Associazione Italiana di Scienze Regionali
Sezione Italiana della Regional Science
Association International

Dipartimento di Economia

XXX Conferenza scientifica annuale AISRe
Firenze, 09-11 settembre 2009

Federalismo, integrazione europea e crescita regionale

LONG RUN CONSEQUENCES OF INFORMALITY ON HUMAN CAPITAL ACCUMULATION – a research project

by
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Provisional draft (not to quote without permission)

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1. What do we mean by informality?

There are three main definitions of ***informality*** for either individuals or firms.

1. The first considers the contract status of the worker (compliance with labour regulations).
2. The second considers the social security status (presence of health insurance schemes and retirement programs publicly provided and/or linked to the labour contract).
3. The third considers the type of activity and the size of the firm: ILO defines as informal own account workers (not in "creative and technical" or "administrative" occupations), domestic, non remunerated, subsistence and temporary workers, employers and employees in establishments with less than 6/10 employees (according to the country)[1].

Note that the first two definitions allow the identification of informal workers also within formal sector enterprises. From this point of view informal employment does not coincide with employment in the informal sector. More specifically ILO defines (Hussmanns, 2004; see also table 1):

A. **Informal employment**:
   - employment in the informal sector: jobs in informal sector enterprises (all persons who during a reference period were employed in at least one informal sector enterprise, irrespective of their status of employment and whether it was their main or secondary job); cells 3 to 8 in table 1 below;
   - informal employment: informal jobs (not individuals), whether carried out in formal sector enterprises, informal sector enterprises, or households, during a given reference period. They are outside the framework of regulations either because the enterprise is not registered and/or too small, or labour legislation does not specifically cover or is not applied to them (e.g. atypical jobs, subcontracting arrangements). Cells 1 to 6 and 8 to 10 in table 1 below.

B. **Informal sector enterprises**:
   - private unincorporated enterprises (not constituted as separate legal entities independently of their owners; no complete accounts are available for them which would permit a financial separation of the production activities of the enterprise from the other activities of its owner);
   - at least some of the goods or services produced are meant for sale or barter;
   - they are engaged in non-agricultural activities;
   - their size in terms of employment is below a certain threshold (dependent on national circumstances), and/or they are not registered under specific forms of national legislation, and/or their employees are not registered.

[1] Definitions based on occupation and employer size are the most arbitrary in practice.

Table 1 – Informality by production unit type and status in employment

Type of production unit	**Jobs by status in employment**								
	Own-account workers		Employers		Contributing family workers	Employees		Members of producers' cooperatives	
	Informal	Formal	Informal	Form.	Informal	Informal	Form.	Informal	Form.
Formal sector enterprises					**1** No explicit, written contract; no labour legisl. ss regul., collective agreements	**2** empl. relat. not subject to national lab. legisl., social protection, entitlement to emp. benefits			
Informal sector enterprises	**3** Inform. follows from the nature of the enterprise		**4**		**5**	**6** (No declaration. Casual jobs, jobs of a limited short duration, hours or wages below a threshold)	**7**	**8** Inform. follows from the nature of the cooper.	
Households	**9** Produc. for own final use					**10**			

White cells doesn't exist. Dark grey ones concern by definition formal positions. Light grey cells concern informal situations. As noted by ILO experts, there can be formal workers (according for instance social security criteria or other>) in informal firms.

Source: Guidelines concerning a statistical definition of informal employment, endorsed by the Seventeenth International Conference of Labour Statisticians (November-December 2003)

Observation 1 – The relevance of compliance with labour regulations depends on the type of requirements and benefits in terms of: upper limit to working hours, paid vacations, notice of dismissal, dismissal compensation, maternity leaves. The relevance of compliance with social security regulations depends on contributions required and benefits provided in terms of health expenses coverage, disability benefits, pension benefits, life insurance (survival benefits).

"*If labour regulations permit flexible hours of work with no effective upper constraint then the economic impact of signing a formal contract compared with working informally may be less, and the rationality for participating in the informal sector reduced. The existence of significant lay-off costs if a formal contract is terminated may be one of the main factors pushing employers towards offering informal employment* (see World Bank, 2002, on the case of Brazil)" (Henley et al 2006).

Therefore information on the institutional context of the countries under investigation is needed in order to evaluate which type of informality is more relevant.

2. Stylized facts[2]

1. Informality defined using social security coverage is generally higher than with other definitions; there is **incomplete overlap between different definitions** (correlation is high between labour contract and social security, and low for size/activity) (HAC).
2. **Male informality** is highest by labour contract and lowest by activity; **female** informality is highest by activity and lowest by social security. Informality is increasing amongst men and falling amongst women (HAC).
3. **Job status**: for employees the level of informality is stable, for domestic and temporary workers is falling, for entrepreneurs is increasing when social security is considered and falling – for self employed – when the nature of activity is considered. Informality is increasing in large establishments, whereas it is falling in the smallest ones (HAC).
4. **Education**: Informality is higher between less educated people, but informality is rising quickly also amongst secondary school and college graduates (they are also rising as a proportion of the population). Informality between people with a secondary or college degree is higher when the definition based on labour contract is considered (HAC).
5. **Occupation**: Informality is high in agriculture, retailing and distribution, and in domestic, personal and catering services groups. Absence of labour contract and social security is increasing in creative and technical occupations, in manufacturing and construction and in transport and communication, while it is falling in domestic services (HAC).
6. **Heterogeneity**: within the informal sector heterogeneity is growing (HAC).
7. **Unemployment** is counter cyclical. This character derives from the strong countercyclical behaviour of the job-separation rate (in particular for informal workers) (BM).
8. **Sectoral composition**. Informal employment as a share of working age population is countercyclical (elasticity of -0.2 in recessions); on the contrary formal employment share is pro-cyclical (elasticity of 0.5 in recessions – data for Mexico) (BM).
9. The **pro-cyclicity of formal employment** share is due to the effects of two different phenomena: during recessions the job-separation rate for informal workers rises but, simultaneously, the probability of finding a formal job from any other state falls sharply (pro-cyclical) (BM).
10. **Flows among sectors are largely pro-cyclical**: they grow (in both directions) during expansions and decrease during recessions. In particular, during expansions there are formal workers that choose to become informal self-employed. The idea of the informal sector as disguised unemployment (with pro-cyclical flows from informality to formality during booms and the opposite during downturns), is not supported by the data. Formal to informal flows decrease during downturns, mitigating the (relative) rise of informality. As a consequence we have both elements for supporting the traditional view of the informal economy (share

[2] The following survey of stylized facts comes from Henley, Arabsheibani, Carneiro, 2006 (HAC from now on) that analyse Brazilian data from 1992 to 2001; and from Bosch and Maloney 2008 (BM from now on) that analyse the cases of Mexico and Brazil.

growing during downturns) but also elements that suggest informality as a voluntary and rational choice (during period of increasing opportunities) (BM).

Some sylized facts for Western Balkan countries

Labour markets in the Western Balkans are characterised by low participation and huge discrepancies between demand and supply. Participation rates are low and unemployment rates are more than three times the EU average (see table 1). Furthermore, in recent years there has been a rise of unstable and precarious employment, with vastly different quality of jobs: job tenures under 1 year and over 10 years have both increased, indicating a deepening of labour market segmentation, with core male workers between 30 and 45 years of age relatively well protected, and others without contracts or with temporary contracts having little or no social security entitlements[3]. While there are no significant gender differences in the share of formal employment, the distribution between agricultural and non-agricultural informal employment is different: the share of informality is higher for males, whereas females have a higher share in agricultural employment. This could be due to the need of more flexible working conditions. Indeed, this need is suggested also by the low share of part-time employment in most of the regions (below 10%).

Table 1 – Labour market indicators for the Western Balkans

	Participation rates (2007)	Unemployment rates (2007)	Share of non-agricultural informal employment	Share of agricultural employment
Albania	53.7%	13.8%	28%	48%
Serbia	63.4%	18.3%	13%	25%
Bosnia-Herzegovina	52.2%	29.0%	25%	19%
Kosovo	46.8%	43.6%	n.a.	n.a.
Macedonia	62.8%	35.0%	n.a.	n.a.
Montenegro	53.0%	19.3%	n.a.	n.a.
Croatia	63.2%	9.6%	n.a.	n.a.
EU-27	70.5%	7.0%		

Note: Data for Albania in the first two columns refer to 2006. Data in the last two columns refer to 2002 for B-H, 2003 for Serbia and 2004 for Albania.
Source: Eurostat for columns 1 and 2; ETF (2007) for column 3 and 4.

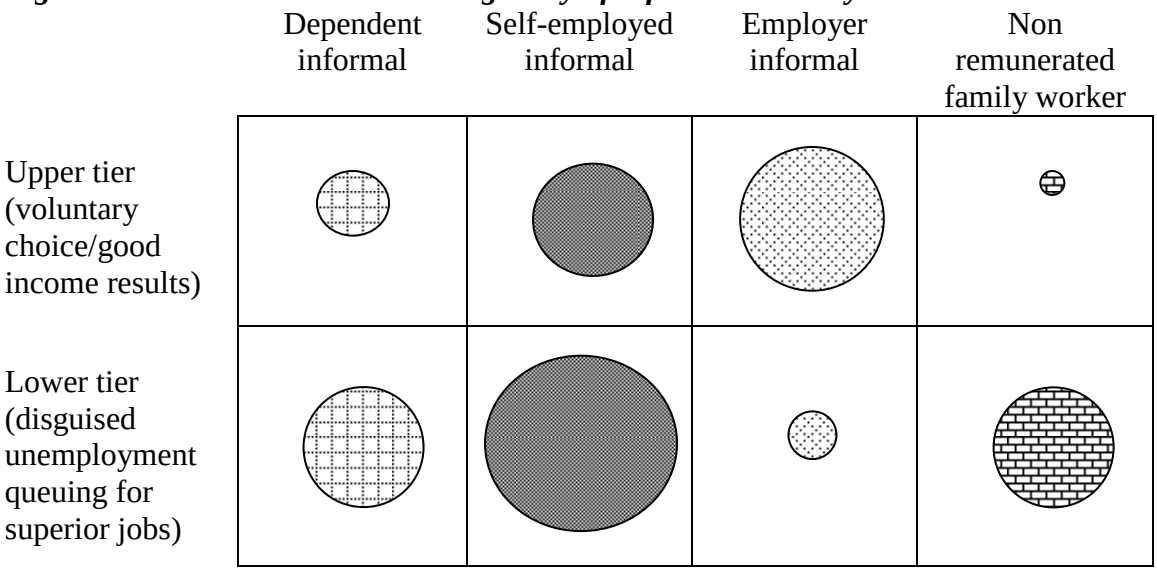
Evidence from LSMS data shows that there are large flows between labour market statuses: between 35% and 56% of informal workers change status from one year to the next, a significant part moving to formal employment (31% of informal workers in Serbia, 25% in B-H, 13% in Albania). On the other hand, formal workers that move into informal jobs are about 10% in Albania and Bosnia-Herzegovina and 5% in Serbia. The analysis of the sequences of labour market statuses shows that only 20-26% of the labour force has stable sequences of non-agricultural employment, a third is outside the labour market for the long term, and the remaining third combine short-term formal

[3] Within informal employment, there is a prevalence of informal wage employment, whereas informal self-employment is low, although there seems to be an expansion of a low-skill, low value added SME sector. As regards trends, the incidence of non-agricultural informal employment has been stable or slightly declining in the last decade.

employment with informal activities. Given the labour market picture described above, this is not and indicator of a well-functioning labour market, but of **instability**.
Education has a strong impact on both employment rates and the share of formal employment: about 70% of individuals with tertiary education are in the labour market and more than 80% of them have a formal job (note however that about 10% of them are in informal employment). The same is true, but with smaller effects, for secondary education[4]. Nevertheless, in these countries there is a very significant drop-out after compulsory schooling; tertiary education has increased in the last 15 years, but it is still low. This can be due to both quality problems of the educational system and low demand for skilled labour. The lack of "good jobs" is reflected also in high out-migration flows from the 90s onward. The situation for young people (15-24 years of age) seems particularly worrying. From LSMS data it emerges that only about a third of them are in education (except Serbia with 48%); another third is in the labour market (half in formal employment and the other half in informal and agricultural employment); the remaining third is either at home, unemployed or "other inactive". The transition from education to work appears to be very difficult (from both LSMS data and UN/national Statistical Bureaus data on the unemployment rate for the 15-24 years age group).

3. Dualism and choice

Figure 1 – Job status and the heterogeneity of informal economy



For the distinction between upper and lower tier see for instance Fields 2006.
According to ILO Self-employed are considered formal if they have creative, technical or administrative jobs.

From the stylized facts in paragraph 2 and various studies, it emerges that informality is "a tale of several tales" (see Yamada 1996): it is neither a container of last resort choices (a disguised unemployment sector – that, following Fields (2006), we will call "lower tier"), nor a voluntary chosen alternative to the formal sector for all informal

[4] The main difference between primary and secondary education is not in the share of informal employment (23 vs 34% in Albania, 27 vs 29% in Bosnia-Herzegovina, 12 vs 15% in Serbia), but in the agricultural one (70 vs 29% in Albania, 45 vs 9% in Bosnia-Herzegovina, 78 vs 24% in Serbia).

workers ("upper tier" in Fields' words). Perhaps the situation can be depicted as in figure 1, where the "double" nature of informality is compared with the different job status. The area of the circle is an approximation of the dimension of the group concerned. As highlighted also by a World Bank Report on Latin America (Perry et al., 2007): "*In practice, the informal sector may exist for a complicated mix of reasons. Some workers may choose to be there because jobs are more flexible or because self-employment is more attractive whereas others may be displaced involuntarily into the sector*".

Observation 3 – In the survey design, it is important to include questions that will allow to collect information not only on job status, but also on the voluntary/forced decision to accept the work.

4. Informality and HC accumulation

From a theoretical point of view, one can distinguish two main channels through which informality affects HC choices:

- Parents' informality (conditioned on their educational attainment and other controls).
- Job prospects and returns for individuals (children).

In order to identify the consequences of informality on HC accumulation, it is useful to examine separately two different choice problems:

a. the household decision on children's schooling
b. the individual choice of continuing/dropping out from higher education, and of the labour-market segment in which to enter/stay.

As regards the household investment decision, the following elements must be considered[5]:

- Parents' informality may act through the following channels:
  - lower income (and therefore lower investments);
  - a different "value" assigned to children's education and peer effects;
  - the absence of labour contracts (which may cause borrowing constraints);
  - the absence of social security (which may increase the need to accumulate savings and leave less resources to invest; it may also cause child labour as an insurance device);
  - the absence of retirement benefits (which may increase human capital investment because of the need to get help from children when old).
- Future returns and job prospects for the child may be lower because of the possibility of ending up in the informal sector, according either to a subjective or an objective probability.

As regards the individual choice the following elements must be considered:

- There may be an educational threshold to enter into a formal job;

[5] The relevance of this choice depends on the empirical evidence on education in these countries.

- Informality may act in two opposite directions: from one hand it increases the job finding rate while at school and therefore it may increase drop outs; on the other hand if informality is associated with greater flexibility in hours of work, it may allow to continue education while working (overcoming possible liquidity constraints problems).

Observation 4. Informality may convexify returns to education, by lowering returns on the secondary school and increasing those from tertiary degrees. This has an effect on schooling choices because it requires a higher level of time investment before obtaining appropriate returns.

5. Models

We propose two models for examining the two choice problems discussed above: the household decision to invest in children education, and the individual decision to participate in the labour market, when the latter is segmented and each segment has different characteristics.

5.1. Household decision on children schooling

The first model tries to describe under which conditions parents invest in the human capital of their children.
Suppose that households are formed by a parent and a child (see Basu and Van, 1998). There are three time periods (t=1,T; T = 3); in the first two periods children can be sent to school (this choice is captured by a dummy variable S_t, t=1,2), while in the third the child has become an adult and works. We assume that all children have completed primary education, so that going to school in the first period corresponds to obtaining a secondary degree, while in the second period to a tertiary/university degree. The stock of human capital of the child is denoted by H_t and can assume only 3 values: 1 when the child does not go to school in any period, 2 if he/she goes to school only in the second period, 3 if he/she gets a tertiary degree. [As a first step we can assume that educational choices are irreversible: if a child hasn't obtained the secondary degree in the first period he cannot obtain it in the second one.]
The cost of going to school is p_1 (>0) in the first period, and p_2 (>p_1) in the second one.
The parent gains income Y_t^P in each period, whereas the child can gain a wage (w_t^c) equal to w_L in each period if H_t <3; in the third period, if H_T = 3, the young adult will gain a higher wage, w_H with probability π and the lower w_L wage with probability (1-π). This means that there is no difference in earnings between individuals with primary or secondary education, i.e. returns to secondary education are zero (indeed in many developing countries they are very low: the big difference in earnings is associated with the tertiary degree). In short:

$$w_1^c = w_2^c = w_L \text{ ; } if \;\; H_T < 3 \; w_3 = w_L \text{ ; } if \;\; H_T = 3 \; w_3^c = \begin{cases} w_H \;\; with \;\; probability \; \pi \\ w_L \;\; with \;\; probability \;\; (1-\pi) \end{cases}$$

Household utility depends on consumption and the (final) human capital of the child; more precisely, assuming separability we have (see Jacoby and Skoufias, 1997):

$$U(C_t, H_T) = \sum u(C_t)\beta^{t-1} + \Phi(H_T)$$

β is the household inter-temporal discount rate and $\Phi(H_T)$ captures parents' preferences for an educated child. This preference may differ among households either because of differences in the "values" assigned to the child's education, or because of an implicit "contract" between the parent and the child according to which the parent pays for the child's education and the child will help the parent when old.

The choice of the household can be represented by the following (expected utility) maximization problem:

$$\underset{C_t, S_t}{Max} \; E\left[\sum u(C_t)\beta^{t-1} + \Phi(H_T)\right]$$

$$s.t. \sum C_t (1+r)^{-(t-1)} \le A_0 + \sum_t^T Y_t^P (1+r)^{-(t-1)} + \sum_t^T w_t^c (1-S_t)(1+r)^{-(t-1)} - \sum_t^{T-1} S_t \, p_t (1+r)^{-(t-1)} \qquad (1)$$

$$H_T = 1 + \sum_t^{T-1} S_t$$

where E[.] denotes expectations conditional on information available at t.
The model doesn't account for individual educational efficiency of the child or for differences in school quality. For simplicity we now model choices assuming that there is perfect information. There are three possible decision paths:

i) Parents decide to send the child to school only for the first period (S_1=1, S_2=0)
ii) Parents do not send the child to school (S_1=0, S_2=0)
iii) Parents decide to send the child to school for both periods (S_1=1, S_2=1)

If $p_1 > 0$ the first path is dominated by the second one, so we can prune it off.

Let us call the second path (parents do not send the child to school) "No-school scenario" (the variables of this scenario will be denoted by the apex N) and the last one (parents send the child to school) "School scenario" (the variables of which will be defined by the apex E). Basic assumptions are:

- Y^p_t is invariant in time, so is w_{Lt}: that is $Y^p_t = Y^p$ and $w_{Lt} = w_L \; \forall t$
- w_L is the *numéraire*: all monetary values are in terms of basic (low) wages;
- The interest rate, r and the inter temporal discount rate β are the same in the two scenarios;
- Call v = (1+r)

No-school scenario

Equation (1) becomes:

$$\underset{C_t, S_t}{Max} \; \left[\sum u(C_t^N)\beta^{t-1})\right]$$

$$s.t. \sum C_t^N v^{-(t-1)} \le A + Y^P \sum_t^T v^{-(t-1)} + \sum_t^T v^{-(t-1)} \qquad (2)$$

with Lagrangian:

$$L^N = \sum u(C_t^N)\beta^{t-1}) - \lambda[\sum(C_t^N - Y^P - 1)v^{-(t-1)} - A] \quad (3)$$

and the first order conditions are:

$$L_1^N = u'(C_1^N) - \lambda C_1^N = 0 \quad (4)$$

$$L_2^N = u'(C_2^N)\beta - \lambda C_2^N v^{-1} = 0 \quad (5)$$

$$L_3^N = u'(C_3^N)\beta^2 - \lambda C_3^N v^{-2} = 0 \quad (6)$$

$$L_\lambda^N = \sum(C_t^N - Y^P - 1)v^{-(t-1)} - A = 0 \quad (7)$$

From (4) , (5) and (6) we have:

$$\frac{u'(C_1^N)}{u'(C_2^N)} = \frac{C_1^N}{C_2^N}\beta v \quad (8)$$

$$\frac{u'(C_1^N)}{u'(C_3^N)} = \frac{C_1^N}{C_3^N}\beta^2 v^2 \quad (9)$$

School scenario

Equation (1) becomes:

$$\underset{C_t, S_t}{Max} \left[\sum u(C_t^E)\beta^{t-1} + \Phi(H_T)\right]$$
$$s.t. \sum C_t^E v^{-(t-1)} \le A + Y^P \sum_t^T v^{-(t-1)} + (\pi w_H + 1 - \pi)v^{-2} - p_1 - p_2 v^{-1} \quad (10)$$

with the following Lagrangian:

$$L^E = \sum u(C_t^E)\beta^{t-1} + \Phi(H)$$
$$-\lambda[\sum C_t^E v^{-(t-1)} - Y^P \sum_t^T v^{-(t-1)} - (\pi w_H + 1 - \pi)v^{-2} + p_1 + p_2 v^{-1} - A] \quad (11)$$

and first order conditions:

$$L_1^E = u'(C_1^E) - \lambda C_1^E = 0 \quad (4b)$$

$$L_2^E = u'(C_2^E)\beta - \lambda C_2^E v^{-1} = 0 \quad (5b)$$

$$L_3^E = u'(C_3^E)\beta^2 - \lambda C_3^E v^{-2} = 0 \quad (6b)$$

$$L_\lambda^E = \sum(C_t^E - Y^P)v^{-(t-1)} + p_1 + p_2 v^{-1} - (\pi w_H + 1 - \pi)v^{-2} - A = 0 \quad (7b)$$

The ratios between the C_t are in this school-scenario exactly the same of the no-school one: they depends only on β and v.

Using a concave function we can leave the SOC. We will use the following concave utility function in C_t: ***u(C$_t$) = ln(C$_t$)*** for both scenarios.

No-school scenario

It follows from (8) and (9) that:

$$C_2^N = C_1^N \sqrt{\beta v} \tag{12}$$

$$C_3^N = C_1^N \, \beta v \tag{13}$$

And substituting in (7):

$$C_1^N (1+\sqrt{\frac{\beta}{v}}+\frac{\beta}{v}) = (Y^P+1)\sum v^{-(t-1)} + A$$

Therefore:

$$C_1^N = \frac{(Y^P+1)\sum v^{-(t-1)} + A}{(1+\sqrt{\frac{\beta}{v}}+\frac{\beta}{v})} \tag{14}$$

The maximum attainable level of utility is therefore:

$$\begin{aligned} U(C_t^N) &= u(C_1^N) + u(C_2^N)\beta^{-1} + u(C_3^N)\beta^{-2} \\ &= [\beta^{-1}\ln(\sqrt{\beta v}) + \beta^{-2}\ln(\beta v)] + (1+\beta^{-1}+\beta^{-2})\ln(C_1^N) \end{aligned} \tag{15}$$

School scenario

Remembering the relation between the level of consumption in the different periods, we can write:

$$C_2^E = C_1^E \sqrt{\beta v} \tag{16}$$

$$C_3^E = C_1^E \, \beta v \tag{17}$$

And substituting in (7b):

$$C_1^E (1+\sqrt{\frac{\beta}{v}}+\frac{\beta}{v}) = (Y^P)\sum v^{-(t-1)} - p_1 - p_2 v^{-1} + (\pi w_H + 1 - \pi)v^{-2} + A$$

Therefore:

$$C_1^E = \frac{(Y^P)\sum v^{-(t-1)} - p_1 - p_2 v^{-1} + (\pi w_H + 1 - \pi)v^{-2} + A}{(1+\sqrt{\frac{\beta}{v}}+\frac{\beta}{v})} \tag{18}$$

The maximum attainable level of utility is in this case:

$$\begin{aligned} U(C_t^E) &= u(C_1^E) + u(C_2^E)\beta^{-1} + u(C_3^E)\beta^{-2} + \Phi(H) \\ &= [\beta^{-1}\ln(\sqrt{\beta v}) + \beta^{-2}\ln(\beta v)] + (1+\beta^{-1}+\beta^{-2})\ln(C_1^E) + \Phi(H) \end{aligned} \tag{19}$$

Parents will chose to send the child to school if $U(C_t^E) \geq U(C_t^N)$ that is:

$$(1+\frac{1}{\beta}+\frac{1}{\beta^2})\ln(C_1^E) + \Phi(H) \geq (1+\frac{1}{\beta}+\frac{1}{\beta^2})\ln(C_1^N) \tag{20}$$

Calling $\gamma=\gamma(\beta)=(1+\frac{1}{\beta}+\frac{1}{\beta^2})$ which is increasing in impatience we have:

$\Phi(H)\geq\gamma\ln\frac{(C_1^N)}{(C_1^E)}$. Calling $R(C)=\frac{(C_1^N)}{(C_1^E)}$ and $\theta(\beta,\Phi)=e^{\frac{\Phi}{\gamma}}$ the condition for choosing education is:

$$V(R(C),\theta)=\frac{R(C)}{\theta}\leq 1 \qquad (21)$$

Derivatives of V(R(C),θ)

Variables related to poverty conditions. A, β, Y^p are variables related to poverty condition. The corresponding derivatives of V(·) are:

$\frac{\partial V}{\partial A}<0$ if R(C) >1, which is the situation that defines a problem of choice (if R(C) <1 the No-school scenario is dominated). This means that if you have less initial assets it is less probable you send the child to school.

$\frac{\partial V}{\partial Y^p}<0$ if R(C) >1. This means that if the household income is lower the school choice become more difficult.

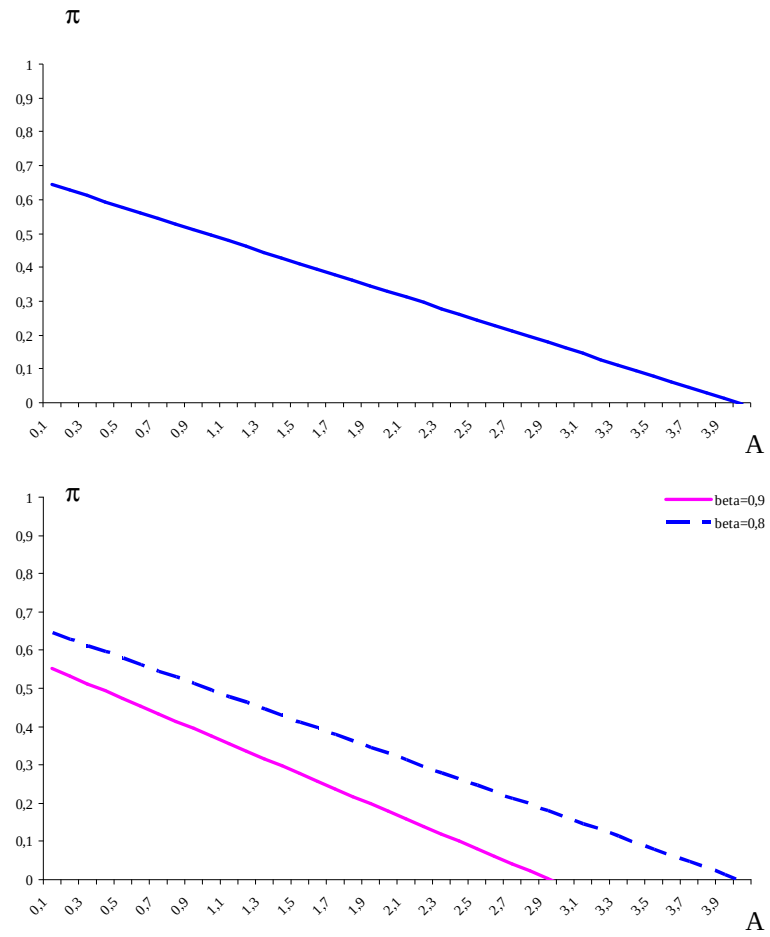
$\frac{\partial V}{\partial \beta}<0$ in any case. This means that a greater impatience (lower β) is associated to a lower possibility to send the child to school.

Variables related to labour market quality and the cost of schooling. π and w_H are variables related to labour market; p_i is the cost of going to school in the first two periods (i=1,2). The corresponding derivatives are:

$\frac{\partial V}{\partial \pi}<0$ and $\frac{\partial V}{\partial w_H}<0$ A higher probability to find a good job and a higher remuneration of it makes the school choice more probable.

$\frac{\partial V}{\partial p_i}>0$, $i=1,2$ as expected. A higher cost of schooling lower the probability to choose schooling for the children.

In figure 1 we plot the equation V(·) =1 for different values of the initial assets, A, (horizontal axis) and of the probability to find a good job, π (vertical axis). The region above the line describes couples of values of A and π that give V(·) <1 (the School scenario is chosen); the opposite for the lower region (the No-school scenario is chosen).



5.2. A Job searching model with informality

The individual decision to participate in the labour market, can be modelled by a discrete and finite-horizon "job-search" model (see Berloffa and Simmons, 2003). Again we can think of 3 time periods; in this case education takes place in period 1 while in period 2 and 3 we have only labour market choices.
In period 1 there are two possible states:

- Low tier informal (LI from now on);
- Attending school to complete post primary education (S from now on) which requires a monetary cost equal to *p*.

If the individual does not go to school in the first period, in period 2 and 3 he/she can only remain in LI; if educated, he can access two other segments of the labour market:

- Upper tier informal (UI from now on)
- Formal (F from now on)

Each state is characterized by a specific probability to find/keep a job in each segment of the labour market (π_{jk} where *j* indicates the current segment and *k* the segment in the next period), by a different level of the wage ($w_{j,t}$) and by a different degree of "flexibility" (f_j). Even if an educated individual does not find a job in period 2, he/she continues to be an educated individual, and therefore can obtain a job as UI or F in period 3. We will denote this "state" as LIS. In the second period earnings associated

with states LI and LIS are the same, but only from LIS the individual can access UI and F in the third period.
The utility function of the individual is defined over consumption and flexibility (as a subjective preference or a need for family conditions). The individual problem can thus be stated as follows:

$$\underset{j_t}{Max}\ \underset{C_t}{Max}\ \ E\left[\sum \beta^{t-1} u(C_t, f_j \mid j_t)\ \right]$$

$$s.t.\ \sum C_t (1+r)^{-(t-1)} \le A_0 + \sum_t^T W_{s_t} (1+r)^{-(t-1)} - d \cdot p$$

where j_1=S or LI; j_2=LI, LIS, UI, F; j_3=LI, UI, F; d=1 if j_1=S, 0 otherwise.

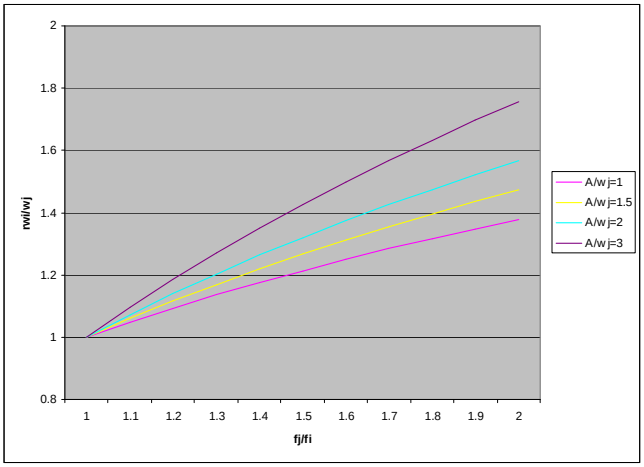
A trade-off exists if flexibility is higher in statuses with lower wages. Therefore we assume that flexibility is highest in LI and S (f_H), it is intermediate in UI (f_M) and low in F (f_L).
For the LI state, Bellman's equations are:
$V_1^{LI} = \max_{C_1} u(C_1, f_H) + \phi V_2^{LI}$ and $V_2^{LI} = \max_{C_2} u(c_2, f_H) + \phi V_3^{LI}$
For the other states we have:

$$V_t^j = \max_{C_t} u(C_t, f_j) + \phi\{\pi_{jU}\pi_{jF} \max[V_{t+1}^F, V_{t+1}^{UI}, V_{t+1}^{LIS}] + (1-\pi_{jU})\pi_{jF} \max[V_{t+1}^F, V_{t+1}^{LIS}] +$$
$$+ \pi_{jU}(1-\pi_{jF}) \max[V_{t+1}^{UI}, V_{t+1}^{LIS}] + (1-\pi_{jU})(1-\pi_{jF}) V_{t+1}^{LIS}\}$$

where j represents one of the states at t, different from LI: at t=1 j=S; at t=2 j=LIS, UI or F (in the value functions for t=2, V_{t+1}^{LIS} must be replaced by V_3^{LI}).

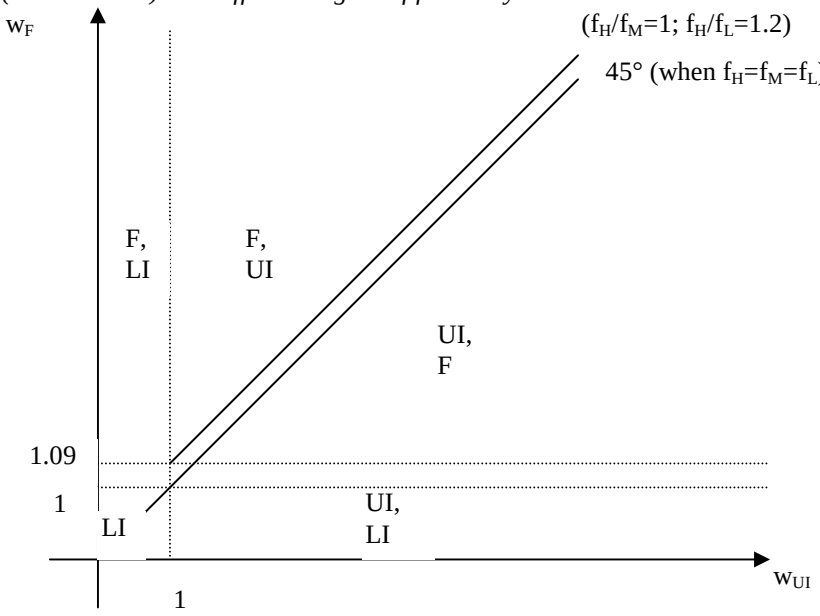
In the last period the problem reduces to a static one where acceptance/refusal of a job offer depends on the relative preferences over consumption and flexibility. For example, figure 2 represents the ratio (for period 3) between the reservation wage in segment i (F or UI) and the wage in segment j (LI or UI) as the relative flexibility of the two segments (f_j/f_i) changes, for a Cobb Douglas utility function, with consumption weight equal to 0.8 and flexibility weight 0.2. As can be seen, when wealth is particularly low (A=w_j), reservation wages (rw_i) increase by about 40% as the flexibility of the labour market segment under consideration reduces to half the one in the reference segment. As wealth increases, the effect of a reduction in flexibility is much more pronounced (when wealth is three times the wage, halving flexibility implies an increase of almost 80% in the reservation wage).
Individuals' preferences over the three segments of the labour market can be illustrated using a diagram with wages (relatively to w_{LI}) on the axes. The first and second best choice for each wage combination is represented in figure 3 for the case in which all segments have the same flexibility, and the case in which the flexibility in the formal segment decreases (while the one of the other segments remains unchanged). As can be expected, the regions in which UI or LI are preferred become larger. The effect depends on both the degree of flexibility of UI and F relatively to LI, and on the flexibility weight in the utility function. Examples of the size of the vertical shift (with respect to the 45° line) of the line dividing the "acceptance" regions as relative flexibility and utility parameters change, are reported in table 2.

Figure 2 – Relative reservation wages for different values of flexibility and assets.



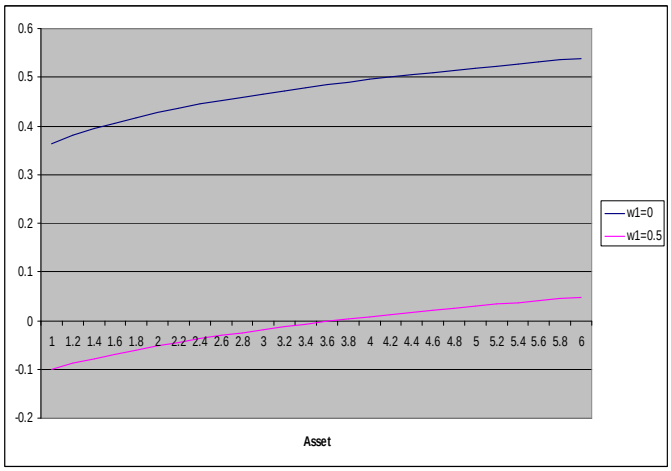
Note: On the vertical axis we report the ratio between the reservation wage in the labour market segment *i* (F or UI) and the wage in segment *j* (UI or LI).

Figure 3 – First and second best labour market segment for different values of wages in F and UI (relative to LI) and different degree of flexibility.



For each region depicted in Figure 3 we can derive the reservation wages for period 2. Clearly, if in period 3 wages are such that LI is preferred, the problem in period 2 reduces to the static one already seen for period 3. If instead in period 3 wages are such that F or UI are the preferred choice, reservation wages for period 2 depend on the conditional probabilities, and on the differences between the value functions at 3 (which in turn are functions of the wages in the three segments). Preliminary simulations of the model show that there are combinations of wages/probabilities for which the reservation wages for the F/UI segments are higher than the one for the LI segment because the increased likelihood of being in the preferred state in period 3 is not enough to compensate the loss in flexibility in period 2. Furthermore, it is not only the relative difference in probabilities that matters, but also their absolute values.
Finally, as regards the educational choice in the first period, since education gives the individual the possibility of accessing the formal or upper tier informal labour market segments in the future, the differences in future utilities caused by differences in wages and transition probabilities will determine the maximum price that the individual will be willing to pay for his/her education. The presence of an informal sector in which the individual can enter without education increases the opportunity cost of schooling, and therefore it lowers this maximum price (i.e. it makes it more likely for individuals to drop out from school). Figure 4 gives an example of the way in which the willingness to pay for education (as a function of the level of assets) changes as the wage in the first period increases from 0 to 0.5. As can be noticed, below a certain level of assets the willingness to pay becomes negative.

Figure 4: Maximum price that individuals are willing to pay for education in period 1 as a function of the level of assets and the market wage in period 1



Note: Market wages in period 3 and in period 2 in the formal and upper informal segment are 50% and 20% higher than the reservation wages respectively; flexibility in LI is 20% higher than in F and UI; probabilities to receive a job offer in F and UI in period 2 – conditional on education in period 1 - are both equal to 0.5

From these simulations it appears quite clearly the importance of obtaining data to calibrate the main parameters of the model (preferences for flexibility, relative degrees of flexibility in different market segments, and transition probabilities). Once the model is calibrated, we can simulate the effect of policies that change the relative flexibility of the labour market segments or influence the transition probabilities.

4. Empirical part:

a. Formal/informal menus:

First of all we want to identify the different menus offered in the labour market and what are the main differences between them. For this we will collect detailed information about labour market and social security regulations in selected countries, both Western Balkans and comparison ones (in terms of upper limit to and flexibility of working hours, paid vacations, notice of dismissal, dismissal compensation, maternity leaves, level of social security contributions and benefits provided in terms of health expenses coverage, pension and survival benefits). This information will be matched with the evidence emerging from the survey that we will implement, in which we will add specific questions in order to highlight the actual situation in terms of labour contract, hours of work, contributions paid, knowledge of actual or potential benefits. Particular attention will be devoted to the role of flexibility in hours of work in allowing individuals to combine different activities.

b. Flows' sequences:

Second we want to collect information about individuals' job-histories in order to identify whether particular sequences are associated with particular individuals' characteristics; whether there are "critical" changes (e.g. the entering status or changes that occur in a particular period of the life-cycle) which have worse consequences in terms of access to specific segments of the labour market in the future; for which individuals changes in labour market segments are the results of a voluntary choice, and for which are caused by "external shocks" (e.g. end of temporary contract or firing decisions, etc.).

c. Role of education and expectations:

Given the low percentage of secondary school enrolments and the difficulties in entering the labour market for the young, we want to have information about the reasons why young people are living school so early. In particular we want to know whether it is because of the bad quality of the schools or the inadequacy of the curricula with respect to the labour market demand, or it is because of expectations of low returns to education (in terms both of future wages and probabilities to obtain them), or it is because of current budget-constraint problems (and the need to have more earners in the household) and the links between these expectations and previous working experience (e.g. informality) both of individuals and parents.

d. Calibration and simulations of the models:

First of all we will present reduced form estimates of the likelihood of dropping-out from secondary/tertiary school, as well as of the likelihood of changing labour-market status as a function of individual and household characteristics, as well as of spatial variation in relative flexibility and labour demand conditions. Beside describing which groups of individuals are more at risk of low educational investments and of being locked in low-level labour market segments, and which ones are more likely to experience a positive and dynamic job history, this will allow us to identify which aspects of the informal/formal menu are more relevant for these groups of individuals, and for their educational choices.

Secondly, with the information collected in the survey, we will calibrate and simulate the models presented in the previous sections. In particular, for the model of the household educational choices, we aim to:

- estimate the function Φ using the questions on the perceived importance of having an educated child (Q44-48);
- estimate the effect of parents' informality on current financial resources of the household using information on the kind of work (job status) and the level of informality (Q14 and Q20-34);
- highlight the relative role of parents' financial conditions and future job prospects in explaining households' educational choices; for this we will use data on assets (Q79-86), income (Q23), labour market variables, w_H and π, under the hypothesis of parents' adaptive expectations (Q20-34 and similar questions for previous spells).

This will allow us to show how parents' informality and labour market conditions affect HC accumulation, and simulate the effects on HC accumulation of various policy interventions (e.g. labour market reforms that can change, for an educated individual, the expected probability to find a good job; or a change in the direct costs of schooling - p_1 and p_2).

For the "job-search" model we aim to:

- construct indicators of the degree of flexibility in the different market segments; for this we will use information obtained from the questions regarding the possibility of choosing the number and distribution of hours of work (Q35-38) and relating them to the type of job they refer;
- obtain an estimate of the relative preference for consumption and flexibility (utility function parameters) as a function of demographics and other life-cycle conditions; for this we will use both the questions on reservation wages and flexibility for the non-employed (Q13d-13e), and the question on the wage reduction that would be accepted for an increase in flexibility by the employed (Q35 and Q38);
- estimate the transition probabilities between the different market segments using both the questions on subjective expectations (Q39-40) and on previous job histories (section 7); obtain a measure of the effect of education on the probability to enter/stay in the different labour market segments by comparing transition flows for different educational levels as well as by considering the subjective evaluations of the value of education in section 6.

On the basis of this information, we will simulate the model to show the consequences of policies that favours flexibility (e.g. by giving subsidies to the firms that offer this type of contracts) in terms of transitions from the informal to the formal sector, as well as of inducing some inactive individuals to enter the labour market. Furthermore we will show the effect of the conditional probabilities to enter/stay in the different labour market segments, and of the existence of informal employment possibilities during the schooling age, on the reservation prices and educational choices of the young. This will allow us to evaluate the effects of policies that change the opportunity costs of schooling (e.g. by introducing degree-prizes or special credit programmes for students), or that affect transition probabilities (e.g. by providing employment services to those with a certain level of education) on individuals' human capital investments.

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APPENDIX
Framework for a questionnaire on employment and human capital

Scope: 1000-1500 adult individuals, from household frame (?), face-to-face, ~ 30 minutes

Instructions for the interviewer

Opening statement

Modalities – guidelines

Identifier fields: Questionnaire number, household / individual ID (attributed), contact information

Questions

Format:

Question_number
Question_name
Question in words
Answer fields / choices

Section 1 – Demographic indicators

1. Year_of_birth
In what year were you born?

1b. Place of birth
In which country were you born?

1c. Nationality
What is your current nationality?

1d. Year_in_country
Since which year have you been living in this country?

2. Age
So your current age is?

3. Gender
Interviewer fills in

4. Marital
What is your marital status? (single, married, divorced, widowed)

4b Living_with_partner
Are you currently living with a partner?

5a. Perm_hhd_member
Do you live permanently in this household?

5b. Household_size_perm
Apart from yourself, how many other persons live in your household on a regular basis?

6. Household_size_tot
Are there other persons currently living in the household (temporarily)?

6b. What type of relationship there is between the people in the household?

Member	sex	age	Relationship	Activity
1			Child, parent, relative (specify), other (specify)	go to school, take care of the house, work in agriculture, work in non-agric. as employee, work in non-agric as self-employed/employer, look for work, at home because retired, at home because of long-term inability to work, etc.

Section 2 – Educational attainment

7. Own_educ_ongoing_yn
Are you currently in part-time or full-time education?
(yes FT, yes PT, No)

7b. Reasons_leaving_school
If no in 7, what is the reason why you left school?
(parents couldn't afford, bored with studying, the title would have not increased possibility to find a job, the title would have not helped me to find a job with a higher wage, firms do not trust our educational system and prefer to do their own courses, …)

8. Own_educ_ongoing_type
If yes in 7, what is the educational level that you will attain upon completion?
Country-specific multiple-choice answers (primary, lower secondary, vocational, upper

secondary, advanced vocational, university etc.)

8b. Exp_dropout
If yes in 7: Do you intend to complete the school-level you are currently attending?

8.c Exp_dropout_reasons
If no in 8b, why?

(too difficult, I prefer to work, parents cannot afford, returns are low, …)

8d. Work_pref_stud
If yes in 7: Would you leave the school if you were offered a job?

8.e Work_pref_type
If yes in 8d: Which kind of job? (in line with what I'm studying, with career prospects, with fixed wage, with a wage of at least…, only if it pays social security contributions,…)

9. Own_educ_compl
All: What is the highest educational level that you have completed to date?
Country-specific multiple-choice answers (primary, lower secondary, vocational, upper secondary, advanced vocational, university etc.)

9b. Educ_field
All: Which is/was your field of education/training?

9c. Future_Education_yn
If no in 7: Are you planning/thinking to study again in the future?

9.d Future_educ_when
If yes in 9c, when?
(in a year time, in two years time, … don't know)

9.e Future_educ_field
If yes in 9c, In which field are you planning to continue your education?

9.f Future_educ_ft
If yes in 9c, Are you planning to enter a full-time program or to combine education with a job?

10. Father_educ
What was the highest educational level attained by your father?
Country-specific multiple-choice answers (primary, lower secondary, vocational, upper secondary, advanced vocational, university etc.)

11. Mother_educ
What was the highest educational level attained by your mother?
Country-specific multiple-choice answers (primary, lower secondary, vocational, upper secondary, advanced vocational, university etc.)

Section 3 – Current employment situation

[Consider that LFS typically asks about 'last week' – which automatically yields short-run dynamics about job movements – we may want to use that approach. Below is a simplified version based only on "current" employment]

12. Activity_status
(ask also to those who are in school because they could be working part-time)
All: What is your current status of activity?
Multiple choice (full-time permanent employment, part-time permanent employment, full-time temporary employment, part-time temporary employment, working full-time in family business, working part-time in family business, not currently employed)

12b. Pt_work_reasons
If p-t in 12: If in part-time employment, what are the reasons for working part-time?
(family needs, educational needs, want free time, couldn't find a full-time job, …)

if not currently employed

13. Nonempl_type
Are you currently looking for work?
___Y/N__

13.b Job_expect_ne
Do you expect to have a job in a year time?
(very likely, quite likely, not likely, surely not)

13.c No_job_expect_why
If not likely/surely not in 13b: why?
(at the moment it is difficult to find a job, I will never work because of disability/retirement, I will never work because of family needs, it will be difficult to find a job that allow me to take care of the family, it will be difficult to find a job because my educational level is too low, it will be difficult to find a job because I'm too old, …)

13.d Work_pref_ne
If not currently employed and not in education: Would you accept a job if it was offered to you?

13.e Work_pref_type
If yes in 13.d: Which kind of job? (any, only formal, in line with what I'm studying, with career prospects, with fixed wage, with a wage of at least…, full-time/part-time, with flexible hours of work…)

if currently employed (any type of employment including work for family business)

14. Main_job_type
Concerning your main or only employment activity, are you.. ?
Permanent part-time employee, Permanent full-time employee, Temporary part-time employee, Temporary full-time employee, part-time self-employed, full-time self-employed?

15. Second_job_type
If you have a second source of income from employment activity, is that as…?
Permanent part-time employee, Permanent full-time employee, Temporary part-time employee, Temporary full-time employee, part-time self-employed, full-time self-employed?

16. Firm_ind
Concerning your main or only employment activity, in what industry is it?
Multiple choice based on NACE classification (8 sectors?)

17. Firm_size
Besides yourself, how many people work with you or for you in the business or organisation in which you have your main job?
Multiple choice: 0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10-14; 15-19; 20-24; 25-29; 30-34; 35-39; 40-44; 45-49; 50-99; 100-249; 250-499; 500 or more

18. Firm_growth
Besides yourself, how many people worked in the business or organisation in which you currently work exactly one year ago ? (regardless of whether you worked there at that time)
Multiple choice: 0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10-14; 15-19; 20-24; 25-29; 30-34; 35-39; 40-44; 45-49; 50-99; 100-249; 250-499; 500 or more; Organisation or business did not exist; Don't Know

19. Firm_type
Which of the following best describes the business or organisation where you currently have your main job?
Multiple choice: independent or freelance activity operated by one person; unincorporated small business; incorporated small business with unlimited liability; incorporated business with limited liability; joint-stock company; state-owned company; local or central government department or agency; non-profit organisation or charity; Other (please specify); Don't Know

Section 4 – Job characteristics (also for family workers)

20. Job_current_start
When did you start the current job?

21. Job_current_place
Where do you usually work? (q18 LFS/empl)

21.b Job_current_hours
How many hours per week do you usually work?

22. Job_current_payment_type
How are you paid for your work?
(a fixed weekly/monthly wage, a fixed weekly/monthly wage plus payment for extra-work, according to the non-fixed number of hours worked, according to the work delivered (specify), not paid)

23. Job_current_usual_wage
What is your usual wage?

24. Job_current_contract
Have you signed a written contract with your employer?

25. Job_current_obligation
If no in 24: are you in any case obliged to go to work?

26. Job_current_obligation_reason
If yes in 25: Why are you obliged? (informal contract, need the money, because of my relationship with the employer (family/friend), I would not find another job, honor, other reasons -specify)

27. Job_current_end
When is your contract going to end?
(month/year; no end foreseen)

28. Firing_percep
Could your employer easily fire you?

(very easily, quite easily, with a certain difficulty, with a lot of difficulties)

29. Firing_notice_percep
How many days in advance should he/she tell you?

30. Firing_compens_percep
Do you expect to receive a payment/have a compensation in case of being fired?

31. Healthsec_percep
Would you lose your job in case of sickness?

32. Healthsec_days_percep
How many days are you allowed to be absent from work because of sickness?

33. Healthsec_wage_percep
Would your wage be reduced if you stay at home because of sickness?
(yes of about –amount- per day, no)

34. Maternity_percep
What would happen if you become pregnant?
(lose the job, I can stay at home for … months with my full salary, I can stay at home for … months with …% of my salary, I can stay at home for … months without salary, other … specify)

35. Flexibility_hrsday
Do you need to be present at work for a fixed number of hours during the day?

36. Flexibility_hrsday_n
How many?

37. Flexibility_endstart
Can you choose to go to work later of to finish earlier?

38. *Flexibility_dayswk*
Can you choose which days of the week to work? (Yes, No, yes but at least … days)

39. Jobstability_expect
Do you expect to be in the same job in a year time?
(very likely, quite likely, not likely, surely not)

40. Jobstability_expect_reason
If not likely/surely not in 39, why?
(temporary contract, don't like the job and I want to change, don't earn enough and I'm going to change, bad prospects for my firm, …)

If not employed full-time, not in school full time, and age below 25 ask questions from Section 5; skip to Section 6 if age is 25 or over.

Section 5 – For respondents below the age of 25 who do not go to school full-time and do not work full-time

41. Usual_day_activity
What do you usually do in your disposable time?
(help in agricultural works from .. am to … pm, help in non-agric. family business from .. am to … pm, help in non-agric friends' business from .. am to … pm, look for work from .. am to … pm, at home because of long-term inability to work, at home waiting for a job offer, at home, stay with friends …)

42. Search_how
What do you do to search for a job?
(send cv, read job-offers in the newspapers, go and talk to businesses in the area, other…)

43. Usual_activity_athome
What do you do while you are at home?
(watch television, clean the house, take care of children/elderly persons, …)

Section 6 – Subjective evaluation of education-job match and of value of education (for all employed individuals – any type of employment)

44. Job_educ_match
Could you have your current job if you had a lower educational level?

45. Wage_educ_match
Could you earn your current wage if you had a lower educational level?

45b. Wage_field_match
And compared to other people with the same level of education but in different fields?

46. Educ_initial_wage
Was your initial wage higher than the one of other people with lower education?

47. Educ_wage_profile
Do you think that your level of education allowed your earnings to increase more than those of people with a lower level of education?

47b. Educfield_wage_profile
And compared to other people with the same level of education but in different fields?

48. Educ_flexib
Do you think that your level of education allowed you to have a more flexible job?

48b. Educfield_flexib
And compared to other people with the same level of education but in different fields?

49. Educprep_mkt_match
Was the actual content of your education in line with what your firm/market required?
(scale of 4)

50. Educprep_mkt_match_reasons
If little/no in 49: why? (content out of date, …)

51. Work_exp_value
Did your work-experience allow you to acquire skills that are valuable in the labour market?

52. Work_exp_wage
Did your wage increase because of the skills you acquired in your work-experience?

53. Adult_learning_yn
Did you attend courses after leaving school?

54. Adult_learning_nb
How many?

Course	Total number of hours	Number of hours per day	Duration (in month)	Field	Were you working at that time?
1					

55. Adult_learning_job_yn
Considering the most important course among those listed above, did you have a full-time or part-time job at that time?

56. Adult_learning_jobchoice_yn
Did you choose that job because it allowed you to attend that course?

57. Adult_learning_job_charac
What were the characteristics of your job that allowed you to attend this course?
(limited number of hours of work per day, could choose when to work, …)

Section 7 – Questions on previous employment history

P1.58. P1_activity_status
What was your activity before your current activity status?
Multiple choice (full-time permanent employment, part-time permanent employment, full-time temporary employment, part-time temporary employment, looking for this job, working in the family business, not employed)

If working:
P1.59. P1_main_job_type
Were you Permanent part-time employee, Permanent full-time employee, Temporary part-time employee, Temporary full-time employee, part-time self-employed, full-time self-employed?

P1.60. P1_temp_job_length
For temporary employment: How long was your contract for?

P1.61. P1_firm_ind
In what industry was it?
Multiple choice based on NACE classification

P1.62. P1_firm_size

Besides yourself, how many people worked with you or for you in the business or organisation in which you had your previous job?
Multiple choice: 0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10-14; 15-19; 20-24; 25-29; 30-34; 35-39; 40-44; 45-49; 50-99; 100-249; 250-499; 500 or more

P1.63. P1_payment_type
How were you paid for your work? (a fixed weekly/monthly wage, a fixed weekly/monthly wage plus payment for extra-work, according to the non-fixed number of hours worked, according to the work delivered (specify), not paid)

P1.64 P1_contract
Did you have a written contract with your employer?

P1.65 P1_contract_end_reasons
What was the reason why this job ended?
(temporary contract, I was fired, I choose to change job)

P1.66 P1_change_reasons
If the answer is "choose to change" in P1.65: Why did you choose to change?
(did not like the work, did not like the people I was working with, the wage was too low, employer did not pay social security contributions, too many hours of work, need more time for taking care of the family, become pregnant, wanted to start my own-business)

P1.67 P1_firing_compen
If the answer is "fired" in P1.65: Did you receive a payment/have a compensation for being fired?

P1.68 P1_firing_reasons
If the answer is "fired" in P1.65: Why were you fired?
(difficulties for the firm, problems with the managers/other people working in the firm, other … specify)

If looking for the job in P1.65:
P1.69 P1_search_length
How long did it take you to find this job?

P1.70 P1_find_way
How did you find it?
(public employment office, direct contact with employer, friends/relatives, newspaper, …)

P1.71 P1_search_othoffers
During this search period, did you find some other job-possibilities which you didn't take?

P1.72 P1_notaccept_othoffers_reasons
Why did you not take them? (wage too low, work conditions too heavy, wage too uncertain, too far from home,…)

If not employed in P1.65:
P1.73 P1_notwork_reasons
What was the reason why you were not working?
(family needs, still in education, didn't think I could find a job, ..)

For all:
P1.74 P1_marital
What was your marital status at that time? (single, married, divorced, widowed)

P1.75 P1_living_wpartner
Were you living with a partner?

P1.76 P1_hhd_member
Apart from yourself, how many other persons used to live in your household on a regular basis at that time?

P1.77 P1_members_earnings_yn
Were there other people earning income in your household?

P1.78 P1_members_earnings_type
If yes in P1.77: Which type? (labour income, capital income, retirement benefits, other benefits)

NB: These questions should be repeated for the previous 4 spells (or less if the spells cover at least the previous 5/10 years – to be decided)

P2:
Same questions as P1 from question 58 to 78 (with appropriate text changes)

P3:
Same questions as P1 from question 58 to 78 (with appropriate text changes)
etc.

Section 8 – Questions about other sources of income

79. Other_indiv_income
Do you have income from sources other than labour income (retirement benefits, financial capital income, real capital income, etc.)?

80. Total_indiv_income
What is your total usual monthly income?
[NB Gross or net of taxes? What are people in these countries more accustomed with?]

81. Other_hh_income
Beside your income, are there other income sources in your household?
(labour income of other members, retirement benefits, financial capital income, real capital income, etc.)

82. Total_hh_income
How much is the total monthly income of your household?

83. House_titling
Is the house you live in yours or of some members of your household or do you pay a rent?

84. Land_titling
Do you (or some members of your household) own any land?

85. Land_size
How big is it?

86. Land_sale
Could you sell it if necessary?

Should we add questions on financial assets? Are they feasible?

Section 9 – Questions about migration

87. Migrants
Are there people in your household who went to live abroad?

Individual	sex	Age when living the country	Level of Education	Reason for living
1				Could not find a job, could not find a job suitable for his/her education, to earn a higher wage, personal reasons (marriage, etc.)

88. Migr_link
Are you still in touch with them?

89. Migr_remittance
If yes in 87: Do they help you/your family financially?

90. Remitt_reg
If yes in 89: Do they help regularly or occasionally?

91. Remitt_freq1
If regularly in 90: how often?
(once a week, a month, a quarter, a year)

92. Remitt_freq2
If occasionally in 90: how often?
(at least once a year, once every two years…)

93. Remitt_shareincome
If yes in 89: What is the percentage of your household income that comes from abroad?