



Developing research and innovation capacities of Latinamerican HEI
for the analysis of informal labour market



TRAINING PLAN

WP2 Capacity building in the HEIs for the research and innovation in the field of informal jobs and informal economy. Research centres & methodologies.

Deliverable 2.1 Targeted Training Plan

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ABREVIATION LIST

CELMR	Centre for European Labour Market Research.
CES	Centro de Estudios Sociais/Centre for Social Studies.
EC	European Commision .
EU	European Union.
HE	Higher Education.
HEI	Higher Education Institutions.
LA	Latin America.
UA	Universidad de Alicante (Spain).
UBA	Universidad de Buenos Aires (Argentina).
UNL	Universidad Nacional del Litoral (Argentina).
UNR	Universidad Nacional de Rosario (Argentina).
UC	Universidade de Coimbra (Brazill).
UFCG	Universidade Federal de Campina Grande (Brazil).
UNICAMP	Universidade Estadual de Campinas (Brazil).
UFPB	Universidade Federal da Paraíba (Brazil).
UVM	Universidad Viña del Mar (Chile).
UMAG	Universidad de Magallanes (Chile).
USS	Universidad San Sebastián (Chile).
WP	Work Package.

1. INTRODUCTION

The Training Plan for research and innovation in the field of informal labour in Latin-American HEIs is being presented in the framework of the project LATWORK Developing research and innovation capacities of Latin-American HEI for the analysis of informal labour market / LATWORK, the overall objective of which is to develop LA HEI research structures and innovative methodologies for satisfying the scientific needs of creating knowledge in the field of informal jobs and informal economy.

This training plan has been prepared in the framework of *WP2 Capacity building in the HEIs for the research and innovation in the field of informal jobs and informal economy. Research and Innovation* which it aims to be part of the training methodology which is going to be implemented in the Latin-American Universities partners of LATWORK Project.

The objective of this training plan is to be a handbook which can give useful tools for capacity-building in research and innovation through HEI expertise in creating research centres specializing in the field of labour market issues in order to be able to support any initiative in this sense. As part of this document, you will find information on the path to be followed during the LATWORK Project in order to take the first steps in the building of capacity of HEI in order to carry out innovative analysis of the informal labour market, especially focused in the context of Latin-American HEIs.

For this reason, in this document you will find general information about the LATWORK training modules, the roles and responsibilities of each partner, the specific training topics for Training of Trainers (ToT) and their and finally, guidelines in order to replicate the trainings with replication seminars at each LA University. As, this is the first version of the document, you will find materials related to Training Module 1 “Training on Categories and Methodologies on informal jobs and informal economy analysis”. This plan will be updated throughout the project.

Keeping in mind what has already been mentioned, it must be highlighted that no “readymade recipe” will be found, only tools which can be useful for taking the first steps in the path of training HEI research and teaching staff in order to HEI in order to carry out innovative analysis of the informal labour market in Latin-America, based on a previous and rigorous Need analysis report “Emerging problems in Latin-American labour market. Challenges for HEIs researchers and



trainers” carried out in the framework of the Work Package 1 of LATWORK project “Mapping the context of the research needs on Informal jobs and informal economy at Latin-American HEIs”.

2. ABOUT LATWORK PROJECT WORK PACKAGE 2: CAPACITY BUILDING IN THE HEIS FOR THE RESEARCH AND INNOVATION IN THE FIELD OF INFORMAL JOBS AND INFORMAL ECONOMY. RESEARCH CENTRES & METHODOLOGIES.

The aim of LATWORK project Work Package 2 is to design, prepare and implement three *Training of Trainers* modules and their corresponding replications at Latin-American Higher Education Institutions. The phases of this work package are the following: preparation, implementation of the training and finally, replication of the trainings at the Latin-American HEIs. Regarding the preparation of the training, it comprehends the design of the training plan and the delivery of an English training course in each Latin-American partner university part of the LATWORK project in order to facilitate international communication during the LATWORK training and links with international enterprises.

The three *training of the trainers* modules will develop the following main contents: the first training will be about “Categories and Methodologies on informal jobs and informal economy analysis”, the second training will be based on “IT and networking technology for the analysis of Informal Labour Market” and the third and last face-to-face training topic is “Research Centre Definitions”.

In between of these trainings, carried out during mainly year 2 of the implementation of the project, trainees must replicate the trainings in each Latin-American University partner of LATWORK project in the form of Local Replication Seminars, carried out within two months after the training module implementation. These Local Replication Seminars will be streamed and available online giving the opportunity of other academics of the region to be part of this capacity building process.

2.1 TARGETS

The short-term and direct targets of the capacity building planned and developed through this work package are, Latin-American LATWORK project partners HEIs academic staff or the Latin-American HEIs non-partner research staff (academics and PhD candidates and students) who aim



to carry out their research work in a department or in a multidisciplinary research centre focused in the field of labour market.

The above-mentioned can be benefited by either the training modules, the local replication seminars carried out in each Latin-American Institution.

2.2 ROLES & RESPONSIBILITIES

Within the LATWORK Project consortium this work package is led by The University of Aberdeen, United Kingdom, with the support of the Universidad de Alicante, Spain and Universidade de Coimbra, Portugal and all Latin-American Institutions.

- **The University of Aberdeen, United Kingdom**, as WP leader will lead the capacity building definition, planning and implementation.
- **Universidad de Alicante, Spain** will participate in the capacity building definition, create training materials and provide trainers for Training the Trainers Modules.
- **Universidade de Coimbra, Alicante** will participate in the capacity building definition, create training materials and provide trainers for Training the Trainers Modules.
- **Universidade Estadual de Campinas, Brazil**, will participate in the three Training the Trainers Modules and will host the first training module in its headquarters. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules.
- **Universidad Nacional de Rosario, Argentina** will participate in the three Training the Trainers Modules and will host the second training module in its headquarters. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules.
- **Universidad San Sebastián, Chile**, will participate in the three Training the Trainers Modules and will host the third training module in its headquarters. They will prepare, deliver and host one local replication seminar for each training the trainers modules.
- **Universidad Viña del Mar, Chile**, will participate in the three Training the Trainers Modules. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules. Also in the role of coordinator will have in consideration the overall process.

- **Universidad de Magallanes, Chile**, will participate in the three Training the Trainers Modules. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules.
- **Universidade Federal de Paraíba, Brazil** will participate in the three Training the Trainers Modules. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules.
- **Universidade Federal de Campina Grande, Brazil** will participate in the three Training the Trainers Modules. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules.
- **Universidad Nacional del Litoral, Argentina** will participate in the three Training the Trainers Modules. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules.
- **Universidad de Buenos Aires, Argentina**, will participate in the three Training the Trainers Modules. They will actively disseminate calls for participation. They will prepare, deliver and host one local replication seminar for each training the trainers modules.

3. PROCESS

In the figure below the process of the development of the training can be observed. The methodology that will be followed during this training module is a Training of Trainers methodology. Meaning that, the Training Modules implemented carried out in a Training of Trainers Methodology and they have to be replicated: during the following two months after a Training Module a Local Replication Seminar is held at each Latin-American Institution part of the LATWORK project and streamed live.

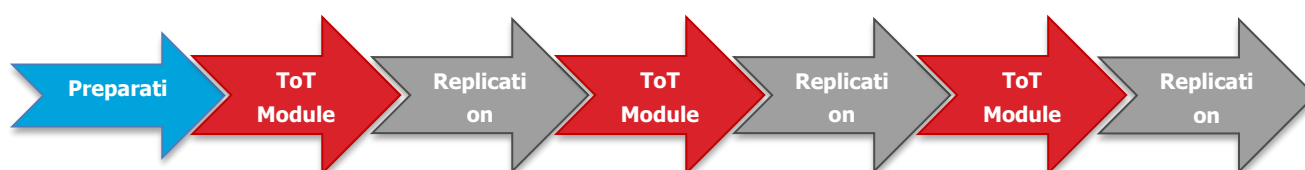


Figure 1 LATWORK training process

4. TRAINING TOPIC: MODULE I TRAINING ON CATEGORIES & METHODOLOGIES ON INFORMAL JOBS AND INFORMAL ECONOMY ANALYSIS

4.1 SPECIFIC OBJECTIVES OF THE TRAINING MODULE

The above aims will be archived by perusing the following training objectives aiming at enhancing the research capacity-building at the Latin American universities:

1. Provide guidance to identify the working or operational definitions of the Informal Labour Markets in each participant Latin America country
2. Provide guidance for the review the legal demarcation of informal labour market
3. Provide guidance for the review of the data availability as reflected in the chosen demarcation line of Formal and Informal Labour Market in each Latin American Country
4. Provide guidance and training of assessing the effects of informal labour markets in the health and welfare of the labour associated with these markets
5. Provide training for the statistical methodologies useful for the research in informal labour markets.

6. Provide training for the best practice of reporting in professional journals the outcomes of the research for Informal Labour Market.

4.2 CONTENTS: WHICH ARE THE TOPICS OF THE TRAINING?

The conceptual and statistical methodologies considered in this document are under the following headings:

- (1) Macroeconomic factors influencing employment and economic welfare: Neoclassical Interpretation of Adam Smith's Intellectual Heritage
- (2) Macroeconomic factors influencing employment and economic welfare: The Economic Consequences of Depression Economics
- (3) Issues of Labour Market Segmentation in the Context of Informal Labour Markets
- (4) Unintended repercussions informal /precarious labour markets
 - a. Pay based on performance and Health
 - b. Precarious employment and Health
- (5) The Historical and Theoretical Debate of Informality in Latin America: an approach from the periphery of capitalism
- (6) Emerging problems in Latin-American labour market. Challenges for HEIs researchers and trainers. The new challenges for discussing informality in the context of recent work transformations.

Specific topics: summary

(1) Issues of Labour Market Segmentation in the Context of Informal Labour Markets

A key question is whether low pay and informal jobs result from supply side problems (inadequate human capital) or the demand side of the labour market (institutional arrangements and the level of macroeconomic demand).

As Taubman and Wachter put it-

"The Segmented Labour markets (SLM) approach is typically identified with a group of economics who argue that the neo-classical apparatus provides an inadequate or incomplete description of the labour market and leaves unexplained most of the labour market policy issues. In particular, the neo-classical model is viewed as not providing adequate explanations of the distribution or



dispersion of wages (and, as a consequence income) across workers, the incidence of unemployment, and the causes of discrimination"

Paul Taubman and Michael L. Wachter Segmented labor markets, Handbook of Labor Economics, Chapter 21, V 2, 1986, PP 1183-1217, [https://doi.org/10.1016/S1573-4463\(86\)02011-4](https://doi.org/10.1016/S1573-4463(86)02011-4)

Introduction

At its simplest this amounts to saying that labour markets are so imperfect that it is inappropriate to analyse labour markets as a single entity, a notion that has its origins in Mill/ Cairnes theory of non-competing groups.

Its modern counterpart is found in U.S. studies of urban poverty which suggested that manpower policies based on improvements in human capital had failed. The starting point for this work is P. Doeringer and M. Piore's monograph, *Internal Labour Markets and Manpower Analysis*, 1971, and this encouraged a number of projects from a variety of perspectives.

It is difficult to categorise this work, some of which represents a radical approach to classical paradigm, but some is more consistent with the neo-classical model. A taxonomy of labour market theories relevant with the study of informal labour markets is presented Table 1.





TABLE 1: A TAXONOMY OF LABOUR MARKET THEORIES

THEORY		KEY ELEMENT	POLICY PRESCRIPTION	PRINCIPAL EXPONENTS
ORTHODOX	CLASSICAL	POPULATION DYNAMICS SUBSISTENCE WAGE	POPULATION CONTROL	SMITH, MALTHUS, MILL AND MARX
	NEOCLASSICAL	SUPPLY AND DEMAND MARGINAL PRODUCTIVITY HUMAN CAPITAL	PRODUCTIVITY BOOSTERS PROVISION OF EDUCATION AND TRAINING	MARSHALL SCHULTZ, BECKER, MINCER
ALTERNATIVE	SEGMENTED (DUAL)	DEMAND SIDE, INSTITUTIONAL STRUCTURE MOBILITY BARRIERS	REDUCTION OF BARRIERS INSTITUTIONAL CHANGE	DOERINGER AND PIORE BLUESTONE HARRISON
	RADICAL (MARXIST)	SOCIAL CLASS CONFLICT	DEVELOPMENT OF SOCIAL CLASS CONSCIOUSNESS	BOWLES AND GINTIS REICH, GORDON, EDWARDS

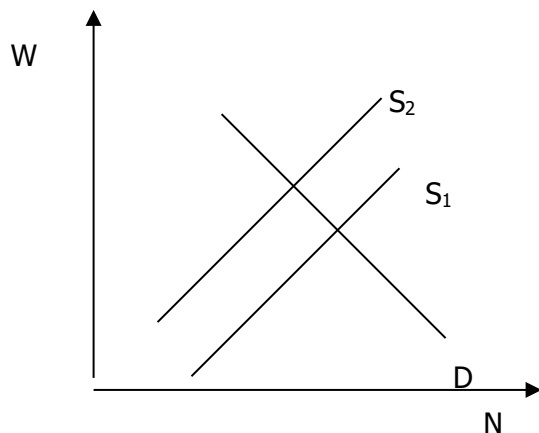
The Classical/ Neoclassical theory emphasise supply side differences in explaining wage differentials or labour market performance. This view suggests that workers are paid their marginal product. Thus, shifts in the supply curve in Graph 1 can be taken to represent changes in the individual's reservation wage as a function of human capital.

However, the Labour Market Segmentation emphasises structural factors (technology, profits level, level of product demand etc) and changes in these cause shifts in the demand curve. Hence workers with the same marginal product may earn different wages or experience different employment paths depending on the industry they are employed, the level of macroeconomic demand or the timing of entry in the labour market.

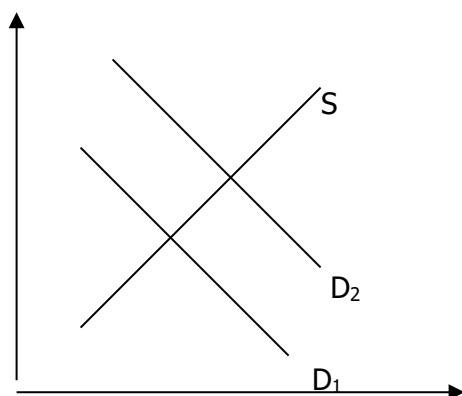


Graph 1: Alternative Labour Market Views

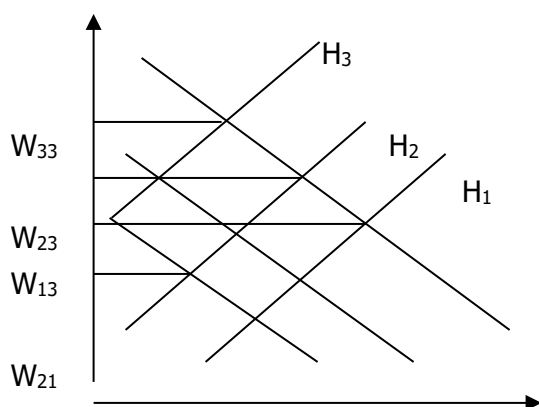
SUPPLY SIDE DIFFERENCES



DEMAND SIDE DIFFERENCES



BILATERAL LABOUR MARKET SEGMENTATION





Upper Tier of the Labour Markets

Screening and training of new employees creates substantial costs for both firms and workers. (Doeringer and Piore (1971), Piore (1973), and Okun (1981)). Firms attempt to discourage labour turnover and interfirm mobility among their most highly valued workers by establishing long term employment relationships. This is attained by providing these employees with promotion paths and rewards commensurate with tenure.

During periods of slack product demand, employers will refrain from trimming wage increases promised to the above employees, in order to isolate their earnings from external market conditions [Implicit Contract Theory]. (Okun (1981) and Gordon (1976)) and pay 'Efficiency Wages' (Akerlof 1982, 1984). In these labour markets, employees enjoy promotion prospects and stable employment.

A promotion / career prospects contract is defined here as an explicit or implicit guarantee that the employer makes to some workers that, given their continuing employment with the firm, they will be elevated to higher occupational status and follow an upward career /wage path thereafter.

Lower Tier:

Given the costs associated with promotion structures firms will also find it optimal to operate a non-promotion strategy for part of their labour force. By minimising the firm's investment in this section of its labour force, this strategy makes labour an interchangeable factor of production.

Job tenure is not rewarded, and the tenure-earnings relationship exhibit a flat profile. Wages of the non-promotion section of the labour force to respond much more to declines of product demand than wages of workers in promotion jobs. Employees have precarious employment profiles and suffer high unemployment incidence. Employment contracts are short term or there are no employer –employee formal contract. This lower labour market tier includes the the informal labour market segment.

The difference between the working experiences of the two labour market tiers is of such a magnitude as to generate a different earnings / employment determination process for each



of them. Limited ports of entry could in fact be used to explain the failure of workers to move from secondary to primary jobs.

Some of the important lines of research from the point of view of research in informal labour markets can be outlined as follows:

- Can one construct objectively based segments in the Latin American labour markets?
- How many segments are there in the Latin American labour markets?
- How can one define the demarcation of the informal jobs?
- How can informal job be identified in the Latin American Countries?
- Can one devise appropriate statistical tests?
- Should one rely on a single statistical methodology?
- Which are the important methodological issues arising and how can be resolved?
- Is the degree of segmentation influenced by the extent of tightness of the labour market?
- What are the similarities and differences within the Latin American Countries with reference to the above research questions?

Statistical Methodology; Testing for Labour Market Segmentation

Factor Analysis

Factor analysis is a statistical technique which is used in order to discover underlying patterns in the data. This allows a reduction in the number of variables under consideration by identifying a relatively small number of factors that can be used to represent complete relationships among sets of inter-related variables.

Each factor is a composite variable and its interpretation is suggested by the set of the original variables that 'load high' (either positively or negatively) on it.

Observations may then be allocated to the segments on the basis of standardised factor scores. If there is duality the common factor should load high on dimensions of industrial structure.

Cluster Analysis

Cluster analysis is a method of assigning occupations or employees into relatively homogeneous groups with respect to a given set of variables. It therefore provides a means

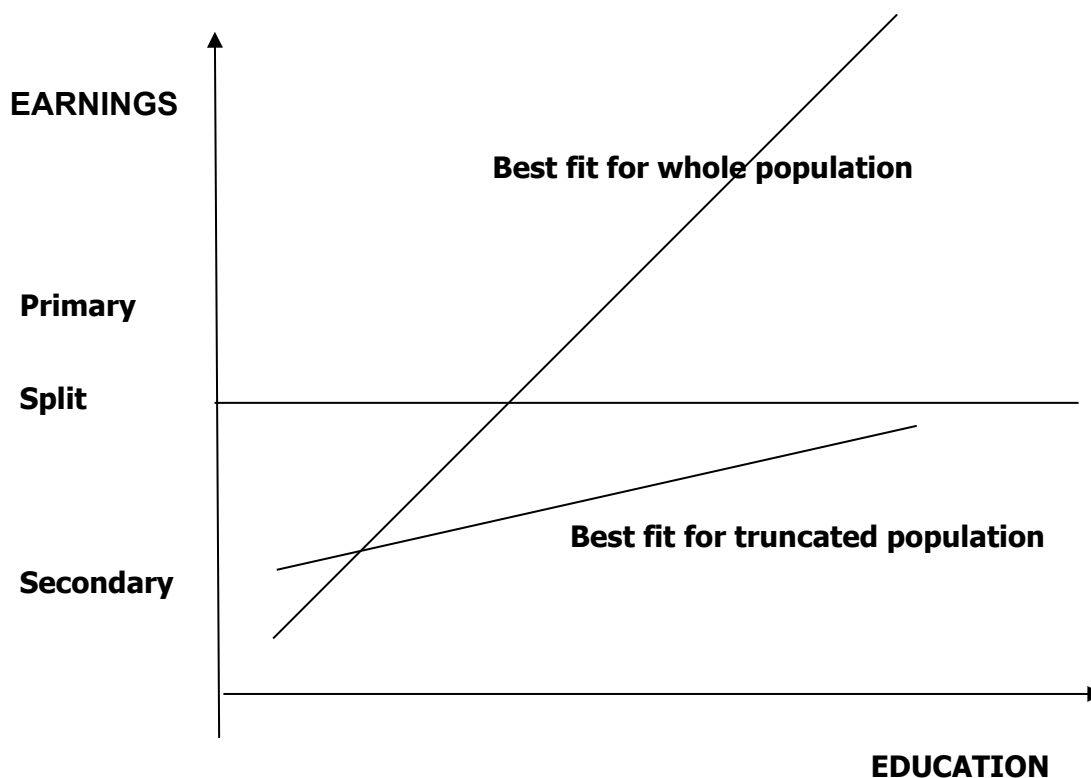


for drawing together the full set of job characteristics that are presumed to define segment boundaries.

It is purely a statistical method which implies that specific hypotheses cannot be tested. Nevertheless, it has the major advantage of determining into how many segments the observations fall naturally without forcing the results into a strict duality structure.

However, dividing the sample on the basis of occupation or industry has major drawbacks. 1. Early attempts which divided jobs according to some characteristic (e.g. the level of pay) involved circular reasoning as a consequence of truncation bias (Cain 1976). This procedure by construction constrains the rate of return to education and other important characteristics to be lower for secondary labour market employees (see Graph 2) due to what is in the literature known as 'truncation Bias'.

TRUNCATION BIAS





Switching Regressions

An additional methodological complication is that if worker's choice of occupation or industry is not independent of measured characteristics there is a danger of Sample Selection Bias. That is the characteristics that define the allocation of a worker in one of the sectors are those that also determine the level of his or her pay or other important job characteristics (including participation in the informal labour market).

The use of Lee's (1978) two step procedure corrects for this sample selectivity in estimating a simple two-tier labour market. The model is a bi-variate sample selection one in which lower or informal labour market status is modelled as endogenous and subject to choice decisions.

For instance, consider two earnings equations one for the informal and one for the non informal labour market status and a probit choice equation between the two sectors where X = individual Characteristics and Z =Job Characteristics

Switching Regressions

$$CS_i = F([(\ln E_{c_i} - \ln E_{n_i})], X, Z) \quad (1)$$

$$\ln E_{c_i} = F(X, Z)$$

$$\ln E_{n_i} = F(X, Z)$$

There are two points concerning the decision of the individual worker to belong to one sector that need some clarification. First, this decision is an intertemporal decision involving long-term or even a lifetime earnings profile. This implies that examination of the effect of workers' individual characteristics on their earnings profile over a period of time, after status selection.

Second, equation (1) summarizes two decision functions: the decision of individuals to join the sector, CS , and the decision of the employers to draw individuals from the queue, CS . In this case (1) can be formulated as follows:

$$CS1 = Y1h^* - ul,$$



$CS2 = Y2h^* - u2$.

However, h^* and h^* are estimable only if there is at least one non-overlapping variable in either $Y1$ or $Y2$.

In the context of the model, and given the set of the available independent variables, Y , is indistinguishable from $Y2$. Therefore, the two decision functions would be expected to collapse to (1).

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(2) The Health Consequences of Flexible Employment

Informal labour market is the ultimate level of flexible employment. Although there are no specific studies on the Health consequences of workers engagement in informal labour markets there are studies highlighting this issue with respect of other forms of flexible employment that also include informal employment.

In the theory of Human resource management there are at least two views:

The 'old view' or the 'Invisible handshake' with long-term and stable employer-employee relationships to attract and retain a high quality pool of workers, to foster specific training skills, and generate stable employer-employee loyalty, some sort of gift exchange (Okun, 1980; Akerlof, 1982).

The 'new view' or the 'Invisible hand' where the notion of a 'job for life' cease to exist that uses of precarious or 'atypical' forms of employment that is fixed term contracts, temporary or casual contracts, temporary-help agency work, forms of informal employment and the like)

It is argued that the latter forms of employment provide flexibility enabling employers to respond to market pressures in order to respond to changing circumstances and to retain a competitive advantage in the face of global market pressures.

As the European Commission 2007 puts it:

"the development of a set of common principles on flexicurity" ... "an integrated strategy to enhance, at the same time, flexibility and security in the labour market" offering to the individuals either more security or adequate income protection.

Thus *'A large segment of the labour market offers unstable forms of employment with individuals in temporary jobs facing far shorter job durations and greater job instability compared to their in full-time permanent job holders* (Gregg and Wadsworth 1995, 1996).

In fact, the growth of 'zero-hour' contracts, an extreme form of temporary employment in the UK was the number of employees on zero-hours contracts rose by 25%, 2012 (200,000)



to 150% since the autumn of 2005 (50000), 23% of employers use zero-hour contract. (The Financial Times (April 7, 2013). In 2019 890,000 workers employed are on 'zero-hour' contracts as their main job. This represents 2.7% of the labour force but it excludes reclassified individuals on zero hours contracts by their employers as self employed.

The shift to non-standard contracts and the deregulation of the institutional framework that traditionally supported vulnerable groups is associated with lower income, greater job and financial insecurity and reduced quality of life.

Are there any effects of flexible employment and health status?

Fixed-term contracts function do not appear to be effective stepping-stones towards permanent jobs, especially for women, as temporary jobs are not desirable as a means of long-term careers (pay less than corresponding permanent jobs, lower levels of job satisfaction, poorer work-related training) (Booth et al. (2002))

There is a close association between temporary/flexible employment and psychological morbidity (Virtanen et al. (2005) and De Cuyper *et al.*(2008)).

There is a close association between precarious types of employment and low psychological wellbeing or mental distress (Benavides et al., 2000; Aronsson *et al.* 2002; Virtanen *et al.* 2002; Waenerlund *et al.* 2011; Sirviö *et al.* 2012).

Temporary, part-time workers in eleven European labour markets are strongly dissatisfied compared to those on permanent, full-time jobs (Pouliakas and Theodossiou (2005)). Thus, the anticipated psychological 'costs' of moving from a riskless permanent contract to the insecurity of flexible employment or no work are very significant (Pouliakas and Theodossiou, (2010)).

Why might there be a precarious/informal contracts - physical health link?

Atypical employment (fixed-term, part-time, temporary, irregular, atypical, casual jobs, non-standard working contracts) increase uncertainty about the future and increased psychological stress



Wide and convincing epidemiological and medical evidence indicates that increased stress, and in particular long term 'low grade' stress, can lead to ill health (Rose and Marmot (1981), Bosma et al. (1997), Sapolsky (2005), Vitetta et al. (2005) and Wilkinson and Pickett (2006, 2009)).

Bender and Theodossiou ("The Unintended Consequences of Flexicurity: The Health Consequences of Flexible Employment", Review of Income and Wealth, Forthcoming, 2017) use 17 waves of the BHPS where healthy workers are selected and are followed until they either experience a worsening of their health condition or become censored observations, that is Individuals not observed anymore or stay always in good health.

The variable to be explained is 'The total length of time in good health recorded for each individual'. The key independent variable are 'The percentage of time spent in flexible employment'. The responses are combined in two groups (a) permanent and (b) flexible employment contracts.

The Health measures:

- (i) Subjective health over the past 12 months (excellent/very good healthy; other responses ill health)
- (ii) Objective, health measures:
 - Good health: if the specific health condition is not mentioned; ill health when the condition was mentioned.
 - Health conditions are: Heart or blood pressure problems; stomach or digestion problems; anxiety, depression, etc.; breathing or chest problems; migraines; skin conditions and allergies; or 'other' health conditions .

Control variables: Standard demographic variables – gender, education, race, age (and its square), marital status, region, and current smoking status – are also included in the regressions as.

The methodology used: Cox (1972) hazard model.

However, there are potential problems of individual heterogeneity (De Cruyter et al. (2008)). Unobservable heterogeneity (or frailty) can significantly bias the results (Heckman and Borjas (1990) and Lancaster (1979))

To circumvent this issue require the use of Discrete mixture model can describe the unobserved heterogeneity between individuals (Jenkins (2005) based on Jenkins (1995) and Stewart (1996), Adaptation of Prentice-Gloeckler (1978) by Meyer (1990))



The approach is implemented by using the “hshaz” subroutine available in STATA (Jenkins, 2005). The estimated regression coefficients can be interpreted as odds ratios.

Establishing the direction of causality:

- (i) Individuals are reported good health at the initial period (start of the survey).
- (ii) When the individual exits good health, his or her socioeconomic status is recorded.

Thus, the direction of causality is from paid employment (temporary or permanent contract) to health, since the individual who enjoys good health is first observed to exit good health on the account of the advancing share of the flexible or permanent paid employment.

To retain homogeneity only employed for the whole observation period so as factors such as unemployment and absolute poverty cannot affect the findings because everybody in the study is in paid employment (Marmot et al., (1978a), Marmot et al., (1978b), Marmot et al., (1991) and Marmot and Davey (1997)).

RESULTS: Odds ratios for the assessed health measure:

An increase by one percentage point in the time spent in flexible employment increases the odds of going into bad health, relative to time spent in a permanent job (if the time spent in flexible employment increases by one standard deviation (about 14.6 percentage points), the odds of falling into bad health are 1.098).

The Prentice-Gloeckler (Jenkins) methodology reveals that the point estimate is slightly larger than in the Cox regression). With unobserved heterogeneity (frailty): The odds ratio increases to 1.012 (or 1.190 for a one standard deviation increase in the per cent of time inflexible employment).

Odds ratios for different objective health measures

Significant at the 5 % level (odds range from 1.008 to 1.019 for a 1% point increase in time spent in flexible jobs relative to permanent jobs (or 1.123 to 1.316 for a one standard deviation increase).

Frailty results are consistent: this implies robust evidence that continued exposure to the stress of flexible employment increases the risk of bad health.



Some disaggregations:

- (i) Are there differences for males and females? (health and employment patterns are different across genders).
- (ii) Does increased income mitigate the effects of flexible employment on health?

Subjective health

Ill health increases with the per cent of time in flexible employment, but the effect is larger for males.

The odds of ill health are much higher for those whose household income is above the median (reflecting anxiety of losing social status?)

Objective health

Larger effects for males in heart and breathing illness.

Little difference between genders for stomach health and skin allergies.

Larger effects for women for anxiety/depression, migraines and 'other' health conditions.

Larger effects for higher income workers for heart, stomach, and breathing,

Larger effects the 'other' health conditions for poorer workers.

Robustness Checks

- (i) For those in the sample for only a few waves, these percentages have little variation. Re-estimate the regressions focusing on those who are in the sample for at least five waves. The odds ratios are generally larger (but insignificant for heart and anxiety/depression)

Studies (e.g.. 'Whitehall' , Marmot) focus on workers who are always in employment: (Continual exposure to work and so factors such as unemployment and absolute poverty cannot affect the findings because everybody is in paid employment, throughout (Sample homogeneity)).

Yet, those on flexible contracts are likely spend some time in non-employment.

Include individuals who may be out of work, either due to unemployment or being out of the labour force although spend at least one wave in a job so that all individuals experience an employment spell.



Overall results across all health types except for 'other' illnesses (now statistically insignificant) do not change.

Conclusions

Flexible employment contracts are inherently insecure since precarious employment induces uncertainty and hence stress among the affected workers.

Other things equal, it is shown that the longer the amount of time spent in flexible employment contracts increases the odds of falling into ill health for a variety of health conditions.

The results are robust to variations of the sample.

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(3) Pay based on performance and Health

It is most likely that in the informal labour markets that the pay is associated with performance on the job in view of the job instability and the absence of any formal contract. However, A. Smit in the *Wealth of Nations*, Book VII noticed that "*Workmen ... when they are liberally paid by the piece, are very apt to overwork themselves, and to ruin their health and constitution in a few years.*"

Bender and Theodossiou ("The Unintended Consequences of the RatRace: The Detrimental Effects of Performance Pay on Health," *Oxford Economics Papers* 66, 3, 824-847, 2014) focuses on whether Smith is right, that is there a link between performance pay and poor health?

Pay based on performance (e.g. Lazear and many others) shows that if set up correctly it can be linked to increased effort on the job and higher productivity (as well as better matching, sorting, skill accumulation, etc).

But there are unintended consequences?

- Quantity rather than quality
- Teaching to Tests (Holstrom and Milgrom, 1991)
- Increases in workers compensation premiums (Freeman and Kleiner, 2005)

Toupin et al. (2007) shows that Canadian loggers paid by piece rates have higher heart rates (**negative** consequences for worker health and safety).



Williamson et al. 2009, Rodriquez et al. 2006, Belman et al. 2005, Monaco and Williams 2000 show that over-the-road truckers in the US paid by the hour have smaller probabilities of being in accidents compared to truckers who get paid by the mile.

Sundstroem-Frisk (1984): Accident rates among Swedish loggers are lower for those paid hourly rates rather than piece rates.

Saha et al. (2004): fertilizer production workers in India on performance pay experienced higher workplace accidents.

Freeman and Kleiner (2005): US shoe manufacturer on piece rates have higher workers compensation costs.

Are there any linkages Between Payment by Results and Health?

Foster and Rosenweig (1994): Subsistence farmers paid piece rates in the Philippines have lower body mass index (BMI) to other farm workers, ceteris paribus (BMI indicates worse health since these subsistence farmers have very low BMIs to begin with).

Bender, Green, and Heywood (2010) performance pay and injuries on the job
European Working Conditions Survey in 2000 and 2005

Performance pay is positively correlated with workplace injury, ceteris paribus.
Perhaps generated by increased effort, more risk taking, etc.

Further Linkages? A tentative model show can demonstrate the issues involved.

Changes composition of time in household production

Model health as a production function

$$H_i = h(B[ehaviors], I, X)$$

Behaviours take time

$$B = b(t[ime], Z)$$



That is, this time (t) is part of household production.

Since

$$T = \text{work hours} + \text{leisure} + [\text{HH production in nonhealth} + t]$$

if work hours increase, then it is likely that HH production time will decrease.

Alternatively stated the issue is that as performance pay is instituted/increases, the shadow price of time in nonwork time (leisure, nonhealth HH production, and time in healthy behaviours) increases, hence the time spent in nonwork decrease (and potentially behaviours beneficial to health (e.g. exercise) will also become less frequent).

Thus, the effects might not be immediate, but may take time.

Methodology

Hazard models is used to model the effects of performance pay on poor health:

Start with sample of healthy workers and observe them over 10 years. So as individuals
 Either fall out of excellent/good health into bad
 or are censored that is either (i) stay in good health throughout the period or (II) they have left the sample

The study uses standard Cox hazard regression as a baseline but then it uses Prentice-Gloeckler hazard regression that allows for discrete intervals and for 'frailty' - individual heterogeneity

The data issue is important as the challenge to find panel data with performance pay and health.

The study use last 10 waves (8-17) of the BHPS (2600-2800 observations)

Health measures



Subjective health derived from the survey question: 'Over the last year, how does your health compare with those of your own age?' Must say 'Excellent' or 'Good' in first wave to be in sample. 46% experience drop in health in sample

Objective health: heart (17.2%), stomach (14.5%) and anxiety (14.2%) problems

Performance pay question:

'Does your pay include performance-related pay?' This is collapsed into two measures:

Percentage of time spent in performance pay

Other covariates used are (gender, race, education, etc) or measured at last period (income, marital status, smoking status, etc)

The study finds that increasing the time in which workers' pay comprises at least in part of performance pay generates higher odds of falling into bad health – either measured by subjective health or along one of three physical health dimensions. These results are very robust to variations in variables or estimation procedure. In addition, the estimates serve as a lower bound of the negative effect of performance pay on health since even if endogeneity is not perfectly captured in the regressions there will be a likely positive bias due to healthier workers selecting performance pay jobs.

Furthermore, the study investigates potential pathways in which this linkage between performance pay and health might lay. While performance pay is found to increase work time, it does not seem to be significantly correlated with activities designed to promote health, although performance pay is correlated with increases in drinking and restaurant meals. A more consistent pattern is found with a series of measures of stress, where increases in the time spent in performance pay increase the hazard of five measures of stress.

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- (4) Emerging problems in Latin-American labour market. Challenges for HEIs researchers and trainers. The new challenges for discussing informality in the context of recent work transformations

1) The phenomenon of informality of work is altering and becoming more complex in recent decades. Therefore, it poses new challenges for its identification and measurement, as well as for its confrontation.



2) Critical aspects of the informality dimension today:

- a) The lack of awareness about the motivations of informal work. The entry and permanence of the worker in informality involves more complex issues than the simple lack of opportunities in the formal economy.

Some relevant variables also weigh in the worker's decision, such as:

- *the possibility of obtaining higher short-term income sometimes offered in informality;*
- *the availability to assume different economic or personal activities in parallel;*
- *the possibility of the worker freeing himself from oppressions, rules and farms that are sometimes associated with certain formal labor relations (for example, jobs in outsourced companies).*

- b) Rotation and transit between formal and informal work:

- *Especially in the periphery countries, formal work, despite providing rights and access to social security, is also marked by high turnover rates.*
- *This is an important element for the understanding of the working path of workers between formal and informal occupations.*

- c) Different types of informality:

- *formal companies that hire informally*
- *the informal self-employed worker;*
- *the self-employed person who establishes formal entrepreneurship that includes the informal work of other family members;*
- *the informal worker who is hired by companies that act informally / illegally and integrate subcontracting networks;*
- *companies that formalize a part of the employment relationship, but keep others under informal conditions*

- d) The themes of the popular economy and of cooperativism:



- *Labor cooperatives that serve as screens for hiring precarious workers are frequent*
 - *The development of productive arrangements outside the formal economy*
- e) The labor uberization:
- *A model of productive organization that transfers most of the risk of capital to workers and already affects the labor market from high to low*
- f) Informalisation of formal work:
- *Process of lowering labor market regulation standards that make legal some practices that were previously considered irregular or illegal. Regulatory systems now accept certain forms of labor ties that reduce access to labor and social rights*

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(5) The Historical and Theoretical Debate of Informality in Latin America: an approach from the periphery of capitalism

1) Contextualization of the issue of informality in the development of peripheral capitalism (PREALC, 1978)

2) Emergence and evolution of the concept:



- a) The definition of the urban informal sector at the Kenya Conference (ILO 1972; HART 1973);
- b) The 1978 study by PREALC (Regional Program for Latin America and the Caribbean) that defines the informal sector as an expression of the structural surplus of labor in Latin America (TOKMAN; SOUZA; 1978). The peripheral economies would be composed of two sectors: one organized, the large company with formal employment and the other characterized by small enterprises, low productivity and informal work.
- c) From the tradition of PREALC, Tokman (1995) and Cacciamali (2000) will update the understanding of informality and relate it to the new international division of labor that emerges with globalization. Cacciamali then creates the concept of "informality process" (2002)
- d) In order to standardize the concept of informality, the ILO will propose in 2002, at the 9th International Labor Conference, the use of the term "informal economy" (HUSSMANN, 2004).
- e) With the generalization of capitalism and the persistence and even increase of informality on the global periphery, we will seek to differentiate informal work, informal sector and informal economy (SALAS, 2003).
- f) (New expressions of informality in the increasing precariousness of work (FILGUEIRAS; DRUCK; AMARAL; 2004)
- g) The evolution of the approach to informality from a political perspective: (i) economic development; (ii) social policy (iii) entrepreneurship (THEODORO, 2002);
- h) The links of formality and informality given the characteristics of the labor markets in Latin America (BARBOSA, 2009).
- i) Popular economy and informality (GIRALDO, 2017)

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5. GUIDELINES FOR REPLICATION

5.1 FORMAT AND PROCEDURES OF THE LATWORK REPLICATION SEMINARS

After each Training of Trainers Module (WP2, 2.3) the Training must be replicated in each Latin-American Institution (Local Replication Seminars 2.4). The objective of the latter is to create a multiplier-effect and a bigger impact of the Training. These replications last one day long (minimum) and this transmission will be streamed live and will be recorded and uploaded on LATWORK's webpage and YouTube channel. This document aims to establish basic guidelines for the 9 Latin-American Universities in order that replications have a similar basis.

Main idea

Each University can organize the Training in the way that is more convenient.
It must be streamed live online



It is recommended that Universities get organized at National Level to coordinate the specific topics of the Training.

In total each Latin-American University must implement at least 3 Local Replication Seminars (One after each Training Module).

Attendants

In each university there must be minimum 25 attendants and 5 attendants from other institutions external to the Universities.

Calendar

LATWORK Training Calendar		
Training	Institution	Dates
Training Module I in Campinas, Brazil	Universidade Estadual de Campinas, Brasil	10-13 December 2019
First Local Replication Seminar	All LA Partners	TO BE DEFINED
Training Module II in Rosario, Argentina	Universidad Nacional de Rosario, Argentina	TO BE DEFINED
Second Local Replication Seminar	All LA partners	TO BE DEFINED
Training Module III in Santiago, Chile	Universidad de Santiago de Chile	TO BE DEFINED
Third Local Replication Seminar	All LA partners	TO BE DEFINED

Material (check-list)

- Attendance List (Template Available on LATWORK Moodle)
- Certificate (Template Available on LATWORK Moodle)
- Agenda (Template Available on LATWORK Moodle)
- LATWORK Dissemination Materials (roll-up, leaflets).
- Computer with connection to internet
- Live streaming