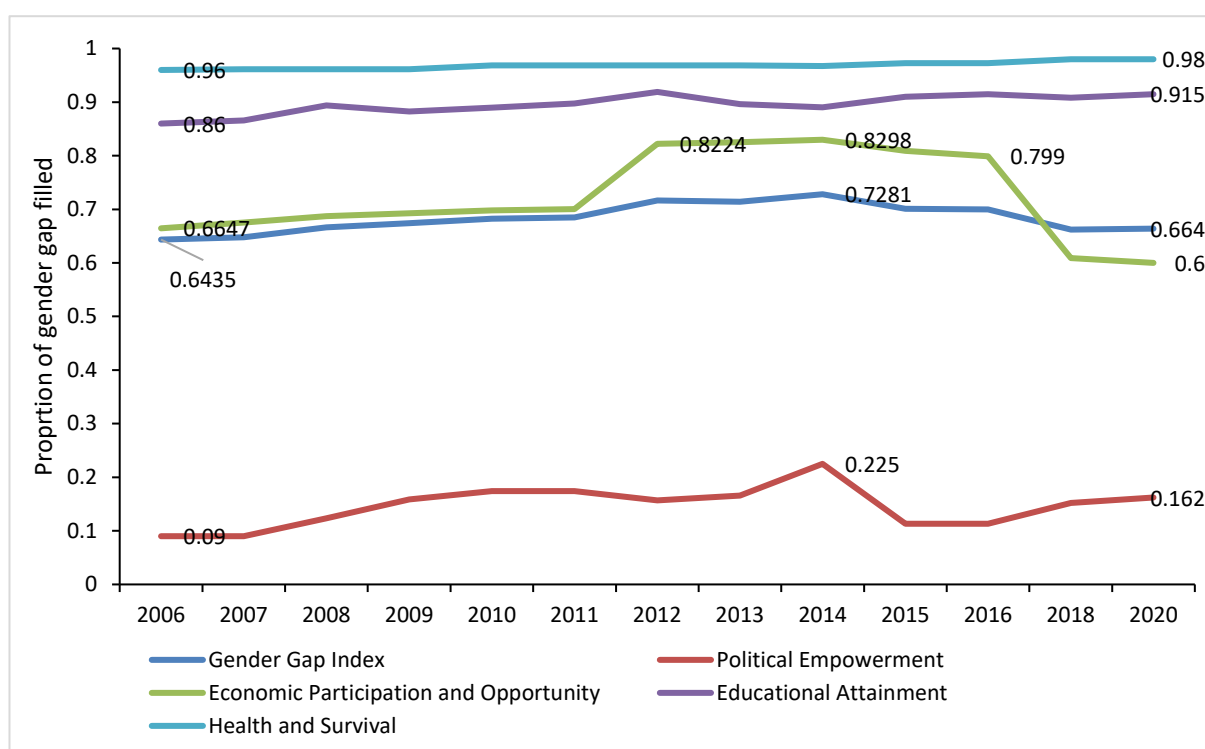
Figure 5: Trends in Gender inequality index, Malawi, 1995–18.



Data source: HDR, 2019

A review of other regional and global indices shows that the stagnation observed in 2014 could be explained by a huge and worsening gender equality gap in political and economic opportunities and participation (African Development Bank 2015; World Economic Forum 2021). According to the 2020 WEF gender gap report, women’s political empowerment score increased by 6 percentage points between 2012 and 2014, but decreased sharply thereafter, before slightly picking up in 2020 (World Economic Forum 2021). Similarly, the ‘economic participation and opportunity’ sub-index dropped from 0.83 in 2014 to 0.6 in 2020, and thus contributed most to the drop in the overall score (Figure 6). The ‘economic participation and opportunity’ sub-index includes labour participation; wage equality; and, proportion of workers that are senior officials, managers, and in professional and technical employment. Given that labour participation did not drop, the widening of the gender gap in this sub-index means that fewer women were working in senior positions. The decline in female labour participation rates has thus been attributed to loss of political and economic opportunities for women after 2014 when Malawi’s first female president Joyce Banda was voted out of office (Amundsen and Kayuni 2016; Chikapa 2016; O’Neil et al. 2016). Following ascension to presidency, Banda asserted her government’s commitment to increasing women’s representation in decision-making positions and promised “to scale up women’s economic empowerment activities” (Mbilizi 2013).

Figure 6: Trends in overall gender gap and sub-index scores, Malawi (1 represents equality), 2006–2020



Data source: WEF Global gender gap report, 2020

Challenges in enforcing regulatory and legal frameworks on gender equality have entrenched a patriarchal social order that promotes unequal gender relations with acceptance of male authority over women (Tiessen 2008; O'Neil et al. 2016). Men dominate authority structures, both in the public sector and in private corporations (Mbilizi 2013). In traditional leadership, most of the community chiefs are men. As such, women are largely marginalised, with high poverty levels, low education attainment, and low employment opportunities, thus rarely reaching their economic potential.

There is a dearth of empirical evidence on the extent of WEE in Malawi. Although several international institutions including United Nations Population Fund (UNFPA), European Union, Action Aid, CARE, International Crops Research Institute for the Semi-Arid Tropics, and Hunger Project, among others are implementing programmes focused on WEE in Malawi, documentation of impact of their projects is not publicly available. One multi-country survey (Bangladesh, India, Ghana, Malawi, Mali, and Tanzania) of mainly rural areas showed that women in Malawi had the highest overall empowerment score among these countries (0.62 out of a possible score of 1.3) with Bangladesh having the lowest score (0.29) (Njuki, Kruger and Starr 2013). Around 23% of women surveyed in Malawi were economically empowered (those who scored the cut-off point of

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80% and above of the included indicators). In comparison, less than 1% in Bangladesh and 13% in Tanzania were above the cut-off point. Although Malawi performed better in most indicators than other countries, WEE in Malawi is low. About 58% of women in Malawi reported having sole or joint control over household assets and 64% reported having either sole or joint control over household income and expenditures.

To circumvent the challenge of limited evidence on WEE in Malawi, I reviewed studies focusing on the individual WEE indicators, to show the extent of empowerment under each indicator. I use the Golla (2011) WEE framework that identified power and agency, and economic advancement, as the two interrelated components that drive WEE. Power and agency are operationalised as control over and choices in economic decision-making within the household, while economic advancement is operationalised as employment, income, entrepreneurship, and land ownership. As these components are influenced by access to resources, I include education and skills training and financial assets and services. Education attainment was already discussed in section 2.5.1.

2.5.2.1 Economic decision-making within the household

Women's involvement in decision-making within the household has improved over time. The proportion of women who had a final say on large household purchases increased from 17% in 2000 to 55% in 2015, while joint decision-making between couples increased from 11% to 47% over the same period (National Statistical Office (NSO) and ICF 2017). A high proportion of rural women in Malawi reported sole or joint decision-making on income and expenditure (household: 64%, agriculture: 56%) and assets (household: 58%, agriculture: 45%) (Njuki, Kruger and Starr 2013). However, these results have been questioned, as in joint decision-making women may be consulted, but the final decision is made by the man (Acosta et al. 2020).

The existence of dual kinship systems (matrilineal and patrilineal) in Malawi has elicited scholarly interest focusing on whether women in matrilineal households participate more in economic decisions compared to those in patrilineal households. There was more joint decision-making by husbands and wives together in matrilineal households than patrilineal where decisions were made more often by the husband alone (Meijer, 2015; Behrman, 2017).

2.5.2.2 Land ownership

Land ownership among women is typically positively associated with decision-making power within the household and control over productive resources (Kabeer 1999; Mishra and Sam 2016). In Malawi, land is the main source of subsistence for the majority of the population and the only form of wealth in most families, influencing livelihoods and food security (Kathewera-Banda et al. 2011; Jere 2013). Malawi has among the highest land ownership rates among women in SSA.

According to the 2016 DHS, about 39% of women own land alone, and an additional 19% own land jointly with their partners. These levels are similar to 41% in Comoros, which has the highest proportion of women owning land in SSA. The lowest levels of 3% were found in Senegal (National Statistical Office (NSO) and ICF 2017; ICF 2021).

2.5.2.3 Financial inclusion and asset ownership

In Malawi, only 34% of adults owned bank accounts in 2017: 30% among women and 38% among men (Demirgüç-Kunt et al. 2018). Although in 2011 slightly more women than men owned a bank account (16.9% and 16.2%, respectively), this reversed in 2014, dropping to 14% for women and increasing to 22% for men, and widened further in 2017 (23% for women and 31% for men). An analysis of the 2014 Finscope survey showed that more women than men had informal accounts (16% and 13%, respectively), including keeping money in tin banks at home and borrowing from friends and family (Fanta and Mutsonziwa 2016). The gap in account utilization was even higher (19 percentage points) in 2014; with only 18% of women having active accounts compared to 37% of men. Women are often excluded from formal financial markets, and thus they return to informal markets, which are more insecure and do not promote savings. The biggest barriers to account ownership particularly in Malawi are low educational attainment, poverty, and low social status of women, which limits their household bargaining power (Majanga 2016). Mobile financial services have been cited as key in increasing financial inclusion, particularly among women (Ouma, Odongo and Were 2017; Demirgüç-Kunt et al. 2018). In Malawi however, active mobile money subscription remains low, estimated at 23% of the total mobile subscriptions in 2017 (Ouma, Odongo and Were, 2017).

2.5.2.4 Employment and labour force participation

Malawi, like other countries in SSA, has high employment rates for both men and women. In 2018, the labour force participation rate was 73% and 82% among women and men, respectively (World Bank 2022a). Despite high employment rates, 89% of the employment is informal, and 60% of workers are in vulnerable employment (i.e. working as contributing family workers or self-employed) (National Statistical Office 2014). This includes women who work as housemaids or petty traders without access to social benefits. As Table 4 shows, women in Malawi are most likely to work informally in agriculture and to be in vulnerable employment, and less likely to be in wage employment outside agriculture.

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Table 4: Employment indicators in Malawi, 2014

Indicator	Total	Men	Women
Employment rate (% total working population)	78.6	85.7	74.3
Informal employment (% employed population)	88.7	83.8	93.6
Vulnerable employment (% employed population)	60.1	53.6	66.9
<i>Employment by occupation (% out of total employed population)</i>			
Managers and professionals	3.8	4.9	2.6
Technical and associated professionals	0.3	0.4	0.1
Service and sales workers	20.2	20.2	20.0
Skilled agricultural, forestry, and fishery	44.9	39	50.9
Craft and related trades workers	4.2	7.3	1
Plant and machine operators, and assemblers	5.2	6.3	4.1
<i>Employed persons by status in employment (% employed population)</i>			
Paid employees	38	43.8	32.1
Employers	1.1	1.5	0.8
Self-employed	53.6	48.7	58.7
Contributing family workers	7.2	6	8.4

Data source: Malawi Labour Force Survey, 2014

The review of literature revealed four main knowledge gaps: (i) limited understanding of WEE in Sub-Saharan Africa; (ii) lack of a standardised definition; (iii) lack of standard, measurable and comparable indicators; and (iv) data gaps. In Malawi specifically, women have several opportunities for decision-making within the household. However, there are no studies showing the extent of WEE, its barriers and drivers, or its associations with other key areas of development.

Chapter 3 Women's economic empowerment in sub-Saharan Africa: a cross-national analysis using DHS data⁵

Abstract

Women's economic empowerment has attracted high policy interest, and is recognized as a central, crosscutting outcome, and the cornerstone to achieving the UN's sustainable development goals. However, it lacks a standardised definition and standard, measurable, and comparable indicators; and there is a lack of data on it particularly in sub-Saharan Africa. This study examines the extent of WEE in SSA and aims to identify WEE country typologies explaining the variations and the contributing domains of WEE in each country. Using recent DHS data in 33 countries, I generated a WEE score based on the sum of nine indicators. I used PCA to derive key contributors to this score and to explore country typologies.

I demonstrate that WEE is overall low but varies markedly. It is mainly driven by educational attainment, employment, and/or land ownership among women. I identified five typologies of WEE: 1) instrumental agency driven by high educational attainment, 2) instrumental agency driven by land ownership, 3) individual economic advancement driven by high employment rates, 4) basic level economic empowerment, and 5) low-level economic empowerment. This study provides a comprehensive cross-national comparison of the average household WEE levels by country and classifies countries into typologies based on the drivers of economic empowerment. Understanding these drivers can help develop interventions for improving WEE in each set of countries.

3.1 Introduction

Women's economic empowerment in LMICs received considerable attention following the announcement of the SDGs in 2015, which call for efforts to achieve inclusive economic growth and improved lives for all by 2030. As detailed in the Introduction chapter, I focus on WEE and not

⁵ A shorter version of this chapter has been published in *Demographic Research* journal (2022: 47;15(415-452)).

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women's empowerment in general because of various reasons, which I summarise here. Although there has been progress in women's access to education and health, women lag far behind men in economic and political spheres, and this gender gap is estimated to take the longest time to close compared to other domains (World Economic Forum 2021). In addition, women have lower economic and education achievements and higher vulnerability to poverty compared to men, with sub-Saharan Africa countries showing the poorest outcomes globally (World Bank 2018b). Women also shoulder a higher burden for unpaid work.

These factors form the core of women's insubordinate status in society, leaving women dependent on male provision, or competing in the labour market on highly disadvantaged terms (Kabeer 2009). When women break free from this oppression through WEE, this not only contributes to human rights and social justice, as well as to development of human capital and human capabilities, but it increases the chances of poor families to move out of poverty, and contributes to balanced economic development (Kabeer 2009). Thus, WEE offers an entry point into broader empowerment processes, which justifies why it was singled out as the cornerstone to achieving the SDGs (United Nations 2016).

This chapter contributes to advancing knowledge on the concept, measurement, and implications of WEE, with a focus on SSA. Using Demographic and Health Survey (DHS) data, I investigate the extent of heterogeneity of WEE in SSA with a goal to derive country-specific score to show the extent of economic empowerment in SSA and to identify the domains or spheres that contribute to WEE in each country within the region. I use this information to classify countries into typologies based on the main factor(s) that explain the observed WEE. I also discuss the importance of country contexts on the measurement of WEE. Given the need to monitor country progress in improving WEE under the SDGs, it is worthwhile to identify any country groupings based on the current level of WEE so as to guide policy and programme implementation. Monitoring how countries progress with similar interventions can help identify contextual differences and thus suggest ways to tailor future interventions. Except for the Ewerling et al. (2017) study that showed country groupings based on general empowerment, no study has shown country typologies of WEE before. This is a key contribution of the present study.

As detailed in Section 1.2, SSA is chosen because the region has the highest gender inequality globally, with a gender inequality index of 0.57 compared to a global average of 0.436⁶ (United Nations Development Programme 2020). In addition, SSA exhibits the highest poverty rates globally, with the proportion of the population living below US \$1.96 being more than four

⁶ The GII varies from 0 to 1, with 0 being full equality between men and women, and 1 being full inequality.

times the global average (38.6% vs. 8.6%) (World Bank 2022a). The focus of the SDGs is to prioritise the most marginalised regions and vulnerable populations groups in the world. As such, focusing on SSA and on women in particular will be key in achieving the SDGs.

The rest of this chapter is organised into the following sections: literature review in section 3.2; research aims and questions in section 3.3; data and methods in section 3.4. The results are presented in section 3.5 and discussed in section 3.6. the study's strengths and limitations are presented in section 3.7 and concludes with policy implications in section 3.8.

3.2 Literature review

There are several pathways to economic empowerment, including quality employment, reducing unpaid work and care, access to financial assets and services, access to productive assets including land, quality education and skills training, institutional and legal reforms, control over and choices in decision-making among others (Kabeer 2011; Buvinić and O'Donnell 2016; Hunt and Samman 2016; United Nations 2016; Business for Social Responsibility 2017; Oxfam International 2017). Due to data restrictions, in this study I consider women's employment, educational attainment, land ownership, and financial inclusion and decision-making as key determinants of WEE in SSA (see section 3.4 Data and Methods for more details) and as such the literature review also focuses on these aspects of women's empowerment

3.2.1 Labour market domain

Several studies both in Africa and elsewhere have confirmed (paid) employment as important for economic empowerment (Kabeer 2011; Kabeer, Mahmud and Tasneem 2011; Doss 2013; Hanmer and Klugman 2016; Kabeer 2017; Asaolu et al. 2018; Salem, Cheong and Yount 2018; Yount, Crandall and Cheong 2018). Employment is the material dimension of empowerment, which forms the entry level to the economic empowerment process (Roxin et al. 2011). However, women joining the labour force is not gender neutral, as they are crowded into limited gender-specific segments of the labour market characterised by part-time or temporary work, informal work, and home-based small to medium enterprises.

Women in general face higher unemployment rates, work in lower-productivity sectors, and have a larger share of unpaid care work than men (Kabeer 2012). In 2018, the global female labour force participation rate (LFPR) was 49%, compared to 75% among men. As Table 5 shows, North Africa had the highest gender gap at 50 percentage points, while SSA had a gender gap of less than 10 percentage points (International Labour Organization 2018d). Recently, labour market participation among women has been on the rise. The ILO shows that the gap between the male

and female LFPR declined between 2009 and 2018, and is projected to further decline between 2018 and 2021 in all world regions except in Eastern and Southern Asia, driven mainly by a decline in the male labour force participation rate (International Labour Organization 2018d).

Table 5: Distribution of labour force participation and unemployment rates by sex

Region	Labour force participation rate (%)		Unemployment rate (%)	
	Men	Women	Men	Women
World	75.0	48.5	5.2	6.0
Developing Countries	81.1	69.3	4.6	6.1
Emerging Countries	76.1	45.6	5.2	6.1
Developed Countries	68.0	52.4	5.3	5.6
Northern Africa	71.9	21.9	9.1	19.5
Sub-Saharan Africa	74.0	64.7	6.4	8.2

Data source: ILO (2018c)

In SSA, women are very active in the economy. SSA has the highest female representation in the workforce globally, at 65%, compared to 22% in Northern Africa and 49% globally (International Labour Organization 2018d). However, women workers are concentrated in informal employment in the agricultural sector, small off-farm enterprises or contributing family workers with no or low pay and social protection, and with limited opportunities for promotion to top decision-making levels (African Development Bank 2015; International Labour Organization 2018d; World Bank 2022a). This situation is explained by economic necessity where women have little choice but to work. According to the World Bank, about 57% of women are employed in the agricultural sector, and 80% are in some form of self-employment (World Bank 2022a).

Recent studies on agricultural engagement in African countries concluded that rural households derive about two thirds of their income from on-farm agriculture compared to one third in other LMICs (Davis, Di Giuseppe and Zezza 2017). Generally, households in Africa are less engaged in wage employment, both on and off the farm, than other regions globally, with agricultural wage income contributing 5% of total income on average. Similarly, non-farm wage employment contributes about 8% of total income, compared with 21% in the rest of the world. Most off-farm income in Africa is thus derived from informal self-employment.

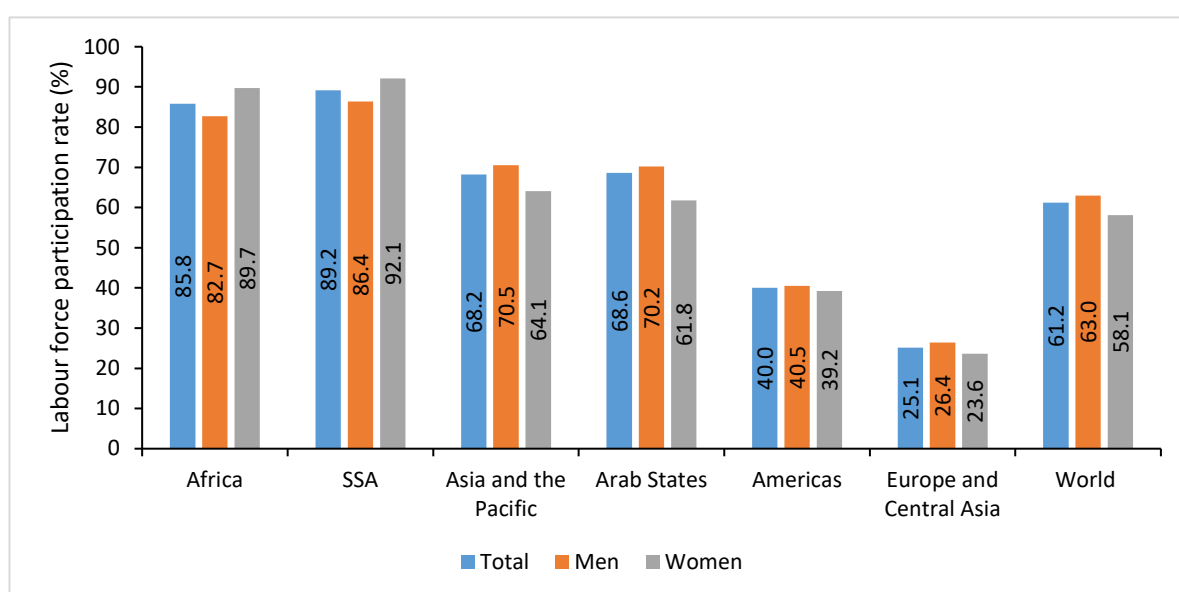
3.2.1.1 Informal and vulnerable employment

Women in many LMICs have higher representation in the informal sector than men (International Labour Organization 2018c). In addition, women who work in the informal economy are more

often found in the most vulnerable situations such as domestic workers, home-based workers, or contributing family workers.

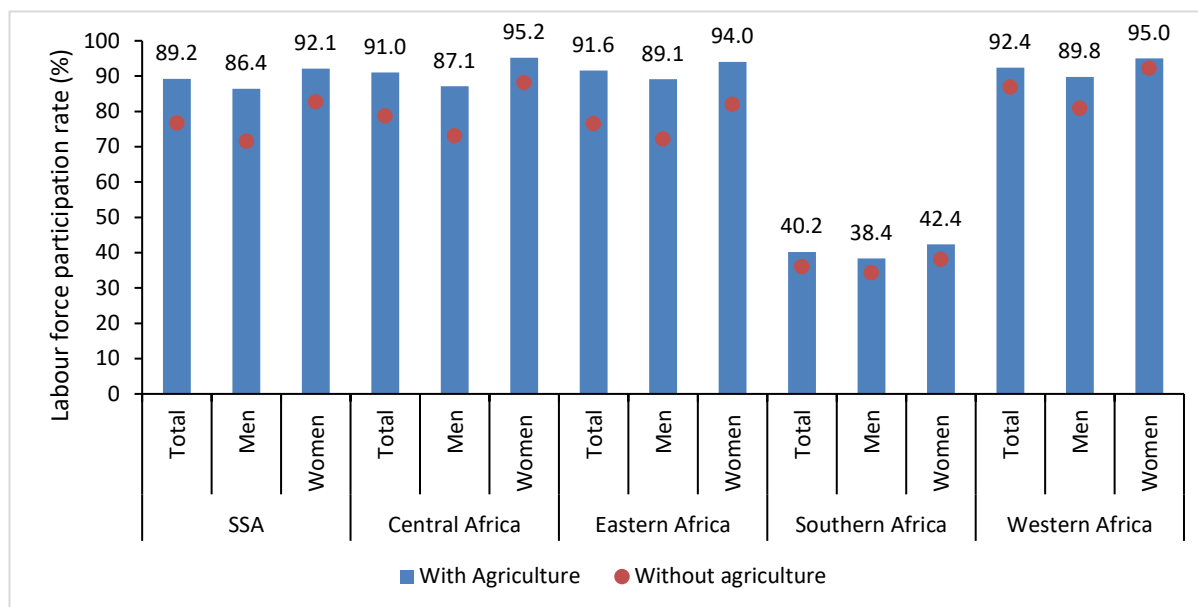
Informal employment is the main source of employment in Africa, accounting for 86%, and slightly higher in SSA at 89% (Figure 7). Southern Africa is the only African sub-region with less than half of the employed population in informal employment, at 40.2% (Figure 8). Most of this informal employment is within the agricultural sector. The ILO report shows that SSA has the highest global share of women in vulnerable employment, with 49% as self-employed while 33% are contributing family workers characterized by no or low pay and lack of social protection (Figure 9) (International Labour Organization 2018d).

Figure 7: Informal employment across global regions by sex as % of labour force participation rate in 2018



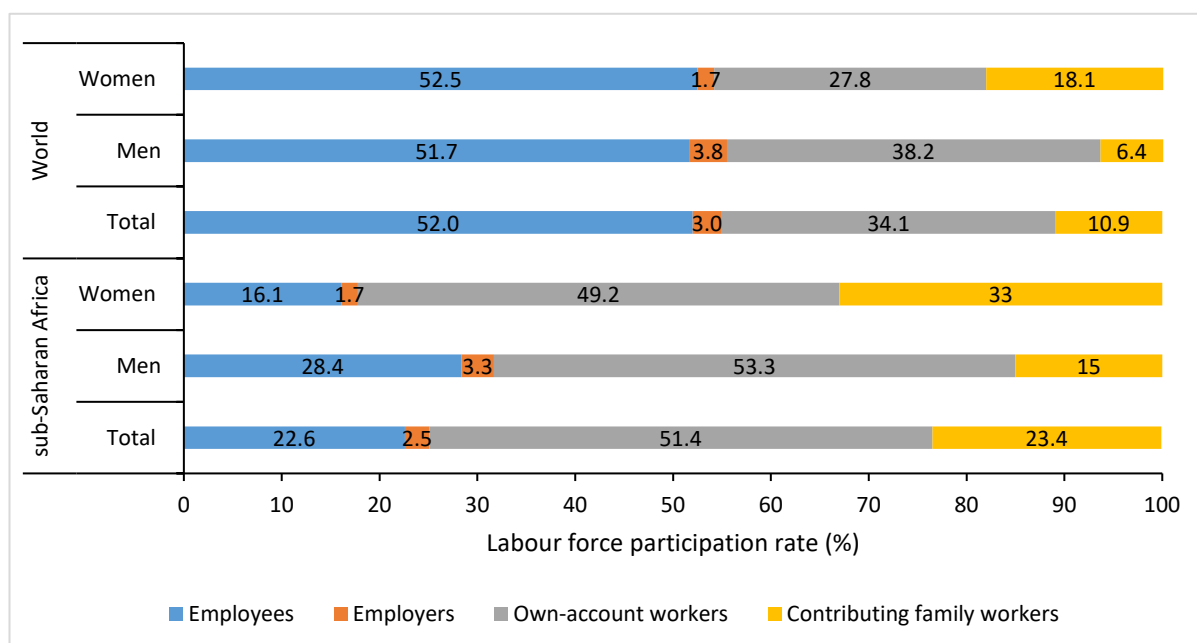
Data source: ILO (2018b)

Figure 8: Informal employment by sub-regions in sub-Saharan Africa, 2018



Source: ILO (2018b)

Figure 9: Composition of informal employment by categories of status in employment, 2018



Data source: ILO (2018b)

The sheer size of the informal economy and the overrepresentation of women in this sector has been identified as a main barrier to women moving into more productive sectors of the economy (Peters et al. 2016). The fact that most women in Africa are engaged in agriculture, and that almost all the agricultural employment is classified under informal activities, explains the high representation of women in the informal sector in SSA and, by extension, the situation of high

poverty and disempowerment among women in SSA despite high female labour force participation rates.

Despite this, the earned income may increase women's sense of self-worth and their ability to make strategic life choices. Small-scale enterprises have contributed to improved household welfare including food security and reduction in household economic vulnerability. Women's employment has also been shown to increase their participation in household financial decisions in SSA (Boateng et al. 2014; Wayack-Pambè, Gnoumou Thiombiano and Kabore 2014; Voronca, Walker and Egede 2018; Guvuriro and Booysen 2019; Soetan and Obiyan 2019).

3.2.2 Education and skills development

Inadequate access to education is one of the most critical dimensions of inequality in opportunities. People with higher levels of education tend to have better job prospects and income (OECD 2012; Totouom, Mboutchouang and Kaffo 2018). In Cameroon, for instance, better education resulted in higher participation of women in the labour market, particularly in the private and formal public sectors (Totouom, Mboutchouang and Kaffo 2018). In several other African countries, those with secondary and higher education had higher wage returns than those with primary education, and these returns were higher among women than men (Schultz 2004). In South Africa, there were higher returns to years of schooling among young women than men, with a significantly higher difference between older informally employed women than men (Dorrit and Daniela 2014).

Poor educational attainment and lack of necessary skills among women places them at a disadvantage when finding jobs in the formal economy, thus pushing them to work in low-productivity and often in the informal sector. The International Labour Organisation reports show that level of education is closely linked to informality in Africa, with 94% of people without formal education being informally employed compared to 27% with tertiary education (International Labour Organization 2018c). The educational attainment gap is also closely related to the pay gap.

Although most countries in SSA have made progress in educational attainment, it is only at universal basic levels, with a low proportion attaining secondary and higher education (Barro and Lee 2013; Arias, David and Indhira 2019). Only one in 5 women completed upper secondary education in SSA in 2020, with wide regional variations from almost none (2%) in Niger to 66% in Botswana. The corresponding figures for men are 22% on average and ranges from 4% in Niger to 67% in Nigeria (UNESCO Institute for Statistics 2021). In 2018, on average, only about 7.8% of women were enrolled in tertiary institutions compared to 10.4% among men in SSA (UNESCO Institute for Statistics 2021).

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Education, particularly secondary and higher education, can transform women's lives by not only enabling access to formal employment, but also by positive effects on attitudes, increased awareness of women's rights leading to questioning of patriarchal social norms, decision-making power, and leadership roles. Although primary school education provides a solid foundation for human capital, it is unlikely to address structural inequalities between men and women; thus the greatest pay-off for women's empowerment is associated with post-primary education for girls (Kabeer 2011; Aslam 2013; Doss 2013; Hanmer and Klugman 2016; Hunt and Samman 2016; Khatri 2016).

3.2.3 Land ownership

For women to participate productively in the economy, they need control over and access to economic resources such as production assets (land), property, bank accounts, and mobile phones. Land is the main source of subsistence for most in SSA and the only form of wealth for many families. It is a symbol of status and constitutes a base for social and cultural identity and belonging (Kathewera-Banda et al. 2011). Land is a key asset for economic growth and development and lack of access to land is identified as a key barrier to WEE (United Nations 2016). Increasing ownership of land among women is associated with increased decision-making power within the household and control over productive resources, and helps women and their households from declining into poverty (Kabeer 1999; Food and Agriculture Organization 2002; Kabeer 2009; Mishra and Sam 2016).

There are significant gender disparities in land ownership, with women owning less land than men. This is because of restrictive legal frameworks, traditional social norms, and inheritance practices that disadvantage land ownership among women (Akinola 2018). Even in countries that have enacted legal frameworks that support women's property rights, sometimes norms and cultural practices override these (Bayisenge, Höjer and Espling 2015). Laws and/or societal norms thus interact in ways that can lead to a vicious cycle of weak access to property and productive resources (Milazzo and Goldstein 2017). For example, Rwanda formalised individual land tenure on a wide scale, recognising joint ownership for legally married couples. However, recent studies found unequally shared decision-making and prioritisation of social norms over the rule of law due to patriarchal attitudes and thus women still have to consult their husbands on land use (Bayisenge, Höjer and Espling 2015; Abbott, Mugisha and Sapsford 2018).

The proportion of women who do not own land in SSA ranges from 42% in Comoros and Malawi to 96% in Senegal (ICF 2021). A review of nationally or regionally representative studies and surveys showed that in one survey women accounted for an average of 22% of agricultural landholders in SSA (with a range from 3% in Mali to 51% in Cape Verde). In another survey, the

proportion of total household land solely owned by women was 31% in Malawi, 16% in Uganda, 15% in Tanzania, 8% in Niger, and 3% in Nigeria. Comparatively, land solely owned by men comprises, on average, 21.8 times the area of land solely owned by women in Nigeria, and between 1.1 and 6.9 times the area of land solely owned by women in the other four countries (Doss et al. 2015).

Constraints on land ownership and lack of access to agricultural inputs by women are key obstacles to increasing agricultural productivity and economic growth, and subsequently they increase women's vulnerability to poverty (Wekwete 2014; United Nations 2016). The Food and Agricultural Organization (FAO) estimates that giving women the same access as men to agricultural resources could increase production on women's farms in LMICs by 20–30%, raising total agricultural production by 2.5–4%, thus reducing the number of hungry people in the world by 12–17% (Food and Agriculture Organization 2011). A recent World Bank study in Africa showed that women who owned land had a higher farm labour input into crop production, compared to non-landowning women working in the agricultural sector (Palacios-Lopez, Christiaensen and Kilic 2017), partly because having ownership rights incentivises women to manage the land more sustainably and to adopt sustainable farming techniques (Doss et al. 2015).

3.2.4 Access to financial assets

Financial inclusion entails access to bank accounts and mobile money services, credit, savings, and insurance, whether formally from an institution or informally from friends and family, and active and effective use of these services to meet their needs. Financial services are important for economic empowerment as they can help improve people's income earning potential through entrepreneurship and providing an incentive to work and thus reduce poverty. In addition, financial inclusion facilitates greater control of one's earnings and savings, may increase bargaining power within the household, may change household consumption, and can be associated with better child health and education outcomes (Fanta and Mutsonziwa 2016; Hendriks 2019).

More women than men are excluded in financial access, including use of mobile money which has been very popular in SSA in the last decade (Hunt and Samman 2016). Partly owing to their weak property rights, women have limited access to financial products and credit. Account ownership for both institutional and mobile accounts averaged 43% in SSA and ranged from 9% in South Sudan and 14% in Central African Republic to a high of 82% in Kenya. About 36.9% of women own formal accounts, compared to 48.4% of men in SSA. This gap has widened since 2011, when 26% of men and 21% of women owned accounts (World Bank 2022a). The gender gap also varied also widely, from none in Southern African countries (Namibia, South Africa, and Lesotho) to above

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15% among countries in West and Central Africa (Demirgüç-Kunt et al. 2018). For the eight countries where more than 20% of the adult population owned mobile money accounts only, there was no gender gap except in Tanzania and Burkina Faso.

Although poverty is the main reason for women not owning bank accounts, gender discriminatory laws restrict women's access to formal financial services. According to the World Bank, in 7 countries in SSA, women had at least one law blocking them from opening bank accounts the same way as men (World Bank 2022b). Other barriers include lack of an identity document (ID) to prove identity, insufficient traditionally required collateral, mobility constraints, and limited financial literacy. Addressing these barriers will help improve financial inclusion for women and close the gender gap.

Although the factors identified above constitute pathways to economic empowerment, economic resources on their own do not constitute economic empowerment (Brody and Esplen 2007). Kabeer (2009) argues that it is possible to increase women's access to land, jobs, credit, and education and still do nothing to challenge their subordinate status within the home. This is because markets tend to reproduce deep-seated inequalities, rewarding the powerful and penalising the weak. This calls for substantive expansion of women's agency.

3.2.5 Decision-making

Financial decision-making at the household level is a key indicator of women's economic empowerment. Decision-making power can influence decisions about the distribution of authority, rights, and resources, whether in the household, community, or high-level public positions (Doss 2013; Kagotho and Vaughn 2018). Participation in decision-making increases women's bargaining power. The fifth SDG calls for 'equal opportunities for leadership at all levels of decision-making in political, economic and public life' (United Nations 2015). Increasingly, studies on WEE highlight decision-making on economic resources and women's agency as key components (Malhotra, Schuler and Boender 2002; Hanmer and Klugman 2016; Donald et al. 2017; Richardson 2018).

Existing literature on women's decision-making in SSA mostly focus on bargaining power as an indicator of economic empowerment. It has been linked with improved household outcomes such as consumption, agricultural production, labour allocation, and children's health and education (Doss 2013; Sell and Minot 2018; Kponou 2020).

Other studies focus on factors that increase women's participation in economic/financial decision-making within the household. In Kenya and Ghana, women from wealthier families were more likely to be involved in decision-making within the household than those from poor households

(Boateng et al. 2014; Voronca, Walker and Egede 2018). In Burkina Faso, women with more education, those who worked for pay, and those from the wealthiest households were more likely to be involved in decisions on household purchases and health (Wayack-Pambè, Gnomou Thiombiano and Kabore 2014). In South Africa, being economically active increased the potential of financial decision-making by 20%, and being employed increased the likelihood of being the main rather than joint financial decision-maker by 25% (Guvuriro and Booyesen 2019). Thus, economic empowerment of women, whether through education or employment, likely increases their economic bargaining power in the household.

3.2.6 Cultural expectations and norms

Socio-cultural contexts anchored in beliefs, norms, practices, and societal expectations on women constitute important challenges for women's economic empowerment in SSA (Peters et al. 2016; United Nations 2016; Business for Social Responsibility 2017; Peters et al. 2019). Formal and informal (customary) laws, social norms, and traditions infringe on women's rights by restricting or excluding them from societal and economic opportunities, dictating the types of jobs that are 'acceptable', placing heavier responsibility for care work on them, and restricting access to land, credit, and other resources (Business for Social Responsibility 2017). In Western African countries, discrimination impeded women's access to land assets and restricted decision-making power, thus holding back their education and economic empowerment (Nejma et al. 2018).

Socio-cultural expectations limit women's time in education and employment, and influence education and employment opportunity choices, thus affecting both their access to economic opportunities and their experiences in workplaces (OECD 2021). Kabeer (2012) observed that these norms, values, and practices at the family/kinship level have been formalised in discriminatory social institutions, limiting women's voice in society and their influence over policies. Public institutions reflect and reproduce preconceived notions of masculinity and femininity in their routine rules, procedures, and practises. Many countries have statutory laws that explicitly discriminate against women, thus limiting their participation in wage employment or business set-up, for instance, women needing their husbands' permission to start a business, or existence of different rights between men and women to access and control land and other property (World Bank 2022b). According to a recent report, barriers in financial, educational, and legal spheres have kept women in SSA economically dependent on men (Hunt and Samman 2016; OECD 2021).

Although these barriers are widespread across the region, they do not affect all women equally. Poor and rural women, and those from marginalized tribal or ethnic groups, struggle the most (Business for Social Responsibility 2017). The country context including legal, social, and cultural

norms influence women's participation in education, employment, decision-making, and leadership roles. Consequently, women in countries with restrictive socio-cultural contexts have lower economic empowerment than women in countries with better access to education, employment, and in turn a more powerful social position.

3.3 Aims and research questions

There is limited research and data on WEE in SSA. In this study, I measure WEE using indicators on economic decision-making, and access and control of strategic resources. One limitation with this approach is that it excludes indicators of views on societal norms on women's work participation and gender work segregation (intrinsic economic agency) which are not collected in DHSs. Nevertheless, in the absence of more suitable comparable data from a wide range of African countries, the DHS holds considerable value in exposing systematic patterns on WEE across countries given its cross-country comparability and wide reach in the region (Hanmer and Klugman 2016).

In this study, I thus sought to answer the following research questions:

1. What is the extent of WEE (when measured as a multi-indicator score) in SSA countries?
2. Which domains contribute to WEE in each country?
3. How can countries be classified into typologies based on the main 'drivers' of WEE?

3.4 Data and methods

3.4.1 Data

I used nationally representative data from the DHS within SSA. The primary respondents of DHS are women of reproductive ages (15–49 years). For this study, I included all SSA countries with a DHS survey since 2010. For countries with multiple surveys post 2010, I used the most recent one. I only used post-2010 surveys to capture countries that used the two most recent DHS questionnaire revisions (phase 6 and 7) to ensure comparability of data. The University of Southampton Ethics Review Committee granted ethical approval for the study. In addition, I sought permission from the DHS programme to use the datasets for all SSA countries.

Of the 48 SSA countries, 43 have ever conducted a DHS, of which 34 took place in 2010 or later. Equatorial Guinea was excluded from the analysis because its data are not publicly available, thus 33 countries were included (Table 6). To explore economic empowerment, I used the women's empowerment module of DHS. As it is implemented only among women in a union (married or cohabiting), I had to restrict my sample to women with a partner only. The module has questions

on women's participation in household decision-making, autonomy in use of earnings, ownership of houses and land, and attitudes towards domestic violence. The analytic sample averaged 8,902 women per country but ranged from 2,841 in South Africa to 27,250 in Nigeria. South Africa's sample was small because only 33% of the survey sample of 8,514 were in union (Table 6). In Kenya, the empowerment module was implemented among only a sub-sample of partnered women (47%, N=19,036), and thus the analysis was limited to this sub-sample.

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Table 6: Sub-Saharan African countries included in the analysis of this study, year of survey, sample size and % of eligible female population

Country	Year of Survey	Survey Sample Size	% Married
Angola	2015/6	14,379	55.9
Benin	2017/8	15,928	70.1
Burkina Faso	2010	17,087	78.4
Burundi	2016/7	17,269	55.4
Cameroon	2011	15,426	63.6
Chad	2014/5	17,719	75.8
Comoros	2012	5,329	61.8
Congo Brazzaville	2011/2	10,819	62.4
Cote d'Ivoire	2011/2	10,060	64.1
Democratic Republic of Congo	2013/4	18,827	66.1
Ethiopia	2016/7	15,683	62.6
Gabon	2012	8,422	56.4
Gambia	2013	10,233	67.5
Ghana	2014	9,396	58.1
Guinea	2012	9,142	74.2
Kenya	2014	31,079	61.3
Lesotho	2014	6,621	54.5
Liberia	2013	9,239	63.6
Malawi	2015/6	24,562	64.9
Mali	2012/3	10,424	83.8
Mozambique	2011	13,745	65.2
Namibia	2013	10,018	38.0
Niger	2012	11,160	85.2
Nigeria	2013	38,948	70.0
Rwanda	2014	13,497	51.0
Senegal	2017	16,787	67.9
Sierra Leone	2013	16,658	64.6
South Africa	2016	8,514	33.4
Tanzania	2015/6	13,266	61.7
Togo	2013/4	9,480	67.1
Uganda	2016	18,506	61.5
Zambia	2013/4	16,411	58.8
Zimbabwe	2015	9,955	60.4

Data source: Author's calculations, DHS

Generally, women included in the analytic sample were older (on average 30 years compared to 26 years among those excluded), had more children, and were more likely to be employed than those excluded from the sample. However, they were less educated (4.5 years of education compared to 6.8 years among excluded sample). Two countries did not follow this general picture: in Ethiopia, women in the analytic sample were significantly less likely to be employed, while in South Africa, there was no significant difference in education between the two groups (for details, see Appendix A).

3.4.2 Variables and measurement

The primary outcome was women's economic empowerment. I used indicators similar to previous studies to measure WEE (see Table 7): labour market outcomes (employment status, income), access to resources (education, financial, land ownership), and economic decision-making (who makes decisions about using woman's and her husband's income, household expenditure on large household items) (Buvinic 2017; Salem, Cheong and Yount 2018; Yount, Crandall and Cheong 2018). Employment and income operationalise economic advancement while use of income and making decisions on expenditure on household items operationalised agency at the household according to the WEE framework of Golla *et al* (2011). Educational attainment and land ownership are strategic resources that drive both economic advancement and agency.

Each woman's score was a sum of nine indicators based on eight individual questions with various response categories (see Table 7). A similar summation method to create empowerment scores has been used in previous studies (Bogale *et al.* 2011; Jennings *et al.* 2014; Shimamoto and Gipson 2015; Phan 2016). I did not include indicators on gender norms that hold back women's economic opportunities as such data were not collected in the DHS. I also excluded financial exclusion because data was only available for six countries.

Table 7: Economic empowerment variables, measurement, and coding of this study

Variable	DHS Question	DHS response categories
Education and Literacy	a) What is the highest level of school you attended?	No education Primary Secondary Higher
	b) Now I would like you to read this sentence to me.	Cannot read at all Able to read only parts of sentence <i>Able to read whole sentence</i> No card with required language Blind/visually impaired
Working Status	Have you done any work in the last seven days, do you have any job or business from which you were absent for leave, have you done any work in the last 12 months?	No <i>In the past year</i> <i>Currently working</i> <i>Have a job, but on leave last 7 days</i>
Type of earnings	Are you paid in cash or kind for this work or are you not paid at all?	Not paid <i>Cash only</i> <i>Cash and in-kind</i> <i>In-kind only</i>
Decision on respondent's earnings	Who usually decides how the money you earn will be used?	<i>Respondent alone</i> <i>Respondent and husband/partner</i> Husband/partner alone Someone else
Decision on partner's earnings	Who usually decides how your (husband's/partner's) earnings will be used?	<i>Respondent alone</i> <i>Respondent and husband/partner</i> Husband/partner alone Other Husband/partner has no earnings
Woman's income relative to partner	Would you say that the money you earn is more than what your partner earns, less, or about the same?	<i>More than him</i> Less than him <i>About the same</i> Husband/partner doesn't bring in money Don't know
Sole breadwinner	Would you say that the money you earn is more than what your partner earns, less, or about the same?	More than him Less than him About the same <i>Husband/partner doesn't bring in money</i> Don't know
Decision on large household purchases	Who usually makes decisions about making major household purchases?	<i>Respondent alone</i> <i>Respondent and husband/partner</i> Husband/partner alone Someone else
Land ownership	Do you own any agricultural or non-agricultural land either alone or jointly with someone else?	Does not own <i>Alone only</i> Jointly only <i>Both alone and jointly</i>

Note: Categories in italics were coded as empowered

Source: DHS Questionnaire

Based on the response to each question, each item was scored 0 (not empowered) or 1 (empowered). WEE scores thus ranged from 0 to 9, with 9 representing the most empowered women. Women who had secondary or higher education and could read fluently, were currently working or had worked in the previous year, and earned cash or both cash and in-kind payments were coded as economically empowered. Similarly, women who made decisions alone or jointly

with their partners on use of their own earnings, their partners' earnings, and on large household purchases were coded as economically empowered. Women who earned more than or as much as their partners were also considered empowered. Women who owned land on their own or both alone and jointly with their partner were considered economically empowered (Table 7). This is because, although women could be land co-owners through marriage, they could not use the land, for example as collateral to access credit or mechanize it for agricultural production, without involving their husbands. I chose land ownership (rather than e.g., house ownership) as an indicator for WEE because it can be used as a proxy for access to agricultural production resources (Doss et al. 2015).

Finally, to capture women who are sole breadwinners, I isolated the women who earned cash or both cash and in-kind payment, and whose partners were not employed and not earning an income (thus the woman was the sole household earner). This implies that the woman's income is vital to the economic survival and wellbeing of the household and was included as an indicator of WEE.

These nine indicators enable measuring WEE as an aggregate, taking into consideration access to assets, resources and women's capabilities, factors that are key for expanding WEE. Thus, in the absence of a more suitable longitudinal data or data with more WEE indicators, use of the DHS advances the knowledge on WEE. However, I acknowledge that WEE is a complex construct that should be measured as a process using also longitudinal quantitative data as well as qualitative data, representing women's own voice to describe WEE based on their context and lived experiences. Undertaking a qualitative study or analysing qualitative data would have yielded more depth on extent of WEE in the region, by including women's perceptions on their empowerment, measuring men's attitudes and behaviours towards WEE, and explaining the quantitative results. There is therefore need for qualitative studies, focusing on WEE variables that are rarely included in quantitative surveys.

3.4.3 Analytical strategy

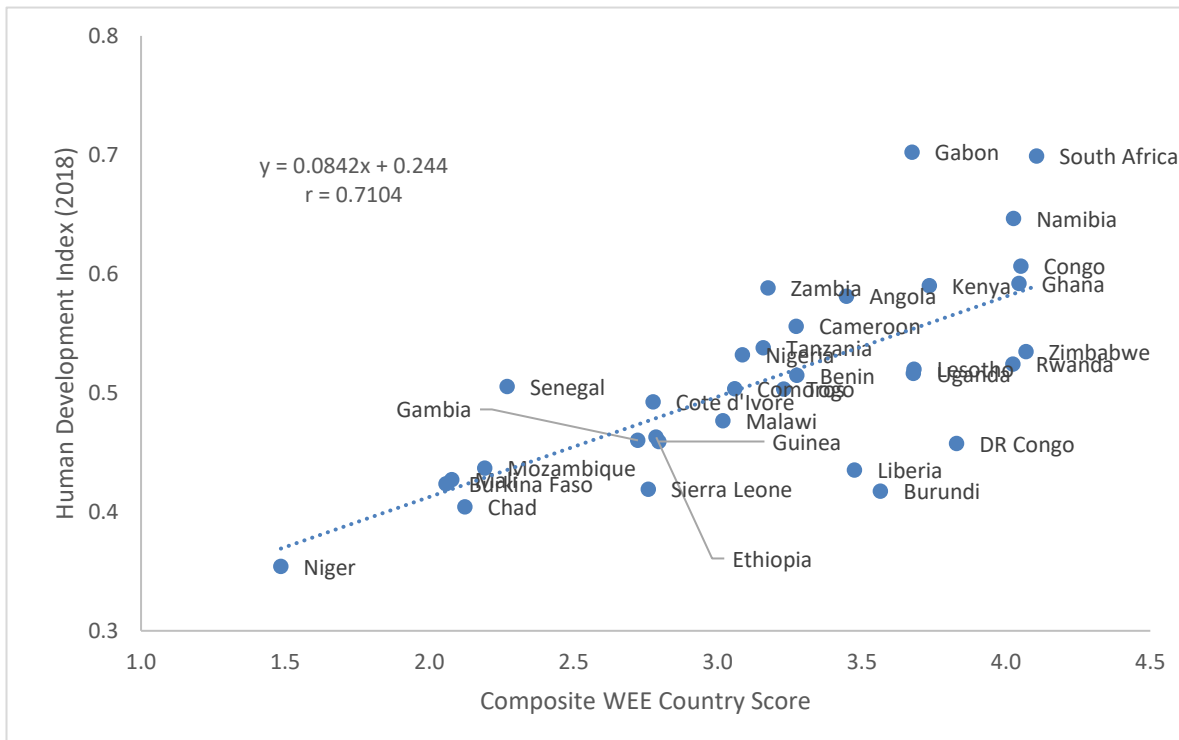
I first describe the percentage distribution of each economic empowerment item by country. The proportion of empowered women in each variable per country was computed by dividing the number of empowered women by the number of women in the analytic sample per country. Then, I show average WEE scores per country. All results were weighted using survey sample weights provided by the DHS. These data were analysed using STATA 17 (Stata Corporation, College Station, TX).

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To examine its generalizability (external validity), I correlated the country composite WEE score with two indices: the human development index (HDI) and the gender inequality index (GII) developed by the United Nations Development Program (UNDP). The HDI is a country-level summary measure of human development achievements and living standards using indicators from three key areas: health, education, and national income (United Nations Development Programme 2020). GII shows gender gaps in key areas of human development including reproductive health, empowerment, and employment. Employment and education level are common indicators in both the WEE score and GII.

The correlations between the WEE score and HDI were high and positive ($r=0.71$), thus countries with high HDI were more likely to have a high WEE score (Figure 10). This is expected, as countries with high human development have higher educational achievement among both men and women, which is one of the indicators used for measuring WEE. However, there are several outliers. Democratic Republic of Congo (DRC) and Burundi have lower HDI than countries with similar WEE. Also, Senegal has higher HDI than countries with a similar economic empowerment score. This could be partly because employment rates are important for the WEE score, and thus countries with low employment levels might score lower, even those with a high human development index.

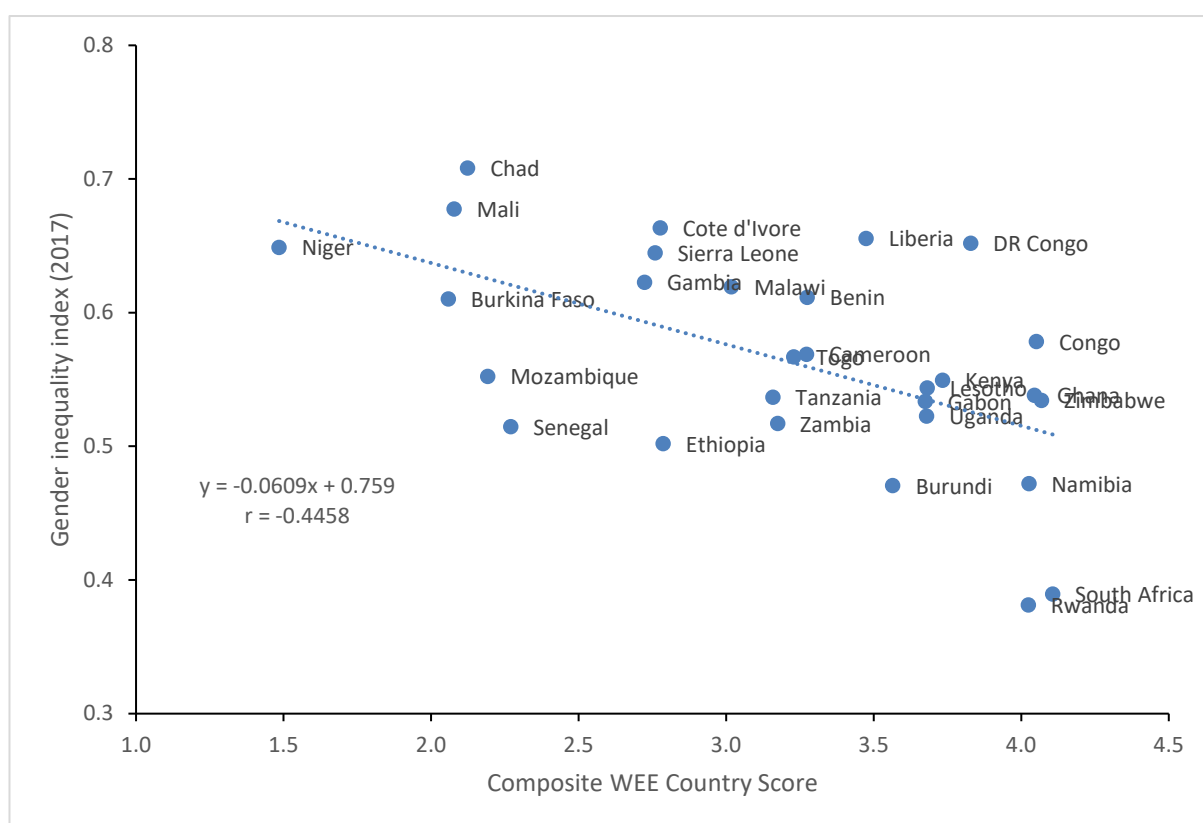
Figure 10: Correlation between human development index and women’s economic empowerment score



Data source: Author’s calculations

The WEE score was moderately but negatively correlated with GII ($r=-0.44$) (Figure 11). High levels of GII indicate that women do not have similar opportunities as men in employment, education, and public representation. As Figure 11 shows, countries with higher gender inequality including Chad, Mali and Niger scored low on WEE, while Zimbabwe and Ghana with low gender inequality scored high on WEE. Some countries, however, do not show this pattern. For example, Democratic Republic of Congo and Congo Brazzaville had high gender inequality and also a high WEE score.

Figure 11: Correlation between women's economic empowerment score and gender inequality index



Data source: Author's calculations

The correlations with both the UNDP HDI and the GII imply that the derived WEE score is robust and thus provides a reliable measure of the extent of economic empowerment among women at the household level.

3.4.3.1 Principal Component Analysis

I used principal component analysis (PCA) to examine the key contributors to the composite WEE score and to explore country typologies (clusters) of WEE based on the identified components. PCA is a statistical procedure for dimension reduction and clustering visualization. It seeks a linear combination of variables such that the maximum variance is extracted from the variable (Jolliffe 2002). The first principal component accounts for as much of the variability within the data as possible, while the succeeding components explain as much as possible of the remaining variability. PCA has been used in previous studies to derive a women's empowerment score (Phan 2016; Ewerling et al. 2017). Although cross-country comparability of the scores derived from PCA loadings has been questioned (Richardson 2018), studies have confirmed cross-national measurement invariance of most of the indicators used in the analysis including employment, education, economic decision-making, and land ownership in SSA countries, using both exploratory and confirmatory factor analysis (Asaolu et al. 2018; Miedema et al. 2018). I used the proportion of women considered as empowered under each variable for each country as input data for PCA. Four countries (Angola, Cameroon, Liberia, and South Africa) had missing data on land ownership, and thus were dropped from PCA analysis. Therefore, the total number of countries included in PCA analysis was 29. Because of the small proportion of women identified as sole breadwinners, this item was dropped and thus eight empowerment items were included in the PCA.

I plotted the retained PCA components against each other to identify the distribution of countries in each of these plots, and thus identify clusters of countries with similar factors driving the observed WEE score.

3.4.3.2 Sensitivity analysis

For sensitivity analysis, I varied the number of indicators included in the measurement of WEE to examine whether the combination of indicators used markedly changed the country WEE scores. For instance, the high levels of labour force participation observed in many countries may not mean economic empowerment because of low quality of jobs or economic activities women engage in. Thus, I computed WEE without including this variable. In addition, I computed WEE without the variable on land ownership because some of the countries in the analytical sample did not include these data. In both instances, there were no major difference in country rankings: the first two and last four countries remained the same. Fluctuations in ranking were observed for countries with high employment rates (Rwanda and Burundi) and high land ownership levels (Malawi and Comoros, whose ranking dropped by six positions when land was not included in the score). Four countries with missing data on land ownership (Angola, Cameroon, Liberia, and South

Africa) did not change their rankings depending on whether land ownership was included or not in operationalising WEE.

Moreover, I compared the 5-year age group distribution across all countries included to identify potential differences that would influence the WEE score. The distributions were robust as they did not show any considerable age skewness that would affect the computed WEE scores.

For sensitivity analysis of included indicators, I compared the PCA results with and without sole breadwinner indicator, and there were no major differences. For sensitivity analysis of identified clusters, I conducted a K-means cluster method analysis to confirm, whether its result aligned with mine (results reported below in section 3.5.3). K-means is a partition clustering method that breaks the observations into a number of disjointed or non-overlapping groups where each data point belongs to only one group (Jin and Han 2010; Makles 2012).

3.5 Results

3.5.1 Country variations in the components of WEE score

In most countries, the majority of the women were employed (Table 8). The highest proportions were observed in Rwanda and Burundi (94%). There were countries that defied this pattern. For example, less than one third of women were in employment in Niger (29%). Southern African countries generally had low employment levels. Despite being in employment, many women were not remunerated in cash (on average, 49% were paid in cash even though 70% were employed).

Women's participation in decision-making was high in most countries, particularly participation in decisions on large household purchases. On average, 53% of women participated in decisions on household purchases, which is the second highest contributor to WEE among the variables considered. Slightly more than two fifths of women decided on use of their own (43%) or husband's (42%) earnings. Notably, in Eastern and Southern Africa, more women had a say on the use of husbands' earnings than their own, which could be due to fewer women having their own earnings. The attainment rates of post-primary education among women were generally low. As Table 8 shows, only seven countries, all middle-income level, had more than 50% of the women attaining secondary or higher education. On average, less than one in every three women had achieved secondary education.

Women scored low on the other three empowerment items: earning more than their husbands, as sole breadwinners, and landowners. On average, less than 10% of women earned more than their husbands, although it ranged from 3% in Niger and Burkina Faso to 21% in Rwanda. Sole female breadwinners were almost non-existent in the sample (0.9% on average), with Lesotho

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showing the highest percentage (7.3%). Although land ownership among women was very low in almost all the countries, two countries (Malawi and Comoros) stood out as exceptions, with about half the women owning land.

From these results, I can conclude that labour market participation is the largest contributor to the aggregate WEE in the majority of the countries, as most women were engaged in some form of employment. WEE is also driven by participation in household purchases and earning cash, as about half or more of the women were considered empowered under these variables.

Table 8: Weighted percentage of women coded as empowered under various indicators

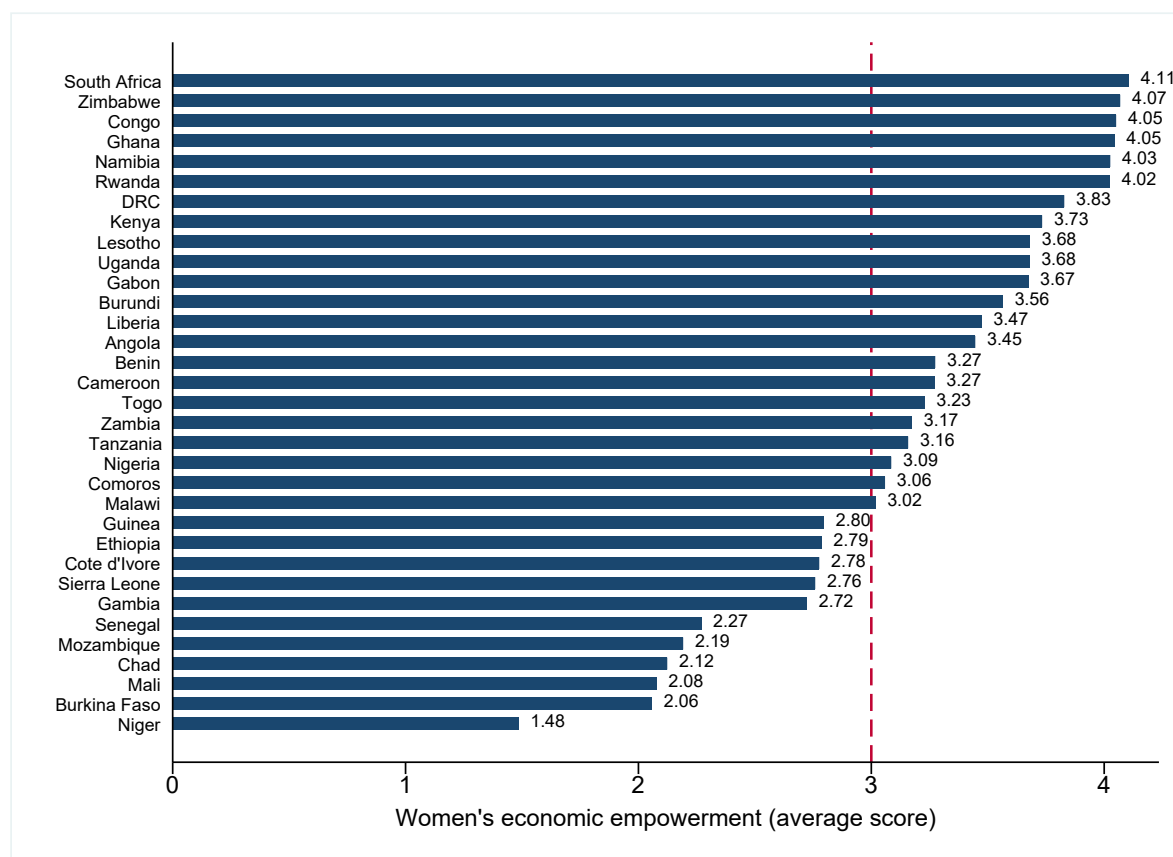
Country	Survey year	Secondary and higher Education	Employed	Earns cash	Decides on use of own cash	Decides on use of husband's cash	Earns more than husband	Sole earner	Decides on household purchases	Owens land solely
Angola	2015/6	26.0	74.7	50.4	41.3	58.0	11.1	2.2	80.9	-
Benin	2017/8	13.4	84.4	71.4	65.7	25.9	10.6	0.8	47.2	8.2
Burkina Faso	2010	6.9	81.5	38.0	35.3	7.0	2.7	0.2	20.0	14.2
Burundi	2016/7	10.9	93.5	43.5	38.1	63.7	10.5	0.5	69.3	26.4
Cameroon	2011	35.2	75.5	62.8	58.5	38.6	8.5	0.6	47.6	-
Chad	2014/5	9.9	52.8	38.3	31.7	16.8	3.2	0.9	39.9	18.9
Comoros	2012	36.7	49.3	34.3	22.3	45.4	12.8	0.9	53.0	51.4
Congo	2011/2	66.1	76.3	69.4	60.8	47.6	12.2	0.2	59.8	12.8
Cote d'Ivoire	2011/2	11.9	76.3	60.3	49.7	25.4	5.0	0.3	38.1	10.9
DR Congo	2013/4	38.9	81.1	68.0	47.3	55.8	17.1	0.6	59.9	14.2
Ethiopia	2016/7	9.8	48.4	20.3	18.6	75.6	7.5	0.6	78.2	19.8
Gabon	2012	68.1	57.6	50.3	45.8	49.8	8.1	0.6	73.1	14.3
Gambia	2013	25.8	58.8	54.2	49.6	22.7	4.6	1.5	48.9	6.2
Ghana	2014	31.1	87.3	71.9	68.1	43.9	12.5	0.7	73.9	15.2
Guinea	2012	9.9	81.9	51.7	44.3	20.8	10.2	0.2	47.3	13.4
Kenya	2014	55.0	74.7	56.8	51.5	56.3	13.6	1.0	72.5	10.5
Lesotho	2014	54.3	49.5	41.8	39.9	71.4	10.1	7.3	88.8	5.0
Liberia	2013	28.3	66.1	45.0	37.7	72.2	14.5	1.4	82.3	-
Malawi	2015/6	20.9	72.0	26.9	20.3	54.1	5.9	1.5	55.4	44.9
Mali	2012/3	11.3	61.1	43.1	38.0	12.7	3.7	0.7	20.3	17.1
Mozambique	2011	11.9	49.5	18.5	15.3	49.4	4.2	0.2	58.8	11.4
Namibia	2013	69.6	53.9	49.4	44.7	65.5	11.0	3.2	82.3	23.1
Niger	2012	5.1	28.7	26.2	24.2	18.0	2.7	0.4	20.1	23.3
Nigeria	2013	32.4	71.3	66.2	59.3	26.6	6.6	0.5	37.6	8.1
Rwanda	2014	13.0	94.2	64.1	55.7	73.5	20.9	1.3	73.2	6.6
Senegal	2017	16.9	62.7	49.7	46.7	19.6	5.4	1.0	21.0	4.0
Sierra Leone	2013	14.7	85.2	35.2	25.6	43.4	5.6	0.5	55.3	10.4
South Africa	2016	81.0	47.3	46.0	43.7	80.6	16.4	3.8	91.89	-
Tanzania	2015/6	14.8	83.6	47.1	43.0	58.7	13.8	0.5	46.0	8.3
Togo	2013/4	23.6	85.0	67.8	65.6	16.5	9.2	0.3	47.2	7.6
Uganda	2016	26.8	83.8	63.2	57.5	48.7	14.2	0.7	63.7	9.2
Zambia	2013/4	34.1	59.3	37.6	31.4	66.0	10.7	0.9	66.4	11.2
Zimbabwe	2015	65.6	54.7	50.8	48.0	80.2	14.1	1.5	86.8	5.3
Average		25.8	70.0	49.1	42.9	42.0	8.8	0.89	52.9	13.4

Data source: Author's calculations, DHS

3.5.2 Women’s economic empowerment composite score

There is considerable variation in the distribution of WEE scores across SSA. Overall, the extent of WEE in SSA is low. Out of a possible WEE score of 9, the average for all countries is 3.0, and the best performing country’s average score is less than halfway through the scale. Figure 12 shows the WEE score was the highest in South Africa (4.1), while Niger had the lowest score of 1.5.

Figure 12: Women’s economic empowerment score among 33 sub-Saharan African countries



Data source: Author’s calculations, DHS

Generally, countries in Southern and Eastern Africa had a higher WEE score than other regions. Of the seven countries with over 50% of the women having secondary and higher education, only Gabon was not among the top 10 countries in Figure 12. It is worth noting that, other than high employment rates, the factors contributing to WEE in Rwanda, Ghana, and Democratic Republic of Congo are mainly participation in decision-making in household purchases and use of husband’s earnings. Congo Brazzaville’s score is driven by high employment rates and remuneration in cash in

addition to higher educational attainment. Notably, the WEE score reflects in part the economic development of countries, albeit with a few exceptions, including Rwanda and Democratic Republic of Congo. The lowest WEE scores are among the poorest countries in Central and West Africa, with a GDP per capita of US\$ 568 in Niger, US\$ 796 in Burkina Faso, and US\$ 659 in Chad (World Bank 2022a).

3.5.3 Typology of WEE

In PCA, all variables except land ownership loaded positively and strongly under the first component (Table 9). Thus, I labelled the first component as 'overall economic empowerment'. This means that both economic advancement and participation in household decisions (instrumental agency) contribute to the overall economic empowerment among women. The second component differentiated between economic advancement and household-level instrumental agency variables. Variables including employment, earning cash, and making decisions on use of own earnings were negatively correlated with the second component. Other variables, including education and land ownership, that increase a woman's bargaining power within the household, and decision-making at the household level (use of husband's earnings and household purchases), were highly and positively correlated with the second component. Accordingly, I labelled the second component as 'instrumental agency'. The third component was strongly and positively correlated with employment, earning more than one's husband, and woman's land ownership. This component reflects economic independence and empowerment mainly in the rural areas in countries where land ownership and employment, mainly in the agricultural sector, are high. Educational attainment may not play a big role in such settings. With land ownership, women are responsible for more of the agricultural production than their husbands, thus providing a possible explanation of the positive correlation of this variable (woman earning more than husband) for the third component. Given these attributes, I labelled this component as 'economic independence'.

Table 9: Principal component analysis loadings under the eight components for selected countries

Variable	Overall empowerment (42%)	Instrumental agency (31%)	Economic independence (12%)
Secondary and higher Education	0.31	0.30	-0.54
Employed/working	0.30	-0.31	0.61
Earns cash	0.44	-0.34	-0.08
Decides on use of own earnings	0.43	-0.35	-0.18
Decides on husband's earnings use	0.26	0.52	0.17
Woman earns more than husband	0.45	0.17	0.33
Decides on large HH purchases	0.33	0.46	0.00
Woman owns land	-0.24	0.27	0.41

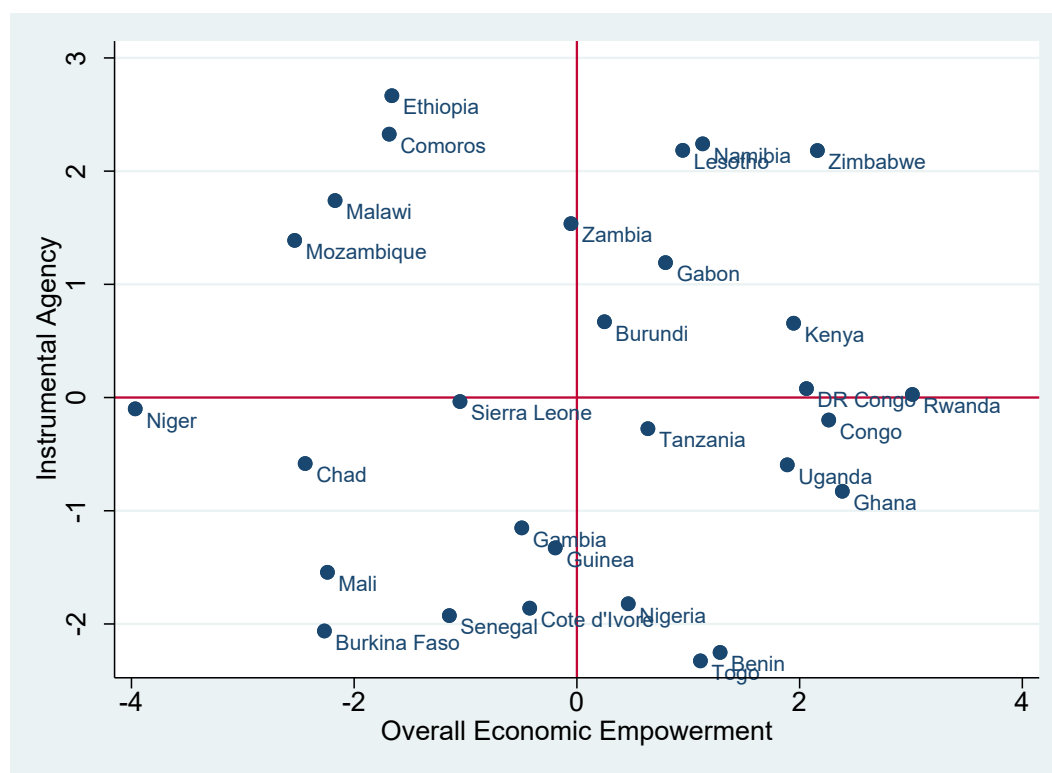
Data source: Author's calculations, DHS

Thus, the original eight economic empowerment items were refined into three components that explained 85% of the variation in these data. The first component explained 42% of the variation, while the second and the third components explained 31% and 12%, respectively. I only considered items that loaded with sufficient magnitude on any component (loadings above 0.3 or below -0.3) when interpreting the components shown in Table 10.

To understand how countries were distributed among the components, I plotted the three components against each other (Figures 13–15). These figures show the combination of factors driving WEE in each country. Countries that appear on the top right quadrant in each figure show the best performing countries under the plotted components, while countries in the left lower quadrant are the worst performing.

In Figure 13, Lesotho, Namibia, Zimbabwe, Gabon, and Kenya perform well both in overall economic empowerment and instrumental agency. Malawi, Comoros, Ethiopia, and Mozambique have high instrumental agency, but women lack overall empowerment, meaning economic advancement at the individual level is constrained. Zambia lies in the border of these two groups of countries. Rwanda, Congo Brazzaville, Democratic Republic of Congo, Ghana, and Uganda exhibit high overall empowerment, but limited instrumental agency, meaning that observed empowerment is driven by economic advancement variables. Other countries mainly in West and Central Africa show negative scores in both categories, an indication of low WEE.

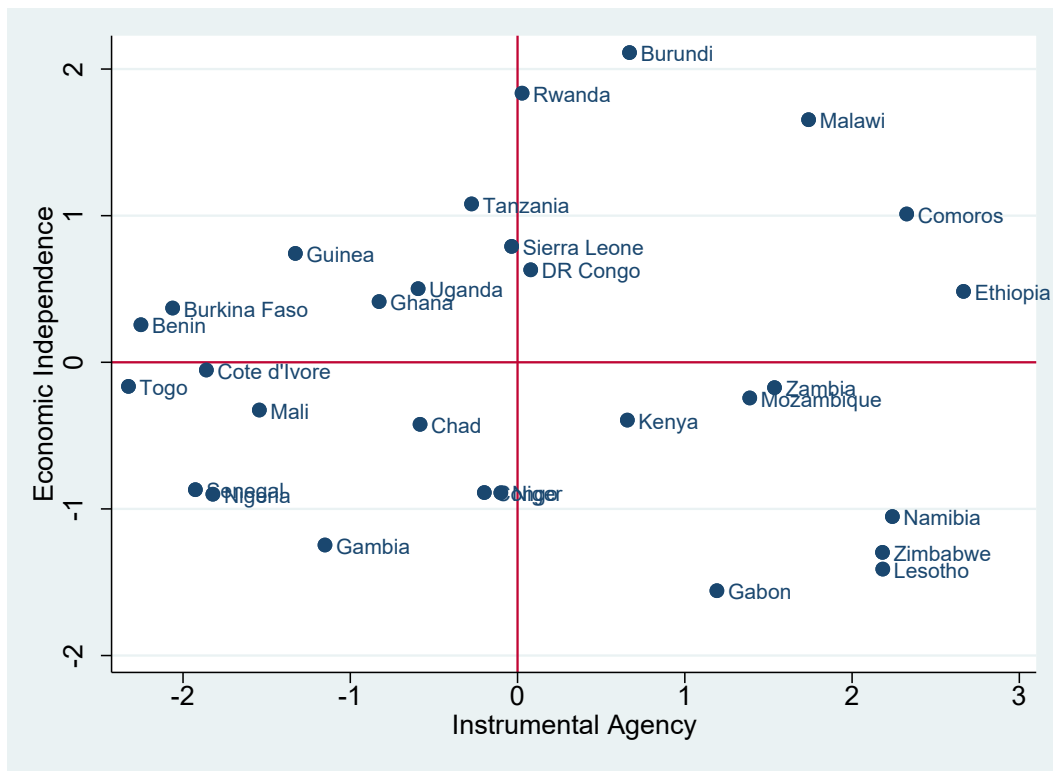
Figure 13: Country clusters based on individual and family economic agency scores



Data source: Author's calculations, DHS

Figure 14 plots instrumental agency and economic independence scores. Burundi, Malawi, Comoros, and Ethiopia score well under both components. This implies that economic independence driven by high land ownership, employment, and higher woman's earnings relative to husband's plays a key role in instrumental agency in these countries. Rwanda scores well under economic independence, but not under instrumental agency. In the lower right quadrant, Kenya, Gabon, Namibia, Zimbabwe, Zambia, Mozambique, and Lesotho score well under instrumental agency, but not under economic independence, implying that economic empowerment in these countries is driven by factors other than employment and land ownership, both of which are low. As observed in Figure 13, countries in Central and West Africa, including Senegal, Niger, Gambia, Chad, and Mali, score poorly under both components. The other countries cluster in the upper left quadrant, meaning that land ownership and employment play some role in observed empowerment, but not as pronounced.

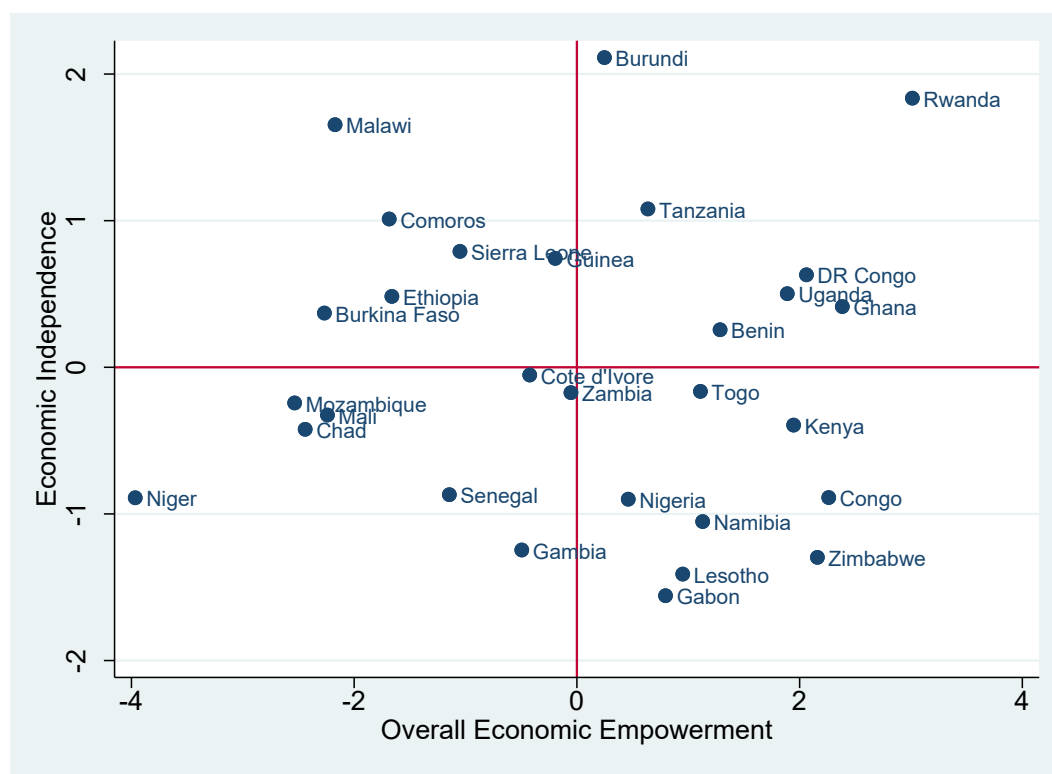
Figure 14: Country clusters based on land ownership and family economic agency scores



Data source: Author's calculations, DHS

Figure 15 plots overall empowerment and economic independence. Countries scoring high are split into two groups: high employment in the upper right quadrant, and land ownership in the upper left quadrant. In the lower right quadrant, Kenya, Congo Brazzaville, Zimbabwe, Namibia, Lesotho, and Gabon, scoring low on economic independence, have one factor in common: high educational attainment. Thus, WEE in these countries is driven by educational attainment (strategic resources). Again, Niger, Gambia, Senegal, Chad, and Mali score poorly under both components.

Figure 15: Country clusters based on land ownership and overall economic empowerment scores



Data source: Authors' calculations, DHS

Based on Figures 13-15, I identified five country clusters of WEE: 1) instrumental agency driven by high educational attainment (strategic resource); 2) instrumental agency driven by land ownership (strategic resource); 3) economic advancement driven by high employment; 4) basic level economic empowerment; and 5) low economic empowerment.

Table 10 shows the list of countries under each category. Countries with high educational attainment including Lesotho, Namibia, Zimbabwe, Gabon, Kenya, and Congo Brazzaville fall under the first category (instrumental agency and high educational attainment). WEE in these countries is characterized by high overall economic empowerment, mainly at the household level, thus women have both autonomy and influence on economic decisions at the household level. Since these countries do not score high on labour market outcomes, or exhibit high land ownership among women, but have high educational attainment, I concluded that the observed empowerment in this group is driven by high educational attainment.

Table 10: Typologies of sub-Saharan African countries based on women's economic empowerment

1. Educational attainment drives instrumental agency	2. Land ownership drives instrumental agency	3. Economic advancement driven by high employment	4. Basic-level economic empowerment	5. Low economic empowerment
Lesotho Namibia Zimbabwe Gabon Kenya Congo Brazzaville	Malawi Comoros Ethiopia	Rwanda Democratic Republic of Congo Burundi Ghana Uganda Tanzania Benin	Cote d'Ivoire Sierra Leone Guinea Nigeria Togo Burkina Faso Zambia	Niger Mali Chad Gambia Senegal

Data source: Author's calculations, DHS

The second category (instrumental agency and land ownership) includes Malawi, Comoros, and Ethiopia. The main determinants of WEE in these countries is land ownership that drives decision-making at the household level. Yet, they typically have low individual economic advancement including employment and income. Thus, land ownership (and agricultural production by extension) may improve women's bargaining power, allowing women to better participate in household economic decisions. The low economic advancement could be explained by the fact that most of the women are involved in the agricultural sector with limited productivity, which limits their economic options.

Seven countries, Rwanda, Democratic Republic of Congo, Uganda, Ghana, Burundi, Tanzania, and Benin fall under the third category (economic advancement driven by high employment). More than 80% of women in these countries are engaged in some form of employment. However, instrumental agency is low, thus the high employment has not translated to higher decision-making at the household level.

The fourth category (basic-level economic empowerment) consists of countries exhibiting a limited level of economic empowerment in all three domains. Countries in this category cluster around the centres of Figures 13–15, and thus do not lean on any specific driver of economic empowerment. This category consists of six Western African countries: Cote d'Ivoire, Sierra Leone, Guinea, Nigeria, Togo, and Burkina Faso. Both land ownership and employment contribute to the observed economic empowerment, but not substantially for the countries to stand out. Educational attainment is generally low.

The last category (low economic empowerment) consists of countries with limited evidence of economic empowerment based on the three identified components. These include Niger, Mali, Chad, Gambia, and Senegal, and thus constitute countries where women are the least economically empowered. Countries in this group do not show any evidence of overall or instrumental agency, although some of the countries show moderate levels of employment among women.

Mozambique and Zambia do not fall under any of these categories and are thus not included in Table 10. According to Figures 13–15, both have high levels of decision-making at household level, but the WEE measurement indicators included in this study could not explain the factors resulting in the observed instrumental agency. While Mozambique had negative correlation with both economic independence and overall economic empowerment, Zambia showed slight negative correlation with economic independence.

For sensitivity analysis of identified typologies, I used the K-means, a statistical clustering algorithm, to examine whether its results align with mine. Initially, I set $k=5$ groups following the pre-identified clusters in Table 10. I varied the number of groups to $k=4$, $k=6$, and $k=7$ to identify which clustering was more reasonable. With $k=5$, the resulting clusters did not differ much from the list of countries in Table 10. In k-means, Group 4 and 5 countries were merged together, while Mozambique, Zambia, and Ethiopia were grouped together. Although Ethiopia has high instrumental agency, its land ownership among women (19%) is not as high as Malawi (44.6%) and Comoros (51.3%) and thus it was clustered together with Mozambique and Zambia in the algorithm. Since $k=5$ did not result in fundamentally different grouping compared with Table 10, I retained the clusters.

3.6 Discussion

This chapter demonstrates the varying influence of access to employment, educational attainment, sole land ownership, and financial decision-making on WEE across SSA. The study has three key findings: 1) WEE is low overall in SSA, but there is large variation between countries; 2) there are five typologies of WEE in SSA mainly driven by the following factors: educational attainment, employment rates, and sole land ownership among women; and, 3) high educational attainment and sole land ownership contribute to instrumental agency, while high employment rates contribute to economic advancement with limited influence on decisions at the household level.

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WEE in SSA is generally low and even the best performing country's (South Africa) score is less than half of the scale. The WEE score is low likely because of the barriers against women's access and control of economic opportunities in addition to a high burden of unpaid care work (Ferrant and Thim 2019). Poor quality education, unemployment or employment in the low-quality informal sector or running small income-generating enterprises, and limited ownership of property, including land and financial assets, are key barriers to economic empowerment. In addition, the underlying socio-cultural norms and unequal gender relations and attitudes hold back women's agency, thus curtailing their empowerment. Thus, although women have access to economic resources, they are not able to transform these into economic opportunities and benefits which eventually expand their strategic agency leading to complete economic empowerment. This is because gendered barriers prevent some women from benefiting from economic opportunities or from being empowered despite access to these opportunities (Brody and Esplen 2007). Countries where these barriers are widespread exhibit lower levels of economic empowerment, explaining the spread observed in the WEE score.

Country typologies help understand the drivers of WEE

The five typologies show the main drivers of observed WEE at the household level for each set of countries, highlighting the areas that should be improved to further enhance WEE. Women in the first group of countries have high educational attainment. This is a strategic resource that increases their bargaining power at the household level. High educational attainment also implies less adherence to restrictive social norms and more liberal gender attitudes (Kabeer 2009). Increasing economic asset ownership and employment and entrepreneurial opportunities will likely enhance WEE in these countries.

Land ownership is the main driver in the second category. Women in these countries have low employment rates and education participation, and thus addressing barriers to access to education and employment opportunities including gender attitudes would likely enhance WEE. Also improving access to production inputs could help women transform the land into economic benefits such as better agricultural revenues. This implies also addressing barriers that limit women from accessing production inputs and markets may advance WEE.

In the third category, high employment rates are the key drivers of WEE. Although women earn income that improves household welfare, this alone is not adequate to transform their bargaining power at the household level. This could be because they work in low productivity jobs mainly in the informal sector with limited income earning capacity, and this limits them from seizing economic

benefits. These women have limited access to strategic resources (land and education) that would help enhance their agency.

The last two categories consist of countries where WEE is low to non-existent. In these countries, women have low educational attainment and land ownership despite high employment levels in some countries. Even in countries with high employment there are probably other underlying factors at play to hinder agency. These same factors could also explain low education and ownership of land. Because most countries in these categories are conservative, some of the likely barriers to WEE are social norms and unequal gender relations. Creating awareness on the importance of gender equal opportunities is therefore a key intervention for improving WEE in these countries.

Although these typologies seemingly group countries into unconventional categories based on other common factors including income level, particularly in group three, they show patterns that can be leveraged to enhance WEE. Among the countries that scored the highest (four and above), only Rwanda is a low-income country. Its high score is mainly driven by high employment rates and reflects major strides in promoting gender equality and women's empowerment, including legal reforms granting women property rights and enabling them to inherit property. The country also has the highest proportion of women representatives in parliament (61%) in SSA (Inter-Parliamentary Union 2019). Thus, the country's efforts have yielded positive results, but further efforts are needed. According to the OECD, although women and men in Rwanda have the same legal right to secure access to land assets, some customary, religious, and traditional practices and laws discriminate against women's legal rights (OECD 2019). My analysis shows low sole land ownership among women in Rwanda, which implies women are still marginalised in property ownership.

High employment rates do not translate to instrumental empowerment

My results show that women's employment levels in SSA are high. With the exception of a few countries in Southern and Central Africa, more than half of the women are involved in some form of employment. Thus, labour market items, including employment and earning cash, are the most common contributors to the observed WEE score. The high employment rates in Rwanda, Burundi, Uganda, and Democratic Republic of Congo contributed to overall high WEE scores in these low-income countries that featured among the best 10 scoring countries. However, DHS's single keyword questions about employment, either working for cash or in kind, may result in under-estimation of women's involvement in work, particularly among the poor and poorly educated (Langsten and Salen 2008).

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My analysis shows that although having a source of income contributed to economic empowerment, it only made a limited contribution to instrumental agency. This could be related to the type of jobs that women engage in, mainly low-quality jobs and small-scale enterprises that provide low (or no) income. This implies that women do not earn enough income to increase their bargaining power. This is corroborated by the fact that there were few female sole breadwinners due to most women earning less than men, and societal norms identifying men as breadwinners.

As Golla et al. (2011) noted, for economic empowerment to be sustainable, it must bring change beyond the individual level including household, community, and institutional levels (from 'power within' to 'power over' and 'power to'). Roxin (2011) argued that employment serves as an entry to economic empowerment (both economic resources and agency), and this is supported by my results. Most of the countries with high women's employment rates showed economic empowerment at the individual level, but not at the household level (Roxin et al. 2011). While employment is a key driver of economic empowerment, unfavourable terms of the labour market can limit empowerment, because women may not be able to translate the economic benefits to strategic choices at the household. To further improve economic empowerment, the focus should be on improving the quality of jobs and economic productivity of enterprises, and not necessarily in the quantity of jobs for women.

Educational attainment is central to economic empowerment

My results show low educational attainment among women in most of the countries, which implies low human capital development. Although the proportion of women with secondary and higher education ranged from 5% in Niger to 81% in South Africa, on average only about one in four women had post-primary educational attainment, and only seven countries (all middle-income countries) had more than half of women with secondary or higher education. Low educational attainment in SSA is well documented in the literature (Barro and Lee 2013; Arias, David and Indhira 2019). As noted earlier, education, particularly secondary and higher education can transform women's lives, by not only enabling access to formal employment, but also by increasing sense of worth and capabilities, and increasing awareness of women's rights leading to questioning of patriarchal social norms, decision-making power, and leadership roles (Kabeer 2011; Khatri 2016). Education is viewed as the opening of the WEE pipeline, as it endows women with skills and knowledge that increase their employment participation and income thus amplifying their voice and agency (Klugman et al. 2014).

My findings highlight the importance of education to WEE, as countries with high educational attainment were among the top ten in the overall WEE score and showed evidence of instrumental agency. This is despite these countries having among the lowest employment and land ownership rates among women. My results imply that investments in education may contribute more to WEE compared to other interventions such as increasing women's employment or micro-enterprises that were thought to be the silver bullet for WEE.

Sole land ownership improves women's bargaining power

Sole land ownership by women is generally low in SSA. Only two countries, Malawi and Comoros, have about half of women owning land solely or both solely and jointly. This high sole land ownership is explained by the existence of matrilineal societies in both countries. In matrilineal cultures, women are involved in decision-making on the use and management of land and have economic control over production. In Malawi, about 75% of the population is matrilineal (Peters 2010; Le Roy 2017). In Comoros, land inheritance is purely matrilineal, but land utilisation is governed by the husbands who manage it according to Islamic law (World Bank 2019). High land ownership is associated with high bargaining power and decision-making at the household level (Kabeer 2011; Behrman 2017). Although Comoros and Malawi may not provide lessons to patrilineal countries in the region, land ownership is a key indicator to economic empowerment because most of the countries in SSA are involved in agricultural activities, and about 40% women in Africa are involved in agriculture (Palacios-Lopez, Christiaensen and Kilic 2017). Sole land ownership allows women to use land as collateral for credit or use better productive techniques without relying on their husbands.

Financial decision-making is modest but varied within SSA

My results show a wide variation in women's participation in decision-making, both at individual and household levels. On average, about 43% of the total analytic sample decide on use of their earnings, although this ranges from 19% in Mozambique to 72% in Ghana. Socio-cultural norms may explain why there is such a large variation in the proportion of women without influence over the use of their income. This could, however, be related to the fact that cash payments are generally rare, with less than half (49%) of the total analytic sample being paid in cash on average. On the other hand, decision-making at the household level is relatively high, particularly participation in decisions on large household purchases. On average, 53% of women participated in decisions on

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household purchases. This is pronounced among Southern African countries, while women in Western African countries have the lowest participation rate.

Norms and institutions underpin the observed WEE scores

Although I did not have data on country contexts and social norms, undertaking a multi-country analysis and classifying countries into typologies of WEE helped me identify differential patterns that show country clusters with restrictive social norms. The wide range on the WEE scores is a reflection of the socio-cultural diversity of SSA. The lowest scores consist of countries in West and Central Africa with low educational attainment driven by early marriage among girls, low employment rates, restrictive land ownership, and low participation rates in individual or household level decision-making.

The 2019 OECD SIGI confirms my findings, showing the highest discrimination index in Central Africa followed by West Africa, while Southern Africa has the lowest index (OECD 2019). Enacting and enforcing laws that provide equal opportunities for women, coupled with educating communities on the negative effects of discriminatory social norms, will help women achieve their economic potential.

3.7 Strengths and limitations

To the best of my knowledge, this study is the first of its kind to provide a comprehensive cross-national comparison of WEE at the household level in SSA, and presents typologies of countries based on the drivers of economic empowerment. It identifies the set of priority interventions for each set of country typologies, which is key in policy interventions to improve WEE. Since empowerment is an individual's intrinsic experience, this score can be used to model individual characteristics including age, fertility rate, or education that contribute to observed empowerment, thus helping develop targeted interventions.

The DHS provides standardised multi-country comparable data on women's empowerment including both household- and individual-level economic and overall empowerment indicators. However, the use of DHS for WEE presents several challenges: it has limited indicators on economic empowerment, including financial resources (earnings, incomes, savings, and credit) that are more correlated with individual agency; indicators on women's preferences or motivations for choices; and indicators on gender norms around access to economic opportunities, which are key in measuring both intrinsic and instrumental agency.

Another challenge with the DHS is that the empowerment module focuses only on women in union or partnership, leaving out unmarried women. It is possible that including unpartnered women in WEE measurement would give slightly different results for each country. Marriage rates have been declining in Africa (Hosegood, McGrath and Moultrie 2009), as increasingly, women are choosing not to marry or remarry because they are educated and have the social and economic opportunities to enable such decision. These women are typically less dependent on men and can make independent choices regarding access to and control over economic opportunities and resources, hence more economically empowered.

Furthermore, DHS is administered on women aged 15–49 years, creating a data gap for older adult women. The effect of including older women in measuring WEE is not clear. This is because, on one hand, older women are more likely to be providing unpaid care work (for grandchildren), with those in employment being driven by economic need to ensure income security, with informal and highly precarious work (Samuels et al. 2018). In addition, older women are less likely to have attended school compared to the younger generation. On the other hand, in matrilineal societies where women own land, it is more likely that older women own land compared to the younger women, although this has not been studied empirically. Including all women in the analysis irrespective of their marital status and age would have produced more generalisable results, with potential to explore differences in WEE by marital status.

The cross-sectional DHS data does not enable us to measure WEE as a process, although improvements of WEE over time can be measured using several rounds of surveys per country where applicable. Finally, I created the WEE score based on equally weighted binary indicators, which means that I assumed that each indicator is equally important for women's empowerment score. Future studies should evaluate the relative importance of each indicator to develop more nuanced WEE scores.

Despite these challenges, DHS data has been identified as a valuable source of monitoring data on women's empowerment because of its wide geographical and measurement scope (Hanmer and Klugman 2016). To validate the WEE score and the country typologies, my summation method for measuring WEE should be replicated using other more inclusive surveys.

3.8 Policy implications

Women's economic empowerment is limited in SSA. Prioritising high-quality secondary and higher education is paramount for human capital development and WEE. Most of the countries have policies on universal basic education, but these should be revised to also include universal secondary education with a focus on skills appropriate to existing and future job markets. Despite high employment levels, most women are engaged in the informal, lower-paying, and less productive sectors. Improving the quality and productivity of woman-owned and -managed enterprises will not only increase their income but also transform households through poverty reduction and women's participation in household decision-making. Finally, there is a need for all-encompassing programmes reviewing legal and social restrictions on access to and control of economic resources and reinforcing implementation of laws that give equal opportunities for girls and women to participate in education and employment and thus achieve their full economic potential.

Knowing the extent of WEE in the region, areas in which women are already empowered in, and the existing challenges is the first step to improving WEE. My results are timely evidence for the heightened traction on achieving WEE, as they identify potential priority areas for policy and programme interventions. The results also form a baseline for future studies to understand the nuance of WEE, its drivers and barriers.

Chapter 4 Association between women’s economic empowerment and children’s school outcomes in Malawi⁷

Abstract

Efforts in improving access to and quality of universal basic education in many LMICs have not been effective, necessitating a rethink of the approaches. Women’s economic empowerment (WEE) has attracted high level policy interest and is recognized as central to achieving the SDGs. Yet, few studies have systematically explored its association with education outcomes of children. This study, focusing on children’s having ever attended school, current attendance, and progression through grade at appropriate ages, fills this gap using the 2016/17 Integrated Household Survey data from Malawi.

The results show that WEE was associated with having ever attended school and being on-time for grade, where girls have higher odds of being on-time for grade than boys. This is a novel finding that WEE may play a role in helping children progress through grades at appropriate ages, especially for older girls in secondary school, who are otherwise more at risk of dropping out of school than boys of the same age.

Given the importance of school progression and completion (which is a major challenge in Malawi), and their contribution to human capital development, this study points to the beneficial role that WEE may play in improving children’s education outcomes.

4.1 Introduction

One might expect WEE to be closely linked to children’s outcomes, including their education, given the important roles mothers tend to play in making decisions about their children’s lives (Tansel

⁷ A shorter version of this chapter was presented at international conferences (Population Association of America (PAA) and European Population Conference (EPC))

1997; Ceka and Murati 2016). Yet, the role of WEE in improving the health and education outcomes of children is not well understood in LMICs.

Thus far, instead of examining WEE, most empowerment studies interested in children's outcomes focus on women's empowerment at a general level, which includes aspects such as economic, socio-cultural, political, and psychological empowerment. Many of these examine child health and have indeed found a positive association between women's general empowerment and that outcome (Pratley 2016; Izraelov and Silber 2019; Santoso et al. 2019; Abreha, Walelign and Zereyesus 2020; Yaya et al. 2020). Only a few studies have explored the statistical association between women's empowerment and children's education. Those that do, report an increased access to education, a reduced gender education gap, and higher literacy scores (Afridi 2010; Hatlebakk and Yogendra 2016; Malapit et al. 2019).

Yet, it is not clear which aspects of empowerment are the most important in explaining children's education outcomes. One might expect economic empowerment to play a key role, because it increases women's autonomy in financial decision-making, and provides them with economic resources thus enabling them to provide tuition fees and school supplies (Golla et al. 2011; Buvinic, O'Donnell and Bourgault 2020; Buvinic et al. 2020). Women's economic empowerment warrants a study of its own, because the inclusion of economic indicators in measuring overall empowerment is often limited, leaving aside key indicators such as economic agency. Further, there is little understanding of the gendered associations between WEE and education outcomes of their daughters versus sons especially in a high fertility African context. This chapter aims to address these knowledge gaps by examining the association between maternal economic empowerment and children's education outcomes in Malawi. I consider multiple outcomes for children's education, including being on-time for grade, currently attending school, and having ever enrolled in school. Each of these illuminate a different aspect of schooling choices within the household or at individual level. Having ever enrolled in school differentiates children who have ever gone versus those that have never gone to school, while current school attendance reflects the contemporaneous factors at individual child, household or school level that promote or hinder school attendance. Being on-time for grade takes a long-term aspect with accumulation of factors including enrolling on time, continued school attendance, and good performance to allow promotion from one grade to the next. Maternal economic empowerment is measured as a multifaceted score of six indicators (see section 4.5.2.2 for more information).

As discussed earlier, the study context is Malawi, which was chosen for four reasons: i) it is among the poorest countries globally, with low human capital development characterized by low access to

and poor quality of education (Chimombo 2005; Chimombo 2009; Ravishankar et al. 2016); ii) more than a third of households (35%) are headed by women, which is among the highest in SSA (National Statistical Office 2019a); iii) about 39% of women solely own land, which is among the highest in SSA (ICF 2021); and, iv) Malawi has a dual lineage system (matrilineal or patrilineal), which presents an opportunity to understand how WEE varies under these family systems.

The rest of this chapter is organised into the following sections: framework on the pathways of relationship between WEE and children's education outcomes in section 4.2; literature review in section 4.3; section 4.4 discusses data and methods; while the results are presented in section 4.5; the findings are discussed in sections 4.6, while sections 4.7 and 4.7 present the study limitations and strengths and the policy implications, respectively.

4.2 How might WEE relate to children's education outcomes: towards a conceptual framework

Mothers are more likely to invest in children's wellbeing, including their education and health, than fathers (World Bank 2012; Dasgupta and Mani 2015). In addition, mothers are more likely to spend more time with children than fathers, thus influencing their development (Tansel 1997; Kotila, Schoppe-Sullivan and Dush 2013). Therefore, understanding mothers' characteristics and their role in children's outcomes is important.

As explained earlier in this thesis, economic empowerment consists of economic resources, which interact with women's financial autonomy, autonomy in household decision-making, and social networks. An increase in influence of women on household's financial decisions may increase resource allocation to school needs and decisions to enrol children, particularly girls, in school (Luz and Agadjanian 2015; Hendrick and Marteleto 2017; de Hoop et al. 2018). Similarly, having access to an income through employment or enterprise coupled with financial autonomy may enable families to meet the financial costs of school, and thus children are more likely to attend and remain in school (Cooper and Stewart 2021).

Better skills, knowledge, capabilities, and social networks may, in turn, contribute to awareness on the schooling needs of children (Harding, Morris and Hughes 2015). Because economically empowered mothers may have more exposure to new ideas and more independence from limiting socio-cultural norms, they may be more likely to offer motivation for educational activities and

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attend to non-financial academic needs of their children (Glick and Sahn 2000; Afoakwa, Deng and Onur 2020). In Malawi, young people with indifferent or unsupportive parents are less likely to stay in school, and lack of consistent parental guidance and encouragement is associated with less focus and motivation to complete school (University of Malawi, Carolina Population Centre and UNICEF 2020). Maternal social networks may help in accessing information that can influence children's education (Harding, Morris and Hughes 2015). Some individuals in their networks may also act as role models, thus socialising children into aiming to excel in school (Miller, Lynn and Cook 2001).

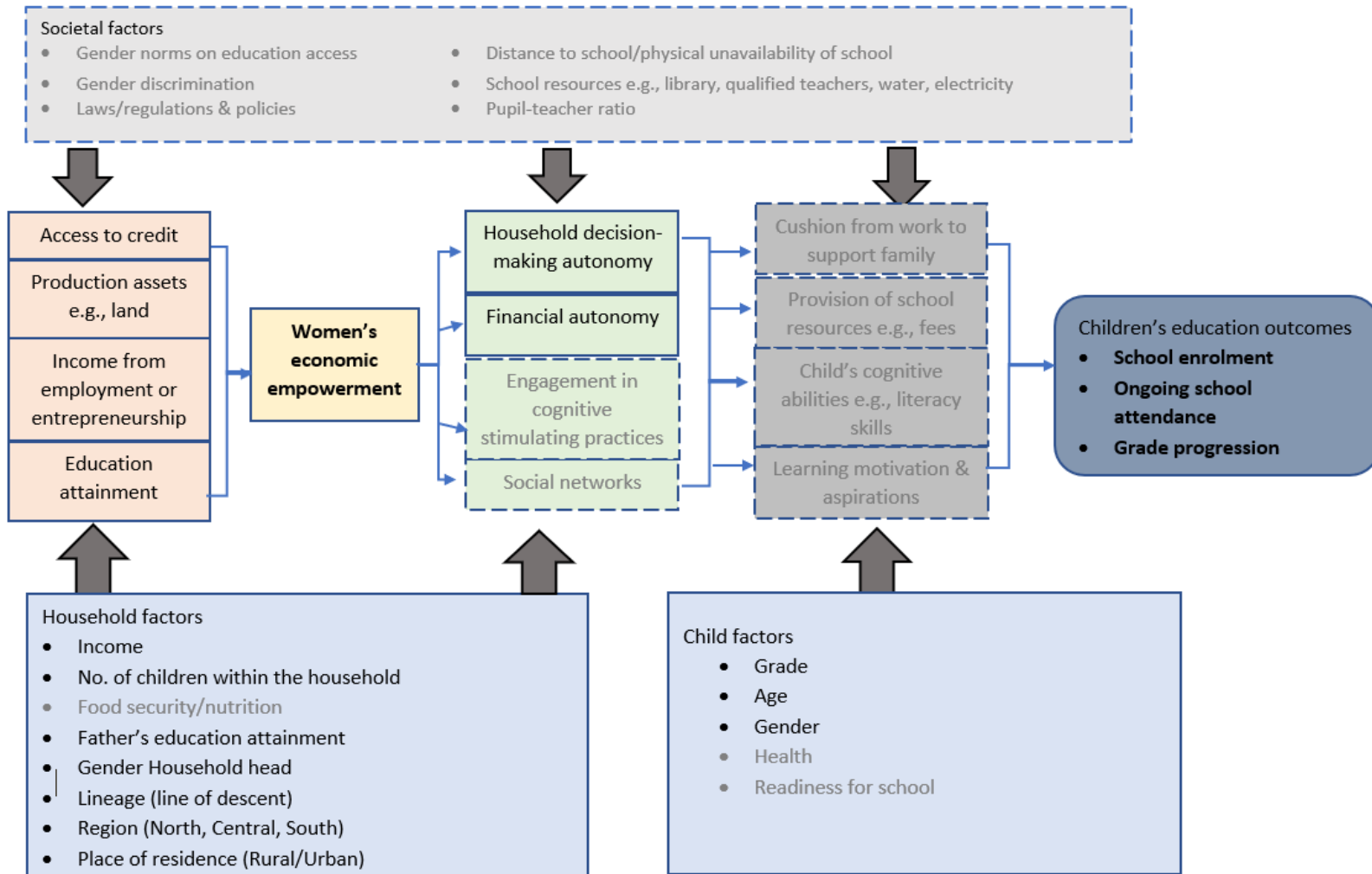
Although household wealth may partly explain better school outcomes for children, WEE, particularly maternal decision-making autonomy likely makes an independent, positive contribution to children's education outcomes, because economically empowered mothers are more likely to help with children's schoolwork, and be involved in the school activities their children participate in (Hendrick and Marteleto 2017). Economically empowered mothers may be more likely to engage in cognitively stimulating activities through reading books, teaching numbers, and discussing various topics, which have been found to improve children's language skills (Pomerantz, Moorman and Litwack 2007; Crosnoe and Kalil 2010). A recent survey in Malawi reported that 62% and 58% of children read or were read to at home, and were receiving help with homework, respectively. The survey also reported that 12% of mothers compared to 2% of fathers were engaged in activities that promote learning and school readiness (National Statistical Office 2021).

Below, I illustrate a conceptual framework on the mechanisms of the relationship between WEE and children's education outcomes in Malawi (Figure 16). I propose four individual-level mechanisms through which WEE is associated with children's education outcomes: (1) the woman's control over household decision-making, (2) her financial autonomy, (3) her social networks, and (4) providing an environment conducive for learning. Women's economic empowerment thus influences education outcomes through intermediate outcomes such as provision of school resources including fees, stimulating cognitive development, and enhancing learning motivation and aspirations. In addition, WEE may cushion children in poor households from temporarily dropping out of school to work to support the household, because economically empowered women may be more likely to value education and thus aim to ensure their children stay in school. These intermediate outcomes in turn influence children's school enrolment, ongoing school attendance, and grade progression.

These mechanisms are affected by both structural and social factors at the society and household levels, and by the socio-demographic characteristics of the children and their families. Relevant household factors include socio-economic status (SES), which is defined here as household income and parental educational attainment (Filmer and Pritchett 1999; Sirin 2005; Moyi 2010; Sunny et al.

2017; Li and Qiu 2018); family size (number of school-age children) (Downey 1995; Patrinos and Psacharopoulos 1997; Farah 2016); and, the family's place of residence (Fentiman, Andrew and Donald 1999; Moyi 2010; Sunny et al. 2017). Gender of household head is also important because children in female-headed households are more likely to have higher educational attainment than those in male-headed households (Lloyd and Blanc 1996; Bammekke 2010; Bose-Duker, Henry and Strobl 2020). Relevant child-level factors include age and gender (Fentiman, Andrew and Donald 1999; Wils 2004; Moyi 2010; Sunny et al. 2017), health (Fentiman, Andrew and Donald 1999; Sridhar 2008), and cognitive development before school entry and while in school (UNICEF 2012b; a; Bruwer, Hartell and Steyn 2014). Wider social and structural factors include prevailing social, cultural, and gender norms around educational access; laws, regulations, and policies regarding education; school factors; and, gender discrimination (Palardy 2008; Moyi 2010; Sarkar, Reza and Hossain 2014). While individuals operate within these wider restrictions, their individual actions and choices also matter for these outcomes.

Figure 16: Mechanisms of relationship between WEE and children’s education outcomes



Notes: Grey text and boxes with dashed-line borders means that I was not able to measure or otherwise control for that aspect in my study; **Bold text** means the variable is an outcome.

4.3 Literature review

4.3.1 Children's access to and progress in education

Access to education is one of the salient features of economic growth and development (Tilak 1989; Ozturk 2001; Barro 2013; World Bank 2018c), and its underlying influence on sustainable development has been addressed in SDG 4, *'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'*. Enrolment, regular attendance, timely progression through grades, transition to higher levels of education, and appropriate-for-age learning are important quality indicators for educational access (Lewin 2007). School enrolment rates, particularly in primary education have increased consistently across all global regions, including in sub-Saharan Africa, where net enrolment rates in primary school increased from 53% in 1990 to 78% in 2018 (World Bank 2022a).

Continuous school attendance, completion, and transition to higher levels, however, remain low in many LMICs, hampered by year or grade repetition and (temporary) withdrawal from school (Roser and Ortiz-Ospina 2016). In many LMICs, it is not uncommon to have higher enrolment rates than attendance rates. This is because a household may enrol a child, but that child may have infrequent attendance or indeed may not attend school at all. There is insufficient attention being paid to how children progress in the education system once they enter school (Lewin 2007).

The model of educational access developed by the Consortium for Research on Educational Access, Transition, and Equity (CREATE) provides a conceptualisation of access by identifying zones of exclusion (Lewin 2007). Access is a continuum of participation within an education system, entering at the pre-school level and remaining in school until the end of secondary education. Zones of exclusion from access include: (1) children who never enrol in school; (2) those who drop out of primary school; (3) children at risk of dropout of primary school due to over-age, low attendance, and low achievement; (4) those who complete primary school but are unable to transition to secondary school; (5) dropouts from secondary school; and, (6) those at-risk of dropping out of secondary school (Table 11) (Lewin 2007). Thus, in order for education to be meaningfully universal, simply enrolling a child into school is inadequate. Upon entering school, children must be able to regularly attend school, move from one grade to the next, and complete a full course of primary education and lower secondary education.

Table 11: Zones of exclusion for educational access among children of school-age as defined by Consortium for Research on Educational Access, Transition, and Equity (CREATE)

Zones of Exclusion	Description
Zone 0	No pre-school access
Zone 1	Children who never enrol in school
Zone 2	Primary school dropouts
Zone 3	Children who are older for their grade, irregular attenders, and low achievers at primary level who are 'silently excluded' and learn little
Zone 4	Primary leavers not entering secondary school
Zone 5	Secondary dropouts
Zone 6	Children who are older for their grade, irregular attenders, and low achievers and those 'silently excluded' at secondary level

Source: Lewin, 2007

Since efforts for improving access to and quality of universal primary and secondary education in many LMICs have not been effective, there is a need to rethink the approaches to increasing educational access and improving outcomes. Children who are old for their grade have a greater probability of dropout and non-completion, and have lower achievement than those on schedule (Taylor et al. 2010). Thus, grade progression at appropriate ages is important. Being on-time for grade facilitates school completion, and prepares children for the onset of other life transitions, including higher education and the job market without overlap in years which may lead to dropping out from school (Lewin 2007; Sunny et al. 2017). Although the CREATE studies identified grade progression at appropriate ages as fundamental to reducing education exclusion, limited studies have explored the role of household characteristics in grade progression (Sunny et al. 2017). None of these studies have explored the role of WEE in improving age-grade congruency, despite the role mothers play in children's education (Tansel 1997). My study seeks to fill this knowledge gap.

There is extensive scholarly discourse on enrolment and attendance rates and measures to improve educational outcomes in young children (Kamanda and Sankoh 2015; Ganimian and Murnane 2016; Roby, Erickson and Nagaishi 2016). The literature on age for grade heterogeneity, and measures to improve congruence is, however, limited and inconsistent (Hossain 2010; Kamanda and Sankoh 2015). Universalising access to education must entail strategies for improving age-grade congruence. While appropriate education systems are crucial, I hypothesize that economic empowerment of mothers may positively influence the age-grade congruence and thus reduce education exclusion in addition to these larger structural factors, which also need to be improved.

4.3.2 Education attainment in Malawi

As detailed in Chapter 2 of this thesis, education attainment is generally low in Malawi, with those aged 25 and older having received on average only 4.6 years of schooling (National Statistical Office 2019a; United Nations Development Programme 2020). This is partly due to many children dropping out of school because they are older than expected for their grade sometimes throughout their schooling journey.

The official school entry age in Malawi is 6 years, but one in three grade one entrants were older than that in 2019 (Ministry of Education 2021). UNESCO reported that one in three girls enrolled in the last grade of primary school in Malawi were aged 14–17 years instead of the expected 13 years, while one in two girls in the last grade of secondary school were aged 18–23 years instead of 17 as expected (UNESCO Institute for Statistics 2012). In 2020, about 43% of girls and 52% of boys in primary school were older for their grades, while the corresponding figures for secondary school grades were 48% and 67% for girls and boys, respectively (National Statistical Office 2021).

Some of the poor educational attainment is due to (temporary) withdrawal from school. In 2020, 85% of secondary school-age children (14–17 years) were out of school, compared to 10% at primary school ages (Ministry of Education 2021). Other problems during educational journeys include class repetition, which is very prevalent and has increased since 2011. Only 19% of students in Malawi proceed from grade 1 to grade 8 without repeating a year (Ravishankar et al. 2016).

The school completion rate is also low. In 2018, slightly more than half of children (52%) completed primary school, with marginal change in 2020 (53%) (Ministry of Education Science and Technology 2016; 2018a; 2019; Ministry of Education 2021). Of those who completed primary school, about 37% transitioned to secondary school. Completion rates at secondary level are worse, with less than one in four (22%) of those enrolled completing secondary school. Only about 8% of those who complete secondary school transition to tertiary education, with higher enrolment among men than women (Ministry of Education Science and Technology 2016; 2018a; Ministry of Education 2021). Both quality of and access to education remain major challenges in Malawi.

Educational attainment and outcomes vary regionally. This is mainly explained by a set of complex historical, cultural, and geographical reasons. Historic colonial differentiation of educational development between the North and the other two regions as well as restriction by the presence of large plantation estates and deep-rooted cultural practices in the South and Central regions

have been posited as the major drivers of contemporary education patterns (Al-Samarrai and Zaman 2007; Chimombo 2009; Galafa 2019; Makwemba et al. 2019). For example, in 2019, up to 2% of children enrolled in primary school in districts in the Northern region dropped out of school, compared to up to 6% in the Central and up to 11% in the Southern region (Ministry of Education 2021).

4.3.3 Women's economic empowerment and children's education outcomes

Few studies in LMICs have examined the association between WEE indicators and school enrolment or attendance. Generally, higher levels of autonomy in maternal decision-making within the household are positively associated with better primary and secondary school enrolment rates of children. This is the case, for example, among girls in Mozambique (Luz and Agadjanian 2015), Ethiopia (Gebremedhin and Mohanty 2016), India (Afridi 2010), Zimbabwe (Pufall et al. 2016), and Honduras (Hendrick and Marteleto 2017), as well as among all children in Mexico (Chakraborty and De 2011).

In Malawi, maternal autonomy in decision-making was associated with higher school attendance rates, but the association was stronger for sons than daughters. However, when controlled for lineage system, girls in matrilineal households showed higher school attendance than boys (Boccia and Mazzotta 2018). Only one study in Ethiopia explored the association between maternal decision-making autonomy and children's progress through grades at appropriate ages, reporting a positive association and a larger effect for girls than boys (Gebremedhin and Mohanty 2016). Decision-making indicators varied across studies, and included economic, health and social decisions. Thus, not all the results can be attributed to economic decision-making or economic empowerment.

Maternal education has been consistently linked with better children's education outcomes, although this varies by child's gender, with girls benefiting more than boys. Maternal education attainment was associated with high enrolment rates in secondary school and being in the correct grade for age in Zimbabwe and Guinea, although the association with boys' enrolment in Guinea was not significant (Glick and Sahn 2000; Pufall et al. 2016). In Kenya, maternal education was more beneficial to girls than boys in secondary school (Kabubo-mariara and Mwabu 2007). Similar findings have been reported in LMICs in other regions, with equal benefits for both boys and girls in school enrolment in China (Cui, Liu and Zhao 2019), while in India it was in favour of girls' current school attendance (Afridi 2010).

Results for associations of maternal participation in the labour force with children's education outcomes are mixed. In general, boys had better outcomes than girls. A review of literature in

LMICs reported reduced school attendance especially among older girls who substitute their mother doing chores in the household, particularly in poor households without domestic workers (Glick 2002). In Kenya, school enrolment for boys but not for girls increased with maternal employment (Lokshin, Glinskaya and Garcia 2000). These differences could be explained by household and maternal characteristics including income and maternal education, where poorer households are less likely to be able to keep all children in school and girls are chosen as those to stay at home and help and/or work.

Evidence on the associations between maternal financial assets access and autonomy and children's school attendance is also mixed. Mothers' access to credit in LMICs had an impact on children's education but the direction of effect varied according to household living conditions: negative for poor households and positive for richer ones (Odero 2018). Positive associations between maternal access to credit and children's education outcomes were reported in Ghana (Adjei, Arun and Hossain 2009; Egyir 2010; Pephrah 2018) and Uganda (Barnes et al. 2001). Studies in Ghana (Batinge 2018) and Malawi (Shimamura and Lastarria-Cornhiel 2010) reported that women's access to credit was associated with reduced school enrolment, explained by children taking up household chores or small enterprises managed by mothers, with stronger and significant effects for girls. In Malawi, there was delayed or lack of primary school enrolment for young girls, as well as slower school progression, and frequent grade repetition for young boys. The effects were not significant for secondary school-age children (Shimamura and Lastarria-Cornhiel 2010).

Few studies have explored the association between women's ownership of assets and children's education outcomes. Maternal ownership of land, house and/or livestock in Ethiopia increased the odds of children's school enrolment and attendance, with higher school enrolment among girls than boys (Fafchamps, Kebede and Quisumbing 2009; Gebremedhin and Mohanty 2016).

These results show that maternal decision-making autonomy within the household, education, and asset ownership may have beneficial effects on children's education outcomes, while maternal employment and access to financial assets show both positive and negative effects. Most of the studies focus on children's school enrolment and attendance, with only two studies investigating effects on age-grade congruency. In my study, I investigate previously neglected outcomes and explore the effects of a multi-indicator WEE score on children's education outcomes.

A positive association between children's literacy and numeracy test scores and indicators of WEE, including maternal education (Abuya, Mutisya and Ngware 2015; Abuya et al. 2018; Cui, Liu

and Zhao 2019) and land ownership (Quisumbing and Maluccio 2003; Hatlebakk and Yogendra 2016) have been found. Maternal education is positively associated with more completed years of schooling for children (Holland and Wang 2011) and narrowing the education gap between boys and girls (Afridi 2010). A Women's Empowerment in Agriculture Index (WEAI) score had a positive correlation with the number of children's completed years of schooling (Malapit et al. 2019). However, other studies report negative associations between maternal education and children's test scores and grades (Skoufias 1993; Glick 2002; Abuya et al. 2013; Vikram, Chen and Desai 2018). I do not report at length on these studies as they fall outside the scope of this study; I limit my focus on children's access to education.

4.4 Aims and research questions

Despite the potential importance of WEE on children's access to education, there is a lack of studies exploring the association between maternal economic empowerment and education outcomes of their children. The existing evidence available in the form of individual indicators of economic empowerment and their links to children's education outcomes is rather mixed. Because WEE is a multidimensional concept, an aggregate score of various economic indicators provides a more suitable measure of WEE than individual indicators (Buvinic et al. 2020). Focusing on only one indicator also overlooks the feedback loops between and among various indicators that can promote or limit WEE and its relationships with other factors within the household or society. The main literature gaps include limited evidence on the link between WEE and school enrolment and attainment, as well as WEE and grade progression. To the best of my knowledge, there are no studies examining the relationship between WEE as a multi-indicator measure and children's school enrolment, attainment, and grade progression.

The current study addresses these evidence gaps by examining the association of WEE and children's education outcomes in Malawi. The specific research question is: *How is WEE associated with children's progression through grade at appropriate ages (being on-time for grade), children's school enrolment, and current attendance?* I will explore whether these associations depend on the sex of the child, household lineage system (matrilineal and patrilineal), and their geographical region.

4.5 Data and Methods

4.5.1 Data and analytic sample selection

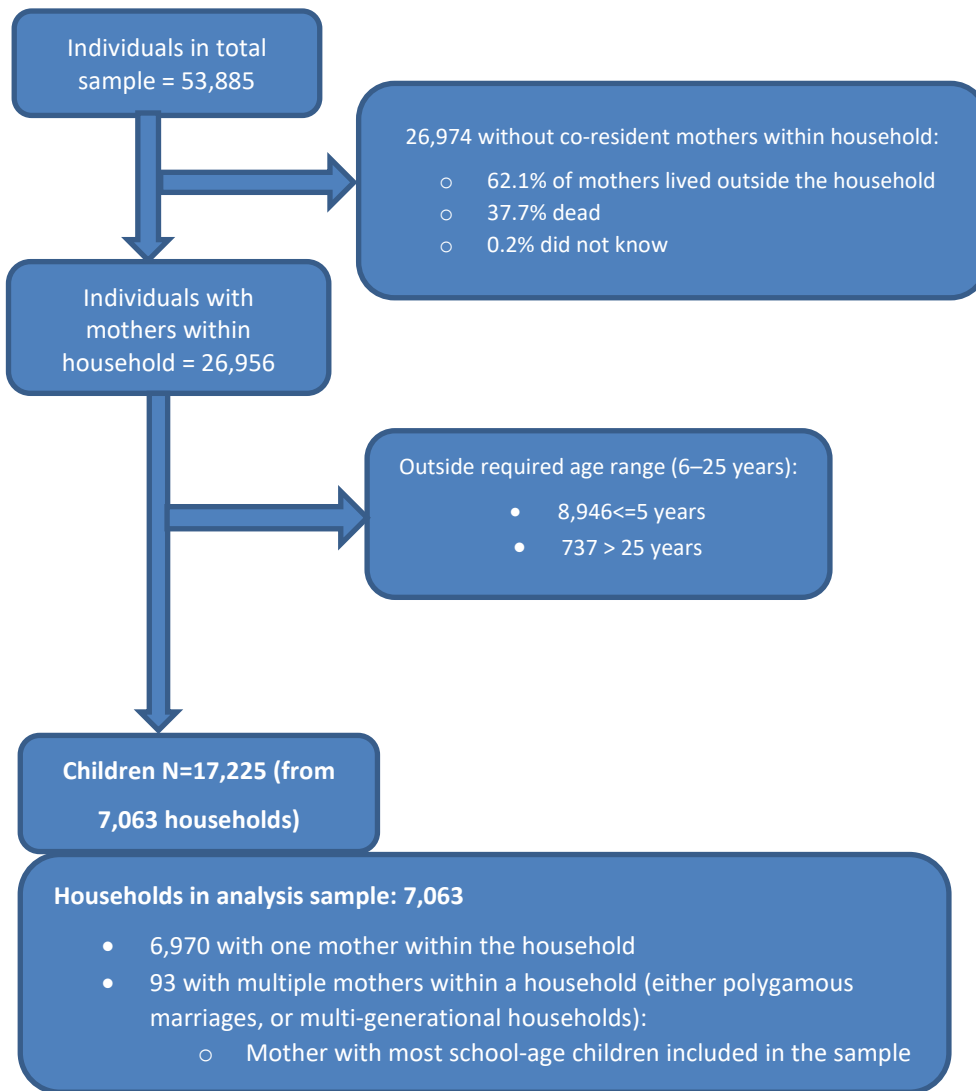
I used data from the Malawi Integrated Household Survey (IHS) conducted by the National Statistical Office (NSO) of Malawi. It is part of the Living Standards Measurement Study (LSMS) project of the World Bank. IHSs are nationally representative household surveys with an emphasis on agriculture. For this study, I used the 3rd wave of IHS conducted during 2016/17 (National Statistical Office 2017a). Overall, 12,447 households were included, with a total of 53,885 individuals (National Statistical Office 2017b). The questionnaire instruments consist of household, agriculture, fishing, and community modules. Questions are asked for everyone within the household.

Figure 17 shows the analytic sample selection process. The population of interest is primary and secondary school-age children (aged 6–25 years⁸) co-residing with their mothers. Of the 53,885 individuals in the survey sample, I excluded the 26,974 who did not reside in the same household with their mother, and an additional 9,683 individuals who co-resided with their mothers but were outside the age range of interest. Among the school-aged children excluded because they did not co-reside with their mothers (8,399), 76% did not have education qualification, while 11% and 12% had primary and secondary school qualifications, respectively. In addition, 95% had ever attended school, but only 53% were currently in school. Almost half were currently or had ever been married.

In most of the sampled households, there is only one mother co-residing with her school-age child(ren). In the 1.3% households with multiple mothers with school-age children (either polygamous marriages, or multi-generational households), I selected the mother with the most school-age children as I assumed she is more likely to have influence on children's education in the household than the other mothers with fewer children. Although the selection of this sub-sample is non-random, it is unlikely to bias the results due to its small size. The final analysis sample thus includes 17,225 children from 7,063 households (Figure 17).

⁸ The official age of starting school in Malawi is 6 years, and the age group for primary and secondary is 6–18 years, but I chose 25 years as the upper limit for completing school because high grade repetition and children's delayed school enrolment obscures the attending age.

Figure 17: Analytic sample selection flowchart



4.5.2 Variables and measurement

4.5.2.1 Outcome variables

The three binary outcome variables focus on children’s school attendance and progression: (i) being on-time vs. older for grade; (ii) ever vs. never attended school; and (iii) currently attending or finished secondary-level schooling vs. not in school and not finished schooling. School enrolment refers to entry into the first grade of primary school, while current attendance refers to whether the child is currently attending school and thus reflect the contemporaneous aspects of the child and the household including income and school readiness.

Timely progression refers to being in the appropriate grade for age and represents a series of choices and performance including enrolling on time, remaining in school with continued attendance, and good performance to allow promotion from one grade to the next. The main

outcome variable is being in the appropriate grade for age. Students are considered to be on-time if they are at most one year older than the official age for their grade, and over-age if they are two or more years older (UNESCO Institute for Statistics 2004). For instance, in Malawi the official age for starting school is 6 years, thus children in grade 1 aged 6 or 7 years are on-time, while those aged 8 years and above are older for grade.

For current school attendance and being on-time outcomes, I disaggregated results by primary and secondary school levels, as some associations could vary by these levels of education. Children who had completed secondary school or higher were added to the group that were currently in school to avoid classifying them as non-attenders, as they have already finished that level of education. I only selected children who had completed secondary school level because completion of secondary education provides a clear boost to economic development, much more than can be achieved by primary education alone (IIASA 2008).

4.5.2.2 Main explanatory variable: Women's economic empowerment

The main explanatory variable is women's economic empowerment (WEE). It is measured as an aggregate score of 6 variables: being in employment, earning income (any amount), post-primary educational attainment, financial asset access, land ownership (alone or jointly with their partners), and participation in decision-making at household level.

Employment was defined as working for a wage, including casual labour, or working at a family business (all types of business ranging from roadside vending to professional establishments such as a law firm). For post-primary educational attainment, women are classified as empowered if they were literate in English and/or the national language Chichewa and had attained at least a secondary-level qualification. I limit education to secondary or higher because gains associated with educational attainment tend to be more substantial with secondary or higher than with primary education (Wodon et al. 2018). Although primary level education is necessary, it's not sufficient because it is unlikely to address structural inequalities between men and women, and for many indicators globally (including full-time labour-force participation and living standards, among others), having a primary education does not make a large difference versus not having an education at all (Kabeer 2009; Wodon et al. 2018).

Women who own or have access to bank accounts or are responsible for repayment of existing loans are counted as empowered in financial assets. Participation in decision-making is based on three measures: use of own income earnings; crops to be planted; and use of earnings from land sale. Women who participate in any of these decisions are considered economically empowered.

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The details of the method and sensitivity analysis of the WEE score is described in Chapter 3 of this thesis. There are some key differences between the indicator used here and the earlier score due to differences in the datasets used. Three indicators used in chapter 3 were not included here because they were not measured in the survey: (1) type of earnings (whether cash or in-kind), (2) who decides on use of husband's income, and (3) woman as the sole breadwinner. Thus, the total maximum WEE score here is six. Also, measures of some of the indicators, for instance decision-making, are slightly different.

Thus, the WEE score ranges from 0 (not economically empowered) to 6 (highly economically empowered). I categorised the score into low (0–2), medium (3–4), and high (5–6) economic empowerment. These categories are based on distribution of cases and indicator similarities for each level of score. The first category (34.6%) consists mainly of women who participate in decision-making and/or who own land. Half (50.4%) of the women score either three or four and thus the middle category consists of women who mainly are employed and earn income in addition to having the characteristics in the lowest group. The last category (15.0%) consists mostly of women who scored top of the other economic empowerment indicators, including financial access and post-primary education.

4.5.2.3 Control variables

I control for variables at the child- and household-levels in the models. At children's level, I control for child's gender and age (at the time of the survey). At household level, I adjust for age of mother at the time of survey, father's education attainment, number of school-age siblings within the household, lineage (patrilineal or matrilineal), place of residence (urban or rural), geographical region (North, Central, Southern), and household wealth.

To avoid dropping a large number of observations due to missing data in the lineage variable ($n_{\text{missing}}=1,601$ out of 7,063), I imputed observations by combining the lineage question and the district of residence variable. Using information about the most common lineage in each district (Berge et al. 2014), I assigned missing observations to either matrilineal if they resided in a district where more than 70% of the villages are matrilineal or patrilineal if they resided in a district where more than 70% of villages are patrilineal. Districts where the lineage is not clearly defined (30% or more of both matrilineal and patrilineal co-residence) were coded under a "Don't Know" category. Appendix B shows the lineage for each district and how the missing values are assigned to each category. For sensitivity analysis, I fitted regression models with both the original and imputed variables, and the results were similar.

4.5.2.4 Household wealth index

There are challenges of using income to measure economic status particularly in LMICs due to large missing data and reporting biases. Thus, many studies construct a relative wealth index using household assets and household characteristics (Filmer and Pritchett 2001). Instead of a simple summation of all assets, Filmer and Pritchett proposed use of PCA which determines the relative importance of each variable to the wealth index. The first component is extracted as the relative wealth index because it accounts for the largest possible variance across the variables, and weights assigned to each variable represent the variable contributions to the construction of the first component. As weights are assigned depending on their variation across households, the most common assets are assigned a weight closer to zero (Fry, Firestone and Chakraborty 2014).

Since a wealth index was not provided in the dataset, I created one. To construct the wealth index, I used variables on household durable assets, housing characteristics, agricultural land, livestock, and ownership of house and land. Housing characteristics included housing materials (walls, roof and floor), water and sanitation, energy for lighting, cooking, and number of members per room. Using the UN Habitat Adequate Housing indicator list, I categorised housing characteristics into adequate or inadequate (UN-Habitat 2018). I dichotomised all variables to indicate ownership of each asset. I excluded assets that were mainly for income generation, including motorcycles, buses and sewing machines. To account for differences in distribution of assets and household characteristics between urban and rural areas, I computed the weights separately for urban and rural areas, then pooled the dataset for the overall index (Appendix C).

I categorised households into four quartiles, with the lowest 25% being the poorest and the highest 25% being the richest households (Appendix D). To assess the internal validity of the wealth index constructed (whether the index discriminated well between the wealthy and poor), I tabulated the proportion that has access to each asset and the average wealth level across quintiles. Those in 4th quartile had more assets than the rest in the survey. I also correlated the index and education attainment, and those in the 4th quartile had higher education attainment compared to other quartiles.

4.5.3 Methods and analytical strategy

I fit a two-level random-intercept (mixed-effects) logistic regression model in which children ('level 1') are clustered within households ('level 2') separately for each outcome. As the existing literature shows girls may have better educational outcomes than boys when their mothers are more economically empowered (Malapit et al. 2019) and that women in matrilineal households

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are more likely to be more economically empowered than those in patrilineal households (Peters 2010; Le Roy 2017; Slavchevska et al. 2017), I test for three interactions in three separate models: WEE and gender of children, WEE and lineage, and WEE and household wealth. All analyses are weighted using survey sample weights provided in the IHS. Data are analysed using STATA 17 (Stata Corporation, College Station, TX).

For the outcome variable 'current school attendance' I fit models for all children in the sample, but also only for those aged 6–18 years. This is because those over 18 years are more likely to drop out of school than the younger ones even if they have not yet completed primary/secondary school. I also conducted diagnostic tests for model fit and robustness exploring the association between individual indicators of WEE and the three outcome variables to situate my results against the body of knowledge that finds associations between individual indicators of WEE and children's education outcomes. I do not believe these indicators are complete measures of WEE, and thus my motivation is to detect the general patterns across studies.

4.6 Results

I first present descriptive statistics of mothers by the main explanatory variable followed by their children and the distribution of the outcome variables. Thereafter, I present the estimated effects of WEE on the outcome variables for all grades, primary school grades, and secondary school grades, each run as a separate regression model.

4.6.1 Descriptive statistics (mothers)

The average age of mothers was 38.1 years (range 20 to 75 years). Four in every five women (81%) did not have any educational qualifications. The majority lived in rural areas (81%), and less than 10% lived in the Northern region (Table 12). Among the 77% of women that were married, almost two in three resided in matrilineal households. The average WEE score was 3.1, and only 1.6% of women were empowered in all the indicators. Half of the mothers had a medium economic empowerment score, while 15% had a high economic empowerment score (Table 12).

Table 12: Distribution of women's characteristics in the analytic sample (weighted % and unweighted N)

Characteristic	Percent	N
<i>WEE Score</i>		
Low	34.6	2426
Medium	50.4	3545
High	15.0	1092
<i>Age group</i>		
20–30	24.9	1757
31–35	21.3	1508
36–40	18.8	1331
41–45	13.6	957
46+	21.4	1510
<i>Education Qualification</i>		
None	80.8	5565
Primary	8.6	664
Secondary+	10.6	834
<i>Marital status</i>		
Married	77.0	5465
Separated/widowed	22.7	1567
Never married	0.3	31
<i>Marital lineage</i>		
Patrilineal	33.7	2798
Matrilineal	64.4	4008
Don't Know	1.9	134
<i>Place of Residence</i>		
Urban	19.0	1280
Rural	81.0	5783
<i>Region</i>		
North	9.1	1408
Central	45.7	2440
South	45.2	3215
Total	100.0	7,063

Data source: Author's calculations, Malawi IHS, 2016–17

There were significant differences in WEE by age, place of residence, region, and lineage system for the household. Rural residents showed a higher economic empowerment score than the urban residents. Women in matrilineal households were more likely to be highly economically empowered than those in patrilineal households, while those residing in the Central region were more likely to be highly economically empowered than the other regions (Appendix E).

The proportion of women empowered for each indicator varied widely, with participation in decision-making being the most common empowerment indicator (83%), while post-primary educational access was the least common (14%) among women in the analytic sample (Appendix

F). There were significantly more women with post-primary education and financial access in urban areas than among rural residents, with women in urban areas being more than five times more likely to be educated beyond primary level than those in rural areas. The reverse was true for participation in decision-making, land ownership, and earning an income, with more women in rural areas counted as empowered according to these measures than urban residents. There was no difference in employment between rural and urban areas (Appendix F).

4.6.2 Descriptive statistics (children)

Of the 17,225 children in the analytic sample, the average age was 12.4 years. Three out of four (75%) were aged between 6 and 15 years, 52% were male, and 81% were in primary school (Table 13). For the outcome variables, 93% had ever attended school, whereas 14,230 children (82%) were currently in school and as such eligible for assessing age-grade appropriateness. Among those currently attending primary and secondary school, about two in five (39%) were on time for their current grade. The vast majority of children (82%) were rural residents (Table 13), which is reflective of Malawi on the whole, as less than one in five households are urban.

Table 13: Distribution of children's characteristics in the analytic sample (weighted % and unweighted N)

Characteristic	Percent	N
<i>Outcome variables</i>		
Ever attended school	92.9	16,103
Currently attending school	82.3	14,374
On-time for grade	39.1	5,753
<i>Age group</i>		
6–10	41.2	7,017
11–15	33.2	5,702
16–25	25.7	4,506
<i>Sex</i>		
Male	52.0	8,943
Female	48.0	8,282
<i>Place of Residence</i>		
Urban	17.9	2,883
Rural	82.1	14,342
<i>Region</i>		
North	9.1	3,410
Central	46.8	6,073
South	44.1	7,742
Total	100.0	17,225

Data source: Author's calculations, Malawi IHS, 2016–17.

Table 14 shows the distribution of child-level explanatory variables by the outcomes. Only 7% of the sample had never enrolled in school. Younger children and those residing in rural areas were significantly less likely to have ever attended school. Children in the Northern region were more

likely to have ever attended school than those in Central or Southern regions. Mothers' economic empowerment significantly influenced their children having ever enrolled in school.

Among the 16,103 children who had ever enrolled in school, about 11% were not currently attending, with older children (16–25 years) being less likely to be currently attending school than younger age groups. Urban residents and children in the Northern region were more likely to be currently attending school than their counterparts in rural areas and the Southern and Central regions, respectively. There was no significant association between mother's economic empowerment and current school attendance (Table 14).

Table 14 also shows that most children currently in school were old for their grade. High economic empowerment was associated with more children being on-time for grade (43%) than low (40%) or medium (38%) economic empowerment. Girls, urban residents, younger children, and children residing in the Northern region were significantly more likely to be on time for grade than boys, rural residents, older children, and children in Central and Southern regions, respectively (Table 14).

Table 14: Distribution of child-level explanatory variables by outcomes (weighted % and unweighted N)

Characteristic		Ever attended school (%)	Current school attendance (%)	On-time for grade (%)
WEE***#	<i>Low</i>	93.0	89.4	39.6
	<i>Medium</i>	92.3	87.8	37.7
	<i>High</i>	94.4	89.1	42.8
Sex***	<i>Male</i>	92.2	87.4	35.4
	<i>Female</i>	93.6	89.8	43.0
Place of Residence***	<i>Urban</i>	96.9	91.7	53.2
	<i>Rural</i>	92.0	87.8	35.8
Age group***	<i>6–10</i>	85.9	98.6	68.5
	<i>11–15</i>	97.7	94.6	21.6
	<i>16–25</i>	97.8	66.6	9.1
Region***	<i>North</i>	95.9	91.6	48.1
	<i>Central</i>	91.9	87.8	36.7
	<i>South</i>	93.3	88.7	39.6
Total	%	92.9	88.6	39.1
	N	17,225	16,103	14,230

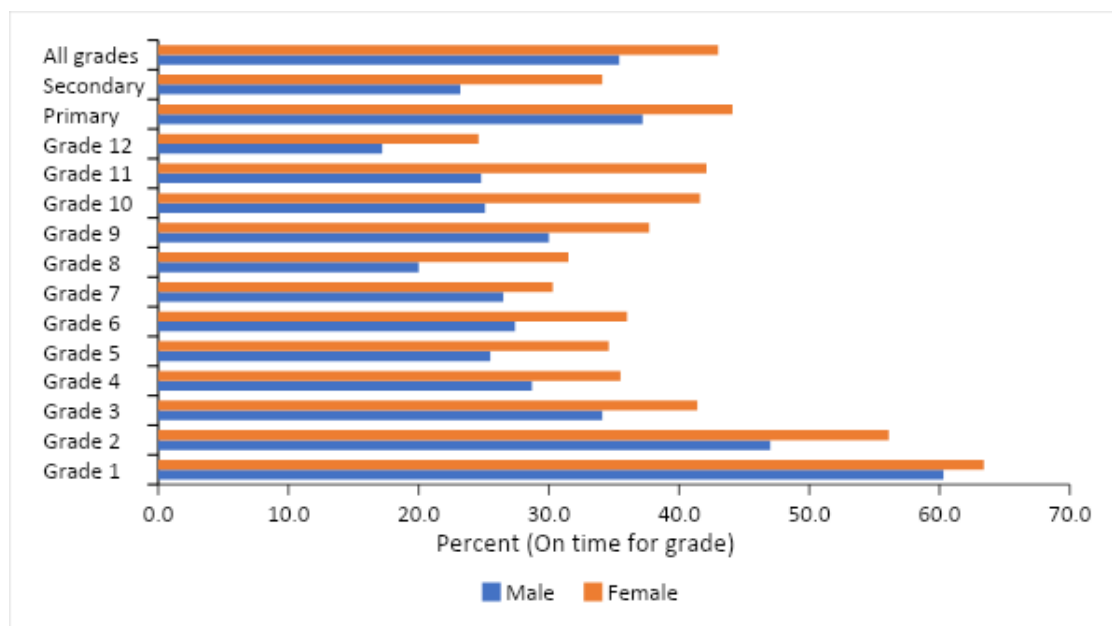
Data source: Author's calculations, Malawi IHS, 2016–17.

*Pearson's χ^2 : *** $p < 0.001$; # not significant at secondary school*

Figure 18 shows the percentage of children by gender who were on-time for each grade and also the total by school level. Notably, in all grades both in primary and secondary schools, girls were more likely to be on-time for grade than boys. Being on-time for grade declined from the first

grade in each school level to the last grade, except for girls in secondary school where the proportions increased from grade 9 to 11, then dropped sharply in grade 12. For example, 63% of girls in grade one were on-time for grade, dropping to around half of that by grade 8 (32%). The corresponding percentages for boys were 60% and 20%, respectively. The figure also shows a higher percent of children being on-time for grade in primary school (44% girls and 37% boys) than in secondary school (34% girls and 23% boys).

Figure 18: Percent of children on-time for grade by sex, grade, and school level



Data source: Author's calculations, Malawi IHS, 2016–17

4.6.3 Multivariate analysis

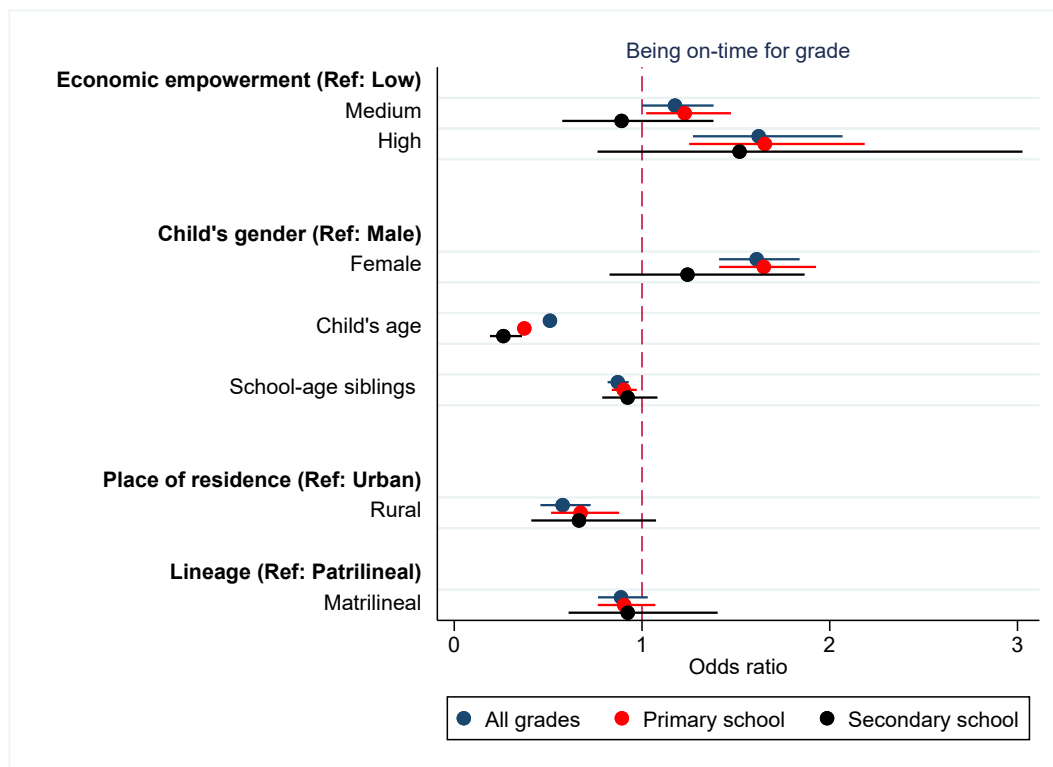
4.6.3.1 Association between WEE and being on-time for grade

Women's economic empowerment was associated with higher odds of being on-time for grade after controlling for both child- and household-level factors for primary and secondary school and when both primary and secondary school were combined (Figure 19). Children whose mothers scored medium or high in economic empowerment were more likely to be on-time for grade than children whose mothers scored low in WEE. The results were not statistically significant for the secondary school category.

Among the control variables of interest, girls were significantly more likely than boys to be on-time for grade, except in secondary school. Children in rural households had significantly lower odds of being on-time for grade. Lineage was not associated with being on-time for grade (Figure

19). There was no between-household variability in being on-time for grade, implying that any unobserved household-level characteristics may be less relevant to the outcome of interest than the ones that were observed (Appendix G).

Figure 19: Adjusted odds ratios (ORs) and 95% confidence intervals for being on-time for grade

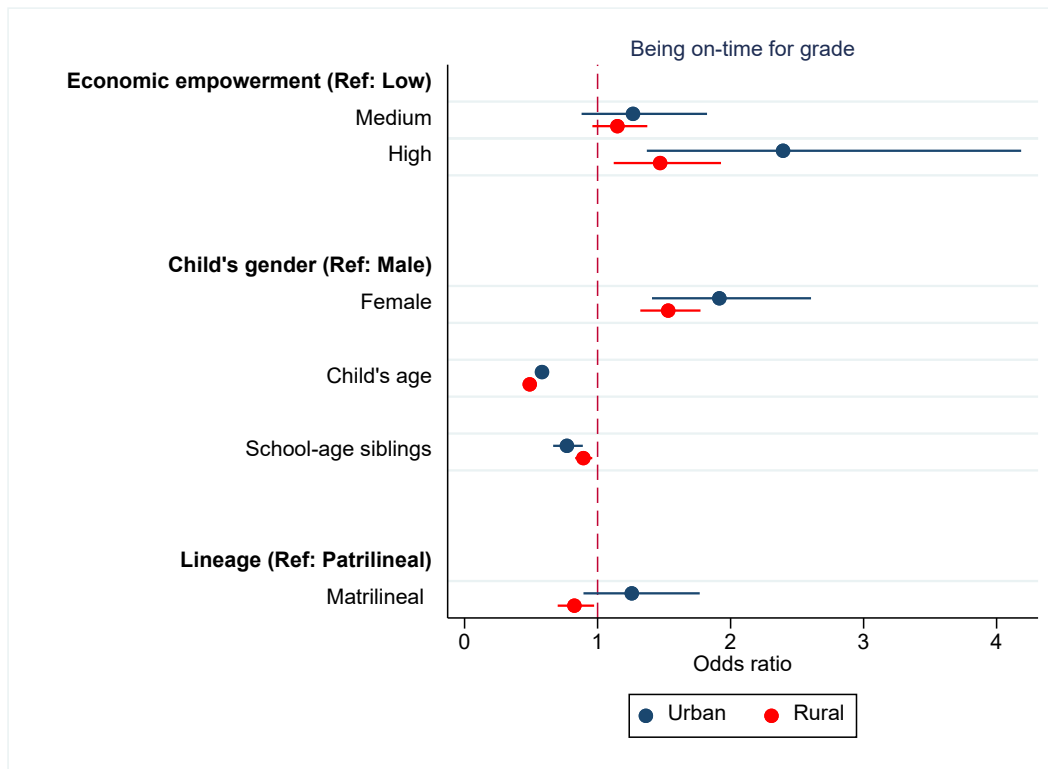


Data source: Author's calculations, Malawi IHS, 2016–17

Other control variables included maternal age, father's education qualification, and household wealth quartiles; full results in Appendix G.

Because most of the indicators used in the measurement of WEE were more common in rural than urban areas, I fitted separate models for rural and urban households to explore whether this influenced the results. I limited this analysis to combined (all) grades because the sample size broken down by both place of residence and level of schooling would have been too small. Looking at the point estimates on Figure 20 reveals that children in urban areas may have higher odds of being on-time for grade if their mothers scored high on WEE than their rural counterparts. Children residing in matrilineal households in rural areas had significantly lower odds of being on-time for grade, while the association in urban households were not significant.

Figure 20: Adjusted odds ratios (ORs) and 95% confidence intervals for being on-time for grade disaggregated by urban and rural



Data source: Author's calculations, Malawi IHS, 2016–17

Other control variables included maternal age, paternal education qualification, and household wealth quartiles; full results in Appendix H.

To explore whether the association between WEE and being on-time for grade differed by sex of child, region, or lineage system, I fitted models including the corresponding interaction terms (Appendix I). The point estimates for girls in secondary school showed higher odds of being on-time for grade. In addition, children whose mothers were economically empowered and residing in matrilineal homes had higher odds of being on-time for grade, except in secondary school. However, none of the interactions were significant.

Finally, I fitted separate models with each WEE indicator as the main explanatory variable (Table 15). Maternal post-primary educational attainment and access to financial assets were significantly associated with higher odds of being on-time for grade for all combined and primary school grades. The results, however, were not significant at secondary school level. Maternal land ownership was associated with being on-time for grade only in primary school. None of the other indicators showed significant associations with being on-time for grade.

Table 15: Adjusted odds ratios (ORs) and 95% confidence intervals for children being on-time for grade by individual WEE indicators

WEE indicators	All grades	Primary school	Secondary school
Employment	1.102 [0.95,1.28]	1.102 [0.93,1.31]	1.232 [0.80,1.89]
Land ownership	1.174 [0.99,1.39]	1.297** [1.07,1.57]	1.214 [0.78,1.88]
Post-primary education	3.479*** [2.67,4.53]	3.424*** [2.52,4.66]	1.626 [0.92,2.87]
Financial access	1.266** [1.08,1.49]	1.289** [1.07,1.55]	0.956 [0.62,1.47]
Earning income	1.004 [0.86,1.18]	0.977 [0.82,1.17]	1.194 [0.74,1.93]
Participation in decision-making	1.116 [0.90,1.39]	1.243 [0.97,1.60]	0.709 [0.43,1.16]
Observations	10,410	9,140	1,268

Control variables: Sex and age of child, number of school-age siblings within household, mother's age, father's education qualification, urban/rural residence, lineage, household income, and region. Other WEE indicators are not adjusted for.

Data source: Author's calculations, Malawi IHS, 2016–17.

Exponentiated coefficients; 95% confidence intervals in brackets.

Wald chi2: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

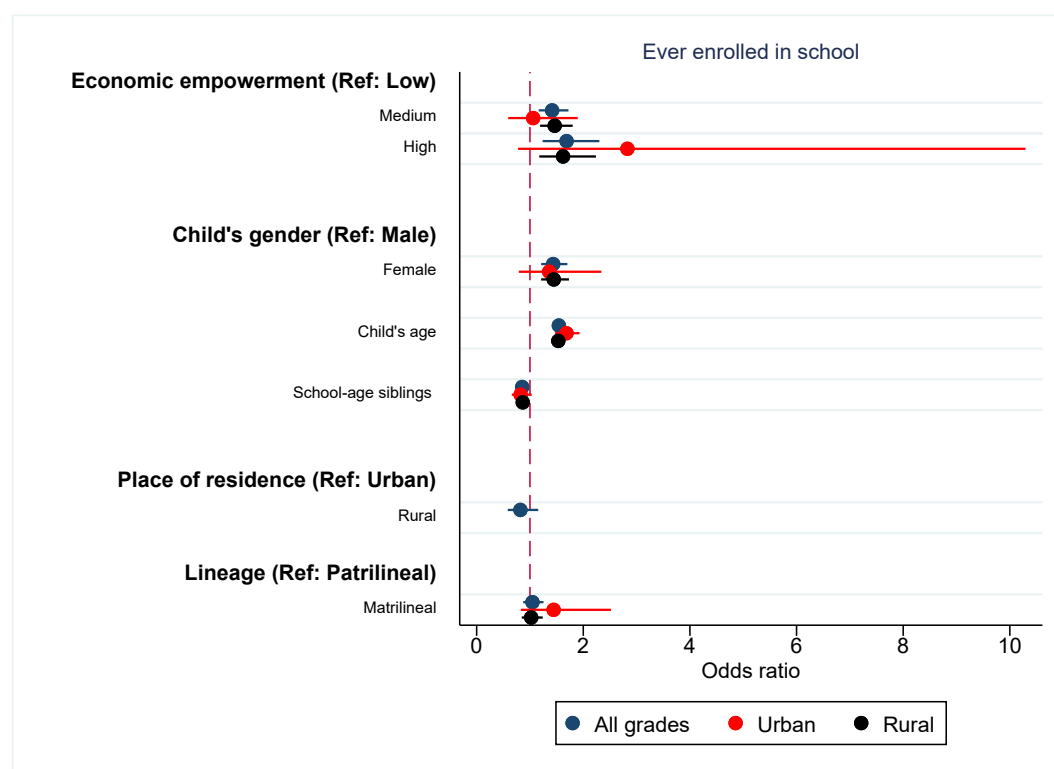
4.6.3.2 Association between WEE and children ever attending school

Both medium and high WEE were associated with higher odds of children having ever attended school. Girls had higher odds of having ever attended school than boys. When disaggregated by place of residence, most of the results in urban areas were not significant despite showing higher point estimates than rural areas (Figure 21; full results in Appendix J).

I fitted separate models for interactions between WEE and child's gender, household lineage system, and region. None of these interactions were statistically significant, although the point estimates for the interactions with gender, residing in matrilineal households, and residing in the Southern region showed higher odds of having ever attended school (Appendix K).

I also fitted separate models for individual WEE indicators as explanatory outcomes. The adjusted results showed that all indicators except earning an income were significantly associated with a higher likelihood of having ever attended school (Table 16).

Figure 21: Adjusted odds ratios (ORs) and 95% confidence intervals, having ever attended school



Data source: Author's calculations, Malawi IHS, 2016–17

Other control variables included maternal age, father's education qualification, and household wealth quartiles; full results in Appendix J.

Table 16: Adjusted odds ratios (ORs) and 95% confidence intervals for children ever attending school by individual WEE indicators

WEE Indicators	All
Employment	1.239* [1.03,1.49]
Land ownership	1.353** [1.10,1.66]
Post-primary education	1.960** [1.30,2.96]
Financial access	1.420** [1.15,1.75]
Earning income	1.095 [0.91,1.32]
Participation in decision-making	2.086*** [1.60,2.71]
Observations	12,413

Control variables: Sex and age of child, number of school-age children within household, mother's age, father's education qualification, residence, lineage, household income, and region of residence. Other WEE indicators are not adjusted for.

Data source: Author's calculations, Malawi IHS, 2016–17.

Exponentiated coefficients; 95% confidence intervals in brackets.

Wald chi2: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.6.3.3 Association between WEE and children's current school attendance

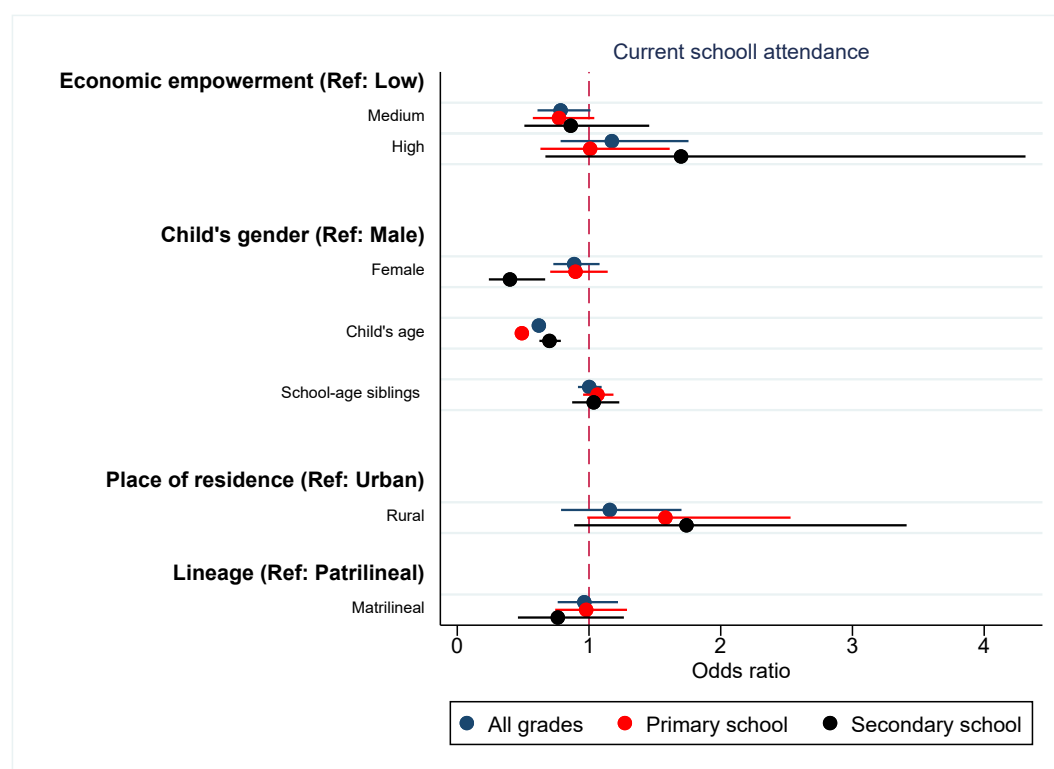
There was no significant association between WEE and current school attendance, whether for the whole sample or disaggregated by primary and secondary grades (Figure 22). As expected, older children showed significantly lower odds of current school attendance. Although child's gender was not significant in the other models, in secondary school, girls were significantly less likely to be currently attending school. To further disentangle these findings, I fitted a model on children aged 18 years and below (who are more likely to be currently in school). The associations between current school and WEE were also not statistically significant (Appendix L).

To explore the differences by place of residence, I disaggregated the results by urban and rural. Children in urban areas were significantly more likely to be currently attending school if their mothers scored high on WEE (Appendix M). Surprisingly, when compared to those with low WEE, rural residents had significantly lower odds of current school attendance when their mothers scored medium on WEE, but there was no difference for a high WEE score.

The interactions between WEE and sex of child, lineage, and region were not significant in any of the models (Appendix N). However, the point estimates for interactions between gender and WEE were higher at secondary level, perhaps implying that girls in secondary school had an advantage when their mothers were economically empowered. For the interactions between lineage and WEE, point estimates were higher for primary but not secondary school grades.

Only post-primary educational access was significantly associated with higher odds of current school attendance among the individual WEE indicators (Table 17). Post-primary education had the highest magnitude of association at secondary school, with the likelihood of being currently in school being more than threefold for children whose mothers had post-primary educational attainment.

Figure 22: Adjusted odds ratios (ORs) and 95% confidence intervals for current school attendance



Data source: Author's calculations, Malawi IHS, 2016–17

Other control variables included maternal age, father's education qualification, and household wealth quartiles; full results in Appendix L.

Table 17: Adjusted odds ratios (ORs) and 95% confidence intervals for current school attendance by individual WEE indicators

WEE Indicators	All grades	Primary school	Secondary school
Employment	0.807 [0.63,1.03]	0.788 [0.59,1.05]	0.940 [0.56,1.57]
Land ownership	1.124 [0.86,1.47]	1.123 [0.82,1.54]	0.853 [0.48,1.50]
Post-primary education	2.619*** [1.49,4.62]	1.593 [0.80,3.19]	3.616* [1.34,9.79]
Financial access	1.224 [0.95,1.58]	1.268 [0.93,1.72]	0.866 [0.52,1.45]
Earning income	0.783 [0.61,1.01]	0.750 [0.56,1.00]	0.915 [0.52,1.61]
Participation in decision-making	1.032 [0.72,1.48]	1.172 [0.76,1.81]	1.079 [0.55,2.10]
Observations	11,576	10,064	1,510

Control variables: Sex and age of child, number of school-age children within household, mother's age, father's education qualification, residence, lineage, household income, and region of residence. Other WEE indicators are not adjusted for.

Data source: Author's calculations, Malawi IHS, 2016–17.

Exponentiated coefficients; 95% confidence intervals in brackets.

Wald chi2: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.7 Discussion

In this study, I investigated the association between WEE and children's school outcomes: being on-time for grade, ever attending school, and current school attendance. Women's economic empowerment was significantly associated with being on-time for grade and having ever attended school, but not with current school attendance. The results disaggregated by place of residence suggest that there might be a difference between urban and rural areas for being on-time for grade and current school attendance, but not for having ever attended school. There were no significant interactions between WEE and child's gender, lineage system, or geographical region for any of the three outcomes.

This study makes an original contribution to the literature by being, to the best of my knowledge, the first quantifying the association between maternal economic empowerment and their children's school outcomes in Malawi – a country where many children do not complete secondary education or are old for their grade. It shows that WEE plays a role in children enrolling in school and progressing through grades at appropriate ages. This finding is important, as children who are older for their grade are at a higher risk of dropping out of school. Being on-time for grade can be seen as a marker of school progress, having overcome both academic and structural (both financial and non-financial) challenges that may lead to under-achievement or dropping out of school.

There are a few available studies that focus on individual WEE indicators or on general empowerment, which, as highlighted earlier, tends to underestimate the value of economic empowerment specifically. This study captures the multidimensionality of WEE by including various indicators that contribute to economic empowerment. In Malawi, where free primary education has been in place for almost three decades with minimal improvement in educational attainment and school completion (Chimombo 2009; Sunny et al. 2017), additional strategies should be considered to improve school and grade completion. In this study, I show that WEE is positively associated with improved school enrolment and appropriate progression through grades in Malawi.

4.7.1 Economic empowerment and grade progression in primary education

Women's economic empowerment was positively associated with being on-time for grade in primary school. This is of interest in a context like Malawi, where about 36% of primary school children in 2019 were older than expected in the last grade of primary school (UNESCO Institute

for Statistics 2021). While most children (70%) start school at the appropriate age of six years (Ministry of Education 2021), many will eventually fall behind due to prevalent grade repetition, temporary school withdrawal driven by financial constraints (lack of school supplies, exam fees, uniform) and non-financial experiences (family responsibilities, truancy, early marriage, and pregnancy). If more mothers were economically empowered, children may be more often able to stay in school and perform better. Women's economic empowerment is likely associated with children's education outcomes via, for instance, the family being better able to provide school resources, children being cushioned from needing to work to sustain the family, stimulation for children's cognitive development being more commonplace, and by WEE enhancing learning motivation and aspirations, as illustrated in my conceptual framework.

My results imply that there are differences between urban and rural areas on the association between WEE and being on-time for grade, although on average urban areas had a lower average WEE score (2.9) than rural areas (3.2). However, the difference could be a reflection of the survey's focus on agriculture-based activities. In addition, more women in urban than rural areas had post-primary education and access to financial assets. Given the mechanisms through which WEE is likely associated with better school outcomes, it could be that the characteristics more commonly found in urban areas are more important for the studied outcomes.

I expected that children in matrilineal households would benefit more from high WEE than those in patrilineal families. This is because women in matrilineal households more often own and have access to land. Land ownership has been shown to increase women's autonomy in decision-making (Kabber 2011; Behrman 2017; Rehman, Ping and Razzaq 2019), which is associated with being on-time for grade (Gebremedhin and Mohanty, 2016). In my study, primary school children may have benefitted more from WEE if residing in matrilineal households, although it is important to note that these results were not significant. This could partly be an issue of endogeneity, as the Southern and Central regions where the matrilineal system is highly prevalent also have a higher poverty burden and lower school attainment than the Northern region which has mostly patrilineal systems. The historical regional differences in education investment in favour of the Northern region could also be at play (Chimombo 2009; Galafa 2019). In addition, the Central and Southern regions have higher rates of initiation ceremonies lasting for several weeks conducted during school term, which keep children out of school (Munthali and Zulu 2007; Munthali, Kok and Kakal 2018; Makwemba et al. 2019).

4.7.2 Mixed findings for secondary school

Unlike for primary school, WEE was not associated with being on-time for grade in secondary school. This could be due to the sample size being small: fewer than 15% of the analytic sample

ever attended secondary school. In Malawi, secondary school places are limited so that only one in three of those who complete primary school (mostly the top performers in the final examination) can transition to public secondary schools. Moreover, unlike in primary school, tuition fees were charged at the time of the survey (although they were later abolished in 2018), which poses challenges to children from poor households (Grant 2017). Given the high poverty rates in Malawi, especially in rural areas where about 60% of the population live below the national poverty line (National Statistical Office 2019b), a very selected group of children transition to secondary school.

Although not significant, the interaction between gender and WEE suggested girls in secondary school might benefit more in terms of being on-time for grade than boys. Given that girls are more likely to drop out of school than boys of the same age, higher odds for being on-time for grade for girls with economically empowered mothers is important. Girls who are old-for-grade in secondary school, are less likely to continue education than boys in the same situation, as they approach the age of entry to marriage and parenthood. In Malawi in 2016, 29% of girls aged 15–19 years had already begun childbearing, and almost one in two women (47%) were married by 18 years of age (National Statistical Office (NSO) and ICF 2017). Almost one in four (23%) girls dropped out of school to get married in 2014 (Mussa 2016). The risk of pregnancy and marriage in Malawi starts as early as age 10 (Glynn et al. 2018).

4.7.3 Economic empowerment, ever attending school and current attendance

Women's economic empowerment was significantly and positively associated with children ever attending school. Despite high net enrolment rates in primary school (90%) (Ministry of Education 2021), universal education remains elusive. Women's economic empowerment may help increase school enrolment at the appropriate age, especially in rural areas where school entry is delayed compared to urban areas. Some of the factors that have been associated with never enrolling or delayed enrolment in school could be mitigated if mothers are economically empowered. High poverty levels mean that children may not have school supplies required for enrolment, and thus may be required to work to help their parents in income generation (Moyi 2010). All the individual indicators of economic empowerment except earning an income showed positive association with children having ever attended school. This is in line with previous research in Mozambique, Ethiopia, India, and Kenya that explored associations between mothers' educational attainment, participation in household decisions, financial access, and earning an income, respectively, and children having ever enrolled in school (Lokshin, Glinskaya and Garcia 2000; Holvoet 2004; Luz and Agadjanian 2015; Gebremedhin and Mohanty 2016).

Economic empowerment may not have a significant role in children's current school attendance in Malawi. This is surprising, because for children to be on-time for grade, which WEE is positively and significantly associated with, they have to be continuously in school. However, this finding should be interpreted with caution as individual WEE indicators were working in opposite directions. Maternal post-primary education was the only indicator significantly associated with higher likelihood of current school attendance, while the point estimates of the other indicators showed negative, albeit non-significant, associations.

In line with my findings, previous studies have reported positive associations between maternal education and current school attendance (Afridi 2010; Chevalier et al. 2013; Cui, Liu and Zhao 2019). Similarly, other studies show that mothers' work could be counterproductive in children's school attendance (Glick 2002; Francavilla, Giannelli and Grilli 2008). This is because older children, particularly girls, are more likely to substitute their mother in household chores, thus affecting their school attendance. Although the associations were not significant, this does not imply that WEE is not beneficial to current school attendance, but that the results capture the situation during the survey period. Temporary school dropout in Malawi is common, with children dropping out to raise money for school items including exam fees and other requirements (Hunt 2008). Whether WEE is associated with children re-enrolling in school may help shed light on this finding. This should be examined in the future by using longitudinal data. The fact that the point estimate showed higher likelihood of current school attendance among children with highly economically empowered mothers, particularly in secondary school, implies that WEE may play a role in children's current school attendance.

4.8 Study strengths and limitations

The present study is the first to investigate the association of economic empowerment of mothers with their children's education outcomes in Malawi. It contributes to the existing knowledge on the association between individual WEE indicators and children's education outcomes. The study uses the Integrated Household Surveys (IHSs) data, which are nationally representative and rich in economic indicators at both individual and household level, and provide information on women's involvement in economic decision-making, access to finance, and production property ownership.

This study has limitations, mostly due to data constraints. First, the survey has no data on women's preferences or motivations for choices, and indicators on gender norms around access to economic opportunities, which are key in measuring women's economic agency. I acknowledge that inclusion of these indicators would provide a more comprehensive measurement of WEE.

Despite this, these results provide a multi-factor measure of WEE based on the available data, and

that can be improved as more detailed data becomes available. Second, I measured WEE cross-sectionally, and not as a process over time as indicated in the definition of WEE. However, my findings show the extent of WEE at the time of the survey, and thus serve as a baseline for future studies that seek to measure WEE as a process using longitudinal data. Thirdly, some of the categories used in this study, particularly in variable interactions, had small sample sizes that may have lowered statistical power.

Finally, by only considering coresident mother-child pairs, I excluded children whose mothers were not coresident. Maternal non-residence can be explained by various factors including maternal death, migration for work or education, union dissolution or child fostering, where a child lives outside of the natal home. Child fostering is a mutually beneficial arrangement between sending and receiving households, with children under the care of grandparents, other close relatives or other kin (Bachan 2014). Maternal absence may sometimes present an opportunity for greater economic resources, particularly where the mother remits resources to the host household. Although evidence shows that child fostering is associated with better education outcomes (most fostering households are wealthier than natal households) (Isiugo-Abanihe 1985), the few studies focusing on children with non-resident mothers in their natal homes report poor education outcomes (Townsend et al. 2002; Gaydos 2017). These negative outcomes persist even after controlling for maternal education attainment and employment status. It is possible therefore that high maternal economic empowerment for non-resident mothers may not be associated with better education outcomes compared to children with residential mothers. While there were no significant differences in current school attendance between children with resident mothers compared to those with non-resident mothers in this study, children with resident mothers were significantly more likely to have ever attended school than those with non-resident mothers.

Although these limitations are not trivial, the findings help shed light on useful associations that have not been explored before.

4.9 Policy implications and recommendations

Given the importance of school progression and completion for human capital development, this study has clear policy implications regarding the beneficial role that WEE may play in improving children's education outcomes.

Chapter 4

First, more effort is required to economically empower women in Malawi. Only 15% of the women included in the analysis were highly economically empowered, and only 10% had post-primary educational attainment. Malawi's Vision 2063 acknowledges that reinforcing gender equality and empowering women and girls is critical for shaping decisions at household, community and national level, and thus commits to reduce gender biases through eradication of harmful social norms. Vision 2063 aims to advance gender equality through multi-sectoral and in-depth multi-disciplinary analysis of issues at household, community, and national level. Thus, this study contributes directly towards achievement of this aim in the implementation of Vision 2063.

Women's land ownership and participation in household decisions, the most common WEE characteristics in the sample, were not associated with children's school outcomes. This could be because there are not enough variations in women in terms of access to these two indicators to be significantly different in Malawi, maybe because of the patriarchal nature of the society where women have limited access to production inputs and little influence on agricultural decision-making (Peters 2010; Djurfeldt et al. 2018). To address these questions will require qualitative studies to better understand the perceptions of women themselves and the context of economic empowerment. A qualitative study in South Africa showed that economic empowerment of each individual woman is influenced by the interlinkages between cultural upbringing, family structure, and underlying insecurities (Cole 2015).

Second, although the results do not yield causal relationships, they show that WEE may be an important driver for children's school enrolment and progression, and more so in being on-time for grade which is a major challenge in Malawi. Better education outcomes are likely to contribute towards better employment, income, and accumulation of financial and production assets. Although there is need for structural investments to improve the capacity for secondary school enrolment, for instance, more economically empowered women may help provide a better education to the next generation, thus creating an upward spiral in educational access.

The findings also suggest that empowerment in some dimensions, particularly post-primary educational attainment and financial assets, is perhaps more impactful than others. However, this does not necessarily mean that the other WEE indicators do not contribute to children's education outcome because they did not reach statistical significance. The implication is that post-primary educational attainment is a key indicator in WEE, and together with access to financial assets could help the country to achieve the goal of universal education.

Enhancing girls' access to high-quality education is a national priority in Malawi, with Malawi's National Girls' Education Strategy (NGES) aiming to ensure that girls can access, participate in,

complete, and excel in all levels of education. This study supports this policy by showing that WEE is positively associated with school enrolment and being on-time for grade.

Chapter 5 Women's economic empowerment and household consumption expenditure in Malawi

Abstract

Key development outcomes such as children's education and household nutrition may in part depend on women's ability to negotiate favourable intra-household resource allocation. Most studies in this area use proxy measures of decision-making power, reporting mixed evidence on the association between such indicators and household expenditure. This chapter explores the association between WEE and patterns of consumption expenditure within the household using the Malawi 2016 IHS dataset. I examined whether the share of total household expenditure allocated to essential goods, such as food, education, health, and clothing depended on the level of WEE of the female household head or a wife of the male household head.

I show that higher WEE is associated with higher relative budget shares allocated to children's education, health, and clothing, but lower shares for food consumption. There was no association between WEE and expenditure on alcohol and cigarettes. The results suggest that there may be differences between urban and rural areas in association between WEE and household expenditure.

This study in Malawi, one of the poorest countries globally, provides key evidence that could be implemented to help achieve the SDGs. The study also provides evidence for programmes that target women as recipients of cash transfers or assets with an aim of improving household and children's welfare by showing that economically empowered women are more likely to allocate household resources to essential goods within the household.

5.1 Introduction

Household decision-making is an important factor explaining how key resources such as income, assets, and consumer durables are used in everyday life. Men and women may, on average, have different preferences that influence their decision-making, resulting in different consumption decisions within the household depending on the gender of the decision-maker. Considerable theoretical and empirical work exist on decision-making within the household, suggesting that

allocation of household resources is influenced by power and resources of individual household members (Thomas 1993; Hoddinott and Haddad 1995; Doss 1996; Quisumbing and Maluccio 2003; Duflo and Udry 2004; Doss 2013). Consequently, the household's resource allocation and consumption will be influenced by the preferences of the individual members who control key resources within the household.

Women tend to be, on average, more likely than men to allocate more resources to food, children's care, education, health, and clothing (Thomas 1990; 1993; Hopkins, Levin and Haddad 1994; Hoddinott and Haddad 1995; Lloyd and Blanc 1996; Phipps and Burton 1998; Quisumbing and de la Briere 2000; Rangel 2006; Dasgupta and Mani 2015), whereas men more often allocate more household income on their private consumption including recreational goods and their own clothing (Thomas 1997; Duflo and Udry 2004; Dasgupta and Mani 2015). This is reflected in programme implementation, where conditional cash transfers for improving children's welfare typically target women as recipients (Agarwal 1997; Brañas-Garza, Capraro and Rasc'on-Ram'irez 2016; Rand et al. 2016). Hence, development outcomes such as children's education and nutrition may in part depend on women's ability to negotiate favourable intra-household resource allocation. Greater financial decision-making power of women within the household could increase resource allocation towards human capital and household welfare, particularly for children and women.

Most studies reporting the association between women's decision-making power and resource allocation focus on proxy measures of decision-making power rather than direct measures. Such proxies include, for example, the amount of women's own income (earned or from exogenous cash transfers), assets such as land and livestock, access to credit, and human capital resources including education and skills (Agarwal 1997; Doss 2013). There is mixed evidence on the association between these proxy indicators and expenditure on children's education, clothing, food and dietary diversity, and expenditure on other non-food household items (Hoddinott and Haddad 1995; Doss 2006; Olumakaiye and Ajayi 2006; Haile and Bock 2008; Dupas et al. 2016; Asfaw and Maggio 2018; Ringdal and Sjursen 2021). In addition, existing studies have barely explored the role of women's economic agency and its association with resources allocated within the household using a direct measure of agency/decision-making power.

All these proxy indicators together, in addition to decision-making agency, constitute women's economic empowerment. As indicated in the previous chapter, WEE is a multidimensional concept, and thus focusing on only one indicator overlooks the feedback loops between and among various indicators that can promote or limit WEE and its relationships with other factors

within the household (Buvinic et al. 2020). The aim of my study is therefore to explore the association between WEE measured as a multifaceted concept and patterns of consumption expenditure within households in Malawi. It explores whether household resource allocation to essential consumption including children's education, household health, food, clothing and footwear, and to non-essential consumption (alcohol and cigarettes) varies by level of WEE of the main female member in the household. Its unique contribution is that it goes beyond individual indicators to measure the association of WEE and household resource allocation. This is because household decisions are influenced by multiple factors, and these interrelationships could be underestimated by only focusing on one or two individual indicators of WEE.

This study focuses on the share of total household expenditure that is allocated to essential goods including food, education, health, and clothing, and also allocation to non-essential goods such as alcohol and cigarettes. I hypothesise that households where women are highly economically empowered will allocate more resources towards essential goods such as education, food, and clothing than households where women are not as economically empowered. The present study contributes to generating evidence on the relationship between women's economic empowerment and household resource allocation.

I chose consumption expenditure as the outcome, because in LMICs it is likely to be a more accurate measure of living standards than household income and it is correlated with disposable income (National Statistics Office and World Bank 2018). Income data is not reliable in most low-income countries due to variations from month to month and reporting biases. Hence, using consumption data (which includes own production and gifts/donations) overrides some of these challenges (Burney and Khan 1992; Hoddinott and Haddad 1995). Furthermore, exploring the differences in household consumption has policy implications especially in LMICs. Resource allocation is a direct measure of what areas within the household are a priority. For instance, allocation towards children's education and food might result in better education and nutrition outcomes.

The rest of this chapter is organised into the following sections: section 5.2 presents a conceptual framework on the mechanisms of association between WEE and household resource allocation; section 5.3 reviews literature on association between WEE and household consumption; section 5.4 states the study research aims and questions, and section 5.5 reports on data construction, variables and methods. The results are presented in section 5.6, while section 5.7 discusses the findings. Sections 5.8 and 5.9 presents the study strengths and limitations and policy recommendations, respectively.

5.2 Conceptual framework: bargaining models of household decision-making

Various models explain the mechanisms through which resources are allocated between men and women within households: unitary, cooperative, non-cooperative, and collective bargaining models. *The unitary model* assumes that all individuals within a household share the same preferences, and thus all resources are pooled to maximise a single welfare function reached by consensus or by the main decision-maker, usually the household head (Alderman et al. 1995). As such, an increase in resources provided to one household member will increase the total household resources but will not affect where the resources are allocated because of shared preferences. Empirical studies have challenged this, citing that household decisions are an outcome of collective interactions and negotiations among household members (Bourguignon and Chiappori 1992; Alderman et al. 1995; Doss 1996; Lundberg, Pollak and Wales 1997).

The collective household bargaining model asserts that the distribution of decision-making power within members of the household plays a crucial role in determining behaviour, and thus the final outcome depends on each individual's capability of asserting their personal preferences at the household level. These models can either be cooperative or non-cooperative (Alderman et al. 1995).

In the *cooperative collective household bargaining model*, couples have separate preferences and thus bargaining power within the household depends on an individual's access to extra-household resources, such as outside options in the case of a divorce/separation or non-cooperation within the marriage (Katz 1997; Doss 2013). The strength of one's outside options, and thus their fall-back position, determine how well-off she/he would be if the cooperation failed, and hence their bargaining power. Thus, an improvement in the fall-back position would lead to an improvement in favourable decision-making within the household (Agarwal 1997). Critics of this model argue that men and women do not have equal rights within the household and that their outside options (exit resources) do not carry equal weight (Agarwal 1997; Katz 1997). For instance, divorced women are more stigmatised in many societies than divorced men, and the requirement to reimburse bride price in some contexts in the case of divorce deters many who would like to exit a marriage. In addition, women's disadvantages in the norms defining inheritance practices, occupations, or land rights lead to unequal distribution of resources within marriages, which thus weakens the decision-making power of women (Baland and Ziparo 2018).

The *non-cooperative model* assumes asymmetric access to information, lack of formal contracts between couples, and inefficient household resource allocation. Since members of the same household may not be aware of each other's earnings, assets, or time-use, individuals make consumption and production decisions based on their own labour contribution and resources (Doss 1996; Katz 1997; Phipps and Burton 1998; Quisumbing and Maluccio 2003). A bargaining process determines how much each person spends on essential and non-essential goods within the household (Doss 1996; Katz 1997). Resource allocations and expenditures vary depending on who earns a salary or receives transfer payments, with one partner taking the other's behaviour as given, or one partner having an advantage in determining resource allocation because they own means of production (labour income or assets) (Doss 1996; Katz 1997; Arthur-Holmes and Abrefa Busia 2020). In poorer households with limited and more volatile resources, spouses are likely to bargain more frequently on how to allocate the limited and changing resources (Baland and Ziparo 2018).

These models provide a framework for ascertaining how women's decision-making affects household resource allocation. Because of the complexities of household relations and resource allocation, all these models can co-exist within the same household. However, these models may not capture variations between social contexts. For instance, in Malawi, household allocation could be influenced by both within-household and beyond-household factors, including the lineage system and social norms regarding women's roles.

The paternalistic nature of Malawi's economic production sector leads to gender disparities in access to production inputs and markets, thus women's returns from agricultural labour typically are lower than men's (Djurfeldt et al. 2018). Matrilineal households that tend to depend mainly on agricultural income have lower income and thus lower consumption than patrilineal households (Bhaumik, Dimova and Gang 2016). In addition, high poverty levels and social norms limit women's access to education and economic opportunities, reducing their decision-making power within the household. In such circumstances, joint decision-making about income might increase women's power more than relying on individual-level income for women as the only tool to increase bargaining power. Income pooling between couples may increase allocation of resources to children's education, health, clothing, and household food expenditure compared to women's own income alone (Josephson 2017; McCarthy and Kilic 2017; Asfaw and Maggio 2018). This is particularly true in matrilineal households where women tend to be more likely to influence resource allocation than in patrilineal households (Josephson 2017).

As discussed in section 2.5.1 in this thesis, Malawi has among the highest levels of teenage pregnancy and early marriage in Africa. Around 43% of women were married to men at least five years older than them. Early marriage and teenage pregnancy can reduce women's bargaining

power due to reduced education attainment and earnings (Baland and Ziparo 2018). In addition, the age difference between spouses can create a power imbalance, disadvantaging women in the household (Baland and Ziparo 2018).

The dual-lineage system in Malawi means that influence of women on resource allocation likely differs between matrilineal and patrilineal households. In some matrilineal households where women own land and their male partners are involved in wage labour, the household income is higher than in patrilineal households where the men are mainly engaged in agricultural labour (Telalagic 2014). Due to this 'efficiently productive' allocation of labour, matrilineal households have higher consumption expenditure per capita than patrilineal households (Garcia 2014; Telalagic 2014; Walther 2018).

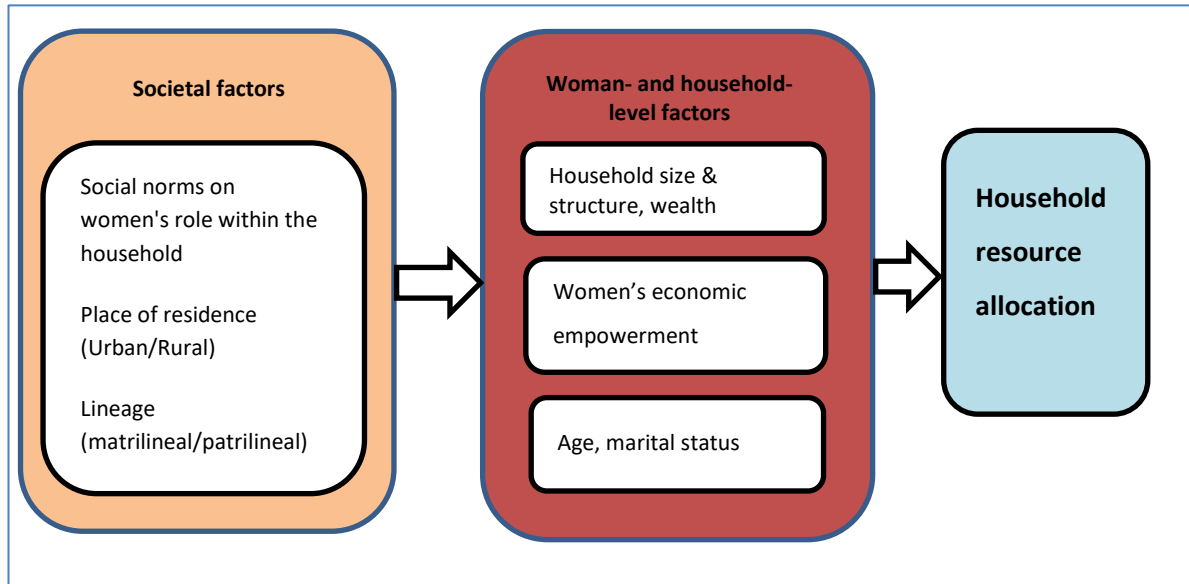
Finally, it is important to note that divorce is socially acceptable and prevalent in Malawi (one in two marriages end in divorce), particularly in matrilineal households where women's land ownership provides a fall-back position (Reniers 2003; Walther 2018). The hazard ratio of divorce was almost twice as high in districts in the Southern region (predominantly matrilineal) than districts in the North (predominantly patrilineal) (Reniers 2003). Thus, where agreement fails in household bargaining, women can exit the marriage. This is less the case for patrilineal households, where women who leave their marriages are often landless, leading deprived lives (Walther 2018).

Societal factors such as place of residence, social norms, and the dominant lineage system affect the woman- and household-level factors associated with household resource allocation. Place of residence affects access to resources e.g., land for own food production in rural areas. The important within-household factors include household size and structure, gender of household head, and wealth of the household. In multi-generational, extended, or polygamous households, women's participation in resource allocation can vary depending on gender of the other adults, with presence of female kin increasing a woman's involvement (Dunbar, Lewbel and Pendakur 2013). Women in female-headed households and wealthier households are more likely to participate in decisions on household resource allocation than women in male-headed households and poorer households, respectively (Barcena-Martín, Blázquez and Moro-Egido 2017). Even though female-headed households are typically poorer than male-headed households (Chant 2004; Brown and van de Walle 2021), children in them are more likely to have higher educational attainment than male-headed households (Lloyd and Blanc 1996; Bammeke 2010).

The conceptual framework in Figure 23 captures the factors affecting household resource allocation in Malawi based on the theoretical models as well as the empirical results presented in

this sub-section. I posit that both women -level factors (indicators of WEE and socio-demographic characteristics) and broader household and societal factors influence women’s decision-making power within the household.

Figure 23: Conceptual framework on the mechanisms of association between WEE and household resource allocation



Notes: Author conceptualisation

5.3 Literature review: Role of WEE in household resource allocation

I limit this review to studies within sub-Saharan Africa to cover results in countries contextually relatively similar to Malawi. However, findings reported in this section are similar to other low- and middle-income regions including Asia (Bhupal and Sam 2014; Dasgupta and Mani 2015; Pangaribowo, Tsegai and Sukamdi 2019) and South America (Thomas 1993; 1997; Rangel 2006).

Maternal participation in household resource allocation is one of the pathways through which women influence children’s welfare. Maternal income and asset ownership are common indicators in studies exploring the association between indicators of economic empowerment and women’s participation in household resource allocation. Generally, *women’s income* is associated with a higher percentage of the household budget allocated to children’s health, food, and nutrition. For instance, women’s income was positively associated with the household budget share used on school fees and clothes in Nigeria and Congo Brazzaville (Backiny-Yetna and Wodon 2010; Opata, Ezeibe and Ume 2020), and on food consumption in Côte d’Ivoire (Hoddinott and Haddad 1995; Duflo and Udry 2004). However, in Niger in the 1990s, there was no association between women’s income and food expenditure (Hopkins, Levin and Haddad 1994). An experimental study in Tanzania varying spouse’s control over money as a proxy for bargaining

power showed that women being sole decision-makers in money allocation did not increase the amount invested in children's education, but it did improve gender equality in education among the children (Ringdal and Sjursen 2021). In Malawi, increasing joint income was positively associated with total food and non-food (education, health, and clothing) consumption expenditures, but no such association with increase in women's sole income was found (Josephson 2017; McCarthy and Kilic 2017). This shows mixed evidence on the association between women's income and household resource allocation to essential goods.

The few studies that have explored the association between women's income and household resource allocation to non-essential goods, particularly on alcohol and cigarettes, reported negative or lack of statistical associations (Hoddinott and Haddad 1995; Duflo and Udry 2004; Josephson 2017; McCarthy and Kilic 2017; Opata, Ezeibe and Ume 2020). These results in Malawi vary, however, by lineage system: increasing women's income was positively associated with the budget share used for alcohol and cigarettes in patrilineal but not in matrilineal households (Josephson 2017).

Evidence on the association between *women's ownership of assets* and household resource allocation is mixed. Women's individual assets (land and/or livestock) at the time of marriage were associated with higher expenditure share on children's education in South Africa and higher food expenditure share within the household in Ethiopia (Quisumbing and Maluccio 2003). In Ghana and Ethiopia, women's asset ownership was positively associated with higher expenditure on clothing, health care, and food, but negatively with expenditure on children's education (Doss 2006; Fafchamps, Kebede and Quisumbing 2009; Muchomba 2017). As these studies use different data sources, associations with health expenditure could vary depending on whether preventive or curative health expenditure is measured. Although wealthy households are more likely to be healthy than poorer households (Ganyaupfu 2020), they are more likely to have higher expenditure on health services because the poor may not often access health services due to inability to afford the cost (Gordon, Booysen and Mbonigaba 2020).

In Malawi, women who solely managed their agricultural plots were more likely to have lower food budget share than households where land was managed by men or by the couple jointly (Garcia 2014; Asfaw and Maggio 2018). This is because women have limited access to production inputs and thus their plots are more often less productive and more vulnerable to weather shocks. However, when controlled for lineage system, women in matrilineal households suffered from such vulnerability less often than those in patrilineal households. Women who owned land had higher expenditure on clothing for children (mainly girls) than in households where women

did not own land (Garcia 2014; Walther 2018). Associations between women's asset ownership and allocation to non-essential goods in Ghana showed lower budget share on alcohol and cigarettes in urban areas in 1991 and 1998, but in rural areas, reduced budget share were only found in 1991 (Doss 2006).

The association between *women's educational attainment* and household resource allocation has received limited attention, partly because educational attainment does not in itself add to household resources. Where reported, however, it was positively associated with food security and resource allocation to education expenditure (Roushdy 2004; Olumakaiye and Ajayi 2006).

There are only a few studies on *women's financial inclusion* (access to credit and bank accounts) and household expenditure allocation. In a multi-country study, there was no association between women's access to bank accounts and expenditure on children's education in Uganda and Malawi (Dupas et al. 2016). Access to micro-finance was associated with higher expenditure on food, its production, and children's education and clothing in Ethiopia and Malawi (Haile and Bock 2008; Hazarika and Guha-Khasnobis 2012). In Ghana among female-headed households, those with micro-finance access had higher expenditure on primary and secondary education for children, but lower health expenditure than those without micro-finance (Owusu-Danso 2015).

5.4 Study aims and research questions

This review shows there are gaps in this area of research. First, the association between women's agency, such as decision-making, and household resource allocation has not been explored, as most studies focus on women's income and access to assets, which are only proxy indicators of agency. Second, only a few studies focus on women's education attainment and financial inclusion. These are important indicators of economic empowerment, as they are likely to increase women's decision-making power within the household (Fuseini, Kalule-Sabiti and Lwanga 2019; Sougou et al. 2020; Jose and Younas 2022).

In addition, women's education attainment, although it does not necessarily directly contribute to household resources, can be used as a bargaining strategy because it improves employment potential, and it also is associated with children's developmental wellbeing (Mensch et al. 2019). Third, few studies explore more than one WEE indicator at a time, and many are dated. This study aims to fill these knowledge gaps by using a comprehensive measure of WEE. I explore whether household resource allocation to essential consumption areas such as children's education, health and medicines, food, clothing and footwear, and to non-essential consumption (alcohol and cigarettes) varies by level of WEE of the main female member in the household, that is, the female head of the household or the male head's wife.

The specific research question is: *How is WEE associated with the household budget share allocated on food, education, health, clothing, alcohol, or cigarettes?* I will explore the extent to which the observed associations differ by the gender of household head and the family's lineage system. I analyse rural and urban households separately, because expenditure in urban households is more reliant on household's income, while expenditure in rural households may be more often supplemented through own-production and transfers from relatives, the government, and/or private institutions. In addition, differences in urban/rural expenditure might arise from variation in household income levels, cost of services including education and health, and other household characteristics. In Malawi, urban-rural differences in household characteristics explained 66% of the expenditure on education differences between urban and rural areas (Mussa 2009).

5.5 Data and Methods

5.5.1 Data

I use the 2016/17 Malawi Integrated Household Survey (National Statistical Office 2017b) described in more detail in the previous chapter. The households were visited once, and all questionnaires were completed in one sitting. The household consumption data captures households' regular expenditure including both food and non-food items such as expenditure on health and schooling. The respondents were asked to recall expenditure on food consumption in the past seven days, while the reference period for non-food consumption varied from one week to 12 months depending on the frequency of use or durability of the item. For instance, a 90 days' reference period was required for clothing, while the reference period for health care varied from four weeks for medicines, medical tests, and consultations to 12 months for hospitalisations and health insurance. The food consumption component consists of what was actually consumed within the reference period (past seven days) and accounts for all major sources of food including purchases, own-production, gifts, and other sources. The dataset provides annualised expenditure and the monetary values of both purchased and non-purchased items.

5.5.1.1 Analytic sample selection

There were 53,885 individuals living in the 12,447 households in the survey. The population of interest was households including an 'index woman', i.e., a female household head or male household head's wife (n=11,597). Only one woman was selected from each household. In the ten polygamous households where both wives co-resided, the older wife was included in the analysis.

Although this was non-random, it is unlikely to bias the results due to its small size. About 31% (3,573) of the included households were female headed.

5.5.1.2 Variables and measurement

Five consumption categories were included in the analysis as outcome variables to capture both essential and non-essential goods. The essential goods include expenditure on children's education; health and medicines; food; and clothing and footwear, while alcohol and cigarettes represent adult/non-essential consumption goods. These five categories were selected because they are the most common household essential and non-essential goods consumed in the survey. The outcomes are expressed as percentages out of the total household budget i.e., budget shares. Budget shares better take into account the different levels of expenditure between households and also capture trade-offs among commodities (Doss 2006). The data does not provide information on how the goods were allocated among individual household members. Because food consumption cannot be zero, I dropped one observation that had zero food budget share.

The main explanatory variable is WEE, as already described in Chapter 4. A number of factors are expected to be associated with household expenditure patterns in addition to WEE, including household size, household wealth, and region of residence, and these are included as control variables. The number of school-age children in the household was only included as control for education expenditure, as it is most relevant for this outcome. As discussed in Chapter 4, I constructed the wealth index based on household characteristics and assets ownership (Filmer and Pritchett 2001). I categorised households into four quartiles, with the lowest 25% being the poorest and the highest 25% being the richest households. In addition, I controlled for gender of household head, lineage (patrilineal or matrilineal), and geographical location of the household (North, Central, or Southern).

5.5.2 Methods and analytical strategy

After conducting descriptive analyses, I fitted a separate linear regression model for each consumption category for urban and rural households. All outcome variables except food budget share had an extreme left skew due to the many zero-value observations in many of the consumption categories. Thus, I transformed the variables using natural log after adding one to all observations to avoid the zero-value observations being dropped. Due to this transformation, I exponentiated the regression coefficients to be able to interpret the results as relative changes. To explore whether association of WEE and household resource allocation differed by household head and lineage (as reported in previous studies (Josephson 2017; Asfaw and Maggio 2018)), I included two interaction terms in two separate models: WEE and gender of household head, and

WEE and lineage. I also included an interaction term between wealth and WEE, as consumption patterns may depend on the wealth of the household. As noted in Chapter 4 of this thesis, I fitted separate models to explore the association between each of the individual indicators of WEE and each outcome variable, while not controlling for the other indicators of WEE in that model to maintain consistency with earlier studies. This is to allow for comparison with previous studies that focus on individual WEE indicators. All analyses were weighted using survey sample weights provided in the IHS. Data were analysed using STATA 17 (Stata Corporation, College Station, TX).

5.6 Results

5.6.1 Descriptive statistics

Table 18 shows the average budget share on each outcome variable disaggregated by place of residence. Food budget share averaged more than half of total household consumption (62% in the combined sample), while the other categories had very low averages, with many households having zero values for some of the outcome variables. Urban and rural households showed significant differences for all consumption categories, except alcohol and cigarettes and health. Households in urban areas had significantly lower food budget share than rural households, while budget share on education and clothing and footwear were higher than in rural households.

Table 18: Average budget shares for outcome variables as percentages

% of total household consumption	Urban	Rural	Total
Education***	3.3	1.5	1.8
Health	1.6	1.8	1.8
Food and non-alcoholic beverages***	53.1	63.8	61.9
Alcohol & Cigarettes	0.6	0.5	0.5
Clothing & Footwear***	3.1	2.0	2.2
Others***	38.3	30.4	31.8
Total (N)	100.0 (2,025)	100.0 (9,571)	100.0 (11,596)

Data source: Author's calculations, Malawi IHS 2016/7

*Pearson's χ^2 *** $p < 0.001$*

Characteristics of the women in my analytic sample disaggregated by urban and rural areas are presented in Table 19. Only 13% of all women scored high on economic empowerment in the combined sample. Almost three in four women did not have any education qualification, about three quarters were married and more than two thirds of the households were headed by men.

There were no significant differences between rural and urban households in lineage and geographical region of residence. More women in urban households had low and high WEE than women in rural households, where almost half had medium WEE. Generally, women in urban households were more likely to be younger and had higher education attainment than their rural counterparts. Urban households were also more likely to be wealthier and headed by men than rural households.

Table 19: Distribution of women's characteristics in the analytic sample (weighted)

Indicator	Urban	Rural	Total
Economic Empowerment***			
Low	48.6	38.2	40.1
Medium	38.1	49.2	47.1
High	13.3	12.6	12.8
Age***			
16–25	19.1	21.5	21.0
26–35	37.5	27.5	29.4
36–45	22.3	20.6	20.9
46+	21.1	30.4	28.7
Education***			
None	46.4	81.5	73.8
Primary	15.3	10.3	11.4
Secondary	29.6	7.6	12.4
Tertiary	8.7	0.6	2.2
Marital Status***			
Married	79.0	73.7	74.7
Separated/divorced	8.0	12.5	11.7
Widowed	10.3	13.0	12.5
Single	2.7	0.8	1.1
Lineage			
Patrilineal	33.2	34.1	34.0
Matrilineal	65.1	64.0	64.2
Other	1.7	1.9	1.8
Household Head***			
Female	24.6	32.7	31.2
Male	75.4	67.3	68.8
Region			
North	12.4	8.4	9.1
Central	43.1	45.0	44.7
South	44.5	46.6	46.2
Wealth Quartiles***			
1 st	3.4	30.5	25.6
2 nd	5.7	29.6	25.2
3 rd	16.4	26.7	24.8
4 th	74.5	13.2	24.4
N	2,025	9,571	11,596

Data source: Author's calculations, Malawi IHS, 2016–17; Columns total 100%

Pearson's χ^2 *** $p < 0.001$

5.6.2 Model results: Women's economic empowerment and household consumption in urban areas

In urban areas (Table 20), WEE was significantly associated with the budget shares on children's education, household food and beverages, and clothing and footwear. High WEE was significantly associated with a higher budget share by 50% for children's education and 17% for clothing but a lower share by 11% for food. Having a female household head was significantly associated with lower expenditure on clothing and alcohol/cigarettes, while lineage system was not associated with any of the consumption categories. Food expenditure was negatively associated with household wealth, while budget shares on education and clothing and footwear showed a positive association with household wealth.

Table 20: Adjusted odds ratios (ORs) and 95% confidence intervals for household consumption (urban)

	Education	Health	Food/ Beverages	Clothing/ Footwear	Alcohol/ Cigarettes
WEE (Ref: Low)					
Medium	1.14** [1.05,1.23]	1.02 [0.96,1.10]	0.95*** [0.92,0.97]	1.01 [0.94,1.09]	1.04 [0.99,1.10]
High	1.50*** [1.33,1.66]	1.00 [0.91,1.10]	0.89*** [0.86,0.93]	1.17** [1.06,1.29]	0.99 [0.92,1.06]
Household head (Ref: Male)					
Female headed	1.08 [0.98,1.19]	0.98 [0.91,1.06]	0.99 [0.96,1.02]	0.84*** [0.78,0.91]	0.84*** [0.79,0.89]
Household size	1.03 [0.99,1.08]	1.03** [1.01,1.05]	1.03*** [1.02,1.03]	0.96*** [0.95,0.98]	1.00 [0.98,1.01]
School-age children	1.24*** [1.19,1.30]				
Lineage (Ref: Patrilineal)					
Matrilineal	0.95 [0.86,1.04]	1.05 [0.97,1.14]	1.02 [0.98,1.05]	1.07 [0.98,1.16]	0.98 [0.92,1.04]
Other	1.24 [0.94,1.63]	0.77* [0.60,1.00]	1.00 [0.91,1.11]	0.94 [0.72,1.22]	0.85 [0.70,1.03]
Region (Ref: North)					
Central	1.02 [0.92,1.14]	1.00 [0.91,1.10]	0.96* [0.93,1.00]	1.08 [0.98,1.19]	1.05 [0.98,1.13]
South	1.07 [0.96,1.20]	0.84*** [0.76,0.93]	0.95* [0.92,0.99]	0.96 [0.86,1.06]	1.09* [1.02,1.18]
Household wealth (Ref: 1st Quartile)					
2 nd	1.26 [0.95,1.69]	1.11 [0.87,1.42]	0.93 [0.84,1.02]	1.26 [0.98,1.62]	1.16 [0.97,1.40]
3 rd	1.33* [1.04,1.71]	1.06 [0.85,1.31]	0.88** [0.81,0.95]	1.49*** [1.19,1.85]	1.05 [0.89,1.24]
4 th	2.01*** [1.58,2.54]	1.12 [0.92,1.38]	0.76*** [0.70,0.82]	1.75*** [1.42,2.15]	0.98 [0.84,1.14]
Constant	0.70* [0.53,0.93]	1.51*** [1.20,1.90]	62.75*** [57.35,68.67]	1.81*** [1.43,2.29]	1.01 [0.85,1.20]
Observations	1,820	2,025	2,025	2,025	2,025

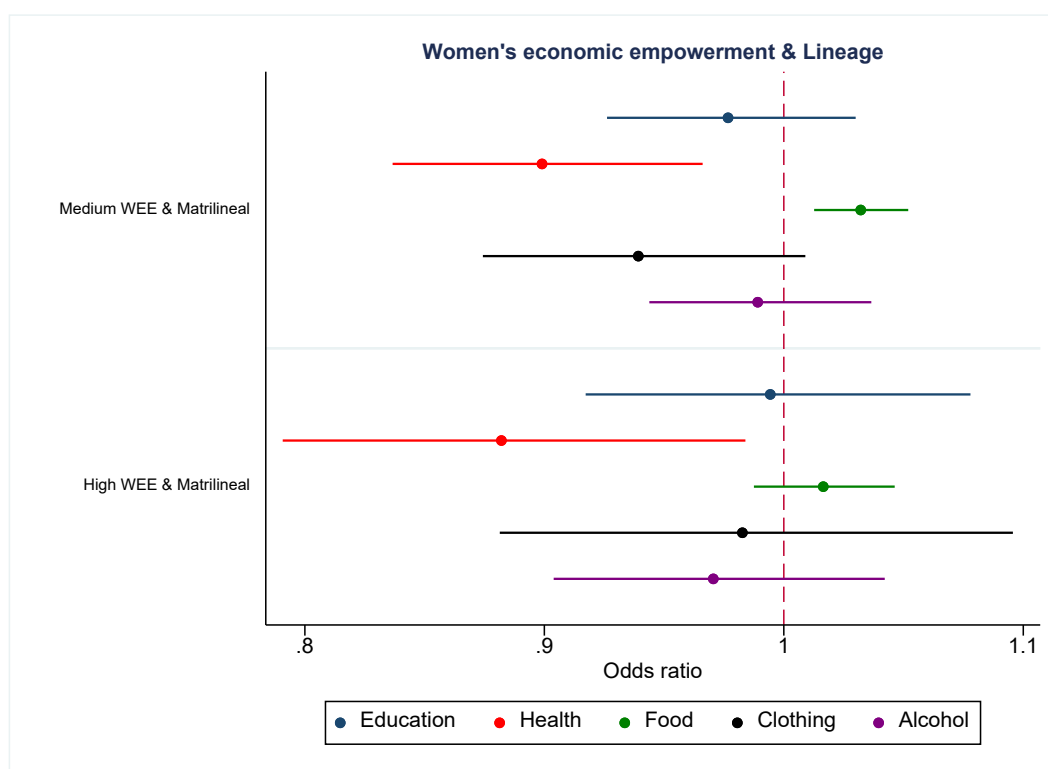
Data source: Author's calculations, Malawi IHS, 2016–17

Exponentiated coefficients; 95% confidence intervals in brackets; Outcomes are log transformed

Wald chi2: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

To explore whether the association between WEE and allocation of household resources interacted with gender of the household head, lineage system, or household wealth, I fitted models including the corresponding interaction terms. There were no significant interactions between female household headship and resource allocation or wealth and resource allocation, while highly economically empowered women in matrilineal households were likely to spend less on household health than their counterparts in patrilineal households (Figure 24).

Figure 24: Adjusted odds ratios (ORs) and 95% confidence intervals for household consumption (urban with variable interactions)



Data source: Author's calculations, Malawi IHS, 2016–17

Control variables included household size, lineage, region of residence, and household wealth quantiles.

For comparison with previous studies that explore individual indicators and to fill up knowledge gaps where studies do not exist, I fitted separate models with each WEE indicator as the main explanatory variable, controlling for the same variables as in other models. The adjusted results for urban areas are presented in Table 21. The results are mixed. All indicators except land ownership and decision-making autonomy were significantly associated with higher budget share on children's education, but lower share on food. Land ownership was significantly and negatively associated with expenditure on health and clothing, while woman earning their own income was the only indicator of WEE that was positively associated with alcohol and cigarette consumption. Participation in decision-making was not associated with any of the expenditure categories.

Table 21: Adjusted odds ratios (ORs) and 95% confidence intervals for and household consumption by individual WEE indicators (urban households)

Indicators of WEE	Education	Health	Food/ Beverages	Clothing/ Footwear	Alcohol/ Cigarettes
Employment	1.11** [1.03,1.19]	1.04 [0.97,1.11]	0.96*** [0.93,0.98]	1.05 [0.98,1.12]	1.05 [1.00,1.10]
Post-primary education	1.51*** [1.40,1.62]	1.04 [0.98,1.11]	0.90*** [0.87,0.92]	1.21*** [1.13,1.30]	1.01 [0.96,1.06]
Financial access	1.25*** [1.16,1.35]	1.00 [0.93,1.06]	0.93*** [0.90,0.95]	1.13*** [1.05,1.21]	1.01 [0.96,1.06]
Earning income	1.14** [1.05,1.23]	1.02 [0.95,1.09]	0.93*** [0.90,0.95]	1.07* [1.00,1.15]	1.06* [1.00,1.11]
Participation in decision-making	1.06 [0.98,1.15]	1.01 [0.94,1.08]	0.99 [0.96,1.01]	0.98 [0.92,1.05]	0.99 [0.94,1.04]
Land ownership	1.03 [0.95,1.11]	0.93* [0.87,1.00]	1.01 [0.98,1.04]	0.90** [0.84,0.97]	0.99 [0.93,1.04]
Observations	1,820	2,025	2,025	2,025	2,025

Data source: Author's calculations, Malawi IHS, 2016–17

Control variables: household size, lineage, region of residence, and household wealth quartiles

Exponentiated coefficients; 95% confidence intervals in brackets; Outcomes are log transformed

Wald chi2 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.6.3 Women's economic empowerment and household consumption in rural areas

Table 22 shows that WEE is significantly associated with all consumption categories except alcohol/cigarettes in rural households. Women with high WEE were more likely to allocate more household resources on education, health, and clothing, but fewer resources on food. Budget share on education, health, and clothing were significantly higher by 7%, 9%, and 23%, respectively, in households where women had high WEE compared to those with a low score. Female household headship was associated with significantly higher budget share on education (5%) but lower budget share on alcohol and clothing (11% and 15%, respectively). Residing in matrilineal households was associated with significantly higher budget share on food (2%), but lower expenditure for health, clothing, and alcohol (10%, 5%, and 4%, respectively). As expected, higher household wealth was associated with higher expenditure on education and clothing, but lower budget share on food and alcohol.

Table 22: Adjusted odds ratios (ORs) and 95% confidence intervals for household consumption (rural)

	Education	Health	Food/ Beverages	Clothing/ Footwear	Alcohol/ Cigarettes
WEE (Ref: Low)					
Medium	1.02 [1.00,1.05]	1.02 [0.98,1.05]	0.99 [0.98,1.00]	1.08*** [1.04,1.12]	1.04** [1.01,1.06]
High	1.07** [1.03,1.11]	1.09** [1.03,1.14]	0.98** [0.97,0.99]	1.23*** [1.17,1.29]	1.03 [0.99,1.06]
Household head (Ref: Male)					
Female headed	1.05** [1.02,1.09]	0.99 [0.95,1.03]	0.99* [0.98,1.00]	0.85*** [0.82,0.88]	0.89*** [0.86,0.91]
Household size	0.95*** [0.94,0.96]	1.04*** [1.03,1.05]	1.02*** [1.02,1.02]	0.99** [0.98,1.00]	1.00 [1.00,1.01]
School-age children	1.30*** [1.28,1.32]				
Lineage (Ref: Patrilineal)					
Matrilineal	1.02 [0.99,1.05]	0.90*** [0.86,0.93]	1.02*** [1.01,1.03]	0.95* [0.92,0.99]	0.96*** [0.93,0.98]
Other	1.23*** [1.12,1.35]	0.91 [0.81,1.02]	1.00 [0.96,1.03]	1.10 [0.98,1.24]	0.96 [0.88,1.03]
Region (Ref: North)					
Central	0.99 [0.95,1.03]	1.23*** [1.16,1.29]	0.95*** [0.93,0.96]	0.97 [0.92,1.02]	1.04* [1.01,1.08]
South	0.98 [0.94,1.02]	1.08** [1.02,1.14]	0.97*** [0.95,0.98]	0.91*** [0.86,0.95]	1.00 [0.97,1.03]
Household wealth (Ref: 1st Quartile)					
2 nd	1.07*** [1.03,1.10]	0.98 [0.94,1.02]	0.98*** [0.96,0.99]	1.08*** [1.03,1.12]	0.96** [0.93,0.98]
3 rd	1.17*** [1.13,1.21]	1.02 [0.98,1.07]	0.94*** [0.92,0.95]	1.21*** [1.16,1.26]	0.93*** [0.91,0.96]
4 th	1.41*** [1.35,1.47]	0.93** [0.88,0.98]	0.86*** [0.85,0.87]	1.41*** [1.34,1.49]	0.90*** [0.87,0.94]
Constant	1.20*** [1.13,1.28]	1.44*** [1.35,1.54]	63.42*** [62.29,64.57]	2.10*** [1.96,2.24]	1.26*** [1.16,1.27]
Observations	8,653	9,571	9,571	9,571	9,571

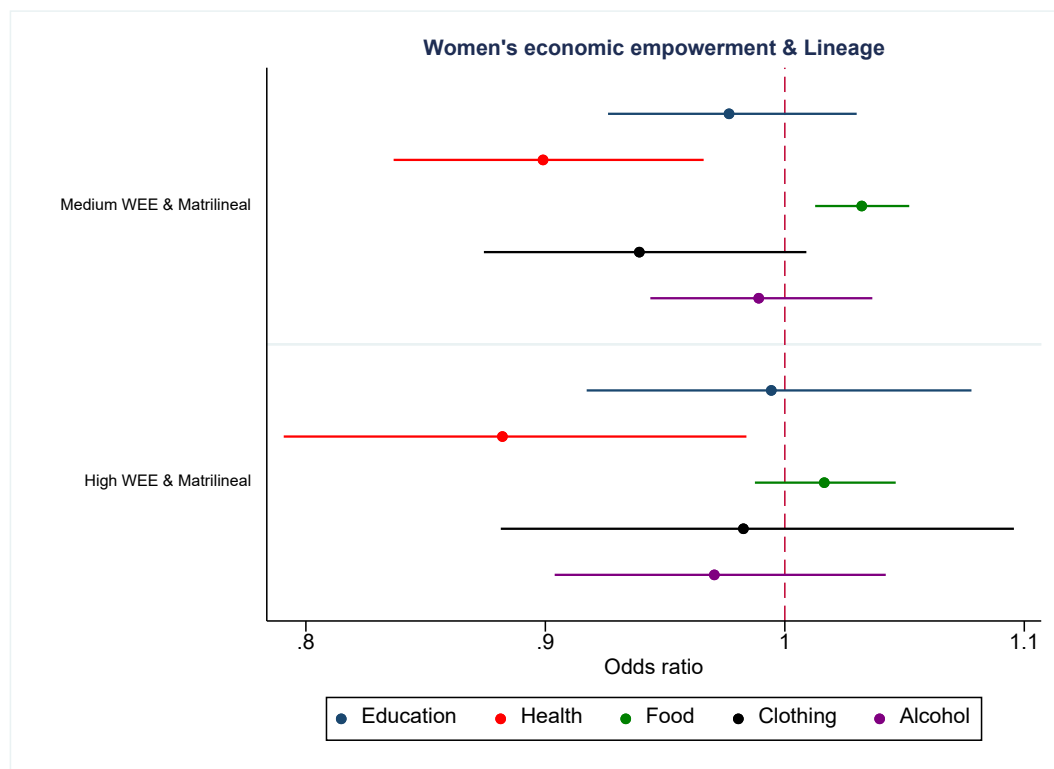
Data source: Author's calculations, Malawi IHS, 2016–17

Exponentiated coefficients; 95% confidence intervals in brackets; Outcomes are log transformed

Wald chi2: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

There were no significant interactions between WEE and female household headship, while, as observed also in urban households, highly economically empowered women in matrilineal households were more likely to allocate fewer resources on household health, which could also imply relatively healthier households than patrilineal households (Figure 25). Interactions between WEE and household wealth were only significant in the wealthiest (4th quartile) households, with higher budget share on education and health, but lower share on food.

Figure 25: Adjusted odds ratios (ORs) and 95% confidence intervals for household consumption (rural with variable interactions)



Source: Malawi IHS, 2016–17

Control variables included household size, lineage, region of residence, and household wealth quartiles

Individual indicators of WEE in rural households showed varied associations (Table 23). Similar to urban households, women’s post-primary educational attainment, financial asset access, and earning an income were significantly associated with higher expenditure on children’s education and clothing/footwear, but with lower expenditure on food. Contrary to urban households, women’s decision-making participation was associated with higher allocation to children’s education in rural households. Land ownership was significantly associated with higher expenditure on food, but lower expenditure on health and clothing. Being in employment and having financial access were significantly associated with alcohol and cigarette consumption.

Table 23: Adjusted odds ratios (ORs) and 95% confidence intervals for and household consumption by individual WEE indicators (rural households)

WEE Indicators	Education	Health	Food/ Beverages	Clothing/ Footwear	Alcohol/ Cigarettes
Employment	1.02 [1.00,1.05]	1.02 [0.99,1.05]	0.98*** [0.97,0.99]	1.10*** [1.06,1.13]	1.03* [1.00,1.05]
Post-primary education	1.14*** [1.10,1.19]	0.97 [0.92,1.03]	0.98** [0.96,0.99]	1.24*** [1.18,1.31]	0.98 [0.94,1.01]
Financial access	1.04** [1.02,1.07]	1.12*** [1.08,1.16]	0.98*** [0.97,0.99]	1.15*** [1.11,1.19]	1.04** [1.01,1.06]
Earning income	1.03* [1.00,1.05]	1.01 [0.97,1.04]	0.99*** [0.98,0.99]	1.04* [1.00,1.07]	1.01 [0.99,1.03]
Participation in decision-making	1.05* [1.01,1.08]	1.02 [0.97,1.06]	1.01 [1.00,1.02]	0.96 [0.91,1.00]	1.01 [0.98,1.04]
Land ownership	0.98 [0.95,1.01]	0.96* [0.92,1.00]	1.04*** [1.03,1.05]	0.92*** [0.89,0.96]	0.99 [0.97,1.02]
Observations	8,653	9,571	9,571	9,571	9,571

Data source: Author's calculations, Malawi IHS, 2016–17

Control variables: household size, lineage, region of residence and household wealth quartiles

Exponentiated coefficients; 95% confidence intervals in brackets; Outcomes are log transformed

Wald chi2 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.7 Discussion

I investigated the association between WEE and resource allocation on various categories of consumption within the household, and whether these associations differed by gender of the household head and lineage system, separately for urban and rural households. WEE is associated with higher budget share on children's education, health, and clothing, but lower budget share on food. These results are not entirely driven by household wealth, as interactions between WEE and household wealth were only significant for the wealthiest households in rural areas, but not significant in urban areas. There was no significant association with non-essential goods (alcohol and cigarettes). The study captures the multidimensionality of WEE by measuring it using various indicators that contribute to economic empowerment. Many previous studies on household resource allocation lack this element of multidimensionality.

5.7.1 WEE is important for allocation of household resources to key development areas

The results suggest that higher WEE is associated with more household resources being allocated to key development areas, including children's education and household health spending, which may be of interest also to policy makers. Higher allocations to education and health may be associated with improved outcomes for children's education and household health, but future longitudinal studies should confirm whether this is the case. Although there were fewer resources allocated to food among highly empowered women than among women who are less empowered, this does not necessarily mean that these households consumed less food. Economically empowered women are more likely to have more resources and a wider spread of spending patterns than less empowered women, and thus the share of the total resources allocated to food could be lower, but more in absolute terms when compared to less empowered women. The significant interactions between WEE and household wealth showing lower budget share on food only for the wealthiest households in the rural areas supports this argument. This finding is consistent with previous studies that show that wealthier households allocate lower budget share on food (Clements and Chen 2010).

While WEE in rural areas was associated with the four essential consumption categories (children's education, health, food, and clothing), in urban areas it was associated with three consumption categories, excluding health. In both rural and urban households, WEE was associated with fewer resources allocated to food and more resources allocated to the other categories. We know little about urban and rural household resource allocation differences in Malawi, and thus the current study fills a key gap.

Contrary to previous studies, there were no significant interactions between female household headship and household resource allocation. It is possible that definition of headship in the survey does not capture the main decision-maker. Therefore, a female household head may not mean the woman makes all the decisions, as a resident male partner may influence or make decisions on resource allocation. A study in Jamaica concluded that treating female headship as homogenous could lead to misleading conclusions on the associations with child and household welfare (Handa 1994). Female headship is relevant to policy makers because of the associated limited access to resources and hence higher poverty among female headed households (Chant 2004). Given Malawi's high proportion of female headed households, this finding should be further explored in future research to establish the relationship between household headship and resource allocation.

Lineage was associated with health budget share, with economically empowered women in both urban and rural matrilineal households allocating fewer resources on health. Again, this does not

imply that economically empowered women in matrilineal households invest less on household health. Spending less on health could mean the individual members are healthier in these households than in matrilineal households where women are not economically empowered or in patrilineal households. Moreover, the data used in this survey does not differentiate between expenditure on curative and preventive services, so less expenditure on curative services could be because household members are healthier.

5.7.2 Individual indicators of WEE in Malawi

The results of the analyses of individual WEE indicators underline the importance of studying WEE as a multifaceted construct instead of only focusing on one or two indicators. All indicators except women's land ownership and decision-making autonomy were associated with significantly higher expenditure on children's education and clothing, and lower expenditure on food. Results on post-primary education and access to financial assets were consistent with earlier studies (Olumakaiye and Ajayi 2006; Haile and Bock 2008; Hazarika and Guha-Khasnobis 2012). Because post-primary education and financial asset access are the least common indicators of WEE in Malawi, they might be isolating a certain group of women with better economic and development conditions, and who also may have strategic agency in the household, as previous studies show that high education attainment may mean less adherence to restrictive social norms and more liberal gender attitudes (Kabeer 2009)

Land ownership and participation in decision-making, the two most common indicators of WEE in Malawi, were only positively associated with share of household resources used on food and children's education, respectively, in rural areas. No associations were found in urban areas. This could be an indication of the barriers that women face in transforming land ownership to economic opportunities and benefits that may expand their strategic choices within the household in rural areas. Even when women own land, most of the decisions, particularly related to agricultural production, are often made by men in Malawi (Peters 2010). In addition, even where women indicate that decisions are jointly made with their partners, it could be that the man has the final say, as reported in Uganda (Acosta et al. 2020). The lack of significant association between women's land ownership and decision-making and household resource allocation in the current study could be explained by these factors.

The association between land ownership and higher food expenditure could be related to own production, where households produce most of their food as opposed to landless households that purchase their food. This association is only evident in rural areas, thus supporting my argument.

Because the survey included both own produced and purchased food in estimated the total food consumption, households that own land are more likely to have high food consumption than those purchasing food. This finding could also be due to the poor households that rely on own consumption. Because in Malawi, land ownership among women and matriliney are highly correlated (Garcia 2014; Telalagic 2014), and since poverty is higher in the South and Central regions of the country where matriliney is more prevalent, this could potentially be an endogeneity effect, driven by poor households that do not have much resources to allocate on the other categories. Therefore, food from own production takes the bigger share of their household budget.

5.8 Strengths and limitations

In addition to the strengths of the dataset highlighted in the previous chapter, this study presents several original analyses: use of a multifaceted WEE as opposed to single indicator in a study of household consumption expenditure; and exploration of how WEE is associated with resource allocation in urban households in addition to rural ones.

The study limitations due to data constraints are discussed in Chapter 4. Limitations specific to the current study include potential recall bias. The survey relied on respondents to recall expenditure on items as far back as 12 months and the recall period was different for different items. Although the most consumed items including food and other frequently used non-food items were limited to a seven days' recall period, it is possible that respondents may not have remembered everything correctly. Studies analysing recall surveys in household consumption and agricultural productivity have reported non-random measurement errors (Gibson and Kim 2007; Wollburg, Tiberti and Zezza 2021). There were many zero-value observations in the data. This could be because the households did not consume those items, or due to a recall issue. In addition, it was not possible to disaggregate consumption for each household member limiting the ability to perform detailed analysis and differentiate resource allocations to key household members, particularly children.

Finally, the chapter focuses on the empowerment of the index woman and assumes that she solely influences decisions on household consumption. However, household structures in SSA, including Malawi, are complex, with multiple generations (vertical complexity) and extended family members (horizontal complexity) (Ruggles 2010). This means that decisions on consumption may not be entirely made by one person, and involvement of others within the household, including grandparents and siblings in deciding household consumption expenditure could result to diverse outcomes than presented here.

Despite these limitations the current study presents findings that help advance knowledge on WEE and household resource allocation.

5.9 Policy implications

This study shows that WEE is associated with more household resources being allocated to key development areas such as health expenditure and children's education. Given the focus of SDGs 1, 3, and 4 on improving education attainment, health, and living standards of the poorest population groups, this study in Malawi, which is one of the poorest countries globally, provides key evidence that could be implemented to help achieve these goals.

The study also provides evidence for programmes that target women as recipients of cash transfers or assets with an aim of improving household and children's welfare. In Malawi specifically, this study provides evidence for the Social Cash Transfer Programme (SCTP) whose evaluation show improved school attendance, reduction in poverty depth, improved health and increased asset ownership (University of North Carolina 2016). I show economically empowered women are more likely to allocate household resources to essential goods including education and clothing.

Malawi's Vision 2063 aims to advance gender equality by conducting in-depth multi-sectoral and multi-disciplinary at the household, community and national level. My study contributes to this through analysis of the dynamics of WEE at the household.

Focusing only on one or two individual indicators of WEE may provide an incomplete picture of how WEE is associated with household resource allocation. While WEE measured as a multifaceted indicator is associated with higher household resource allocation to key areas, when each indicator is considered alone, the results vary. The most commonly researched indicator of WEE in Malawi, that is land ownership, was associated with fewer resources allocated to key areas including children's education, health, and clothing than the other indicators of WEE. This calls for multi-factors approach to analysis of WEE, because each individual woman's extent of economic empowerment will depend on the various resources and capabilities she possesses, and how she uses these to advance her strategic choices within the household, community or society.

Chapter 6 Conclusion

The rhetoric that women's economic empowerment is the cornerstone for achieving the SDGs should be backed up with credible evidence and with empirical research testing association of WEE with other SDGs to show what synergies there are. This is critical in regions where the progress is poor such as SSA, where the risk of not achieving the SDGs is high. According to the most recent SDG progress report (2020), Africa is off-track towards achieving the SDGs by 2030, having made only half the progress needed to fully achieve the SDGs by 2030 (Sustainable Development Goals Center for Africa and Sustainable Development Solutions Network 2020). The rest of the LMICs have either moderate distance or are close to reaching targets on many of the goals, although acceleration is needed in most of the regions (United Nations 2021). This thesis contributes to a better understanding of women's economic empowerment and its dimensions in SSA as a region as well as with a specific focus in Malawi.

In this thesis, I developed an index measuring the extent of WEE using secondary data and showed how it is associated with selected key development areas. I generated robust and internationally comparable evidence on WEE relevant also for policy development and programme implementation by answering the following research questions:

1. What is the extent of women's economic empowerment in sub-Saharan African countries?
2. What domains contribute to this economic empowerment and how can countries be classified into typologies based on the main 'drivers' of it?
3. How is women's economic empowerment associated with children's education outcomes?
4. What is the association between women's economic empowerment and patterns of consumption expenditure within the household?

I answered questions 1 and 2 with a multi-country analysis using data from the latest Demographic and Health Surveys in 33 countries in sub-Saharan Africa, while questions 3 and 4 focus on Malawi using the 2016 Integrated Household Survey.

I decided to focus explicitly on WEE rather than overall empowerment of women, as economic empowerment is increasingly viewed as a tool in development interventions. Overall, women's empowerment entails expanding women's capacity to transform choices into desired actions and outcomes, and transcends several domains including political, social, economic, and psychological. Economic empowerment is specific to women expanding their strategic agency

through transforming economic resources and capabilities into opportunities and benefits. Although most women's empowerment studies include some economic indicators such as income and asset ownership to account for economic empowerment, this does not include all relevant indicators of WEE. Access to economic resources alone does not necessarily guarantee that economic empowerment will follow. Rather, these resources form the first step towards achieving WEE. When women transform these resources into opportunities and economic benefits including access to and control over income, this contributes to expansion of their strategic choices, which therefore improves their economic empowerment (Abril 2009; Kabeer 2009). Thus, WEE must be reduced into a tangible and measurable element if its contribution towards achieving the SDGs is to be quantified and it is to be used in policy programmes.

6.1 Main findings of the thesis

In this thesis, I found that WEE is overall low in SSA but varies markedly between countries. My results further showed that WEE is associated with better education outcomes for children, and higher consumption of essential goods within the household.

6.1.1 What is the extent of women's economic empowerment in sub-Saharan African countries?

Chapter 3, 'Women's economic empowerment in sub-Saharan Africa: a cross-national analysis using Demographic and Health Survey (DHS) data', showed that WEE is overall low, averaging at 3.0 in SSA out of a possible score of 9. It varied from 1.5 in Niger to 4.1 in South Africa.

This low score could be explained by various barriers preventing women from accessing and controlling economic opportunities and assets, in addition to a high burden of unpaid care work (Ferrant and Thim 2019). Poor quality education, unemployment, or employment in the low-quality informal sector, running small income-generating enterprises with limited income-earning capacity, and limited ownership of property are key barriers to economic empowerment (Kabeer 2005; 2012; Hunt and Samman 2016). Even where women are employed, they typically earn less than men due to discrimination in the labour market (Equality and Human Rights Commission 2017; International Labour Organization 2018a). Biases related to boys' and girls' abilities shape educational choices when accessing secondary and tertiary education, accentuating gender-based segregation in the labour force (OECD 2021). In addition, women may not be able to access agricultural production assets or produce markets due to patriarchal societies limiting women's economic independence (Palacios-López and López 2015). Some women who earn an income may

lack decision-making power at the household, and thus are not able to use the resources they earned according to their choices. Further, the underlying socio-cultural norms, unequal gender relations and attitudes likely hold back women's agency, curtailing their empowerment (OECD 2021).

6.1.2 What domains contribute to economic empowerment and how can countries be classified into typologies based on the main 'drivers' of it?

I found three key factors that were closely linked to the observed levels of women's economic empowerment: educational attainment, employment, and land ownership. The various combinations of presence and absence of the above three factors in different countries result in different types of WEE in different countries. Using PCA, I identified five different typologies explaining the types of WEE in SSA: 1) instrumental agency driven by high educational attainment; 2) instrumental agency driven by land ownership; 3) individual economic advancement driven by high employment rates; 4) basic level economic empowerment; and 5) low-level economic empowerment, where the three factors are on average almost non-existent. These five typologies show the main 'drivers' of observed WEE at the household level for each set of countries, highlighting the areas that should be improved to further enhance economic empowerment. This is the first study to document WEE in such a nuanced way in Africa. The typologies are interesting from both academic and policy point of view.

WEE will not be achieved through high policy meetings and government engagements, but by concerted efforts to improve women's and girls' education attainment, employment, property ownership, and agency among others. Although many international agreements and national laws on gender equality and women's empowerment have been developed, the lack of enforcement means that women and girls continue to face discrimination in almost all spheres of their lives. Implementing laws and policies on property ownership, inheritance and marriage, redistribution of unpaid work within the household, and financial inclusivity are necessary in order to trigger the process of eventually providing women with an equal playing field to men. In addition, socio-cultural norms that limit women's voice and agency both within the household and in the public sphere should be addressed to help women achieve their potential. Further, not empowering women who are often the primary carers of children may lead to generational transmission of gender inequality and financial disadvantage with continued household poverty and poor children's outcomes including in nutrition, health, and education.

6.1.3 How is WEE associated with children's school outcomes?

In Malawi, WEE averaged at three out of a possible total score of nine using the 2016 DHS. Malawi falls under the second typology set out in Chapter 3, where economic empowerment is mainly driven by land ownership. Findings from Chapter 4, 'Association between women's economic empowerment and children's education outcomes in Malawi' in this thesis showed that WEE plays a role in children's school attendance and primary school grade progression in the country. It demonstrated that mothers' economic empowerment is associated with their children being on-time for grade and having ever attended school.

The relationship varied based on place of residence: children in urban areas were even more likely to be on-time for grade than those in rural areas when their mothers were economically empowered. More favourable results in urban areas are probably due to better access to schools for children, but also because urban areas are associated with better employment opportunities and access to services and infrastructure including financial services. In addition, the sociocultural transformations associated with urban areas imply that women are more likely to be involved in decision-making at the household than in rural areas (Chant 2013; Pozarny 2016). Thus, economically empowered women in urban areas may easily be able to realise their goals for their children's education because of available school infrastructure and other services compared to rural areas.

The persistence of poor education outcomes despite increased investment in it by the government of Malawi highlights the need to find additional approaches that can leverage on the ongoing efforts. Given the importance of school progression and completion and its contribution to human capital development, this study points to the beneficial role that women's economic empowerment may play in improving children's education outcomes. This finding is important, as children who are older for their grade are at a higher risk of dropping out of school. Being on-time for grade can be seen as a marker of school progress, having overcome both academic and structural (both financial and non-financial) challenges that may lead to problems on the educational pathway.

Human capital development is one of the enabling factors for the achievement of the recently developed Malawi Vision 2063 (National Planning Commission 2020). The government is committed to enhancing the economic and social wellbeing of its people through investment in skills, education, and health through improved school outcomes. For Malawi to achieve this, addressing the existing structural challenges such as limited infrastructure at secondary school will be key: the provision of adequate opportunities for those transitioning from primary to

secondary level cannot be ignored. Further, improving school completion rates and reducing the proportion of children who are not progressing through grades on time, in addition to addressing gender imbalances in access and participation in education, particularly post-primary education, will contribute towards the country's goal of attaining 12 years of universal formal education for each citizen. Women's economic empowerment may help contribute towards this goal by helping children to progress through grades at appropriate ages, and this may lead to lower dropout rates particularly among girls, who are more likely than boys to drop out of school at older ages due to early marriage and teenage pregnancy.

6.1.4 What is the association between WEE and patterns of consumption expenditure within the household?

In Chapter 5, 'Women's economic empowerment and household resource allocation in Malawi', I showed that WEE is associated with more resources being allocated to consumption of essential goods within the household: children's education, household health, and clothing. However, WEE was associated with a lower budget share on food consumption. As noted in the discussion section of Chapter 5, having lower budget share on food does not necessarily mean less food consumption for the household, because the relative share of food budget reduces as household wealth increases (Clements and Chen 2010). Thus, the association of WEE with a lower budget share on food could mean that economically empowered women may have more resources than women with limited economic empowerment, and thus the proportion of resources allocated to food is lower, even though in absolute terms they may consume more (expensive) food. I tested for the interactions between WEE and wealth index, and in overall, poorer households consumed a higher share on food than richer ones, but the decline by WEE was steeper for the richest households (whereas others showed mixed patterns by WEE). This implies that the observed associations between WEE and resource allocation are not only a function of wealth.

The results demonstrate that WEE is associated with more resources within the household being allocated to some of the key development areas, which may be of interest to policy makers. Interventions to improve household welfare including children's education, health, and nutrition mostly target women as recipients. However, previous studies show that being recipients may not necessarily empower them because gender-biased power dynamics within the household may limit their decision-making power (Bastagli et al. 2016). My results show that economically empowered women are more likely to allocate resources to essential areas than those not economically empowered. Thus, programmes to improve household welfare should go hand in hand with empowering women as this could lead to better programme outcomes. For example, child education grants could be combined with small productive assets such as livestock or land,

or access to formal and informal credit, and interventions to increase women's decision-making power and choices. Where this has been done, better outcomes have been reported (De la O'Campos 2015).

As discussed earlier, looking at an individual indicator of WEE may not give a complete picture of the dynamics of WEE and its association with other factors within the household. Land ownership, the most common indicator of economic empowerment in Malawi, was not associated with children's education outcomes or the allocation of resources on essential goods, other than with a higher proportion of the household resources being allocated for food in the analyses of the impact of individual indicators of WEE separately. Having higher allocation on food could be explained by households producing their own food for consumption from their farms, thus food takes a bigger proportion of the total household budget. In the survey, food consumption was estimated from both own production and purchases.

In Chapter 3, land ownership was identified as one of the strategic resources of WEE, with Malawi among the countries where land ownership contributed markedly to WEE. I would therefore expect land ownership to be associated with children's education outcomes and household resource allocation. Lack of this association therefore points to specific barriers to WEE in Malawi, despite a large proportion of women owning land. To achieve economic empowerment, women should transform land ownership into economic opportunities and benefits, through agricultural production and marketing. Malawi is largely a patriarchal society, which constrains women's access to production inputs and produce markets, thus preventing them from fully benefiting from their economic assets (Djurfeldt et al. 2018).

On the contrary to land ownership, post-primary education is the least common indicator of WEE in Malawi. However, it was positively associated with children's education outcomes and household allocation to essential goods within the household. Because post-primary education is associated with less adherence to restrictive social norms, more liberal gender attitudes, increased awareness of rights, and exposure to new ideas (Kabeer 2009; Afoakwa, Deng and Onur 2020), women with high educational attainment may be more likely to transform their resources into strategic agency at the household, leading to better children's and household outcomes. However, women with post-primary education may be a selected group in Malawi, thus explaining the higher explanatory power than for the other indicators.

These findings add nuance to the understanding of WEE. Even where women have access to economic resources, they may not translate them into opportunities that can fully empower them. Thus, measuring WEE as a multi-indicator construct is important. At the same time,

understanding which specific areas of WEE to invest in are key. This is important not only in Malawi, but also globally, as it could help accelerate the achievement of the SDGs.

6.2 Key contributions

The findings of my thesis advance academic understanding of the dynamics of WEE in SSA by capturing the multidimensionality of WEE both via the typologies found on the SSA, as well as via creating a multi-indicator WEE score that was used to explain outcomes of interest in the other two empirical chapters. Overall, the findings provide policy-relevant evidence on the beneficial role that WEE may play in improving household wellbeing, through better children's education outcomes, and higher budget share of total household consumption allocated on education, health, and clothing. These factors contribute to human capital development, which is key to economic development.

These results capture the multidimensionality of WEE by measuring it using various indicators that contribute to economic empowerment. Focusing only on one or two individual indicators of WEE may provide an incomplete picture and thus its association with other factors within the household. As noted in the section above, my findings also add nuance on WEE, and its barriers and drivers in SSA and in Malawi specifically. By doing this, it provides a baseline for future studies to explore its extent and progress over time.

The key contributions of my thesis are threefold. It 1) identifies five typologies of WEE in SSA mainly driven by educational attainment, employment, and women's land ownership; 2) quantifies the positive association between WEE as a multi-indicator score and children's grade progression; and 3) provides evidence on the association between WEE and higher resource allocation on essential goods within the household. The typologies show the main 'drivers' of observed WEE at the household level for each set of countries, highlighting the areas that should be improved to further enhance WEE. My results further show that, on the one hand, even where some economic resources are available to women, it is not given that they will become economically empowered due to the presence of other barriers. On the other hand, sometimes even if economic resources are limited, women within their households might drive consumption directed to key development areas, if they are able to use them to advance their strategic agency. Post-primary education, for example seems to be a resource that might provide such agency more so than some of the other indicators of WEE.

6.3 Limitations of the study

The limitations in this study are mainly related to data availability. First, neither of the datasets used (the DHS and the IHS) include indicators on women's preferences or motivations for choices, or indicators on gender norms around access to economic opportunities, which are key in measuring both intrinsic and instrumental agency. As noted in the limitations sections of each analytical chapter, inclusion of these indicators would provide a more comprehensive measurement of WEE. Despite this, these results provide a multi-factor measure of WEE based on the available data, which provides a contribution beyond most previous research, which focuses on single indicators. The measurement of WEE can be improved in the future, if more detailed data becomes available.

Second, I measure WEE as a point estimate rather than as a process, although the definition of WEE describes the phenomenon as such: the process through which women access income and other economic assets, and use them to take control over their lives. To measure WEE as a process, there is need for longitudinal data collection at the individual level that could help researchers track whether women in a country are becoming more empowered over time. Alternatively, comparing repeated cross-sectional measurements over time could help show the trends on WEE at country level. Although my results only apply to the period in each country when the surveys were conducted, they nevertheless serve as a baseline for future studies that seek to measure WEE as a process.

Third, I created the WEE score based on equally weighted binary indicators, which means that I assumed that each indicator is equally important for women's empowerment and that there is a specific cut-off point after which one becomes empowered according to each indicator. This may not be the case, however, as shown by the analysis of individual indicators. In the context of Malawi, post-primary education and financial inclusion may afford women higher agency than other WEE indicators, although no single indicator can lead to economic empowerment. This is because women need economic resources, agency and a favourable environment for them to be fully economically empowered. Empowerment is a progression, rather than a binary status of being empowered or not. Women move through a continuum from being disempowered to being empowered, and every economic resource, skills or agency helps them move along that continuum. Future studies should evaluate the relative importance of each indicator to develop more nuanced WEE scores, and to explore if some components are more empowering than others.

Lastly, the DHS dataset has limited indicators on economic empowerment, including financial resources (earnings, incomes, savings, and credit), and the empowerment module focuses only on women in union or partnership aged 15–49 years, creating a data gap for unmarried and older adult women. This limits the applicability of the WEE index to unmarried women within households. Despite these limitations, the DHS provides comprehensive cross-national data in SSA, which cannot be achieved with other datasets. Thus, while the measure of WEE could have been improved had additional data been available, the results of this thesis provide nevertheless a comparison of WEE between various countries in SSA.

Although these limitations are not trivial, the findings help shed light on useful associations that have not been explored before, and provide policy relevant evidence, which can help advance the achievement of the SDGs. In the future, researchers and implementers of surveys should include a more comprehensive set of WEE indicators to enhance its measurement and progress its monitoring to inform the achievement of the SDGs.

6.4 Policy implications

This thesis advances knowledge of WEE in Africa and provides timely evidence for the increasing policy and programme interest in it by showing the extent of WEE and its drivers and barriers, and its role in some key development areas. The findings could also provide evidence for strategies to leap-frog SSA towards achieving its SDG targets and other development goals, including the wider African Union development agenda (Agenda 2063). The results can also inform policy development and programme interventions aimed at improving WEE, which may lead to positive outcomes in children's education and household consumption trends in SSA and more specifically in Malawi.

In Malawi specifically, the results contribute towards the achievement of the country's Vision 2063, which aims at advancing gender equality through multi-sectoral and in-depth multi-disciplinary analysis of issues at household, community, and national levels. The policy makers may be interested in the extent of WEE in Malawi and how it compares to the other countries in Africa. In addition, it may be of interest to know how individual indicators of WEE are associated with key development indicators, which is also examined in this thesis. Improving girls' transition to and completion of secondary school will help advance WEE in the long run. Practises that keep girls out of school including sexual initiations, early marriages and teenage pregnancies should be discouraged. Increasing awareness of and implementation of the re-admission policy as discussed in section 2.5.1 will promote teen mothers' continuity with formal education.

Further, eradication of restrictive social norms, such as limited access to production inputs and produce markets will help increase agriculture revenue among women and thus contribute towards WEE. Eradication of harmful and restrictive social norms is one of the aims of Vision 2063.

In most countries in SSA, improving WEE is understood as increasing access to economic resources. For example, the Kenyan Strategy for WEE (2020–2025) focuses on helping women succeed and advance in the marketplace, by providing them with economic resources (Ministry of Public service and Gender 2021). As discussed above, access to economic resources alone does not automatically translate into economic empowerment (Abril, 2009; Chapters 2 and 3 of this thesis) if women do not benefit economically from these resources. Thus, countries should go beyond providing women with economic resources and focus on removing the barriers that prevent women from being empowered despite having access to resources. These barriers may include for instance limited access to production inputs and markets, unpaid care work, and lack of an enabling environment for women entrepreneurs.

Findings from the three empirical chapters provide specific evidence for SDGs 1, 4 and, 5 which focus on ending poverty and improving living standards of the poorest population groups, achieving quality educational and gender equality, respectively. The evidence is also relevant to other SDGs including 3 and 8 on improving health and wellbeing and ensuring decent work and economic growth, respectively. Improving WEE is a policy goal on its own, but my results also show that improving WEE could have positive impacts on children and the household. Because of the data used here, I did not explore causal links. However, the cross-sectional analysis shows that there are beneficial associations between WEE and children's and household welfare, leading to better outcomes in key developmental areas.

Because WEE is multi-factor, each individual component of WEE will need to be improved to achieve overall improvement, leading to improvements in, for example, education, financial inclusion, employment and income and women's agency, all of which are part of the SDGs. Better education outcomes are likely to contribute towards better employment, income, and accumulation of financial and production assets. More economically empowered women may be more likely to help provide better education to the next generation, thus creating an upward spiral in access to education. This is because when women are able to make strategic choices, they may start to question institutions that discriminate against them, leading to structural change and transformation of how these institutions work. Over time, this will contribute to

removing barriers to women achieving their potential, making it easier for those in the younger generations to access resources and transform them into opportunities and benefits (Abril 2009).

6.5 Future work

Because of the cross-sectional nature of the data used in my analyses, there are some questions that remain unanswered. To advance the understanding of WEE in Africa, future research should focus on exploring how to better measure and understand the progress of WEE. Collecting longitudinal data could help measure WEE as a process in addition to showing trends of WEE. Repeated cross-sectional data from consecutive rounds of Demographic and Health Surveys and Living Standards Measurement Surveys can be used to understand whether WEE progresses or stalls over time in SSA.

One important aspect outside the scope of my thesis is structural and systemic drivers and/or barriers of WEE. Future research could help systematically disentangle the extent to which changes in policies, legal environments, and socio-cultural norms at the structural and systems levels influence WEE at the individual level.

While my thesis was based on quantitative secondary data only, the use of qualitative data could help add nuance to the findings by capturing women's own voices, perspectives, understandings, definitions, expectations, and experiences on WEE. Women could also provide their views on how WEE has evolved over time, and how these changes interact with other dynamics within the household. This qualitative work could also help methodological work needed to develop robust and internationally standardised measures for the subjective dimensions of WEE with associated harmonised and comparable datasets.

While I was not able to confirm the presence or absence of such link in my thesis, future research could also explore the linkages between WEE and the demographic dividend. Indicators of economic empowerment, such as educational attainment, employment and decision-making autonomy among women are likely to improve women's ability to decide on the timing and number of children they have. Thus, increasing these factors may accelerate the demographic transition. Relatedly, freeing up women's time through proper good quality day care and schooling may increase their participation in the labour force, and increased income may lead to increased women's autonomy in decision-making. Thus, WEE and the demographic dividend could have synergistic interlinkages that could be explored to advance economic development in Africa in general.

As the data used in my research pre-dates the Covid-19 pandemic, it may not reflect the current situation of WEE and outcomes linked with it in Africa. Numerous reports and studies show that women have been disproportionately affected by the pandemic (Copley et al. 2020; Kabeer, Razavi and Rodgers 2021; O'Donnell et al. 2021a; World Economic Forum 2021) and the measures implemented to contain the spread of the pandemic were mostly gender-blind thus propagated inherent gender biases (van Daalen et al. 2020; IMF Fiscal Affairs 2021). This may have scaled back the progress made before in advancing WEE. Several factors explain why women were most affected by economic vulnerability during the pandemic: 1) women are more likely to work in the sectors that were hardest hit by the pandemic including healthcare and social services, accommodation and food services, and wholesale and retail trading; 2) women are more likely to work in the informal sectors characterised by low income and lack of basic social protection plans afforded to formal employment; and, 3) due to school closures and confinement measures, women shouldered an increased burden of unpaid care work that impacted on their available time to contribute to paid work and education (double shift) (Kabeer, Razavi and Rodgers 2021; O'Donnell et al. 2021b; World Economic Forum 2021). Future research should explore how the Covid-19 pandemic affected WEE using data collected after the pandemic started.

Appendix A Background characteristics among women included and excluded from the sample

Country	Study Sample	Marital Status	Age (Single years)	No. of living children	Education (single years)	Employment (%)
Angola	8,033	Partnered women	30.44	3.53	4.23	0.72
		Un-partnered women	24.13	1.42	5.61	0.52
Benin	11,170	Partnered women	31.28	3.32	2.17	0.84
		Un-partnered women	22.03	0.72	5.38	0.63
Burkina Faso	13,392	Partnered women	31.04	3.32	1.2	0.83
		Un-partnered women	20.9	0.57	4.32	0.72
Burundi	9,559	Partnered women	32.44	3.66	3.35	0.93
		Un-partnered women	22.84	0.68	5.9	0.74
Cameroon	9,805	Partnered women	30.56	3.17	5.4	0.75
		Un-partnered women	23.49	0.96	7.75	0.56
Chad	13,439	Partnered women	29.76	3.95	1.45	0.47
		Un-partnered women	23.22	1.27	3.45	0.42
Comoros	3,291	Partnered women	31.27	3	5.98	0.48
		Un-partnered women	21.99	0.46	8.66	0.29
Congo Brazzaville	6,750	Partnered women	31.8	3.39	6.37	0.85
		Un-partnered women	25	1.43	7.36	0.57
Cote d'Ivoire	6,453	Partnered women	31.39	3.25	2	0.77
		Un-partnered women	23.4	0.88	5.1	0.61
Democratic Republic of Congo	12,448	Partnered women	30.8	3.56	5.06	0.82
		Un-partnered women	23.4	1.07	7	0.57
Ethiopia	9,824	Partnered women	30.63	3.32	2.94	0.46
		Un-partnered women	23.43	0.67	6	0.54
Gabon	4,947	Partnered women	32.38	3.4	6.74	0.55
		Un-partnered women	24.66	1.4	7.77	0.37
Gambia	6,905	Partnered women	30.33	3.3	2.91	0.6
		Un-partnered women	21.25	0.47	7.19	0.34
Ghana	5,456	Partnered women	33.61	3.2	5.28	0.87
		Un-partnered women	24.3	0.84	8	0.58
Guinea	6,779	Partnered women	31.15	3.22	1.49	0.82
		Un-partnered women	21.25	0.56	5.61	0.53
Kenya	19,036	Partnered women	31.75	3.35	7.16	0.69
		Un-partnered women	24.5	1.14	8.24	0.5

Appendix A

Country	Study Sample	Marital Status	Age (Single years)	No. of living children	Education (single years)	Employment (%)
Lesotho	3,609	Partnered women	30.98	2.21	7.85	0.45
		Un-partnered women	24.85	0.87	8.16	0.38
Liberia	5,875	Partnered women	32.21	3.54	2.9	0.65
		Un-partnered women	23.83	1.37	4.73	0.45
Malawi	15,952	Partnered women	30.36	3.1	5.75	0.71
		Un-partnered women	24.02	1.33	6.87	0.56
Mali	8,737	Partnered women	30.11	3.32	1.4	0.5
		Un-partnered women	20.18	0.46	5.17	0.39
Mozambique	8,956	Partnered women	30.16	2.9	3.62	0.49
		Un-partnered women	25.39	1.36	5.77	0.42
Namibia	3,803	Partnered women	36.42	2.85	8.06	0.5
		Un-partnered women	28.27	1.27	8.72	0.41
Niger	9,509	Partnered women	29.78	3.66	1.33	0.31
		Un-partnered women	22.69	0.82	5.31	0.34
Nigeria	27,274	Partnered women	31.55	3.38	5.13	0.72
		Un-partnered women	22.58	0.6	9.21	0.43
Rwanda	6,890	Partnered women	32.95	3.08	4.8	0.94
		Un-partnered women	24.26	0.79	6	0.76
Senegal	11,394	Partnered women	31.04	3.22	2.39	0.62
		Un-partnered women	21.82	0.43	6.41	0.46
Sierra Leone	10,754	Partnered women	31.68	3.07	2.15	0.83
		Un-partnered women	22.05	0.79	6.67	0.52
South Africa	2,841	Partnered women	35.33	2.31	10.17	0.45
		Un-partnered women	27.64	1.2	10.2	0.32
Tanzania	8,189	Partnered women	31.53	3.39	5.87	0.83
		Un-partnered women	24.11	1.12	7.34	0.64
Togo	6,360	Partnered women	32.4	3.25	3.31	0.86
		Un-partnered women	23.37	0.78	6.42	0.51
Uganda	11,379	Partnered women	30.5	3.7	5.82	0.84
		Un-partnered women	23.86	1.34	6.89	0.68
Zambia	9,649	Partnered women	31.34	3.67	6.23	0.62
		Un-partnered women	23.9	1.21	8.03	0.43
Zimbabwe	6,015	Partnered women	31.21	2.61	9.41	0.54
		Un-partnered women	24.42	0.89	9.7	0.46

Note: Partnered includes married and living together; un-partnered includes unmarried, widowed, separated

Appendix B Lineage by district, Malawi

Region	District	Missing observations	% Of villages Patrilineal	% Of villages Matrilineal	Kinship system assigned
North	Chitipa	32	98.3	0.6	Patrilineal
	Karonga	31	98.6	0	Patrilineal
	Nkhatabay	57	96.5	0.5	Patrilineal
	Mzimba	29	90.4	9.5	Patrilineal
	Mzuzu City	35	79.9	9.5	Patrilineal
Central	Kasungu	38	33.8	65.9	Don't know
	Nkhotakota	46	39.7	59.6	Don't know
	Ntchisi	42	24.3	74.5	Matrilineal
	Dowa	40	28.6	70.7	Matrilineal
	Salima	53	6.6	93.4	Matrilineal
	Lilongwe Non-City	64	6.9	92.9	Matrilineal
	Mchinji	56	19.9	78.7	Matrilineal
	Dedza	49	0	99.5	Matrilineal
	Ntcheu	41	0	100	Matrilineal
	Lilongwe	53	7.5	70	Matrilineal
	Mangochi	57	1.3	98.7	Matrilineal
	Machinga	52	0.5	99.6	Matrilineal
	South	Zomba Non-City	53	1	98
Chiradzulu		69	0	100	Matrilineal
Blantyre Non-City		63	0.7	97.4	Matrilineal
Mwanza		60	0	100	Matrilineal
Thyolo		64	0	98	Matrilineal
Mulanje		78	0	100	Matrilineal
Phalombe		58	0	100	Matrilineal
Chikwawa		48	71.8	24.5	Patrilineal
Nsanje		51	94.9	5.1	Patrilineal
Balaka		63	0.8	99.2	Matrilineal
Zomba City		45	11.9	72.9	Matrilineal
Blantyre City		51	11.1	79.9	Matrilineal
Total			1,601		

Appendix C Wealth index using Principal Components Analysis for urban and rural households

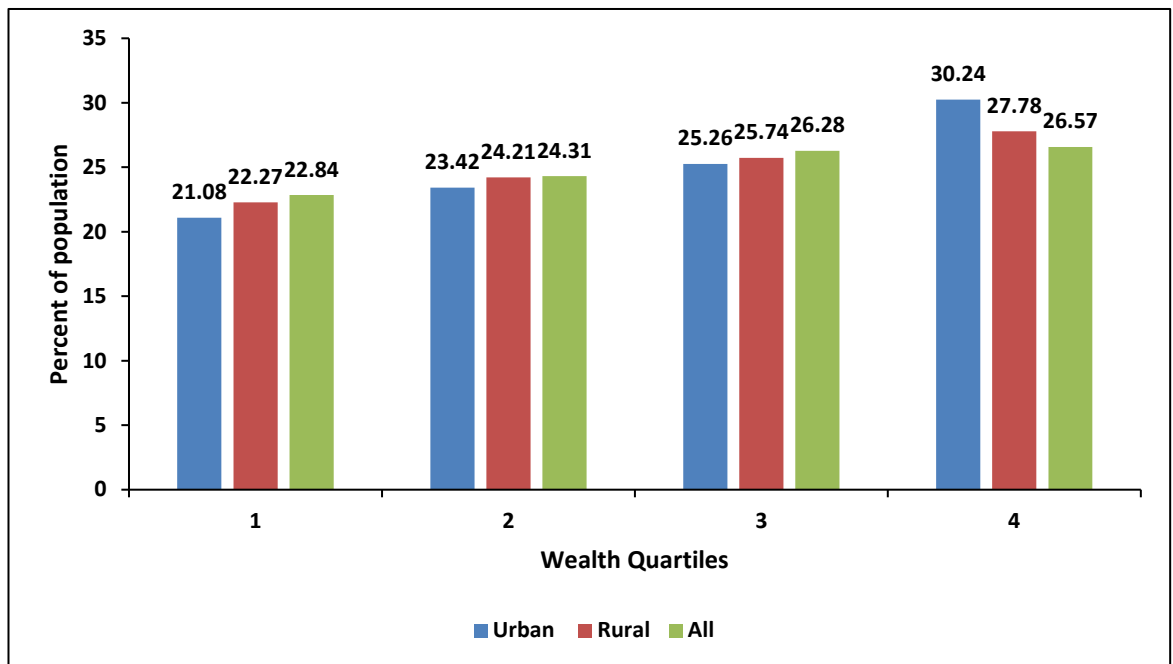
Variable Description	Rural			Urban		
	Factor score	Mean	Std. dev.	Factor score	Mean	Std. dev.
<i>Livestock Ownership</i>						
Calf	0.043	0.003	0.056			
Cow	0.091	0.031	0.174	0.007	0.008	0.087
Bull	0.062	0.010	0.097			
Goat	0.062	0.190	0.392	-0.034	0.032	0.175
Sheep	0.011	0.003	0.051			
Pig	0.045	0.064	0.245	-0.017	0.030	0.170
Local Hen	0.076	0.235	0.424	0.004	0.136	0.343
Local Cock	0.070	0.147	0.354	0.020	0.091	0.288
Duck	0.013	0.018	0.132	-0.009	0.011	0.102
Pigeon	0.054	0.022	0.145	0.038	0.011	0.102
Ox	0.032	0.004	0.064			
Chicken Broiler	0.017	0.006	0.075	0.032	0.007	0.084
Turkey	0.038	0.004	0.061			
<i>Household Assets</i>						
Pestle	0.049	0.446	0.497	0.067	0.317	0.465
Bed	0.226	0.254	0.436	0.193	0.711	0.453
Table	0.211	0.223	0.416	0.136	0.476	0.500
Chair	0.171	0.310	0.462	0.105	0.464	0.499
Fan	0.209	0.010	0.102	0.228	0.162	0.369
Radio	0.108	0.336	0.472	0.020	0.434	0.496
DVD Player	0.222	0.034	0.180	0.232	0.324	0.468
Television	0.275	0.044	0.206	0.267	0.398	0.490
Paraffin Stove	0.037	0.002	0.040	0.038	0.012	0.107
Hotplate	0.137	0.003	0.059	0.233	0.157	0.364
Refrigerator	0.221	0.011	0.104	0.263	0.220	0.415
Bicycle	0.127	0.388	0.487	0.047	0.278	0.448
Car	0.101	0.003	0.056	0.191	0.085	0.280
Sofa set	0.224	0.040	0.196	0.226	0.396	0.489
Coffee Table	0.192	0.045	0.207	0.172	0.341	0.474
Cupboard	0.172	0.016	0.127	0.185	0.153	0.360
Lantern	0.031	0.018	0.134	-0.005	0.011	0.104
Desk				0.074	0.011	0.103
Clock	0.204	0.038	0.192	0.188	0.285	0.451
Iron	0.212	0.090	0.286	0.233	0.433	0.496
Computer	0.123	0.004	0.066	0.198	0.104	0.306
Satellite Dish	0.212	0.011	0.103	0.242	0.166	0.372
Solar Panel	0.125	0.072	0.259	0.046	0.042	0.201
Generator	0.079	0.004	0.064	0.089	0.020	0.140
Working Telephone	0.056	0.000	0.017	0.071	0.009	0.093
Working Electricity	0.235	0.032	0.177	0.258	0.423	0.494

Appendix C

Variable Description	Rural			Urban		
	Factor score	Mean	Std. dev.	Factor score	Mean	Std. dev.
Household Cell phone	0.180	0.396	0.489	0.156	0.810	0.393
Land Owned	-0.034	0.745	0.436	-0.003	0.386	0.487
<i>House Materials</i>						
Durable Walls	0.167	0.569	0.495	0.153	0.650	0.477
Durable Roofing	0.209	0.392	0.488	0.143	0.875	0.331
Durable Floor	0.240	0.166	0.372	0.191	0.709	0.454
Clean Lighting Energy	0.027	0.879	0.326	0.130	0.775	0.418
Clean Cooking Energy	0.165	0.054	0.225	0.154	0.717	0.451
Safe Drinking Water	0.032	0.861	0.346	0.066	0.934	0.248
Improved Sanitation	0.106	0.682	0.466	0.128	0.806	0.396
None-Shared Toilet	0.077	0.650	0.477	0.129	0.485	0.500
Agriculture Land	-0.058	0.899	0.301	-0.070	0.324	0.468
Household Members Per Room	-0.073	2.128	1.311	-0.080	1.975	1.100
Largest Eigenvalue	6.477			8.600		
Proportion Of Variance Explained	12.95			18.7		

Data source: Malawi IHS 2016-17

Appendix D Relative wealth index quartiles disaggregated by urban and rural residence



Data source: Author Calculations, Malawi IHS 2016/17

Appendix E Percentage distribution of WEE score by women's background characteristics, weighted %, (N=7063)

Category		Low (0-2)	Medium (3-4)	High (5-6)	Total N
Lineage (%)***	<i>Matrilineal</i>	31.6	52.3	16.1	4099
	<i>Patrilineal</i>	40.2	47.0	12.9	2914
Place of residence (%) ***	<i>Urban</i>	43.3	42.3	14.5	1289
	<i>Rural</i>	32.6	52.3	15.1	5783
Age group (%)*	<i>16-25</i>	40.9	47.5	11.7	429
	<i>26-35</i>	34.0	50.7	15.3	2836
	<i>36-45</i>	32.2	51.1	16.7	2288
	<i>46-55</i>	34.6	51.8	13.7	1078
	<i>56+</i>	45.5	44.4	10.0	432
Region***	<i>North</i>	45.9	42.4	11.7	1408
	<i>Central</i>	35.1	49.3	15.6	2440
	<i>South</i>	31.9	53.1	15.0	3215
Total %	%	34.6	50.4	15.0	7063

Data source: Author Calculations, Malawi IHS, 2016-17; rows total 100%.

Pearson's χ^2 : * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix F Percent empowered under each variable by place of residence and age, Malawi (2016-17)

Variable	Residence (%)		Total	
	Urban	Rural	%	n
Employment	62.7	62.7	62.7	4,427
Post-primary education access***	38.6	7.9	13.8	971
Income access***	36.0	53.2	49.9	3,524
Financial access***	50.5	29.2	36.1	2,349
Owns land***	41.6	77.3	70.5	4,978
Decision-making***	48.8	91.6	83.4	5,893
Average WEE Score	2.9	3.2	3.1	7063

Notes: Source; Dataset, Malawi IHS, 2016-17; Author Calculations

Pearson's χ^2 : *** $p < 0.001$

Appendix G Association between women's economic empowerment being on-time for grade

Variable	All grades	Primary school	Secondary school
<i>WEE (Ref: Low)</i>			
Medium	1.176* [1.00,1.38]	1.228* [1.02,1.47]	0.891 [0.58,1.38]
High	1.622*** [1.27,2.07]	1.654*** [1.25,2.19]	1.520 [0.76,3.03]
<i>Sex (Ref: Male)</i>			
Female	1.611*** [1.41,1.84]	1.649*** [1.41,1.93]	1.242 [0.83,1.87]
Children's age	0.510*** [0.49,0.53]	0.373*** [0.35,0.40]	0.262*** [0.19,0.36]
School-age siblings	0.871*** [0.82,0.93]	0.903** [0.84,0.97]	0.924 [0.79,1.08]
<i>Place of residence (Ref: Urban)</i>			
Rural	0.577*** [0.46,0.73]	0.673** [0.52,0.88]	0.664 [0.41,1.07]
<i>Lineage (Ref: Patrilineal)</i>			
Matrilineal	0.888 [0.77,1.03]	0.905 [0.76,1.07]	0.924 [0.61,1.40]
<i>Mother's age</i>			
30-35	0.935 [0.75,1.17]	1.146 [0.90,1.46]	
36-40	1.135 [0.89,1.45]	1.130 [0.86,1.49]	2.054 [1.00,4.23]
41-45	1.237 [0.94,1.63]	1.213 [0.88,1.66]	1.782 [0.84,3.80]
46+	1.249 [0.95,1.64]	1.258 [0.92,1.72]	2.347* [1.08,5.09]
<i>Father's education qualification (Ref: None)</i>			
Primary	1.952*** [1.61,2.37]	2.102*** [1.69,2.62]	1.188 [0.71,1.98]
Secondary+	7.930*** [5.92,10.63]	6.246*** [4.44,8.79]	2.746** [1.50,5.04]
<i>Wealth quantiles</i>			
2 nd	1.853*** [1.47,2.34]	2.029*** [1.56,2.64]	2.196 [0.61,7.88]
3 rd	3.228*** [2.56,4.08]	3.901*** [3.00,5.08]	2.603 [0.78,8.68]
4 th	9.035*** [6.81,11.99]	10.64*** [7.67,14.76]	4.689* [1.39,15.85]
Constant	0.0839*** [0.06,0.12]	0.0205*** [0.01,0.03]	0.931 [0.22,4.02]
Household Level Variance	1.283*** [1.14,1.45]	1.361*** [1.18,1.57]	0.543 [0.05,5.38]
Observations	10,410	9,140	1,268

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix H Association between women's economic empowerment being on-time for grade disaggregated by urban and rural

Variables	All grades		Primary school	
	Urban	Rural	Urban	Rural
<i>WEE (Ref: Low)</i>				
Medium	1.266 [0.88,1.82]	1.149 [0.96,1.37]	1.306 [0.81,2.11]	1.231* [1.01,1.50]
High	2.395** [1.37,4.18]	1.470** [1.12,1.93]	2.458* [1.13,5.36]	1.621** [1.20,2.19]
<i>Sex (Ref: Male)</i>				
Female	1.916*** [1.41,2.60]	1.531*** [1.32,1.77]	1.814** [1.19,2.76]	1.610*** [1.36,1.90]
Children's age	0.582*** [0.54,0.63]	0.490*** [0.47,0.51]	0.371*** [0.31,0.45]	0.375*** [0.35,0.40]
School-age siblings	0.769*** [0.67,0.89]	0.893** [0.83,0.96]	0.764** [0.63,0.93]	0.923* [0.85,1.00]
<i>Lineage (Ref: Patrilineal)</i>				
Matrilineal	1.257 [0.89,1.77]	0.826* [0.70,0.97]	1.517 [0.96,2.40]	0.822* [0.69,0.99]
<i>Mother's age</i>				
30-35	1.377 [0.80,2.37]	0.899 [0.71,1.15]	1.906 [0.99,3.68]	1.052 [0.81,1.37]
36-40	1.698 [0.94,3.07]	1.073 [0.82,1.41]	1.570 [0.76,3.25]	1.088 [0.81,1.46]
41-45	2.488** [1.24,4.98]	1.071 [0.79,1.45]	2.300 [0.92,5.75]	1.113 [0.80,1.56]
46+	2.210* [1.10,4.44]	1.149 [0.85,1.55]	3.498* [1.34,9.12]	1.125 [0.81,1.57]
<i>Father's education qualification (Ref: None)</i>				
Primary	1.841** [1.20,2.83]	1.952*** [1.57,2.42]	2.390** [1.37,4.18]	2.019*** [1.59,2.56]
Secondary+	6.173*** [3.82,9.98]	7.099*** [4.88,10.32]	5.182*** [2.73,9.83]	7.167*** [4.68,10.98]
<i>Wealth quantiles</i>				
2 nd	0.793 [0.19,3.32]	1.947*** [1.53,2.48]	0.990 [0.17,5.65]	2.070*** [1.59,2.69]
3 rd	5.051** [1.48,17.24]	3.391*** [2.66,4.33]	9.598** [2.10,43.85]	3.863*** [2.95,5.05]
4 th	15.39*** [4.66,50.80]	8.983*** [6.61,12.21]	38.85*** [8.48,177.90]	8.859*** [6.29,12.47]
Constant	0.0354*** [0.01,0.13]	0.0479*** [0.03,0.07]	0.00422*** [0.00,0.03]	0.0156*** [0.01,0.02]
Household Level	1.138	1.287***	1.419	1.331***
Variance	[0.84,1.54]	[1.13,1.47]	[0.95,2.12]	[1.14,1.55]
Observations	1,853	8,557	1,434	7,706

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix I Association between WEE and being on-time for grade (with variable interactions)

Variables	All grades	Primary school	Secondary school
<i>WEE</i>			
Medium	1.250 [0.88,1.78]	1.375 [0.92,2.06]	0.924 [0.39,2.17]
High	1.552 [0.86,2.79]	1.781 [0.90,3.54]	1.440 [0.38,5.48]
<i>Sex & WEE</i>			
Female	1.757 [1.42,2.17]***	1.868 [1.46,2.39]***	1.164[0.64,2.12]
Medium & Female	0.833 [0.63,1.10]	0.785 [0.57,1.09]	1.155 [0.49,2.74]
High & Female	0.967 [0.63,1.48]	0.869 [0.53,1.43]	1.001 [0.26,3.87]
Children' age	0.510 [0.49,0.53]***	0.374 [0.35,0.40]***	0.260 [0.19,0.36]***
School-age siblings	0.872 [0.82,0.93]***	0.907 [0.84,0.98]**	0.926 [0.79,1.09]
<i>Place of residence</i>			
Rural	0.516 [0.41,0.65]***	0.657 [0.50,0.86]**	0.679 [0.42,1.11]
<i>Lineage and WEE</i>			
Matrilineal	0.926 [0.70,1.23]	0.968 [0.71,1.33]	1.178 [0.57,2.44]
Medium & Matrilineal	1.132 [0.78,1.64]	1.145 [0.75,1.74]	0.598 [0.20,1.76]
High & Matrilineal	1.661 [0.95,2.90]	1.811 [0.95,3.44]	0.542 [0.11,2.79]
<i>Region and WEE</i>			
Central	0.649 [0.47,0.91]*	0.594 [0.41,0.87]**	0.914 [0.42,1.99]
Southern	0.669 [0.47,0.95]*	0.605 [0.41,0.90]*	1.062 [0.45,2.49]
Medium & Central	0.965 [0.61,1.53]	0.890 [0.53,1.50]	1.416 [0.44,4.51]
Medium & Southern	0.991 [0.62,1.60]	0.993 [0.58,1.70]	0.986 [0.28,3.51]
High & Central	0.599 [0.29,1.23]	0.541 [0.23,1.25]	0.967 [0.15,6.19]
High & Southern	0.983 [0.46,2.10]	0.870 [0.36,2.11]	2.732 [0.40,18.50]
<i>Mother's age</i>			
30-35	0.946 [0.76,1.18]	1.163 [0.91,1.48]	
36-40	1.163 [0.91,1.49]	1.142 [0.87,1.50]	2.064 [1.00,4.27]
41-45	1.233 [0.93,1.63]	1.196 [0.87,1.64]	1.774 [0.82,3.82]
46+	1.252 [0.95,1.65]	1.263 [0.92,1.73]	2.382 [1.09,5.21]*
<i>Father's education qualification</i>			
Primary	1.914 [1.58,2.32]***	2.015 [1.62,2.50]***	1.164 [0.70,1.95]
Secondary+	8.697 [6.52,11.60]***	6.213 [4.43,8.72]***	2.775 [1.50,5.13]**
<i>Wealth Quantiles</i>			
2 nd	1.771 [1.40, 2.24]***	1.923[1.48,2.49]***	1.873 [0.52,6.73]
3 rd	2.993 [2.37, 3.78]***	3.546 [2.73,4.61]***	2.427 [0.73,8.09]
4 th	8.179 [6.16, 10.86]***	9.311 [6.72,12.89]***	4.387 [1.31,14.72]*
Constant	0.0586 [0.04,0.10]***	0.0301 [0.02,0.05]***	0.945 [0.21,4.27]
Household Level Variance	1.270 [1.12,1.43]***	1.326 [1.15,1.53]***	0.515 [0.04,6.48]
Observations	10,410	9,140	1,268

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix J Associations between WEE and children ever attending school disaggregated by urban and rural

Variables	All grades	Urban	Rural
<i>WEE (Ref: Low)</i>			
Medium	1.416*** [1.16,1.72]	1.060 [0.59,1.90]	1.464*** [1.19,1.80]
High	1.687*** [1.24,2.30]	2.828 [0.78,10.29]	1.621** [1.17,2.24]
<i>Sex (Ref: Male)</i>			
Female	1.435*** [1.21,1.70]	1.360 [0.79,2.34]	1.448*** [1.21,1.73]
Children's age	1.543*** [1.49,1.60]	1.685*** [1.47,1.93]	1.531*** [1.47,1.59]
School-age siblings	0.855*** [0.79,0.92]	0.825 [0.66,1.03]	0.865*** [0.80,0.94]
<i>Lineage (Ref: Patrilineal)</i>			
Matrilineal	1.047 [0.87,1.25]	1.445 [0.83,2.52]	1.024 [0.85,1.24]
<i>Mother's age</i>			
30-35	1.184 [0.91,1.54]	1.149 [0.53,2.48]	1.188 [0.90,1.56]
36-40	0.932 [0.70,1.25]	1.586 [0.61,4.15]	0.879 [0.65,1.19]
41-45	1.053 [0.75,1.49]	0.428 [0.16,1.18]	1.144 [0.79,1.65]
46+	0.931 [0.66,1.32]	0.492 [0.16,1.48]	0.994 [0.69,1.43]
<i>Father's education qualification (Ref: None)</i>			
Primary	1.484** [1.15,1.92]	2.126* [1.04,4.36]	1.437** [1.09,1.89]
Secondary+	2.055** [1.32,3.20]	3.176** [1.43,7.06]	1.766* [1.04,3.00]
<i>Wealth quantiles</i>			
2 nd	1.502*** [1.19,1.90]	1.388 [0.39,4.90]	1.523*** [1.20,1.93]
3 rd	2.745*** [2.13,3.54]	4.844* [1.45,16.20]	2.697*** [2.08,3.50]
4 th	4.223*** [3.00,5.94]	4.116* [1.40,12.09]	4.335*** [2.98,6.30]
Constant	31.92*** [19.42,52.49]	29.38*** [6.26,137.88]	24.87*** [17.10,36.16]
Household Level Variance	1.025 [0.83,1.26]	0.413 [0.01,12.27]	1.032 [0.83,1.28]
Observations	12,413	2,124	10,289

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix K Associations between WEE and children ever attending school (With variable interactions)

Variables	All grades
<i>WEE</i>	
Medium	2.437 [1.50,3.97]***
High	1.285 [0.57,2.91]
<i>Sex & WEE</i>	
Female	1.388 [1.06,1.82]*
Medium & Female	1.031 [0.72,1.48]
High & Female	1.090 [0.61,1.95]
Children' age	1.542 [1.49,1.60]***
School-age siblings	0.853 [0.79,0.92]***
<i>Place of residence</i>	
Rural	0.827 [0.59,1.16]
<i>Lineage and WEE</i>	
Matrilineal	1.029 [0.74,1.44]
Medium & Matrilineal	0.964 [0.62,1.49]
High & Matrilineal	1.252 [0.63,2.49]
<i>Region and WEE</i>	
Central	1.292 [0.86,1.94]
Southern	1.161 [0.76,1.77]
Medium & Central	0.405 [0.22,0.74]**
Medium & Southern	0.661 [0.36,1.22]
High & Central	0.909 [0.35,2.38]
High & Southern	1.341 [0.48,3.75]
<i>Mother's age</i>	
30-35	1.201 [0.93,1.56]
36-40	0.938 [0.70,1.25]
41-45	1.066 [0.76,1.50]
46+	0.940 [0.67,1.33]
<i>Father's education qualification</i>	
Primary	1.484 [1.15,1.92]**
Secondary+	2.025 [1.30,3.15]**
<i>Wealth Quantiles</i>	
2 nd	1.470 [1.16,1.86]**
3 rd	2.656 [2.06,3.43]***
4 th	4.070 [2.88,5.75]***
Constant	28.15 [16.02,49.47]***
Household Level Variance	1.004 [0.81,1.24]
Observations	12,413

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix L Association between WEE and currently attending school (with variable interactions)

Variables	All grades	6-18 years	Primary school	Secondary school
<i>WEE (Ref: Low)</i>				
Medium	0.785 [0.61,1.01]	0.812 [0.58,1.13]	0.772 [0.57,1.04]	0.862 [0.51,1.46]
High	1.174 [0.78,1.76]	1.139 [0.68,1.90]	1.009 [0.63,1.61]	1.699 [0.67,4.31]
<i>Sex (Ref: Male)</i>				
Female	0.888 [0.73,1.08]	0.923 [0.71,1.19]	0.898 [0.71,1.14]	0.400*** [0.24,0.67]
Children's age	0.620*** [0.60,0.64]	0.557*** [0.52,0.60]	0.491*** [0.46,0.52]	0.700*** [0.62,0.79]
School-age siblings	1.002 [0.92,1.10]	0.973 [0.86,1.10]	1.064 [0.96,1.19]	1.036 [0.87,1.23]
<i>Place of residence (Ref: Urban)</i>				
Rural	1.158 [0.79,1.70]	1.382 [0.84,2.27]	1.580 [0.99,2.53]	1.740 [0.89,3.41]
<i>Lineage (Ref: Patrilineal)</i>				
Matrilineal	0.964 [0.76,1.22]	0.984 [0.73,1.33]	0.979 [0.74,1.29]	0.763 [0.46,1.26]
<i>Mother's age</i>				
30-35	1.002 [0.56,1.80]	1.332 [0.69,2.57]	1.681 [0.90,3.14]	
36-40	0.717 [0.40,1.28]	1.198 [0.62,2.32]	1.318 [0.71,2.45]	0.490 [0.11,2.25]
41-45	0.746 [0.41,1.35]	1.038 [0.52,2.06]	1.158 [0.61,2.21]	0.486 [0.10,2.27]
46+	0.704 [0.39,1.26]	0.817 [0.42,1.58]	0.979 [0.53,1.82]	0.701 [0.15,3.23]
<i>Father's education qualification (Ref: None)</i>				
Primary	2.200*** [1.58,3.06]	1.853** [1.21,2.85]	1.648* [1.11,2.44]	1.853 [1.00,3.44]
Secondary+	9.740*** [5.43,17.48]	5.375*** [2.51,11.50]	2.807** [1.34,5.87]	6.175*** [2.49,15.30]
<i>Wealth quantiles</i>				
2 nd	1.386 [0.99,1.95]	1.507 [0.99,2.29]	1.524* [1.04,2.23]	0.743 [0.24,2.30]
3 rd	2.437*** [1.73,3.43]	2.773*** [1.80,4.27]	2.342*** [1.59,3.45]	1.126 [0.40,3.15]
4 th	4.370*** [2.88,6.64]	3.965*** [2.32,6.77]	2.575*** [1.60,4.15]	2.253 [0.76,6.68]
Constant	44.64*** [20.87,95.48]	48.39*** [18.68,125.34]	30.41*** [12.98,71.24]	75.17*** [8.69,649.84]
Household Level Variance	1.777*** [1.56,2.02]	2.054*** [1.73,2.43]	1.851*** [1.58,2.17]	1.714* [1.13,2.59]
Observations	11,576	10,232	10,064	1,510

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix M Association between WEE and currently attending school disaggregated by urban and rural

Variables	All grades		Primary school	
	Urban	Rural	Urban3	Rural4
<i>WEE (Ref: Low)</i>				
Medium	0.911 [0.44,1.87]	0.744* [0.57,0.98]	0.715 [0.29,1.75]	0.778 [0.57,1.06]
High	5.257* [1.19,23.21]	0.933 [0.61,1.42]	9.403 [0.87,102.21]	0.872 [0.54,1.41]
<i>Sex (Ref: Male)</i>				
Female	1.445 [0.84,2.50]	0.811 [0.66,1.00]	1.212 [0.57,2.59]	0.855 [0.66,1.10]
Children's age	0.665*** [0.60,0.73]	0.611*** [0.59,0.64]	0.508*** [0.42,0.62]	0.489*** [0.46,0.52]
School-age siblings	0.854 [0.66,1.10]	1.039 [0.94,1.14]	0.960 [0.69,1.35]	1.084 [0.97,1.21]
<i>Lineage (Ref: Patrilineal)</i>				
Matrilineal	0.880 [0.44,1.76]	0.990 [0.77,1.27]	0.852 [0.35,2.07]	1.000 [0.75,1.33]
<i>Mother's age (Ref: 16-29)</i>				
30-35	1.553 [0.33,7.27]	0.977 [0.52,1.85]	2.249 [0.43,11.64]	1.642 [0.83,3.25]
36-40	2.635 [0.54,12.78]	0.606 [0.32,1.13]	4.989 [0.86,28.93]	1.092 [0.56,2.13]
41-45	1.062 [0.21,5.38]	0.712 [0.37,1.36]	1.401 [0.23,8.47]	1.142 [0.57,2.28]
46+	1.454 [0.30,7.09]	0.635 [0.34,1.19]	1.015 [0.18,5.84]	0.985 [0.50,1.93]
<i>Father's education qualification (Ref: None)</i>				
Primary	1.740 [0.76,3.99]	2.301*** [1.60,3.31]	0.889 [0.31,2.58]	1.897** [1.24,2.91]
Secondary+	13.66*** [4.44,41.99]	5.372*** [2.64,10.91]	2.885 [0.69,12.06]	2.137 [0.89,5.15]
<i>Wealth quantiles</i>				
2 nd	4.899 [0.64,37.50]	1.391 [0.99,1.96]	10.26* [1.10,95.48]	1.483* [1.01,2.17]
3 rd	11.53* [1.68,79.02]	2.461*** [1.74,3.48]	26.28** [2.94,235.12]	2.164*** [1.46,3.20]
4 th	24.59*** [3.93,153.82]	4.055*** [2.62,6.26]	32.30** [4.06,256.76]	2.230** [1.35,3.67]
Constant	4.138 [0.42,40.96]	58.14*** [28.69,117.79]	2.813 [0.22,35.22]	50.00*** [22.97,108.86]
Household Level Variance	2.069*** [1.51,2.83]	1.698*** [1.47,1.96]	2.050** [1.27,3.31]	1.777*** [1.50,2.11]
Observations	2,056	9,520	1,534	8,530

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix N Association between WEE and currently attending school (with variable interactions)

Variables	All grades	Primary school	Secondary school
<i>WEE</i>			
Medium	0.765 [0.42,1.39]	0.830 [0.40,1.71]	0.738 [0.25,2.19]
High	1.771 [0.55,5.70]	1.871 [0.43,8.10]	1.452 [0.18,11.48]
<i>Sex & WEE</i>			
Female	1.038 [0.75,1.43]	1.107 [0.74,1.66]	0.360 [0.18,0.73]**
Medium & Female	0.794 [0.52,1.21]	0.719 [0.43,1.21]	1.207 [0.45,3.22]
High & Female	0.707 [0.36,1.38]	0.750 [0.34,1.67]	1.120 [0.20,6.28]
Children' age	0.619 [0.60,0.64]***	0.491 [0.46,0.52]***	0.699 [0.62,0.78]***
School-age siblings	1.007 [0.92,1.10]	1.071 [0.96,1.19]	1.045 [0.88,1.24]
<i>Place of residence</i>			
Rural	1.129 [0.77,1.66]	1.523 [0.95,2.44]	1.749 [0.89,3.43]
<i>Lineage and WEE</i>			
Matrilineal	0.994 [0.65,1.53]	0.967 [0.58,1.61]	0.717 [0.31,1.68]
Medium & Matrilineal	1.144 [0.65,2.01]	1.177 [0.61,2.26]	0.676 [0.18,2.48]
High & Matrilineal	1.389 [0.58,3.33]	1.835 [0.67,5.05]	0.905 [0.11,7.14]
<i>Region and WEE</i>			
Central	0.720 [0.42,1.23]	0.685 [0.36,1.31]	1.295 [0.49,3.41]
Southern	0.580 [0.33,1.02]	0.564 [0.29,1.11]	1.420 [0.49,4.09]
Medium & Central	0.808 [0.38,1.70]	0.671 [0.28,1.63]	1.452 [0.32,6.61]
Medium & Southern	1.441 [0.66,3.14]	1.450 [0.58,3.65]	1.409 [0.28,7.00]
High & Central	0.616 [0.16,2.35]	0.430 [0.08,2.29]	1.161 [0.10,14.18]
High & Southern	0.646 [0.16,2.59]	0.386 [0.07,2.15]	1.224 [0.09,16.89]
<i>Mother's age</i>			
30-35	1.013 [0.56,1.83]	1.685 [0.90,3.15]	
36-40	0.721 [0.40,1.28]	1.319 [0.71,2.45]	0.535 [0.12,2.42]
41-45	0.743 [0.41,1.35]	1.164 [0.61,2.22]	0.538 [0.12,2.48]
46+	0.701 [0.39,1.25]	0.973 [0.52,1.82]	0.786 [0.17,3.59]
<i>Father's education qualification</i>			
Primary	2.115 [1.52,2.95]***	1.537 [1.04,2.28]*	1.898 [1.02,3.54]*
Secondary+	9.335 [5.20,16.76]***	2.604 [1.25,5.43]*	6.100 [2.45,15.18]***
<i>Wealth Quantiles</i>			
2 nd	1.376 [0.98,1.94]	1.508 [1.03,2.21]*	0.735 [0.24,2.28]
3 rd	2.315 [1.64,3.27]***	2.181 [1.48,3.22]***	1.112 [0.39,3.14]
4 th	4.013 [2.63,6.12]***	2.277 [1.41,3.68]***	2.308 [0.77,6.89]
Constant	60.88 [25.82,143.58]***	43.77 [16.35,117.18]***	57.36 [6.35,518.01]***
Household Level Variance	1.772 [1.56,2.02]***	1.830 [1.56,2.14]***	1.688 [1.11,2.58]*
Observations	11,576	10,064	1,510

Exponentiated coefficients; 95% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

List of References

- Abbott, P., Mugisha, R. and Sapsford, R. (2018). 'Women, Land and Empowerment in Rwanda', *Journal of International Development*, 30(6), pp. 1006-1022.
- Abreha, S.K., Walelign, S.Z. and Zereyesus, Y.A. (2020). 'Associations between women's empowerment and children's health status in Ethiopia', *PLoS One*, 15(7), p. e0235825.
- Abril, M.E.R. (2009). Women's economic empowerment in conflict and post-conflict countries, 19/05/2022, SIDA51911en.
- Abuya, B.A., Mumah, J., Austrian, K., Mutisya, M. and Kabiru, C. (2018). 'Mothers' Education and Girls' Achievement in Kibera: The Link With Self-Efficacy', *SAGE Open*, 8(1), p. 2158244018765608.
- Abuya, B.A., Mutisya, M. and Ngware, M. (2015). 'Association between mothers' education and grade six children numeracy and literacy in Kenya', *Education 3-13*, 43(6), pp. 653-665.
- Abuya, B.A., Oketch, M., Mutisya, M., Ngware, M. and Ciera, J. (2013). 'Influence of mothers' education on children's maths achievement in Kenya', *Education 3-13*, 41(6), pp. 633-646.
- Acosta, M., van Wessel, M., van Bommel, S., Ampaire, E.L., Twyman, J., Jassogne, L. and Feindt, P.H. (2020). 'What does it Mean to Make a 'Joint' Decision? Unpacking Intra-household Decision Making in Agriculture: Implications for Policy and Practice', *The Journal of Development Studies*, 56(6), pp. 1210-1229.
- Adjei, J.K., Arun, T. and Hossain, F. (2009). 'The Role of Microfinance in Asset-Building and Poverty Reduction: The Case of Sinapi Aba Trust of Ghana', *BWPI, The University of Manchester, Brooks World Poverty Institute Working Paper Series*.
- AfDB and UNECA (2020). Africa Gender Index Report 2019 : Analytical report. Abidjan, Cote D'Ivoire. Available at: <https://www.afdb.org/en/documents/africa-gender-index-report-2019-analytical-report>.
- Afoakwa, C., Deng, X. and Onur, I. (2020). 'Women's Bargaining Power and Children's Schooling Outcomes: Evidence From Ghana', *Feminist Economics*, 26(3), pp. 1-29.

List of References

African Development Bank (2015). Africa Gender Equality Index 2015. Abidjan, Côte d'Ivoire.

Available at:

https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African_Gender_Equality_Index_2015-EN.pdf (Accessed: 12/09/2018).

Afridi, F. (2010). 'Women's empowerment and the goal of parity between the sexes in schooling in India', *Population Studies*, 64(2), pp. 131-145.

Agarwal, B. (1997). "'Bargaining' and Gender Relations: Within and Beyond the Household', *Feminist Economics*, 3(1), pp. 1-51.

Ahmed, F., Siwar, C. and Idris, N.A.H. (2011). 'Contribution of rural women to family income through participation in microcredit: An empirical analysis', *American Journal of Applied Sciences*, 8(3), pp. 238-245.

Akinola, A.O. (2018). 'Women, Culture and Africa's Land Reform Agenda', *Frontiers in psychology*, 9, pp. 2234-2234.

Al-Samarrai, S. and Zaman, H. (2007). 'Abolishing School Fees in Malawi: The Impact on Education Access and Equity', *Education Economics*, 15(3), pp. 359-375.

Alderman, H., Chiappori, P.-A., Haddad, L., Hoddinott, J. and Kanbur, R. (1995). 'Unitary versus Collective Models of the Household: Is It Time to Shift the Burden of Proof?', *The World Bank Research Observer*, 10(1), pp. 1-19.

Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A., Seymour, G. and Vaz, A. (2013). 'The Women's Empowerment in Agriculture Index', *World Development*, 52, pp. 71-91.

Amundsen, I. and Kayuni, H. (2016). 'Women in Politics in Malawi: An Introduction', in Amundsen, I. and Kayuni, H. (eds.) *Women in Politics in Malawi*. Zomba, Malawi: Chr. Michelsen Institute (CMI) and University of Malawi, Institute of Political and Administrative Studies (PAS).

Arias, O., David, K.E. and Indhira, S. (2019). *The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability*. Washington, DC: World Bank.: Washington, DC: World Bank and Agence française de développement. Africa Development Forum series.

Arthur-Holmes, F. and Abrefa Busia, K. (2020). 'Household dynamics and the bargaining power of women in artisanal and small-scale mining in sub-Saharan Africa: A Ghanaian case study', *Resources Policy*, 69, p. 101884.

- Asaolu, I.O., Alaofe, H., Gunn, J.K.L., Adu, A.K., Monroy, A.J., Ehiri, J.E., Hayden, M.H. and Ernst, K.C. (2018). 'Measuring Women's Empowerment in Sub-Saharan Africa: Exploratory and Confirmatory Factor Analyses of the Demographic and Health Surveys', *Front Psychol*, 9, p. 994.
- Asfaw, S. and Maggio, G. (2018). 'Gender, Weather Shocks and Welfare: Evidence from Malawi', *The Journal of Development Studies*, 54(2), pp. 271-291.
- Aslam, M. (2013). Empowering Women: Education and the Pathways of Change. Background paper prepared for the Education for All Global Monitoring Report 2013/4, Teaching and learning: Achieving quality for all 2014/ED/EFA/MRT/PI/02.
- Bachan, L.K. (2014). 'Anticipatory child fostering and household economic security in Malawi', *Demogr Res*, 30, pp. 1157-1188.
- Backiny-Yetna, P. and Wodon, Q. (2010). 'Gender Labor Income Shares and Human Capital Investment in the Republic of Congo', in Arbache, J.S., Kolev, A. and Filipiak, E. (eds.) *Gender Disparities in Africa's Labor Markets*. Washington, DC World Bank, pp. 359-380.
- Baland, J.-M. and Ziparo, R. (2018). 'Intra-Household Bargaining in Poor Countries', in Siwan, A., Lori, B. and Jean-Philippe, P. (eds.) *Towards Gender Equity in Development*. Oxford: Oxford University Press.
- Bammeke, F. (2010). 'Gender, household headship and children's educational performance in Nigeria: debunking the myth of poor performance in female-headed households', *African Population Studies*, 24(1-2), pp. 26-41.
- Bandara, A. (2015). 'The Economic Cost of Gender Gaps in Effective Labor: Africa's Missing Growth Reserve', *Feminist Economics*, 21(2), pp. 162-186.
- Barcena-Martín, E., Blázquez, M. and Moro-Egido, A.I. (2017). Intra-household allocation of resources and household deprivation (Working Papers in Economic Theory 2017/03). Available at: <https://ideas.repec.org/p/uam/wpaper/201703.html>.
- Barnes, C., Gaile, G., Kibombo, R., Kayabwe, S. and Waalwo-Kajula, P. (2001). The Impact of Three Microfinance Programs in Uganda. Available at: <http://erepository.uonbi.ac.ke/bitstream/handle/11295/65429/The%20Impact%20of%20three%20microfinance%20programs%20in%20Uganda.pdf?sequence=1&isAllowed=y>.

List of References

Barro, R. (2013). 'Education and Economic Growth', *Annals of Economics and Finance*, 14, pp. 301-328.

Barro, R.J. and Lee, J.W. (2013). 'A new data set of educational attainment in the world, 1950-2010', *Journal of Development Economics*, 104, pp. 184-198.

Bastagli, F., Hagen-Zanker, J., Harman, L., Barca, V., Sturge, G., Schmidt, T. and Pellerano, L. (2016). Cash transfers: what does the evidence say? A rigorous review of programme impact and of the role of design and implementation features.

Batinge, B. (2018). 'Women Access to Microfinance Loans on Children Formal Education: A Case of Rural Northern Migrant in the Brong Ahafo Region of Ghana', *Journal of Business & Financial Affairs*, 07.

Bayisenge, J., Höjer, S. and Espling, M. (2015). 'Women's land rights in the context of the land tenure reform in Rwanda – the experiences of policy implementers', *Journal of Eastern African Studies*, 9(1), pp. 74-90.

Bayissa, F.W., Smits, J. and Ruben, R. (2018). 'The multidimensional nature of women's empowerment: beyond the economic approach', *Journal of International Development*, 30(4), pp. 661-690.

Behrman, J.A. (2017). 'Women's land ownership and participation in decision-making about reproductive health in Malawi', *Population and Environment*, 38(4), pp. 327-344.

Berge, E., Kambewa, D., Munthali, A. and Wiig, H. (2014). 'Lineage and land reforms in Malawi: Do matrilineal and patrilineal landholding systems represent a problem for land reforms in Malawi?', *Land Use Policy*, 41, pp. 61-69.

Bhaumik, S.K., Dimova, R. and Gang, I.N. (2016). 'Is Women's Ownership of Land a Panacea in Developing Countries? Evidence from Land-Owning Farm Households in Malawi', *The Journal of Development Studies*, 52(2), pp. 242-253.

Bhupal, G. and Sam, A.G. (2014). 'Female Income and Expenditure on Children: Impact of the National Rural Employment Guarantee Scheme in India', *Applied Econometrics and International Development*, 14(2), pp. 175-192.

Bloom, D., Canning, D. and Sevilla, J. (2003). *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*, by RAND MR-1274-WFHF/DLPF/RF, 2002, 100 pp., ISBN: 0-8330-2926-6. . Santa Monica, CA, USA.

- Boateng, G.O., Kuuire, V.Z., Ung, M., Amoyaw, J.A., Armah, F.A. and Luginaah, I. (2014). 'Women's Empowerment in the Context of Millennium Development Goal 3: A Case Study of Married Women in Ghana', *Social Indicators Research*, 115(1), pp. 137-158.
- Boccia, M. and Mazzotta, F. (2018). 'Intra Household Decision Making and Children Outcomes in Malawi: the Effect of Matrilineal and Patrilineal Descent', SITES - IDEAS 2018. Rome, 3-4 October, 2018.
- Bogale, B., Wondafrash, M., Tilahun, T. and Girma, E. (2011). 'Married women's decision making power on modern contraceptive use in urban and rural southern Ethiopia', *BMC Public Health*, 11(1), p. 342.
- Bose-Duker, T., Henry, M. and Strobl, E. (2020). 'Children's Resource Shares: Male Versus Female-Headed Households', *Journal of Family and Economic Issues*.
- Boudet, A.M.M., Buitrago, P., de la Briere, B.L., Newhouse, D., Matulevich, E.R., Scott, K. and Suarez-Becerra, P. (2018). Gender Differences in Poverty and Household Composition through the Life-cycle: A Global Perspective. Gender Differences in Poverty and Household Composition through the Life-cycle: A Global Perspective, Policy Research Working Paper No. 8360.
- Bourguignon, F. and Chiappori, P.-A. (1992). 'Collective models of household behavior: An introduction', *European Economic Review*, 36(2), pp. 355-364.
- Brañas-Garza, P., Capraro, V. and Rasc'on-Ram'irez, E. (2016). 'Gender Differences in Altruism: Expectations, Actual Behaviour and Accuracy of Beliefs', *arXiv: Physics and Society*.
- Brody, A. and Esplen, E. (2007). Putting gender back in the picture: Rethinking women's economic empowerment, Bibliography No. 19.
- Brown, C. and van de Walle, D. (2021). 'Headship and Poverty in Africa', *The World Bank Economic Review*, 35(4), pp. 1038-1056.
- Bruwer, M., Hartell, C. and Steyn, M. (2014). 'Inclusive education and insufficient school readiness in Grade 1: Policy versus practice. Pretoria: ' *South African Journal of Childhood Education*.
- Burney, N.A. and Khan, A.H. (1992). 'Household Size, its Composition, and Consumption Patterns in Pakistan: An Empirical Analysis using Micro Data', *Indian Economic Review*, 27(1), pp. 57-72.

List of References

Business for Social Responsibility (2017). Women's Economic Empowerment in Sub-Saharan Africa: Recommendations for Business Action. Available at:

https://www.bsr.org/reports/BSR_Womens_Empowerment_Africa_Main_Report.pdf.

Buvinic, M. (2017). Measuring Women's Economic Empowerment: Overview. Data2x. Available at:

https://www.data2x.org/wp-content/uploads/2017/06/Measures_Overview.pdf.

Buvinic, M. and Furst-Nicholsand, R. (2016). Measuring Women Economic Empowerment: Companion to A Roadmap for Promoting Women's Economic Empowerment. Available at:

http://www.womeneconroadmap.org/sites/default/files/Measuring%20Womens%20Econ%20Emp_FINAL_06_09_15.pdf.

Buvinic, M., O'Donnell, M. and Bourgault, S. (2020). Women's Economic Empowerment in West Africa: Towards a Practical Research Agenda, CGD Working paper 584.

Buvinić, M. and O'Donnell, M. (2016). Revisiting What Works: Women, Economic Empowerment and Smart Design.

Buvinic, M., O'Donnell, M., Knowles, J.C. and Bourgault, S. (2020). Measuring Women's Economic Empowerment: A Compendium of Selected Tools. Available at:

<https://www.cgdev.org/sites/default/files/measuring-womens-economic-empowerment.pdf>.

Cabeza-Garcia, L., Del Brio, E.B. and Oscanoa-Victorio, M.L. (2018). 'Gender Factors and Inclusive Economic Growth: The Silent Revolution', *Sustainability*, 10(1).

Calder, R., Rickard, S. and Kalsi, K. (2020). Measurement of Women's Economic Empowerment, WOW Helpdesk Guidance Note No. 2.

Canning, D., Raja, S. and Yazbeck, A.S., (Eds), (2015). *Africa's Demographic Transition: Dividend or Disaster? Africa Development Forum Series. Washington D.C.: World Bank.*

Ceka, A. and Murati, R. (2016). 'The Role of Parents in the Education of Children', *Journal of Education and Practice*, 7(5), pp. 61-64.

Chakraborty, T. and De, P.K. (2011). Mother's Autonomy and Child Welfare: A New Measure and Some New Evidence, DP No. 5438

Chang, W., Díaz-Martin, L., Gopalan, A., Guarnieri, E., Jayachandran, S. and Walsh, C. (2020). What works to enhance women's agency: Cross-cutting lessons from experimental and quasi-experimental studies, J-PAL Working Paper March 2020.

- Chant, S. (2004). 'Dangerous Equations? How Female-headed Households Became the Poorest of the Poor: Causes, Consequences and Cautions', *IDS Bulletin*, 35(4), pp. 19-26.
- Chant, S. (2013). 'Cities through a "gender lens": a golden "urban age" for women in the global South?', *Environment and Urbanization*, 25(1), pp. 9-29.
- Chevalier, A., Harmon, C., O' Sullivan, V. and Walker, I. (2013). 'The impact of parental income and education on the schooling of their children', *IZA Journal of Labor Economics*, 2(1), p. 8.
- Chikapa, T.M. (2016). 'The 'Joyce Banda Effect': Explaining the Discrepancy between Public Opinion and Voting Behaviour', in Amundsen, I. and Kayuni, H. (eds.) *Women in Politics in Malawi*. Zomba, Malawi and Bergen, Norway: Chr. Michelsen Institute (CMI) & Department of Political and Administrative Studies (PAS).
- Chimombo, J. (2009). 'Changing patterns of access to basic education in Malawi: a story of a mixed bag?', *Comparative Education*, 45(2), pp. 297-312.
- Chimombo, J.P. (2005). 'Quantity versus Quality in Education: Case Studies in Malawi', *International Review of Education / Internationale Zeitschrift für Erziehungswissenschaft / Revue Internationale de l'Education*, 51(2/3), pp. 155-172.
- Civil Society on Education (2014). Assessment of Progress Made in Increasing Girls' Access to Education: with focus on readmission policy and other related policies. Available at: <http://www.csecmalawi.org/resources/PROGRESS-MADE-IN-INCREASING-GIRLS-EDUCATION-ACCESS.pdf>.
- Clements, K.W. and Chen, D. (2010). 'Affluence and Food: A Simple Way to Infer Incomes', *American Journal of Agricultural Economics*, 92(4), pp. 909-926.
- Cole, S. (2015). 'Seven Women Speak: Perceptions of Economic Empowerment Among Women in Cape Town', *On Our Terms: The Undergraduate Journal of the Athena Center for Leadership Studies at Barnard College* 3(1), pp. 85-129.
- Cooper, K. and Stewart, K. (2021). 'Does Household Income Affect children's Outcomes? A Systematic Review of the Evidence', *Child Indicators Research*, 14(3), pp. 981-1005.

List of References

- Copley, A., Decker, A., Delavelle, F., Goldstein, M., O'Sullivan, M. and Papineni, S. (2020). COVID-19 Pandemic Through a Gender Lens. Africa Knowledge in Time Policy Brief. World Bank, Washington, DC. Available at: <https://openknowledge.worldbank.org/handle/10986/34016>
- Crosnoe, R. and Kalil, A. (2010). 'Educational progress and parenting among Mexican immigrant mothers of young children', *Journal of Marriage and Family*, 72(4), pp. 976–990.
- Cuberes, D. and Teignier, M. (2014). 'Gender inequality and economic growth: a critical review', *Journal of International Development*, 26(2), pp. 260-276.
- Cui, Y., Liu, H. and Zhao, L. (2019). 'Mother's education and child development: Evidence from the compulsory school reform in China', *Journal of Comparative Economics*, 47(3), pp. 669-692.
- Dasgupta, U. and Mani, S. (2015). 'Only Mine or All Ours: Do Stronger Entitlements Affect Altruistic Choices in the Household', *World Development*, 67, pp. 363-375.
- Davis, B., Di Giuseppe, S. and Zezza, A. (2017). 'Are African households (not) leaving agriculture? Patterns of households' income sources in rural Sub-Saharan Africa', *Food Policy*, 67, pp. 153-174.
- de Hoop, J., Premand, P., Rosati, F. and Vakis, R. (2018). 'Women's economic capacity and children's human capital accumulation', *J Popul Econ*, 31, pp. 453–481.
- De la O'Campos, A.P. (2015). Empowering rural women through social protection, Rural Transformations- Technical Papers Series #2.
- Demirgüç-Kunt, A., Leora Klapper, Dorothe Singer, Saniya Ansar and Jake Hess (2018) 'The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution'. 20/03/2019. Washington, DC: World Bank. Available at: <https://globalfindex.worldbank.org/sites/globalfindex/files/2018-08/Global%20Findex%20Database.xlsx>.
- Djurfeldt, A.A., Hillbom, E., Mulwafu, W.O., Mvula, P. and Djurfeldt, G. (2018). "The family farms together, the decisions, however are made by the man" —Matrilineal land tenure systems, welfare and decision making in rural Malawi', *Land Use Policy*, 70, pp. 601-610.
- Donald, A.A., Koolwal, G.B., Annan, J.R., Falb, K. and Goldstein, M.P. (2017). Measuring women's agency (English), Policy Research working paper; no. WPS 8148.
- Dorrit, P. and Daniela, C. (2014). 'Returns to education and the gender gap in earnings: Evidence from South Africa', International Association for Feminist Economics 23rd IAFFE Annual Conference University of Ghana

- Doss, C. (2006). 'The Effects of Intrahousehold Property Ownership on Expenditure Patterns in Ghana', *Journal of African Economies*, 15(1), pp. 149-180.
- Doss, C. (2013). 'Intrahousehold Bargaining and Resource Allocation in Developing Countries', *The World Bank Research Observer*, 28(1), pp. 52-78.
- Doss, C., Kovarik, C., Peterman, A., Quisumbing, A. and van den Bold, M. (2015). 'Gender inequalities in ownership and control of land in Africa: myth and reality', *Agricultural Economics*, 46(3), pp. 403-434.
- Doss, C.R. (1996). 'Testing among models of intrahousehold resource allocation', *World Development, Elsevier*, 24(10), pp. 1597-1609.
- Downey, D.B. (1995). 'When Bigger Is Not Better: Family Size, Parental Resources, and Children's Educational Performance', *American Sociological Review*, 60(5).
- Duflo, E. and Udry, C. (2004). Intrahousehold Resource Allocation in Cote D'Ivoire: Social Norms, Separate Accounts and Consumption Choices NBER Working Paper No. w10498.
- Dunbar, G.R., Lewbel, A. and Pendakur, K. (2013). 'Children's Resources in Collective Households: Identification, Estimation, and an Application to Child Poverty in Malawi', *The American Economic Review*, 103(1), pp. 438-471.
- Dupas, P., Karlan, D., Robinson, J. and Ubfal, D. (2016). Banking the Unbanked? Evidence From Three Countries. Available at: <https://EconPapers.repec.org/RePEc:nbr:nberwo:22463>.
- Egyir, I.S. (2010). 'Rural Women and Microfinance in Ghana: Challenges and Prospects', 2010 AAAE Third Conference/AEASA 48th Conference. Cape Town, South Africa, September 19-23, 2010. African Association of Agricultural Economists (AAAE). Available at: <https://EconPapers.repec.org/RePEc:ags:aaae10:95782>.
- Equality and Human Rights Commission (2017). The gender pay gap (Research report 109). Manchester, UK. Available at: <https://www.equalityhumanrights.com/sites/default/files/research-report-109-the-gender-pay-gap.pdf>.

List of References

- Ewerling, F., Lynch, J.W., Victora, C.G., van Eerdewijk, A., Tyszler, M. and Barros, A.J.D. (2017). 'The SWPER index for women's empowerment in Africa: development and validation of an index based on survey data', *The Lancet Global Health*, 5(9), pp. e916-e923.
- Eyben, R., Kabeer, N. and Cornwall, A. (2008). Conceptualising Empowerment and the Implications for Pro Poor Growth, Paper prepared for the DAC Poverty Network
- Fafchamps, M., Kebede, B. and Quisumbing, A.R. (2009). 'Intrahousehold Welfare in Rural Ethiopia', *Oxford Bulletin of Economics and Statistics*, 71(4), pp. 567-599.
- Fafchamps, M., McKenzie, D., Quinn, S. and Woodruff, C. (2011). When is capital enough to get female enterprises growing ? evidence from a randomized experiment in Ghana (English). , Policy Research working paper no. WPS 5706.
- Fanta, A. and Mutsonziwa, K. (2016). Gender and Financial Inclusion: Analysis of financial inclusion of women in the SADC region, Policy research paper No. 01/2016.
- Farah, N. (2016). How do Household Characteristics affect Children's School Dropouts? Analysis of Survey Data from Bangladesh. , 2016 Awards for Excellence in Student Research and Creative Activity - Documents 2.
- Fentiman, A., Andrew, H. and Donald, B. (1999). 'School Enrolment Patterns in Rural Ghana: A comparative study of the impact of location, gender, age and health on children's access to basic schooling', *Comparative Education*, 35(3), pp. 331-349.
- Ferrant, G. and Thim, A. (2019). Measuring Women's Economic Empowerment: Time Use Data and Gender Inequality, OECD Development Policy Papers February 2019 – No. 16.
- Filgueira, F. and Martinez Franzoni, J. (2017). 'The Divergence in Women's Economic Empowerment: Class and Gender under the Pink Tide', *Social Politics*, 24(4), pp. 370-398.
- Filmer, D. and Pritchett, L. (1999). 'The effect of household wealth on educational attainment: evidence from 35 countries', *Popul. Dev. Rev.*, 25, pp. 85–120.
- Filmer, D. and Pritchett, L.H. (2001). 'Estimating Wealth Effects without Expenditure Data-or Tears: An Application to Educational Enrollments in States of India', *Demography*, 38(1), pp. 115-132.
- Food and Agriculture Organization (2002). Gender and access to land, FAO Land tenure studies 4.

- Food and Agriculture Organization (2011). *The state of food and agriculture: Women in Agriculture, Closing the gender gap for development*. Rome, Italy: Food and Agriculture Organization of the United Nations.
- Fox, L. and Romero, C. (2017). In the mind, the household or the market? Concepts and Measurement of women's economic empowerment, Policy Research working paper no. WPS 8079.
- Francavilla, F., Giannelli, G. and Grilli, L. (2008). School Attendance of Children and the Work of Mothers: A Joint Multilevel Model for India, 01/01, IZA Discussion Paper No. 3531.
- Fry, K., Firestone, R. and Chakraborty, N.M. (2014). Measuring Equity with Nationally Representative Wealth Quintiles.
- Fuseini, K., Kalule-Sabiti, I. and Lwanga, C. (2019). 'Dynamics of Women's Autonomy in Household Decision-Making in Ghana', *Journal of Comparative Family Studies*, 50(4), pp. 293-312.
- Galafa, B. (2019). 'Higher Education Reforms in Malawi with Specific Reference to Equitable Access', *Makerere Journal of Higher Education*, 10(2).
- Ganimian, A. and Murnane, R. (2016). 'Improving Education in Developing Countries: Lessons from Rigorous Impact Evaluations', *Review of Educational Research*, 86(3), pp. 719-755.
- Ganyaupfu, E.M. (2020). 'Health Services Costs, Household Income and Health Expenditure in South Africa', *Journal of Applied Economics and Business*, 8(3), pp. 20-30.
- Garcia, N.T. (2014). Matrilineal Asset Inheritance, Female Bargaining Power, and Household Welfare in Malawi. Masters. University of San Francisco. Available at: <https://repository.usfca.edu/thes/96> (Accessed: 15/03/2022).
- Gaydosh, L. (2017). 'Beyond Orphanhood: Parental Nonresidence and Child Well-being in Tanzania', *J Marriage Fam*, 79(5), pp. 1369-1387.
- Gebremedhin, T.A. and Mohanty, I. (2016). 'Child Schooling in Ethiopia: The Role of Maternal Autonomy', *PLOS ONE*, 11(12), p. e0167639.
- Gibson, J. and Kim, B. (2007). 'Measurement Error in Recall Surveys and the Relationship between Household Size and Food Demand', *American Journal of Agricultural Economics*, 89(2), pp. 473-489.

List of References

- Glick, P. (2002). Women's Employment and Its Relation to Children's Health and Schooling in Developing Countries: Conceptual Links, Empirical Evidence, and Policies
- Glick, P. and Sahn, D.E. (2000). 'Schooling of girls and boys in a West African country: the effects of parental education, income, and household structure', *Economics of Education Review*, 19(1), pp. 63-87.
- Glynn, J.R., Sunny, B.S., DeStavola, B., Dube, A., Chihana, M., Price, A.J. and Crampin, A.C. (2018). 'Early school failure predicts teenage pregnancy and marriage: A large population-based cohort study in northern Malawi', *PLoS One*, 13(5), p. e0196041.
- Golla, A.M., Malhotra, A., Nanda, P. and Mehra, R. (2011). Understanding and Measuring Women's Economic Empowerment: Definition, Framework and Indicators. Available at: <https://www.icrw.org/wp-content/uploads/2016/10/Understanding-measuring-womens-economic-empowerment.pdf>.
- Gordon, T., Booyesen, F. and Mbonigaba, J. (2020). 'Socio-economic inequalities in the multiple dimensions of access to healthcare: the case of South Africa', *BMC Public Health*, 20(1), p. 289.
- Government of Malawi (2017). *The Malawi growth and development strategy (MGDS) III (2017-2022)*. Lilongwe.
- Grant, M.J. (2017). 'De Facto Privatization and Inequalities in Educational Opportunity in the Transition to Secondary School in Rural Malawi', *Social Forces*, 96(1), pp. 65-90.
- Guvuriro, S. and Booyesen, F. (2019). 'Economic bargaining power and financial decision-making among married and cohabitant women in South Africa', *Development Southern Africa*, pp. 1-15.
- Haile, H.B. and Bock, B.B. (2008). '*The Effect of Targeting Credit to Married Women on Intra-household Expenditure Roles in Ethiopia*', Brisbane International Feminist Conference; . South Brisbane, Queensland, Australia 3rd to 5th September, 2008. Available at: <https://edepot.wur.nl/5583> (Accessed: 08/03/2022).
- Handa, S. (1994). 'Gender, headship and intrahousehold resource allocation', *World Development*, 22(10), pp. 1535-1547.
- Hanmer, L. and Klugman, J. (2016). 'Exploring Women's Agency and Empowerment in Developing Countries: Where do we stand?', *Feminist Economics*, 22(1), pp. 237-263.

- Harding, J.F., Morris, P.A. and Hughes, D. (2015). 'The Relationship Between Maternal Education and Children's Academic Outcomes: A Theoretical Framework', *Journal of Marriage and Family*, 77(1), pp. 60-76.
- Hashemi, S.M., Schuler, S.R. and Riley, A.P. (1996). 'Rural credit programs and women's empowerment in Bangladesh', *World Development*, 24(4), pp. 635-653.
- Hatlebakk, M. and Yogendra, B.G. (2016). 'Female empowerment and education of children in Nepal', *The Journal of Developing Areas*, 50(2), pp. 1-22.
- Hazarika, G. and Guha-Khasnobis, B. (2012). 'Women's Access to Microcredit and Children's Food Security in Rural Malawi', *Journal of African Development*, 14(1), pp. 27-46.
- Hendrick, C.E. and Marteleto, L. (2017). 'Maternal Household Decision-Making Autonomy and Adolescent Education in Honduras', *Population research and policy review*, 36(3), pp. 415-439.
- Hendriks, S. (2019). 'The role of financial inclusion in driving women's economic empowerment', *Development in Practice*, 29(8), pp. 1029-1038.
- Hoddinott, J. and Haddad, L. (1995). 'Does female income share influence household expenditures ? Evidence from Cote D'Ivoire', *Oxford Bulletin of Economics and Statistics*, 57(1), pp. 77-96.
- Holland, T. and Wang, L. (2011). 'Avoiding the perils and fulfilling the promises of microfinance: A closer examination of the educational outcomes of clients' children in Nicaragua', *International Journal of Educational Development*, 31(2), pp. 149-161.
- Holvoet, N. (2004). 'Impact of Microfinance Programs on Children's Education: Do the Gender of the Borrower and the Delivery Model Matter', *Journal of Microfinance/ ESR Review*, 6(2).
- Hopkins, J., Levin, C. and Haddad, L. (1994). 'Women's Income and Household Expenditure Patterns: Gender or Flow? Evidence from Niger', *American Journal of Agricultural Economics*, 76(5), pp. 1219-1225.
- Hosegood, V., McGrath, N. and Moultrie, T. (2009). 'Dispensing with marriage: Marital and partnership trends in rural KwaZulu-Natal, South Africa 2000-2006', *Demogr Res*, 20, pp. 279-312.
- Hossain, A. (2010). Age in Grade Congruence and Progression in Basic Education in Bangladesh.

List of References

- Hungi, N., Demus Makuwa, Kenneth Ross, Mioko Saito, Stéphanie Dolata, Frank van Cappelle, Laura Paviot and Jocelyne Vellien (2010). SACMEQ III Project Results: Pupil achievement levels in reading and mathematics, Working Document No. 1.
- Hunt, A. and Samman, E. (2016). Women's economic empowerment: Navigating enablers and constraints Available at: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/10683.pdf>.
- Hunt, F.M. (2008). Dropping out from school: a cross country review of literature. Project Report, sussex:1864.
- Ibrahim, S. and Alkire, S. (2007). 'Agency and Empowerment: A Proposal for Internationally Comparable Indicators', *Oxford Development Studies*, 35(4), pp. 379-403.
- ICF (2021) 'The DHS Program STATcompiler. Funded by USAID'. May 15 2022. Maryland, US. Available at: <http://www.statcompiler.com>.
- IIASA (2008). Economic Growth in Developing Countries: Education Proves Key, IIASA Policy Brief #03.
- IMF Fiscal Affairs (2021). Gender Equality and COVID-19: Policies and Institutions for Mitigating the Crisis. Available at: <https://www.imf.org/-/media/Files/Publications/covid19-special-notes/en-special-series-on-covid-19-gender-equality-and-covid-19.ashx>.
- Innovations for Poverty Action and Bureau of Applied Research in Anthropology, U.o.A. (2013). Final Impact Evaluation of the Saving for Change Program in Mali, 2009-2012. Available at: <https://www.freedomfromhunger.org/sites/default/files/SavingforChangeMaliResearchFullReportMay2013.pdf>.
- Inter-Parliamentary Union (2019) *Women in national parliaments*. Available at: <http://archive.ipu.org/wmn-e/classif.htm> (Accessed: 22 May).
- International Labour Organization (2016). *Women at Work: Trends 2016*. Geneva, Switzerland International Labour Office.
- International Labour Organization (2018a). *Global Wage Report 2018/19: What lies behind gender pay gaps*. Geneva: International Labour Organization.
- International Labour Organization (2018b). ILO Labour Force Estimates and Projections (LFEP) 2018: Key Trends Available at: <https://www.ilo.org/ilostat-files/Documents/LFEPbrief.pdf>.

International Labour Organization (2018c). Women and men in the informal economy: a statistical picture (Third edition). International Labour Office - Geneva, Switzerland. Available at:

https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_626831.pdf.

International Labour Organization (2018d). World Employment and Social Outlook: Trends for Women 2018 – Global snapshot. Geneva, Switzerland. Available at:

https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_619577.pdf.

Isiugo-Abanihe, U.C. (1985). 'Child Fosterage in West Africa', *Population and Development Review*, 11(1), pp. 53-73.

Izraelov, M. and Silber, J. (2019). 'Women's Empowerment and Children's Health: The Case of Ghana', in Nilsson, P. and Heshmati, A. (eds.) *Efficiency, Equity and Well-Being in Selected African Countries*. Cham: Springer International Publishing, pp. 123-148.

Jayachandran, S. (2015). 'The Roots of Gender Inequality in Developing Countries', *Annual Review of Economics*, 7(1), pp. 63-88.

Jennings, L., Na, M., Cherewick, M., Hindin, M., Mullany, B. and Ahmed, S. (2014). 'Women's empowerment and male involvement in antenatal care: analyses of Demographic and Health Surveys (DHS) in selected African countries', *BMC Pregnancy and Childbirth*, 14(1), p. 297.

Jere, P. (2013). Issues and Options for Improved Land Sector Governance in Malawi: Results of the Application of the Land Governance Assessment Framework. Available at:

http://siteresources.worldbank.org/INTLGA/Resources/Malawi_Synthesis.pdf.

Jin, X. and Han, J. (2010). 'Partitional Clustering', in Sammut, C. and Webb, G.I. (eds.) *Encyclopedia of Machine Learning*. Boston, MA: Springer US, pp. 766-766.

Jolliffe, I. (2002). *Principal Component Analysis*. 2nd edn. New York, USA: Springer. Springer series in statistics

Jose, J. and Younas, J. (2022). 'Financial inclusion and women's bargaining power: evidence from India', *International Review of Applied Economics*, pp. 1-17.

List of References

- Josephson, A. (2017). '*Share and Share Alike: The Impact of Rainfall on Gendered Income Allocation in Malawi*', Agricultural and Applied Economics Association. Chicago, Illinois 2017 Annual Meeting, July 30-August.
- Kabeer, N. (1999). 'Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment', *Development and Change*, 30(3), pp. 435-464.
- Kabeer, N. (2005). 'Gender equality and women's empowerment: A critical analysis of the third millennium development goal', *Gender & Development*, 13(1), pp. 13-24.
- Kabeer, N. (2009). Women's economic empowerment: key issues and policy options, Sida Policy (SIDA51910en).
- Kabeer, N. (2011). Contextualizing the Economic Pathways of Women's Empowerment: Findings from a Multi-Country Research Programme, Pathways Policy Paper.
- Kabeer, N. (2012). Women's economic empowerment and inclusive growth: labour market and enterprise development, Discussion Paper 29/12.
- Kabeer, N. (2017). 'Economic Pathways to Women's Empowerment and Active Citizenship: What Does The Evidence From Bangladesh Tell Us?', *Journal of Development Studies*, 53(5), pp. 649-663.
- Kabeer, N. and Mahmud, S. (2004). 'Globalization, gender and poverty: Bangladeshi women workers in export and local markets', *Journal of International Development*, 16(1), pp. 93-109.
- Kabeer, N., Mahmud, S. and Tasneem, S. (2011). Does Paid Work Provide a Pathway to Women's Empowerment?: Empirical Findings from Bangladesh, IDS Working Paper 375.
- Kabeer, N., Razavi, S. and Rodgers, Y.v.d.M. (2021). 'Feminist Economic Perspectives on the COVID-19 Pandemic', *Feminist Economics*, 27(1-2), pp. 1-29.
- Kabeer, N. and Tran, T.V.A. (2006). Globalization, Gender and Work in the Context of Economic Transition, the Case of Vietnam, GEM-IWG Working Paper 06-3.
- Kabubo-mariara, J. and Mwabu, D.K. (2007). 'Determinants of school enrolment and education attainment: Empirical evidence from Kenya', *South African Journal of Economics*, 75(3), pp. 572-593.
- Kadzamira, E., Rose, P. and Zubairi, A. (2018) 'Who benefits from abolishing secondary school fees in Malawi, and what are the costs?' , *World Education Blog*, 5th February 2020. Available at:

<https://gemreportunesco.wordpress.com/2018/10/19/who-benefits-from-abolishing-secondary-school-fees-in-malawi-and-what-are-the-costs/>.

Kagotho, N. and Vaughn, M.G. (2018). 'Women's agency in household economic decision making in Kenya', *International Social Work*, 61(6), pp. 767-780.

Kamanda, M. and Sankoh, O. (2015). 'A systematic review of the status of children's school access in low- and middle-income countries between 1998 and 2013: using the INDEPTH Network platform to fill the research gaps', *Global Health Action*, 8(1).

Kathewera-Banda, M., Kamanga- Njikho, V., Malera, G., Mauluka, G., Mazinga, M.K. and Ndhlovu, S. (2011). Women's access to land and household bargaining power: a comparative action research project in patrilineal and matrilineal societies in Malawi. Available at: <https://idl-bnc-idrc.dspacedirect.org/handle/10625/47629>.

Katz, E. (1997). 'The Intra-Household Economics of Voice and Exit', *Feminist Economics*, 3(3), pp. 25-46.

Khatri, R. (2016). 'The role of education towards women empowerment in India.', *International Journal of Advanced Research (IJAR)*, 4(11), p. 6.

Klugman, J., Hanmer, L., Twigg, S., Hasan, T., McCleary-Sills, J. and Santamaria, J. (2014). *Voice and Agency: Empowering Women and Girls for Shared Prosperity*. Washington, DC: World Bank Group: World Bank Group.

Kotila, L.E., Schoppe-Sullivan, S.J. and Dush, C.M.K. (2013). 'Time in Parenting Activities in Dual-Earner Families at the Transition to Parenthood', *Family relations*, 62(5), pp. 795-807.

Kponou, M.K.C. (2020). 'Women's Bargaining Power and Households' Living Standards in West Africa: Evidence from Benin, Togo and Mali', in Konte, M. and Tirivayi, N. (eds.) *Women and Sustainable Human Development: Empowering Women in Africa*. Cham: Springer International Publishing, pp. 305-316.

Langsten, R. and Salen, R. (2008). 'Two Approaches to Measuring Women's Work in Developing Countries: A Comparison of Survey Data from Egypt', *Population and Development Review*, 34(2), pp. 283-305.

List of References

- Laszlo, S., Grantham, K., Oskay, E. and Zhang, T. (2017). Grappling with the Challenges of Measuring Women's Economic Empowerment, GrOW Working Paper Series, GWP-2017-12 – Research Contribution Paper.
- Le Roy, É. (2017). World development report 2017: hybrid land regulation between the commons and the market land tenure in the Comoros (English), World Development Report.
- Lewin, K. (2007). Improving Access, Equity and Transitions in Education: Creating a Research Agenda, Create Pathways to Access. Research Monograph No. 1.
- Li, Z. and Qiu, Z. (2018). 'How does family background affect children's educational achievement? Evidence from Contemporary China. 5, 13 (2018)', *J. Chin. Sociol.*, 5(13).
- Lloyd, C.B. and Blanc, A.K. (1996). 'Children's Schooling in sub-Saharan Africa: The Role of Fathers, Mothers, and Others', *Population and Development Review*, 22(2), pp. 265-298.
- Lokshin, M., Glinskaya, E. and Garcia, M. (2000). The Effect of Early Childhood Development Programs on Women's Labor Force Participation and Older Children's Schooling in Kenya, Policy Research Working Paper; No. 2376
- Lowes, S. (2018). Matrilineal Kinship and Spousal Cooperation: Evidence from the Matrilineal Belt.
- Lundberg, S.J., Pollak, R.A. and Wales, T.J. (1997). 'Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit', *The Journal of Human Resources*, 32(3), pp. 463-480.
- Luz, L. and Agadjanian, V. (2015). 'Women's decision-making autonomy and children's schooling in rural Mozambique', *Demogr Res*, 32, pp. 775-796.
- Majanga, B. (2016). 'The Journey to Financial Inclusion in Malawi. What Does the Future Hold?', *International Journal of Economics and Financial Research*, 2(9), pp. 169-175.
- Makles, A. (2012). 'Stata tip 110: How to get the optimal k-means cluster solution', *Stata Journal*, 12(2), pp. 347-351.
- Makwemba, M., Chinsinga, B., Kantukule, C.T., Munthali, A., Woldegorgis, M., Haenni, S. and Lin, Q. (2019). Survey Report: Traditional Practices in Malawi. Available at: <https://www.unicef.org/malawi/media/1546/file/Traditional%20Practices%20in%20Malawi:%20Survey%20Report.pdf>.

- Malapit, H.J.L., Sraboni, E., Quisumbing, A.R. and Ahmed, A.U. (2019). 'Intrahousehold empowerment gaps in agriculture and children's well-being in Bangladesh', *Development Policy Review*, 37(2), pp. 176-203.
- Malhotra, A., Schuler, S.R. and Boender, C. (2002). Measuring Women's Empowerment as a Variable in International Development, Background Paper Prepared for the World Bank Workshop on Poverty and Gender: New Perspectives.
- Markel, E. (2016). Measuring Women's Economic Empowerment in Private Sector Development: Guidelines for Practitioners. Available at: https://www.enterprise-development.org/wpcontent/uploads/Measuring_Womens_Economic_Empowerment_Guidance.pdf.
- Martinez-Restrepo, S. and Ramos-Jaimes, L. (2017). *Measuring Women's Economic Empowerment: Critical Lessons from South America*. Columbia: La Imprenta Editores S.A.
- Mayoux, L. (1999). 'Questioning virtuous spirals: micro-finance and women's empowerment in Africa', *Journal of International Development*, 11(7), pp. 957-984.
- Mbilizi, M.A. (2013). 'When a woman becomes president: implications for gender policy and planning in Malawi', *Journal of International Women's Studies*, 14, p. 148+.
- McCarthy, N. and Kilic, T. (2017). Stronger together: intra-household cooperation and household welfare in Malawi (English). Policy Research working paper, Policy Research working paper; no. WPS 8043.
- Mensch, B.S., Chuang, E.K., Melnikas, A.J. and Psaki, S.R. (2019). 'Evidence for causal links between education and maternal and child health: systematic review', *Tropical medicine & international health : TM & IH*, 24(5), pp. 504-522.
- Miedema, S.S., Haardörfer, R., Girard, A.W. and Yount, K.M. (2018). 'Women's empowerment in East Africa: Development of a cross-country comparable measure', *World Development*, 110, pp. 453-464.
- Milazzo, A. and Goldstein, M. (2017). Governance and Women's Economic and Political Participation: Power Inequalities, Formal Constraints and Norms, Background paper for the 2017 World Development Report on Governance and the Law.

List of References

- Miller, M., Lynn, S.-L. and Cook, J.M. (2001). 'Birds of a Feather: Homophily in Social Networks', *Annual Review of Sociology*, 27(1), pp. 415-444.
- Ministry of Education (2021). *Malawi 2020 Education statistics* Lilongwe, Malawi.
- Ministry of Education Science and Technology (2016). *The 2015/2016 education sector performance report* Lilongwe, Malawi.
- Ministry of Education Science and Technology (2018a). *Malawi education statistics 2017/18*. Lilongwe, Malawi.
- Ministry of Education Science and Technology (2018b). *Readmission Policy for Primary and Secondary Schools*. Lilongwe, Malawi. Available at: <https://cse-learning-platform-unesco.org/system/files/digital-library-files/REVISED%20READMISSION%20POLICY%20MAY%20%202018%20%282%29.pdf>.
- Ministry of Education Science and Technology (2019). *The 2018/19 education sector performance report: Strengthening education management and accountability to improve learning outcomes for all*. Lilongwe, Malawi.
- Ministry of Public service and Gender (2021). *Women Economic Empowerment Strategy: 2020-2025* Nairobi, Kenya. Available at: <https://gender.go.ke/wp-content/uploads/2021/04/Women-Economic-Empowerment-Strategy-2020-2025-REVISED-10th-march.pdf>.
- Mishra, K. and Sam, A.G. (2016). 'Does Women's Land Ownership Promote Their Empowerment? Empirical Evidence from Nepal', *World Development*, 78, pp. 360-371.
- Mohyuddin, D.A. and Irshad Hussain, K. (2014). *Women's Contribution in the Household Economy*.
- Moyi, P. (2010). 'Household characteristics and delayed school enrollment in Malawi', *International Journal of Educational Development*, 30(3), pp. 236-242.
- Muchomba, F.M. (2017). 'Women's Land Tenure Security and Household Human Capital: Evidence from Ethiopia's Land Certification', *World Development*, 98, pp. 310-324.
- Munthali, A.C., Kok, M. and Kakal, T. (2018). YES I DO. Initiation ceremonies in Traditional Authority Liwonde in Machinga District in Southern Malawi: What do they look like now and before; and do they influence young people's behaviour regarding sex and relationships? Amsterdam, The Netherlands. Available at: <https://www.kit.nl/wp-content/uploads/2019/03/Study-report-initiation-ceremonies-YID-FINAL.pdf>.

- Munthali, A.C. and Zulu, E.M. (2007). 'The timing and role of initiation rites in preparing young people for adolescence and responsible sexual and reproductive behaviour in Malawi', *African journal of reproductive health*, 11(3), pp. 150-167.
- Mussa, R. (2009). Rural-urban differences in parental spending on children's primary education in Malawi, MPRA Paper No. 16090,.
- Mussa, R. (2016). Labour market transitions of young women and men in Malawi: results of the 2014 school-to-work transition survey, Work4Youth publication series ; No. 35.
- National Planning Commission (2020). *Malawi Vision 2063: An Inclusively Wealthy and Self-reliant Nation*. Lilongwe, Malawi. Available at: <https://malawi.un.org/sites/default/files/2021-01/MW2063-%20Malawi%20Vision%202063%20Document.pdf>.
- National Statistical Office (2014). *Malawi Labour Force Survey, 2013*. Zomba, Malawi.
- National Statistical Office (2017a). *Integrated household panel survey 2016: Household socio-economic characteristics report*. Zomba, Malawi. Available at: <https://microdata.worldbank.org/index.php/catalog/2936/download/47122>.
- National Statistical Office (2017b). *Malawi Fourth Integrated Household Survey (IHS4) 2016-2017: Basic Information Document*. Zomba, Malawi. Available at: <https://microdata.worldbank.org/index.php/catalog/2936/download/47116>.
- National Statistical Office (2019a). *Malawi Population and Housing Census Report 2018*. Zomba, Malawi. Available at: http://www.nsomalawi.mw/images/stories/data_on_line/demography/census_2018/2018%20Malawi%20Population%20and%20Housing%20Census%20Main%20Report.pdf.
- National Statistical Office (2019b). *Malawi Poverty report 2018*. Zomba, Malawi.
- National Statistical Office (2021). *Malawi Multiple Indicator Cluster Survey 2019-20, Survey Findings Report*. Zomba, Malawi.
- National Statistical Office (NSO) and ICF (2017). *Malawi Demographic and Health Survey 2015-16*. Zomba, Malawi, and Rockville, Maryland, USA.
- National Statistics Office and World Bank (2018). *Methodology for poverty measurement in Malawi (2016/17)*. Zomba, Malawi.

List of References

Naved, R.T., Newby, M. and Amin, S. (2001). 'The effects of migration and work on marriage of female garment workers in Bangladesh', *International Journal of Population Geography*, 7(2), pp. 91-104.

Nejma, B., Gaëlle, F., Léa, F., Alejandra, M. and Annelise, T. (2018). Gender Inequality in West African Social Institutions. West African Papers, No. 13, 08 Mar 2018, West African Papers, No. 13.

Njuki, J., Kruger, E. and Starr, L. (2013). Increasing the productivity and empowerment of women smallholder farmers: results of a baseline assessment from six countries in Africa and Asia.

Atlanta, GA. Available at: <http://www.care.org/sites/default/files/documents/pathways-global-baseline-report2013.pdf> (Accessed: 7 May 2020).

O'Donnell, M., Bourgault, S., McDougal, L., Dehingia, N., Cheung, W.W. and Raj, A. (2021a). The Impacts of COVID-19 on Women's Social and Economic Outcomes: An Updated Review of the Evidence. , CGD Policy Paper 225

O'Donnell, M., Buvinic, M., Kenny, C., Bourgault, S. and Yang, G. (2021b). Promoting Women's Economic Empowerment in the COVID-19 Context, CGD Working Paper 575.

O'Neil, T., Kanyongolo, N., Wales, J. and Mkandawire, M.W. (2016). Women and power: Representation and influence in Malawi's parliament. London, UK. Available at: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/10289.pdf>.

Odero, E.E. (2018). 'Microfinance: its impact on women and children', *European Journal of Business, Economics and Accountancy*, 6(1), pp. 77-86.

OECD (2012). *Education at a Glance 2012: highlights* Paris, France: OECD Publishing.

OECD (2019). *SIGI 2019 Global Report: Transforming Challenges into Opportunities*. Paris, France: OECD Publishing. Social Institutions and Gender Index.

OECD (2021). *SIGI 2021 Regional Report for Africa*.

Olumakaiye, M.F. and Ajayi, A.O. (2006). 'Women's Empowerment for Household Food Security: The Place of Education', *Journal of Human Ecology*, 19(1), pp. 51-55.

Opata, P.I., Ezeibe, A.B. and Ume, C.O. (2020). 'Impact of women's share of income on household expenditure in southeast Nigeria', *African Journal of Agricultural and Resource Economics*, 15(1), pp. 51-64.

- Ouma, S.A., Odongo, T.M. and Were, M. (2017). 'Mobile financial services and financial inclusion: Is it a boon for savings mobilization?', *Review of Development Finance*, 7(1), pp. 29-35.
- Owusu-Danso, T. (2015). Implications of Microfinance for gender inequality in Ghana, Working Paper 983.
- Oxfam International (2017). Oxfam's Conceptual Framework on Women's Economic Empowerment. Oxford, UK: GB, O. Available at: <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620269/gt-framework-womens-economic-empowerment-180118-en.pdf;jsessionid=E91F4AF9D52CD678CB9D6C0379D85128?sequence=7>.
- Ozturk, I. (2001). 'The Role of Education in Economic Development: A Theoretical Perspective', *Journal of Rural Development and Administration*, 33(1), pp. 39-47.
- Palacios-Lopez, A., Christiaensen, L. and Kilic, T. (2017). 'How much of the labor in African agriculture is provided by women?', *Food policy*, 67, pp. 52-63.
- Palacios-López, A. and López, R. (2015). 'The Gender Gap in Agricultural Productivity: The Role of Market Imperfections', *The Journal of Development Studies*, 51(9), pp. 1175-1192.
- Palardy, G.J. (2008). 'Differential school effects among low, middle and high social class composition schools: a multi-group, multilevel latent growth curve analysis.', *Sch. Eff. Sch. Improv.*, 19, pp. 21-49.
- Pangaribowo, E.H., Tsegai, D. and Sukamdi (2019). 'Women's bargaining power and household expenditure in Indonesia: the role of gender-differentiated assets and social capital', *GeoJournal*, 84(4), pp. 939-960.
- Patrinos, H.A. and Psacharopoulos, G. (1997). 'Family size, schooling and child labor in Peru -- an empirical analysis', *J Popul Econ*, 10(4), pp. 387-405.
- Peprah, J. (2018). 'Microcredit, Child Education, and Health Outcomes: A Case Study from Ghana', in, pp. 339-365.
- Peters, H., Marie Astone, N., Malik, A., Maret, F. and Heller, C. (2016). *Women's economic empowerment: A review of evidence on enablers and barriers*.

List of References

- Peters, H.E., Irvin-Erickson, Y., Adelstein, S., Malik, A., Derrick-Mills, T., Valido, A. and Esplage, D. (2019). Qualitative evidence on barriers to and facilitators of women's participation in higher or growing productivity and male-dominated labour market sectors in low- and middle-income countries. .
- Peters, P.E. (2010). "'Our daughters inherit our land, but our sons use their wives' fields": matrilineal-matrilocal land tenure and the New Land Policy in Malawi', *Journal of Eastern African Studies*, 4(1), pp. 179-199.
- Phan, L. (2016). 'Measuring Women's Empowerment at Household Level Using DHS Data of Four Southeast Asian Countries', *Social Indicators Research*, 126(1), pp. 359-378.
- Phipps, S.A. and Burton, P.S. (1998). 'What's Mine is Yours? The Influence of Male and Female Incomes on Patterns of Household Expenditure', *Economica*, 65(260), pp. 599-613.
- Pomerantz, E.M., Moorman, E.A. and Litwack, S.D. (2007). 'The how, whom, and why of parents' involvement in children's academic lives: More is not always better', *Review of Educational Research*, 77(3), pp. 373-410.
- Pozarny, P. (2016). Gender roles and opportunities for women in urban environments (GSDRC Helpdesk Research Report 1337). Birmingham, UK. Available at: <https://gsdrc.org/wp-content/uploads/2016/01/HDQ1337.pdf>.
- Pratley, P. (2016). 'Associations between quantitative measures of women's empowerment and access to care and health status for mothers and their children: A systematic review of evidence from the developing world', *Social Science & Medicine*, 169, pp. 119-131.
- Pufall, E., Eaton, J.W., Nyamukapa, C., Schur, N., Takaruzza, A. and Gregson, S. (2016). 'The relationship between parental education and children's schooling in a time of economic turmoil: The case of East Zimbabwe, 2001 to 2011', *International Journal of Educational Development*, 51, pp. 125-134.
- Quisumbing, A., Rubin, D. and Sproule, K. (2016). Subjective Measures of Women's Economic Empowerment. Available at: http://www.womeneconroadmap.org/sites/default/files/Wms%20Entrepreneurship_rev_clean.pdf.
- Quisumbing, A.R. and de la Briere, B. (2000). Women's assets and intrahousehold allocation in rural Bangladesh, FCND discussion papers 86.

- Quisumbing, A.R. and Maluccio, J.A. (2003). 'Resources at Marriage and Intrahousehold Allocation: Evidence from Bangladesh, Ethiopia, Indonesia, and South Africa', *Oxford Bulletin of Economics and Statistics*, 65(3), pp. 283-327.
- Rand, D.G., Brescoll, V.L., Everett, J.A., Capraro, V. and Barcelo, H. (2016). 'Social heuristics and social roles: Intuition favors altruism for women but not for men', *J Exp Psychol Gen*, 145(4), pp. 389-96.
- Rangel, M.A. (2006). 'Alimony Rights and Intrahousehold Allocation of Resources: Evidence from Brazil', *The Economic Journal*, 116(513), pp. 627-658.
- Ravishankar, V., El-Kogali, S.E.-T., Sankar, D., Tanaka, N. and Rakoto-Tiana, N. (2016). *Primary Education in Malawi: Expenditures, Service Delivery, and Outcomes*. Washington, DC: The World Bank. World Bank Studies.
- Rehman, A., Ping, Q. and Razzaq, A. (2019). 'Pathways and Associations between Women's Land Ownership and Child Food and Nutrition Security in Pakistan', *International journal of environmental research and public health*, 16(18), p. 3360.
- Reniers, G. (2003). 'Divorce and Remarriage in Rural Malawi', *Demographic Research Special Collection*, 1(6), pp. 175-206.
- Richardson, R.A. (2018). 'Measuring women's empowerment: a need for context and caution', *Lancet Glob Health*, 6(1), p. e30.
- Ringdal, C. and Sjursen, I.H. (2021). 'Household Bargaining and Spending on Children: Experimental Evidence from Tanzania', *Economica*, 88(350), pp. 430-455.
- Robertson, S., Cassity, E. and Kunkwenzu, E. (2017). Girls' Primary and Secondary Education in Malawi: Sector Review Final report Victoria, Australia. Available at: https://research.acer.edu.au/cgi/viewcontent.cgi?article=1031&context=monitoring_learning.
- Roby, J.L., Erickson, L. and Nagaishi, C. (2016). 'Education for children in sub-Saharan Africa: Predictors impacting school attendance', *Children and Youth Services Review*, 64, pp. 110-116.
- Roser, M. and Ortiz-Ospina, E. (2016) 'Global Education' [Online Resource]. 06/12/2020. Online: OurWorldInData. Available at: <https://ourworldindata.org/global-education>.

List of References

- Roushdy, R. (2004). Intra-household Resource Allocation in Egypt: Does Women's Empowerment Lead to Greater Investments in Children?, " , revised 01 2004., Working Papers 0410, Economic Research Forum.
- Roxin, H., Berkmüller, H., Koller, P.J., Lawonn, J., Pooya, N. and Schappert, J. (2011). Economic Empowerment of Women through Microcredit: The Case of the "Microfinance Investment and Technical Assistance Facility" (MITAF), SLE Publication Series- S240, Albrecht Daniel Thaer-Institut für Agrar- und Gartenbauwissenschaften.
- Roy, P.K., Haque, S., Jannat, A., Ali, M. and Khan, M.S. (2017). *Contribution of women to household income and decision making in some selected areas of Mymensingh in Bangladesh.*
- Ruggles, S. (2010). 'Stem families and joint families in comparative historical perspective', *Popul Dev Rev*, 36(3), pp. 563-77.
- Salem, R., Cheong, Y.F. and Yount, K.M. (2018). 'Is Women's Work a Pathway to their Agency in Rural Minya, Egypt?', *Social Indicators Research*, 136(2), pp. 807-831.
- Samuels, F., Samman, E., Hunt, A., Rost, L. and Plank, G. (2018). Between work and care: Older women's economic empowerment. Available at: <https://cdn.odi.org/media/documents/12509.pdf>.
- Santoso, M.V., Kerr, R.B., Hoddinott, J., Garigipati, P., Olmos, S. and Young, S.L. (2019). 'Role of Women's Empowerment in Child Nutrition Outcomes: A Systematic Review', *Advances in nutrition (Bethesda, Md.)*, 10(6), pp. 1138-1151.
- Sarkar, R.K., Reza, M.M. and Hossain, M.E. (2014). 'Socio Cultural Barriers of Girls' Educational Attainment Experiences From Rural Bangladesh', *Cultural Anthropology*, 349, p. 358.
- Schultz, T.P. (2004). 'Evidence of Returns to Schooling in Africa from Household Surveys: Monitoring and Restructuring the Market for Education', *Journal of African Economies*, 13(suppl_2), pp. ii95-ii148.
- Scott, L., Custers, A., Dolan, C., Johnstone-Louis, M., Luchinskaya, D., Marston, A., Northridge, K., Rothman, L. and Steinfield, L. (2016). Advisory Note on Measures: Women's Economic Empowerment, Said Business School Research Papers, Oxford University.
- Sell, M. and Minot, N. (2018). 'What factors explain women's empowerment? Decision-making among small-scale farmers in Uganda', *Women's Studies International Forum*, 71, pp. 46-55.

- Shimamoto, K. and Gipson, J.D. (2015). 'The relationship of women's status and empowerment with skilled birth attendant use in Senegal and Tanzania', *BMC Pregnancy and Childbirth*, 15(1), p. 154.
- Shimamura, Y. and Lastarria-Cornhiel, S. (2010). 'Credit Program Participation and Child Schooling in Rural Malawi', *World Development*, 38(4), pp. 567-580.
- Singhal, R. (2003). 'Women, Gender and Development: The Evolution of Theories and Practice', *Psychology and Developing Societies*, 15(2), pp. 165-185.
- Sirin, S.R. (2005). 'Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research', *Review of Educational Research*, 75(3), pp. 417-453.
- Skoufias, E. (1993). 'Labor market opportunities and intrafamily time allocation in rural households in South Asia', *Journal of Development Economics*, 40(2), pp. 277-310.
- Slavchevska, V., Ana Paula, d.I.O.C., Chiara, B. and Cheryl, D. (2017). '*Beyond Ownership: Women's and Men's Land Rights in Sub-Saharan Africa*', 2017 Annual (World) Bank Conference on Africa. Rome. Food and Agriculture Organization of the United Nations (FAO). Available at: <http://pubdocs.worldbank.org/en/170131495654694482/A2-ABCASlavcheska-et-al-2016-Beyond-ownership-working-paper.pdf>.
- Soetan, R.O. and Obiyan, M.O. (2019). 'Socioeconomic Differentials in Employment Status and Involvement in Household Decision-Making Among Ever-Married Women in Nigeria', *Frontiers in Sociology*, 4(49).
- Sougou, N.M., Bassoum, O., Faye, A. and Leye, M.M.M. (2020). 'Women's autonomy in health decision-making and its effect on access to family planning services in Senegal in 2017: a propensity score analysis', *BMC Public Health*, 20(1), p. 872.
- Sridhar, D. (2008). Linkages between Nutrition, Ill-Health and Education. Background paper prepared for the Education for All Global Monitoring Report 2009. Paris.
- Sunny, B.S., Elze, M., Chihana, M., Gondwe, L., Crampin, A.C., Munkhondya, M., Kondowe, S. and Glynn, J.R. (2017). 'Failing to progress or progressing to fail? Age-for-grade heterogeneity and grade repetition in primary schools in Karonga district, northern Malawi', *International Journal of Educational Development*, 52, pp. 68-80.

List of References

- Sustainable Development Goals Center for Africa and Sustainable Development Solutions Network (2020). Africa SDG Index and Dashboards Report 2020. Kigali and New York. Available at: https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf.
- Tansel, A. (1997). 'Schooling Attainment, Parental Education, and Gender in Côte d'Ivoire and Ghana', *Economic Development and Cultural Change*, 45(4), pp. 825-856.
- Taylor, G. and Perezniето, P. (2014). Review of evaluation approaches and methods used by interventions on women and girls' economic empowerment London, UK. Available at: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8843.pdf>.
- Taylor, N., Mabogoane, T., Shindler, J. and Akoobhai, B. (2010). Seeds of Their Struggle: The Features of Under- and Overage Enrolment among Grade 4 Learners in South Africa. CREATE Pathways to Access, Research Monograph No. 47.
- Telalagic, S. (2014). Kinship and Consumption: The Effect of Spouses Outside Options on Household Productivity, Department of Economics Discussion Paper Series, Ref: 720.
- Thomas, D. (1990). 'Intra-Household Resource Allocation: An Inferential Approach', *The Journal of Human Resources*, 25(4), pp. 635-664.
- Thomas, D. (1993). 'The Distribution of Income and Expenditure within the Household', *Annales d'Économie et de Statistique*, (29), pp. 109-135.
- Thomas, D. (1997). 'Incomes, Expenditures, and Health Outcomes: Evidence on Intrahousehold Resource Allocation', in Haddad, L., Hodinott, J. and Alderman, H. (eds.) *Intrahousehold Resource Allocation in Developing Countries: Models, Methods, and Policy*. Baltimore, Maryland: International Food Policy Research Institute, pp. 142-164.
- Tiessen, R. (2008). 'Small Victories But Slow Progress', *International Feminist Journal of Politics*, 10(2), pp. 198-215.
- Tilak, J.B.G. (1989). Education and its relation to economic growth, poverty, and income distribution: past evidence and further analysis (English). World Bank discussion papers, WDP 46.
- Tornqvist, A.a.C.S. (2009). Women's economic empowerment: scope for Sida's engagement . , Working Paper December.

Totouom, A., Mboutchouang, V.D.P. and Kaffo, F.H. (2018). 'The Effects of Education on Labour Force Participation in Cameroon: A Gender Perspective', *African Development Review*, 30(1), pp. 45-55.

Townsend, N., Madhavan, S., Tollman, S., Garenne, M. and Kahn, K. (2002). 'Children's Residence Patterns and Educational Attainment in Rural South Africa, 1997', *Population Studies*, 56(2), pp. 215-225.

UN-HABITAT (2016). *Urbanization and development: Emerging Futures. World cities report, 2016*. Nairobi, Kenya.

UN-Habitat (2018). SDG Indicator 11.1.1 Training Module: Adequate Housing and Slum Upgrading. Nairobi, Kenya. Available at:
https://unhabitat.org/sites/default/files/2020/06/indicator_11.1.1_training_module_adequate_housing_and_slum_upgrading.pdf.

UNESCO Institute for Statistics (2004). Guide to the Analysis and Use of Household Survey and Census Education Data. UIS, .

UNESCO Institute for Statistics (2012). Malawi: Age distribution and school attendance of girls aged 9-13 years. Available at:
https://www.who.int/immunization/programmes_systems/policies_strategies/Malawi_country_report.pdf.

UNESCO Institute for Statistics (2021) 'United Nations Educational Scientific and Cultural Organization Institute of Statistics, UIS.Stat' 2020. Montreal, Quebec Canada. Available at: data.uis.unesco.org.

UNICEF (2012a). School Readiness and Transitions. New York. Available at:
https://www.unicef.org/publications/files/CFS_School_Readiness_E_web.pdf.

UNICEF (2012b). School Readiness: A Conceptual Framework. New York. Available at:
[www.unicef.org/earlychildhood/files/Child2Child_ConceptualFramework_FINAL\(1\).pdf](http://www.unicef.org/earlychildhood/files/Child2Child_ConceptualFramework_FINAL(1).pdf).

United Nations (2015). Transforming our world: the 2030 Agenda for Sustainable Development. New York. Available at:
<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>.

List of References

United Nations (2016). Leave no one behind: A call to action for gender equality and women's economic empowerment: Report of the UN Secretary-Generals high-level panel on women economic empowerment. New York, USA. Available at: <http://www2.unwomen.org/-/media/hlp%20wee/attachments/reports-toolkits/hlp-wee-report-2016-09-call-to-action-en.pdf?la=en&vs=1028>.

United Nations (2021). Sustainable Development Goals Progress Chart 2021. Available at: <https://unstats.un.org/sdgs/report/2021/progress-chart-2021.pdf>.

United Nations Development Programme (2020). *Human Development Report 2020. The next frontier: Human development and the Anthropocene*. New York, USA: United Nations Development Programme.

United Nations Secretary-General (2017) *Women's Economic Empowerment 'a Human Rights Issue'*. Available at: <https://www.un.org/press/en/2017/sgsm18695.doc.htm> (Accessed: 14/06/2019).

University of Malawi, Carolina Population Centre and UNICEF (2020). Policy options to improve the educational impact of Malawi social cash transfer programme. Available at: https://transfer.cpc.unc.edu/wp-content/uploads/2021/04/Malawi-SCTP_Education-Policy-Options-Final-Report-14.08.20.pdf.

University of North Carolina (2016). Malawi Social Cash Transfer Programme Endline Impact Evaluation Report. North Carolina. Available at: https://transfer.cpc.unc.edu/wp-content/uploads/2021/04/Malawi-SCTP-Endline-Report_Final.pdf.

van Daalen, K.R., Bajnoczki, C., Chowdhury, M., Dada, S., Khorsand, P., Socha, A., Lal, A., Jung, L., Alqodmani, L., Torres, I., Ouedraogo, S., Mahmud, A.J., Dhatt, R., Phelan, A. and Rajan, D. (2020). 'Symptoms of a broken system: the gender gaps in COVID-19 decision-making', *BMJ Global Health*, 5(10), p. e003549.

van Rooyen, C., Stewart, R. and de Wet, T. (2012). 'The Impact of Microfinance in Sub-Saharan Africa: A Systematic Review of the Evidence', *World Development*, 40(11), pp. 2249-2262.

Vikram, K., Chen, F. and Desai, S. (2018). 'Mothers' work patterns and Children's cognitive achievement: Evidence from the India Human Development survey', *Social science research*, 72, pp. 207-224.

- Voronca, D., Walker, R.J. and Egede, L.E. (2018). 'Relationship between empowerment and wealth: trends and predictors in Kenya between 2003 and 2008-2009', *Int J Public Health*, 63(5), pp. 641-649.
- Walther, S. (2018). 'Noncooperative Decision Making in the Household: Evidence from Malawi', *Journal of Development Economics*, 134, pp. 428-442.
- Wayack-Pambè, M., Gnoumou Thiombiano, B. and Kabore, I. (2014). 'Relationship between women's socioeconomic status and empowerment in Burkina Faso: A focus on participation in decision-making and experience of domestic violence', *African Population Studies*, 28(2 Supplement), pp. 1146-1156.
- Wekwete, N.N. (2014). 'Gender and economic empowerment in Africa: Evidence and policy', *Journal of African Economies*, 23(1 SUPPL1), pp. i87-i127.
- Wils, A. (2004). 'Late Entrants Leave School Earlier: Evidence from Mozambique', *International Review of Education* 50, pp. 17-37.
- Wodon, Q., Montenegro, C., Nguyen, H. and Onagoruwa, A. (2018). *Missed Opportunities : The High Cost of Not Educating Girls. The Cost of Not Educating Girls Notes Series*. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/29956> License: CC BY 3.0 IGO.
- Wodon, Q.T. and de la Brière, B. (2018). *Unrealized Potential : The High Cost of Gender Inequality in Earnings. The Cost of Gender Inequality. . © World Bank*. <https://openknowledge.worldbank.org/handle/10986/29865> License: CC BY 3.0 IGO. Washington, DC: World Bank: World Bank. The cost of gender inequality
- Woetzel, J., Madgavkar, A., Ellingrud, K., Labaye, E., Devillard, S., Kutcher, E., Manyika, J., Dobbs, R. and Krishnan, M. (2015). *The Power of parity: How advancing women's equality can add \$12 trillion to global growth*. Available at: http://www.mckinsey.com/~media/mckinsey/global%20themes/employment%20and%20growth/how%20advancing%20womens%20equality%20can%20add%2012%20trillion%20to%20global%20growth/mgi%20power%20of%20parity_full%20report_september%202015.ashx.
- Wollburg, P., Tiberti, M. and Zezza, A. (2021). 'Recall length and measurement error in agricultural surveys', *Food Policy*, 100, p. 102003.

List of References

World Bank (2006). Gender equality as smart economics : a World Bank Group gender action plan - fiscal years 2007-10. Washington, DC. Available at:

<http://documents.worldbank.org/curated/en/295371468315572899/Gender-equality-as-smart-economics-a-World-Bank-Group-gender-action-plan-fiscal-years-2007-10>.

World Bank (2012). World Development Report 2012 : Gender Equality and Development.

Available at: <https://openknowledge.worldbank.org/handle/10986/4391>.

World Bank (2018a). Egypt: Women Economic Empowerment Study. Washington D.C. Available

at: <http://documents.worldbank.org/curated/en/861491551113547855/pdf/134846-WP-PUBLIC-march-2-WB-Women-Study-EN.pdf> (Accessed: 15th May 2020).

World Bank (2018b). Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle

License: Creative Commons Attribution CC BY 3.0 IGO.

World Bank (2018c). *World Development Report 2018: Learning to Realize Education's Promise*.

License: Creative Commons Attribution CC BY 3.0 IGO. Washington, DC: World Bank.

World Bank (2019). Towards a More United and Prosperous Union of Comoros : Systematic

Country Diagnostic. Washington, DC. Available at:

<https://openknowledge.worldbank.org/handle/10986/31787>.

World Bank (2020). *Poverty and Shared Prosperity 2020: Reversals of Fortune*. Washington, DC: :

The World Bank.

World Bank (2022a) '2022 World Development Indicators'. Washington, D.C.: World Bank.

Available at: <https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=ZG>.

World Bank (2022b). Women, Business and the Law 2022. Washington, DC. Available at:

<https://openknowledge.worldbank.org/handle/10986/36945> License: CC BY 3.0 IGO.

World Economic Forum (2021). *The Global Gender Gap Report 2021*. Geneva, Switzerland: World

Economic Forum. Insight Report.

Yaya, S., Odusina, E.K., Uthman, O.A. and Bishwajit, G. (2020). 'What does women's empowerment have to do with malnutrition in Sub-Saharan Africa? Evidence from demographic and health surveys from 30 countries', *Global Health Research and Policy*, 5(1), p. 1.

Yount, K.M., Crandall, A. and Cheong, Y.F. (2018). 'Women's age at first marriage and long-term economic empowerment in Egypt', *World Dev*, 102, pp. 124-134.

Yount, K.M., VanderEnde, K.E., Dodell, S. and Cheong, Y.F. (2016). 'Measurement of Women's Agency in Egypt: A National Validation Study', *Social Indicators Research*, 128(3), pp. 1171-1192.