TEN YEARS OF 'WAR AGAINST POVERTY':

WHAT HAVE WE LEARNED SINCE 2000 AND

WHAT SHOULD WE DO 2010-2020?

Financial Liberalisation Gender and Poverty in Ghana

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Abstract

Ghana has been widely regarded as an economic reform and poverty reduction success story. Using three waves of the Ghana Living Standards Survey (GLSS) covering the period from 1991 to 2005, this paper analyses the effects of Ghana's financial liberalisation policies on poverty at the household level, taking particular note of gender differences. The expectation of liberalisation policies is that with financial deepening, a greater availability of lending will enable more households to use credit to raise their living standards through such channels as increased investment in high yielding variety production techniques including the use of fertilizers and irrigation, higher educational achievement and better health provision. Using a variety of standard poverty analysis techniques, we examine changes in the pattern of borrowing over the three waves, and in particular, how far there has been an improvement in the absolute and relative position of the poorest households. The paper also examines whether female-headed households, which constitute a significant part of the sample, have found greater access to credit over this period. We find that there is a reduction in the incidence of poverty as we move from households with no credit to households with credit from informal and formal sectors. We find that male-headed households are the major contributor to poverty incidence while poverty incidence among female headed households has declined sharply. In distributional terms, there appears to have been an improvement in the position of middle and higher income households, but not of the poorest, with the bottom 8.5% worse off than at the beginning of the period. These results raise a number of policy questions concerning our understanding of the linkages between financial liberalisation and poverty alleviation.

1 Introduction

The World Development Report 2001/2 *Attacking Poverty* contained the following on the role of finance in poverty reduction:

> Access to financial markets is important for poor people. Like all economic agents, low-income households and microenterprises can benefit from credit, savings, and insurance services. Such services help to manage risk and to smooth consumption in the face of sharp fluctuations in agricultural yields and prices, economic shocks, and even natural disasters. Savings and credit facilities can help to make larger investments more affordable, and so allow people to take advantage of profitable business opportunities and increase their earnings potential. For economies as a whole, a large literature has documented the importance of well-functioning financial markets for growth.
>
> But financial markets, because of their special features, often serve poor people badly. Asymmetric information between lenders and borrowers creates problems of adverse selection and moral hazard. The traditional solution to these problems is for lenders to demand collateral from borrowers. Since poor people have insufficient traditional forms of collateral (such as physical assets) to offer, they are often excluded from traditional financial markets. In addition, transactions costs are often high relative to the small loans typically demanded by poor people. And in areas where population density is low, physical access to banking services can be very difficult……… Facing such hurdles, poor people are often discouraged and simply do not seek loans since they believe that they will be denied credit or will not be able to fulfill bank requirements. At the same time, conventional banks often find it unprofitable to provide services to poor people using traditional lending practices. (World Bank, 2002:74)

Over the last three decades, the role of finance in development has been given considerable importance in policy making. Following the work of McKinnon (1973) and Shaw (1973), the structural adjustment packages (SAPs) of the International Financial Institutions (IFIs) adopted the liberalisation of the financial sector as one of its central policies. Interest rate liberalisation, together with the removal of credit directives and the adoption of commercial lending policies by public sector banks, was intended to enhance the efficiency of credit allocation by allowing the price mechanism and commercial judgement to determine credit allocation (Fry, 1994).The expectation of these reforms was that there would be an increase in financial deepening encouraging a higher rate of savings and therefore a higher rate of investment and acceleration in growth rates. The evidence referred to by the World Development Report quoted above is not quite as conclusive as the Bank makes out. There is as much evidence to suggest that financial development follows or interacts in a virtuous circle with economic growth as there is to suggest that financial development causes economic growth. Nor is it clear that there has been an increased rate of saving and investment (Lawrence, 2006).

However, much of the evidence is collected at the macroeconomic level. At the microeconomic level there is a great deal of evidence concerning household financial behaviour and the role of the informal sector. But there is very little research that has attempted to bring the macroeconomic and microeconomic aspects of financial liberalisation together. This paper seeks to do that by trying to discover whether the financial reforms of the early 1990s in Ghana had any effect on access to credit, on income distribution and on poverty. We do this by analysing three Waves of the Ghana Living Standards Survey from 1989 to 2005 to see if patterns of household behaviour, especially access to credit, distribution of expenditure across households and reduction in poverty levels can be attributed to the financial reforms. Ghana is distinguished among African developing countries by almost halving the incidence of poverty over this period (Ghana Statistical Service, 2007). Although we cannot attribute reforms in the financial sector as a cause of poverty reduction we can trace the extent to which financial depth has increased during the period, and the changes in the amounts of credit that have flowed through to households. At the same time we can identify the differences in poverty reduction at different points in time between those who received different types of credit and those who did not and whether there were differences in these respects between male and female headed households. As we shall see, we do find that there is an implied association between the reform induced development of financial depth, the flow of credit to households and a reduction in poverty.

The following section reviews the literature on financial liberalisation in relation to household behaviour and to poverty. Section 3 outlines the Ghanaian economic and financial reforms and the degree to which financial depth has changed since the reforms began. Section 4 outlines the methodological approach to our analysis of the Ghanaian household data and presents an overview of the changes in poverty over the period. Section 5 distinguishes between households with credit (both formal and informal) and those without and the relationship to poverty changes. Section 6 analyses changes by gender of head of household, while Section 7 concludes and draws conclusions for policy.

2 Financial Liberalisation, Household Behaviour and Poverty

Financial liberalisation variously entails the elimination of interest rate and credit controls, allowing interest rates to find their market level, the elimination of credit and trade controls, allowing the exchange rate to find its market level, and privatisation of state-owned banks, with encouragement of entry of foreign banks and the creation of a competitive banking sector. One of the aims for financial liberalisation in countries like Ghana is to encourage household savings through the open market determination of interest rates. The argument is that high interest rates increase the incentive to save rather than to consume, thus making more funds available for lending with the aim of improving investment and consumption smoothing (Mishkin, 1977).

However, through the credit channel, these macro-level policies are expected to work their way through to household and enterprise level. The greater availability of credit through higher savings allows households to borrow and enterprises to invest. Household borrowing for consumption and enterprise borrowing for investment raises levels of economic activity thus creating more savings and borrowing. Increases in savings rates raise the level of bank deposits and generate higher levels of credit for investment by firms, especially small household based enterprises, and durables consumption. Empirical work on the impact of financial liberalisation on savings has not found a positive relationship between the two (Gregory, Mokhtari and Schrettl, 1999 for Russia; Maimbo and Mavrotas (2001), for Zambia; Loayza, Schimdt-Hebbel and Servén, (2000) for a panel of countries and Ziorklui and Barbie (2003) for Ghana), and, in spite of the liberalisation policies which raised deposit rates, savings rates in most LDCs are still low. Furthermore lending rates are relatively high with spreads of around 10 percentage points on average across sub-Saharan Africa (WDI, 2010). However, if savings rates increase with income growth as found by Loayza, Schimdt-Hebbel and Servén, (2000), then increases in bank deposits and therefore in bank credit can be expected, though this, it appears, will have little to do with financial liberalisation as such. Nevertheless, approaching the effects of financial liberalisation from the standpoint of household durable consumption, and controlling for other changes such as income growth, Browning and Lusardi (1996) suggest a positive effect on the consumption of durables following liberalisation while Lawrence and Lanot (2005) found a positive though small effect of financial liberalisation in India on household consumption of durables.

An examination of the impact of financial liberalisation on resource mobilisation and investment in 25 African countries including Ghana, revealed that the activities of the informal financial market are important in determining financial saving or total savings (Hossain, 1988). Developing countries' formal financial institutions are unable to offer credit to the poor mainly because of a lack of collateral. Borrowers then turn to the informal financial institutions where risk of default is offset by very high interest rates or where the cost of credit from friends or relatives can be zero (Kochar, 1997). In most African countries, the indigenous private sector consists largely of households and small-scale enterprises that operate outside the formal financial system. The informal financial sector serves the needs of these people by mobilising savings and providing credit. The savings of households are small but high in frequency so they need financial agents who can serve their purpose at the least cost both to the saver and to the financial agent. In the same vein, the demand for credit is relatively small, thus the need to keep transactions cost low. The informal sector is able to provide these services with the least risk and transaction cost (Brownbridge, Gockel and Harrington, 2000). Linkages between formal and informal sectors have been found to be weak (Aryeetey and Nissanke, 1998) and improvements in the flow of credit between formal and informal sectors through the use by formal institutions of informal lenders can help address issues of concern such as lack of information about borrower characteristics, collateral requirements and high marginal cost for giving out small loans (Amoako-Tuffour, 2002).

Even if financial liberalisation does change savings and borrowing behaviour and thus increase the flow of credit, the evidence that it impacts directly on poverty is mixed. Increasing financial depth should make it easier for households to borrow and to invest in productivity enhancing capital, whether physical or human. In cross country studies, Li, Squire and Zou (1997) found that financial depth and reduced inequality were strongly related while Dehejia and Gatti (2002) found a significantly negative relationship between financial depth and child labour as a correlate of poverty. Honohan (2003), in a 70 country study finds that increased financial depth is associated with lower poverty. As he points out, the typical measure of financial depth is bank lending to the private sector as a percentage of GDP which itself is a proxy for financial development. As he notes,

> Indeed, financial development itself is a proxy for what we are really interested in, which is some measure of the quantity and quality of financial services that households, firms and governments received in total (as well as which part of this they get from domestic financial service providers – the decline in this is likely to attenuate the link between domestic finance and growth) (Honohan (2003:8-9)

Research based on micro-level datasets is equally mixed in its results. Giné and Townsend (2004), modelling the effects of financial liberalisation on growth through occupation shifts, using micro-level datasets, find that financial liberalisation has helped aspirant entrepreneurs who would not otherwise have been able to access credit to set up businesses and make a significant contribution to Thailand’s growth. It has also resulted in increased wage employment and an increase in wages which has reduced profits for some of the richer entrepreneurs and thus reduced their gains. However, the bulk of the research on finance and poverty suggests that a direct link is unlikely and not observed in practice. As noted by Chigumira (2000), formal financial institutions (banks) perceive that it is much more expensive dealing with the poor, those engaged in small and medium scale enterprises, and those involved in the informal economic sector, than with large and established enterprises. The high costs of administrative processes and high default rates associated with small credits deter the formal sector from providing such credit to those who need it. Bandiera *et.*

al., (2000) in a study involving eight developing countries including Ghana, found little effect of financial liberalisation on access to credit or savings among individuals and households.

Finally, there has been the growth of the semi-formal financial sector in the form of microfinance. Institutions such as the Grameen Bank in Bangladesh and BancoSol in Bolivia have been relatively successful at making loans to poor people and having loans repaid on time, quite often using some of the traditional ways in which informal lending has operated with peer and local community pressure acting as guarantors of repayment rather than the collateral the poor do not have. A major study published in the 1990s (Hulme and Mosley (1996), characterised microfinance as 'walking the tightrope between ineffective targeting and financial failure'. In discussing the correlates of success, Hulme and Mosley point to 'market-determined interest rates, the availability of savings and insurance facilities, intensive loan collection and incentives for borrowers and agency staff''. As far as the impact of the institutions studied, they found output increased, moneylenders were forced to lower their monopolistic profit margins, employment increased and technological levels were raised. Nonetheless there were differential effects depending on income. Thus the poorer families more likely to be risk averse, were less inclined to invest in technology, and among the borrowers, agricultural labourers were not well represented. Although poverty was found to have been reduced, poor households were still seen to have benefited less, especially as they were still vulnerable to shocks such as drought. This paper will try to shed more light on the impact of financial reforms on access to credit and the impact of access to credit on poverty in the case of Ghana.

3 Ghana's Financial Reforms

Ghana sought assistance from the International Monetary Fund and World Bank following a long period of economic decline which had its roots in the 1960s and led to increasingly large budgetary and trade imbalances further exacerbated by the world recession of 1979-81. The Economic Recovery and Structural Adjustment Programmes (ERP/SAP) were launched in 1983. Incorporated within the structural adjustment conditionalities was the restructuring of the financial sector. The key elements of the reforms included: the abolition of interest and credit controls, the privatisation of the banks, and the entry of new domestic and foreign entrants into the banking sector, bank restructuring and recapitalisation, an opening up of the capital account and a strengthening of banking regulatory and supervisory institutions (World Bank, 1983).

Ghana's financial system is traditionally considered to comprise the formal, semi-formal and informal sector: all three were affected by the reforms to different degrees. The most affected

Table 1: Financial Reforms in Ghana 1986-2006

1986 September	Weekly Foreign Exchange Auction introduced for all sectors except for pharmaceuticals, agricultural machinery and petroleum products.
1987 September	Decontrolled Maximum Lending and Minimum Deposit Rates.
1987 October	Weekly Auction of Treasury Bills introduced.
1987 November	Consolidated Discount House established.
1988 February	Decontrolled Minimum Banking Savings Rate.
1988 February	Removal of Sectoral Credit Controls except for agriculture.
1988 April	Foreign Exchange Bureaus established.
1988 September	90-day Bank of Ghana bills introduced for banks
1989 July	Comprehensive restructuring plan for banks adopted.
1989 August	Enactment of a revised Banking Law providing minimum capital disclosure and prudential lending guidelines.
1989 September	Insurance Law enacted.
1989 December	Non-rediscount able, medium term BOG instruments for banks with 180-day, 1 year, and 2-year maturities introduced.
1990 January	Appointment of new bank managers for the public sector banks.
1990 March	Two New Merchant Banks Licensed.
1990 April	Unified bank cash reserve requirement on demand, savings and time deposits.
1990 May	Restructuring of three state-owned banks began and swapping of state-owned enterprise non-performing loans with Bank of Ghana FINSAP bonds.
1990 May	Official and Parallel Exchange Rates Unified.
1990 September	Non-Performing Assets (Loans, Investments) Recovery Law enacted to expedite recovery of non-performing assets.
1990 November	Cash reserve ratio reduced to 22% and secondary reserves ratio increased to 20%.
1990 November	Credits to agricultural sector removed.
1990 November	Stock exchange opened, 30-day and 180-day Bank of Ghana bills introduced. 1-year and 2-year treasury bills, 5-year government stock available to the non-bank sector.
1990 December	Remunerated cash reserves at 3%.
1990 December	Private sector non-performing loans of state-owned banks swapped with Bank of Ghana issued FINSAP bonds.
1991 March	Private sector non-performing loans to sound banks swapped with Bank of Ghana issued FINSAP bonds.
1991 June	Second discount house opened.
1991 June	Establishment of First Private Commercial Bank.
1991 July	Cash reserve ratio reduced to 18% and secondary reserves ratio increased to 24%.
1992 January	A leasing company licensed.
1992 October	Bank of Ghana Law enacted providing for stronger supervisory and regulatory powers.

1993 March	Remuneration on cash reserves increased to 5%, cash reserve ratio reduced to 10% and secondary reserves increased to 32%.
1993 May	The Financial Institutions (Non-Banking) Law, enacted to provide supervisory and regulatory framework for non-bank financial institutions and to encourage competition among commercial banks.
1993 May	Home Mortgage Finance Law, enacted to support development of housing finance.
1993 June	Finance lease law enacted to further develop the leasing industry.
1998	Magnetic Ink Character Recognition (MICR) cheques introduced
1998	Repurchase Agreements (REPOS) introduced
1998	Securities Regulatory Commission established
2002	Bank of Ghana Act, giving operational independence to the Central Bank.
2003	Introduction of universal banking
2004	National Micro Finance Administration established
2006	Foreign Exchange Act: introduction of partial capital account liberalisation

Source: Anin, 2000. Aryeetey, Harrigan and Nissanke, 2000. Bank of Ghana, 2000. World Bank 1999, MOFEP, *Budget Statements 1998-2006*.

sector was the formal sector in which the reforms aimed at converting it from a repressed to a liberalised one. A summary of Ghana's financial reforms is outlined in Table 1.

One of the effects of the reform was a large increase in the number of banks operating in Ghana. Prior to the reform period, there were only seven banks (Bank of Ghana, 2000).By 1998, the number of banking institutions had more than doubled. There were nine deposit banks, of which five were foreign based, three development banks and five merchant banks. The number of banks licensed by the end of 2008, five years after the launch of the Universal Banking Policy was 27 (Bank of Ghana, 2008) of which 17 were foreign owned and 10 domestically owned banks operating in Ghana. Also, as early as 1990, banks were meeting their capital adequacy standards due to recapitalisation and the off-loading of non-performing assets. The privatisation of state-owned banks was also underway (Cobbina-Asirifi, 1999) and, as at the present time, the majority of government shares in all banks have been floated to the public The increase in the number of banks presupposes the formation and mobilisation of new capital for investment to enhance economic growth. The foreign banks, however, are largely based in the urban areas and therefore not involved in the economic activities of the rural areas, where the majority of the population live.

With the exception of Ghana Commercial Bank In which government owns about 30%, its share in all other banks is minimal. It opened up the market to non-resident investors and has helped accelerate the development of Ghana's domestic (particularly bond) capital markets (Bawumia, Owusu-Danso, and McIntyre, 2008). Other non-banking financial institutions which were absent from the financial sector of Ghana prior to the reforms were established. By the end of 2008, there were 61 registered non-bank financial institutions, not including credit unions and registered co-operatives.

Table 2: Indicators of Financial Development in Ghana 1981-2006

YEAR	DEPOSIT MONEY BANK ASSETS / (DEPOSIT MONEY + CENTRAL) BANK ASSETS	LIQUID LIABILIT -IES / GDP	CENTRAL BANK ASSETS / GDP	DEPOSIT MONEY BANK ASSETS / GDP	PRIVATE CREDIT BY DEPOSIT MONEY BANKS / GDP	BANK CONCENT RATION RATIO	STOCK MARKET CAPITALI ZATION / GDP	NET INTEREST SPREAD
1981	0.27	0.15	0.14	0.06	0.02			0.075
1982	0.27	0.14	0.14	0.05	0.02			0.075
1983	0.25	0.12	0.13	0.05	0.01			0.075
1984	0.21	0.10	0.13	0.04	0.02			0.06
1985	0.25	0.12	0.15	0.05	0.02			0.05
1986	0.23	0.11	0.15	0.05	0.03			0.03
1987	0.16	0.12	0.19	0.05	0.03			0.08
1988	0.20	0.13	0.19	0.04	0.03			0.09
1989	0.33	0.14	0.15	0.05	0.04			
1990	0.32	0.14	0.12	0.06	0.05			
1991	0.25	0.14	0.13	0.05	0.04			
1992	0.31	0.17	0.15	0.06	0.04		0.01	
1993	0.21	0.18	0.18	0.06	0.04		0.02	
1994	0.23	0.18	0.19	0.05	0.04		0.18	
1995	0.22	0.19	0.18	0.05	0.05	1.00	0.27	0.10
1996	0.32	0.18	0.15	0.06	0.05	0.94	0.23	0.10
1997	0.50	0.21	0.14	0.11	0.07	0.92	0.19	0.10
1998	0.23	0.22	0.38	0.16	0.08	0.95	0.17	0.13
1999	0.26	0.22	0.66	0.21	0.10	0.95	0.15	0.11
2000	0.24	0.23	0.73	0.24	0.12	0.91	0.14	0.11
2001	0.81	0.24	0.40	0.25	0.11	0.88	0.10	0.09
2002	0.28	0.26	0.33	0.24	0.11	0.86	0.10	0.08
2003	0.68	0.28	0.34	0.23	0.11	0.82	0.14	0.10
2004	0.61	0.29	0.13	0.23	0.12	0.79	0.23	0.10
2005	0.68	0.29	0.14	0.25	0.13	0.77	0.20	0.10
2006	0.70	0.30	0.12	0.27	0.16	0.64	0.19	0.08

Source: WDI Online 1981-1988 (difference between lending and deposit rates); Beck T and Demirgüç-Kunt, A (2009), (Net interest margin – difference between interest earned and paid divided by bank assets)

Table 2 details the development of the financial sector before and during the period of our study. In spite of the fact that reforms began in the second half of the 1980s, it took at least a decade before the indicators began to move substantially upwards. In the case of the interest rate spread there has been hardly any change, whichever measure is used. One clue to explain this lies in the time it has taken to increase bank competition, with the bank concentration ratio dropping sharply only in the early 2000s. One of the standard measures of financial deepening, the liquid liabilities to GDP ratio, begins to move upward more quickly in the late 1990s and the same is true for deposit bank lending to the private sector. This follows the pattern in other liberalization stories where banks have preferred safe lending to the Government rather than risky lending to private agents. However, by the mid-2000s, bank lending to the private sector had increased from 4% to 16%, expressed as a proportion of GDP and as Table 3 shows, the average size of loans to households rose by over 50% over the period, with a significant shift of formal credit towards business purposes and away from consumer durables and other, and a similar shift in informal sources towards agriculture and away from consumer durables and other.

Table 3 Credit by Source and Purpose (shares of total loaned) and Average Loan Size by Wave ('000 *cedis* 1999 prices)

	Credit source	Agricultural	Business	Social	Other	Avg Loan Size
Wave 3	All	0.11	0.23	0.28	0.32	483.8
	Formal	0.26	0.20	0.28	0.23	1151.8
	Informal	0.10	0.24	0.28	0.33	407.6
	Mixed	0.11	0.08	0.36	0.21	736.9
Wave 4	All	0.11	0.22	0.26	0.35	414.7
	Formal	0.20	0.24	0.39	0.15	795.8
	Informal	0.10	0.22	0.25	0.37	349.6
	Mixed	0.21	0.17	0.19	0.16	950.7
Wave 5	All	0.17	0.26	0.32	0.21	736.6
	Formal	0.23	0.33	0.32	0.09	1501.0
	Informal	0.15	0.24	0.32	0.25	397.2
	Mixed	0.21	0.25	0.25	0.07	3470.5

Notes:

Agricultural denotes credit for purchase of agricultural land, equipment and inputs
Business denotes credit for purpose of business expansion
Social denotes credit for housing, health, education and ceremonies
Other denotes credit for consumer goods and other

4 Poverty Analysis

Waves 3, 4 and 5 of the Ghanaian Living Standards Survey were undertaken in 1991/92, 1998/99 and 2005/06 respectively[1]. This is a national representative survey containing information on individual and household characteristics across a wide-range of socio-economic variables including income, expenditure, employment, education, health, and housing, together with details of land ownership, unincorporated enterprises, and individual

[1] Wave 3 expanded the detail on income expenditure and consumption.

credit arrangements. The latter is a particularly rich dataset and includes information on the source and size of credit, the purpose of the loan and collateral arrangements where they exist.

For the purpose of the current paper, poverty and inequality are expressed in terms of total weekly household expenditure[2]. Household expenditure is expressed in constant price *cedis* per week using the GSS consumer price index based upon Accra, Jan 1999=100. This allows for price variation both across the country on the basis of five standard regions and through time. In order to allow for variations in household size, nominal expenditure is also deflated by a calorie-based equivalence scale based the differential nutritional requirements of individuals depending upon age and gender. The presumption is then that the weekly equivalent real expenditure is shared equally within the household. For convenience we also rescale equivalent expenditure and express the resultant weekly expenditure measure in thousands of constant price *cedis*.

The number of households and individuals covered by the survey has increased over the three waves, the sample almost doubling from 4,484 households in 1991/92 to 8,554 households in 2005/06. The number of individuals covered by the survey increased correspondingly. In terms of equivalent adults the sample increased from 14,916 to 27,309 individuals. Over the same period mean household expenditure increased by 41.1% (2.32% per annum) slightly below the increase of 51.9% for mean weekly equivalent expenditure. These characteristics, together with preliminary indicators of poverty trends across the three waves, are summarized in Table 4.

Beginning in 2000, two poverty lines have commonly been utilized in Ghana. A lower, extreme, poverty line of 13.46 (thousand) *cedis* per week is based upon an estimate of the expenditure-equivalent of a notional daily adult nutritional intake of 2,900 kilocalories. The estimate is derived from the expenditure pattern of the bottom 50 percent of the expenditure distribution. A higher, all goods, poverty line of 17.31 *cedis* is also utilized, and incorporates estimates of non-food expenditure undertaken by households whose total expenditure lies on the extreme poverty line. Given our focus on total household expenditure, it is the higher, all-items, poverty line that we refer to throughout the current paper[3].

Headcount estimates of poverty, based upon the upper poverty line, suggest a progressive improvement in the overall poverty position for Ghana, the headcount ratio falling from just

[2] The argument for adopting expenditure rather than income for our poverty measure is based upon the usual arguments concerning the greater reliability of expenditure as a measurement of welfare (Deaton, 2000).

[3] These correspond to a lower poverty line of 700,000 *cedis* and an upper poverty line of 900,000 *cedis* per annum per adult equivalent member of the population.

Table 4: Household Characteristics and Baseline Poverty Indicators

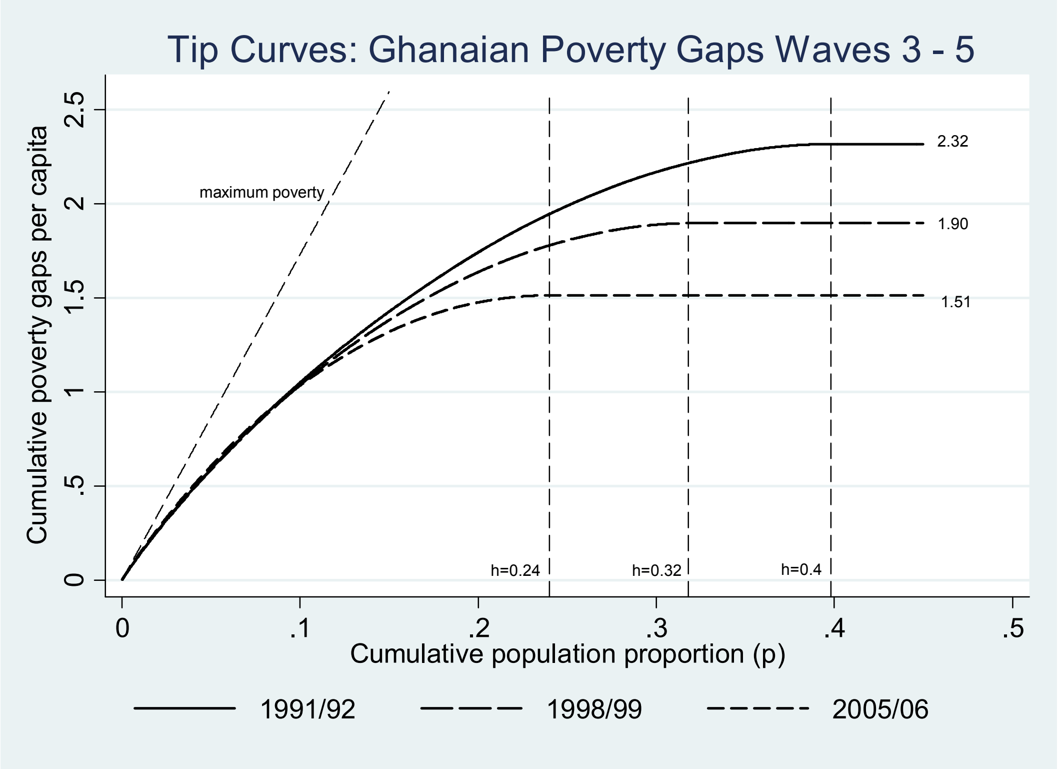
	wave 3 1991/92	wave 4 1998/99	wave 5 2005/06
Number of households	4,484	5,850	8,554
Number of individuals	20,073	25,106	35,981
Number of adult equivalents	14,917	19,499	27,310
Expenditure (000s *cedis* 1999 prices):			
Mean weekly household	72.91	86.15	102.85
Weekly per equivalent adult	27.69	32.65	42.07
Poverty indicators (Absolute poverty)			
Poverty line (per person per week)	17.31	17.31	17.31
Proportion of mean equivalent expenditure	0.625	0.536	0.411
Headcount ratio:			
Households (FGT[0])	0.398	0.318	0.241
Individuals	0.52	0.41	0.34
FGT[1]	0.134	0.109	0.087
FGT[2])	0.061	0.051	0.045
Mean poverty gap per capita	2.32	1.90	1.51
Mean poverty gap among the poor	5.82	5.97	6.29
Poverty indicators (Relative poverty)			
Relative poverty line at 1991/92 mean weekly equivalent expenditure Headcount ratio:	17.31	20.41	26.29
Households	0.398	0.406	0.422
Individuals	0.52	0.51	0,56
Mean poverty gap per capita	2.32	3.02	4.53
Mean poverty gap among the poor	5.82	7.44	10.73

Notes: FGT(α) is the Foster, Greer and Thorbecke (1984) measure of poverty. This corresponds to the headcount indicator for α=0, the normalized poverty gap measure for α=1 and the average squared normalized poverty gap which weights proportionally higher households with larger poverty gaps, α=2.

under 40% of households in 1991/92 to 24% of households in 2005/06. These figures compare broadly with headcount estimates of poverty produced by the Ghanaian Statistical Service (2007) albeit with a slightly higher headcount for individuals in poverty in 2005/06 than reported there[4]. In contrast, the intensity of poverty has behaved in a less straightforward manner. The mean poverty gap per capita, expressed as the aggregate poverty gap averaged across successive waves, has declined progressively across the period from 2,320 to 1,510 *cedis* per week but, when averaged across only those who are designated poor, the measure has moved in the opposite direction, rising from 5,820 to 6,290 *cedis* per week. This is consistent, of course, with a situation where poverty alleviation has succeeded in improving the position of those closest to the poverty line whilst leaving those most deeply entrenched behind.

These relationships can be conveniently summarized by means of the Three 'I's of Poverty (TIP) curve (Jenkins and Lambert, 1997)[5]. TIP curves cumulate the poverty gaps of ranked individuals or households. The curve correspondingly plots the proportion of the population associated with different values of some chosen measure of the standard of living, in our case the poverty gap based upon equivalent weekly household expenditure expressed in constant 1999 prices. The advantage of the curve (see Figure 1) is that it captures various dimensions of poverty and inequality is a single diagrammatic form. Poverty incidence (FGT[0]) may, for example, be read from the length of the non-horizontal distance (marked here by the location of the vertical reference lines) while the intensity of poverty per capita is

Figure 1



[4] The corresponding headcount figure produced by GSS for 2005/06 was 28.5% of individuals. Our analysis suggests a slightly higher figure of 34% of individuals.

[5] The three 'I's of poverty are incidence, intensity and inequality.

captured by the height of the curve at the value p = 1.[6] Finally, the convexity of the schedule indicates the inequality aspect of poverty with the slope of a line from the origin to a point on the TIP curve showing the intensity of the poverty gap over the designated proportion of the population. Our particular interest in relation to Table 4 is, of course, the average size of the poverty gap defined over the poor. This is captured diagrammatically by the slope of a line from the origin to intersection of the TIP curve with the vertical reference lines. The curve also illustrates the fact that, with the exception of a relatively small percentile, the majority of the population lies above the maximum poverty position.

One of the key characteristics of the TIP curve is that the schedule exhibits first order dominance: if one curve always lies below another then poverty among the former group is always lower no matter the level of the poverty line. In the case of the poverty line set at 17,310 *cedis* per week, households and individuals were generally better off in 2005/06 than they were in 1991/92 and 1998/99 but not entirely. Although the incidence of poverty and the average intensity of poverty were lower in 2005/06, poverty gaps were less equally distributed with the result that the TIP curve for the latter period lies above those for the earlier waves and cuts them once from above. In particular, households falling in the lowest 8.5% of the distribution, corresponding to a weekly expenditure equivalent of 9,300 *cedis* were marginally less well off in 2005/06 than they were in 1991/92.

It is also instructive to consider what would have happened had an alternative poverty line based upon a relative scale maintaining the expenditure of the poor at the initial 0.625 share of mean been adopted across the period. Introduction of such a line is commonly based upon the argument that the adequacy of income and expenditure should be judged relative to the general standard of living for the country. With weekly expenditure generally rising over the period, a poverty line established at 62.5% of weekly mean equivalent expenditure would have resulted in the value of the poverty line increasing from 17.31 *cedis* per week in 1991/92 to 26.29 *cedis* per week in 2005/06. As a result, the incidence of poverty would have increased slightly to 56% of individuals by 2005/06 while the poverty gap deepened: to 4,530 *cedis* for households on a weekly per capita basis and to 10,730 *cedis* per week among the poor. The choice of absolute or relative poverty line is therefore critical.

5 Poverty and Credit

Information relating to the source, size and purpose of individual and household credit arrangements where they occur are detailed in the Ghanaian Living Standards Survey[78].

[6] We have truncated the diagrams at p=0.5 in order to focus attention on the poorer end of the distribution.

Here we distinguish between loans from the formal sector, defined to include state and private banks, cooperatives, government agencies and NGOs, and loans from the informal sector which includes employers, money lenders, traders, farmers, relatives, family and friends. In addition, there are a small number of households who engage in mixed-financing and access credit from both the formal and informal sectors. Details of the extent to which households borrow and the average loan size in shown in Table 5.

Table 5: Household Credit Details

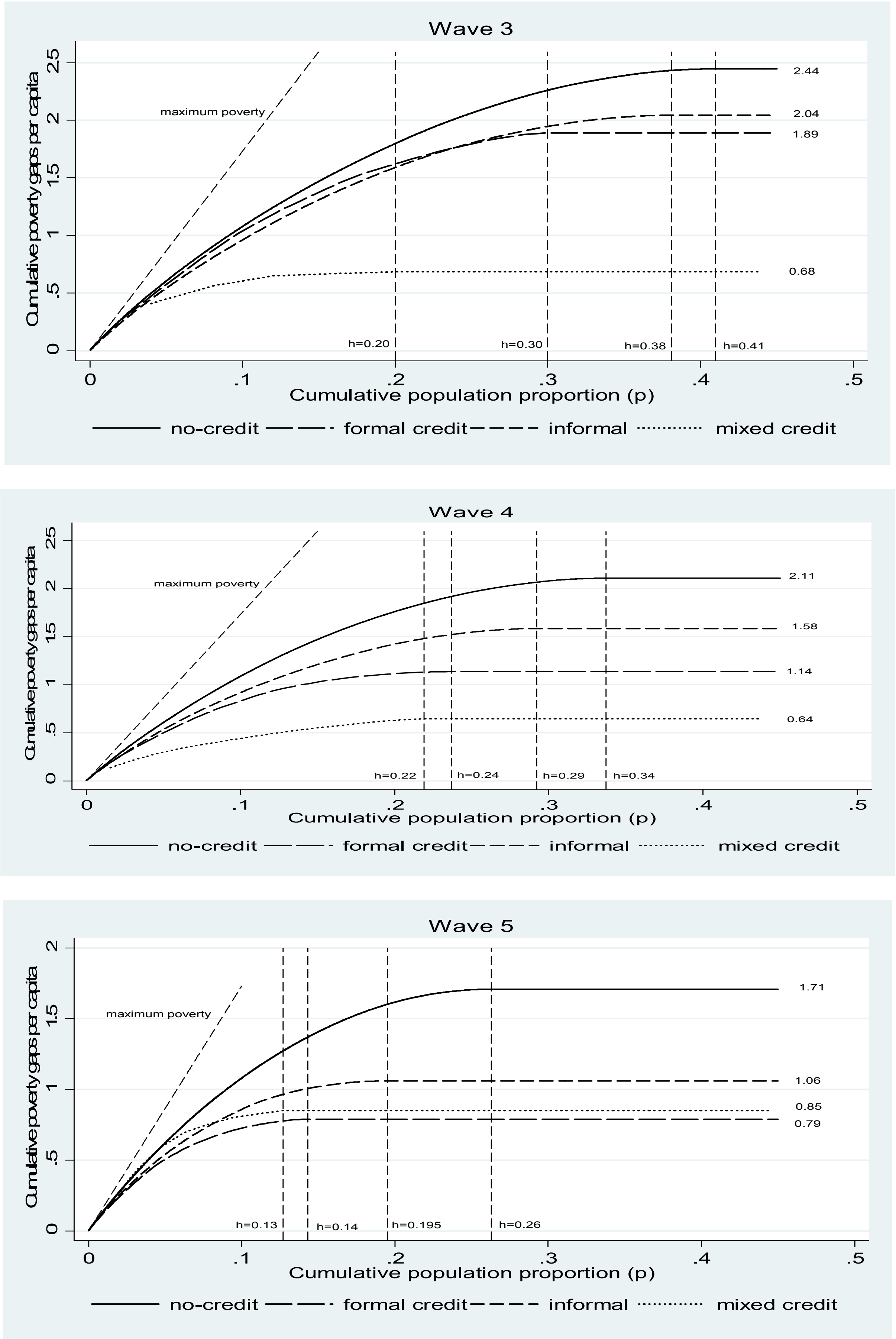
	Wave 3 1991/92	Wave 4 1998/99	Wave 5 2005/06
Proportion of households that borrow	0.29	0.35	0.27
of which			
Proportion of credit from formal sector	0.094	0.104	0.231
Proportion of credit from informal sector	0.887	0.865	0.742
Proportion of mixed credit	0.019	0.031	0.027
Average Loan Size (000s constant Jan 1999 price *cedis*):			
per capita	141.3	146.4	199.9
formal loan	861.5	729.3	1389.7
informal loan	342.6	299.8	356.8
Average number of loans per household			
formal	1.13	1.10	1.10
informal	1.20	1.27	1.12
Loan-expenditure ratio			
formal borrowers	0.16	0.13	0.19
informal borrowers	0.09	0.07	0.08
mixed finance	0.12	0.16	0.31

Following the period of the main financial liberalization (1989-91), the absolute number of households sampled that access credit initially increased from 29% to 35%, but subsequently fell back to 27% in 2005/06, largely unchanged from Wave 3. Of those households receiving credit, the proportion that accessed the formal sector alone has risen from slightly above 9% in 1991/92 to 23% in 2005/06 whilst the importance of informal credit has declined from 89% to just under 75% of households. Throughout the period the number of households that accessed both the formal and the informal sector has remained small. The average loan size has also increased across the period, particularly from the formal sector where the mean real

[7] Unfortunately, coding frame information relating to credit arrangements are not available for Wave 2 which precedes the financial liberalization policy.

[8] The initial question asks "Does any member of the household owe money or goods to another person, institution or business".

Figure 2: TIP Curves and Credit Access: Waves 3 - 5



value among borrowers rose by 61%. The average size of informal sector loans, however, remained little changed across the period.

Scaling by the level of expenditure, household borrowing from both the formal and informal sector has remained relatively stable albeit with households borrowing from the formal sector operating with approximately twice the loan-expenditure ratio to those households that borrow from the informal sector. Finally, the average number of loans per household is marginally higher for households interacting with the informal sector during the earlier two

Table 6: Poverty indicators and Credit Access

	All	No-credit	Informal	Formal	Mixed
Wave 3					
FGT(0)	0.397	0.41	0.38	0.30	0.20
FGT(1)	0.134	0.14	0.12	0.11	0.04
FGT(2)	0.061	0.07	0.05	0.05	0.02
Population share		0.71	0.26	0.03	0.01
Mean		26.64	29.57	31.64	35.93
Mean among the poor		11.83	11.93	11.02	13.89
Mean gap among poor		5.97	5.37	6.28	3.41
Wave 4					
FGT(0)	0.318	0.34	0.29	0.24	0.22
FGT(1)	0.109	0.12	0.09	0.07	0.04
FGT(2)	0.051	0.06	0.04	0.03	0.01
Population share		0.64	0.31	0.04	0.01
Mean		32.24	32.86	37.87	33.59
Mean among the poor		11.07	11.89	12.52	14.36
Mean gap among poor		6.24	5.42	4.78	2.94
Wave 5					
FGT(0)	0.24	0.26	0.20	0.14	0.13
FGT(1)	0.09	0.10	0.06	0.05	0.05
FGT(2)	0.04	0.05	0.03	0.02	0.03
Population share		0.73	0.20	0.06	0.01
Mean		41.77	40.79	49.18	46.75
Mean among the poor		10.80	11.89	11.80	10.61
Mean gap among poor		6.50	5.41	5.50	6.89

waves though in practice, the credit experience of households that borrow is to take a single loan. Loan-expenditure ratios associated with mixed finance should be interpreted cautiously, however, given the small sample for this group of households.

TIP curves for each of the three waves together with Table 6 illustrate how poverty trends have developed over time under alternative credit conditions. Across all three waves access to credit is generally associated with a lower incidence of poverty and a lower intensity of poverty per capita. The expenditure distribution of borrowers is accordingly non-dominant.

The expenditure distribution among the credit sources, however, is less clear-cut. Although the headcount ratio and average poverty gap are lower among those households that access formal credit markets in Wave 3, inequality among the formal sector poor is also greater with the result that the formal sector TIP curve lies above the informal sector TIP curve for the lowest 25% of the distribution. The mean poverty gap among the formal sector poor is also higher at 6,280 *cedis* compared to 5,370 *cedis* for the informal sector.

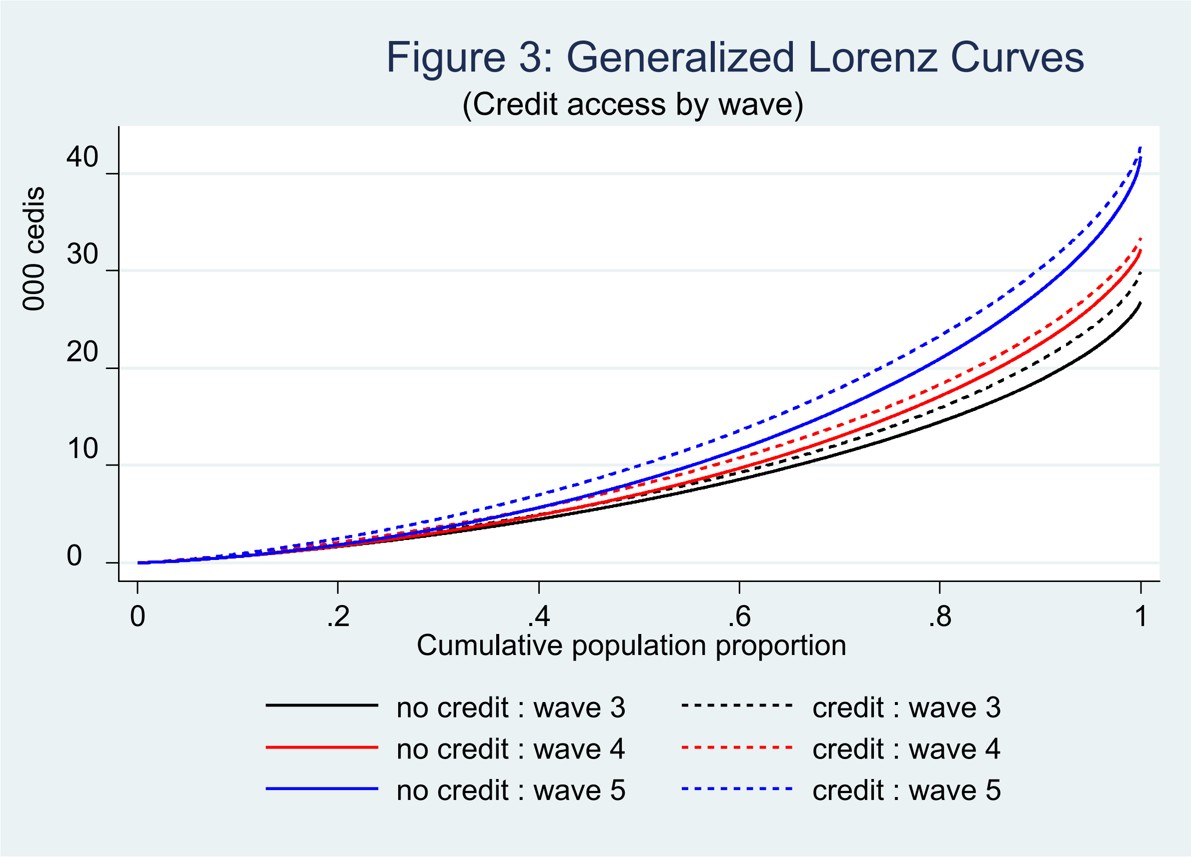


Figure 3: Generalized Lorenz Curves
(Credit access by wave)

This situation alters in Wave 4 to produce a dominant ranking by source of credit with poverty for all levels of the poverty line worst among those making no-credit access, and successively improving as we move to informal, formal and mixed credit access. This ranking is supported a range of poverty indicators. Wave 5 shows similar characteristics although mixed credit households no longer retain their dominant position the ranking by the size of poverty gap among the poor favours informal credit households rather than those accessing credit from formal markets. However, the relative size of the no-credit and informal credit populations in the sample results in these two sectors contributing most to total poverty across all three waves. in excess of 70% and 20% respectively on any of the FGT(α) measures.

Finally in this section, Figure 4 illustrates the distributional changes that have taken place over the three waves by constructing Generalized Lorenz curves showing the traditional Lorenz rescaled for mean expenditure of the different expenditure groups for those with credit and those without for each wave. As the graphs show, there is little change in expenditure share at the bottom of the distribution, but much greater changes towards the top with those with credit appearing to do better than those without.

5 Poverty, Credit and Gender of Head of Household

Female-headed households account for approximately one-third of the sample in Waves 3 and 4 falling to just over 25% in Wave 5 and, in the majority of cases, these individuals are also recorded as economic head of household.[9] On average across the three waves, female headed households tend to be smaller (2.6 adult equivalents as against 3.6 adult equivalents) and more heavily concentrated in urban areas (44% of female-headed households but only 35% of male-headed households are designated urban). As indicated in Table 7, credit arrangements also differ between male and female-headed households, particularly in relation to access to the formal credit market. Across all three waves the proportion of households accessing credit varies around 30% irrespective of the gender of the head of household. Male-headed households, however, appear to be more active in the formal credit market than their female-headed counterparts, albeit on a small sample base. The average loan size also differs across the two types of household with the average size of loan from the informal and mixed-finance sector significantly smaller for female-headed households in each of the three waves while the average loan size from the formal sector is insignificantly different. Significant differences also occur in the number of loans undertaken by households accessing credit, with female-headed households undertaking significantly fewer loans from both the informal and the formal sector. Together these features suggest that both the incidence of loans and the size of loan is generally smaller for female-headed

[9] The GLSS data sets do not allow us to distinguish between male and female borrowing within households and this is an obvious and common drawback in entering into a full analysis of gender relations and credit (see Deaton, 2000). .

households, especially with respect to credit from the informal sector where differences between household types are significant for both factors[10].

Table 7: Head of Household Gender and Credit

	No-credit	Informal	Formal	Mixed
	Male Head of Household			
Source of Loan				
Wave 3	71.1	25.0	3.4	0.5
Wave 4	64.8	29.5	4.5	1.2
Wave 5	72.3	20.1	6.8	0.9
Average Loan size (000s *cedis* 1999 prices)				
Wave 3	-	414.8	927.4	373.3
Wave 4	-	351.9	713.1	443.5
Wave 5	-	389.2	1481.8	1522.1
	Female Head of Household			
Source of Loan				
Wave 3	70.1	27.9	1.4	0.6
Wave 4	64.5	32.6	2.1	0.8
Wave 5	74.0	20.9	4.9	0.4
Average Loan size (000s *cedis* 1999 prices)				
Wave 3	-	206.3	521.9	253.9
Wave 4	-	206.3	797.9	329.1
Wave 5	-	275.5	1055.0	252.5

Household performance across a variety of poverty indicators, decomposed by credit access and gender of the head of household are reported in Table 8. Interestingly, inspection of the table reveals that poverty incidence is highest amongst male-headed households. Utilizing information from the most recent wave, for example, we obtain headcount estimates of poverty amounting to 27% of male-headed households (30.3% of individuals) and 16% of female-headed households (4.6% of individuals) lying below the official poverty line. In terms of the intensity of poverty, weekly mean equivalent expenditure is significantly lower for male-headed households both across the sample as a whole (FGT[1]) and among the poor in each of the three waves. As a result, the poverty gap is also larger among male-headed households. Using Wave 5 again by way of example, the mean poverty gap among the poor

[10] T-tests for differences in the credit characteristics of the two groups yield t-values of 3.35^{*}, 3.26^{*} and -0.09 on differences in the number of loans, and t-values of 1.48, 4.45^{**} and 2.60^{**} from the formal sector and informal and mixed-credit sectors. Significance at 5% and 1% is denoted * and ** respectively.

male-headed households was 6,500 *cedis* compared with a gap of 5,330 *cedis* for poor, female-headed, households.

Turning to the poverty profile by credit characteristics, we find that the incidence of poverty and the intensity of poverty, as represented by the FGT[α] i=1, 2 measures, generally improves as we move successively from households with no credit to households with credit

Table 8: Poverty Indicators by Credit Access and Gender

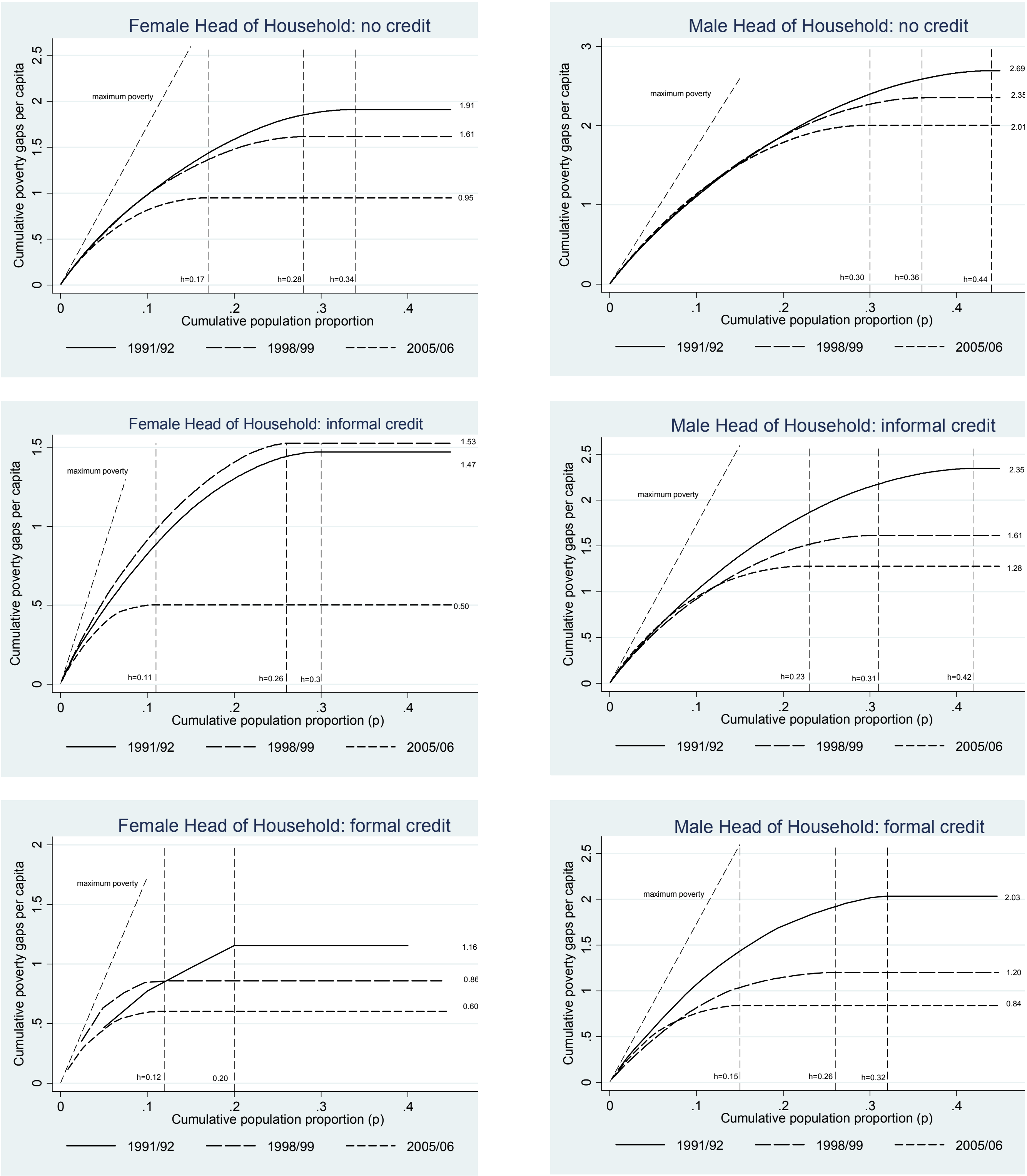
	Male Head of Household				Female Head of Household			
	All	**No-credit**	**Informal**	**Formal**	**All**	**No-credit**	**Informal**	**Formal**
	Wave 3							
FGT(0)	0.43	0.44	0.42	0.32	0.32	0.33	0.30	0.20
FGT(1)	0.15	0.16	0.14	0.12	0.10	0.11	0.08	0.07
FGT(2)	0.07	0.07	0.06	0.06	0.04	0.05	0.03	0.03
Mean	26.01	25.15	27.15	32.50	31.24	30.28	33.38	27.28
Mean among poor	11.35	11.21	11.74	10.96	11.85	11.68	12.37	11.52
Mean gap among poor	5.95	6.09	5.54	6.33	5.45	5.62	4.98	5.77
	Wave 4							
FGT(0)	0.34	0.36	0.31	0.26	0.29	0.28	0.26	0.12
FGT(1)	0.12	0.13	0.09	0.07	0.09	0.09	0.09	0.05
FGT(2)	0.06	0.07	0.04	0.03	0.04	0.04	0.06	0.03
Mean	31.06	30.21	31.88	37.40	35.81	36.29	34.62	40.80
Mean among poor	11.26	10.85	12.04	12.77	11.59	11.61	11.54	10.27
Mean gap among poor	6.03	6.45	5.26	4.53	5.71	5.69	5.76	7.03
	Wave 5							
FGT(0)	0.27	0.30	0.23	0.15	0.16	0.17	0.11	0.12
FGT(1)	0.10	0.12	0.07	0.05	0.05	0.05	0.03	0.03
FGT(2)	0.05	0.06	0.04	0.02	0.02	0.03	0.01	0.02
Mean	39.71	39.41	38.15	46.39	48.24	47.76	47.49	59.30
Mean among poor	10.80	10.57	11.70	11.68	11.97	11.80	12.84	12.31
Mean gap among poor	6.50	6.73	5.60	5.61	5.33	5.50	4.46	4.99

from the informal and formal sector. Trends among other poverty indicators are less clear-cut with the ranking of households accessing formal and informal credit, in particular, frequently reversed. This is most easily seen from inspection of the mean poverty gap among the poor. This is higher among female-headed households that access formal credit in each of the three waves and for two of three waves in the case of male-headed households, albeit marginally in the case of Wave 5.

These broad similarities mask some important differences between credit access and the expenditure pattern of male and female-headed households. With the exception of Wave 4, weekly mean equivalent expenditure among the poor is higher, and corresponding poverty gap is smaller, among male-headed households whatever the credit arrangements. These differences are significant for households accessing no credit or accessing credit from informal credit markets (in Waves 3 and 5) but are insignificant among households that access credit from the formal credit markets. Recognising these differences and the relative size of the various groups allows us to identify the focus of poverty in Ghana in relation to credit markets. Although reducing poverty among any of the subgroups will serve to reduce poverty overall, the impact of alleviating poverty among female-headed households through, for example, promotion of micro-credit schemes will be small given the relative contribution of this group to total poverty. The largest contributors to total poverty are male-headed households that do not access credit. In Wave 5, these households account for 64.7% of household poverty incidence, 69.3% of the mean poverty gap and 71.5% of poverty inequality as measured by the mean squared normalized poverty gap. This is followed with a considerable gap by female-headed households that do not access credit and male-headed households that access informal credit markets (14.7% and 13.8% respectively). The corresponding contribution by female-headed households that access informal credit markets is 2.7%.

As with our earlier analysis, the identified trends in household poverty may be usefully illustrated by means of the TIP curve (see Figure 3), here decomposed by source of credit. We may note in particular that with the exception of female-headed households that either do not access credit or access credit via informal markets, there is little evidence of a clearly dominant improvement over time. In the case of no credit, the position of female-headed households has improved systematically with the main gains taking place between 1998/99 and 2005/06. In the case of comparable male-headed households the TIP curve for 2005/06 crosses the TIP schedules for earlier waves from above with the lower 15% of male-headed households marginally worse off in 2005/06. In the case of households accessing informal credit, the position of female headed households initially deteriorated during the 1990s to

Figure 4: Poverty Trends, Credit Access and Gender



subsequently improve thereafter. The improvement for this group was particularly notable with the incidence of poverty more than halving in the latter period. Although the incidence of poverty also fell among male-headed households that accessed informal credit, the

Figure 5 Generalized Lorenz Curves

Waves 3-5 By Gender of Head of Household: formal credit

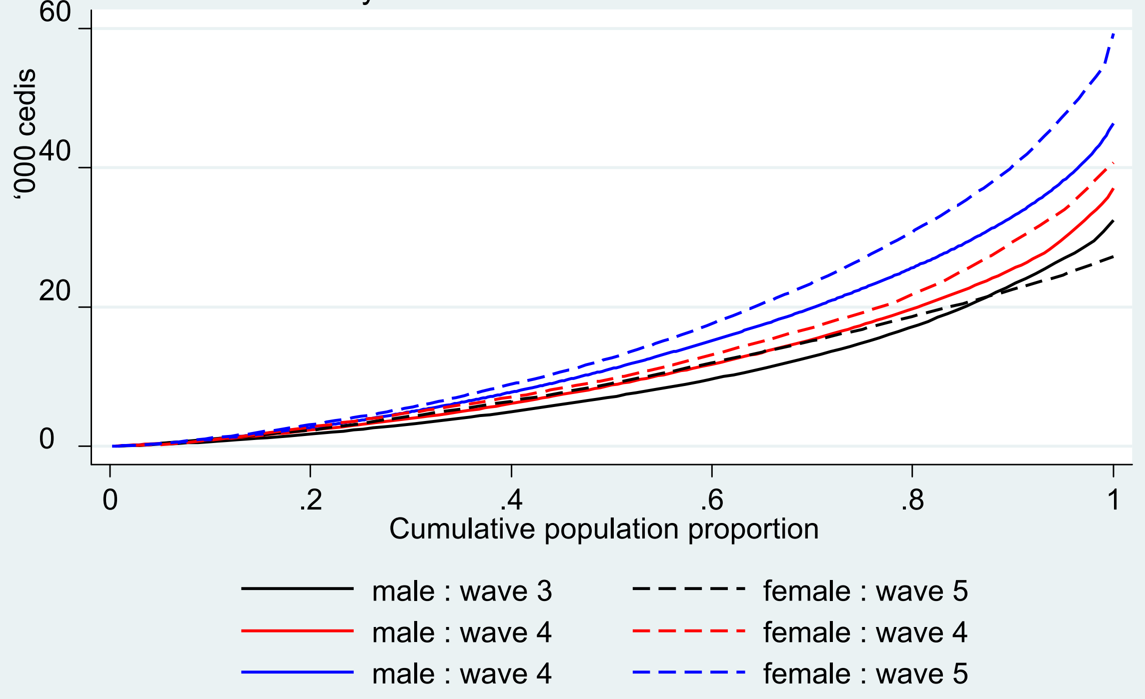
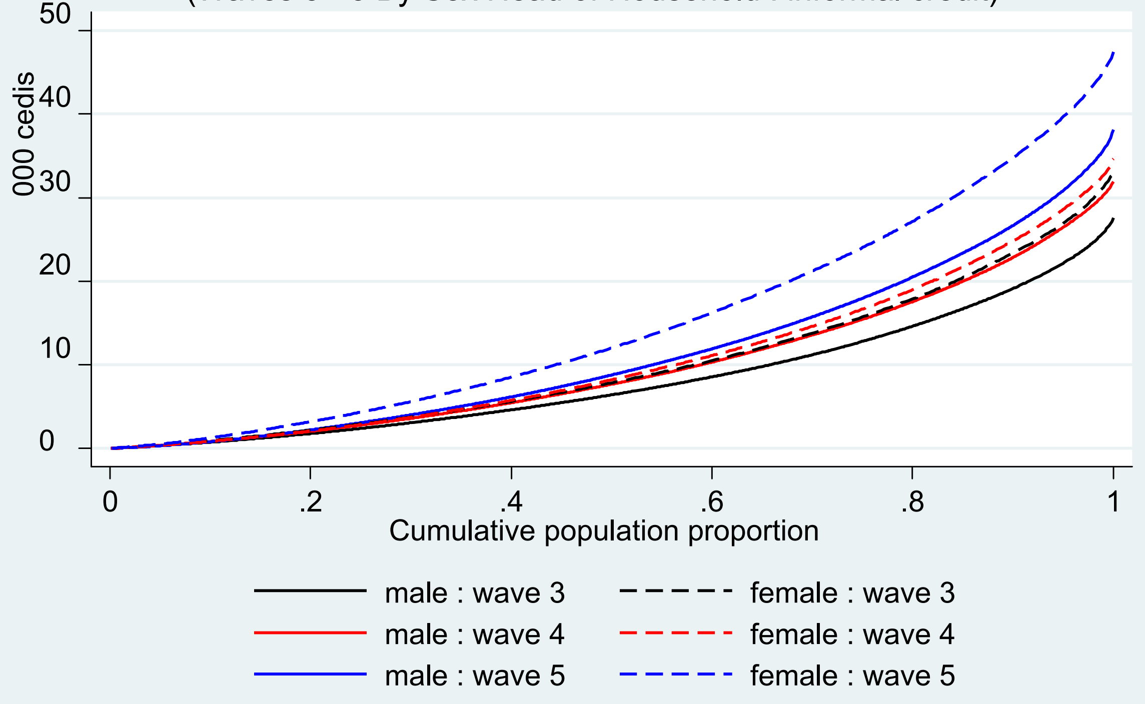
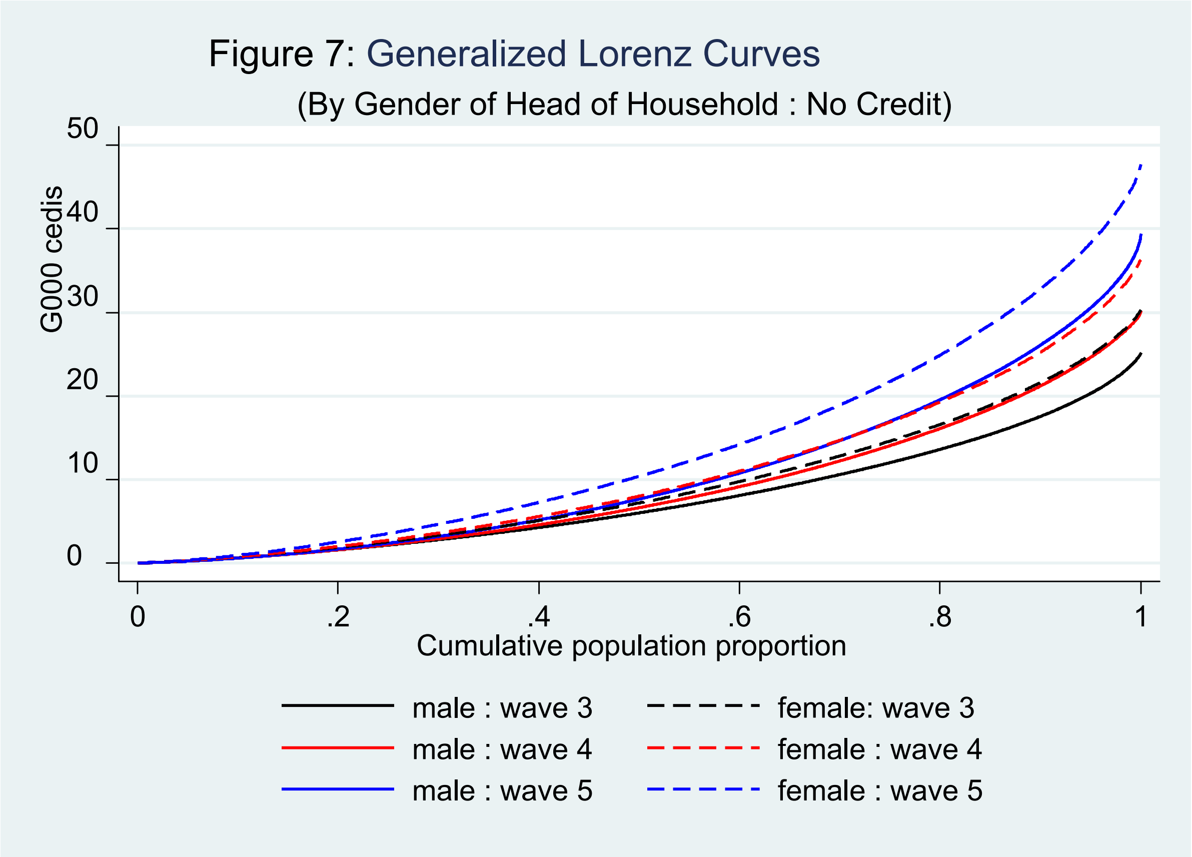


Figure 6: Generalized Lorenz Curves

(Waves 3 - 5 By Sex Head of Household : informal credit)





Finally, Figures 5-7 show the Generalized Lorenz curves for the formal and informal credit recipients, and for those receiving no credit. Here we can see that for those households who received formal credit, whether they were male or female headed, there has been a noticeable shift in that part of the expenditure distribution occupied by the upper 50% and especially by the upper decile, while there appears to be little movement in the lower quintile. These charts show the noticeable improvement for women headed households with informal or no credit and the lower level of improvement for women-headed households with formal credit. We also observe similar improvements for male-headed household whatever their category. However the bigger shifts are in the upper deciles.

7 Conclusion

This paper has tried to identify the impact of financial liberalisation on poverty in Ghana by using by using standard tools of poverty analysis to identify the differences in poverty characteristics between those who received credit and those who did not. The financial liberalisation reform period was followed eventually by an increase in the flow of formal financial sector credit and a substantial reduction in the incidence of poverty in Ghana. How much of this decrease in poverty can be attributed to financial liberalisation and how much to other factors, for example, the growth in wage employment (Nsowah-Nuamah et al, 2010) is not possible to answer here. However, we have found that the incidence and intensity of poverty declines as we move from no credit households to those receiving informal and formal credit. We also find that the bottom 8.5% are marginally worse off at the end of the period than at the beginning. Looking at the gender differences, we conclude that male headed households are the greater contributor to poverty incidence and they, together with households at the bottom of the distribution should be the focus of poverty alleviation policy. We find that female-headed households with informal credit or no credit appear to have done better than those with formal credit. It may be that female headed households have more easily tapped smaller loans from micro-credit suppliers, which we include in the formal sector category here, and that biases the results towards apparently poorer results for these households. Finally, one of the major lessons for policy is our observation that at both macro and micro levels, it takes some time for the financial reforms to feed through to substantial effects both in terms of measures of financial depth and in terms of changes in micro-level conditions. Much of the improvement we observe here takes place between Waves 4 and 5, approximately a decade after the major reforms, and if anything there is a deterioration in conditions for some time after the reforms.

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