A Theory of Educational Inequality Family and Agency Costs

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Abstract

In this paper, we examine the consequences of imperfect information on the pattern of transfers from parents to children. Drawing on the theory of mechanism design, we consider a model of family contract with two levels of effort. We prove that equal transfers among children are expected under perfect information, while the second-best contract implies risk-sharing between the two generations, so that poor families experience higher agency costs..

JEL classification: D82, J1

Key words: Asymmetric information ; Family Education incentives; Transfers.

1 Introduction

During the last two decades, economists have paid increasing attention to the motives behind intergenerational transfers within the family. Following the seminal contributions of Becker (1974, 1991), Bernheim et alii (1985), and Cox (1987, 1990), the two main models deal with altruism and exchange. In the first case, parents care about the well-being of their children and they redistribute money in order to equalize the different standards of living. In the second case, parents provide money in exchange of upstream transfers which take the form of non-market services and attention. Understanding why parents give money to their children is considerably important from a public policy perspective. Under altruism, parents perfectly adjust their private transfers in response to a change in children's income due to a public provided transfers program, so that the public intervention is fully neutralized. Conversely, under exchange, parents are expected to give more money to a richer child, which implies a crowding-in effect (Cox and Jakubson, 1995).

Both in the altruism and exchange models, two key assumptions are that i) parents are supposed to be the dominant agent and ii) parents have a perfect information on their children's behavior ,however, children may have a specific bargaining power under an attention-money exchange if one considers a Nash equilibrium (see Cox, 1987). When both the child's levels of income and effort are perfectly observed by the parents, the latter will always choose an optimal first-best transfer. However, assuming that the parents are perfectly aware of the financial situation and attitude of their children seems highly questionable. There have been several recent attempts to introduce the tools of incentives contracting in the motives for private transfers (see the discussion in Laferrère and Wolff, 2003). Chami (1996, 1998) proves that given imperfect observability, labor market conditions influence the type

and level of transfers received from parents. When parents have imperfect information about the amount of effort provided by their children, Cremer and Pestieau (1996) show that altruistic parents have a preference for transferring resources through late bequests rather than inter-vivos gifts. Bequests are conditioned on the children's realized income, so that they provide incentives to the children into revealing their true ability . Gatti (2000), Fernandes (2000) and Villanueva (2001) examine the consequence of the introduction of leisure on the altruistic neutrality condition in an imperfect information setting. Under altruism, the parents face a trade-off between the insurance and the disincentives to work that the financial transfers provide to the children, so that the neutrality property is expected to break down. Both imperfect information and an endogenous child's effort may explain why parents provide transfers that do not respond much to both child's and parent's income. Following an exchange motive, Jellal and Wolff (2003) propose a model of coresidence where parents do not perfectly know the privacy cost of their children in home-sharing. Thus, only the children who live with their parents receive an information rent, and this rent is greater for recipients facing lower privacy costs. Finally, Feinerman and Seiler (2002) extend the services-money model of exchange to the case of two children and a parent who does not
observe the children's cost of attention.

Introducing asymmetric information and effort is especially appropriate when focusing on child-rearing practices, which greatly influence children's outcomes. Weinberg (2001) develops an incentive model of the parent-child relationship and proves that parent's ability to mold the children's behavior through pecuniary incentives is limited at low incomes. Thus, poor parents are more likely to rely on non pecuniary mechanisms such as corporal punishment. Lin and Lai (1996) also explain why parents often argue that punishment is more effective than encouragement to make a child study diligently. In particular, Lin and Lai

(1996) show that children will show less diligence if they are given monetary rewards which are not related to scholastic performance.

Incentive problems within the family need not always arise. Under altruism, it is well known since the Rotten-Kid theorem of Becker (1974) that selfish children are expected to behave in their parents' best interest. However, this theorem does no longer hold when child's effort is a private good. Lindbeck and Nyberg (2001) argue that to promote work effort, parents may want to instill work norms which later cause their children to experience guilt or shame associated with failure to support themselves.

In this paper, our aim is to examine from a theoretical perspective the impact of imperfect information on incentives transfers from parents to their young children. Our central question is to know whether private information may help to explain the pattern of private transfers and educational performance within families. We present a model of family contract where parents use appropriate incentives to cope with informational problems. We assume that a child can choose between two levels of effort which are imperfectly observed by the parent. Effort is costly, but it improves the scholar performance and then the child's future income. Parents provide financial incentives to their children in order to compensated the disutility involved by effort. While transfers are expected to be equally divided under perfect information, we show that there exists a risk-sharing between the two generations under imperfect information. Also, richer parents are expected to face lower agency costs, which increases their probability to rely on pecuniary incentives.

The remainder of the paper is organized as follows. In section 2, we present our model of family contract. After a description of the underlying framework, we examine the pattern of transfers from parents respectively under perfect and imperfect information. We also show

that the type of family incentives depends on the parental level of income. Section 3 concludes.

2. An Incentive Model of Familial Incentives

2.1 The basic framework

We consider a setting with two generations, one parent labeled with up script p and one child labeled with up-script k. Although we restrict our presentation to the case of a single child, the question of transferring resources among siblings may be analyzed in this setting since there are different types for the child. The transfer mechanism is as follows.

Let us consider a young child, currently in school, who has no personal income. The child has to choose a level of effort to achieve a given outcome, for instance a specific level of education, but this effort is costly. To compensate the child's for this disutility, the parent provides a financial transfer to the child, which depends on the type of action chosen by the child. An informational problem may occur in the model since the parent has not necessarily perfect information about the child's level of effort.

We make several simplifying assumptions for the presentation. First, we introduce the problem of observability in a discrete framework since there are only two levels of effort. Second, we assume that the parent is motivated by a kind of paternalism. Instead of relying on a pure altruistic motive, we assume that the parent evaluates at the present time the future well-being of his child through the filter of the parent's preferences. Conversely to the assumption of imperfect empathy used in Bisin and Verdier (2001), this kind of paternalism does not mean that the parent wants to socialize his child to his own preferences. In our setting, it rather indicates that the child is unable to evaluate the inter temporal consequences of his current actions, for instance owing to limited rationality).

In so doing, we neglect the future consequences of this effort on the child's outcomes. It may be argued that the child is unable to perfectly foresee the future consequences of his present actions. Third, as usual in the literature on incentives contracting, we suppose that the parent is risk neutral with respect to the transfer made to the child, while the child is risk averse. Let us now detail our theoretical model.

We assume that there exist two levels of effort. A child can choose either a low level of effort e or a high level E, so that the inequality $E > e$ holds. This effort, which can be seen as a personal investment to achieve a higher education for instance, is directly linked with the child's preferences for leisure and also with incentives from parents to work hard. Choosing one of these two levels of effort influences the probability that the child reaches a specific outcome (conditional on his performance). Let us define the probability p_{ia} of the outcome i given the type of child a. This outcome may be either high (h) or low(l), so that $i \in \{l, h\}$ and $a \in \{e, E\}$. For each type of action a which also defines the type of child), the different probabilities p_{ia} are characterized as follows :

$p_{la} + p_{ha} = 1 \quad \forall a \in \{e, E\}$

$p_{hE} > p_{he}$

$p_{lE} < p_{le}$

The last two inequalities indicate that action E stochastically dominates action e. Since relying on the property of stochastic dominance ensures that the level of parental transfer to the child is an increasing function of the achieved outcome, we also assume that the child suffers from a greater disutility when he undertakes a higher level of effort. Let $\psi(.)$ a continuous, twice differentiable and convex function ($\psi'(.) > 0, \psi''(.) > 0$). Spending more time to homework entails more deprivation for the child due to a lower amount of leisure, which implies that $\psi(E) > \psi(e)$.

We rely on a linear utility function for the parent in order to introduce the standard tools of incentives contracting. Thus, the parent is characterized by :

$$U^p = C_i^p + W(S_i) \quad (1)$$

Where C_i^p is the parent's level of private consumption. The parent's consumption is affected by the type of child via the financial transfer. The second term measures the discounted gain of the child's performance, where S_i corresponds to the child's future income or success in the labor market. This function $W(.)$) indicates how the parent attaches himself some weight to the future well-being of his child. Also, we consider that the outcome S_i is random to both the parent and the child. This allows us to neglect the issue of inter-temporal allocation and to focus instead on the design of current family incentives in a static framework (An extension of the model is to assume that the current level of child's effort positively affects his future outcome. In so doing, a parent would provide more incentives and thus financial transfers for the type of child who chooses a higher intensity of effort).

The child's utility function, denoted by V , is defined over both the private consumption C_i^k and the level of effort $a \in \{e, E\}$. The child's level of satisfaction is respectively increasing and decreasing in these two arguments. In order to obtain explicit solutions, we rely on an additive utility function, separable in private consumption and effort. Let $v(.)$ be a twice continuously differentiable utility function, strictly quasi-concave, so that the child is characterized by some risk aversion $(v'(.) > 0, v''(.) < 0)$. Then, the child's well-being may be expressed as :

$$V = v\left(C_i^k\right) - \psi(a) \quad (2)$$

with $i \in \{l, h\}$ and $a \in \{e, E\}$.

We finally turn to the budget constraints for the two generations. Let Y^p be the parental level of income, which is supposed to be exogenous. The parent devotes his income to his private

consumption C_i^p and the transfer T_i .This transfer depends on the child's level of effort, which makes the basis of the intergenerational family contract.

Conversely, we suppose that the child has no personal income. All his resources are exclusively provided by the parent and they are devoted to the private consumption C_i^k. Such a situation typically occurs in families with young children, currently in school, who have to rely on the generosity of their parents. In that case, these transfers take the form of pocket money.

The corresponding budget constraints are :

$$C_i^p = Y^p - T_i \quad (3)$$

$$C_i^k = T_i \quad (4)$$

Given the action $a \in \{e, E\}$ undertaken by the child, we seek to characterize the optimal familial contact that implements the higher level of effort. The aim of the parent is to secure the child's acceptance of the contract. This implies that the parent has to design an arrangement such that the child's utility is not lowered when choosing the more costly action. If we normalize the child's level of reservation utility to 0, the expected utility given E has to be greater than the disutility involved by effort. Thus, we have :

$$p_{hE}v(T_h) + p_{lE}v(T_l) - \psi(E) \geq 0 \quad (5)$$

which is the constraint of individual rationality for the child (IR). In order to ensure that the child will always choose the desired type of action, the optimal contract have also to satisfy an incentive compatibility constraint (IC). In the context of our model, the IC constraint is such that:

$$p_{hE}v(T_h) + p_{lE}v(T_l) - \psi(E) \geq p_{he}v(T_h) + p_{le}v(T_l) - \psi(e) \quad (6)$$

The interpretation of (6) is straightforward. The transfer scheme must be such that it is in the child's interest to choose the higher level of effort E rather than the lower one e. The parent's

problem is now to design a compensation structure that maximizes his expected utility subject to the child's participation and incentive compatibility constraints.

We begin by a characterization of the first-best contract characterized by perfect information on the child's level of effort. Then, we turn to the case of imperfect information and show that the compensation structure which induces a truthful revelation leads to an intergenerational risk sharing.

2.2 Incentives under Perfect Information

Let us first suppose that the parent perfectly observes the level of effort which is undertaken by the child. This corresponds to a setting where observation of effort is costless for the parent. Some explanations may be invoked. When they have young children, parents are more likely to monitor their children's action since the latter live at the parental home. Also, owing to frequent parent-teacher interactions and other peer control through neighborhood, parents may have many sources of information about the attitudes and behavior of their children.

Under perfect information, the incentive compatibility constraint does not matter since the optimal transfer can be directly tied to the child's level of effort. Thus, the parent has only to account for the child's participation constraint when maximizing his expected utility. The corresponding maximization problem is:

$$\max_{T_l, T_h} \; E(U^p) \; = p_{hE}\,[Y^p - T_h + W(S_h)] + \; p_{lE} \; [Y^p - T_l + W(S_l)]$$

$$\text{s.t} \;\; p_{hE} v(T_h) + \; p_{lE} v(T_l) \; - \psi(E) \;\; \geq \;\; 0 \qquad\qquad (IR) \qquad\qquad (7)$$

Since helping the child is costly for the parent, it is always possible to lower the financial transfer made to the child and still obtain the child's participation in the contract without violating the IR constraint.

This implies that the participation constraint will be binding at the optimum. Let us define the following Lagrangian $\mathcal{L}_1$:

$$\mathcal{L}_1 = p_{hE}\,[Y^p - T_h + W(S_h)] + p_{lE}\,[Y^p - T_l + W(S_l)] + \lambda[p_{hE}v(T_h) + p_{lE}v(T_l) - \psi(E)]$$

where the multiplicator λ is such that $\lambda > 0$. From the corresponding first-order conditions we get :

$$\frac{\partial \mathcal{L}_1}{\partial T_h} = -p_{hE} + \lambda[p_{hE}v'(T_h)] = 0 \quad (8)$$

$$\frac{\partial \mathcal{L}_1}{\partial T_l} = -p_{lE} + \lambda[p_{lE}v'(T_l)] = 0 \quad (9)$$

$$\frac{\partial \mathcal{L}_1}{\partial \lambda} = p_{hE}v(T_h) + p_{lE}v(T_l) - \psi(E) = 0 \quad (10)$$

According to (8) and (9), the marginal disutility of the transfer for the parent is equalized with its marginal benefit from the child's viewpoint. The condition (10) simply indicates that the IR constraint is binding at the equilibrium. We can now characterize the first-best familial contract.

Proposition 1

Under perfect information, the familial contract is such that:

i) $\boldsymbol{v'(T_h) = v'(T_l) = v'(T^*)}$

ii) The optimal transfer $\boldsymbol{T^*}$ ***satisfies*** $\boldsymbol{v(T^*) = \psi(E)}$ **.**

Proof:

From (8) and (9), we deduce that $v'(T_h) = v'(T_l) = \frac{1}{\lambda}$, so that the equality $v'(T_h) = v'(T_l) = v'(T^*)$ holds. Then, the child's marginal utilities of consumption are equalized for the two outcomes h and l, and the transfer does not depend on i. Let T^* be the optimal transfer. Then, the IR constraint can be expressed as $p_{hE}v(T_h) + p_{lE}v(T_l) - \psi(E) = 0$.

Since we have $p_{hE} + p_{lE} = 1$, it follows that $v'(T^*) = \psi(E)$. At the equilibrium, the child's utility induced by the parental transfer perfectly compensates the cost incurred by effort. QED

Let us interpret the previous proposition. Part i) means that the child receives a fixed transfer in return for implementing the higher level of effort E, whatever the set of outcomes $i \in \{l, h\}$ and $S \in \{S_l, S_h\}$. Part ii) indicates that the child's expected rent is set to zero, which corresponds to child's normalized level of reservation utility.

Corollary 1

Under perfect information, equal sharing is expected among siblings who undertake different levels of effort.

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Interestingly, unequal sharing is a prediction which is common to both the altruism and exchange models .Indeed under altruism, poorer child should receive more money than his richer siblings since the parent adjusts his transfers to compensate the inequalities of resources between siblings. Under exchange, a parent should devote more money to the children who provide more upstream services. However, many empirical studies have shown that parents are more likely to divide equally their resources between their children. Concerning bequests, the basic argument is to rely on a kind of social norms such that parents suffer from a psychological cost when dividing their resources unequally among siblings and preserve their post mortem reputation (see Lundholm and Ohlsson, 2000, Wilhelm, 1996). In our setting, the motive for equal sharing is different since equity considerations do not intervene: equal division of parental resources only depends on perfect information.

2.3 Transfers under Imperfect Information

We now relax the prevalent assumption of perfect information. For instance, when children grow older, it becomes more difficult for the parents to monitor their children's action. The latter are more likely to behave in an independent way, choosing alone their work effort as well as their relationships. This phenomena is certainly magnified when the child decides to live in an independent dwelling. This gives rise to an observability problem, which is more likely for older children and for parents who spend less time with their children. There is now an incentive problem emanating from the fact that the parent cannot observe the type of action undertaken by the child. The incentive compatibility constraint is now included into the parent's maximization problem, which is given by:

$$\max_{T_l, T_h} \; E(U^p) \; = p_{hE}\,[Y^p - T_h + W(S_h)] + \; p_{lE} \;\; [Y^p - T_l + W(S_l)]$$

$$\textbf{s.t} \;\; p_{hE} v(T_h) + \; p_{lE} v(T_l) \; - \psi(E) \;\; \geq \;\; 0 \qquad\qquad (IR)$$

$$p_{hE} v(T_h) + \; p_{lE} v(T_l) \; - \psi(E) \; \geq \; p_{he} v(T_h) + \; p_{le} v(T_l) \; - \psi(e) \qquad (IC) \qquad (11)$$

To find the optimal solutions of (11), we define the following Lagrangian $\mathcal{L}_2$:

$$\begin{aligned}\mathcal{L}_2 \; = & \; p_{hE}\,[Y^p - T_h + W(S_h)] + \; p_{lE} \;\; [Y^p - T_l + W(S_l)] \\ & + \lambda[p_{hE} v(T_h) + \; p_{lE} v(T_l) \; - \psi(E) \;\;] \\ & + \mu[(p_{hE} v(T_h) + \; p_{lE} v(T_l) \; - \psi(E)) - \; (p_{he} v(T_h) + \; p_{le} v(T_l) \; - \psi(e))]\end{aligned}$$

where λ and μ are the multipliers of Lagrange associated with the IR and IC constraints ($\lambda > 0$, and $\mu > 0$). The first-order conditions are :

$$\frac{\partial \mathcal{L}_1}{\partial T_h} \; = \; -p_{hE} \; + \; \lambda[p_{hE} v'(T_h)\,] + \mu v'(T_h)(p_{hE} - p_{he}) = 0 \qquad (12)$$

$$\frac{\partial \mathcal{L}_1}{\partial T_l} \; = \; -p_{lE} \; + \; \lambda[p_{lE} v'(T_l)\,] + \mu v'(T_l)(p_{lE} - p_{le}) = 0 \qquad (13)$$

$$\frac{\partial \mathcal{L}_1}{\partial \lambda} = p_{hE} v(T_h) + p_{lE} v(T_l) - \psi(E) = 0 \quad (14)$$

$$\frac{\partial \mathcal{L}_1}{\partial \mu} = [(p_{hE} v(T_h) + p_{lE} v(T_l) - \psi(E)) - (p_{he} v(T_h) + p_{le} v(T_l) - \psi(e))] = 0 \quad (15)$$

Conditions to (12) and (13) can be expressed as:

$$v'(T_h) = \frac{1}{\lambda + \mu\left(1 - \frac{p_{he}}{p_{hE}}\right)} \quad (16)$$

$$v'(T_l) = \frac{1}{\lambda + \mu\left(1 - \frac{p_{le}}{p_{lE}}\right)} \quad (17)$$

So, at the equilibrium, the child's marginal benefit from receiving the parental transfer is equalized with its marginal cost for the parent. However, this cost now depends on the distortion involved by imperfect observability, as shown by the term μ. We can now characterize the optimal second-best familial contract

Proposition 2

Under imperfect Information, the optimal familial contract is such that :

i) $\boldsymbol{T_h^* > T_l^*}$

ii) $\boldsymbol{p_{hE} v(T_h^*) + p_{lE} v(T_l^*) = \psi(E)}$

Proof:

Let T_h^* and T_l^* be the optimal transfer values. When the child's actions are not observed by the parents, we first need to show that both the IR and IC constraints are binding at the optimum. Thus, we have to prove that $\lambda > 0$, and $\mu > 0$.

First, suppose that $\lambda = 0$. We know that the multiplicator μ is non-negative. Since we have $p_{lE} < p_{le}$ and assuming an interior solution, (17) holds only if the condition $v'(T_l) \leq 0)$ is satisfied. However, this is in contradiction our initial assumption that the marginal utility of the child's consumption increases with the transfer value (v'(.)>0), so that $\lambda > 0$.

Second, suppose that $\mu = 0$, meaning that the incentive compatibility constraint is inoperative. Using the first-order conditions (16) and (17), this implies that the transfers do not depend on the type of action and $T_h^* = T_l^* = T^*$. Substituting the optimal transfer in the IC constraint, we obtain :

$p_{hE}v(T^*) + p_{lE}v(T^*) - \psi(E) \geq p_{he}v(T^*) + p_{le}v(T^*) - \psi(e)$

Since $(p_{hE} + p_{lE}) = 1$ and $(p_{he} + p_{le}) = 1$, we get $\psi(E) < \psi(e)$, again a contradiction. Then, $\mu > 0$ and the IC constraint is binding at the optimum.

Finally, by substracting (17) from (16) and after rearranging some terms, we obtain the following difference:

$$\frac{1}{v'(T_h^*)} - \frac{1}{v'(T_l^*)} = \mu\left(\frac{p_{le}}{p_{lE}} - \frac{p_{he}}{p_{hE}}\right)$$

Since $\mu > 0$, $\frac{p_{le}}{p_{lE}} > 1$ and $\frac{p_{he}}{p_{hE}} < 1$, by assumption, it follows that $\frac{1}{v'(T_h^*)} - \frac{1}{v'(T_l^*)} > 0$.

Then, we have $v'(T_l^*) > v'(T_h^*)$, which implies that T_h^* is geater than T_l^* . QED

According to proposition 2, the transfer received by the child is monotone with respect to the outcome i. Under imperfect observability and given the risk aversion of the child, there exists a risk sharing between the parents and their children. With respect to the previous literature, we provide a new explanation concerning the occurrence of unequal division of parental resources within siblings. In our setting, parents are induced to discriminate between their children not because they place different altruistic weights for each child, but in order to cope with the inobservability of actions and effort made by the children. This informational asymmetry influences the type of parental incentives.

Corollary 2

For the family , the optimal incentive transfer is higher under imperfect informational.

Proof:

Let $\hat{T}$ be the optimal expected transfer when the child's effort is imperfectly observed. Then, we have $\hat{T} = p_{hE}T_h^* + p_{lE}T_l^*$. We want to prove that $\hat{T} = p_{hE}T_h^* + p_{lE}T_l^* > T^*$, T^* being defined in proposition 1. Using parts ii) of both propositions 1 and 2, we have :

$v(T^*) = \psi(E)$ (perfect information) and $p_{hE}v(T_h^*) + p_{lE}v(T_l^*) = \psi(E)$ imperfect information). It follows that : $p_{hE}v(T_h^*) + p_{lE}v(T_l^*) = v(T^*)$.

Let $E[.]$ be the expectancy operator. Since the utility function $v(.)$ is concave ($v"(.) < 0$, we know from Jensen's inequality that $E[v(T)] < v(E[T])$. Then, we get :

$p_{hE}v(T_h^*) + p_{lE}v(T_l^*) < v(E[T])$ with $\hat{T} = E[T] = p_{hE}T_h^* + p_{lE}T_l^*$. . Therefore, we deduce that $v(T^*) < v(\hat{T})$ and since $v'(.) > 0$, the following inequality $\hat{T} = p_{hE}T_h^* + p_{lE}T_l^* > T^*$ holds. QED

Corollary 3

Poor Families suffer more than rich families from agency costs thereby educational inequality persists.

Proof:

By definition, agency costs are given by the difference $A = \hat{T} - T^*$. Using Corollary 2, we get $A > 0$. Recalling that $E(U^p) = p_{hE}[Y^p - T_h + W(S_h)] + p_{lE}[Y^p - T_l + W(S_l)]$, the parental expected utility can be expressed as $E(U^p) = Y^p - \hat{T} + E[W(S)]$, with $E[W(S)]$, is the child expected desired success function for the family. . Since $E(U^p)$ is an increasing function of Y^p, it follows that the parental income exerts a positive impact on the possibility for parent to implement the second-best contract within family . QED

According to Corollary 3, only parents characterized by a high level of income are able to use mechanism design in the form of pocket money to influence the educational attainment of their children. Conversely, when parents are liquidity-constrained, they cannot offer their children appropriate incentives, thereby leading to a lower economic position for their children. As a consequence, parents characterized by low levels of income have to rely on non pecuniary solutions to control their children's behavior. Such mechanisms are parental investment in the inculcation of norms of hard working (Lindbeck and Nyberg, 2001), monitoring by discussing with teachers, or the use of punishment and corporal violence (Chwe, 1990, Lin and Lai, 1996). As emphasized in Weinberg (2001), parent's ability to model the children's behavior is necessarily limited at low incomes, thereby increasing the reliance on non pecuniary mechanisms. It is likely that the set of parental incentives mechanisms used to control the child's behavior influences the degree of success

Our setting provides a different explanation for the positive relationship between parental income and transfers to children observed both under altruism and exchange. Implementing family incentives is more costly when asymmetric information matters and rent-seeking behaviors prevail. So, this model of family contract leads to testable predictions concerning the distribution of transfers among siblings, the positive effect of parental income on transfers, and the fact that poor parents are more constrained to offer pecuniary incentives to their children. Moreover, transfers decisions should be affected by parental possibility of observability of the children's attitude.

3. Conclusion

In the growing literature on intergenerational transfers within the family, a few papers have recently focused on the role of information (Chami, 1998, Feinerman and Seiter, 2002, Jellal and Wolff, 2003). From a theoretical viewpoint, these different studies show that the pattern of private transfers is affected when there is asymmetric information between generations. In this paper, we further examine the impact of observability on family transfers and thus on educational performance. We draw on the theory of mechanism design and present a model of family contract with two levels of efforts (binary effort) for the child. While equal transfers among siblings are expected under perfect information, we prove that the second-best contract implies risk-sharing between the two generations. Poorer parents are expected to face higher agency costs, so that they are less likely to use financial incentives in the form of financial transfers. The model predicts positive correlation between familial income and child's scholar performance which may imply the persistence of educational inequality. The key feature in our analysis is that parental information and child's effort are inter twinned. The richer parents are more likely to provide financial incentives to their children, while poorer parents prefer or resort to the use of non pecuniary incentives.

We have shown that relying on imperfect information within the family affects the pattern of intergenerational transfers. It also affects the predictions of the theoretical models of transfers motivated by altruism or by exchange. For instance, under altruism, the neutrality property is expected to break down because of the need to convey incentives to the child. As the magnitude of the asymmetric information correction factor may be substantial, this could explain why one usually observes a very low value for the difference in transfer-income derivatives. Again, it seems that introducing imperfect information improves our understanding of private transfers. A final comment concerns the variety of family incentives. In this paper, we have only focused on financial transfers. However, parents have different

means to shape their children's preferences when being concerned with human capital investment considerations. Knowing the interplay between financial transfers and the use of parental non pecuniary incentives such as familial social norms or corporal punishment is an important question that is left for future research.

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