IZA CONFERENCE

Labor Markets in Western Africa: Evidence and Policy Lesson

Human Capital and Social Capital effects on Labor Market Outcomes: Evidence from Côte d'Ivoire

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Outline

1. Introduction
2. Literature Review
3. Data and Econometric framework
4. Results
5. Conclusion

1. Introduction

Labor market issues (unemployment) are at the core of economic problems addressing most of the countries worldwide, after the financial crisis of 2007-2009.

S-S African countries: rapid growth, around 6% of GDP growth in average since 2002, expectations to be emergent countries over 5 to 20 years.

Youth unemployment and especially availability of decent jobs for an increasing number of skilled workers are challenging these economies.

1. Introduction (cont'd)

The scarcity of wage employment led the school leavers to rely more on networking or social capital in access to job.

Better transition from school to work and from a type of employment to another need investments to reduce search costs.

The use of social network in labor market seems to be much more important in developing countries based on the role played by informal institutions.

1. Introduction (cont'd)

Social networking, social capital

➔ reduce information asymmetry and increases employer-employee matching; But,

➔ workers in occupations where they are not most productive ➔ mismatching between skills and jobs + low labor force quality (Bentolila et aL, 2008).

Small urban formal to absorb highly educated workers and provide skill premiums in WAC. ➔ low demand for education + high dropout rates (Dimova, et al. 2010).

1. Introduction (cont'd)

Côte d'Ivoire: 2002-2011: decade of crisis; 2012- sociopolitical stability: economic growth rate of 9% in average; expectations of 8.5% growth in 2015 and 2016.

Share of GDP allocated to education from 4.45% in 2008 to 5.03% in 2014. Public spending on education remains high at a level of 20% of total public expenditures.

➔ School enrollment and completion rates are increasing at all educational levels.

1. Introduction (cont'd)

But, No sufficient jobs for more educated persons in the formal sector (salaried jobs) due to insufficient structural transformation of the economy.

Employment in 2013: 43% in agriculture, 44% in services and trade, and 13% in Industry. Wage employment=25%. 86.7% of labor force in informal sector.

Unemployment rate increases with education. 6.4% for those never been to school, 14.1% for holders of Primary certificate (CEPE), 17.2% Junior High School certificate, 19.8% for Baccalaureate and 29.8% for holder of Bachelor.

1. Introduction (cont'd)

While capital productivity is increasing, labor productivity has decreased in past years and remains stable in more recent years (CAPEC, 2014).

A rise in % of those leaving upper secondary and tertiary schools among employees (40% in 2009, 63% in 2014) but high % of overeducated (80%) and of skills mismatch (54%).

About 80% of unemployed use personal relationships to get a job, few (12%) address their demand to public or private employment agencies.

1. Introduction (cont'd)

Papers on social networking incidence on labor market in Africa have focused mostly on transitions from school to work or among employment types (i.e, Nordman and Pasquier-Doumer, 2015).

But,

If social capital matters for transition, what type of social capital **is it valuable for access to wage employment**?

Is social capital playing the same role as human capital in the internal labor market (wages)?

Objective: shed light on how social capital affects not only employment but also productivity in Côte d'Ivoire.

2. Literature Review

Human capital theory (Becker, Shultz) and empirical studies: education increases worker's productivity.

➔ higher wages for more educated people, in absence of market failures.

Search's theory: importance of information and uncertainty on the rational decision taken by the individual. Market frictions will affect the search, recruiting, training and other forms of match specific capital, influencing the equilibrium level of employment (Mortensen and Pissarides, 1999).

➔ Skilled persons will earn more when searching outcomes sort them in workplaces that match with their skills.

2. Literature Review (cont'd)

As information is crucial for access to job and on the matching quality, comparative advantages derived from investments that reduce asymmetries: Social capital is therefore relevant to labor market outcomes.

Seminal paper of Rees (1966) on the informational sources, including referrals and social connections, effect on job search process.

Boorman's model (1975) and Montgomery (AER, 1991): strong contacts have strict priority as recipients of information about the existence of job vacancies. Well connected workers (social ties to those in high-paying jobs) benefit from higher outcomes.

2. Literature Review (cont'd)

More recent studies: essential relevance of social capital to the understanding of duration dependence and persistence in unemployment (Calvó-Armengol and Jackson 2004, 2007; Bramoullé and Saint-Paul 2010).

Calvo-Armengol and Jackson (2004): **the structure** of a social network affects persistence in unemployment. In the short-run, competition over a finite number of known jobs;

➔ possible negative correlation in employment outcomes between some network members, mitigating the network's ability to overcome labor market imperfections.

2. Literature Review (cont'd)

Calvó-Armengol and Jackson (2007): wages and employment are positively associated across time and agents in labor markets with information gathered through social network. The starting states of groups' networks ➔ persistent differences in wages between groups.

Empirically: Bayer, Ross and Topa (2005) based on U.S. Census provide evidence that the increased availability of neighborhood referrals has a significant impact on labor market outcomes such as employment and wages.

2. Literature Review (cont'd)

Bentolila, Michelacci, and Suarez (2008): based on surveys from EU and the US: social contacts reduce unemployment duration by 1-3 months on average, but they are associated with wage discounts of at least 2.5%.

Other studies have found a positive relationship between measures of social capital and wages (e.g. Flap and Boxman 2001; Lai, Lin and Leung 1998).

At the African level, Bar (2002) gives evidence that networks affect enterprise performance in different ways depending on the network features, using data on Ghanaian firms.

2. Literature Review (cont'd)

Berrou and Combarnous (2012): informal entrepreneurs in Bobo-Dioulasso (BF) have to combine strong and wide social ties with weaker business ties to be successful.

Whitehouse (2011): social burdens (requests for goods, discounts, loans, grants, employment) from relatives impede on entrepreneurs' success in their home community in Brazzaville (Rep. of Congo).

Nordman and Pasquier-Doumer (2015), from household survey in Ouagadougou (BF): Social networks have a significant effect on the dynamics of workers in the labor market. The effect differs depending on the type of transition and on network's dimension.

Empirical studies and theories: HK and SK are important for employment. HK is crucial to wages increase. No consensus about networking effect on wages.

3. Data and Econometric framework

3.1. Data

Use of two recent data sets:

(1) 2013 Employment survey in Côte d'Ivoire, data collected in february 2014 (national survey).

(2) 2013 survey on firms and employees, « *Les Determinants de la Performance des Entreprises en Afrique Subsaharienne Francophone*" survey conducted from November 2013 to march 2014 by the Cellule d'Analyse de Politiques Economiques du CIRES (CAPEC).

3.1. Data

The Employment Survey

Conducted by the National Institute of Statistics. A sample of 12,000 households distributed throughout the national territory and the data were collected in February 2014. Funded by the World Bank and Gvnmt.

The sample was obtained after proportional drawing of 600 surveys zones and systematic sampling of 20 households in each survey zone.

Questionnaires have been responded by head of household (household quest.) and by individuals (individuals quest.)

3.1. Data

The Employment Survey: Individuals questions

- Current employment situation,
- Principal occupation with question on how you found your job,
- Secondary occupation,
- Job search, with question on the search procedures,
- Unemployment,
- Trajectories and perspectives,
- Non labor related revenues,
- Child labor,
- Apprenticeship and training,
- Social characteristics (age, marital status, religion, schooling, characteristics of hh head when 15 years old, etc.)

3.1. Data

The Employer-Employee matched data

It contains detailed firms' and employees' information on formal and informal businesses in Cameroon, Cote d'Ivoire, and Senegal.

Overall 1,820 firms and 2579 employees were interviewed. There are 780 firms and 1209 employees in Cameroon, 480 firms and 785 employees in Senegal, **560 firms and 578 employees in Côte d'Ivoire (160 firms and 422 employees in the formal sector)**. Funded by IDRC.

3.1. Data

The Employer-Employee matched data

The employee module contains:

- basic demographic information for each employee,
- level of education,
- tenure within the company,
- number of hours worked,
- monthly income from all sources (salary, commissions, etc.),
- whether the individual is satisfied with his/her job, whether he has been promoted, use of computers and cell phones,
- **How the individual found this job: social networking, employment agencies, etc.**

3.1. Data

The Employer-Employee matched data

The employer/ manager and production modules contain:

Basic demographic characteristics of the managers, detailed information on the firm's activities, revenues, management styles (hiring procedures, pay for performance, employees involvement in decision making, etc.), business climate effect on firms, ICT use at the workplace, investment in innovation and outcomes, managers' attitudes toward women, etc.

Inside the firm: 1-10 employees (based on firm's size) have been randomly selected and surveyed

3.2. Econometric framework

Y is vector of firm characteristics such as sector, sex of the manager, firm size. Our dependent variables will be WORK, Salaried Worker, log wages. Empirical strategy for the wage equation. The specifications for WORK/Salaried is almost the same through a sample selection model.

$$lnw_{ij} = \beta_0 + \beta_1 YearsSch_i + \beta_2 SocCapital_i + \beta_3 HiringNetWkj + X\delta + Y\varphi + u_{ij}$$

where lnw_{ij} is the log of wages for employee *i* that works in firm *j*;
$YearsSch_i$ is the number of years of Schooling of employee *i*
$SocCapital$ is a binary variable that takes the value of one if the employee has been hired through social networks;
HiringNetWkj = binary variable = 1 if Firms' first strategy to hire is through on social network
X is a vector of individual characteristics such as age, marital status, tenure.
Y is a vector of firm characteristics such as Manager's gender, Firm size.

3.2. Econometric framework

Work/ Salaried equations (Probit Model with sample selection) are estimated through heckman maximum likelihood procedures.

Wages equation is estimated by OLS (IV estimation : no valuable instrument in the questionnaire).

4. Results

4.1. Descriptive Statistics / Employment Survey

Variables	Definition	Obs	Mean	Std. Dev.	Min	Max
WORK	= 1 if respondent has worked for at least 1 hour the previous week or hold a job	1289	**0.646**	-	0	1
Salaried	= 1 if has a salaried job	833	**0.255**	-	0	1
Agriculture	= 1 if working in Agriculture	833	0.294	-	0	1
Industry	= 1 if working in Industry	833	0.152	-	0	1
Commerce	= 1 if working in Commerce (detail)	833	0.215	-	0	1
Services	= 1 if working in Services	833	0.339	-	0	1
Male	= 1 if Male	1289	0.517	-	0	1
Age	Age in years	1289	21.97	3.97	15	29
YrsSchooling	Years of schooling	1289	**8.223**	4.06	1	20
Job through NetWorking	= 1 if Look for Job/ found job by social networks	1289	**0.445**	-	0	1
HighSocNetwk	= 1 if HH head when 15 y.o. has a high rank in his occupation	1289	**0.567**	-	0	1
HHSize	Household size	1289	5.517	3.62	1	29
Abidjan	= 1 if living in the capital city	1289	0.223	-	0	1
Other Religions	= 1 if Other Religion	1289	0.125	-	0	1
Muslim	= 1 if religion is Muslim	1289	0.407	-	0	1
Christian	= 1 if religion is Christian	1289	0.469	-	0	1

4. Results

4.1. Descriptive Statistics/ Employer-Employee matched survey

Variable	Obs	Mean	Std. Dev.	Min	Max
Wages (weekly)	315	9831.503	30301.61	461.5385	375000
LnWages	315	8.415	0.996	6.1345	12.8347
Male	315	0.648	-	0	1
Married	314	0.465	-	0	1
Age in years	315	35.787	8.196	19	65
Years of Schooling	315	12.711	3.843	0	18
Tenure	304	5.630	6.344	0	55
Hired th. Networking	312	0.708	-	0	1
Firm_Hiring through Fam Network	315	0.368	-	0	1
Firm_Hiring through Prof. Network	315	0.311	-	0	1
Firm_Hiring through agencies	315	0.321	-	0	1
Industry	315	0.263	-	0	1
Services	315	0.533	-	0	1
Commerce	315	0.203	-	0	1
Manager_Male	315	0.898	-	0	1
Firm_Size	315	33.054	47.544	1	239

4. Results

4.2. HK-SK Effects on Employment

Probit with sample selection	Coef.	Std. Err.	P>|z|
WORK			
Male	0.532***	0.077	0.000
Age	0.050***	0.011	0.000
YrsSchooling	-0.119***	0.038	0.002
YrsSch2	0.004	0.002	0.102
GlobSocNetWk	0.556***	0.078	0.000
HighSocNetwk	-0.164**	0.079	0.037
HHSize	-0.018*	0.010	0.057
Abidjan	-0.265***	0.092	0.004
Religion2	-0.020	0.133	0.880
Religion3	-0.123	0.125	0.324
_cons	-0.192	0.304	0.528
/athrho	-1.131*	0.649	0.081
rho	-0.811	0.222	
Number of obs = 1289			
Censored obs = 456 / Uncensored obs = 833			
Wald chi2(9) = 148.23 / Prob > chi2 = 0.000			
Log likelihood = -1117.984			

4. Results

4.2. HK-SK Effects on Employment/ Salaried job

	Coef.	Std. Err.	P>|z|
Salaried			
Male	-0.032	0.169	0.850
Age	0.002	0.021	0.914
YrsSchooling	0.073***	0.012	0.000
GlobSocNetWk	0.039	0.193	0.838
HighSocNetwk	0.318***	0.098	0.001
Industry	0.298*	0.155	0.056
Commerce	0.148	0.140	0.293
Services	0.877***	0.223	0.000
Abidjan	0.256**	0.112	0.022
_cons	-1.480*	0.893	0.097
LR test of indep. eqns. (rho = 0): Chi2(1) = 1.49 Prob > chi2 = 0.2214			

4. Results

4.3. HK-SK Effects on Wages

Linear regression	Number of obs = 300			
	F(12, 287) = 7.66			
	Prob > F = 0.0000			
	R-squared = 0.2815			
	Root MSE = .89059			
		Robust		
LnWages	Coef.	Std. Err.	t	P>|t|
Sex_Male	.0737	.1102062	0.67	0.504
Married	-.1116	.1108531	-1.01	0.315
Age	.0189**	.0075523	2.50	0.013
Years of Schooling	.0789***	.0142589	5.53	0.000
Tenure	.0368**	.0168098	2.19	0.037
Hired through NetWorking	-.2236*	.1218803	-1.83	0.068
Firm_Hiring through Fam Network	.1169	.1285094	0.91	0.364
Firm_Hiring through Prof. Network	.1224	.1484606	0.82	0.410
Industry	.2186	.1783047	1.23	0.221
Services	.1739	.1604771	1.08	0.279
Manager_Male	.4424***	.1543637	2.87	0.004
Ln (Firm_Size)	.0904*	.0539962	1.68	0.095
cons	5.8713	.3835813	15.31	0.000

5. Conclusion

Human capital and High Social capital (global social networks) matters for employment in Côte d'Ivoire.

While Qualitative social networks (having relatives in high ranked job) is needed for access to salaried job by school leavers.

The returns to education (general human capital is around 8%. Returns to tenure (specific human capital =3.7%) Access to salaried job through high social networks has a negative effect on wages

➔ less productive workers are founding salaried job through social networks.

There is possibility of wage discrimination among workers

5. Conclusion

- Less productive workers are founding salaried job through social networks. Workers are not sorted in job where they are the most productive when using social capital.

- There is possibility of wage discrimination among workers according to their hiring process: implicit contract?

- Ivorian government should reduce informational asymmetry in the labor markets and favor job creation for skilled persons to ease the matching between job seekers and firms.

Je vous remercie pour votre attention

Thank you