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## The Unitary Model of the Peasant Household: an Obituary?

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### **Abstract**

*This paper explains the logic of the new household economics (NHE) by examining its application to peasant households in contemporary developing economies. The paper begins by explaining the origins of the NHE. A typical NHE model is then developed. Next, an influential NHE model of the peasant household is presented. Finally, a critique of the NHE analysis of the peasant household is offered. The paper argues that the neo-classical NHE approach to the peasant household fails to address the issue of socially-constructed norms of agency and contestation, norms which are central to any understanding of the peasant household and indeed of any household.*

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### **1. Introduction**

In general, it could be said that the analytical core of neo-classical economics has had little to say about the institution of the household in both developed market and developing economies. A cursory glance at a major neo-classical economics text index reveals two entries for households in 666 pages: 'in circular flow'; and 'see Consumption' (Begg, Fischer and Dornbusch, 1994, pp.651). Such an omission is not very surprising. Neo-classical analysis is premised on the assumption that all human behaviour can be explained in the effort to rationally maximize individual utility in light of scarce economic

resources. Thus, the discipline of economics concerns how scarce economic resources are allocated amongst alternative uses in order to achieve the optimization criterion of maximal individual utility. The principal mechanism of allocation is through competitive free markets which no individual economic agent is able to influence. The free nature of market exchange means that transactions occur only if they enhance the quest for maximum individual utility. It is clear that the focus of neo-classical analysis is squarely on the individual; other than the market, which is present by assumption, collective institutions such as the household or the firm can be difficult to explain.

However, over the past twenty years a small branch of neo-classical microeconomics which examines the household and its resource allocation decisions has emerged. Termed the new household economics (NHE), this approach has become of increasing importance both in the neo-classical mainstream and, to an even greater extent, in development economics. The increasing importance of the NHE is due to a variety of policy failures, which in development economics in particular have rendered clear the need to investigate the internal dynamics of the household. However, the use of the NHE in both development economics and the neo-classical mainstream remains a narrowly defined specialization. Therefore, the purpose of this paper is to explain the logic of the

NHE to a wider audience by examining the way in which it has been applied to peasant households in contemporary developing economies. In this context, the economic definition of peasants is that they are

households which derive their livelihoods mainly from agriculture, utilise mainly family labour in farm production, and are characterised by partial engagement in input and output markets which are often imperfect or incomplete (Ellis, 1992, p.13).

This paper offers a critique of the NHE approach to the peasant household, arguing that it fails to address the issue of socially-constructed norms of agency and contestation, norms which are central to any understanding of the peasant household and indeed of any household. The paper proceeds as follows. The following section explains the origins of the NHE. Section 3 presents a typical NHE model. Section 4 builds on section 3 by presenting an influential NHE model of the peasant household. Section 5 offers a fourfold critique of the NHE analysis of the peasant household. Section 6 concludes the paper.

## *2. Origins of the new household economics*

Neo-classical analysis of the household can be traced back to Alfred Marshall. However, within neo-classical economics the most influential individual in the investigation of the household has been Nobel prize-winner Gary Becker. Following a phrasing which appears should be credited to Koopman (1991, pp.157), Becker's approach to the household can be termed 'unitary' because all households are seen as a collection of individuals who agree over the broad principles of intrahousehold resource

allocation. Thus, the household acts as if there is a single decision maker.

Becker's key contribution was to conceive of the household as both a producing and a consuming entity operating in a market environment and following the conventional objective of optimization through the use of marginal principles (Becker, 1965, 1976, 1981). By approaching the household in this way, Becker was able to unite the neo-classical theory of production with the neo-classical theory of consumer behaviour. Thus, marriages occur as a consequence of participation in an implicit marriage market wherein consumers seek to maximize biological complementarities. Once a marital union is formed, households seek to maximize their joint utility as a unitary entity by deploying their productive resources in those activities which generate the highest relative return. As a consequence, household labour is allocated between home and market on the basis of the comparative advantage of individual members through an assessment of their respective opportunity cost of time. As a result, in equilibrium the household is maximizing both its marginal productivity and its marginal utility. Therefore, Becker is able to propose that household behaviour is in economic terms rational.

## *3. A unitary model of the household*

Becker's general approach informs subsequent work in the NHE. As demonstrated in the derivation of Michael and Becker (1973) presented in Ellis (1992), the household is taken to be an entity which maximizes the joint utility of its members. However, utility is not derived from the consumption of goods and services acquired in competitive markets. Rather, the household uses purchased goods and services as inputs in a household production process. Purchased inputs are

combined with household resources, primarily consisting of labour, to yield a set of goods and services capable of being finally consumed. Within the NHE these goods and services are termed Z-goods; they are conceptually equivalent to the use-values of classical economic theory (Ellis, 1992). As use-values, it is the final bundle of Z-goods from which a household ultimately derives utility. Total labour availability for the household production process is however constrained by the amount of work performed outside the household. Work has to be performed outside the household in order to generate an income which should equal the value of purchased goods and services used as inputs in the household production process. Thus, in the household's final equilibrium the utility derived from the consumption of Z-goods should equal the opportunity cost of the labour time and the purchased inputs which go into the production of the Z-goods.

The above analysis can be formally presented. Households seeking to maximize their utility ( $U$ ) from the consumption of Z-goods ( $Z$ ) are at the same time seeking to minimize the cost of producing Z-goods. In seeking to achieve such an outcome, households are constrained by the level of technology, the market prices ( $p_i$ ) of purchased inputs ( $x_i$ ), the constraint that total time can be devoted to either household production ( $T_i$ ) or waged work ( $T_w$ ), and the rate of return on household capital. The household thus seeks to maximize its utility function

$$U = f(Z_1, Z_2, \dots, Z_n) \quad (1)$$

subject to its production function

$$Z_i = f_i(x_i, T_i) \quad (2)$$

its time constraint

$$T = T_w + \sum T_i \quad (3)$$

and its budget constraint

$$Y = wT_w = \sum p_i x_i \quad (4)$$

The time constraint and the budget constraint can be reduced into a single unified full income constraint ( $F$ ) if all of the household's time is valued at the wage rate in the labour market. Thus

$$F = wT = w\sum T_i + \sum p_i x_i \quad (5)$$

In keeping with the impeccable neo-classical logic of this unitary NHE model, household equilibrium is where the marginal rate of substitution between any two Z-goods is equal to the ratio of the full marginal costs of producing the two Z-goods. Thus

$$\frac{MU_i}{MU_j} = \frac{FMC_i}{FMC_j} \quad (6)$$

As is implied in equation (5), full marginal costs are a function of the wage rate times the marginal product of the time allocated to the production of the Z-good; and the price of purchased inputs times the marginal product of the purchased inputs used in the production of the Z-good.

Unitary NHE models derived from the work of Becker have been used to explain a host of phenomena: for example, household market demand, household production, labour supply, education, health, fertility and migration. Further, as is stressed by Haddad, Hoddinott and Alderman (1994), despite being predicated upon a joint household utility function unitary models do explain

intra-household differences in welfare. Such differences are a consequence of the fact that household tasks and labour time are voluntarily allocated to members who are relatively more efficient in the performance of those tasks in an effort to maximize household utility. Differential productivities thus give rise to differences in individual welfare. However, such an outcome is not inequitable because it is voluntary.

In turn, differential productivities of household members means that the gender division of labour can be explained in terms of comparative advantage. The quest for utility maximization means that household labour must be efficiently deployed. Within the labour market there are wage differentials between males and females: the relative return to male participation in the labour market is greater than the relative return to female participation in the labour market. Thus, males should specialize in waged work and females should specialize in household production. As a consequence, a gender division of labour which is economically efficient emerges.

#### *4. A unitary model of the peasant household*

Unitary models based upon the NHE framework have been specifically developed to examine intra-household resource allocation amongst semicommercialized peasant farm households in developing countries (Singh, Squire and Strauss, 1986). These models are designed to generate testable hypotheses concerning the response of farm households to changes in family size and structure, output prices, input prices, wages and technology. A particularly influential unitary model of the farm household in the rural third world is that of Barnum and Squire (1979). The logic of this model is now presented because it offers perhaps the most typical account of the way

in which the NHE approach is applied to the intra-household resource allocation decisions of peasants. A general critique of the overall NHE framework is then offered.

The NHE approach to the peasant household starts from the perspective that the household is a unit of production and consumption. The consumer behaviour of the peasant household remains governed by the effort to maximize the household's joint utility. However, in the Barnum and Squire model utility is garnered not just from the time devoted to the production of Z-goods but also from the time devoted to leisure, which together are treated as a single consumption item in the utility function. Further, household production consists not only of Z-goods but also of output which can be sold in functioning product markets. Thus, peasant household decision-making must assess the relative utility of selling versus consuming farm output, with the purpose of selling being to generate the income needed to acquire consumption items and inputs that the household cannot produce. At the same time, the model assumes a functioning labour market. This means that at the prevailing wage rate labour can be hired in to augment output that can be sold or consumed or labour can be hired out to generate additional income for the purchase of consumption items and inputs that the household cannot produce. Finally, the model ignores risk and assumes that land is fixed.

Formally, the utility function that is maximized takes the form

$$U = f(T_z, C, M) \quad (7)$$

where ( $T_z$ ) is the time devoted to the final production of Z-goods and leisure, ( $C$ ) is the farm output that the peasant household consumes, and ( $M$ ) are the goods and services

purchased by the household on product markets.

The utility function is subject to a production function which takes the form

$$Y = f(A, L, V) \quad (8)$$

where ( $A$ ) is the fixed land available to the household, ( $L$ ) is the sum of household and hired labour applied in production, and ( $V$ ) are the variable inputs such as fertilizer used in the production process.

The utility function is subject to two constraints, that of time and money. The time constraint takes the form

$$T = T_z + T_f + T_w \quad (9)$$

where ( $T_f$ ) is the time devoted to farm work and ( $T_w$ ) is net household waged work, a figure that may be positive or negative depending on the sum of labour hired in and labour hired out (Patnaik, 1987).

As household earnings are used to pay for the goods and services purchased on product markets, the budget constraint takes the form

$$p(Q - C) \pm wT_w - vV = mM \quad (10)$$

where ( $p$ ) is the price of the output, ( $Q$ ) is total output and hence ( $Q - C$ ) is marketed output, ( $w$ ) is the prevailing wage rate and hence ( $wT_w$ ) is the net addition to income from participation in the labour market, ( $v$ ) is the price of variable inputs, ( $V$ ) is the quantity of variable inputs, ( $m$ ) is the average price of purchased goods and services, and ( $M$ ) is the quantity of purchased goods and services.

As in the standard NHE model, the time constraint and the budget constraint can be reduced into a single unified full income constraint ( $F'$ ) if the household's time devoted to Z-goods production is valued at

the opportunity cost of time, given by the wage rate in the labour market, and if the farm output that the household consumes is valued at its opportunity cost, given by the market price of output. Thus

$$F' = wT_z + pC + mM = \pi + w(T_z + T_f) \quad (11)$$

where ( $\pi$ ) is net farm income. In other words, peasant household full income is equal to the opportunity cost of household time plus the opportunity cost of farm output consumed by the household plus the value of marketed output plus the net income derived from participation in the labour market less expenditure on variable farm inputs.

Given that the logic of the Barnum and Squire model closely follows the neo-classical logic of the NHE model the peasant household's equilibrium production and consumption conditions are not surprising. In terms of production, equilibrium occurs when the marginal product of labour inputs and of variable inputs equals the price paid for such inputs. In terms of consumption, equilibrium occurs: when the marginal rate of substitution between the time devoted to the final production of Z-goods and leisure and the goods and services purchased by the household on product markets is equal to the ratio between wages and the price of purchased goods and services; and when the marginal rate of substitution between the farm output that the peasant household consumes and the goods and services purchased by the household on product markets is equal to the ratio between output price and the price of purchased goods and services.

Barnum and Squire (1979) use their model to test the response of paddy producing peasant households in Malaysia to changes in wages, output prices and household size. The production function is estimated, which then

allows the demand functions for the three variables in the utility function to be estimated. The empirical findings are in line with what one would expect from a neo-classical model. Thus, a rise in wages leads to a fall in output and full income, a rise in farm work performed by the household and a fall in the use of hired labour, and an increase in household consumption of farm output with a corresponding fall in market sales. Conversely, a rise in output prices leads to a rise in output and full income, a rise in the use of hired labour and a fall in the amount of farm work performed by the household, and a rise in market sales corresponding to a fall in household consumption of farm output. An increase in household size leads to a rise in household consumption of farm output, a fall in market sales, and a rise in the amount of farm work performed by the household. Barnum and Squire are also able to estimate how changes in variables which affect household decision making interact with responses in the market. Thus, a positive response in market sales made by a household arising from an increase in output price in fact leads to an overall decline in the amount of output available on the market because of the impact of price increases on rural wages. In this light, it is easy to see why the Barnum and Squire model has been so influential. It not only assesses the interrelationship between production and consumption on peasant farms; it also permits these decisions to be located within the wider economic system.

Barnum and Squire (1979) do not explicitly examine the gender division of labour within the peasant household. However, implicit in their approach is the idea that the intrahousehold division of labour is a result of comparative advantage: the opportunity cost of female labour is likely to be lower due to poorer income earning opportunities. Thus,

the peasant household that seeks to maximize full income and hence joint utility should allocate female labour to the production of Z-goods and male labour to participation in the labour market. Once again, the gender division of labour is economically efficient.

Unitary models of the household have been, until recently, far and away the dominant theoretical and empirical means by which the intrahousehold resource allocation decisions of peasants have been examined by neo-classical economists. In some senses, it is easy to see why. Models such as those of Barnum and Squire (1979), Low (1986), or those detailed in Singh, Squire and Strauss (1986) appear to have substantial analytical power. However, unitary models have come under sustained criticism in the last five years, a criticism which initially emerged out of feminist social theory but which has subsequently moved into mainstream forums such as the World Bank, the University of Chicago, the Centre for the Study of African Economies, and the International Food Policy Research Institute. The following section comprises a critique of unitary models of the peasant household.

### *5. A critique of unitary models of the peasant household*

Despite their seeming analytic power, unitary models of the peasant household can be conceptually and empirically criticized from four perspectives: their concept of the household; the empirical appropriateness of assuming labour substitutability; the empirical relevance of household resource pooling; and the concept of joint utility functions. Each are examined in turn.

#### *i. Conceiving the household*

Unitary models of the peasant household proceed by combining the neo-classical microeconomic analysis of the profit

maximizing firm with that of the utility maximizing consumer. The terrain within which the analysis is located is usually if not exclusively that of well-functioning competitive markets. Leaving to one side Friedman's argument that it is exceedingly rare to find perfectly competitive markets of the sort used in the Barnum and Squire model (Friedman, 1953), the use of the profit maximizing firm and the utility maximizing individual to model the peasant household can be argued to be erroneous. For a start, the optimizing individual is an inappropriate way of modelling consumer behaviour within the peasant household because it requires the presumption of consumer sovereignty in the formation of preferences. However, within the peasant household, as in any household, consumer preferences and choices need not be voluntarily formed. Hence, the consumer would not be sovereign. For example, it is difficult to conceptualize parental altruism as being solely the result of voluntarily formed preferences. At the same time, parental altruism towards children is not solely a function of biology. Rather, parental altruism is a social construction revolving around norms of obligation, expectation and reciprocity, norms which once constructed might act as a barrier to behaviour which in purely economic terms would be efficient. Socially-determined behaviour can thus override atomistically-formed preferences. It is not because of consumer preferences but because of socially-determined processes that 'women and female children "voluntarily" relinquish leisure, education and food'. Further, aspersions to the voluntary nature of preferences 'would be somewhat more persuasive if [women] were in a position to demand their fair share' (Folbre, 1986a, pp.251).

This observation indicates both the extent

to which social processes can determine preference formation and the extent to which such processes can create limits to the pursuit of self-interest through the construction of perceptions which override atomistic and individualistic notions of welfare. The concept of consumer sovereignty is thus compromised. Within the peasant household any understanding of individual preferences must be located within the specific social construction of gender because preference formation is not so much the result of atomistic individualism as rather the result of social phenomena which impacts upon the extent of the individual's agency.

When the analogy of the peasant household switches from the individual to the firm, it is noticeable that the presumption of optimizing behaviour fails to explain why an outcome which should occur does not occur. In market relationships, economic agents which do not act rationally are eliminated. Many peasant households appear to be, in economic terms, sub-optimal. However, they are not all eliminated. The reason why less than rational peasant households are not eliminated is because the relentless logic of competition does not fully apply within the household. Intrahousehold economic relationships are not mediated by prices and intrahousehold exchanges do not operate according to the principles of competitive markets. Rather, the endogeneity of preferences means that household decisions over demand and supply are interdependent. This interdependence was one of Chayanov's main theoretical insights, but the full implications of interdependence has been lost on neo-classical economics (Chayanov, 1986).

Unitary models of the peasant household require that supply and demand be separable in order for them to apply their sequential approach to estimating household demand

functions. However, as Chayanov originally argued, in peasant households demand and supply functions are theoretically and empirically impossible to separate. For example, the cost of production within the peasant household is not a technologically-determined exogenous variable but instead reflective of endogenous household demand decisions. Thus, the requisite computations of unitary models cannot be carried out. Indeed, this point can be taken slightly further.

Within unitary models, in order to solve the peasant household's demand function it is first necessary to estimate the household production function. Within the production function, household resources are combined with external inputs to produce outputs. However, the social relations of gender subordination can create a structure of material control which means that males and females have differential access to household resources. This may in turn result in the construction of preferences which affect the capacity of agents to express agency. Therefore, the production possibilities faced by females may differ substantially from those of males. As a consequence, the peasant household would not have a single production function (Evans, 1991, pp.55). Rather, it would have gender-specific production functions. It could be argued that a multiplicity of production functions is merely an issue of joint production or aggregation. However, both joint production and the aggregation of individual production functions would violate the methodological basis of the unitary model of the peasant household. It is thus the case that within the unitary model of the peasant household the household production function cannot be solved, because it does not exist. This in turn means that household demand functions cannot be estimated.

It would appear that by combining the profit maximizing behaviour of the firm with the utility maximizing behaviour of the individual, unitary models make substantial departures from the reality of peasant farm households. In and of itself, this is not a major problem for neo-classical economics. Claims that unitary models are inadequate because the stylized facts that they are based upon are inappropriate fail to recognize that no model is perfectly realistic. As Friedman has consistently argued, the assumptions of a theory are an insignificant issue compared to the predictive success of a theory (Friedman, 1953). However, this neo-classical defence of their method fails on two counts. First, empirical results can be consistent with more than one theory (Kuhn, 1970, pp.76). Thus, the predictive success of the Barnum and Squire model does not demonstrate that their underlying theoretical apparatus is correct. Second, correct empirical results based upon inadequate assumptions can give no understanding whatsoever as to how the conditions which gave rise to the empirical results arose.

Empirically, within peasant households males and females occupy different positions within consumption and production. Gender-based asymmetries fundamentally compromise the concept of the peasant household offered by neo-classical economics. Consumption preferences can be socially constructed, while the household need not have a unified production function. These gender asymmetries result in males and females bearing differential responsibilities for differential resources within the peasant household.

*ii. Labour substitutability*

If the neo-classical concept of the peasant household is flawed, it comes as little surprise



that some of the assumptions built into unitary models appear to be empirically inappropriate. One assumption in particular appears to be empirically dubious. The production function of the NHE models assumes an extremely simple form of household wherein household labour supply consists of a set of factors of production which can be costlessly substituted for each other, both within and outside the household. The difficulty of asserting a single production function has already been noted. The assumption of a functioning labour market may not be sustainable in many circumstances (Akram-Lodhi, 1995). However, the presumed substitutability of the peasant household's labour supply is also an unsustainable assumption. Household labour is not just a factor of production which can be allocated between market and non-market tasks on the basis of comparative advantage, because labour can be differentiated on the basis of gender, age and status (Evans, 1991). This differentiation extends well beyond the biologically determined; the bulk of it has a social determination. For example, the time constraints facing female labour are not the same as those facing men, in that females have more demands placed upon their time. Indeed, in many settings female and male work may not be comparable and thus the labour performed would be differentiable. Socially determined norms and expectations affect both the way in which female labour is mobilized and the way in which it is allocated. Thus, mobilization and allocation may not be based upon mere comparative advantage; it may be based upon complex mechanisms of obligation between household members which reflect the structure of the peasant household's moral economy (Scott, 1988; Agarwal, 1994). As is stressed by Scott, the moral economy of the household is a social construction which can be based upon

a notion of justice which is inequalitarian in its distributional implications but which is accepted by members because of the insurance mechanisms and security networks that it generates (Scott, 1988; Akram-Lodhi, 1992). Thus, the mechanisms of obligation of the peasant household moral economy need not be reciprocal. If the mechanisms of obligation of the peasant household generate a security network between household members, it must be noted that such a social relationship would not be based upon the utilization of implicit intrahousehold markets, comparative advantage and pecuniary reward. Rather, deontological and altruistic motives could govern the provision of services in a manner which is inherently different from that motivated by pecuniary reward (Hanmer and Akram-Lodhi, 1996). The failure to utilize markets and comparative advantage would, in the normal course of neo-classical logic, be taken to be a barrier to the attainment of economic efficiency. Thus, the peasant household would itself be a barrier to economic efficiency.

Socially-constructed gender-based differences between types of household labour impact upon the opportunity costs and relative productivity of household members. This in turn has two implications. First, attempts to alter supply responses by altering market incentives may not have the expected outcome because of the way in which such changes impact upon labour subject to mechanisms of obligation in its mobilization and allocation. Second, and more fundamentally, the presence of mechanisms of obligation within the peasant household may invalidate the utilization of comparative advantage as a device to understand labour mobilization and allocation. Classical comparative advantage is based upon two economic agents producing two identical outputs from one input.

However, the mechanisms of obligation of the moral economy can differentiate the labour input used in production on a basis other than that of productivity. Further, the outputs which differentiated labour is capable of producing may not be identical. If so, the theory of comparative advantage would not apply because the household would not conform to its initial set of assumptions (Patnaik, 1995).

The assumption of labour substitutability in unitary models extends beyond the household, to its interface with the market. For example, in the models detailed in Singh, Squire and Strauss (1986) recursive estimation techniques require that there be perfect substitutability between family labour and hired labour. However, a defining characteristic of peasant households is precisely the fact that factor and product markets are not well developed and thus that substitutability will not be perfect. Labour and product markets in many developing economies are often highly imperfect, and this can severely constrain substitutability. Indeed, peasants are at best only partially integrated in market processes (Ellis, 1992); such partial integration limits labour substitutability between market and non-market activities, further compromising the applicability of unitary models of the peasant household. Moreover, if labour substitutability was a viable assumption in a setting of semicommercial peasant agriculture then the implication would be that it was comparative advantage in the market for labour which determined utility functions, and not utility functions which determined preferences towards market participation (Ellis, 1992). This would be a reversal of the causation normally taken by neo-classical economics to determine labour market participation.

It thus appears that the assumption of

labour substitutability is problematic. Such problems generate major theoretical difficulties for unitary models of the peasant household, problems which are but deepened by the fact that the assumption of functioning labour and product markets may not characterise the economic environment within which many peasant households operate.

### *iii. Pooling*

Unitary models of the peasant household posit that the optimizing objective of the household is joint utility maximization. The use of a joint household utility as a behavioural principle governing peasant households is based upon an underlying assumption that household resources are pooled and then reallocated so that individual household members' welfare is equated. As a consequence, the household is a pareto-optimal institution, in that no member can be made better off without another member being made worse off. However, such an approach may have little empirical relevance. Evidence on intrahousehold inequality renders the assumption of pooling at the very least problematic (Sen, 1984; Folbre, 1986b; Haddad and Kanbur, 1990; Wooley, 1993; Agarwal, 1994; Haddad, Hoddinott and Alderman, 1994). Further, mounting evidence exists which suggests that in many instances males and females do not so much pool their resources as rather have access to different resources, and thus different types of income, income which results in gender-specific types of expenditure (Whitehead, 1984; Johnson, 1988; Agarwal, 1994; Haddad, Hoddinott and Alderman, 1994). This again makes questionable the presumption of pooling.

A rather more promising approach than that of pooling might well be the working hypothesis that access to resources, conditions of labour and the extent of household pooling

is determined by the relative power of household members. However, relative power should not be equated to the opportunity cost of time, as a neo-classical economist might argue. Rather, relative power should be located within the structure of the peasant household's moral economy and, more precisely, within the ways in which the moral economy is constructed and reconstructed over time to build identities and thus perceptions which implicitly reflect determinate material interests (Akram-Lodhi, 1992). In any event, the empirical relevance of pooling is certainly open to doubt.

*iv. Joint utility maximization*

As noted in the preceding subsection, unitary models of the peasant household assume that the objective of the household is the maximization of a joint household utility function. However, as noted in subsection (i) households are composed of individuals who have unique tastes and preferences. Therefore, individual tastes and preferences must be aggregated into a joint household utility function. Herein lies perhaps the most intractable problem for unitary models of the peasant household: 'the existence of a household welfare function reflecting the preferences of all members is by no means an innocuous assumption' (Alderman, Chiappori, Haddad, Hoddinott and Kanbur, 1994, pp.5). The capability to aggregate utilities which are by definition interdependent has long been recognized to be a major problem of neo-classical economics (Arrow, 1963). Successful aggregation requires assumptions which on their own are so stringent as to render the exercise problematic. Thus, it comes as little surprise that a major effort of the NHE has been devoted towards getting around this problem.

A preliminary attempt to solve the problem of integrating individual utility into a joint utility function was Samuelson's assertion that the family was a unit of consensus which 'acts as if it were maximizing [a] joint welfare function' (Samuelson, 1956, pp.10). Consensus would be built around the specific requirements of individual members and thus the technical conditions necessary for a joint welfare function would be fulfilled. However, Samuelson's approach raised more questions than it solved. It failed to explain how the consensus was achieved, how the consensus was monitored, and how incentives sufficient to overcome any free rider problems were deployed. Further, even if a household consensus were to be observed this would not be conceptually equivalent to a joint household utility function reflecting the weighted sum of individual utility functions.

Becker's work in this area fits squarely in the approach of Samuelson. Becker assumed that once households form, members subordinate their individual tastes and preferences in pursuit of joint utility maximization. Thus, the formation of a household brings with it altruism on the part of household members as each member seeks to improve the welfare of other household members. Becker defined altruism as 'the positive dependence of one person's utility function on the well-being of another person' (Folbre, 1986a, pp.304; Becker, 1981). The presence of altruism is deemed to be sufficient to sustain a joint utility function: 'an altruistic family can be said to have a family utility function that is voluntarily maximized by all members regardless of the distribution of family income' (Becker, 1981, pp.191). However, in taking this approach Becker replicated the problems of Samuelson. The assumption of altruism gives no indication as to how household goals are

formulated, monitored and incentives deployed to overcome both free rider and principal-agent problems. Moreover, even if shared preferences within a household were to be observed this would not necessarily imply that such behaviour reflected a joint utility function and thus economically optimal behaviour on the part of the household.

Most fundamentally, in seeking to rely on altruism as the foundation of a joint utility function two fundamental methodological inconsistencies are apparent. At a general level merely postulating the presence of a joint utility function demonstrates the remarkable degree of opportunism within neo-classical economics, premised as it usually is on the methodological paramountcy of optimizing individualism (Wooley, 1993). More specifically, Folbre writes

...it is somewhat inconsistent to suggest that individuals who are entirely selfish in the market [where there are no interdependent utilities] are entirely 'selfless' within the family, where they pursue the interests of the collectivity...There is something paradoxical about the juxtaposition of naked self-interest that presumably motivates efficient allocation of market resources and a perfect altruism that presumably motivates equitable allocation of family resources (Folbre, 1986a, pp.247).

Becker attempts to deal with these problems by arguing that the household's joint utility function is defined and enforced by one household member. Becker assumes that the household is governed by a dictator capable of imposing their utility function upon the household and who as a consequence decrees the objectives of the household as a whole.

However, the dictator is benevolent; when setting the objectives of the household they altruistically formulate their own utility function so that it reflects the interests of the entire household. The benevolent dictator thus acts in the interest of the entire household by maximizing their individual utility functions subject to a household's resource constraints. How the benevolent dictator comes to know the interest of the household is not investigated; perfect knowledge is simply, and simplistically, assumed.

Becker is however able to specify an enforcement mechanism in his so-called 'rotten kid theorem' whereby parents use wealth transfers to provide children with an incentive to accede to the household utility function (Becker, 1981). It should be noted though that the rotten kid theorem holds under restrictive circumstances wherein those with power are the only altruists and those lacking in power are the only members who create enforcement problems. Thus, Becker is not able to explain how the benevolent dictator is able to overcome free rider problems through appropriate enforcement measures. It could be argued that the enforcement measure of the dictator could be the resort to violence. However, such an argument would have to explain the mechanisms under which violence can be an economically rational response. Further, it should be noted that neo-classical economics, premised as it is on voluntarism, has traditionally had difficulty in dealing with issues of conflict. Finally, such an argument would still fail to provide a convincing response to Folbre's paradox.

Severe as these problems are, the difficulties of the joint utility function run deeper. Whether the household's utility function is that of a benevolent dictator or an aggregation of individual preferences, the