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# **Attached Labor in Nepal: A Field-Study of Landlord-Labor Relations that are Misrepresented in the Nepal-LSMS data**

by

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*Abstract:* In the LSMS data for Nepal most agricultural laborers report daily wages, while econometric analysis on the data indicates that, for many villages, the laborers actually have long-term contracts. We have visited some of the villages to solve this puzzle. We find that in some cases the daily wages are actually part of attached labor contracts that are not reported in the LSMS data. We go on to describe the variation in benefits and threats landlords apply to keep the laborers at a wage below the competitive wage, and we discuss a policy implication of the misrepresentation of data.

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## 1. Introduction

The daily wages for agricultural workers in the terai (lowlands) of Nepal are low, in some villages as low as 40 rupees (approximately USD 0.5), including in kind payments. In other villages, even in the same district, wages can be the double. In Hatlebakk (2003) we have explained the variation in wages as the result of variation in market structures between villages, applying regression analysis on the Nepal-LSMS data<sup>1</sup>. We concluded that the low wages in some villages are due to Stackelberg type take-it-or-leave-it contracts. However, a Stackelberg employer will in general benefit from also specifying the period of work, and we will thus expect the take-it-or-leave-it contracts to be long-term contracts, while the LSMS data indicate that most workers have daily contracts. That is, 98% of the agricultural workers say they are paid on a daily basis<sup>2</sup>. This conflicting evidence motivated the fieldwork that we report in the present paper.

In accordance with the LSMS data, we also experienced that most workers reported daily wages, in the first place. However, when we asked in more detail about their relations to the landlords, and contrasted their wages to the outside option of a higher wage, then we found that the daily wages in some villages were actually part of long-term contracts. That is, the workers reported daily wages, but they worked for the same landlord every day, as long as he needed their labor effort.

In the case of long-term contracts the wages were below the competitive wage, and the wage differences might be explained by transaction costs. But, these costs are apparently not transportation costs. The wage differences are sustained even within the same village. The real cost, as we shall see below, is the loss of the benefits of a permanent contract. The field-study thus confirmed the findings from our quantitative analysis.

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<sup>1</sup> The Nepal Living Standard Survey (NLSS) was conducted by Central Bureau of Statistics (1996), Nepal, in collaboration with the World Bank. For documentation of the NLSS, and an introduction to the World Bank supported Living Standard Measurement Studies (LSMS), see [www.worldbank.org/lsm](http://www.worldbank.org/lsm).

<sup>2</sup> This response does not exclude the possibility that the daily wages are part of long-term contracts, but one can easily be led to believe that all workers have daily contracts.

The quantitative analysis allowed us to identify determinants of low wages, including other determinants than those representing the local market structure. By using these additional indicators to select villages, we left the market structures to be studied during the fieldwork. We ended up with villages in the Eastern and Central terai regions of Nepal, where most agricultural workers were from the local ethnic groups of terai. In addition, we checked that the workers were not only predicted to have a low wage, they actually reported a low wage. So, for these villages, we know that the wages were reported to be low at the time of the LSMS data collection, we know that the ethnic groups living there are normally paid a low wage, and we know that the wages in the region tend to be low compared to the western regions. We applied these combined criteria, to be sure that we would actually visit low wage villages. However, we allowed for variation in the wage-setting behavior, by not applying the market structure indicators when we selected the villages.

Among the 215 villages in the LSMS data set, 13 villages satisfy all the criteria, which will be described in more detail in the methodology section. Among the 13 villages we decided to visit 5 that we considered as relatively safe. At the time of the fieldwork (in the year 2003) there was a (low-scale) civil war in Nepal, where, even in the relatively safe areas we visited, police-posts were abandoned due to attacks by the Maoist guerrilla.

In three of the five villages, wages have increased in real terms since the 1995/96 LSMS data collection. This might be due to a switch from reservation wage-setting to more competitive labor markets. The wages in these villages are in the same range as in the neighboring villages, which also supports that conclusion. In the two other villages we found take-it-or-leave-it contracts that existed in parallel to what appears to be a competitive market for daily labor.

The field of economics provides a wide set of theories that may explain wage determination in village labor markets. To discriminate between the theories one may apply two different approaches. One approach is to identify predictions from the competing models, which in turn can be statistically tested. This is the approach taken in the quanti-

tative study mentioned above, Hatlebakk (2003). The approach involves identification of factors that may shift aggregate demand and supply of labor, as well as factors that, subject to the aggregate demand and supply, may discriminate between different models of wage-setting behavior. Another approach is to study the particular strategies applied by the players in the wage-setting game, rather than the outcome of the game. This is the approach taken in the present paper.

The relevant labor-market models are variations on the Cournot model, with the competitive- and the monopsony-model as the extremes, and also variants of the Stackelberg model. In the Cournot models there will be some surplus for the workers, provided that the supply-curve is not horizontal. In the latter case, the model will reduce to a competitive model. While in a Stackelberg model there will be no surplus for the workers from the labor market, since they will accept their reservation wages. We shall see that the Stackelberg model can be extended to the case where workers may even lose the surplus they have from non-labor transactions within the village.

In Hatlebakk (2003) we find support for reservation wage-setting in the terai of Nepal, but not in the hills. The control variables applied to represent the underlying demand and supply structures are the *mean land value* for the village, *household and worker characteristics*, *regional dummies*, and the *distance to external markets*. When we control for these variables, it turns out that the rural wages increase with the number of employers in the hills, which indicates that competition drives up the equilibrium wages. In the terai sub-sample, on the other hand, the number of landlords does not matter. Since this variable, which seems to reflect the degree of competition in the hills, is not significant in the terai, we conclude that the degree of competition does not matter in terai. This, in turn, indicates corner solutions in most villages, either the labor markets are fully competitive, or the employers collude on monopsony or reservation wages.

A second result from the econometric analysis supports this conclusion. We find significant spatial variation in wages within the terai villages. Intuitively one may expect that wages will be higher in the central parts of a village, where there might be more

demand and competition for labor. However, the finding is the opposite, wages are lower for workers who live in the village market area. This might be due to collusion on ordinary monopsony wages, but our impression from the fieldwork is that the labor markets in most villages are competitive, with the exception of the market area, where there appear to be reservation wages, which are part of long-term contracts. That is, in terai villages there appears to be a combination of the two extreme solutions, competitive markets for daily labor, and long-term take-it-or-leave-it contracts.

Workers who live in the market area do most likely benefit from other kinds of interaction with the more wealthy people in the village market area. The actual benefits will be a topic of the paper, but typical examples are access to credit, off-season work, grassing rights, and drinking water. With landlords knowing that workers benefit from these transactions, they might offer a wage, which is even below the standard reservation wage, combined with the threat that they will lose the benefits if they reject<sup>3</sup>. Since the landlords tend to live in the market area, they will not have the same leverage towards workers outside that area.

If we interpret this *distance to the local market* variable as an indicator of the landlords' leverage in a reservation wage model, then we shall not expect the variable to be significant in the hills, which appear to be dominated by Cournot-type wage-setting. This turns out to be the case. Thus, the combined evidence, of a significant effect of the *number of landlords* in the hills, and a significant effect of the *distance to the village market* in the terai, supports the conclusion that wages are affected by the degree of competition in the hills, while in terai they are either fully competitive wages, or part of long-term contracts where a low wage is compensated by other benefits. While this is the conclusion in Hatlebakk (2003), we will, in the present paper, take the analysis one step further by identifying the particular benefits that the attached workers may lose if they

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<sup>3</sup> Still, the landlord will not necessarily control all benefits, so in equilibrium it might be beneficial to live in the market area. In case of efficient markets, these benefits might be reflected in other prices, such as land prices. But at the village level markets are not necessarily efficient, and it might be more attractive to live in the market area, even though the wage is low.

work for other employers<sup>4</sup>. And, we will document that the long-term take-it-or-leave-it contracts, which are not directly reported in the LSMS data, do actually exist.

Before we go on to that issue, we note that the threat of losing benefits is easily enforced if the landlord has direct control with the additional benefits, for example, if he is the only lender in the village. In that case we have interlinked contracts. The long-term contracts that we identify might be of this kind. For introductions to the literature on interlinked contracts, see for example Basu (1997) or Ray (1998). Also note that the benefits may include off-season work, and thus another type of "interlinkage", that is, between peak- and off-season labor, which is usually termed as labor tying. For an introduction to the literature see for example Ray (1998), or the seminal paper by Bardhan (1983).

However, with our results indicating reservation wages in the village market area, we cannot be sure that the employers have direct control with all benefits. There might be other people that provide credit, or control grassing or water rights. Still, the employers may have the necessary leverage. The landlord may tell the worker that he will have to accept the wage-offer, or otherwise lose the benefits of interaction with other agents in the village. This threat is credible if the landlord also has leverage towards the other agents. The idea that a landlord may threaten a worker, by referring to third party actions, was presented by Basu (1986). Also see Basu (2000) and Hatlebakk (2002) for analysis of the credibility of such threats<sup>5</sup>. Hatlebakk (2003) and the present paper are the first empirical tests of Basu's model. We find some support for the model, in the sense that more than one landlord appear to collaborate on the threats. Thus, the extraordinary low reservation wage might be supported by collusion among landlords, while non-landlord agents are not necessarily involved.

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<sup>4</sup> We shall see that the laborers appear to have an annual contract, which is why we use the term attached labor in line with Bardhan (1983).

<sup>5</sup> Technically, the two solutions to the credibility of the threats involve the identification of sub-game perfect solutions that support the wage that is the outcome of Basu's (1986) model.

To summarize, in Hatlebakk (2003) we tested the predictions from various economic models, and found support for a reservation wage model for *terai*, a model that allows local variation in the wages according to household characteristics and the households' location within the village. Still, one might be concerned that the results are consistent with models that we have not considered. In the present paper we thus report on a *second* approach to test for reservation wage-setting, that is, we visit villages where we, according to the quantitative analysis, would expect to find reservation wages as a part of long-term contracts.

In contrast to other models, we expect the wages, in villages described by extraordinary low wages, to depend on interactions that are not related to the labor market. In particular, when we ask workers why they do not work for a higher wage, for example in the next village, then we will expect them, without any probing from us, to mention that they will lose non-labor-market benefits if they reject the wage offered by the landlord. This is a prediction regarding the strategies applied by the players in the game, and no longer a prediction regarding the outcome of the game. We may never observe actual punishments of this kind, but still the strategies may affect the outcome.

The particular strategies mentioned are only relevant for the reservation utility models discussed here, and we thus have a test of the models, which adds to the econometric analysis. In contrast to models of collusion on monopsony wages, we will also expect to find long-term contracts, where the period of work is specified, and we thus have an additional test. As we have already mentioned, both tests are confirmed, and the rest of the paper will report on the methodology and the detailed findings.

In section 2 we give a short presentation of different labor market models that may explain the low wages in the selected villages. In section 3 we describe the empirical methodology. That is, we describe how we identify the villages that may have reservation wage-setting, and we describe how we evaluate, during field-visits, whether this kind of wage-setting actually exists. And, we describe the questions we apply to identify the benefits that workers may lose if they rather choose their outside option. Section 4

presents the competitive labor markets that appear to exist in most villages. Section 5 presents the attached labor contracts that exist in parallel to the competitive market in some villages. Section 6 concludes and discusses policy implications with reference to an important, and probably effective, intervention into rural labor markets, that is, workfare programs.

## **2. Theory**

While the field of economics is rich when it comes to the complexity of the models applied to understand markets and social phenomena, the field gives limited advice when it comes to the choice of model to study a particular issue. One may say that this is the art of the field, but a more systematic approach would be useful. Some limit theorems may apply, though. We know, for example, that a Cournot model will converge to a competitive model as the number of actors increases on the short side of the market. However, when it comes to the sequence of actions in a game-theoretical model, economists tend to apply introspection, casual observations, and deductions from observable outcomes.

In selecting villages for this field-study we applied a similar approach, that is, we selected villages where we expected to find Stackelberg wage-setting in the labor market, based on the outcome of the wage-setting game. In a Stackelberg wage-game the employer act first, that is, he offers a wage that just beats the outside option for the laborers. In the second stage of the game, the laborers have no other choice than accepting the wage. As the reader understands this will lead to the minimum acceptable wage for the workers. Thus, whenever we observe low wages, we expect to find a Stackelberg-type game.

However, instead of assuming a Stackelberg model, we take the empirical investigation one step further. Having chosen villages where the wages are low, we go on to look for other aspects of take-it-or-leave-it contracts. In the next section we explain how we reveal these by open-ended questions where we ask why the workers do not work for a higher wage in the next village. Before we go on to the field-study, we will present variations on the Stackelberg model, and compare the model to other models that may explain the low wages that we observe. We start with the non-Stackelberg models.



### *Horizontal labor supply*

Traditionally, the low wages in poor rural societies have been explained by surplus labor. The simplest way to model this is to say that the outside option for the marginal laborer is to stay at home. The worker will then work for any wage that makes him (infinitesimal) better off than with the activities he can do at home. If we assume that everyone within a household share the home-production, then all household members will have (approximately) the same alternative cost of supplying labor (although the cost may differ some due to different productivity in the home-production). However, note that a horizontal supply curve requires that all workers have the same alternative cost, which we do not believe. Households differ on many characteristics that may affect the alternative cost, such as land value and caste. Anyhow, if the supply curve is horizontal, then all labor market models will give the same outcome. The Cournot oligopsony outcome will be the same as the competitive solution, which will be the same as the Stackelberg outcome. This is because the short side of the market, the employers, will receive maximum profit even in the competitive solution, and they cannot do better with monopsony wages.

### *Upward-sloping labor supply, with competitive wages*

We now continue with the general case where competition matters, that is, where the supply curve is upward sloping. Some workers may, for example, have land and would thus like to work more on their own farm, when the market wage is low<sup>6</sup>. With an upward-sloping supply curve, we may apply a Cournot model that converges to the full competitive solution as the number of employers increases, and becomes a monopsony model in the case of one employer, or many employers that behave like one employer. Now, let the equilibrium wage be  $w_1$ , in that case the worker would like to supply  $t_1$ , along the  $S$ (upply)-curve in Figure 1a.

*Figure 1 about here*

The lower, *lb*, part of the figure shows the theoretical foundation for the supply curve. At the wage  $w_0$  the worker will supply  $t_0$ , and the resulting utility  $U_0$  makes him as well off as with his outside option (which might be household production, or work in an external labor market). The wage  $w_0$  is thus his reservation wage. However, this wage only set the lower bound for the equilibrium wage (for this worker). With Cournot wages, including the full range from the upper bound of a competitive wage to the lower bound of a monopsony wage, and an upward-sloping supply curve, there will be a surplus for all workers except for the marginal worker who has the highest reservation wage<sup>7</sup>. Thus, the equilibrium wage will be above the reservation wage for most workers, and the determinants of the reservation wages are no longer relevant, if we believe that we observe Cournot wages rather than reservation wages.

#### *Reservation wage-setting*

Suppose now that there is only one employer that demands a particular laborer's effort. We may for example imagine that the employers collude on a division of the local labor force, or equivalently that they collude on the offers they give the different laborers. In both cases they will behave as a single employer. Next, suppose that the employer has the same information as us, that is, from his (and his father's) experiences he may draw Figure 1 for each of his laborers. If the employer knows, not only the reservation wage  $w_0$ , but also the worker's marginal willingness to work for higher wages along his reservation utility curve  $U_0$ , then the employer can do even better than an ordinary monopsonist.

The employer may decide not only on the wage offer (and let the worker decide on the number of days, and hours, of work), but also on the work-period. In that case, the employer may choose any contract along the  $V_0$ -curve, and tell the worker that he must

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<sup>6</sup> Note that the upward-sloping part of the curve is most relevant for the peak-season. During off-season the laborers might be willing to work for practically any wage.

<sup>7</sup> Note that the market wage for a particular village, less a transaction cost, might be the reservation wage for workers in other villages.

either accept the contract, or work elsewhere. Note that the  $V_0$ -curve is the  $U_0$ -curve from the lower part of the figure, mapped into the  $t$ - $w$  space.

This kind of take-it-or-leave-it offer might sound credible, from the worker's point of view, if he knows that the employer may rather hire another worker. But, as we argued above, the field of economics is relatively weak on the choice of an appropriate model. We cannot specify precisely when the worker may turn down this offer in the anticipation of a better solution, such as a bargaining solution, or a competitive outcome. However, let us now assume that the employers have sufficient power to give a take-it-or-leave-it offer that is interpreted by the worker as his only option in the local labor market. In that case the worker will accept the offer as long as it is marginally better than a contract along the  $V_0$ -curve.

Knowing this, the employer may now interpret the  $V_0$ -curve as the de-facto supply curve. As he increases the wage offer, he knows that the laborer is willing to work more. In the same manner as for a normal supply curve, the employer may take this effect into account, and he may calculate his marginal expenditure for every additional work effort by the worker. The marginal-expenditure curve will be above the  $V_0$ - (conditional supply) curve in Figure 1a.

Note that the marginal expenditure equals the value of the slope of the  $U_0$ -curve, as every wage along the normal supply curve equals the slope of the corresponding  $U$ -curve. Since, for any vertical ray in the  $l$ - $c$  diagram, the utility level along the  $U$ -curve is higher than along the  $U_0$ -curve, we would normally expect the slope to be steeper along the  $U$ -curve, than along the  $U_0$ -curve for that particular level of  $l$ , and thus the  $S$ -curve to be above the marginal expenditure curve. So, the marginal expenditure curve will be between the  $S$ -curve and the  $V_0$ -curve in Figure 1a.

To conclude, the worker will accept an offer that includes a wage, which is (somewhat) higher than his normal reservation wage  $w_0$ , and a labor effort that is higher than his efforts at the normal reservation wage.

*What determines the reservation utility, and thus the labor contracts?*

We are now ready to discuss factors that determine the reservation utility curve of the workers. As discussed initially in this section, the outside option for the laborers will determine the reservation wage  $w_0$ , the minimal acceptable wage for the laborer in the case where he decides on the labor input himself. We need to discuss factors that determine  $w_0$ , as well as the curvature of the reservation utility curve  $U_0$ , that is, the curve that illustrates the set of wage-input contracts that makes the laborer indifferent with  $w_0$ .

The outside option may depend on the external wage and the transaction costs of working in the external market. To be able to identify these two factors we first need to identify an external market where each worker has a realistic chance of being employed. Then we need to identify the transaction costs, which may vary with *household characteristics* as well as the *distance to the external market*. However, the outside option may also be household production. The effectiveness of household production will depend on the household production function, and other characteristics of the households. In particular, the worker's *land value* will matter. When it comes to household characteristics, we have in the quantitative analysis focused on *caste*, which may determine the workers' preferences, and is also easily observable for us, as well as for the employers.

When it comes to the curvature of the reservation utility curve, we note that this will affect the variation in observed wages. Even if two households have the same normal reservation wage  $w_0$ , the curvature of the  $V_0$  function may vary according to household characteristics, and as a result the observed wages may differ according to these characteristics.

### *Interlinked contracts and triadic power relations*

This far we have defined the outside option by the alternative use of labor that gives the utility level  $U_0$ , which in turn defines the reservation utility curve, and the equilibrium wages. However, by focusing on the labor market, we implicitly assume that other transactions in the village do not matter. That is, we assume that the local landlords have the power to extract all rent from the worker's labor efforts, but not from other activities within the village economy.

However, as we can observe the additional surplus, also the landlords will observe the surplus, which they may subtract as well. That is, if a landlord has the power to exclude his workers from a surplus generating activity within the village, other than labor, then we need to identify the worker's outside option also for this activity. For example, the worker may have to do his purchases outside the village at some extra transaction cost. In that case the reservation utility will not be  $U_0$ , but an even lower level of utility that we denote as  $U_{\ddagger} < U_0$ . The example of not being able to trade within the village is the example applied by Basu (1986), but obviously the worker might be excluded from any kind of surplus generating activity within the village, such as:

- Access to informal or formal credit.
- Land rental, including the house-plot.
- Grassing rights.
- Access to drinking water.
- Purchases and sales of goods.
- Access to non-farm, harvest, and off-season labor.

If the landlord controls any such activity, then he may in equilibrium offer an even lower wage, which will give the worker the lower reservation utility  $U_{\ddagger}$ . If the landlord has direct control, then we may have an interlinked contract<sup>8</sup>. But Basu (1986) demonstrated

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<sup>8</sup> See references in the introduction, which also discuss what we may interpret as an interlinkage between peak and off-season labor, that is, tied labor contracts.

that the landlord may also have sufficient power towards a third party, e.g. the local merchant, to have indirect control. So, in case the worker does not accept the take-it-or-leave-it offer that gives him  $U_+$ , then the merchant, or any other third party, will not trade with the worker. If the third party refuses to support this threat, then he will, in turn, be punished by the landlord. It has been argued that this threat might not be credible, but realistic and game-theoretically robust solutions do now exist, see Basu (2000) and Hatlebakk (2002).

Note that while an interlinked contract requires that the landlord directly controls more than one activity, the triadic model covers a larger set of market situations. The model also has a counterintuitive implication, that is, we shall expect lower wages in the local market area of a village, where other benefits are more easily available, while at the same time, it is less likely that a single landlord controls the benefits. We have tested this implication in Hatlebakk (2003), where we found empirical support for the model.

Also note that this far we have compared reservation wage-setting to more competitive wages subject to a certain outside option defined by the reservation  $w_0$  in Figure 1. The reservation wage can be considered as the external wage less a transaction cost. But, the benefits described above, which the laborers will lose if they do not comply with the attached contract, may now be considered as the transaction costs of taking the outside option. As a consequence, the higher "outside" wage may now be sustained even within the same village, and attached contracts, with a low wage, may thus exist in parallel to competitive daily wages, even within the same village. This is the model we apply when we discuss a policy implication in section 6.

Although we found indirect empirical support for attached labor contracts in the quantitative study reported in Hatlebakk (2003), i.e. support for the predicted outcomes of the described wage-setting game, it still remains to investigate whether the players actually use the described strategies. This is the topic for the empirical investigation that we report here. We expect the workers to be better paid as daily labor as compared to attached labor. We thus ask the laborers why they do not work, for example in the next village, for

a better pay. If the triadic or interlinked models apply, then we shall expect them to answer that if they do so they will lose some benefits from the landlord. Note that we let the workers speak, and only categorize the answers afterwards.

### 3. Empirical methodology

We combine two criteria to select low wage villages for our fieldwork among the Nepal-LSMS villages. First, we look for villages where wages are reported to be low. However, the LSMS data was collected 7-8 years prior to the fieldwork, and we expect the wage level to have increased during that time in some villages. Furthermore, we may end up with villages where wages are low due to idiosyncratic factors, and may thus not end up with typical cases. So, as a second criteria we look for villages that are predicted to have low wages according to the quantitative analysis on the LSMS data. As discussed in the introduction, we do not apply determinants that reflect market structure, since we will leave that as a topic to be analyzed during the fieldwork. We thus base the selection on region and ethnicity of the workers.

As reported in Hatlebakk (2003), wages are at the lowest in eastern terai. Furthermore, we know that the ethnic groups of terai typically earn less than the castes and ethnic groups of the hills, and we thus visit villages where these groups dominates. To be more specific, we focus on the ethnic groups that are not specified in the LSMS data<sup>9</sup>. Finally, we go to villages with a reasonable number of agricultural workers. To summarize, we apply the following set of criteria to identify villages from the LSMS data:

- Include only terai villages from the three regions in the east.
- Include only workers from the unspecified ethnic groups of terai.

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<sup>9</sup> In the regression analysis we lump together three specific ethnic groups of terai with the unspecified category of ethnic groups of terai. While, in selecting villages for the fieldwork we only look for the unspecified category. This is the category with the lowest wage on average, with the exception of *Muslims*. Since *Muslim* villages are not typical, we decided to focus on the unspecified category, which is also the largest of the four groups. If we rather include all four categories, then the mean wage is adjusted up from 33 to 34 rupees. If we adjust the number of required workers from 11 to 14, then the same villages are included plus four more villages, three with an additional *Muslim* population, and one with *Yadavs*.

- Include only workers who report daily wages (including self-reported in-kind payments) below the mean wage (33 rupees) among the workers defined above.
- Include only villages with at least 11 such workers from each village sample of 12 households.

Among the 77 villages in the eastern part of terai, only 10 satisfy all the characteristics, and they are listed in Table 1.

Table 1. Villages with the required characteristics

Villages	District	Nearest city	Region
Chhipagada	Rupandehi	Bhairahawa	Western
Gairmi	Nawalparasi	Bhairahawa	Western
Supauli	Parsa	Birgunj	Central
Mudali*	Parsa	Birgunj	Central
Parsurampur*	Bara	Birgunj	Central
Shreepur	Sarlahi	Malanguwa	Central
Kisanpur*	Sarlahi	Malanguwa	Central
<b>Parsadewadh*</b>	Mahottari	Janakpur	Central
Madhukahari	Dhanusa	Janakpur	Central
<b>Takuwa*</b>	Morang	Biratnagar	Eastern

\* Villages visited, villages in bold have attached laborers.

We did the fieldwork in the year 2003, during a civil-war situation in Nepal. For safety reasons we decided to work in the Central and Eastern regions where the Maoists have been less active, but also because we know the area from previous fieldwork, and were thus better able to judge the local security situation<sup>10</sup>. This choice excluded the two villages in the Western region. If we continue towards east, then Supauli was told to be a very special case, where most farmers depend on production of *ganja* for the Indian market, and we decided not to go there. In Sarlahi, we were advised not to visit Shreepur due to bandits. At the time we arrived in Dhanusa, we were advised not to visit Madhukahari, because the police-post was recently abandoned due to Maoist attacks. We were thus left with the villages *Takuwa*, *Parsadewadh*, *Kisanpur*, *Parsurampur* and *Mudali*. As we can see from Table 1, only Takuwa is in the Eastern region, the other four

<sup>10</sup> Actually the Maoists were building up their forces in the east during that year, which made the fieldwork increasingly more difficult.



villages are in the Central region. However, we also visited three additional villages around Biratnagar, in the Eastern region, that we selected due to the credit market characteristics, rather than the labor market characteristics<sup>11</sup>. We also apply information from these villages when we discuss the competitive wages in the next section. The three villages are *Saterjhora* and *Dhuskee* in Sunsari district and *Banigama* in Morang district.

Since the LSMS survey in 1995/1996 wages appear to have improved in *Mudali*, *Parsurampur*, and *Kisanpur*. In Kisanpur we even had an interesting discussion about what happened during the increase, where some respondents emphasized demand- and others supply-side factors. Interestingly, in all three villages the pay is in kind. In Mudali the seasonal wage, at the time of transplanting of paddy, has increased during the last few years from 3 to 4 kg paddy. In Parsurampur, which is also in the proximity of Birgunj, the wages are also 4kg paddy, which appears to be higher than the wages reported in the NLSS data. In Kisanpur, which is further east, the wage has increased from 3 to 5 kg paddy. Furthermore, for none of these villages we found local spatial variation in wages, which also indicates competitive markets. The two remaining villages, *Parsadewadh* and *Takuwa*, on the other hand, have more complex labor contracts.

The village Parsadewadh is a relatively remote village *1.5 hour* drive to the west of *Janakpur*, near the Indian border, while Takuwa is *one hour* drive to the east of *Biratnagar*. One must note that although these two villages are relatively remote<sup>12</sup>, it takes only 2-3 hours to get to a main city by bus or bicycle, and in the case of Takuwa it takes only 15-20 minutes by bicycle to the market area of *Rangeli*. Thus, some of the agricultural workers can easily find better paid work and still live at home.

Within all villages we visited, we interviewed a random sample of approximately 20 households from the ward that was included in the LSMS data. The sample, though, is not the same, our sample is selected according to a predetermined sequence from the voters-list, which we usually got from the local governmental officer at the VDC office.

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<sup>11</sup> The two students in the team were studying the village credit markets.

Each interview took 1-2 hours. In the village of Takuwa we interviewed three such samples of approximately 20 households, and in Takuwa and Parsadewadh most respondents were interviewed a second time some months later.

We tell the respondents, and any other villager that may ask, that we study the living conditions of the people in all villages of terai. In more detail, we explain that we ask all these questions to understand better why people are poor, not only in this village, but in all villages of terai. In doing so we mention the other districts we have visited. We also tell that we give advice to the governments of Nepal and other countries when it comes to general policies to help the poor in all districts of terai. The rather long introduction is meant to avoid strategic answers from the villagers. In most villages people automatically expect a western person to represent a donor that is looking for project villages, and rent-seeking activities immediately take off. In addition to the counter-strategy mentioned, we also try to avoid behaving as donor missions<sup>13</sup>.

As said in the introduction, a focus in the paper is on the benefits that workers may lose if they reject a wage offer that they would otherwise accept. We do not ask direct questions about these threats or benefits. We rather ask whether the wage is higher elsewhere, and if so, why they do not work for that wage, for example in the next village. The open answers to this question usually involve some benefits that they may lose, or direct threats. Thereafter, we categorize the answers. Again, note that the categories are not mentioned in our open-ended questions, we let the workers talk themselves, and categorize the answers without mentioning the categories for the respondents. We shall see that these benefits are part of attached labor contracts. In section 5 we describe in more detail how we validate the responses regarding the attached labor contracts. But, before we report on the attached contracts, we will report, in section 4, on what appears to be competitive labor markets, to have a reference for the attached contracts described in section 5.

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<sup>12</sup> The median travel-time to the market area for the workers in the terai LSMS data-set is one hour.

<sup>13</sup> We normally arrive in the district headquarter by bus, we rent a local car, and the western researchers in the team were two young female students and a “Punjabi” (beard and long hair) looking man. Furthermore, the visit is not announced, we turn up in the village, get the voter list from the vdc office the first morning, and start the interviews the same day.

#### 4. Competitive labor markets

In the next section we shall see that some laborers have long-term labor contracts where the wage *and* the period of work are specified. This indicates take-it-or-leave-it contracts, where a daily contract may constitute the outside option that determines the reservation utility for each laborer. As a reference for the next section we will here report on the details of this outside option. The co-existence of daily and long-term contracts indicates that the former are not take-it-or-leave-it contracts. If the employers are in the position to give take-it-or-leave-it wage-offers, why not also specify the period of work? After all, their surplus will in general improve if they control both variables.

As discussed above, our quantitative analysis indicates that most villages are in a corner solution, that is, either the markets for daily labor are fully competitive, or they are characterized by collusion on monopsony or reservation wages. The long-term contracts are in the latter category, while the daily wages might be either competitive, or monopsony wages. It is not necessary to discriminate between the two models for daily labor, in both cases the wages may constitute the outside option for the long-term contracts. Still, it is our impression, from the fieldwork, that the markets for daily labor are competitive. This conclusion is based on the high number of local employers in these markets.

As explained in section 3 we have intentionally visited villages where the agricultural wages are low, and are even predicted to be low, with the latter criteria being included to avoid idiosyncratically low wages. In addition to the five villages that were selected due to the labor market characteristics, we also visited three villages that were selected due to the credit market characteristics. As described in the methodology section, for each village we interviewed a random sample of households from the particular ward that was included in the LSMS data<sup>14</sup>. We also interviewed landlords that were not in the sample.

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<sup>14</sup> The exception is Parsurampur, where we did interviews of random samples in two other wards.

In Takuwa we also decided to interview people in other wards, due to some doubt about the information we got from the LSMS ward.

In what appears to be competitive markets for daily labor there is variation in wages over seasons, and according to type of labor and type of work. From Hatlebakk (2003) we know that women and children earn less than men. During the fieldwork we recorded the daily wage for a specific season, that is, the wage at the time of transplanting of paddy. In case of wage differences according to gender and age, we report the wage of adult men. As for the LSMS data we find variation in the total value of the wages. There is also variation in the composition of the wage, as we can see from Table 2.

Table 2. Daily wages for agricultural workers

Villages	Nearest city	Cash/paddy	Rice/wheat/meals	Estimated wage
Mudali	Birgunj	4kg paddy	roti	45 rupees
Parsurampur	Birgunj	4kg paddy	(roti)	45 rupees
Parsurampur	Birgunj	3kg paddy	lunch & roti	51 rupees
Kisanpur	Janakpur	5kg paddy	lunch & roti	69 rupees
Parsadewadh	Janakpur	5kg paddy	lunch & roti	69 rupees
<i>Parsadewadh</i>	<i>Janakpur</i>	<i>2kg paddy</i>	<i>lunch &amp; roti</i>	<i>42 rupees</i>
Banigama	Biratnagar	50 rupees		50 rupees
Banigama	Biratnagar	25 rupees	one kg rice & roti	49 rupees
Saterjhora	Biratnagar	30 rupees	lunch & roti	54 rupees
Dhuskee	Biratnagar	25 rupees	half kg rice & roti	42 rupees
Takuwa	Biratnagar	20 rupees	one kg rice & roti	44 rupees
<i>Takuwa</i>	<i>Biratnagar</i>	<i>10-15 rupees</i>	<i>one kg rice &amp; roti</i>	<i>37 rupees</i>

*Italics indicate long-term contracts.*

The contracts in the table are the most common for each village. To evaluate the in-kind part of the wages, we will now estimate standard values for the meals. We do so by comparing contracts that appear to be equivalent. In each of the villages, Parsurampur and Banigama, the respondents mentioned two combinations of in-kind payments. If we assume that the reported contracts are equivalent, then the lunch (dal-bath) in Parsurampur is equivalent to one kg paddy, which in turn has the value of 9 rupees (see the documentation below for the rice prices). In Banigama, one kg rice, which has the value of 15 rupees, and a snack (bread/roti), is equivalent to 25 rupees, which implies a value of 10 rupees for the snack. But, in many villages the snack also appears as equivalent to half

kg rice, and the lunch as equivalent to one kg rice<sup>15</sup>. That would imply a value of 15 rupees for the lunch and 7.5 rupees for the snack. The two estimates for the value of the snack are in the same range, and seem realistic, so we apply the average of these two estimates, that is, 9 rupees. With 9 rupees as the value of the snack, we imply that the lower estimate for the value of the lunch is not reliable. The upper estimate, on the other hand, is consistent with the value of the snack, and it is also realistic. So, to conclude, we apply 9 rupees as the value of the snack and 15 rupees as the value of the lunch.

When it comes to the rice and paddy prices, the LSMS data from 1995/96 indicate that the rice price is approximately the double of the paddy price, with the median (which is also the mode) price in terai being 6.25 rupees (250 rupees per 40 kg) for main paddy, 12 rupees for coarse rice, and 14 rupees for fine rice. Coarse rice is most frequent in the data, and must here be interpreted as low quality rice.

According to statistics from Department of Agricultural Development in Nepal, which is reported by the International Rice Research Institute (IRRI) ([www.irri.org/science/ricestat/pdfs/Table 26.pdf](http://www.irri.org/science/ricestat/pdfs/Table%2026.pdf)), the price of rice was 14 rupees in 1995 and 14.7 rupees in 1996. If we fit a linear trend to the 1964-1997 sequence of rice prices from the same data source, then the 1995/96 prices turn out to be above the trend. The trend indicates a price of 11.5 rupees at the time of the LSMS survey, which is consistent with the price of coarse rice in the LSMS data. This indicates that the respondents answered, what they considered to be the typical price, based on previous years, rather than the actual price that year. The same linear trend gives a price of 14.3 rupees in 2003. If we take into account that there is seasonal variation in the price of rice, then we may apply a price, during the transplanting season, of *15 rupees for coarse rice in 2003*.

The price of paddy, which is reported by the Food and Agricultural Organization (FAO) (<http://apps.fao.org>), was 5.5 rupees in 1995 and 6.9 rupees in 1996, which is consistent

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<sup>15</sup> This must mean that the meals include vegetables but less rice. In some villages the snack is replaced by half kg wheat-flour (which can be used for bread). The term snack for the roti-meal is chosen by us, the translators said "breakfast" even if the snack was eaten in the afternoon.

with the NLSS data. According to the same data source, the paddy price, for the years 1997-2001, fluctuates around 8 rupees. Taking into account seasonal variation, the price at the time of transplanting may be as high as *9 rupees for paddy in 2003*.

Subject to the estimates for the rice prices and the meals, we may now calculate the value of the typical wage for each village. We start in the two villages that are close to Birgunj, which is probably the most important industrial city of Nepal. In these villages the agricultural wage is paid in paddy and meals. That is, in Mudali the wage consists of 4 kg paddy and a light snack, while in Parsurampur the wage consists of either 3 kg paddy, a light snack, and lunch or 4 kg paddy<sup>16</sup>. With a paddy price of 9 rupees, the two contracts in Parsurampur cannot be equivalent. So, the workers might also get a meal, which they did not report to us, as in Mudali. If we assume so, then the value of the agricultural wage in these two villages near Birgunj is in the range 45-51 rupees. In Mudali the respondents told us that the wage increased from 3 to 4 kg paddy some years back, with the 3 kg being consistent with the LSMS data. In Parsurampur, the LSMS data show more variation in the wages, which supports the conclusion that the two contracts reported for Parsurampur are actually not equivalent<sup>17</sup>.

If we go further east, to the two villages close to the city of Janakpur, then the wage is also paid as paddy and meals, but here the wage is 5 kg paddy, snack and lunch, in total a value of 69 rupees. Similarly to Mudali, the respondents in Kisanpur said that the wage increased from 3 to 5 kg paddy some years back, with the 3 kg being consistent with the LSMS data. In Kisanpur we also had an interesting discussion about demand and supply factors that may have caused the increase in the wage. Some workers focused on the wage increases in other villages, others on the increasing demand for workers. Note that

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<sup>16</sup> In Mudali the workers report that they get extra pay if they work after lunch. This opportunity is not reported elsewhere. In Parsurampur, for example, the work starts later in the morning.

<sup>17</sup> The quantitative analysis in Hatlebakk (2003) identified a set of determinants for the variation in wages. When we looked up the LSMS observations for Parsurampur for the present paper we also discovered that wages vary according to the term used for agricultural workers. It appears that workers who say their occupation is "krishi majduri" is better paid than workers who say their occupation is "kheti majduri". This appears also to be the case for the full LSMS data set, even when we adjust for ethnicity and land value of the workers. Majduri means laborer, while both krishi and kheti means agriculture, with krishi possibly indicating a higher status.

in the village of Parsadewadh the workers report a lower wage if they are on long-term contracts. We go into detail on these contracts in the next section.

If we go all the way east, to the city of Biratnagar (which according to the 2001 census is the second largest city of Nepal), then the wage is paid in rupees and meals, rather than paddy and meals. The money vary from 20 to 30 rupees, and the meals are usually snack and lunch. The total value thus varies from 42 to 54 rupees. Again, workers with long-term contracts accept an even lower wage. This is in particular so for the village of Takuwa, which is one-hour drive east of Biratnagar. But, there is also some evidence of long-term contracts in Banigama and Dhuskee. Although this seems to be the case, we will in the next section focus on Takuwa where the documentation is more solid.

Table 2 demonstrates that there is variation in the local wages even when we focus on a particular season and type of labor. The determinants of the variation were the focus of Hatlebakk (2003). In the present paper we focus on the variation according to contract-types, and Table 2 constitutes the necessary background for that analysis. The table indicates some regional separation of the labor market. The villages around Janakpur have wages of 69 rupees, while they are in the range of 45-51 rupees further west, and in the range of 42-54 rupees further east. However, the villages selected here are not representative, they were selected because we expected to find low wages. The representative LSMS data also shows regional differences, but with the districts around Biratnagar having the highest wages. There is also local variation in wages, which can be explained by the local demand for labor. The higher wage in Saterjhora, for example, may reflect a higher demand for workers, which in turn might be explained by more intensive production due to canal irrigation.

When we started the fieldwork, our theoretical hypothesis was that workers in the village market area have close relations to the landlords and their companions. That is, the landlords may have either direct interlinked contracts with the laborers, which may include a long-term labor contract, or they may have indirect control, as in Basu's (1986) triadic model. In both cases we expect lower wages for the attached laborers, as explained

in the theory section. Although this was our hypothesis, we were still surprised when workers in two of the villages actually reported such wage differences due to attached labor contracts. We were surprised because the LSMS data indicated that most laborers have day-contracts, rather than long-term contracts.

## **5. Attached labor contracts**

In this section we describe the attached labor contracts in the two villages Takuwa and Parsadewadh. The selection of the villages is described in the methodology section. The attached contracts exist in parallel to the competitive markets for daily labor, which was described in the previous section. The landlord allows the attached workers to take part in the open market only when he does not need their labor input himself. Note that in the LSMS data for these two villages, as for nearly all villages in the LSMS data, the labor contracts are reported as daily contracts<sup>18</sup>. This is the case, even though the respondents were also asked about permanent labor contracts. We had a similar experience during our fieldwork, the workers first reported daily contracts, even though they later on revealed that they actually have long-term contracts.

This misrepresentation of long-term contracts is likely due to the fact that people think in terms of daily wages, even if they work for the same landlord year round. This makes sense, because there also exist long-term contracts where laborers are paid on a monthly basis. Such monthly contracts are not as common as the attached contracts reported here. The pay varies with season, during transplanting the attached laborers get paid a fixed amount per day, which will be the focus here. During harvest they get paid a proportion (usually 1/8) of the harvest, and off-season they may get only food. When there is no work for the landlord, they are allowed to work for others.

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<sup>18</sup> The workers reported that they are paid on a daily basis, which does not exclude permanent contracts, but might be easily interpreted as synonymous to daily contracts, since the alternative category in the survey was to be paid on a long-term basis. There was no category in the questionnaire for permanent labor that was paid on a daily basis.



As described in the methodology section, we interviewed a random sample of households from the ward that was included in the Nepal-LSMS data. In *Takuwa* we actually interviewed two independent samples of approximately 20 households each, at different times of the year. The first round of the fieldwork was led by the author, the second by two students. In the second round they also interviewed a random sample of approximately 20 households from another ward that was not in the LSMS data. The people in the second ward are of the same ethnicity as the attached laborers in the first ward. Finally, we again re-interviewed the households from all three samples in a third round, where we also did a few additional interviews outside these wards. Furthermore, in the LSMS ward, we also did additional interviews with landlords that were not in the sample.

We had different translators in each round except that my assistant from the first round also took part in the consecutive rounds. Some of the translators had limited knowledge of the local language, which led to some, but not major, translation problems<sup>19</sup>. We got the same kind of information, when the translator knew the local language.

In the LSMS ward there is, what the local people call, a colony of concrete small houses built in rows, which are financed by an INGO, Plan-International. The settlement consists of low-caste households, *Moshars*. Also in the second ward we visited, which is a half hour walk from the colony, the INGO has financed houses for *Moshar* households, but in that part of the village the houses are normal bamboo huts in a regular village settlement. Within the LSMS ward there are also normal village settlements with one cluster of basically *Mandal* households, and one of *Rajbansi* households, with *Mandal* being ranked higher than *Moshar*, but below *Rajbansi* in the local caste system. Near the colony there are also some *Rajbansi* landlords, and the *Moshars* from the colony work for them as attached laborers.

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<sup>19</sup> In *Takuwa* and *Parsadewadh* the local language is variations on Maithili. Still, many people also speak Nepali.

The attached laborers report a daily wage of 10-15 rupees plus the regular in-kind payments for this village, which is one kg rice and half kg wheat flour<sup>20</sup>. All other households in the village, including the other clusters in the LSMS ward, and all households in the second ward, report a wage of 20 rupees plus the same in-kind payments.

We were concerned that the households in the colony gave strategic answers to misrepresent their living conditions, they also tended to report high interest rates and repayment problems for their informal loans. We imagined that field-workers and donors from Plan International regularly visited the village, and the villagers might have learnt to underreport the wages. Now, one may ask why they did not underreport in the second ward, were they also receive Plan funding. An explanation for this might be that in the colony all households are supported by Plan, and may thus be more experienced and coordinated in their answers. To validate the answers, we have thus applied a set of measures.

First, we asked very detailed questions on why the wage is lower than in other parts of the village. The explanations are quite complex, but still consistent between households. We also checked for inconsistencies within the response from each household. Regularly we found inconsistent answers during the fieldwork, but not in particular for these households. Thus, the households in the colony would have to coordinate not only on the reported wage, but also on the explanation for the wage difference. Furthermore, this would have to happen in Takuwa as well as in Parsadewadh, which is a day of travel away from Takuwa. Finally, the misrepresentations would have to be in accordance with economic theory.

Second, we asked their employers about the contracts, and some of them confirmed the low wage, as well as the explanation for the wage difference. Others did not, and we confronted both parties with the other part's response. Each party said that the other part lied, and one landlord said that the other landlords coordinated the answers with the workers. So, we were still concerned, even though we know from other villages that

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<sup>20</sup> As discussed in the previous section this is equivalent to lunch and a snack (roti).

landlords tend to report a higher wage than the workers. The landlord, who said that the other landlords coordinated the response with the workers, also reported a wage at the upper end of the range for the competitive wages in the village. When we asked why he was willing to pay more than the other landlords, he gradually changed his response as we questioned his answers, and we ended up with three different answers. This kind of follow-up questions to reveal inconsistencies were standard approach in the interviews, and this landlord was not particularly reliable, as compared to the employers that confirmed the low wage.

Third, when respondents in other parts of the village told that they were paid 20 rupees, then we said that we knew that the workers in the colony were paid 10-15 rupees, and we asked whether they knew about that, and why the wage differed. Some said they did not believe it, since nobody can survive on that low wage. Others said they knew about it, and when we asked why there would be a wage difference they had the same explanations as the people in the colony. Again this response could be coordinated, but these respondents live in other parts of the village, and appeared to have limited contact with the colony. And, if they wanted to support the misrepresentation of the living conditions within the colony, why not also misrepresent their own livelihood?

Fourth, an anthropology professor was with us in the field for some days during the first round, which was before we had identified the wage pattern. At that time we were confused, we had some information on wage variation, but were not sure of the explanation for the variation. He found that there were no wage difference, all workers were paid 10-15 rupees, which also corroborates the low wage in the colony. We were still confused, since he did relatively few interviews, and we had all the interviews saying 20 rupees. We decided to return to the village, partly due to the security situation elsewhere in Nepal, and got even more interviews, including those from the other ward, where they also reported a wage of 20 rupees. This wage is also consistent with the wage in three other VDC-s in the area. So, we are quite sure that 20 rupees is the normal wage in Takuwa, and a wage of 10-15 rupees is an exception. And, since the anthropologist

registered the low wage, we actually have additional evidence for a low wage in the colony, even though his conclusion was that the wage did not differ within the village.

With all these controls in place we are now confident that the reported wage for the attached laborers in the LSMS ward is 10-15 rupees plus the in-kind payments, while other workers in the same ward, as well as in the second ward are paid 20 rupees plus the same in-kind payments.

Now, this wage-difference of 5-10 rupees cannot be explained by transportation costs. Non-attached workers, who live 10 minutes walk from the colony, were working on fields that are only hundred meters from the colony for the higher wage. While workers from the colony were working on fields close to the colony, as well as up to two kilometers away from the colony, always at the lower wage rate. Furthermore, discrimination according to caste is not the explanation for this village, although it is a determinant of wage variation in the full LSMS data for terai. But in Takuwa, all *Moshars* living outside the colony are paid 20 rupees, while the *Moshars* in the colony are paid 10-15 rupees.

With the wage difference being only 5-10 rupees, one may say that the loss is not essential. When we, as in the previous section, set the value of the in-kind payments to 24 rupees, and the money to 13 rupees, then the workers from the colony earn 37 rupees, and the other *Moshars* earn 44 rupees per day, thus 19% more, which is not dramatic. Still, for a household outside the colony the extra payments over the year may be sufficient to avoid, for example, a consumption loan.

Let us now turn to the benefits that the workers may lose if they reject to work for the landlord. When we asked the workers in the colony, their employers, and people in the other wards why the workers in the colony are willing to work for a lower wage, we got a range of responses, which still were along the same lines. Most respondents mentioned that the *landlords would otherwise not help them*. When we asked them to specify the nature of the help they mentioned *small gifts* when in need, but this kind of response also seemed to cover loans. A similar response was that they work in the village for a low pay

because *people are related*. A landlord even said that he paid 5 rupees less in the village because he *knows people well*. A few respondents specified the benefits in more detail, and mentioned *loans* and *grassing rights*, as well as *off-season work* and the benefits of *working close to their house*.

We interviewed in total 12 workers from the colony, and two of them mentioned direct *threats from the landlords*. One said that the landlords would ask why they stay in the village, if they don't like to work there. The other respondent said in more general terms that people are afraid of the landlords.

The first time we visited *Parsadewadh* we also had a translation problem, the translator did not understand the local language, and we had to hire a local person, who turned out to be a NGO activist. So, when we learned about the attached labor contracts, we were not certain that it was the true answers from the respondents, or whether it was made up by the activist. We therefore returned later with a new translator, and got the same type of answers, although learning more details about the contracts. At that time the activist was not in the village. As in Takuwa the responses are complex, and consistent within and between the interviews. We are thus quite confident that the respondents were not able to coordinate the answers, in particular since the coordination had to take place during the first day of our first visit. Nobody knew that we would arrive, and we do not believe that other fieldworkers have been asking this kind of complex questions on labor relations.

The village Parsadewadh is 250 km by road from Takuwa, meaning a long day of travel by bus<sup>21</sup>. All workers in the Parsadewadh LSMS ward are low caste. They are paid 2 kg paddy plus breakfast and lunch, while they can get 5 kg plus the same meals if they work outside the village. If they work inside the village they work for the same landlord throughout the year, and they actually say they are *on contract*. Furthermore, if someone

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<sup>21</sup> A local bus from Takuwa to Biratnagar takes 1.5-2 hours, then a long-distance bus to Dalkebar takes 4-5 hours, from where a local bus to Janakpur takes another hour, and then a local bus to Jaleswhor takes an hour. In total 8-9 hours, including waiting time. Finally, a local bus may leave for Parsadewadh. Local people will rarely travel this way. From Parsadewadh, for example, people will rather travel to Janakpur or Indian cities. So, the labor markets of these two villages can be considered as independent.

“cheat” on the contract, and work outside when they are needed inside, they say they work in the *black market*. This indicates some short-term incentives for breaking the contract.

The contract involves a *bonus*, which normally appears to be 80 kg paddy, which they get after the harvest. The bonus does not compensate for the lower wage if one works more than 80/3 days, which most people will do. If the workers are sick, or for other reasons cannot work hard, they are paid 2 kg without the bonus. For some, the bonus is replaced by a free rental of 4 *kattha* land (approximately 0.1 ha in total), which seems to be considered as equivalent to a bonus of 80 kg paddy.

It took a while before the translator was able to figure out the bonus system, so in the beginning we got very confusing and inconsistent answers about the payments. But when he figured it out, all answers were consistent. This also happened during the second visit, when we actually had forgotten the bonus system, as we were focused on the threats that we remembered. So, again the new translator was confused, until he figured it out, and we ourselves remembered the bonus system. Then, we learned more details about the system, and we learned that almost everyone has a bonus, except if they are not able to work outside. People also told that if the landlords need to hire people from the outside they have to pay the higher wage of 5 kg. This information adds to the evidence for the competitive wage for people who are not on contract.

The loss from the low wage, even counting for the bonus, is compensated by other benefits, which the attached laborers may lose if they work outside. A range of other benefits were mentioned, and we list the most common first, that is, *loans*, *grassing rights*, *use of tubewell*, *off-season* and *harvest work*. Out of the 12 workers in the sample, four workers also mentioned more *direct threats* from the landlords, including that one of them mentioned beatings. The threat of being without the benefits, and any other threats may establish a lower reservation utility, as described in the theory section.

## **6. Conclusions and a policy implication**

Based on theory and the quantitative analysis of the LSMS data from Nepal, we expected to find take-it-or-leave-it labor contracts in some villages of the terai of Nepal. That is, contracts where the wage as well as the period of work is specified. However, at face value the LSMS data indicate that only daily contracts exist, and a rather advanced empirical specification was needed to test for attached labor contracts in the LSMS data. So, even though we believed in the theory and the indirect empirical support, we were still not sure that we would actually find this kind of contracts when we visited villages from the LSMS data-set, possibly other labor market models would explain the low wages.

In some villages the wages has increased since the LSMS data collection, and are now within, what appears to be, the normal range for competitive wages in eastern terai. That is, 45-70 rupees per day, including the value of in-kind payments. Still, in two of the five villages that we selected from the LSMS data set, we found attached labor contracts. When we asked about wages, people first told us the daily wage, but when we asked more questions, it turned out that they worked for the same landlord year round, except when he did not need their help. These attached laborers are, in one village, paid 5-10 rupees less than the normal wage that we estimate to be 44 rupees, and 27 rupees (3kg paddy) less in another village where we estimate the normal wage to be 69 rupees. The larger cut in the second village is partly compensated by a bonus that they receive at the end of the season.

The fact that workers have attached labor contracts, while they report daily wages when surveyed by the LSMS team, is an important finding. It means that if one applies the daily wages reported in the LSMS data, one must keep in mind that the wages might be part of a more complex contract, where a low wage is compensated by other benefits. This illustrates that quantitative analysis on LSMS data should be complemented with field-visits to villages that according to the quantitative analysis are of particular interest. In our case we visited villages where we expected to find attached labor contracts. Such field-studies may thus be a useful control of econometric findings.

In our particular case, where the reported daily wages are actually part of permanent contracts for some households, the findings may also have policy implications. Let us take the example of workfare programs, which in general seem to be effective transfer programs. Still, the effects of such programs may depend on whether some of the workers have attached labor contracts. This example is also mentioned by Bardhan (1983) as motivation for his seminal paper on tied labor.

We may interpret a workfare program as a positive shift in the demand for daily labor. This would imply an increase in the competitive wage, which is the outside option for the permanent workers. This will, in turn, shift the reservation-utility curve  $V_0$  upwards along the  $S$ -curve in Figure 1a. Assuming that the employers can only provide a fixed set of workers with the necessary benefits for an attached labor contract, then only the amount of work for each attached laborer may change, while we may see an increase in the number of daily laborers. When it comes to the trade-off between the wage and the amount of work for the attached laborers this will be approximately the same as prior to the program. So, we shall expect the permanent workers to work approximately the same as before, while the amount of daily labor will increase. All workers will be better paid, while the wage difference will be sustained. For a more detailed analysis of the program effects, see the appendix.

So, a workfare program may imply that the daily workers get to work more throughout the year, and at a higher wage, as a result of the positive shift in demand. While a fixed set of permanent workers will also be paid a higher wage, but still work approximately the same period every year. So, in a village with only daily workers, everyone will work more as a result of the workfare program. In a village with some permanent workers, the daily workers will work more, while the permanent workers may even work less. All of them will have a higher, but still differentiated, wage.

The workfare example illustrates that analysis may change if some workers are on a permanent contract. In that case one shall not be surprised if some workers say the landlords have less work for them after the program started. And, one shall not be surprised if the



permanent workers all continue as attached laborers, and do not attend the workfare program. They will be marginally better off than with the (new) outside option. Thus, one shall expect attached laborers to work for the landlord also in the off-season, even though they apparently have a better option within the workfare program. The attached laborers know that if they attend the program, then they will be punished by the landlords.

## Appendix

Here we will present a simple analysis of the workfare example that we applied in section 6 to illustrate a policy implication of the misrepresentation of attached labor contracts. We assume a fixed set of laborers who are attached to a few landlords by way of the described additional benefits. At the same time there are many employers in a competitive market for daily labor within the same village. The analysis is illustrated in Figure 2 and 3, which in turn are based on Figure 1a. Figure 3 illustrates the effect of the program.

In contrast to Figure 1, we need to specify the link, in equilibrium, between the competitive and attached wages. This is illustrated in Figure 2, where in equilibrium the value of the marginal product along the demand curve equals the marginal expenditure in the competitive market,  $w_c$ , and also the marginal expenditure  $me$  of hiring attached laborers. The  $me$ -curve is derived from the attached laborers' effective supply curve  $V$ , which in turn is determined by  $w_c$ , but adjusted (downwards) due to the additional benefits from the attached labor contract. The wage  $w_a$  for the attached laborers are determined by  $V$  and the optimal  $t^*$ , in the standard way. The amount of attached labor equals  $t^*$  less the optimal amount of daily labor  $t_c$ .

*Figure 2 about here*

Figure 3 illustrates how a shift in demand, which is due to a public work program, will give a new competitive wage, and thus lift the effective supply curve for attached labor  $V$  upwards. In the new equilibrium there are more daily labor, and all laborers are better paid. Still, the relative position of the  $V$ - and  $me$ -curves, as compared to the  $S$ -curve, are approximately the same, and the amount of attached labor is thus approximately the same. So, all workers are better paid, and there is more daily labor, while the relative wages and the labor input of the permanent laborers are approximately the same. See section 6 for a discussion of policy implications.

*Figure 3 about here*

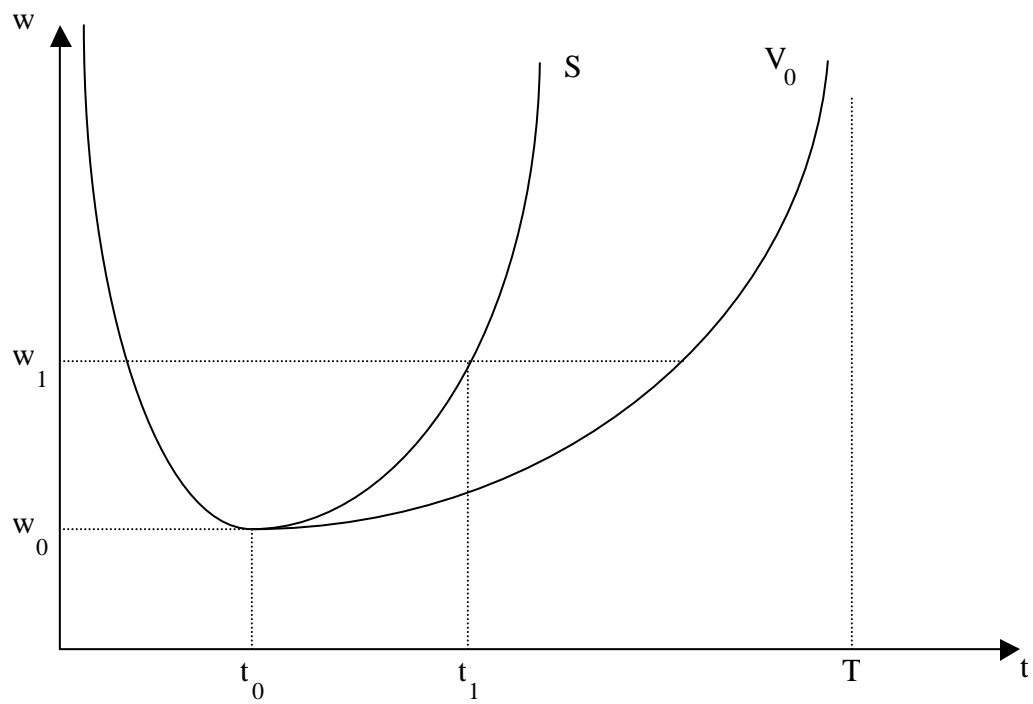


Figure 1a.

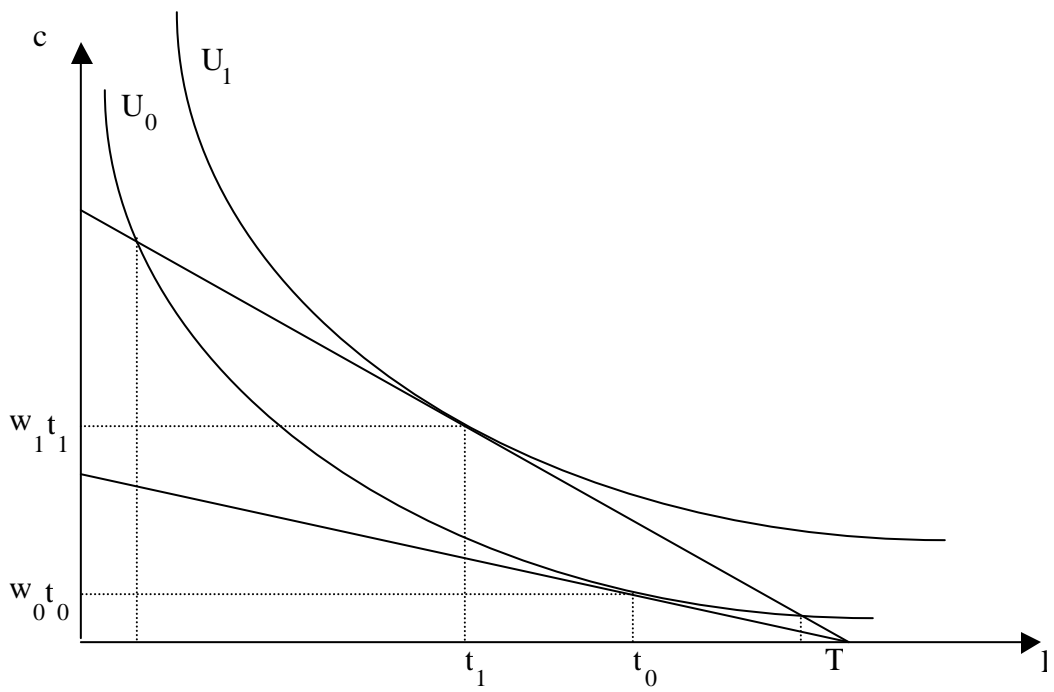


Figure 1b.

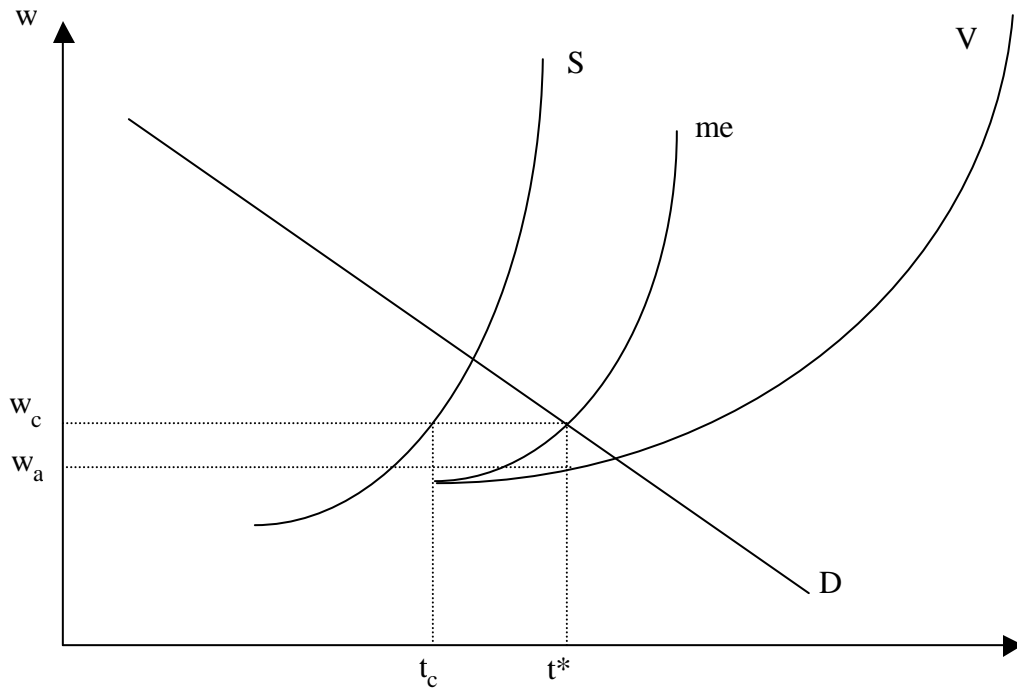


Figure 2.

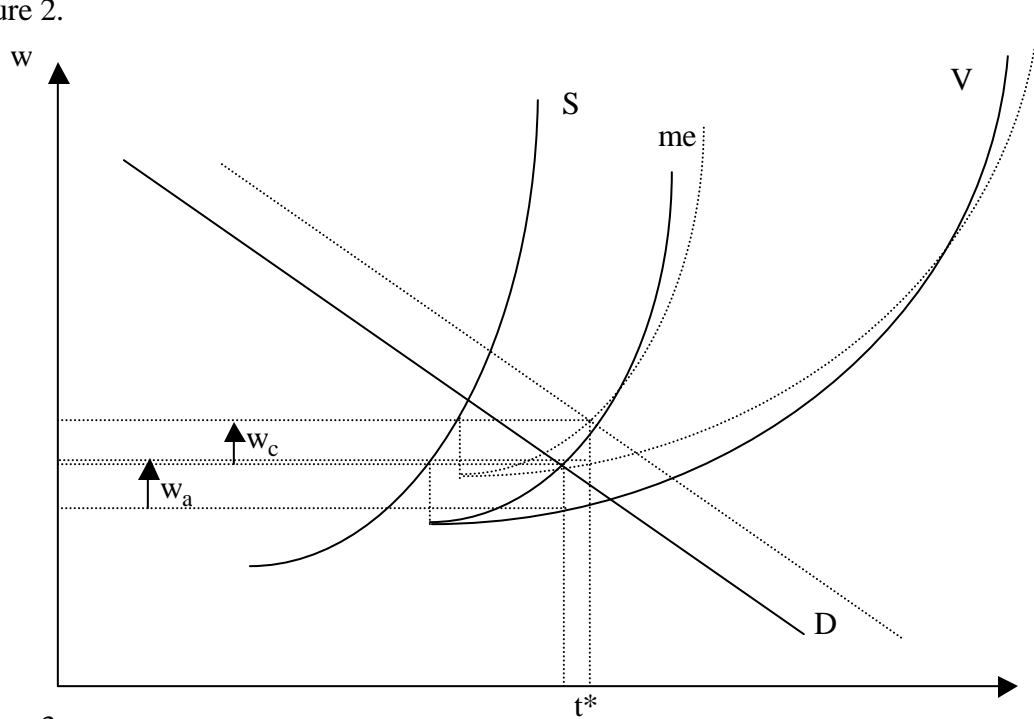


Figure 3.

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