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Gender inequality and the empowerment of women in rural Viet Nam

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Abstract: This paper examines gender inequality and female empowerment in rural Viet Nam. Using an extensive panel dataset on 2,181 households, we examine how the welfare of women living in rural areas has evolved during a period of dramatic rural transformation, 2008–14. We find that while the economic situation of women has improved, significant gender disparities remain, particularly for female-headed households. Women continue to bear a greater burden of responsibility for income-generating activities within households. Evidence suggests, however, that women are more empowered in 2014 than in 2008 and that this is related to higher levels of household welfare more generally.

Keywords: gender disparity, female empowerment, Vietnam
JEL classification: D13, O12, J16

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1 Introduction

Over the last two decades, a number of changes have been made to Vietnamese law to improve the rights and economic situation of women. The 2003 Land Law allowed for the joint titling of land, which primarily affected women in allowing them to be named on their husband's land title. The gender equality law implemented in Viet Nam in 2006 aimed to ensure equal rights of women in all aspects of economic and political life. These changes were partly driven by efforts to attain Goal 3 of the Millennium Development Goals (MDGs) which was to 'Promote Women and Empower Women'. With the end of the timeframe for completion of the MDGs upon us, examining gender disparities and how they have evolved over the last decade is timely. In this paper we examine gender differences in rural Viet Nam for the period from 2008 to 2014.

Other studies have found that the economic situation of women in Viet Nam has improved, but that gaps still remain. In 2011, for example, the World Bank *Viet Nam Country Gender Assessment* pointed to significant progress in relation to poverty and wellbeing, employment and livelihoods, and political participation (World Bank 2011). This report highlighted a number of gender differences that still remained, including wage disparities (although much improved), the over-representation of women in more vulnerable jobs, vulnerability of older women, particularly in rural areas, and a lack of voice among women in public positions. More specifically, in relation to changes in the Land Law, Menon et al. (2013) and Newman et al. (2015) find positive impacts of land titling, and in particular joint land titling where women are included in the land registration, on welfare outcomes for women and households more generally. Indeed, it is now widely acknowledged that promoting gender equality within households and in particular putting resources under the control of women, can significantly improve welfare and progress the development process (Duflo 2003). As such, in addition to gender equality being an end-goal in itself, promoting gender equality will also contribute to development through the impact that female empowerment has on the welfare of families, and children in particular, in relation to, for example, nutrition and education.[1]

In this paper we use the Vietnam Access to Resources Household Survey (VARHS) to analyse the extent of gender inequality in the welfare of households and individuals living in rural areas.[2] VARHS covers a representative sample of 2,181 rural households in 12 provinces of Viet Nam and gathers detailed information on the economic activities and wellbeing of households and their members. The same households were surveyed every two years between 2008 and 2014, creating a rich panel database that allows analysis of the extent of gender inequality and how it is changing over time.

We consider the two distinct groups of women living in rural Viet Nam. We first examine female-headed households, the majority of which are headed by widows (68 per cent). These account for around 20 per cent of the VARHS sample and so represent a significant proportion of rural households. Using the balanced panel of 2,181 households, we compare the economic situation of female-headed households with their male counterparts and find that they are a very different socioeconomic group that is particularly vulnerable. Second, we focus our analysis on individuals rather than households. We make use of the rich data collected through VARHS on each individual within each household. We examine the economic status of women (adults)

[1] See van den Bold et al. (2013) for an overview of the evidence linking female empowerment and child nutrition, and Doss (2013) for an overview of the literature linking female empowerment to children's education.

[2] Data are available from the Central Institute for Economic Management, Hanoi, Viet Nam (see www.ciem.org.vn/).

relative to men and examine how the welfare of each group, relative to each other, has evolved over the 2008–14 period. We focus on three sets of outcomes, namely: health, education, and economic activities, and use a cohort analysis that allows us to compare the characteristics of women and men within given age brackets over time.

We conclude our analysis with an examination of the extent to which female empowerment has taken place in Viet Nam and whether this has led to increased household welfare outcomes. This analysis is motivated by the literature mentioned above which proposes that resources held in the hands of women are good for economic development and in particular for household and child welfare outcomes. We measure female empowerment using three measures: the proportion of income that a women earns from waged employment (on the assumption that this income is more likely to be kept by the woman), whether or not the woman is in charge of managing the household land, and whether or not the woman has joint property rights to the land that she and her spouse farm. Using the full panel dataset from 2008 to 2014, and excluding female-headed households, we examine the relationship between these empowerment indicators and household consumption.

The paper is structured as follows. In Section 2 we examine the characteristics of female-headed households in terms of socioeconomic characteristics, income, and vulnerability. In Section 3 we present a cohort analysis using the individual level data focusing on four cohorts: 18–30-year-olds, 31–45-year-olds, 46–60-year-olds, and those aged 61 and over. In Section 4 we present measures of female empowerment and relate these measures to household welfare. Section 5 concludes.

2 Characteristics of female-headed households

Approximately one-fifth of households in the VARHS sample were headed by women. In this section we explore the characteristics of these households. Table 1 presents descriptive statistics for a variety of household characteristics disaggregated by the gender of the household head.

Table 1: Characteristics of female-headed households, 2008–14

	2008		2010		2012		2014	
Head of household	Female	Male	Female	Male	Female	Male	Female	Male
Age	44.12	39.20***	46.40	40.68***	47.74	41.95***	50.30	44.15***
Children	0.41	0.52***	0.45	0.56***	0.40	0.51***	0.39	0.49***
HH size	3.75	4.78***	3.47	4.57***	3.40	4.47***	3.36	4.39***
Married	0.29	0.96***	0.28	0.96***	0.25	0.94***	0.25	0.95***
Higher education	0.10	0.18***	0.12	0.21***	0.10	0.21***	0.13	0.23***
Ethnic minority	0.09	0.24***	0.08	0.24***	0.09	0.23***	0.10	0.24***
n	458	1,716	462	1,719	480	1,701	522	1,659

Note: *** indicates difference significant at 1% level.

Source: Author's calculations based on VARHS 2008–14 survey data.

Female-headed households were on average older than male-headed households and were less likely to have children. They were also much less likely to be married and most female heads (68 per cent) were widows. They were also less likely to be ethnic minorities and were less likely to have tertiary-level education than male-headed households.

Table 2 presents descriptive statistics on the income and assets of female-headed households compared to their male counterparts. Female-headed households were less well off than male-headed households. In all years (monthly) income levels were significantly lower. While the income levels of female-headed households grew significantly between 2008 and 2014, the gap between male- and female-headed households widened. In 2014, the income of male-headed households was 27 per cent more than female-headed households compared with a gap of 20 per cent in 2008.

Despite lower income levels female-headed households had similar levels of food expenditure per capita to male-headed households, and had even higher levels in 2010. This could reflect the smaller average household size of female-headed households. It also suggests that where women have control over resources, general household welfare is higher, particularly relating to food and nutrition.[3] This latter explanation could also account for the fact that despite differences in household income the savings levels of female-headed households were also similar to those of male-headed households. While the actual level was lower in each year the difference was not statistically significant at conventional levels.

Female-headed households were worse off than their male counterparts in terms of other assets. The value of their durable goods[4] was much lower (significantly so in 2012 and 2014) and it appears that they had less access to credit, with much lower loan amounts than male-headed households. They also had much smaller land holdings (about half that of male-headed households). They were, however, more likely to have a red book (land use certificate for the land that they own). This suggests that securing property rights is more important for female-headed households than male-headed households.

Table 2: Household income and assets and female-headed households, 2008–14

	2008		2010		2012		2014	
Head of household	Female	Male	Female	Male	Female	Male	Female	Male
Income (000 VND)[a]	4,949	5,949***	5,823	7,058**	6,021	7,895***	6,840	8,707***
Food exp p.c. (000 VND)	321	308	372	343**	462	444	463	452
Savings (000 VND)	20,213	21,256	30,693	31,952	32,910	43,678	36,932	40,470
Loans (000 VND)	10,291	17,687	11,271	20,265***	15,961	20,765	10,021	22,884**
Durables (000 VND)	4,020	21,204	4,100	9,079	4,485	6,974***	4,320	6,468***
Land area (ha)	4,500	8,837***	4,244	8,615***	4,636	8,509***	4,302	8,288***
Red book	0.85	0.86	0.85	0.80**	0.93	0.88***	0.94	0.90***
n	458	1,716	462	1,719	480	1,701	522	1,659

Note: [a] VND = Vietnamese Dong, 22,500 VND approximately equivalent to US$1; *** indicates difference significant at 1% level and ** at 5% level.

Source: Author's calculations based on VARHS 2008–14 survey data.

Table 3 explores the income sources of female-headed households. They were less likely to rely on agricultural income and (although to a lesser extent) income from waged employment than

[3] For evidence linking female empowerment to child nutrition see, for example, Fafchamps et al. (2009); Guha-Khasnobis and Hazarika (2006); Kennedy and Peters (1992); and Thomas (1990).

[4] Durable goods include TVs, radios, computers, mobile phones, household appliances, motor vehicles, and farm assets.

male-headed households. In 2008 and 2010, they were more likely to earn income from household enterprises than male-headed households, but in 2012 and 2014, they were also less likely to earn income from this source. In terms of diversification, it is clear that between 2008 and 2014 male-headed households became less specialized in agriculture and more diversified into other types of activities. There is no evidence that female-headed households exhibited a similar pattern. The decline in the participation of female-headed households in economic activities over the sample period is likely due to the ageing of this group beyond the retirement age for women in Viet Nam (55 years), making it more likely that they are not engaged in any economic activities.

Table 3: Sources of income and female-headed households, 2008–14

	2008		2010		2012		2014	
Head of household	Female	Male	Female	Male	Female	Male	Female	Male
Agric income	0.82	0.91***	0.79	0.88***	0.75	0.86***	0.73	0.85***
HH enterprises income	0.64	0.57*	0.63	0.58***	0.61	0.62***	0.61	0.66**
Wage income	0.25	0.29***	0.19	0.30*	0.20	0.27	0.20	0.25*
Agriculture only	0.19	0.27***	0.22	0.23	0.19	0.21	0.18	0.20
Diversified	0.74	0.72	0.72	0.75	0.71	0.76**	0.71	0.77***
No activities	0.06	0.01***	0.06	0.02***	0.10	0.03***	0.11	0.03***
N	458	1,716	462	1,719	480	1,701	522	1,659

Note: *** indicates difference significant at 1% level, ** at 5% level, and * at 10% level.

Source: Author's calculations based on VARHS 2008–14 survey data.

In Table 4 the vulnerability of female-headed households to income shocks is compared to that of male-headed households. In all years female-headed households were less vulnerable to natural shocks than male-headed households. This is likely due to the fact that they have less land and are less likely to engage in agricultural activities, which are more affected by natural shocks than other types of activities. There is some evidence, however, that they were more vulnerable to economic shocks, particularly in 2008 and 2014. This reflects the underlying vulnerability of female-headed households given that the majority were widowed, surviving on much lower income levels than other households.

Table 4: Vulnerability of female-headed households, 2008–14

	2008		2010		2012		2014	
Head of household	Female	Male	Female	Male	Female	Male	Female	Male
Natural shock	0.35	0.46***	0.34	0.45***	0.22	0.35***	0.18	0.26***
Economic shock	0.28	0.22***	0.19	0.16	0.21	0.19	0.18	0.13***
n	458	1,716	462	1,719	480	1,701	522	1,659

Note: *** indicates difference significant at 1% level, ** at 5% level, and * at 10% level.

Source: Author's calculations based on VARHS 2008–14 survey data.

It is clear from the analysis presented in this section that female-headed households in the VARHS sample were distinct from other households in a number of different respects. They were low-income households typically headed by widows. They had less land and were less engaged in agricultural activities than other households. They also had fewer assets more generally. They did, however, save as much as other households and had similar per capita food consumption levels, suggesting that they were equipped to cope with their lower standard of

living. While the welfare of these households improved between 2008 and 2014, this has not been to the same extent as other households. This makes them a vulnerable group, particularly in the face of unexpected income shocks.

3 Cohort analysis

In this section we move away from focusing on female-headed households to examine the situation of women more generally. VARHS gathers detailed information at the individual level for all household members. This allows us to explore how female household members compare to male household members on a variety of different welfare measures and how their welfare, in absolute and relative terms, has improved over time. We examine welfare outcomes for four different cohorts: (i) 18–30-year-olds; (ii) 31–45-year-olds; (iii) 46–60-year-olds; and (iv) individuals over 60.

We consider three broad measures of individual welfare. First, we consider health outcomes using a general health indicator that records whether or not an individual suffered from any illness in the previous two weeks. For those individuals who were ill we disaggregated by whether they suffered from a chronic illness such as heart disease, respiratory disease or cancer, a mental illness, or some temporary condition such as cold/flu or an injury. Second, we consider two education outcomes: (i) whether the individual is literate; and (ii) the years of education attained by the individual. Third, we consider the economic activities of individual household members. We do not have information on the individual level of income of household members but we do know the amount of time spent engaged in different types of economic activities. We consider the number of days worked on aggregate and broken down by type of activity, including days spent working in agriculture, collecting common property resources, household enterprises, and waged employment. The latter two are more likely to be associated with an independent source of income for individuals and so we consider these superior from a welfare perspective.

3.1 Health outcomes

Table 5 presents differences in health outcomes for men and women in the VARHS balanced panel for the 2008–14 period. The incidence of illness declined for both men and women between 2008 and 2014 across all cohorts. There is also a change in the type of illnesses reported, with both chronic and mental illnesses much more common in 2014 compared with 2008. While this may be due to a higher incidence of these types of illnesses it could also be due to better detection and reduced stigma. There are few statistically significant differences between males and females in the incidence of illness and the types of illnesses reported, particularly in 2014. In 2008, for example, males in the 31–45, 46–60, and 60+ age groups were more likely to report that they had been ill in the previous two weeks. In 2014 there was no gender difference. In terms of the type of illness, males in the 31–45 age group in 2014 were much less likely than females to report that they suffered from a mental illness (26 per cent of ill men compared with 44 per cent of ill women).

Table 5: Gender cohort analysis 2008–14, health outcomes

	18–30 years				31–45 years			
	Female		Male		Female		Male	
Individual	2008	2014	2008	2014	2008	2014	2008	2014
Sick	0.06	0.03	0.06	0.03	0.09	0.05	0.13**	0.06
Of which:								
Chronic illness	0.08	0.06	0.11	0.07	0.10	0.06	0.18	0.14
Mental illness	0.16	0.28	0.08	0.27	0.20	0.44	0.17	0.26*
Other illness	0.77	0.67	0.81	0.70	0.73	0.53	0.68	0.63
n	1,121	1,102	987	947	923	731	1,009	740
	46–60 years				61+ years			
	Female		Male		Female		Male	
Individual:	2008	2014	2008	2014	2008	2014	2008	2014
Sick	0.15	0.12	0.19*	0.11	0.26	0.25	0.32*	0.27
Of which:								
Chronic illness	0.11	0.25	0.18	0.24	0.28	0.40	0.21	0.33
Mental illness	0.18	0.21	0.17	0.23	0.29	0.25	0.22	0.22
Other illness	0.72	0.59	0.68	0.65	0.46	0.46	0.64***	0.54
n	709	884	746	953	367	460	558	650

Note: *** indicates male and female outcomes statistically different at 1% level, ** at 5% level, and * at 10% level.

Source: Author's calculations based on VARHS 2008–14 survey data.

Overall, it is clear that health outcomes improved for all between 2008 and 2014 with no evidence of gender disparities.

3.2 Education outcomes

Differences between 2008 and 2014 in education outcomes for male and female cohorts are presented in Table 6. In 2008, literacy rates were high for both males and females among all but the oldest cohort. In all cases, women outperformed men with significantly higher rates. Between 2008 and 2014 literacy rates did not change much in general. One exception was a large improvement in literacy rates for males over 60 years old who started out at a low rate of 63 per cent in 2008 climbing to 76 per cent in 2014. Females continued to outperform males on this measure in 2014 in all age cohorts.

Table 6: Gender cohort analysis 2008–14, education outcomes

	18–30 years				31–45 years			
	Female		Male		Female		Male	
Individual	2008	2014	2008	2014	2008	2014	2008	2014
Literate	0.96	0.98	0.93***	0.94***	0.91	0.90	0.87**	0.84***
Years of education	9.22	10.30	8.92**	10.11	7.12	7.85	6.43***	6.96***
n	1,121	1,099	987	946	923	730	1,009	740
	46–60 years				61+ years			
	Female		Male		Female		Male	
Individual:	2008	2014	2008	2014	2008	2014	2008	2014
Literate	0.93	0.93	0.88***	0.90**	0.89	0.92	0.63***	0.76***
Years of education	7.22	7.94	5.87***	7.01***	5.60	6.77	2.41***	4.12***
n	709	884	746	953	366	460	557	650

Note: *** indicates male and female outcomes statistically different at 1% level, ** at 5% level, and * at 10% level.

Source: Author's calculations based on VARHS 2008–14 survey data.

There were significant increases in the years of schooling for both men and women in all age cohorts. The most notable improvements were among 18–30-year-olds. Significant improvements for men are evident in the 46–60 age group and in the over 60s. Again women outperformed men on this outcome across all age cohorts in both 2008 and 2014. One exception was among the 18–30 age group where in 2014 there was no statistical difference in the average years of schooling of men and women.

Overall, there have been significant improvements in education across all age groups for both men and women. The former began from a lower base and some of the gaps between men and women in educational outcomes were closed between 2008 and 2014, particularly for younger age cohorts.

3.3 Economic activities

In the final part of the cohort analysis we examine differences in time use across time and gender. We focus on the days worked in different types of activities, including agriculture, common property resources, household enterprises, and waged work. Summary statistics are presented in Table 7.

There were declines in the average number of days worked by men and women in all cohorts. This is explained in large part by the decline in the number of days spent working on agricultural activities. At the same time the average number of days spent in waged employment increased for all cohorts while the number of days spent in household enterprises increased for 31–45-year-olds.

Women worked significantly more days than men across all age cohorts. The gap in the average number of days worked grew between 2008 and 2014 for the 18–30 years cohort and the 46–60 years cohort. Women spent significantly more days in waged employment than men. In the 18–45 years cohorts they also spent more time collecting common property resources although the overall number of days spent in this activity was low. Men, on the other hand, particularly those in the 31–45 years cohort spent more days than women engaged in agricultural activities.

Table 7: Gender cohort analysis 2008–14, economic activities

	18–30 years				31–45 years			
	Female		Male		Female		Male	
Individual	2008	2014	2008	2014	2008	2014	2008	2014
Total days worked	146	139	142	123***	217	195	195***	178***
Days agric	49	26	52	26	90	54	107***	64***
Days cpr	6	3	4**	3***	8	6	6**	4**
Days HH ent	13	12	15	10	33	35	36	41
Days wage	79	98	71**	86**	87	101	48***	69***
n	1,121	1,102	987	947	923	731	1,009	740
	46–60 years				61+ years			
	Female		Male		Female		Male	
Individual:	2008	2014	2008	2014	2008	2014	2008	2014
Total days worked	192	161	175***	140***	70	60	55**	49**
Days agric	101	62	112**	69**	47	31	39	26*
Days cpr	6	5	4**	4**	2	3	2	2
Days HH enterprises	31	27	39*	31	12	13	10	11
Days wage	56	68	22***	36***	9	14	4**	10
n	709	884	746	953	367	460	558	650

Note: *** indicates male and female outcomes statistically different at 1% level, ** at 5% level, and * at 10% level; cpr = common property resources.

Source: Author's calculations based on VARHS 2008–14 survey data.

It is not clear how the gender disparities in the economic activities of men and women might impact on welfare outcomes. On the one hand, the fact that women worked more days than men suggests that they face a greater burden of responsibility for generating income than men. Given that the time use data do not consider the amount of time spent performing household duties, the figures presented here could understate the gap between men and women. On the other hand, working for a wage could empower women by increasing the resources under their control, potentially leading to better welfare outcomes for them and their families. We explore this possibility in Section 4.

4 Female empowerment and welfare outcomes

In this section we use the balanced panel of data to perform a household fixed effects analysis of the impact of female empowerment on household welfare outcomes measured in various ways. We consider three different measures of female empowerment. First, following from the analysis presented in Section 3, we measure the extent of empowerment of female household members as the proportion of total days worked by women that are in waged employment. Second, we use an indicator variable for whether a female in the household is responsible for making decisions relating to the land that is owned by the household. Third, we use an indicator variable for whether a female's name is listed in the household red book. We restrict our analysis to households that are not headed by a female to ensure that we are capturing intra-household effects of female empowerment.

Table 8 presents summary statistics for the evolution of these variables among the (balanced) VARHS sample of male-headed households over the four years. Increases in female empowerment measures are evident on most indicators. In particular, consistent with the story presented in Section 3, we find waged work made up a greater proportion of women's income in each year. Between 2008 and 2010 the number of households where a female household member made decisions in relation to the management of the land increased from 37 per cent to 41 per cent. There has, however, been no increase in this measure since 2010. The proportion of households where a woman was named on the land use certificatr increased significantly between 2008 and 2012 from around 11 to 17 per cent. By 2014, however, this proportion had declined to 2010 levels. Overall, these summary indicators provide some evidence of an improvement in female empowerment since 2008 but much less so in later years of the sample.

Table 8: Indicators of female empowerment, 2008–14

Empowerment indicator	2008	2010	2012	2014
Proportion wage work women	32.17	34.38	36.22	39.24
Female manager	37.06	41.01	40.75	40.66
Joint property rights	10.98	11.52	17.14	11.91
n = 1,584 households in each year				

Source: Author's calculations based on VARHS 2008–14 survey data.

In the final part of our analysis we explore the impact of female empowerment on household welfare. We use household expenditure on food as an indicator of welfare in our analysis. Food expenditure is generally considered a more reliable and accurate measure of welfare than household income given that it is less likely to be under-reported and is less likely to suffer from measurement error. The variable is constructed by aggregating the value of a set of food items consumed by the household in the previous month and is converted to real terms using a national food price index. To explore the relationship between female empowerment and household welfare on this measure, we estimate the following econometric model:

$$wel_{ht} = \boldsymbol{\beta}\mathbf{X}_{ht} + \delta_1 empower_{ht} + \alpha_h + \tau_t + \varepsilon_{iht}$$

where wel_{ht} is the welfare measure (food consumption per capita) for household h in time t; $\mathbf{X}_h$ is a vector of household-specific variables, including characteristics of the household head, income, land ownership, the presence of a household enterprise, and the incidence of natural and economic income shocks; *empower* represents the three different measures of female empowerment; a_h are household fixed effects that absorb all time-invariant household-specific characteristics such as, for example, the ethnicity of the household head; τ_t are time dummies; and ε_{iht} is a statistical noise term.

The results are presented in Table 9. Column (1) describes the relationship between various household characteristics and food expenditure before any of the empowerment indicators are included. Most of the results for these control variables are as expected. Household consumption per capita was lower in bigger households and higher in households with more income. Assets were also highly correlated with household consumption: both durable goods and having a land use certificate or 'red book' were positively associated with food consumption per capita. One, perhaps surprising, result is that households that experienced economic shocks actually consumed more per capita than other households. This suggests that the coping strategies of these households in the face of economic shocks are more than adequate to ensure consumption smoothing. It should be noted that the sample considered here excludes female-headed households, which, as seen in Section 2, are a particularly vulnerable group.

Table 9: Female empowerment and welfare, food consumption per capita

	(1)	(2)	(3)	(4)	(5)
Empowerment measures					
Proportion wage work women		0.088***			0.082***
		(0.031)			(0.031)
Female manager			0.041**		0.047**
			(0.019)		(0.019)
Joint property rights				0.050**	0.048**
				(0.022)	(0.023)
Household characteristics					
Age	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Married	0.016	-0.000	0.013	0.015	-0.003
	(0.067)	(0.082)	(0.067)	(0.067)	(0.082)
Children	0.028	0.035	0.028	0.027	0.036
	(0.027)	(0.028)	(0.027)	(0.027)	(0.028)
Higher education	0.007	0.010	0.006	0.007	0.008
	(0.033)	(0.036)	(0.033)	(0.033)	(0.036)
HH size	-0.068***	-0.074***	-0.068***	-0.069***	-0.075***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Income (log)	0.242***	0.229***	0.242***	0.242***	0.228***
	(0.016)	(0.015)	(0.016)	(0.016)	(0.015)
Loans (log)	0.002	0.002	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Land area (log)	0.027	0.012	0.027	0.027	0.011
	(0.020)	(0.021)	(0.020)	(0.020)	(0.021)
Household enterprise	0.025	0.051**	0.024	0.025	0.049**
	(0.022)	(0.024)	(0.022)	(0.022)	(0.024)
Durables (log)	0.038***	0.039***	0.037***	0.038***	0.039***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Red book	0.104***	0.101***	0.102***	0.095***	0.091***
	(0.031)	(0.032)	(0.031)	(0.031)	(0.033)
Natural shock	0.008	0.011	0.008	0.009	0.010
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Economic shock	0.053***	0.054**	0.052**	0.053***	0.053**
	(0.020)	(0.021)	(0.020)	(0.020)	(0.021)
Observations	6,630	6,230	6,630	6,630	6,230
Number of HH	1,775	1,718	1,775	1,775	1,718

Note: Each model includes household and time fixed effects. Robust standard errors clustered at the household level in parentheses. *** indicates statistical significance at 1% level, ** at 5% level, and * at 10% level.

Source: Author's calculations based on VARHS 2008–14 survey data.

In column (2) we add the first empowerment indicator, namely the proportion of total days worked by women in waged employment. We find a positive and well-determined relationship,

which suggests that the greater the proportion of a woman's time spent working for a wage, the greater the household's level of per capita food expenditure. In column (3) the second welfare measure is considered, namely whether or not a woman in the household manages the land. A similar result emerges. In column (4) we find a similar effect of a woman in the household being included in the land title or red book. In column (5) we include all measures simultaneously and find that all three results hold, suggesting that each empowerment measure has its own independent effect on household welfare. It should be noted that each model controls for differences in income, assets, marital status, age, presence of children, exogenous shocks, general trends in household welfare, and all time-invariant household characteristics. Even when these factors are controlled for, households where women are empowered have a higher level of welfare. While caution should be exercised in interpreting these results as causal, these findings provide some evidence that female empowerment and household welfare go hand in hand.

5 Conclusion

Viet Nam has made significant progress in relation to gender equality. However, as this paper reveals, significant gaps remain. Using data from the VARHS for 2008, 2010, 2012, and 2014 we examine gender differences in the welfare of Vietnamese households and individuals and how they have evolved over this period.

Our analysis reveals that female-headed households are a distinct group within VARHS with very different characteristics from other households. They are low-income households and a large proportion of them are headed by widows. They have less land and are less engaged in agricultural activities than other households. Their welfare has improved over the period of analysis but not to the same extent as other households. In particular, they are more vulnerable to income shocks than male-headed households.

Focusing on the panel of individuals within VARHS households we performed a cohort analysis examining differences in the welfare of women and men within specified age groups and how these changed over time. A number of interesting findings emerge. First, we find that education outcomes improved for both men and women. In general, women outperformed men on literacy and years of education but this gap is closing over time. Second, we found overall declines in the number of days spent working in agricultural activities and an increase in days spent in waged employment for both men and women. This is consistent with the ongoing structural transformation in the Vietnamese economy. Interesting from a gender perspective, however, is that women spent more days working than men in all age cohorts, mainly due to significantly more days spent in waged employment, Moreover, for 18–30-year-olds and 46–60-year-olds this gap has widened over the sample period.

The last part of our analysis focused on indicators of female empowerment and the extent to which there is evidence of: (i) an increase in female empowerment over the 2008 to 2014 period; and (ii) whether female empowerment is associated with higher levels of household welfare as measured by food expenditure per capita. We find on the basis of three empowerment indicators (proportion of time spent in waged employment, whether women are involved in land management decisions within the household, and whether land is jointly titled in a female household member's name) that, in general, women were more empowered in 2014 than in 2008 but that the empowerment indicators have remained relatively static in the last few years. We find, though, a strong correlation between each indicator and household food expenditure per capita, suggesting an important link between empowering women and household welfare.

Overall, our findings suggest that efforts to promote gender equality, through, for example, the law on gender equality, should be stepped up to avoid a stagnation in the progress already made.

Moreover, building capacity for the empowerment of women by providing women with more agency as well as more resources has the potential to progress economic development in a significant way.

References

Doss, C. (2013). 'Intra-Household Bargaining and Resource Allocation in Developing Countries'. *World Bank Research Observer*, 28(1): 52–78.

Duflo, E. (2003). 'Grandmothers and Granddaughters: Old Age Pension and Intra-Household Allocation in South Africa'. *World Bank Economic Review*, 17(1): 1–25.

Fafchamps, M., B. Kebede, and A. Quisumbing (2009) 'Intrahousehold Welfare in Rural Ethiopia'. *Oxford Bulletin of Economics and* Statistics, 71(4): 567–99.

Guha-Khasnobis, B., and G. Hazarika (2006). 'Women's Status and Children's Food Security in Pakistan'. UNU-WIDER Working Paper 2006/03. Helsinki: UNU-WIDER.

Kennedy, E., and P. Peters (1992). 'Household Food Security and Child Nutrition: The Interaction of Income and Gender of Household Head'. *World Development*, 20(8): 1077–85.

Menon, N., Y. Rodgers, and A. Kennedy (2013). 'Land Rights and Economic Security for Women in Viet Nam'. World Bank Working Paper. Washington, DC: World Bank.

Newman, C., F. Tarp, and K. van den Broeck (2015). 'Property Rights and Productivity: The Case of Joint Titling in Viet Nam'. *Land Economics*, 91(1): 91–105.

Thomas, D. (1990). 'Intra-Household Resource Allocation: An Inferential Approach'. *The Journal of Human Resources*, 25(4): 635–64.

van den Bold, M., A. Quisumbing, and S. Gillespie (2013). 'Women's Empowerment and Nutrition: An Evidence Review'. IFPRI Discussion Paper 01294. Washington, DC: IFPRI.

World Bank (2011). *Viet Nam Country Gender Assessment*. Washington, DC: World Bank.