Call for PhD Applications

Modeling the Job Guarantee in the Ecological Transition in France

- Research Lab ACT
- Field: Economics
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- Research Field: Heterodox Macroeconomics
- Keywords: Job Guarantee, Ecological Transition, Stock-Flow Consistent Modeling, Eurogreen
- Deadlines:
  - Contact Dr. Lang before Tuesday, March 31, 2026.
  - Contract start: September 1, 2026.
  - Gross salary: €2,300/month.

The objective of this call for applications is to attract excellent international candidates on the topic of the job guarantee and its role in the necessary ecological transition in France. The work involves stock-flow consistent modeling and its application to France, drawing on expertise and feedback from the "Territoires zéro chômeurs de longue durée" (TZCLD).

Presentation and Scientific Relevance of the Topic

Combating climate change has become a vital necessity in recent years. According to reports from the Intergovernmental Panel on Climate Change (IPCC), global warming is accelerating, and the consequences are increasingly alarming, even threatening the sustainability of life on Earth. To limit global warming, drastic measures must be taken across all sectors. It is therefore imperative to promote green jobs focused on renewable energy, energy efficiency, sustainable mobility, and adaptation to climate change. The transition to a low-carbon economy offers not only environmental benefits but also job opportunities (Forstater, 2006; IPCC, 2022).

Moreover, mass unemployment has devastating economic and social consequences: debt and financial difficulties; deterioration of physical and psychological health; increased income and wealth inequalities; negative impact on technological progress, innovation, and production; financial crises and economic instability. In many economies, underemployment has become structural since the 1980s and is not due, as some mainstream economic theories would suggest, to excessive regulations or rational individual choices, but rather to the insufficient volume of jobs created in the economy.

Job Guarantee (JG) programs aim to address these major issues. JG seeks to provide dignified employment opportunities to involuntary unemployed individuals.

Advocated by Keynes (1936) and his followers, and partially implemented during Roosevelt's New Deal, the Job Guarantee (JG) was explicitly formulated later by Hyman P. Minsky (1986). Minsky is a post-Keynesian economist renowned for his theories on financial cycles. For Minsky, the primary objective of a JG would be to ensure the existence of permanent full employment, i.e., an unemployment rate fluctuating around 2% and corresponding to frictional unemployment. This permanent full employment aims to combat poverty and limit economic volatility, i.e., stabilize economic cycles. Minsky argues that guaranteed employment is more effective in terms of redistribution and inequality reduction than "Keynesian" stimulus policies, which involve increasing public spending and/or boosting consumption by lowering taxes.

Today, a full JG program would have the following characteristics, as enumerated by Wray (1998):

i. Full-time or part-time job opportunities (according to the preference of the individual) for any legally adult person who is available, capable, and willing to work.
ii. A uniform and decent remuneration (the minimum wage, or slightly more, depending on the qualification level of the participants), accompanied by social rights (healthcare, unemployment, retirement, etc.).
iii. The choice between remaining unemployed or working within the program. Participants must be able to leave the program whenever they wish, either to return to unemployment or to take up a job in the public or private sector.
iv. Training programs for individuals within the program, tailored to their professional retraining desires.
v. Strongly decentralized and democratic management to address locally unmet needs and involve residents, elected officials, businesses, associations, and unions in defining these needs.
vi. The unemployed person's contribution to defining their employment.
vii. Funding provided by the government, which allocates the corresponding amounts to the local level.

More recently, during the 2000s, research on the Job Guarantee (JG) has developed, particularly in the United States, most notably at the Levy Economics Institute.

According to Wray (2007), the JG is beneficial in several ways:

i. It stimulates private spending by allowing individuals with low incomes and a high marginal propensity to consume to access employment and thus consume.
ii. It stimulates private investment as production increases to meet additional demand.
iii. Workers who successfully return to the labor market through JG programs can subsequently find private or public employment.
iv. It addresses unemployment regardless of its causes: structural problems, technological changes, or economic stagnation.

JG programs ensure permanent full employment, which is neither the role nor the objective, or even in the interest of the private sector. Permanent full employment helps mitigate economic cycles and stabilize an unstable economy. JG programs offer training opportunities for workers, ensuring a certain level of qualification for the workforce. Moreover, the JG curbs the depreciation of skills during periods of unemployment and mitigates the hysteresis effects associated with loss of skills (Lang, 2009).

Recently, considering the ecological emergency, literature on the links between JG and ecological transition has emerged. Thus, according to Tcherneva (2018) and Eydoux (2022), the JG can be targeted to support the ecological transition. Initially, it involves contributing to the local transition by enabling the implementation of sustainable projects. In the longer term, these jobs can contribute to the necessary transformation of employment (Godin, 2013; Eydoux, 2022), particularly in the context of a more sober and sustainable society where certain jobs in polluting sectors will have disappeared.

Additionally, the *"Territoires zéro chômeurs de longue durée"* (TZCLD) experiment constitutes a territorial and partial implementation of the job guarantee idea. Although these jobs are reserved for certain geographical areas and long-term unemployed individuals (more than one year), the implementation of TZCLD since 2017 and the feedback can provide relevant indications regarding the possible modalities and effects of transposing the experience to the national level.

In the current state of the literature, pioneering studies on the contribution of JG to the ecological transition suffer from major shortcomings: a significant proportion of the papers are essentially qualitative (Godin, 2013; Toshiro Yajima, 2021; Eydoux, 2022); and quantitative research primarily focuses on the United States, an

economy very different from others due to its size and the dominance of the U.S. dollar in the global monetary hierarchy.

The objective of the thesis conducted under this PhD contract will be to construct a model that allows for a quantitative evaluation of the relevance of a JG program in service of the ecological transition in a country other than the United States. The country studied will be France, considering its specific institutional and macroeconomic constraints (position in the currency hierarchy, exchange rate regime, structure of the industry and employment, types of desirable and feasible green guaranteed jobs, etc.).

Methodology

To ensure the attraction of the best candidates, interact with the foreign colleagues, generate potential international publications, and open post-thesis opportunities for the recruited individual, the thesis will be entirely written in English.

Methodologically, the selected candidate will construct a stock-flow consistent macroeconomic model (Godley and Lavoie, 2007) adapted to the institutional characteristics of the French economy. Stock-Flow Consistent (SFC) models allow for the analysis of relationships between stocks and flows within an economic system and compel their users to consider and formalize the role played by banks in financing and the portfolio choices of agents. These models facilitate the consideration of the devaluation of brown assets and the appreciation of green assets (Jackson and Victor, 2020) and provide alternatives to the so-called "green growth" (d'Alessandro et al, 2020).

The models used in this PhD will be programmed in R, based on the current work of several ACT members and the Eurogreen team.

She or he will rely on the work of transposing the *Eurogreen* model to R, carried out by PhD students from the "heterodox macroeconomics" team of ACT in 2024-26. The hired PhD student will collaborate with the Italian team that developed *Eurogreen*, most notably Simone d'Alessandro. Amongst other tasks, the student will work on including many new features implemented in the last Italian version that are not yet in the French version developed by ACT.

Desired Profile

The successful candidate will have a thorough knowledge of the current literature in heterodox macroeconomics, particularly on issues related to job guarantee and/or the ecological transition. Ideally, the candidate will have written a master's thesis utilizing Stock-Flow Consistent (SFC) modeling or worked on ecological transition models or the job guarantee.

Technically, the candidate should demonstrate skills in SFC modeling, ideally using R. Proficiency in programming languages such as Python or C++, or experience in model calibration, will be appreciated.

Since the PhD will be written in English, to facilitate international collaborations, particularly with colleagues from India, the UK, or the USA working on these themes, the selected candidate must have a C1 level in English or higher. The selected candidate will also collaborate with colleagues from the French Development Agency and potentially use the GEMMES model developed by their modeling team.

References

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