The Role of Family Ties in the Labour Market. An Interpretation Based on Efficiency Wage Theory

De Paola, Maria and Scoppa, Vincenzo

Dipartimento di Economia e Statistica - Università della Calabria

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The Role of Family Ties in the Labour Market. An Interpretation Based on Efficiency Wage Theory[*]

Maria De Paola[§] and Vincenzo Scoppa[♦]

Abstract. *By casual empiricism, it seems that many firms take explicit account of the family ties connecting workers, often hiring individuals belonging to the same family or passing jobs on from parents to their children. This paper makes an attempt to explain this behaviour by introducing the assumption of altruism within the family and supposing that agents maximise a family utility function rather than an individual one. This hypothesis has been almost ignored in the analysis of the relationship between employers and employees. The implications of this assumption in the efficiency wage models are explored: by employing members of the same family, firms can use a (credible) harsher threat – involving all the family's members in case of one member's shirking - that allows them to pay a lower efficiency wage. On the other hand, workers who accept this agreement exchange a reduction in wage with an increase in their probability of being employed: this can be optimal in situation of high unemployment. Moreover, the link between parents and children allows the firm to follow a strategy that solves the problem of an individual's finite time horizon through family's reputation.*

JEL classification: J41; D64; M12; Z13.

1. Introduction

In the last few years the way in which economists have analysed the labour market has undergone a deep change deriving from an heightened awareness of its peculiarities, involving emotional and social factors that render it very different from other markets. Such awareness has given rise to a literature that has developed starting from particular hypotheses aimed at dealing with the complexity of the object of exchange in issue. Thus, the labour market is no longer identified only with productive relations, but is also seen as the stage on which a number of social relations, which are able to affect both workers' performance and wages paid by firms, come into play (Akerlof, 1984; Lindbeck and Snower, 1988; Spagnolo,1999; Solow 1990; Akerlof and Yellen, 1988; 1990). The influence of social factors on economic performance has also been analysed in the growing literature that introduces the concept of "social capital" (see Putnam, 1993, Knack and Keefer, 1997, La Ferrara, 1999, among others), considered as a mechanism for alleviating problems of contractual enforcement and imperfect information.

Following the same approach, this work considers the importance of social relationships and other non-market institutions in the working of labour markets. However, the importance of family is stressed. In the same manner as Becker (1981), the decisional unit considered, based on the hypothesis of strong altruism amongst members of the same family, is not the single

individual, but the family. More precisely, individuals are considered to be aiming at the maximising of the same family welfare function rather than of their personal utilities.

This formulation, already applied in some theories (e.g., in the theory of consumption in which the decisional unit is the so-called *household*, or in Barro's (1974) reformulation of Ricardian Equivalence Theorem using dynastic utility functions), is new in the analysis of the labour market, usually described as characterised by single agents moved only by their own needs and desires. Nevertheless, it is not necessary to assume particularly altruistic inclinations to admit that, usually, individuals are interested in the well-being of their relatives and that, as a result, they are keen to support them[1].

The hypothesis of individuals maximising a joint utility function has the same consequences as the assumption adopted by Becker (1974), when he considers a benevolent household head maximising a family welfare function that includes the utility of all family members, subject to a total budget constraint. Since the head of the family internalises the desires of his relatives, everyone behaves so to maximise the same utility function. Remarkably, this is true even if some family members are selfish (that is, interested only in their own utility): on the basis of the "Rotten Kid Theorem", demonstrated by Becker (1974), it would not be in the selfish interest to undertake actions that, increasing his personal utility, reduce the total family well-being. It has been shown that when additional decisional variables are introduced,[2] this Theorem holds only for those utility functions that imply transferable utility (Bergstrom, 1995).[3] Under these conditions, the hypotheses of intra-family altruism solves any problem of incentive inside the family.[4]

The idea to consider the role of family ties in the labour market was inspired by a series of observations concerning the hiring policies followed by a number of Italian firms in various industries (especially in the South of the country) and by the existence of "hereditary clauses" - which establish the hiring of children or spouses, together with or as a substitute for the employee - in a number of Collective Employment Contracts and in the labour contracts of some large firms. Moreover, a number of empirical researches shows that family networks are often used as a job search method in many labour markets.

♦Dipartimento di Economia e Statistica, Università della Calabria. E-mail: v.scoppa@unical.it
[1] In *The Theory of Moral Sentiments* (1759), Adam Smith wrote "Every man feels his own pleasures and his own pains more sensibly than those of other people. ... After himself, the members of his own family, those who usually live in the same house with him, his parents, his brothers and sisters are naturally the objects of his warmest affections: his sympathy with them is more precise and determinate, than it can be with the greater part of other people. It approaches, nearer, in short, to what he feels for himself".
[2] For example, the selfish individual could have to decide the time and the level of effort to spend on work.
[3] That is, the cases in which the income redistribution within the family preserves the sum of the individual utilities. There is a large class of preferences yielding transferable utilities. An example of utility functions of this kind is given by the following: $u_i = m_i - be_i$, where m_i is the money transfer made by the head of the family to the individual i, e_i represents the effort ($b>0$).

In order to find an explanation for this evidence, we proceed to introduce into the efficiency wages theory intra-family altruistic behaviour that does not consist simply of money transfers to relatives, but also of strategies aimed at helping them in finding a job. It is shown that this allows firms to broaden the range of strategies available in order to obtain greater effort from their employees or to pay them lower wages. These strategies typically consist of the hiring of additional members of the same family by the firm or of the passing on of a job from parent to child. Generally, as we show, the workers' acceptance of these kinds of contracts depends on their relatives' state of unemployment and on the probability of their finding a job autonomously (and therefore on the rate of unemployment).

The paper is organised as follows. In Section 2 some empirical observations about the importance of family ties in the labour market are presented. Section 3 examines the shirking version of efficiency wages considering that intra-family altruism allows the firm to threaten, in case of shirking, a harsher punishment involving all the family's members. Section 4 shows how in the same model intergenerational links and a family's reputation can solve the problem of a finite individual time horizon through hereditary jobs. In the final Section some concluding remarks are proposed.

2. Shreds of evidence about the importance of family ties in labour markets

Theoretical economic papers often draw insights from anomalies, unusual behaviour or curious situations observed in the real world. For example, Akerlof (1984) is based on a research which shows that the effort provided by a group of workers exceeded significantly the firm's requested minimum performance. The case of the Grameen Bank − a successful Bangladeshi bank − which requires borrowing agents to organise into groups of five members, coming from the same village, and makes them jointly liable for repayments, has been cited and examined by a number of economists (Varian, 1990; Stiglitz, 1990; Besley and Coate 1995; Spagnolo, 1999). The empirical evidence on which this work is based has some common elements with these papers, since the particular ties linking the agents modify their economic behaviour. The prominent feature of the observations made here is the importance of family relationships in many different labour markets.

A lot of entrepreneurs not only use to involve their own relatives in the firms they run,[5] but often they behave with their employees considering the family relationships linking them.

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[4] The family behaves as the "team" considered in Marschak and Radner's (1972) theory and the coordination problems typical of this formulation are solved by the orders given by the head of the family to his relatives.

[5] The quite widespread phenomenon of entrepreneur's relatives employed in the same firm, even though it constitutes clear proof of the importance of family ties, has received little attention in our analysis because it represents too obvious a solution to principal-agent problem.

The firms' decisions to hire workers belonging to the same family, to replace the retiring parents by recruiting their children, to use family networks to search a new worker, to assign the training of the entrants to their relatives previously employed by the firm, are all elements that constitute clear and meaningful evidence of the crucial role played by family ties in some firms' hiring strategies.

A first important evidence of the role played by family ties in the labour markets is provided by some "hereditary" or family related clauses included in many Italian Collective Employment Contracts. These clauses explicitly establish that the child (or the spouse) of an employee should be hired together with the parent - or in his/her place - in case of injury, death, retirement, etc. Labour contracts containing such clauses are shown in Tables 1 and 2 reported below, which are drawn from Fabbri and Rossi (1997, p. 344-5), (in the tables the year of the contract is indicated, when available).

Table 1. Italian Collective Employment Contracts with hereditary clauses

Hiring of offspring (or spouse) in case of parent's:			
	Death	Retirement	Together with
Agrarian Consortia	1990		
Food processing companies	1991		
Milk Companies	1990		
Thermal Spring Companies	1990		
Marine	1991	1991	
Insurance	1991	1991	
Private Water Companies	1992	1992	
Municipal Gas and Water Companies	1991	1991	
Private Gas Companies	1991	1991	
Road maintenance and assistance	1989	1989	
Harbour Agencies	*	*	*

Table 2. Italian Firm Level Union Contracts with hereditary clauses

Hiring of offspring (or spouse) in case of parent's:			
	Death	Retirement	Together with
RAI	1990	1990	
FFSS	1990		
INA	1987	1987	
Assitalia	1987	1987	
INA Assitalia	1991	1991	
Banca d'Italia	1992	1992	1992
Consob	1993	1993	1993
SIP	1992	1992	
Italcable	1992	1992	1992
Ente Poste Italiane	1994		
ATC Bologna	*		
Banca Popolare S. Angelo	1991		
Ist. S. Paolo Torino	1991	1991	
Banca Popolare Veneta		1992	
Banca Cattolica Popolare	1992	1992	
Credito Ind. Sardo	1992	1992	
Cassa Risparmio Cuneo		1992	

Source: Consiglio Nazionale dell'Economia e del Lavoro, Archivio nazionale dei contratti.

Fabbri and Rossi (1997) estimated the employment covered by these contracts as equal to 20% of the total. The importance of family ties in the Italian public sector has been detected by Alesina, Danninger and Rostagno (1999).

According to the data contained in the 1999 ISTAT Labour Force Survey, informal networks (relatives or friends) are widely used as a job search method in the Italian labour market. In fact, 38% of the interviewed people obtained their first job through the help of relatives and friends.[6] Pistaferri (1999) shows that seeking jobs through informal networks raises the probability of receiving job offers, but it is associated with lower earnings. Besides, he shows that the use of informal networks in job search activities is much higher in the South. Search methods based on informal networks are shown to be a widespread phenomenon also in U.S. (Montgomery, 1991) and in U.K. (Gregg and Wadsworth, 1994).

Further evidence is provided in a recent paper by Bentolila and Ichino (1999, p. 16), in which it is argued that: "Anecdotal evidence suggests that in Spain and Italy these transfers [economic intergenerational transfers within extended families] do not involve only standard economic assets, but even jobs. Until recently, around half of all Spanish sectoral collective agreements included clauses by which offspring (and sometimes also relatives) of workers – either employed, retired, or even dead – had to be given priority in the hiring process. In Italy, several firm-level union contracts include clauses requiring the firm to hire the offspring of retiring workers. Even though this clause is not explicitly stated in contracts, firms' personnel offices often implement it. This type of clauses is almost unheard of in either Germany or Britain, not to speak of the US".[7]

The consideration of intra-family altruism has likely influenced the choice of some banks to propose early retirement to their older employees in exchange for the hiring of their offspring or other relatives. This kind of contract was accepted in 1992 by 386 employees of Carical (a southern Italian bank), who decided not to wait until the maximum age for retirement, and gave up greater personal income in exchange for the employment of their own relatives. Similar policies have been adopted in recent years by the Banco di Napoli and the Banco Ambrosiano (involving the hiring of a hundred new employees). More recently, as reported by the Italian Press, the Banca di Roma has followed these personnel selection procedures, deciding to offer to 150 employees the possibility to retire "leaving the job as a bequest" to their children.[8]

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[6] See Rapporto Annuale ISTAT, Formazione e inserimento lavorativo dei giovani, Tavola 6.2.

[7] Furthermore, they report that: "The 1992 National Contract for Airport Assistants states: "When hiring, the employer will consider with particular favour the relatives (spouses and up to twice removed) of ex-employees who have died or been laid off because of seniority, taking into account the titles and the requirements of the candidates." (Bentolila and Ichino, 1999, p.17)

[8] "La Banca di Roma e il lavoro in eredità", Corriere della Sera, 27/7/2000

The decision to replace the retiring employees with their offspring seems to be a somewhat widespread policy, in particular in the Southern Italian regions, where family ties appear to be stronger and unemployment rates much higher (see Bentolila and Ichino, 1999). According to a study of a sample of Calabrian firms (De Rose and Floriani, 1999) entrepreneurs try to get high levels of effort and cooperation from their employees both by having friendly personal relations with them and by being willing to hire their relatives. Some of the entrepreneurs tend to represent this hiring as a consequence of a sort of pressure, while others are aware of the advantages deriving from these practices. [9]

Very often the preference that a firm reserves in its hiring policies for the relatives of its employees is not formally established in labour contracts. For example, in the insurance services, the agency mandate is frequently transferred from father to child. In fact, even if the insurance company is free to choose a completely new agent when the old one retires, usually the son of the previous agent is chosen.

Given that the phenomenon has a considerable importance in various contexts, it is interesting to see in which way family ties can influence the relationships established between firms and workers. What are the effects on the incentives structure? What is the role played by family ties in the contractual enforcement mechanism? Does the interference of family ties in the labour market facilitate its working or emphasise its problems? Is such interference typical of areas with high rates of unemployment? In the following an attempt is made to answer to these and other questions.

3. Strategies based on family ties in efficiency wage models

In the Shapiro and Stiglitz's (1984) shirking model, a worker's opportunistic behaviour is prevented by the payment of a wage higher than the market-clearing level and by the threat of firing in case of shirking.

In this model agents are rational, opportunists and behave considering only the effects of their choices on their own utility. In this Section, we remove the last assumption in order to take into account the existence of family ties between workers and to consider the fact that they seek to maximise a joint utility function.

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[9] According to one of the entrepreneurs interviewed: "To prefer, in hiring, those close to existing employees guarantees advantages. In that there is more urgency, a more responsible participation, a greater empathy because one is not working simply for money, for one's salary, but there is a more direct participation of the employee in the activities of the firm. The employee is more motivated, because, in succeeding in influencing the firm's hiring decisions, he considers in part the firm as his own property. In some way, he sees the future of his family in the firm" (Interview with Paolo Vilardi in De Rose and Floriani, 1999). "If there are job vacancies in the firm, we try to find workers in the local labour markets, through our employees or through personal acquaintances. Almost 80% of hiring is realised in this way: among workers' brothers, brothers-in-law, friends, etc.", (Interview with Giovanni Mancuso in De Rose and Floriani, 1999).

It is shown that this assumption modifies the strategies followed by workers and firms and changes their incentive's compatibility constraints. Under the conditions outlined below, a firm may find the hiring of different members of the same family beneficial since it pays them a lower efficiency wage and obtains higher effort thanks to the harsh threat of the firing of all the family members in the case of shirking by one of them.

In this Section, a simplified formulation of the shirking model is proposed in order to show that - with family ties - both firms and workers are able to achieve a higher level of welfare compared to that attainable without this kind of agreement.

3.1. The standard efficiency wage with a selfish worker

For subsequent comparison, the efficiency wage the firm has to pay to a selfish worker is first determined.

Let $u = w - e$ be the individual utility function, where w represents the wage received and e is the level of effort on the job. The choice of effort is binary: employee can provide either a level of effort greater than zero ($e>0$) or a minimal effort ($e=0$). It is assumed that the firm observes with probability p, where $p<1$, whether the worker behaves opportunistically.

Let w^* be the efficiency wage, r the interest rate, (1-d) the probability of finding (in the current period) a new job when a worker has lost his previous one.

Using the asset equations of dynamic programming, the utility of an honest worker (u_H) can be expressed as:

(3.1) $$u_H = \frac{(w^* - e)}{1+r} + \frac{u_H}{1+r} \qquad \Rightarrow \qquad u_H = \frac{(w^* - e)}{r}$$

In the current period the worker gets a wage w^*, but he has the disutility of effort e; in the following period he obtains the same opportunity (the pay-off is discounted since it is assumed that payments are received at the end of the period). The utility of a shirking worker (u_S) is given by:

(3.2) $$u_S = \frac{w^*}{1+r} + \frac{(1-p)u_S + p(1-d)u_S}{1+r} \qquad u_S = \frac{w^*}{r+dp}$$

In fact, in the current period he gets the wage without providing effort, but if detected, with probability p, he is fired and in the subsequent period he will find employment with a probability smaller than one, equal to (1-d). If with probability (1-p) he is not detected, he gets again the utility u_s.

The efficiency wage which induces the worker to provide a high level of effort is obtained *from* the condition $u_H \geq u_S$, which using (3.1) and (3.2) can be written as:

$$w^* \geq e\left[1+\frac{r}{dp}\right]$$

(3.3)

Expression (3.3) represents the non-shirking condition for a worker. If firms paid a lower wage, the worker would not find it convenient to work hard.

3.2. The efficiency wage when the firm employs workers belonging to the same family

It is supposed, for the sake of simplicity, that the family is composed of two workers (i and j) maximising a joint utility function, given by the sum of the individual utility functions (Becker, 1996):

$$U = u_i + u_j$$

(3.4)

Throughout this paper, capital letters denote variables referring to the family. The individual utility functions, u_i and u_j, are, as above, equal to $u=w-e$.

The following strategy adopted by the firm is considered: in a given period both members of the same family are hired; but in the case that one of them is caught shirking, both are fired. In other words, being caught shirking destroys family reputation and brings negative effects on all the family's members. We use the hypothesis of "collective firing" in order to maintain the typical structure of the efficiency wage framework. However, any mechanism which provides incentives or sanctions based on the joint performance of all the family's members - as performance related pay or promotion based on the joint output of the family - would produce the same effects. This kind of mechanism has the same nature as the "joint liability" strategy considered by Besley and Coate (1995, p. 2): "The key feature of group lending is joint liability. This says that all group members are treated as being in default if any one member of the group does not repay his loan".

Under this threat, the new efficiency wage, $\hat{w}$, is determined, which ensures the high level of effort. The total family utility when its members behave honestly (U_H) is:

$$U_H = \frac{2(\hat{w}-e)}{1+r} + \frac{U_H}{1+r} \qquad\qquad U_H = \frac{2(\hat{w}-e)}{r}$$

(3.5)

As far as the opportunistic strategy is concerned, it is important to notice that since the sanction does not change (in any case, both workers are fired), if the shirking is convenient for one member, both will follow this strategy. Therefore, when the two workers shirk the family utility is:

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$$(3.6) \qquad U_S = \frac{2\hat{w}}{1+r} + \frac{(1-p)^2 U_S + \left[1 - (1-p)^2\right](1-d)U_S}{1+r}$$

In this case, the probability of avoiding punishment, consisting of the joint firing, is equal to the joint probability that both workers are not detected, $(1-p)^2$. In fact, defining the event of not being detected shirking for a single member as *ND* and considering that the probability of *ND* is equal to $(1-p)$, the family could avoid punishment only if both members are not detected, that is, if the event $(ND \cap ND)$ is verified. Clearly, the probability of this event is $P(ND \cap ND) = P(ND)P(ND) = (1-p)^2$. It follows that the probability of being detected and fired is equal to $\left[1 - (1-p)^2\right]$. The expression (3.6) can be simplified as:

$$(3.7) \qquad U_S = \frac{2\hat{w}}{r + dp(2-p)}$$

Workers provide high effort when $U_H \geq U_S$; by substituting (3.6) and (3.7) the new level of efficiency wage (*no-shirking condition*) is obtained:

$$(3.8) \qquad \hat{w} \geq e\left[1 + \frac{r}{dp(2-p)}\right]$$

By comparing (3.3) with (3.8), it is immediate that $\hat{w} < w^*$, if p<1, condition which is always satisfied in a context with imperfect observability. The efficiency wage that the firm must pay to prevent opportunism is higher when workers do not have any family ties within the firm. Thus, when an appropriate sanctioning strategy is used, the firm can take advantage of the intra-family altruism motivating its employees, since it is able to obtain the same effort by paying a lower wage. In some way, the employment of the another family member constitutes a "bond" (defined "social collateral" by Besley and Coate, 1995) posted by workers, which raises the expected costs of shirking behaviour.

3.3. The interest of workers in accepting "family ties" contracts

Given the convenience for the firm, it is necessary to verify whether the implicit agreement based on family ties is also in the workers' interest. It is assumed that one of the individuals is already employed in the firm, while the other family member is unemployed.

The total family utility, U_{ED}, is calculated as at the beginning of period t, if workers do not offer themselves for a "family contract" and their relatives search for a job independently (behaving honestly). The employed worker's utility will be equal to u_H (equation (1.1)). The lifetime utility of the unemployed family member is instead equal to:

$$(3.9) \qquad u_D = (1-d)u_H + \frac{d(u_D)}{1+r} \qquad \Rightarrow \qquad u_D = \frac{(1+r)(1-d)}{(1+r-d)} u_H$$

because $(1-d)$ is the probability of finding a job in the current period (receiving utility u_H), while d represents the probability of remaining unemployed.

The total family utility is given by: $U_{ED} = u_H + u_D$. Substituting (3.9) in this, the following expression is obtained:

$$(3.10) \qquad U_{ED} = u_H \left[2 - \frac{dr}{1+r-d} \right] = \left(\frac{w^* - e}{r} \right) \left[2 - \frac{dr}{1+r-d} \right]$$

When the individual proposes to the firm (or accepts) a "family labour contract" with a consequent lower efficiency wage, $\hat{w}$, the utility to his family is instead equal to:

$$(3.11) \qquad U_{EE} = \frac{2(\hat{w}-e)}{1+r} + \frac{U_{EE}}{1+r} \qquad U_{EE} = \frac{2(\hat{w}-e)}{r}$$

The family finds it convenient to agree to this kind of contract only when $U_{EE} \geq U_{ED}$:

$$(3.12) \qquad \frac{2(\hat{w}-e)}{r} \geq \frac{w^* - e}{r} \left[2 - \frac{dr}{1+r-d} \right]$$

that is, if:

$$(3.13) \qquad \frac{\hat{w}-e}{w^* - e} \geq \left[1 - \frac{dr}{2(1+r-d)} \right]$$

It is evident that the wage reduction that workers are prepared to accept depends directly on the rate of unemployment (d): the higher unemployment is, the greater will be the acceptable wage reduction. In order to make this aspect clearer, by substituting (3.3) and (3.8) in the expressione (3.13), it is possible to write:

$$(3.14) \qquad d \geq \frac{2(1-p)\ (1+r)}{r(2-p)+2(1-p)} = \frac{2(1-p)(1+r)}{2(1+r)-p(2+r)}$$

Workers accept the family ties contracts (and thus are employed in the same firm) only if the unemployment rate is higher than the value represented in the expression (3.14). When, on

the other hand, unemployment is low, workers' relatives may find it convenient to look for a job (which pays a higher wage) independently.[10]

Identical results are obtained assuming that the head of the family is the only individual that aims at maximising the family well-being. In fact, if he redistributes the family income considering a total budget constraint that includes not only the family monetary income, but also the effort provided by its members (and therefore carries out transfers to the family members taking into account the total utility of everyone rather than the monetary income which everyone obtains), then the type of transfers that he implements will tend to drive even selfish members towards the maximisation of the family welfare (Bergstrom, 1995). In contrast, if the transfers by the head of the family do not take into account the effort provided on the job by family members, the family contract turns out to be inconvenient for the selfish individuals, because they could get a subsidy without working. In such a case, the family altruism would raise the reservation wage of these individuals leading to an increase in the duration of unemployment.[11]

When labour markets are strictly regulated, the type of contracts described above are prevented, as firms cannot fire without just cause. The above analysis could then be applied to the labour market in the underground economy and in the environment of small firms. This is consistent with Pistaferri's findings showing that individuals hired by small firms (with less than five employees) are twice more likely to be hired through informal networks than otherwise (65% versus 35%). It is important to recall that in Italy hiring and firing regulation is not binding for this kind of firms. However, family ties could work even in a regulated environment through a more articulated threat by the firm, such as promotion refusal, stagnant wages or careers, and so on. Moreover, instead of the threat of "collective firing" the firm could refuse to hire the offspring of the retiring worker as is shown in the next Section.

4. An intergenerational model of efficiency wages

In the shirking efficiency wage models, workers opportunistic behaviour is prevented thanks to the threat of firing, with a consequent period of unemployment, in the case of poor performance. Such company's strategy works only with an employee's infinite time horizon. In fact, if, more realistically, the horizon is considered finite (because of the worker's death or retirement), the

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[10] Expression (3.14) depends on p: in particular, $\dfrac{\partial d}{\partial p} < 0$. If p$\rightarrow$0, the "family labour contract" is convenient only if the unemployment rate is close to 1; if p=1, the family contract is best with an unemployment rate close to zero. Besides $\dfrac{\partial d}{\partial r} < 0$: the higher the interest rate, the greater the convenience in agreeing to the family labour contract, even with low unemployment.

[11] However, notice that when a "family ties contract" is realised, and the selfish individual works together with the family head, then his/her behaviour cannot be opportunistic: the firm's threat forces him not to shirk. In fact, in the case of the rotten kid shirking, the head of the family would also be fired and, consequently, no subsidy will be transferred.

so-called *chain-store paradox* (Selten, 1978) would block the efficacy of the proposed solution: in the final period *T*, the worker would have no interest in providing effort, since the job termination is already established (the firing threat has no effect). Through backward induction, one readily ascertains that the incentives for the worker to provide effort disappear in all the periods.

The consideration of family ties in employment decisions can offer a solution to this paradox. In the same vein as the policies effectively pursued by a number of banks (see above, Section 2), the firm can offer its employees – if they always behave honestly – the possibility of being replaced by one of their offspring (or by another family member) at the end of their careers. The importance of occupational inheritance even in the US labour markets has been evidenced by Laband and Lentz (1985).

In a framework with overlapping generations, the ties between parents and children make it possible to implement a strategy, which may help solve the problem of the individual's finite time horizon, with similar features to those introduced in Greif (1993) to explain the long distance trade relationships between Maghribi merchants and their foreign agents in the Mediterranean markets during the Eleventh Century. In the same spirit, La Ferrara (1999), referring to communities composed of individuals tied by family or clan relationships (defined as "kinships"), studies the contractual enforcement in credit relationships which is assured by the threat of sanctions affecting the agents' offspring or other members of the same clan.

To examine analytically the problem, it is supposed for simplicity that an individual's time horizon is limited to a single period, after which he retires. In the following period, a new generation of workers appears which is dynastically linked to the former.

In this environment, if individuals do not have offspring or they are not interested in their destiny ("no family ties"), comparing the honest worker's utility with the utility deriving from the shirking behaviour, one obtains, on the basis of the chain store paradox, that they will decide to shirk at any wage level (that is, the efficiency wage tends to infinity).[12] When, instead, individuals are interested in their offspring's welfare and therefore in the fact that their children are hired to replace them in the same firm (thanks to a good "family reputation"), the individual utility function of generation *t*, which also includes the offspring utilities (discounted by factor δ), when they behave honestly, is equal to:

$$(4.1) \qquad U_{Ht} = \left(w^* - e\right) + \delta U_{Ht+1}$$

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[12] In a less extreme version, in which it is possible to sanction agents even during the period itself and not only at its end (for example, the firm could avoid paying a wage if it detects a worker's shirking), then $u_H = w - e$ and $u_S = \left(1 - p\right)w^*$. These equations lead to a no-shirking condition equal to: $w^* \geq \dfrac{e}{p}$.

Supposing that the utility functions are stationary: $U_{Ht} = U_{Ht+1} = U_H$, we obtain:

$$(4.2) \qquad U_H = \frac{\left(w^* - e\right)}{1 - \delta}$$

Instead, if the worker shirks, he gets the following utility:

$$(4.3) \qquad U_{St} = w^* + \delta\left[\left(1 - p\right)U_{St+1} + pU_{Dt+1}\right]$$

where $U_{Dt+1} = \left(1 - d\right)U_{St+1}$ is the utility of generation $t+1$ of being unemployed.

The worker who provides no effort incurs the risk that − if caught − his offspring will not be hired in the firm and so will have a lower expected utility because of the risk of remaining unemployed.

Continuing to suppose stationary utility functions, he receives:

$$(4.4) \qquad U_S = \frac{w^*}{\left[1 - \delta\left(1 - dp\right)\right]}$$

The individual interested in his offspring's welfare will find it convenient to provide high effort even if the time horizon is finite when $U_H \geq U_S$, that is:

$$(4.5) \qquad \frac{w^* - e}{1 - \delta} \geq \frac{w^*}{\left[1 - \delta\left(1 - dp\right)\right]}$$

From this inequality, the efficiency wage with family ties is obtained, which is given by:

$$(4.6) \qquad w^* \geq e\left[1 + \frac{1 - \delta}{\delta pd}\right]$$

Expression (4.6) shows the (finite) efficiency wage the firm must pay to obtain an honest behaviour from its workers through the promise of hiring their offspring.

In this formulation δ plays a crucial role in representing the strength of the family ties. The above expression allows us to evaluate precisely the impact of this factor on the efficiency wage. When δ tends to 1, that is, if descendants utility is considered in the same way as parents' utility, then $w^*=e$: it is not necessary to pay the worker any rent exceeding the market-clearing wage level. In contrast, the lower the weight of offspring's welfare in the utility functions (that is, the lower δ is), the higher will be the efficiency wage necessary to prevent the worker's opportunism.[13]

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[13] Indeed, if δ tends to 0, then the efficiency wage tends to infinity.

The results obtained in this and in the previous section showing a lower efficiency wage in a family ties framework are consistent with the empirical evidence shown in Pistaferri (1999). Using data from the 1991 and 1993 Bank of Italy Survey of Household Income and Wealth, he estimates a regression of earnings on a series of variables which include a dummy for whether the worker was hired through informal networks (which could be considered as a proxy – admittedly imperfect – for family ties). His finding shows that this variable has a negative and statistically significant coefficient. This effect is imputed by the author to the fact that informal networks are especially used by small firms. However, controlling for firm size does not remove the effect of informal networking on earnings. Pistaferri's conjecture is that the residual effect is attributable to a correlation between low unobserved skills and the use of informal networks. An alternative interpretation can be offered by our analysis in which the negative effects of family ties on earnings depends on the firm's use of more effective strategies and on the workers' willingness to accept a lower wage in order to increase the probability of hiring of their relatives.

5. Conclusions

This paper has shown how the hypothesis of individuals moved by intra-family or intra-generational altruism, deciding on the basis of the utility obtained by their families and pursuing strategies aimed at helping relatives to find a job, may influence the contractual relations established between firms and workers. More generally, the feeling of solidarity that individuals develop towards their own relatives allows the implementation of new strategies that favour the alignment of workers' and firms' objectives.

Recently some authors have shown that the social relations instituted between individuals – "social capital" - can favour cooperation and improve incentives in the productive sphere. In this paper, in the same spirit as the approach emphasising social relations, we consider links that have a stronger nature, like the ones between relatives, to examine their influence on the labour market. Compared to the literature that emphasises the importance of social relations, the hypothesis of intra-family altruism permits the neglection of all the complex mechanisms of social sanctions necessary for the effective working of cooperation.

This paper is an attempt to explain a quite widespread phenomenon: many firms, in various contexts, give importance in their personnel policies to the existing ties between members of the same family. Moreover empirical evidence shows that informal networks represent the most important job search method in many labour markets. This evidence raises several questions: why are different members of a family employed in the same firm? Why do many firms "transmit" jobs from fathers to sons? We provide some explanations for these facts

referring to the efficiency wage theory, opportunely modified to take into account intra-family altruism.[14]

In detail, it is shown that this type of formulation, when introduced into the shirking version of the efficiency wage models, permits the following of a strategy of "family hiring" and collective laying-off in case of shirking, that allows firms to pay a lower efficiency wage, thanks to a less binding non-shirking condition. Within the same model, altruism towards offspring – as in the dynastic models – can give place to a mechanism based on hereditary jobs through family reputation, that solves the problem of the "chain-store paradox" under the more realistic hypothesis of workers' finite time horizon.

The kind of family ties considered in this paper tends to reduce some of the divergences emerging in the relationship between firms and workers. The family can be considered a non-market institution that plays an important role in solving problems of opportunism and contractual enforcement in conditions of asymmetric information.

As is shown in the paper, one of the main determinants of the adoption of family ties strategies is the disequilibrium situation of the labour market: workers are interested in suggesting and accepting implicit agreements based on "family ties" only when the unemployment rate is relatively high. These aspects - together with cultural and social differences conditioning the strength of family ties - may very likely contribute to explaining the differences between the Center-North and Southern Italy in the practice of such policies.

At a macroeconomic level, the contribution of the considered mechanisms to the re-balancing of the labour market disequilibrium could be limited by a series of factors, than have received scarce attention in our analysis. The contexts in which family ties work can be circumscribed by the fact that often the kind of workers required by firms are not available within the same family (because of different training, skills, attitudes, etc.): the coincidence between jobs demanded by the firm and characteristics of its workers' relatives might be occasional and limited. Secondly, the functioning of some of the described mechanisms – based for example on the laying-off of all a family members - is in conflict with the rigid employment protection legislation that characterises many labour markets. Moreover, the workers' interest in joining the examined contractual agreements might be remarkably weakened by evaluations regarding the excessive concentration of risk in case of idiosyncratic shocks hitting the firm in which the family works.

In the paper only the positive effects of family ties have been stressed. A series of drawbacks should also be considered. First of all, when effective, family ties mechanisms can generate perverse redistribution, marginalisation and problems of fairness. In fact, the existence of preferential channels in hiring determines a polarisation in families employment: it allows the relatives of individuals already employed to find a job with greater facility, while it increases

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[14] In our work the widespread phenomenon of entrepreneurs' relatives employed in the same firm and the

the difficulties in finding a job for families whose members are all unemployed. Secondly, family ties can lead to increasing strongly the incentive of workers to collude to the damage of firm. Finally, if the altruism between the family members is not perfectly symmetrical, the transfers carried out in favour of the unemployed members of the family could increase their reservation wages and, consequently, determine an increase in the duration of unemployment.

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