Working in the Informal Sector in Togo: Choice or Constraint?

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Abstract

The paper aims to determine whether working in the informal sector in Togo is a choice or a constraint. Two instrumental variables models (probit and 2SLS) were used to estimate the probability of being satisfied with informal employment. The data used come from the Survey on Transition to Working Life (ETVA) in Togo carried out by the ILO in 2014. The results show that working in the informal sector in Togo is more a constraint than a deliberate choice. In addition, salaried jobs in the informal sector are undesirable, and non-salaried jobs in this sector are chosen. Furthermore, several factors determine the satisfaction of young Togolese in informal employment, notably the salary, the geographical location of the company and the socio-demographic characteristics of the worker. Apart from these classic factors, job security, job flexibility, salary consistency and personal development are factors that also increase the likelihood of being satisfied with one's job in Togo. Thus, any policy targeting the Togolese informal sector should take into account the heterogeneity of this sector for better organisation and formalisation in order to reduce the degree of job insecurity and, in turn, fight against indecent jobs and poverty among young Togolese.

Keywords Satisfaction · Informal sector · Instrumental variables · Probit · 2SLS

Résumé

L'objectif de cet article est de savoir si travailler dans le secteur informel au Togo est un choix ou une contrainte ? Deux modèles à variables instrumentales (probit et DMCO) sont utilisés pour calculer la probabilité d'être satisfait de son emploi. Les données proviennent de l'Enquête sur la Transition vers la Vie Active (ETVA) au Togo réalisé par le BIT en 2014. Des résultats, il ressort que travailler dans le secteur informel au Togo est plus une contrainte qu'un choix délibéré. Il ressort également que les emplois salariés du secteur informel sont de seconde main alors que les em-

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plois non-salariés de ce secteur sont choisis. Par ailleurs, plusieurs facteurs déterminent la satisfaction des jeunes togolais dans l'emploi informel notamment le salaire, la situation géographique de l'entreprise et les caractéristiques sociodémographiques du travailleur. En dehors de ces facteurs classiques, la sécurité de l'emploi, la flexibilité de l'emploi, la consistance du salaire et le développement personnel sont des facteurs qui accroissent également la probabilité d'être satisfait de son emploi au Togo. Ainsi toute politique visant le secteur informel togolais devrait tenir compte de l'hétérogénéité de ce secteur pour une meilleure organisation et formalisation afin de réduire le degré de précarité des emplois et par ricochet lutter contre les emplois indécents et la pauvreté des jeunes togolais.

JEL Classification J21 · J28 · 017 · O55

Introduction

In developing countries, two prominent theories of the informal[1] sector may be at odds with each other. According to the exclusionary theory, integration into the informal sector job market is involuntary and may be the result of labour market segmentation caused by the structural surplus of labour and the insufficient absorptive capacity of the formal sector. Thus, the informal sector would constitute a simple hub of labour for the formal sector characterised by low wages, precarious working conditions with a high rate of underemployment (the so-called "dualist" thesis). This conception, inherited from Lewis's (1954) macroeconomic models, is based on the hypothesis of insufficient demand for labour in the formal sector (whatever the causes) resulting in a queuing phenomenon at the microeconomic level for part of the workforce. The selection process for workers in the formal sector would then take different forms depending on local contexts: the least-qualified individuals and the least-integrated into the labour market would be excluded, in particular women, young people, the elderly, migrants, etc. This would force people to work in the informal sector, while employment in the formal sector would be the ultimate goal for all.

On the other hand, the exit theory emphasises that, for most entrepreneurs and some employees, informal employment is the result of a deliberate choice. Individuals who choose to work in the informal sector have compared the advantages and disadvantages of formality (Maloney 2004; Jütting and de Laiglesia 2009). Several empirical studies have been conducted in this direction in Latin America (Arias 2007) and have pointed out the fact that individuals or firms deliberately choose informality, and not only for tax evasion purposes. Several factors may motivate

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[1] In Togo, the informal sector is defined as a set of unincorporated enterprises owned by households that produce at least some products for the market but have fewer than a specified number of employees and/ or are not registered according to specific forms of national legislation; registration may refer, for example, to registration provided for by tax obligations or social security contributions or other administrative provisions. Like many other countries in the subregion, growth in Togo does not create significant formal employment. Dominant employment remains in the informal sector.

their choice, such as mobility, flexibility, autonomy, authority, and the costs of formality (Jütting and de Laiglesia 2009).

Recent works have examined the heterogeneity of the informal sector, which may help to reconcile the two previous approaches. Thus, two components within the informal sector should be distinguished: subsistence activities with poor economic performance and dynamic entrepreneurs that can generate substantial profits. The latter may only operate in the informal sector because excessive public regulation would hamper their productive potential (the so-called "legalistic" thesis). In this case, employment in the informal sector would be the result of a cost/benefit analysis, and therefore of a genuine individual choice. Other types of workers are also likely to prefer the informal sector because of their specific characteristics. For some women, for example, the possibility of combining supplementary income with domestic activities can be a decisive advantage. For young people who leave school early, an apprenticeship or training in the informal sector may be the only option for acquiring a vocational qualification. This heterogeneity of the informal sector has led the World Bank (Arias and Maloney 2007) to conduct a study to see whether individuals deliberately choose to leave the formal economy or are excluded by regulation.

In general, the literature on this subject relies on indirect methods based on revealing individual preferences. Some studies show that with identical characteristics, wages are sometimes higher in the informal sector, attracting the workforce to this sector. Nevertheless, it is reasonable to assume that remuneration is only one of the components associated with job quality, and can be counterbalanced by other elements related, in particular, to working conditions. Other studies focus on identifying the existence of an "informality trap" such that, once in the informal sector, it is difficult to get out of it. However, the fact that mobility between the informal and formal sectors is limited is not sufficient to justify that employment in the informal sector is undesirable.

This article aims to contribute to this debate in sub-Saharan Africa, and specially in Togo, where the informal sector is growing[2] rapidly. This work examines the job satisfaction of workers in the informal sector compared to workers in the formal sector, in line with the work of Razafindrakoto and Roubaud (2006) who believe that job satisfaction is a good indicator of job quality. Although this article focuses on the informal sector, our analyses are carried out in comparison with other institutional sectors in order to assess the relative satisfaction associated with other forms of employment.

The paper makes several valuable contributions. First, it enriches the literature by using job satisfaction, which represents an original (and underexplored) way of measuring the quality of jobs, especially in African countries. Using this alternative approach makes it possible to go beyond the traditional (neoclassical) theoretical framework that usually uses labour compensation as the main indicator for

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[2] According to the ILO (2019), the share of informal employment in total employment in Togo increased from 87% in 2000 to 92.8% in 2016, with a proportion of 90.3% for men and 95.2% for women. The informal sector contributed 35.9% to GDP in 2015.

measuring the utility of a job. The validity of the labour compensation framework requires the assumption of perfect competition in the labour market, and hence the assumption that additional wages compensate for the costs associated with some types of jobs (vulnerability, precariousness, hardship, freedom, etc.). These assumptions are hardly compatible with the real situation in developing countries, where the duality of the labour market is very pronounced. In the context of segmentation between formal and informal sectors, for example, disadvantages are more likely to be cumulative than compensatory. It appears that the relative appreciation (in terms of satisfaction) of the informal sector (and its various components) varies significantly from one economy to another, depending on the context and local characteristics of the labour market, making any form of generalisation unrealistic. It is, therefore, an open question that can only be answered through empirical analysis.

Second, although the informal sector occupies a central position in the growth and economic development of African countries in general and particularly in Togo, the stock of knowledge available about this sector is surprisingly small. This sector's growth, either through the creation of new entities or through the transition of formal sector entities, can lead to productivity gains and the broadening of the tax base, thus facilitating the internal mobilisation of the resources required to finance public services (whose financing is heavily dependent on external inputs) and contributing to development. The challenge for policymakers is to create an environment in which the formal sector can thrive, while at the same time providing opportunities for informal sector workers to maintain and even improve their standard of living. It is therefore essential to know whether individuals work in this sector of their own volition or whether they are obliged to do so. Such knowledge could support policy orientations for organising and formalising informal companies, orienting the institutional and legal frameworks of the informal sector to enhance its assets and opportunities, and restructuring the sector to make it an effective tool for inclusive economic and social development. A differentiated analysis of the factors that determine job satisfaction (formal and informal) using the matching method also helps to understand the motivations that guide young Togolese workers in different sectors of activity. Knowing these factors can enable policymakers to create more decent jobs in all sectors of activity.

In sum, the objective of the paper is to determine whether working in the formal sector in Togo is a choice or a constraint. The rest of the paper is organised as follows: after this introduction, we present the literature review in the second section. The methodological approach is presented in the third section, and the results are presented and discussed in the fourth section. The last section is reserved for the conclusion.

Satisfaction in Informal Employment: Which Lessons?

The literature analyses the informal sector from three views: the informal sector seen as a refuge for those excluded from the formal sector (exclusion theory), the informal sector as a deliberate choice (exit theory), and the informal sector as a heterogeneous whole (dualistic conception).

According to the first view point (exclusion theory), individuals are employed in the informal sector because they have not been able to access formal jobs. This conception is consistent with the dualist school, which is based on the theory of labour market segmentation, but also with the legalistic school (De Soto 2000), according to which segmentation is explained by the existence of barriers to entry into formal employment expressed by the excessive cost of the formality imposed on a subset of the population (Jütting and de Laiglesia 2009). The low-skilled thus take refuge in self-employment or informal wage employment, since the alternative of setting up a business in the formal sector involves costly administrative and financial costs. However, Cogneau (2001) and Zerbo (2006) highlight the rationing of the formal job supply that makes the formal sector incapable of absorbing all the skilled labor.

On the other hand, according to the second view point (the exit theory), with the majority of entrepreneurs and few employees, informal employment is the result of a deliberate choice. Several factors can motivate their choice: lack of financial means, the costs of formality, mobility, flexibility, autonomy, authority, so on. (Jütting and de Laiglesia 2009). In addition, access to the informal sector is not always easy because there are some less accessible activities, such as craft activities that require technical know-how. Fields (1990) points out that activities that are difficult to access, such as handicrafts, are chosen voluntarily for the high income they generate. In the same vein, Beuran and Kalugina (2005) note that in Russia, paradoxically, working in the informal sector increases well-being despite poor working conditions in addition to job insecurity and exclusion from the soc

ial benefit system, in addition to significantly lower average incomes. This result is similar in some African countries (Razafindrakoto and Roubaud 2006). Rakotomanana (2011) shows that in Madagascar, all other things being equal, there is no intrinsic difference in the level of satisfaction between workers in the informal sector and those in the formal private sector, with public sector employees always being relatively the most satisfied. Falco et al. (2011) in their analyses of Ghana also find that the informal and formal (private and public) sectors provide an equivalent level of satisfaction. This result seems relatively robust, as it also prevails in Vietnam (Razafindrakoto et al. 2012). Similarly, own-account workers (who may be more prone to income instability) are found to be more satisfied than wage earners (Blanchflower and Oswald 2004). This result is a feature also observed in Ghana by Falco et al. (2011). These results show the importance of factors such as autonomy and independency, flexibility, status in employment, and the quality of employment relationships on job satisfaction. Women, the least educated, young, and older people with lower (or lowered) aspirations are more likely to report satisfaction with their informal employment. There is a tendency to argue that a high level of education promotes self-employment (Congregado et al. 2009). Thus, education would be a favorable channel for acquiring the managerial skills required to engage in entrepreneurship and thus in the informal sector. As a result, women, the elderly and graduates with a majority of young people are those that have fewer ambitions in the informal sector (Kuepie et al. 2009).

Finally, the last opinion (dualistic conception) combines aspects of the two theories (of exit and exclusion) and develops the idea of a dualism within the informal sector (Fields 1990, 2005) by testifying to the heterogeneity of informal jobs.

They argue that there is a "top category" and a "bottom category" in urban informal labour markets in developing countries. The upper category includes the competitive part of the informally employed population (individuals who have deliberately chosen informality based on their characteristics and expect to earn more than in the formal sector). However, the lower category consists of people who could not access more productive jobs, either in the formal or informal sector, but also cannot afford to be unemployed. This dualistic view of the informal sector reflects the existence of segmentation within informal employment itself (Jütting and de Laiglesia 2009). Thus, in 2002, the International Labour Organization (ILO), in its report on informal employment, stressed the heterogeneity of informal employment, pointing out that there is "no simple relationship between working informally and being poor on the one hand, and working formally and escaping poverty on the other". This suggests that some informal workers are not poor and some formal workers are poor, and therefore that some informal jobs are better paid than some formal jobs. In the same vein, Lopez-Castano (1989) describes the mobility of workers from the informal to the modern sector along a three-phase trajectory. Young workers first start in the lower informal sector as wage earners or caregivers, then they are integrated into the modern sector as formal wage earners, and then return by choice to the upper segment of the informal sector as self-employed.

Beyond this debate, the literature mentions that several factors can affect a worker's satisfaction in the job, in particular extrinsic factors (income, benefits or advantages provided by the job, working conditions, etc.), intrinsic factors (the opportunity to lead and control, autonomy, the mobilization of their capacities and qualifications, the variety of tasks, the absence of physical danger, clarity of information on the professional environment, the relationship to work, social position, etc.). The socio-demographic characteristics of the individual such as age, sex, place of residence, level of education etc. (Blanchflower and Oswald 1998; Clark 1996; Clark and Oswald 1994) can also affect the level of worker satisfaction. On the other hand, workers may tend to dislike some of the extrinsic characteristics of informal work such as low income level, lack of job protection, lack of written contract guaranteeing worker's rights, lack of social security, job insecurity etc. Also, some intrinsic factors of informal work may be disliked by workers, including physical dangers, lack of opportunities to develop skills, etc. But on the other hand, workers in the informal sector can value some factors intrinsic to their work, in particular autonomy, independence and flexibility, which can increase job satisfaction.

Methodological Approaches

This methodology presents the theoretical framework of the determinants of job satisfaction that leads to the empirical model. The data source and the estimation method are also presented.

Theoretical Framework

From the literature, it emerges that the probability of being satisfied with one's job depends on several factors, including the sector of activity, income, the characteristics of the company and the socio-demographic characteristics of the individual. Theoretically, this is a dichotomous model which is written as follows:

$$p_i = Prob(y_i = 1|x_i) = F(x_i\beta), \quad \forall i = 1, \dots N \tag{1}$$

where p_i is the probability that individual i is satisfied with his or her job, y_i is a dichotomous variable taking the value 1 if the individual is satisfied and 0 otherwise and F is the distribution function.

Empirical Model

From the theoretical model presented above, the probability of being satisfied with one's job is analysed through the empirical model used by Razafindrakoto and Roubaud (2013) that can be specified as follows:

$$Satisf_{ik} = \beta_0 + \beta_1 \ Sect.Act \begin{pmatrix} informal \ \ sector \\ public \ sector \\ agriculture \ \ sector \end{pmatrix} + \beta_2 \ Income + \beta_3 \ Caract.enterp \begin{pmatrix} Size \\ geo.local \end{pmatrix}$$

$$+ \beta_4 \ Sociodeo.caract \begin{pmatrix} sex \\ age \\ marital \ status \\ educ \\ hous.fin.stat \\ Residence \end{pmatrix} + \beta_5 \ Sect.act \ * \ educ$$

$$+ \beta_6 \ Sect.act \ * \ Sex + \beta_7 \ Sect.act \ * \ geo.local + \varepsilon_i \tag{2}$$

where $Satisf_{ik}$, which depicts the satisfaction of individual i in his job k, is a binary variable which takes the value 1 when the worker reports being satisfied with their job and 0 otherwise. Four items (very dissatisfied, dissatisfied, satisfied and very satisfied) made it possible to construct the binary variable which takes the value 1 if the individual is satisfied or very satisfied and 0 if he is dissatisfied or very dissatisfied. The vector of explanatory variables is composed of the sector of activity grouped into three types[3]: the informal sector (i), the public sector (ii) and the agricultural sector (iii); individual's income; the characteristics of the enterprise (number of employees; the geographical location[4] of the enterprise, which takes the value 1 if the enterprise is located in the capital "Lomé" and 0 otherwise); socio-demographic

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[3] Private sector employment is not taken into account here because young people employed in the private sector represent only a small proportion (less than 2%).

[4] The capital, Lomé, has more infrastructure than the interior of the country, and most of the production is based there; more than 86% of the country's electrical energy is consumed in Lomé (AfDB, 2015).

characteristics such as age, sex (which takes the value 1 if the individual is male and 0 otherwise); marital status (which takes the value 1 if the individual is married and 0 otherwise); household financial status (which takes the value 1 if the individual comes from a financially well-off household and 0 otherwise); residence (which takes the value 1 if the individual resides in an urban area and 0 otherwise), level of education (which takes the value 0 for primary, 1 for secondary and 2 for higher education). To take into account the interaction effects, the sector of activity is crossed with the level of education. Primary level is qualified as "low education" and higher level as "high education". The sector of activity is also crossed with the gender and the geographical location of the enterprise.

The sector of activity affects satisfaction depending on whether the individual has chosen or is forced to work there. If the individual has deliberately chosen to work in a sector, his job satisfaction will be high (Fields 1990; Jütting and de Laiglesia 2009). Higher income increases worker satisfaction (Beuran and Kalugina 2005) but some authors believe that this link is not evident. Indeed, analyzes show that once basic needs are met, the link between satisfaction and income is weaker (Easterlin 2001; Frey and Stutzer 2002). Clark (2004) points out that relative income (subjective perception of the level of individual income compared to that of those around them) has a greater impact on satisfaction than the amount of income itself. The size of the company positively affects the level of employee satisfaction. The larger a company, the more it pays good salaries, insures its employees and guarantees them a retirement and therefore its employees are more satisfied (Razafindrakoto and Roubaud 2013). The geographical location also affects satisfaction through the salary which is strongly correlated with the purchasing power of the workplace but also of the sector of activity in which the company operates. Apart from traditional economic variables, the socio-demographic characteristics of individuals can affect their level of satisfaction. Gender affects job satisfaction according to the sector of activity (Clark and Oswald 1996; Clark 1997). Age affects satisfaction differently depending on whether the job is more or less arduous. For arduous jobs, the older you get, the less satisfied you are, and vice versa for less arduous jobs. Job satisfaction also defends whether the worker is married or not. Strong marital constraints force married people to be less satisfied with their jobs than their single counterparts. Also, the higher the level of education of a worker, the higher his expectations and therefore he is less and less satisfied with his job (Razafindrakoto and Roubaud 2013). In the same sense, if the worker lives in a financially well-off household, he will tend to have high expectations and as a result is less and less satisfied with his job. The place of residence can affect worker satisfaction, but depending on the sector of activity. If the job is well paid, the city worker will tend to be more satisfied with his job.

Data and Estimation Method

The data used in this paper come from the Survey on Transition to Working Life (ETVA) in Togo conducted by the ILO in 2014 that is a household survey of young people aged from 15 to 34. This survey was carried out by the Directorate General of

Statistics and National Accounts (INSEED) of Togo, with the funding of the International Labour Office project "Work4Youth" and the MasterCard Foundation. The survey was carried out on the basis of a probabilistic method. This approach offers the possibility of having representative results at the level of each field of study as well as the national level. Moreover, the approach makes it possible to have all the precision indicators of a probabilistic survey (sampling error, coefficient of variation, confidence interval, etc.). The sampling method used is the two-stage sampling with stratification at the first stage. The first-stage sampling frame is made up of the enumeration zones resulting from the mapping (September–October 2013) of the third Demographic and Health Survey in Togo, which is the master sample for this survey. A total of 2,208 young people aged from 15 to 34 were surveyed.

The dependent variable (job satisfaction) is a binary variable which takes the value 1 if the worker reports being satisfied with their job and 0 otherwise. The probit and logit models are the most appropriate for calculating the conditional probability of being satisfied or dissatisfied with one's job. According to the literature, there could be an inverse causality between job satisfaction and income that leads to an endogeneity problem. Furthermore, missing variables may also be a source of bias. We employed an instrumental variable approach to solve this endogeneity issue. To ensure the robustness of the results, we used the probit model with instrumental variables (probit) and two-step least squares with instrumental variables (2SLS). Beyond the forced or voluntary choice of the informal sector, it is also important to know the factors that determine the satisfaction of informal employment in Togo.

Choice and Relevance of Instruments

To solve the problem of endogeneity of income, two categories of instruments can be used: (i) regional variables such as the regional unemployment rate, the regional consumer price index and the growth rate of trade in regional detail (Chen 2020) or (ii) the socio-demographic characteristics of the individual's parents such as the parents' level of education and the parents' type of employment (Maurin 2001).

For this article we have used the level of education of the father to instrument the income. This choice is justified by the work which maintains that the level of education of the father significantly influences the income of individuals given the fact that the more the father has a high level of education, the more he has a high income and a stock of important social relations which allows his child to have a high level of education and find a well-paid job (Hernandez-Iglezias and Riboud 1988). In the estimation process, the instrument validity test (Sargan test) was not considered because we only used one instrument. The Sagan test is only possible in practice if one has at least one more instrumental variable than endogenous variables of the model (Gujarati and Sangeetha 2007). Beyond the forced or voluntary choice of the informal sector, it is also important to know what are the factors that determine the satisfaction of informal employment in Togo.

Results and Discussion

This section interprets and discuss the findings of the work. Yet, descriptive statistics are reported at first stage before the discussion.

Descriptive Statistics and Stylised Facts

According to the data, on average, more than six out of ten young Togolese workers (61.1%) are satisfied with their jobs. Although women are on average less educated than men and more present in the informal sector (58.5%) than men (54.3%), they are more satisfied (62.8%) than men (58.9%). Statistics also show that more than eight out of 10 young Togolese workers are self-employed, confirming the thesis of the dominance of job insecurity in Togo. Micro-enterprises (less than 10 employees) account for 95% of enterprises. Nearly a third of workers in the informal sector are in urban areas. About 60% of women are married compared to men (less than 26%), with a high proportion in the public sector. Depending on the level of education, nearly six out of 10 young Togolese workers have attended primary education, while three have attended secondary education and one higher education. Although the informal sector is dominated by young workers with a low level of education (73%), there are also workers with secondary education (25%) and a marginal number with higher education (3%). However, the latter group accounts for more than a third of young people with university education (33%) due to rationing in the labour market in the formal sector, and particularly in the civil service.

As shown in Table 5 in the Appendix, the examination of the reasons for satisfaction indicates that just under a third of young workers are satisfied of their job because of job security, with a quarter of young people finding that their job promotes their personal development. One out of five young people appreciated their job's flexibility that was the most prominent dimension among men. If these factors constitute grounds for satisfaction for most workers, they also reflect dissatisfaction for nearly 39% of young workers in Togo. In particular, young men who are dissatisfied with their contract mainly denounce job insecurity (44.8%), the low wages (22.7%) and marginally personal development (17%). On the other hand, for young Togolese women, the lack of opportunity for personal development (34.9%) and job insecurity (32.9%) were the major factors of dissatisfaction with their contracts.

According to the Integrated Regional Survey on Employment and the Informal Sector (2017), 41.2% of the existing informal production units (IPUs) in Togo are concentrated in trade, 30.4% in the services sector and 28.4% in industry. Moreover, four activities (manufacturing, retail trade, accommodation and catering, as well as unclassified activities such as tailoring, dry cleaning, hairdressing, repair of household goods, etc.) contain 80% of the IPUs and employ 82.9% of the labour force. In Africa, the informal sector is generally characterised by very precarious working conditions, including unsuitable premises and lack of access to public services (e.g. water, electricity and telephone). According to the Integrated Regional Survey on Employment and the Informal Sector (2017), IPUs operate in deplorable hygienic conditions. We observe that few IPUs have a waste disposal system (25.1%) and

the situation is worse in rural areas (16.5%) and other urban centres (17.6%). Four forms of work organisation of IPUs are prevalent in the informal sector in Togo: self-employment, where the workforce is made up solely of self-employed workers and associates; the non-wage form, which employs no employees; the wage form, where the workforce is made up solely of employees (excluding the manager) and, finally, the mixed form, which includes at least one employee and one non-salaried employee among the jobs dependent on the IPU.

In 2008, the Togolese government established the Delegation to the Organisation of the Informal Sector as a result of the importance of the informal sector both in terms of job creation and national wealth. The Delegation's mission is to revitalise, organise and structure the informal sector with a view to its gradual formalisation as an effective tool for inclusive economic and social development. In addition to this body, many projects and programmes for the professional insertion of young people have been established, including the Programme for the Promotion of National Voluntary Work, the Programme to Support Integration and Development of Employment, the Project to Support the Professional Integration of Young Craftsmen and the Community Development Programme to provide solutions to the employment problems encountered by the Togolese population and particularly by young people.

Endogeneity Test

Hausman's (1978) test is used was run to verify the presence of a possible inverse causality between job satisfaction and income that leads to an endogeneity problem. The probability (Prob > chi2) is less than 1% (0.0000) allows to conclude that there is an endogeneity bias thus justifying the use of appropriate instrumental variable methods to solve this endogeneity problem. To ensure the robustness of the results, the probit model with instrumental variables (ivprobit) and the two-step least squares with instrumental variables (iv2SLS) are estimated.

The results of the simple probit and OLS models with non-instrumented income (Table 4 in the Appendix) show that the income coefficients are much less important than those of the instrumental methods. This result shows that there is a downward bias in the estimated income coefficient if the IV method is not used.

Youth Satisfaction with Employment in Togo

The following table reports the results of the regressions: probit model with instrumental variables (ivprobit) and two-step least squares with instrumental variables (iv2SLS) (Table 1).

The results show that the estimated coefficients are stable regardless of the specification adopted, ensuring robust conclusions. In sum, two major lessons can be drawn. First, the findings confirm the hierarchy of job types used in the literature and validated by empirical work. Public jobs are most appreciated by young Togolese, followed by informal jobs. For young people, working in the public sector in Togo are more likely to be satisfied with their jobs than working in the informal sector. Thus, young Togolese public sector employees are more willing to keep their

Table 1 Determinants of youth job satisfaction (ivprobit et iv2sls)

Endogenous variable: job satisfaction	IVPROBIT	IV2SLS
Sector of activity (Ref = Informal sector)		
Public sector	0.319*** (7.3)	0.255*** (7.3)
Agriculture sector	− 0.046*** (− 3.7)	− 0.053*** (− 4.2)
Remuneration		
Log (income)	1.022*** (211.2)	1.041*** (18.6)
Characteristics of the enterprise		
Number of employees	0.350*** (20.5)	0.298*** (21.6)
Geographical location (*Ref = does not reside in Lomé*)	0.119*** (7.9)	0.127*** (5.9)
Socio-demographic characteristics		
Sex *(Ref = wife)*	− 0.478*** (− 49.5)	− 0.499*** (− 15.8)
Age	− 0.049*** (− 44.6)	− 0.050*** (− 22.6)
Marital status *(Ref = unmarried)*	− 0.047*** (− 5.9)	− 0.043*** (− 4.4)
Household financial status *(Ref = not easy)*	− 0.264*** (− 19.5)	− 0.257*** (− 15.5)
Residence *(Ref = rural)*	− 0.321*** (− 31.4)	− 0.349*** (− 12.4)
Level of education (Ref = Primary)		
Secondary	− 0.608*** (− 39.0)	− 0.607*** (− 23.9)
Higher education	− 0.813*** (− 39.7)	− 0.869*** (− 21.3)
Cross variables		
Public sector * low education	− 0.316*** (− 7.3)	− 0.201*** (− 5.2)
Agriculture sector * low education	0.177*** (13.7)	0.192*** (10.2)
Public sector *sex	− 0.147*** (− 3.0)	− 0.029(− 0.66)
Agriculture sector *sex	− 0.243*** (− 15.6)	− 0.223*** (− 15.5)
Public sector * geographical location	0.176*** (4.4)	0.252*** (6.1)
Agriculture sector * geographical location	− 0.608*** (− 20.9)	− 0.645*** (− 10.1)
Constant	− 8.374*** (− 258.1)	− 8.034*** (-16.9)
Observations	1437	1441
Prob > Chi^2	0.000	0.000
Instrumented variable: log (income)		
R^2		0.2828
Adjusted R^2		0.2827
Partial R^2		0.0020
F (1, 145,574)		295.078
Prob > F		0.0000

Source Author

Values in parentheses are *Z*-statistics

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

jobs all things equal otherwise and certainly given the various advantages they enjoy relative to other sectors of activity, including retirement pensions, relatively high salaries, social benefits, job stability and paid holidays. On the other hand, for young Togolese, working in the agricultural sector reduces the likelihood of being more satisfied than working in the informal sector. Employment in the agricultural sector is the least desired by young Togolese.

This result can be explained by the drudgery of agricultural work and low agricultural productivity. In the agricultural sector, the majority of young employees are self-employed and work for their own account. The climatic risk, coupled with the low mechanisation of work in this sector, where rudimentary methods are still used, may also explain why it is less preferred to the informal sector. Thus, young Togolese seem to prefer to work in the public sector than in the informal sector all things equal otherwise. These findings are stable when the dualism of the informal sector (salaried and non-salaried) is taken into account. They also show the importance of factors such as job stability and remuneration that are major criteria in the choice of youth employment in Togo. The results corroborate the conclusions of ILO (2014) that found that nearly six out of 10 young Togolese workers who think that their jobs are unstable and want to change jobs in order to have a better income are in the informal sector. This result invalidates the thesis that working in the informal sector increases well-being despite poor working conditions, job insecurity, exclusion from the social benefits system and significantly lower average incomes (Beuran and Kalugina 2005; Razafindrakoto and Roubaud 2006; Rakotomanana 2011). Furthermore, this result also rise up the question on the fact that the informal and formal sectors provide an equivalent level of satisfaction (Falco et al. 2011b; Razafindrakoto et al. 2012).

Second, the control variables included in the model are also meaningful. In Togo, high wages are associated with a high probability of being satisfied with one's job. This is consistent with the theory, robustly supported in the literature that predicts the positive role of income on job satisfaction. This result is consistent with work that argues that income is positively related to job satisfaction (Pichler and Wallace 2008). We also found that enterprise characteristics influence the job satisfaction of young Togolese workers. Indeed, the size of the company positively affects the level of employee satisfaction. Indeed, the larger the firm, the higher the probability of satisfaction of the young employees all things equal otherwise. This result is consent with the findings of Razafindrakoto and Roubaud (2013) but is contrary to the work of Idson (1990) and Garcia-Serrano (2008) who believe that the slightest flexibility or autonomy in large companies increases the probability of being less satisfied with one's job.

The results also show that the fact that a young person lives in the Togolese capital (Lomé) increases the probability of being satisfied with his job, unlike employees who work outside the capital. The possibilities of having related activities and therefore non-salary income in Lomé may also explain this result. Some young civil servants in the Togolese capital carry out other income-generating activities such as zemidjan (which is a popular mode of motorbike transport in Togo) on weekends or after work.

The role of socio-demographic variables also supports several intuitive findings corroborated by the literature. Being a young woman increases the probability of being satisfied with one's job compared to men. This result confirms the work which underlines that women would have lower aspirations and therefore are more inclined to declare themselves satisfied with their job (Kuepie et al. 2009). According to the literature, women have lower aspirations and are therefore more likely to report job satisfaction. It may also be explained by the fact that women are satisfied with lower-quality jobs that are flexible and easy to access, allowing them to reconcile employment with their domestic work. This finding is consistent with some empirical works (Razafindrakoto and Roubaud 2013; Lévy-Garboua and Montmarquette 2004).

Also, being younger increases the probability of being satisfied with one's job in Togo. This result, which is consistent with economic theory, can be explained by the lower aspirations of young people, who declare themselves satisfied with their jobs because they do not have enough financial burdens. Being young married in Togo reduces the likelihood of being satisfied with his job. This result can be explained by the fact that the urgent financial constraints of the newlyweds force them to accept lower quality jobs and therefore poorly paid.

For young Togolese, living in financially well-off households reduces the likelihood of being satisfied with their job compared to their counterparts living in households with difficult financial situations ceteris paribus. This result can be explained by the fact that young Togolese living in households with difficult financial situations ceteris paribus have low aspirations given their low level of education. Typically, such workers cannot finance their higher education and are more willing to accept informal jobs given the difficulty of finding public employment which, often requires connections in the political sphere that only the children of well-off people can access.

Living in a rural area increases the likelihood of being satisfied with one's job. This counterintuitive result can be explained by the fact that in rural areas, the only jobs available are in the informal and agricultural sectors. Workers in these sectors have lower aspirations and report higher satisfaction than their counterparts in urban areas, where underemployment may lead workers to report lower levels of satisfaction. In addition, living in an urban area where modern material goods provide a utility requires a high level of income that is not easily accessible to young people.

It is also interesting to note that in Togo, having a high level of education does not translate into greater job satisfaction, especially since young people with secondary and higher education are less satisfied with their jobs than those with primary education. This result can be explained by the fact that the least-educated people have lower aspirations and are more inclined to declare themselves satisfied with their jobs since they cannot access better-paid jobs. On the other hand, young people with secondary or university education are less satisfied with their jobs because of the low availability of public employment, which forces them to be underemployed and underpaid in the informal and agricultural sectors and, therefore, less satisfied. While the informal sector is dominant among those with primary education, the agricultural sector employs more people with secondary and tertiary education, who work in the sector because they cannot find a job in the civil service. The establishment of financing mechanisms for agricultural projects in recent years in Togo may

explain this retraining of unemployed people with a high level of education. This raises the problem of the mismatch between training and employment that is common in developing countries. In light of this problem, education systems should prioritise vocational training that opens the door to decent jobs. This finding supports the conclusions of Clark and Oswald (1996) and Clark (1997).

Interaction effects between sector of activity and education level show that young public service employees with low levels of education are less satisfied than their highly educated counterparts. This intuitive result is explained by the fact that public service pay depends on grade and step, which are a function of education level. As a result, those with lower levels of education are paid less. Positions of responsibility are often held by those with a high level of education. On the other hand, young agricultural employees with a low level of education are more satisfied than their highly educated counterparts. This result may reflect the fact that in the agricultural sector, most workers are self-employed, and payment is based on production performance rather than educational attainment. Thus, the less educated are more satisfied since they have few or no other opportunities, while those with higher education are underemployed relative to their education and therefore less satisfied. This result reinforces the conclusion of Malam (2018) that the chance of exiting the informal sector increases with the level of education. Young Togolese women who work in the public and agricultural sectors are more satisfied with their jobs than their male counterparts. This result supports the thesis according to which women have lower aspirations and are more inclined to declare themselves satisfied with their job (Kuepie et al. 2009). Likewise, young Togolese civil servants in the public sector residing in Lomé declare themselves to be more satisfied with their jobs than their counterparts residing outside the Togolese capital, but on the other hand, young Togolese who work in the agricultural sector and reside outside Lomé are more satisfied than those who live there. This result can be explained by the fact that agricultural activities in Togo are essentially rural and peri-urban.

It is important to emphasise that other variables can be taken into account in explaining the level of job satisfaction, such as drudgery and autonomy. In fact, the level of self-reported satisfaction also depends on the aspirations of the individual, which are determined by several types of factors (social origin, comparison group, etc.). The degree to which achievements match expectations is also a determinant of individual satisfaction. Furthermore, satisfaction in the informal sector may depend on whether or not the worker is employed. In order to account for this heterogeneity in the informal sector and to better situate the results within the existing literature, we revisited the previous model by separating salaried from non-salaried workers in the informal sector. The literature suggests that the young self-employed workers in the informal sector (the non-salaried workers) choose this sector, unlike salaried workers who are confined to it for lack of alternatives.

The results reported in Table 2 confirm the above thesis, since young employees in the informal sector are less satisfied than their non-salaried counterparts. The hierarchy of types of employment used in the literature is still valid regardless of the specification adopted. In all cases, public young employees are the most satisfied and workers in the agricultural sector are systematically less happy at work. The heterogeneity of the informal sector does not raise the issue of the robustness of

Table 2 Determinants of youth job satisfaction with distinction between salaried and non-salaried in the informal sector

Endogenous variable: job satisfaction		
Sector of activity (Ref = self-employed in informal sector)	IVPROBIT	IVDMCO
Salaried of informal sector	− 0.143*** (− 8.0)	− 0.183*** (− 12.2)
Public sector	0.120*** (3.4)	0.166*** (4.1)
Agriculture sector	− 0.109*** (− 7.4)	− 0.132*** (− 8.5)
Remuneration		
Log (income)	0.999*** (227.3)	1.212*** (22.1)
Characteristics of the enterprise		
Number of employees	0.276*** (21.2)	0.319*** (20.8)
Geographical location (*Ref = does not reside in Lomé*)	0.132*** (9.5)	0.151*** (6.4)
Socio-demographic characteristics		
Sex (*Ref = wife*)	− 0.481*** (− 50.3)	− 0.569*** (− 17.4)
Age	− 0.044*** (− 52.4)	− 0.055*** (− 23.6)
Marital status (*Ref = unmarried*)	− 0.061*** (− 8.1)	− 0.058*** (− 5.4)
Household financial status (*Ref = not easy*)	− 0.268*** (− 18.9)	− 0.327*** (− 19.0)
Residence (*Ref = rural*)	− 0.358*** (− 45.9)	− 0.424*** (− 14.9)
Level of education (Ref = Primary)		
Secondary	− 0.527*** (− 46.3)	− 0.667*** (− 25.6)
Higher education	− 0.747*** (− 40.8)	− 0.983*** (− 23.8)
Cross variables		
Public sector * low education	− 0.215*** (− 5.5)	− 0.193*** (− 4.3)
Agriculture sector * low education	0.207*** (16.9)	0.243*** (12.2)
Public sector *sex	0.042(1.09)	0.036(0.75)
Agriculture sector *sex	− 0.197*** (− 13.9)	− 0.260*** (− 16.2)
Public sector * geographical location	0.256*** (6.8)	0.334*** (7.1)
Agriculture sector * geographical location	− 0.688*** (− 30.7)	− 0.797*** (− 12.2)
Constant	− 9.248*** (− 248.7)	− 9.476*** (− 20.3)
Observations	1437	1441
Prob > Chi^2	0.000	0.000
Instrumented variable: log (income)		
R^2		0.2852
Adjusted R^2		0.2851
Partial R^2		0.0029
F (1, 145,574)		418.148
Prob > F		0.0000

Source Author

Values in parentheses are Z-statistics

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

the results obtained, and the model's coefficients remain stable when the distinction between the employed and the self-employed informal sector is introduced.

Table 3 Determinants of youth job satisfaction in employment in Togo

Endogenous variable: satisfaction in employment	Informal	Formal
Log (income)	0.35*** (28.3)	0.17*** (30.4)
Geographical location (*Ref = does not reside in Lomé*)	− 0.01 (− 0.24)	0.27*** (43.6)
Sex	− 0.08*** (− 11.5)	− 0.29*** (− 45.1)
Age	0.001 (0.38)	− 0.02*** (− 20.3)
Residence (*Ref = rural*)	0.06*** (4.3)	− 0.05*** (− 8.4)
Marital status (*Ref = unmarried*)	− 0.19*** (− 20.1)	0.32*** (63.3)
Household financial status (*Ref = not easy*)	0.09*** (5.7)	− 0.12*** (− 23.1)
Level of education	− 0.62*** (− 49.2)	− 0.08*** (− 18.6)
Job security	0.52*** (25.4)	0.21*** (23.6)
Job flexibility	0.62*** (35.3)	0.28*** (33.5)
Consistent salary	0.03 (1.8)	0.25*** (40.9)
Personal development	0.29*** (15.6)	0.33*** (28.4)
Constant	− 2.96*** (− 28.7)	− 0.89*** (− 19.1)
Observations	13 632	43 552
Prob > Chi^2	0.0000	0.0000
Instrumented variable: log (income)		
R^2	0.5622	0.4905
Adjusted R^2	0.5620	0.4904
Partial R^2	0.0812	0.1060
F (1, 145,574)	2707.92	5160.15
Prob > F	0.0000	0.0000

Source Author

Values in parentheses are *Z*-statistics

*p < 0.10, **p < 0.05, ***p < 0.01

In short, the results show, and in a robust manner, that on average the informal sector gives Togolese young people less satisfaction in employment than the public sector but higher than the agricultural sector. The theory of dualism within the informal sector advocated by the literature is therefore verified within the framework of this article and is consistent with the conclusions of Jütting and Laiglesia (2009) who insist on the heterogeneity of informal employment by recalling that ' there are rich workers in the informal sector. On the other hand, these results are contrary to those of Razafindrakoto et al. (2012).

But this result does not reflect the motives that prompted workers in the informal sector to work there. A sizeable segment of the workforce has likely chosen and succeeded in this sector, as over 60% of informal sector workers reported being satisfied with their jobs. Therefore, it is important to know what are the determining factors

of satisfaction in informal employment in Togo. A differentiated analysis allows us to better identify the factors that determine job satisfaction. Four binary variables were added to the satisfaction estimation model, in particular "job security" which takes the value 1 if the worker finds his job secure and 0 otherwise, "job flexibility" which takes the value. value 1 if the worker thinks his job is flexible and 0 otherwise, "the salary consistency" which takes the value 1 if the worker considers his salary consistent and 0 otherwise and "personal development" which takes the value 1 if the worker thinks that his job provides him with personal development and 0 otherwise. The results of the estimation of the determinants of satisfaction in formal and informal employment in Togo are reported in Table 3.

The results reveal that several factors determine the satisfaction of young people in informal employment. Higher income increases the likelihood of being satisfied with informal employment. This finding is consistent with economic theory and confirms the works of Pichler and Wallace (2008). Young Togolese women who work in the informal sector are more likely to be satisfied with their jobs than young men. This greater satisfaction of women in accordance with the theory would result from a lower level of their professional expectations coupled with the ease of reconciling informal employment and domestic activities which are totally the responsibility of Togolese women (Clark and Oswald 1996; Clark 1997). Young Togolese living in rural areas are less likely to be satisfied with their informal jobs than their urban counterparts. This result can be explained by the low level of income from informal jobs in rural areas.

The low level of education of the latter may justify this result where young people in rural areas consider informal employment outside agriculture to be relatively less arduous. Also, young married Togolese are less likely to be satisfied with their informal jobs than single people. The low level of wages in the informal sector may justify this fact where newlyweds with more financial burdens find it difficult. Also, young Togolese living in financially poor households are less likely to be satisfied with their informal jobs than those living in households that are financially well off. Poor households often lack the means to finance the higher education of their children. The latter with a low or at most average level of education is less likely to have a well-paid and therefore less satisfying job. More and more educated Togolese youth are less likely to be satisfied with informal employment than their less educated counterparts. This result, in line with economic theory, corroborates the results of Cark and Oswald (1996) for whom the higher the level of education of an individual, the greater the gap between his professional expectations and the reality of his job, thus explaining the negative relationship between education level and job satisfaction. Beyond these traditional factors, job security, job flexibility, salary consistency and personal development are factors that increase the likelihood of being satisfied with informal employment in Togo.

For the formal sector, higher income increases the likelihood of being satisfied with employment. This result is consistent with economic theory and confirms the work of (Razafindrakoto and Roubaud 2013). The results also show that the fact that a young Togolese lives in the Togolese capital (Lomé) increases the likelihood that he is satisfied with his formal job, unlike those who work outside the capital. The existence of related income-generating activities in Lomé may explain this result.

Like the informal sector, young Togolese women working in the formal sector are more likely to be satisfied with their jobs than young men (D'Addio et al., 2003). In contrast, increasingly older young people are less likely to be satisfied with their formal jobs. This result can be explained by the low wage indexation in Togo in the formal sector. Young married civil servants in the formal sector are more likely to be satisfied with their jobs than their single counterparts. This result can be explained by the fact that in the civil service, married workers' pay less personal income tax and receive family benefits on each child. Young Togolese from poor households are more likely to be more satisfied with their formal employment than those from financially well-off households. This result can be explained by the low expectations of young people from poor households. As in the informal sector, the likelihood is lower for increasingly educated young Togolese to be satisfied with their formal employment. Apart from these classic variables that affect satisfaction in formal employment, just as in the informal sector, job security, job flexibility, salary consistency and personal development are factors that increase the probability of being satisfied with one's formal job in Togo.

Beyond the analyzes made, it is important to assess the level of variation in terms of percentage points of satisfaction if an individual works in the formal sector. Analysis by place of residence and by gender allows us to better capture this variation. To achieve this, the matching method is used to find out whether working in the formal sector increases the probability of being satisfied with one's job. Conceptually, the average effect of the formal sector on job satisfaction is deduced from the differences between individuals working in the formal sector and those working in the informal sector by ensuring that these two categories of individuals are the more comparable as possible. Suppose $textE_i$, an indicator variable which takes the value 1 if an individual works in the formal sector and 0 if he works in the informal sector. Consider $textY_i$ be the satisfaction of the worker in sector of activity i, there are two potential results for each sector of activity: $textY_i(textE_i = 1)$, if the worker is from the formal sector and $textY_i(textE_i = 0)$ if the worker is the informal sector. The difficulty in assessing the effect of sector of activity is that it is impossible to observe these two results simultaneously. When an individual works in the formal sector, we observe $textY_i(textE_i = 1)$ but we have no information about $textY_i(textE_i = 0)$ and vice versa. In order to overcome this difficulty and take into account a possible selection bias, this paper uses the propensity score matching method widely used in the literature (Binder and Coad 2010; Docquier and Iftikhar 2019). The propensity score denoting the probability of being in the formal sector conditional on a set of observable characteristics is estimated using a probit model written as follows:

$$
\begin{aligned}
score = &P\big(E_i = 1 | X_i\big) = \alpha_0 + \alpha_1 Sex + \alpha_2 Age + \alpha_3 Residence \\
&+ \alpha_4 Marital\ status + \alpha_5\ Household\ financial\ status \\
&+ \alpha_6\ Level\ of\ education + \varepsilon
\end{aligned} \tag{3}
$$

where *score* denotes the propensity score, *E* denotes whether the individual works in the formal or informal sector. $textX_i, i = 1, \ldots, n$ denotes the set of covariates observed for worker *i*. *Sex* (which takes the value 1 if the individual is male and 0 otherwise); *Age* is the age of the individual; *Residence* (which takes the value 1 if

the individual resides in an urban area and 0 otherwise); *Marital status* (which takes the value 1 if the individual is married and 0 otherwise); *Household financial status* (which takes the value 1 if the individual comes from a financially well-off household and 0 otherwise) and *Level of education* (which takes the value 0 for primary, 1 for secondary and 2 for higher education).

Before interpreting the results, it is imperative to analyze the quality of the match. To this end, the results of the comparison tests of the means of the different activity sectors (formal and informal) before and after matching are presented in the Fig. 1 in Appendix highlighting the estimates of the Kernel density of the propensity scores of formal and informal sectors before and after matching. According to this figure, it appears that the distributions of the propensity scores after matching for the formal and informal sectors overlap almost perfectly, which is a sign of good match quality. This analysis is confirmed by the box diagrams of the data before and after matching for all sectors of activity (formal and informal) in Fig. 2 in the Appendix. Visual examination of the box plots of the matched data shows that the match was almost perfectly done.

To analyze the quality of the match, it is important to ensure that there are no significant differences, at the initial period, between the formal and informal sectors of activity for each of the covariates used. To do this, the comparison of the difference in the normalized mean between the activity sectors (formal and informal) in the total sample for each of the covariates before and after matching is presented in Table 6 in the Appendix. The normalized mean differences on all the selected covariates being close to zero after matching, and the variances close to unity, we can conclude that initially, there are no significant differences between the formal sectors and informal for each of the covariates. This indicates a good quality of pairing. Once the analysis of the quality of the match has been carried out, the impact of working in the formal sector on job satisfaction can be analyzed. The results are shown in Table 7 in the Appendix.

The analyzes are carried out based on all sectors of activity (formal and informal) but also by distinguishing workers residing in rural areas from those residing in urban areas. A gender analysis is also done. The average effect of treatment on the formal sector (ATT) measuring the causal effect among workers in the formal sector is estimated. For the whole, working in the formal sector increases the likelihood of being satisfied by 4.9 percentage points. The effect is greater in urban areas, where working in the formal sector increases one's probability of being satisfied with one's job by 7.2 percentage points. In contrast, in rural areas, working in the formal sector reduces the probability of being satisfied with one's job by 4.6 percentage points. This result confirms those found above and can be explained by the fact that rural areas often have no infrastructure (water, energy, health and education structures, etc.) for the primary needs that a civil servant needs for improve their well-being. There are also gender differences. For men, working in the formal sector reduces the likelihood of being satisfied by 4.4 percentage points. In contrast, for women, working in the formal sector increases the likelihood of being satisfied with their job by 9.3 percentage points. This result confirms the theory that women have lower aspirations and are more satisfied than men (Lévy-Garboua and Montmarquette 2004; Kuepie et al. 2009; Razafindrakoto and Roubaud 2013).

Conclusion

Given the massive number of young people in informal employment in Togo, we explored the question of the *raison d'être* of the sector. Have informal workers chosen the sector voluntarily, or have they been forced to work informally due to the lack of work in the formal sector? To date, the debate remains open, and only an empirical analysis can provide a clear answer. We performed a probit model with instrumental variables (probit) and two-step least squares with instrumental variables (2SLS) was used for robustness. Two major lessons can be drawn from the results. Firstly, public employment is the most-valued form of employment by young Togolese, followed by informal employment; employment in the agricultural sector is the least-envied by young Togolese. Thus, working in the informal sector in Togo is more a constraint than a deliberate choice. The exclusion theory, which claims that individuals are employed in the informal sector because they cannot access formal jobs is, thus, verified in the case of Togo. This finding can be explained by the low availability of formal jobs which forces workers excluded from the formal sector, especially young people, to move into the informal sector despite its precariousness, low salary and lack of social protection. Second, the disaggregation of the informal sector into wage and non-wage jobs to account for the heterogeneity of the sector shows that employees in the informal sector are less satisfied than their non-salaried counterparts. This result proves that paid jobs in the informal sector are undesirable and that non-salaried jobs in this sector are chosen, as the theory predicts. In addition, several factors determine the satisfaction of young Togolese in informal employment, notably the salary, the geographical location of the enterprise and the socio-demographic characteristics of the worker. Apart from these classic factors, job security, job flexibility, salary consistency and personal development are factors that increase the likelihood of being satisfied with one's job in Togo. Thus, any policy targeting the Togolese informal sector should take into account the heterogeneity of this sector for better organisation and formalisation in order to reduce the degree of job insecurity and, in turn, fight against indecent jobs and poverty among young Togolese. Decent jobs should take into account job security, wage indexation, personal development and flexibility in employment in order to increase the satisfaction of Togolese workers and consequently increase their productivity.

Appendix

See Tables 4, 5, 6, and 7 and Figs. 1 and 2.

Table 4 Results with income not instrumented

Endogenous variable: job satisfaction	PROBIT	MCO
Sector of activity (Ref=Informal sector)		
Public sector	1.253*** (22.0)	0.363*** (26.4)
Agriculture sector	− 0.059*** (− 3.7)	− 0.032*** (− 6.4)
Remuneration		
Log (income)	0.547*** (137.0)	0.159*** (156.8)
Characteristics of the enterprise		
Number of employees	0.689*** (35.5)	0.170*** (37.9)
Geographical location (Ref=does not reside in Lomé)	− 0.504*** (− 42.8)	− 0.176*** (− 47.3)
Socio-demographic characteristics		
Sex (Ref=wife)	− 0.079*** (− 6.2)	− 0.028*** (− 7.1)
Age	− 0.054*** (− 54.0)	− 0.017*** (− 56.3)
Marital status (Ref=unmarried)	0.116*** (11.6)	0.050*** (16.3)
Household financial status (Ref=not easy)	− 0.335*** (− 21.7)	− 0.096*** (− 18.4)
Residence (Ref=rural)	0.259*** (31.7)	0.081*** (31.3)
Level of education (Ref=Primary)		
Secondary	− 0.786*** (− 61.8)	− 0.239*** (− 61.3)
Higher education	− 0.807*** (− 36.8)	− 0.291*** (− 40.9)
Cross variables		
Public sector * low education	− 0.877*** (− 14.4)	− 0.189*** (− 12.2)
Agriculture sector * low education	− 0.115*** (− 6.9)	− 0.028*** (− 5.4)
Public sector *sex	− 1.742*** (− 40.6)	− 0.495*** (− 38.8)
Agriculture sector *sex	− 0.495*** (− 28.9)	− 0.136*** (− 25.5)
Public sector * geographical location	− 0.184*** (− 3.0)	0.002(0.13)
Agriculture sector * geographical location	0.996*** (57.9)	0.339*** (63.0)
Constant	− 3.747*** (− 90.2)	− 0.548*** (− 47.2)
Observations	1433	145 593
Prob > Chi^2	0.000	0.0000

Table 5 Factors of satisfaction and dissatisfaction

	Factors of satisfaction			Factors of dissatisfaction		
	Men	Women	Grobal	Men	Women	Grobal
Job security	30.3	31.4	30.7	44.8	32.9	40.3
Job flexibility	26.1	13.6	21	6.5	13.6	9.2
Consistent salary	19.2	14.6	17.4	22.7	8	17.1
Personal development	20.8	29.6	24.4	17	34.9	23.8
Other	3.6	10.8	6.5	9	10.6	9.6
Global	100	100	100	100	100	100

Table 6 Accuracy of the propensity score match for the mean of the covariates used

	Standardized differences		Variance ratio	
	Raw	Matched	Raw	Matched
Sex	0.2862929	0.0684615	1.016706	0.9807692
Age	0.2795661	− 0.1365904	0.562461	0.9530359
Residence (Ref=rural)	0.347152	0.2048878	1.034478	0.9714286
Marital status (*Ref=unmarried*)	0.2109857	− 0.2456518	0.881621	1.4
Household financial status (Ref=not easy)	0.612385	0	0.9259098	1
Level of education	0.9454056	0.0450377	2.109952	1.069565

Table 7 Impact of the formal sector on job satisfaction

	Raw	Matched	ATT
Ensemble	805	58	0.049*** (3.02)
Urban area	338	34	0.072*** (3.28)
Rural area	467	24	− 0.046*** (− 4.47)
Men	361	34	− 0.044*** (− 4.47)
Women	444	24	0.093*** (21.17)

Z statistics are in parenthesis

ATT average effect of treatment on treated

*,** and *** respectively denote significance at 10%. 5% and 1%
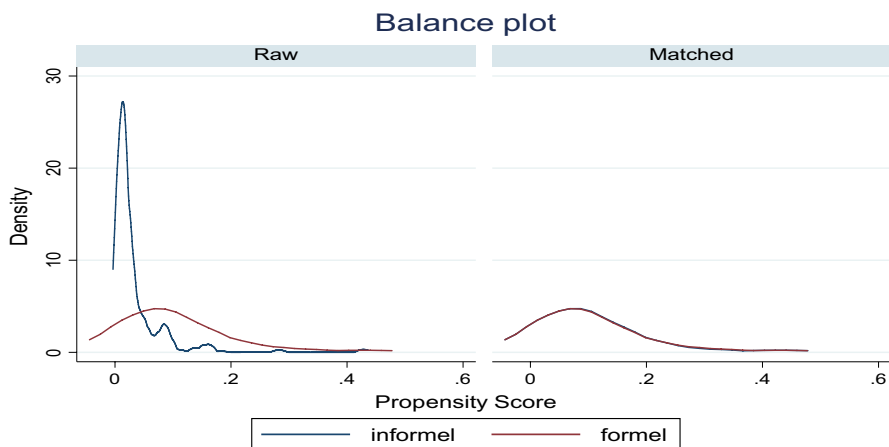

Balance plot

Fig. 1 Distribution of the density of propensity scores in the two sectors before and after matching. Note that the left part shows the distribution of propensity scores before matching for the two sectors (formal and informal) and that the right part shows the distribution of propensity scores after matching in the two sectors of activity
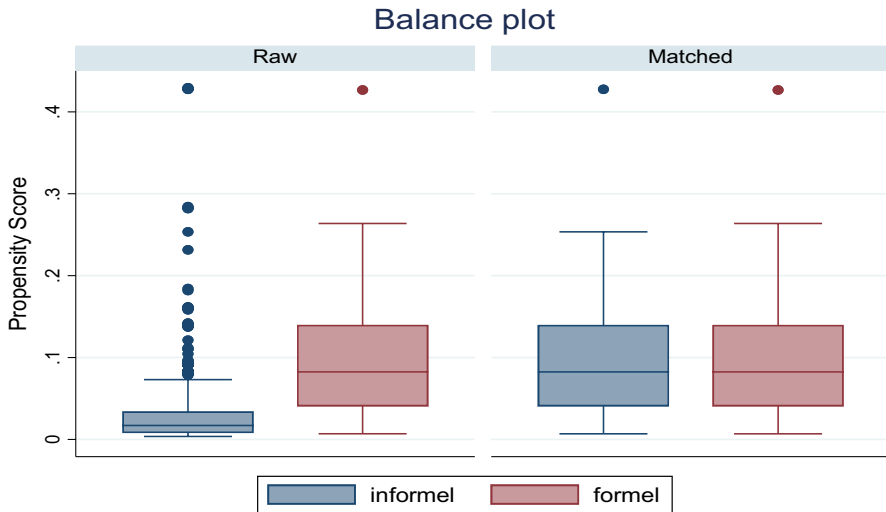
Balance plot

Fig. 2 Diagnosis of box plots of propensity scores before pairing and after pairing. The left side shows the box plots of the data (propensity scores) before matching for the two sectors (formal and informal) while the right side shows the box plots of the formal and informal sectors after matching

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