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On Two Different Approaches to the Optimal Unemployment Insurance Policy

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Abstract

The article focuses on two different analytical approaches to the optimal unemployment insurance policy. The aim is to delve deeper into the particular independence between different formal designs of unemployment insurance schemes. The main point has been to frame these designs into two very important general principles and to show that the two principles remain fundamental keys to reading the models adopted regardless of their chosen formal setting. On the real policy plane, strong differences between countries' actual unemployment insurance schemes are then underlined. The "OECD tax-benefit model" has been the precious informative source for the different basic structure of benefit provision in many counties. The possible connections between the analytical area and the actual area of unemployment insurance schemes and the number of related questions and largely open issues conclude the article.

Keywords

Unemployment Insurance, Models of Unemployment Insurance, Actual Unemployment Insurance Schemes, OECD Tax-Benefit Model

1. Introduction

The relatively recent analytical work on unemployment insurance has developed greatly in a few decades and has strongly contributed to making this theme one of the areas of greatest interest in the field of labor economics. A particular aspect of this development deserves further attention. The long series of formal designs of unemployment insurance schemes has been mainly developed around two differ-

ent approaches to the optimal unemployment insurance (UI) policy. Despite the number of scenarios within which the problem of the optimal UI policy is addressed, the various structures of the schemes adopted can be traced back to two different questions: the optimal level of UI benefits and the optimal time structure of UI benefits. The focus on one or the other question does not delimit a single issue within the UI problem, but much more generally characterizes different approaches to the optimal UI policy and appears to exhaust the analytical design of this policy. This difference results in a factual independence between the followed analytical approaches, independence sometimes also recorded by the absence of mutual references. More importantly, the clear independence between the analytical approaches to the UI policy has rarely been the object of readings, motivations and even critical comparisons. The virtues of each model have been widely emphasized. Comparisons between models have received considerably less attention. The subject remains to a significant extent open.

This article follows the conclusive statement of a survey of mine on the UI analytical models[1]. The statement simply underlined the evident and more general fact emerging from the survey, that is the substantial independence between two strands of analysis within the UI analytical field. The aim here is to delve deeper into the particular independence between the formal approaches to the UI theme and to add in this connection questions on the openness of the theme and the possible relations with actual UI schemes. The points I underline are quite visible; importantly, however, they have not been the subject of wide debate and development.

A targeted choice of reference models drives my remarks. The first section compares two basic references for the UI theme, i.e. the models of Hopenhayn & Nicolini (1997) and Chetty (2006), and defines the essential aspects of comparison between the models. The comparison is then enlarged to different analytical structures within which new points are raised and similar results are ultimately achieved. The dynamic model of Kolsrud, Landais, Nilsson, and Spinnewijn (2018) and their purpose of a bridge between models and unemployment problems opens new questions and lead to conclusive remarks on the two essential and independent messages emerging from the different approaches to the UI theme. Section 4 gives then a picture of the actual UI schemes in OECD countries underlying in particular deep differences in the basic structure of the actual benefit provision. The underlined substantial independence within a large number of actual UI schemes opens the way to the final remarks of section 5 on open issues and questions within the unemployment insurance theme.

2. The Basic References for Two UI Approaches: Hopenhayn & Nicolini (1997) and Chetty (2006)

2.1. The Optimal Time Structure of UI Benefits

The basic scheme of Hopenhayn & Nicolini (1997) is the first reference for my

[1]Potestio (2022).

remarks about two independent lines of elaboration of optimal UI policies[2]. A dynamic agency relationship between the planner-insurer and the unemployed worker-insured is the framework of the Hopenhayn-Nicolini (H-N) structural model. The model is formally directed to derive "the general properties" (p. 419) of the optimal figurative contract. Thus, the contract between the two parties characterized by a repeated moral hazard problem underlies the dynamic programming problem of the planner, which results as the problem of minimizing the cost of this unemployment insurance contract. It is simpler here to directly refer to the recursive formulation of the constrained minimization of the expected discounted cost of the contract, $C(V)$, given an initial offered level of utility V,

$$C(V)=\min_{a,c,V^e,V^u} c+\beta\left\{p(a)W\left(V^e\right)+\left[1-p(a)\right]C\left(V^u\right)\right\}$$

$$\text{Sub}\quad u(c)-a+\beta\left\{p(a)V^e+\left[1-p(a)\right]V^u\right\}=V$$
$$\text{and}\quad \beta p'(a)\left(V^e-V^u\right)=1$$

where V^e and V^u are the utility levels in the next period contingent on, respectively, the employment or unemployment state in that period, and the (increasing and strictly concave) function $p(a)$ gives the probability of finding a job depending on the search effort a. The first constraint is just the promise-keeping constraint and requires the equality between the worker's discounted expected utility and the initial promised utility V. It is important to make clear right now that this given initial level of utility reflects an external decision of "generosity" by the planner[3]. The second constraint is the incentive compatibility constraint, which requires the worker's optimal search effort choice. Finally, the utility function $u(c)$ has the usual properties of concavity and time separability.

From the first-order conditions it follows the crucial relation

$$W'\left(V^e\right)>C'(V)>C'\left(V^u\right)$$

Under the convexity of the $C(V)$ function, the relation implies that $V^u<V$. The envelop condition indicates in turn that $c^u<c$. Thus, decreasing benefits are the first essential property of the optimal unemployment insurance contract. A second property is a wage-tax at the re-employment state that under defined conditions increases with the unemployment durations. Naturally, making reference to the same title of the Hopenhayn-Nicolini' article, these properties are the properties of an "optimal unemployment insurance" scheme.

2.2. The Optimal Level of UI Benefits

A deeply different approach to the UI problem is tackled in the dynamic model of Raj Chetty (2006). As the title just clarifies, here the focus is on a "A general for-

[2]In a subsequent article Hopenhayn and Nicolini (2009) have considerably enlarged their scheme to include a number of new elements. The discussion of this paper makes it more appropriate to refer to the basic scheme here.

[3]The reading of this parameter as "measuring the 'generosity' of the welfare system" was first underlined by Pavoni & Violante (2007: p. 287). The maximization of the expected discounted stream of net revenues by the planner is the specular setup within which Pavoni-Violante address the issue of the time-structure of UI benefits in the unemployment state.

mula for the optimal level of social insurance". The elaborate formula provides a generalization of the Baily (1978) result. The balance between costs and benefits that identifies the optimal benefit level of the social insurance program is now derived from a broad and complex underlying framework of analysis with respect to the limited coordinates of Baily's model.

To give only basic references, in Chetty's model a large number of components characterizes the (representative) worker's choices. The "felicity utility of the agent" (p. 1886), $u\left(c\left(t,w_t\right),x\left(t,w_t\right)\right)$, adds to consumption choices the choices of M possible behaviors represented by the vector $x\left(t,w_t\right)=x^1\left(t,w_t\right),\ldots x^M\left(t,w_t\right)$. The vector, not completely specified, includes behaviors while employed or unemployed. The complete set of worker choices, which are also contingent on a state variable w_t [4], compose a full-lifetime program $\left(c,x\right)$. The maximization of the value of this program, $V\left(b,\tau\right)$, under a set of defined constraints and given the benefit level b and the tax rate in the employment state τ, drives the agent choices. The connected planner problem is the choice of b and t that maximizes the result $V\left(b,\tau\right)$ subject to the budget constraint $\tau\left(1-D\right)=Db$, where D is the expected unemployment duration from the program $\left(c,x\right)$. Five specific assumptions are initially stated for two results: satisfying the conditions for a global maximum of the planner problem and ensuring that the marginal value of a benefit increase and of the τ tax rise can be read in terms of the average marginal utilities of consumption in the two states. The intuition that a benefit increase can relax the constraints on consumption decisions underlies the second result. The intuition is fixed and formulated in a set of formal constraints (Assumption 5, p. 1889) on the feasible set of choices of each agent in each state w_t and each time t. The two basic results open the way to the steps towards the "reduced-form formula" for the optimal benefit level. The formula is derived in terms of the effects of "an increase in b relative to the welfare gain of a permanent one-dollar increase in consumption in the employment state" (p. 1892), $\frac{dV/db}{\left(1-D\right)Eu'\left(c_e\right)}$. Nullifying the derived equation gives the property of the optimal constant benefit level b^*:

$$\frac{\Delta\bar{c}}{c}\left(b^*\right)\gamma\left[1+\frac{1}{2}\rho\frac{\Delta\bar{c}}{c}\left(b^*\right)\right]\approx\frac{\varepsilon_{D,b}}{1-D},$$

where $\frac{\Delta\bar{c}}{c}$ is the "mean consumption drop due to unemployment", γ $\left(=-\frac{u''\left(c_e\right)}{u'\left(c_e\right)}c_e\right)$ and $\rho\left(=-\frac{u'''\left(c_e\right)}{u''\left(c_e\right)}c_e\right)$ are the coefficients, respectively, of relative risk aversion and relative prudence, and $\varepsilon_{D,b}$ is the elasticity of unemployment duration with respect to benefits.

In conclusion, two very clear and important aspects of the Chetty model must be stressed again. The first follows the common and absolutely general comment on this model: the sufficient statistics of the reduced-form formula are a powerful

[4]The state variable w_t gives the information up to time t relevant for worker's state and choices in t.

source of information on the effects of the UI policy choices. The shown power of these statistics is the great and main result of Chetty's analysis. The second aspect, closer to the insurance modalities, refers to the time characterization of UI benefits: within the Chetty model, the optimal benefit level is a constant level "indefinitely" (p. 1899) provided.

2.3. Comparing the Two UI Policy Approaches

The comparison between the analytical designs of the UI policy has not received particular attention, or the attention it deserved, and it appears rather to have been left too often to the evidence of the different UI variables involved. Here I will compare the two main approaches through the comparison between the two basic references I have recalled in their key points. These references will be compared to underscoring what mainly differentiates them.

The titles of the two articles indicate by themselves a deep difference. H-N's "Optimal Unemployment Insurance" gives a qualification to the designed UI scheme which is clearly not provided in Chetty's "A general formula for the optimal level of social insurance". The difference that these titles already signal can be related to a different principle that characterizes and qualifies these UI schemes. The UI setup on the cost minimization of an unemployment insurance contract, given an initial promised level of utility, is *de facto* driven by an efficiency principle. The very general UI setup on the "social insurance" of the unemployed worker is driven by a social sustainability principle, which results specifically guaranteed by the balance between the derived costs and gains of that support. Social sustainability versus efficiency synthetizes the contrast between the Chetty model focused on the optimal benefit level and the H-N model focused on the optimal time profile of UI benefits. Counteracting the negative incentive of UI benefits through a principle of efficiency or a principle of social sustainability is the substantial, deep difference between H-N's and Chetty's UI approaches. To give a more general representation of the contrast between the two models and thus of the principles underlying them, it is important to make reference to the modalities of counteracting the negative incentive of UI benefits. Counteracting this negative incentive directly or through the mediation of social sustainability, identifies more generally and effectively a principle of efficiency or a principle of social sustainability underlying UI models. 'Directly counteracting' obviously refers to levels of insurance that are related to the duration of the unemployment state. This reading of a principle of efficiency is just more general because it can clearly encompass different setup and developments of models applying the principle. Finally, and strictly returning to the Chetty and H-N models, it is not useless to note that the authors seem to have entrusted to the titles the deep and more general characterization of their respective schemes.

The different setup of the UI problem is associated to which aspect of the problem is chosen to be addressed. Beyond the role of a general principle underlying the UI schemes, a second remark concerns this association and in particular the

specific object of the designed UI scheme. The remark is strictly connected to the two obvious dimensions of the unemployment state: an uncertain temporal dimension and a certain economic dimension, the zero wage. H-N's and Chetty's models share a focus related to only one of the two dimensions of the unemployment state. The constant optimal benefit level of Chetty's model is provided "indefinitely", that is regardless of the unemployment duration. Here the time dimension is completely subordinate to the focus on the optimal benefit level. Indeed, it is so subordinate as to be indefinite. The optimal decreasing path of UI benefits of H-N's model starts from an initial promised level of utility. This planner choice is an external element of "generosity" with respect to the program of UI costs minimization. Thus, given the starting point of the process, the UI program and its benefit levels are only related and characterized through the temporal dimension of the unemployment state. It is worth underlying further: the temporally indefinite benefits are a result of Chetty's construction whereas the initial promised level of utility in the H-N model is a constraint chosen by the planner on his optimizing benefit choices. The different nature of these elements is clear, but both are strictly linked to the specific focus of the two models. This focus comes to a formally complete UI recipe, in which however a basic aspect, albeit in different ways, remains open.

Turning towards the large and complex amount of UI models, the associations between the setup of the UI problem and the specific aspect of the problem chosen to be addressed show various and interesting differentiations. Thus, the focus on a dimension of the unemployment state is not at all constantly associated with a certain setup of the UI problem. In the next section two different and very interesting associations will be briefly underlined to further comment on the components of the UI models.

A third remark rests on the question of how to define the distance between the UI approaches of Chetty (2006) and Hopenhayn & Nicolini (1997). A unique reply does not seem satisfying. If the models referred to are read in terms of the principles *de facto* underlying them, they are definitely alternative. If the reading is focused on their messages (concerning respectively optimal level and optimal path of UI benefits), the two models appear totally independent. This distinction between alternativeness and total independence is particularly interesting for assessments and developments that could be involved in such comparisons between the two approaches.

A last, actually introductory, point. The complex comparison between different analytical UI schemes cannot but be also part of an important open question: the relations between the independence of the analytical approaches to the UI problem and the structural differences between actual UI schemes. Section 4 tackles this issue.

3. Different Developments of the Analytical Setup of the UI Problem

It is important here to preliminarily underline that the UI problem setup, the spe-

cific aspect addressed within the adopted setup, the possible principle underlying the solution of the UI problem, are the variously characterized components within the large set of the UI models. Identifying these components in a model does not at all indicate a sort of sequence in the authors' design of the UI scheme. This design could have been emerged and developed in different sequences. Thus, those components are only important points for comments on the models considered. In this section the structure of two further UI models will be briefly considered. Distance and closeness with respect to the basic references of the first section make the new points of Fredriksson & Holmlund (2001) and Shimer & Werning (2008) particularly interesting.

An equilibrium model of search unemployment is the analytical framework within which Fredriksson and Holmlund (2001) tackle the issue of the optimal UI policy. The basic model is constructed on the assumption of a two-tiered UI scheme. Thus, two groups of unemployed workers differentiated by the length of the unemployment state make up here the unemployed set. Defined structure, properties and equilibrium of the search model, the introduction of UI benefits naturally raises questions about the composition and differentiation of benefits. This analysis, and in particular the shown operation of an entitlement effect[5], leads to the characterization of a socially optimal UI system. Thus, a social welfare function linked to the utility levels of the employed workers and (we can define) short-term and longer-term unemployed workers is the reference here. The maximization of this function gives the basic property of the optimal benefit system, i.e. the decreasing structure of the benefit level. Providing direct incentives to the search to the longer-term unemployed characterizes this UI structure. A specific principle of social sustainability operating against the negative incentive of UI benefits is not operating here. On the contrary, again in the analytical framework of Fredriksson and Holmlund (2001) a principle of efficiency is ultimately driving the benefit structure. The new aspect here is that an efficiency principle is not linked to the minimization of the UI costs but is simply activated through the assumed differentiation of unemployed workers by the duration of the unemployment state.

The scheme of Fredriksson and Holmlund joins a social welfare function and its maximization with the time structure of UI benefits. Thus, the structure of this scheme is clearly distant from those of H-N's and Chetty's models. However, it is important to underline the common basic point with the H-N model, that is the link between the focus on the temporal dimension of the unemployment state and an efficiency principle driving the UI benefit path. This point exhausts the closeness between the two models. It is then particularly interesting to underline that in the model of Fredriksson and Holmlund this very efficiency principle leads to support the maximization of social welfare through the introduced incentive to

[5]The entitlement effect, first underlined by Mortensen (1977), is the positive impact of a benefit increase on the search effort of uninsured unemployed. This impact follows the increasing value of employment for uninsured unemployed.

the job search.

New aspects underscored in Shimer & Werning (2008) are a second important reference. Shimer-Werning elaborate and compare two UI schemes. Their main point is to show in what circumstances the properties of the decreasing structure of UI benefits, as those from the Hopenhayn-Nicolini model, are also the properties of a scheme centered on two basic functions of the UI policy: providing liquidity to smoothing consumption and ensuring against the uncertainty of the unemployment duration. A constant benefit level, a constant employment tax, and free access to a riskless asset characterize this second scheme and meet the two basic functions of the UI policy. Setting the planner problem in both recalled schemes as the problem of minimizing the cost of providing the unemployed worker an initial given level of utility, Shimer and Werning demonstrate that in the presence of constant absolute risk aversion the policy "constant benefits" and the policy "optimal unemployment insurance" are equivalent, that is they lead to the same decreasing path in the consumption level. Thus, with CARA preferences, also the "constant benefits" policy is qualified as "optimal" (p. 1922).

The comparison between the two formalized UI policies is particularly interesting. Beyond the contracting approach of the Hopenhayn-Nicolini model, Shimer-Werning' "optimal unemployment insurance" is characterized by the same setup of the UI problem, the same association with the specific aspect addressed, and the same principle of efficiency underlying the UI solution of the Hopenhayn-Nicolini model. In the "constant benefits" policy instead, the minimization of the cost of providing the worker an initial amount of utility is no longer associated with the direct incentive to search provided by the planner through the decreasing benefit level. The decreasing pattern of consumption is linked here to workers consumption-savings decisions. The more composite setup of the UI problem in the "constant benefits" scheme leads to this result. Thus, the decreasing consumption path is characterized in a different way within the two policy lines. The planner' ultimate choices are crucial in determining the identical final results, but these results are *de facto* produced in different ways.

Shimer and Werning show a particular interest for the "constant benefits" policy for its more articulated and thus appropriate operation in the face of the unemployment state. The correspondence to the two dimensions of the unemployment state characterizes in particular this line and ultimately leads to a very specific decreasing path of the consumption level. Two remarks appear useful. Firstly, the "constant benefits" policy of Shimer and Werning is basically different from the characterization of the constant, optimal benefit level of Chetty's approach. There is no closeness between the Chetty's optimal benefit level and this "constant benefits" line. A subtle point concerns instead the definition of a general principle underlying the "constant benefits" policy. Here there is no direct action by the planner in the decreasing consumption levels over time. This absence makes the principle of efficiency evanescent. What emerges in the Shimer-Werning's picture

is only a very wise general direction by the planner.

4. A Bridge between UI Analytical Approaches?

4.1. The Model of Kolsrud, Landais, Nilsson, and Spinnewijn (2018)

The recent contribution of Kolsrud, Landais, Nilsson, and Spinnewijn (KLNS) (2018) raises new questions in this brief discussion about two substantially different approaches to the optimal UI policy.

The composite analysis of KLNS enlarges Chetty's approach to relevant reality aspects and to the timing of UI benefits. Also encompassing time-dependence, heterogeneity is the new basic point of the T-periods dynamic model of KLNS. In his specific individuality each worker i is an agent of the model. This is the crucial connotation of the exit rate out of unemployment in dependence on search effort, $h_{i,t}\left(s_{i,t}\right)$, and the utility function $v_i^u\left(c_{i,t}^u, s_{i,t}\right)$. Heterogeneity also includes the availability of assets. Observe that non-separable preferences between consumption and search effort are admitted within this preliminary and very general definition of the optimal UI policy. Given the unemployment policy P, the maximization of the expected utility drives the agents' choices of consumption and search effort and opens to the formulation of the optimal UI policy through the Lagrangian equation for the social welfare maximization: $W(P)=\int V_i(P)di+\lambda\left[G(P)-\bar{G}\right]$. The derivative with respect to a benefit increase in period t of the unemployment spell leads to the new structure of the moral hazard cost MH_t and the consumption smoothing gain CS_t. Average levels of the implied components of the two variables characterize this structure. The general conclusion is clearly that the equality $MH_t = CS_t$ for each period t defines the optimal dynamic UI policy.

Based on the analytical scheme an empirical analysis is developed for an assessment of the Swedish UI policy over the years 1999-2007. An essential summary of this policy is useful. A flat benefit level (80 percent of wage) is combined in these years in Sweden with the adoption of variously set caps, whose importance is due to such a low level that it "applies to about 50 percent of unemployed workers" (p. 1000). The adoption in 2001 of a duration-dependent cap to the benefit level (corresponding to a definite wage level $\bar{W}$) has given rise to a "two-part" benefit profile. In fact, in July 2001 the uniform cap previously in force over all the unemployment spell was raised for the first 20 weeks of the unemployment spell and then reduced to the previous level $\bar{W}$ after 20 weeks. This change in July 2001 implies a decrease in the benefit level after 20 weeks of the unemployment spell for workers whose wage was above the definite level associated to the cap previously in force over all the unemployment spell. Thus, the structure of the caps is characterized by the benefit level in the first 20 weeks of the unemployment spell (part b_1), the benefit level after 20 weeks of the unemployment spell (part b_2), and a kink in the relation between wage levels and benefit levels in correspondence to the wage $\bar{W}$. Note that before July 2001 a kink in the schedule of UI benefit (in correspondence to the wage $\bar{W}$) concern both parts b_1 and b_2, whereas af-

ter July 2001 the kink is observed only for part b_2. Finally, in July 2002 a new rule was introduced raising also the cap for the unemployment period after the first 20 weeks, thus there is no longer a kink corresponding to $\overline{W}$.

This structure of the UI policy in Sweden is extensively analyzed by KLNS. The many results of this analysis and the estimates of the implied sufficient statistics are of particular interest. The general aspect to be stressed is that the average replacement rate ($\overline{b}$ = 0.72) results too generous. The moral hazard cost of an increase in the benefit level throughout the unemployment spell comes to 1.64. As to the two parts of the benefit profile and thus referring to the moral hazard costs of a benefit increase in the first 20 weeks of the unemployment spell and after 20 weeks, the estimates result in moral hazard costs that are larger than the consumption smoothing gains both with reference to the short-term unemployed and the long-term unemployed. However, the decrease over time of the moral hazard cost and the increase of the consumption smoothing gain produce relative ratios of these statistics MH_1/MH_2 (= 1.26) and CS_1/CS_2 (=0.50) that clearly signal the utility for the social welfare of an inclining tilt $b_1 < b_2$ in the flat UI benefit profile of Sweden. These results and in particular the local policy "recommendation" of a benefit increase later in the spell represent very new points within the UI theme. Finally, the calibration of a nonstationary structural model leads the KLNS's analysis to go beyond local recommendations. Following changes in the benefit level, the simulated values of moral hazard costs and consumption smoothing gains indicate now as the optimal flat benefit level $\overline{b} = 0.58$, as the optimal benefit level in the first 20 weeks of unemployment $b_1 = 0.42$, and as the optimal benefit level after 20 weeks of the unemployment spell $b_2 = 0.68$.

The dynamic model and the empirical results of KLNS raise a few questions and remarks. The first one concerns characteristics and the dimension of the benefit movements emerging from this composite analysis. The formal recognition of workers' heterogeneity underlies the formal definition of the optimal dynamic UI policy. On the factual plane, heterogeneity and non-stationary forces underlie movements of the consumption smoothing gains and the moral hazard costs, movements that are empirical facts and questions. Thus, which movements of UI benefits are required to secure local optimal UI choices in turn appear empirical questions. This expansion and further characterization of the field of the empirical analysis of the UI policies is a first aspect to underline, and the local policy "recommendation" of a benefit increase later in the spell is a very new aspect in this area. The results from the calibration of a structural model clearly strengthen the policy recommendations.

A second question obviously concerns the reading of the benefit movements of the dynamic model of KLNS with respect to the two basic UI references of the first section. The optimal level of UI benefits of Chetty's model becomes a dynamic problem in the KLNS approach. Here the equilibrium condition of an optimal benefit level has the same structure as Chetty' model, but its dynamic nature characterizes the optimal benefit choices in a significantly different way. In KLNS's

model, the required balance over time of the consumption smoothing gains and moral hazard costs grasps and responds to workers' reactions over time within the unemployment spell. Referring again to the two dimensions of the unemployment state, the time dimension of this state is an active category in all the components of the KLNS model. Furthermore, however, I have to underline that the dynamic nature of UI policy in the KLNS model marks at the same time a significant distance from and an important closeness to the Chetty's optimal UI policy. Regarding the closeness, it is immediate to stress that as in Chetty's optimal UI policy a principle of social sustainability underlies the identification of the dynamic optimal benefit level of the KLNS model.

Although their respective models are focused on the dynamics of UI benefits, the formalization of these movements and their implications substantially diverge in the models of KLNS (2018) and Hopenhayn & Nicolini (1997). The setup of the UI problem is substantially different in the two models. The planner minimization of the UI costs and the dynamic maximization of a social welfare function are separate or autonomous issues, whose developments show no point of contact. Thus, the movements over time of the optimal benefit level result characterized in the two models in a deeply different way. Specifically, the movements (with an indefinite sign in principle) of UI benefits in the KLNS model cannot be read in any similarity with the decreasing benefit level of the H-N model. Here the direct dependence of the dynamics of the UI benefits on the time dimension of the unemployment state characterizes univocally the benefit movement with respect to the composite picture of this movement in the KLNS model. Finally, the distance between the two models and in particular the different formalizations of the benefit movements can be associated with a different principle that *de facto* characterizes the UI policy action within the two models. Social sustainability and efficiency underlying the optimal UI policy are the more general and contrasting characterizations of the two models.

The remarks just made lead to the initial question posed in this section and connect it more specifically to the relationship between the KLNS model and the Chetty and H-N models. Thus, can the KLNS model be read in some way as a bridge between the two models? The dynamic approach of KLNS to the UI problem enlarges Chetty's analysis, but this enlargement does not actually bring the KLNS approach closer to the H-N model. As widely underlined, the dynamics of the UI benefits within these two analytical structures are substantially different. Again with reference to more general principles, dynamizing Chetty's analysis does not provide a bridge towards models in which (in very general terms) the result of decreasing levels of consumption of unemployed workers enjoying UI benefits can be read as driven by an efficiency principle. Thus, a fundamental enlargement of Chetty's analysis seems the more pertinent vision of the KLNS analytical construction. KLNS directly tackle the time dimension of the unemployment state, following however a social sustainability principle for the optimal provision of UI benefits. At the same time—it is important to stress—just within this

perspective they overcome the adoption of assumptions that constraint and characterize the starting point of the time path of UI benefit provision, a point that strongly characterizes the H-N model.

4.2. Further Remarks on the Comparison between UI Analytical Schemes

It is useful to underline a few points to close the brief discussion of these sections on the analytical approaches to the UI problem. First, the methodological characterizations linked to sufficient statistics or structural approaches to the UI problem clearly represent a very important ground on which the comparison of the UI schemes has been deeply considered. Chetty (2009) and Chetty & Finkelstein (2013) are essential references in this connection, in particular regarding the relative advantages and difficulties of the two approaches. Here I would stress that the relevance of these methodological aspects and their possible developments leave open the comparison on the ground of the specific policy indications emerging from the developed UI schemes, indications that constitute the essential or operative messages of the schemes. On this ground the comparison definitely appears a more open issue. My attention here is on the essential or operative messages of the schemes, their reading and their implications.

As a second point, let me insist on the reference to general principles as tools for characterizing those messages from the UI schemes. A final remark in this area concerns the principle of efficiency to which a decreasing level of UI benefits can be traced back. In models like the H-N one, the initial given level of utility provided to the unemployed worker implies a preliminary "generosity" choice by the policy-maker, a choice that is totally independent from the analytical development of the UI scheme. It seems important to stress that here "generosity" is an open and therefore undefined category. Despite the absence of a defined content of this category and its consequent genericity, the concomitance of efficiency and "generosity" is an aspect of considerable interest, which can condition a vision of exclusive "severity" of analytical schemes driven by an efficiency principle. The point that I want to underline is just that "severity" does not appear to be a sort of additional label for significantly differentiate the analytical schemes, for example, of H-N, Chetty, and KLNS. I will return to this point in the next section on the actual UI schemes.

A third point. Delimiting the UI problem to a single component has strongly characterized the varied and broad development of analytical designs of UI schemes. Moving to a more general approach, as that tackled by KLNS, the problem remains as how to define the distance between models characterized by a main focus within the UI problem. The options remain "total independence" or "alternativeness" of the developed UI schemes. Alternativeness is clearly linked to the reference to a principle of efficiency underlying the construction of the scheme and its essential or operative message. Here it is worth to note again that just a principle of social sustainability characterizing the optimal dynamics of UI bene-

fits in the KLNS model allows to identify a main focus of this model on the optimal level of UI benefits. All this said, the two options are an open question, which can be left here to the choice of a viewing angle from which to look at the UI schemes, that is the factual independence of the operative messages or a general principle behind those messages.

The remarks of the last points and the composite differentiation of the analytical schemes induce here towards readings of the distance between the two sets of UI schemes linked to different, specific interests on the UI theme. Such an interest can be also usefully identifiable in comparisons and possible relations between actual UI schemes and analytical schemes. This field appears largely open to investigations. The assessment of the optimality of an actual UI scheme has been very often (almost always) the empirical side or empirical closure of the analytical construction and definition of an optimal UI scheme. But, on a more general plane, the apparent structures of actual UI schemes, their closeness to or distance from analytical schemes, and the quantity of questions that all these comparisons can involve hopefully require more investigations. In the next section a few remarks will be proposed about the independence that actual structures in the provision of UI benefits show between schemes focused on the level of benefits and schemes in which the time sequence of benefits significantly characterize them.

5. The Structure of UI Benefits Provision in Actual UI Schemes

5.1. Reading the Actual UI Benefits through the "OECD Tax-Benefit Model" and the Net Replacement Rates

The provision of unemployment insurance in the individual countries follows diversified paths in the number, characteristics, and weight of the single components. The "OECD tax-benefit model" is a fundamental informative source for the UI schemes adopted in (but not only) OECD countries, and thus for the data of this section.

The rules in each country describe more or less composite, and in any case widely diversified, UI schemes. The eligibility conditions, the composition of the benefit amount and the benefit duration diverge considerably between countries. A large set of inhomogeneity emerges from the complex individual components of these schemes. The interest here is only directed to the observation of the main elements that characterize the provision of UI benefits. These elements compose the essential structure of UI benefits and include the level of the benefits, their time characterization and their duration. Each element can clearly assume multiple levels in each country in connection with the specific differentiations of the element considered by the country. Moreover, it is important to point out that, although relevant, the possible links between eligibility conditions and benefit structures will not be considered here. My attention is circumscribed to the comparison of the countries UI schemes through the calculation by the OECD Tax-Benefit Model of the Net Replacement Rate (NRR) in individual countries. This rate shows the share of net income when employed that is retained upon becom-

ing unemployed, and more specifically at any "particular month of the unemployment benefit receipt"[6]. The NRR rates provide thus fundamental information on the essential structure of UI benefits. These data, however, require a few preliminary clarifications.

The OECD tax-benefit model provides a detailed picture of taxes and benefits in a large series of countries and for a large number of years. An essential product and tool of the model is a "unified and consistent methodological framework"[7] which leads to calculate taxes and benefits and compare them between countries. The general document for each country, "The OECD Tax-Benefit Database for…" (the dots indicate the country name), deals in section **2** with the issue "Unemployment Insurance". The section is composed by two subsections: the first one, **2.1**, (which is named "Unemployment benefit" or "Unemployment insurance" or with a translation close to the national name) uniformly identifies this support as "an unemployment insurance benefit" and gives its full description. The subsection **2.2** mainly encloses forms of Unemployment Assistance, such as unemployment assistance benefits, or a second more specified support. Jobseekers who have expired the "unemployment insurance benefit" support or do not qualify for it can apply for Unemployment Assistance respecting the imposed requirements[8]. The subsection **2.2** defines and describes this kind of benefits. The two subsections are thus the strict and complete references for the unemployment insurance area in each country[9]. Then, returning to the more general plane, the OECD also provides a new, powerful tool to the interested reader or researcher in order to choose and identify the value of specific variables of interest within the large tax-benefit area, the "OECD calculator of taxes and benefits"[10]. Table 1 on the Net Replacement Rates in unemployment in a number of countries and in defined time frames has been built through this instrument applied to the field "Generosity of income support for jobseekers".

The table gives the net replacement rates in 2023 in 32 OECD countries[11] over a length of 24 months of the unemployment spell. Within this long time, seven increasing lengths of the unemployment state are considered. The data concerns an unemployed worker aged 40 - 44 years, single and without children. Social contributions have been paid for 120 months over the entire career and the previous

[6]OECD, "TaxBEN: The OECD tax-benefit simulation model", p. 44, December 2022. https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/income-support-redistribution-and-work-incentives/oecd-taxben-methodology-and-manual.pdf

[7]OECD, "The OECD Tax-Benefit Model", p. 1. https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/income-support-redistribution-and-work-incentives/oecd-tax-benefit-model-overview.pdf

[8]In particular it is the requirements imposed that distinguish the Unemployment Assistance from the more general and wider Social Assistance, which is dealt with later in the Database of the single countries.

[9]Observe however that there is a difference between the NRR rates and the unemployment benefits replacement rates referred to in the "OECD Tax-Benefit Database" description of the policy rules in the individual countries, since the latter do not include social contributions and taxes in their definition.

[10]The link to the calculator: https://www.oecd.org/en/data/tools/oecd-calculator-of-taxes-and-benefits.html.

[11]The OECD calculator of taxes and benefits provides data on 35 countries. The lack of unemployment insurance programs in two countries (Australia, New Zealand) and an even more general lack of data (Chile) limit Table 1 to 32 countries.

in-work earnings were at a level of 67% of the average wage. The chosen references exclude specifically social assistance, in-work benefits, family benefits, homecare allowances. Thus, the data are only referred to the "Unemployment benefits" item of the OECD calculator, item that in turn has as references the sub-sections **2.1** and **2.2** of the "OECD Tax-Benefit Database" for the single countries. Overall, these references have been chosen to give both the basic support of unemployment benefits and the simpler or, so to speak, dry situation of the unemployed worker. It is clear, however, that age, family composition, previous wage level, and social contributions paid can have an incidence on the benefit level and time duration. Although circumscribed, the data of the table provide a picture of the benefits in a large number of countries and over a great extension of the unemployment state that is useful to raise a number of questions.

Beyond the differences in the starting level of the net replacement rates, the aspect of particular interest here is the overall time characterization of this level. How to identify a substantial stability of the net replacement rate and how to read their decreasing levels are the first points to clarify. The connections with the sub-sections **2.1** - **2.2** of the OECD Tax-Benefit Database of the individual countries are the right references here. Lower levels of the NRR rates over the unemployment spell have the nature of forms of assistance when they result as components of the sub-section **2.2** of the OECD Tax-Benefit Database of the related countries. Reductions of the NRR rates have instead a substantially different nature when they are part of the description of the "benefit amount" of sub-section **2.1** of the related Databases. These reductions clearly express a definite and more articulated plan by the government for UI benefits. The possible co-presence of constant unemployment insurance benefits followed by forms of assistance or residual support to jobseekers also classifies this UI plan as a constant unemployment benefit plan.

Coming to the reading of Table 1, the temporal characterization of the benefits describes three different structures or types of the UI schemes. The Table has thus been composed of three sections, each including countries with a specific, different UI scheme. Constant unemployment insurance benefits followed by benefits which broadly share the nature of unemployment assistance benefits form the scheme of seven countries (Austria, Finland, Germany, Greece, Ireland, Korea, Portugal). With the exception of Ireland, where the NRR levels are very close under the two benefit characterizations[12], in the other six countries the passage to forms of unemployment assistance leads to lower NRR rates. The initial constant rates, their time extension and the dimensions of the successive reductions are significantly different, but the basic structure of the scheme is the same and can be defined as a constant unemployment benefit scheme. In the section 1-B, the constancy and uniqueness of the unemployment insurance benefits characterizes instead the UI schemes of thirteen countries (Canada, Denmark, France, Hun-

[12]"Jobseeker's Allowance" is the generous provision that follows the unemployment insurance benefit and is fully described in the section 2.2 of "The OECD Tax-Benefit Database for Ireland".

gary, Israel, Japan, Luxembourg, Norway, Slovak Republic, Switzerland, Türkiye, United Kingdom, United States). This unique property joins in turn with significant differences in the constant NRR level and above all in the time extension of the benefit provision. Also note that the exhaustion in the United Kingdom of the unemployment insurance benefit in the sixth month of the unemployment spell is followed by a support that falls within the area "Social Assistance". Finally in the section 1-C, twelve countries (Belgium, Czech Republic, Estonia, Iceland, Italy, Latvia, Lithuania, Netherlands, Poland, Slovenia, Spain, Sweden) are exclusively characterized by decreasing levels of the unemployment insurance benefits. Again, the specific aspects of the starting NRR levels, the dimensions of the reductions, and the extension of the decreasing benefit coverage are significantly different, but the decreasing weight of this coverage uniquely identifies the UI schemes in these countries.

Table 1. 2023-net replacement rates in unemployment.

	Months of Unemployment						
	2	4	6	8	12	18	24
Section 1-A							
Austria	55	55	55	50.6	50.6	50.6	50.6
Finland	64.2	64.2	64.2	64.2	64.2	64.2	33.3
Germany	59.5	59.5	59.5	59.5	59.5	22.3	22.3
Greece	45.7	45.7	45.7	45.7	45.7	18.6	18.6
Ireland	33.1	33.1	33.1	33.1	34.2	34.2	34.2
Korea	71.2	71.2	71.2	19.1	19.1	0	0
Portugal	75	75	75	75	75	75	42.3
Section 1-B							
Canada	64.1	64.1	64.1	64.1	1.8	1.8	1.8
Denmark	74.8	74.8	74.8	74.8	74.8	74.8	74.8
France	66	66	66	66	66	66	66
Hungary	64.2	0	0	0	0	0	0
Israel	72.4	72.4	72.4	0	0	0	0
Japan	69.2	69.2	69.2	0	0	0	0
Luxembourg	86.6	86.6	86.6	86.6	86.6	0	0
Norway	67.5	67.5	67.5	67.5	67.5	67.5	67.5
Slovak Rep.	63.9	63.9	63.9	0	0	0	0
Switzerland	70.5	70.5	70.5	70.5	70.5	70.5	0
Türkiye	52.2	52.2	52.2	52.2	0	0	0
UK	16.7	16.7	16.7	15.2	15.2	15.2	15.2
United States	48.7	48.7	0	0	0	0	0

Continued

Section 1-C							
Belgium	79.3	75.7	75.7	72.7	72.7	65.6	65.6
Czech Rep	65	50	0	0	0	0	0
Estonia	66	45.2	45.2	45.2	0	0	0
Iceland	75.5	67.9	60.2	60.2	60.2	60.2	60.2
Italy	66.8	66.8	65.1	61.7	55.5	45.2	32.7
Latvia	64.6	48.5	32.3	29.1	0	0	0
Lithuania	80.1	68.5	68.5	56.8	0	0	0
Netherlands	68	64.1	0	0	0	0	0
Poland	32.9	25.8	25.8	25.8	25.8	0	0
Slovenia	68.6	66.7	66.7	0	0	0	0
Spain	78.3	78.3	78.3	66.3	66.3	66.3	0
Sweden	81.5	81.5	78.1	78.1	72.2	67.6	67.6

5.2. The Different Compositions of UI Schemes in the Three Groups of Countries

Beyond the general features characterizing the typology of the schemes adopted within each group of countries, the components of each typology are significantly differentiated between countries. A common plan by the governments behind each typology of UI scheme does not emerge. In the first group of countries, remarkable differences result both in the level and temporal extension of the NRR rates linked to constant unemployment insurance benefits and in the level of the NRR rates linked to unemployment assistance forms. A highly varied picture of the differences in the NRR rates emerges from the countries whose UI scheme is uniquely characterized by a constant level or a decreasing level of the unemployment insurance benefits.

As to the constant NRR rates, the long temporal extension of the rate particularly characterizes Denmark, France, Norway and also Switzerland. Moreover, the level of the rate in the four countries is also in the broad and upper range of the rates of this group of countries. Among the other countries only in Luxembourg the rate extension reaches 12 months. In the remaining countries the rate extension is between 8 and 3 months (only Hungary). As to the NRR levels, leaving aside the particular case of the United Kingdom, Türkiye and the USA record rather lower levels. Thus, a most relevant and clear distinction between the countries with constant benefit levels lies in the time extension of the benefits. As a final remark, two main points characterize this group of countries: a particular 'generosity' of a few countries and a more shared plan of other countries set on constant benefits provided for a limited time. The time extension clearly also includes measures or modalities to contrast opportunistic behaviors.

Even the UI schemes set on decreasing benefit levels appear rather differently

articulated. Observe first that the initial level of the NRR rates is on average higher than the absolutely constant rates of the previous UI schemes. In Spain the decreasing NRR rates extend to 20 months and in Belgium, Iceland, Italy, Sweden they extend to 24 months, but with a relevant difference. In Italy the initial benefit is reduced by 3% per month from the sixth month of payment, and in the 24th month the Italian NRR rate results much lower than that of the other three countries. Furthermore, the rule of a monthly reduction of the benefit level is applied only in Italy and the consequent benefit reductions makes the Italian scheme closer to the other countries of the third group. Moving on to these countries, only in the country with the lowest NRR rates, i.e. Poland, benefits extend to 12 months. With differentiated reductions, benefits extension in the other countries is between 10 (Estonia and Lithuania) and 5 months (Netherlands and Czech Republic). In conclusion, again two main points emerge from the third group of countries. The first is the relevant "generosity" of four countries both in terms of the NRR rate extension and NRR level remaining anyway high over all the months. As to the second aspect, the reduction in the other countries of initially high NRR levels combined with their limited time provision defines and characterizes a different and more articulated plan to contrast opportunistic behaviors.

The large variety, complexity, and number of components of the UI schemes has been necessarily disregarded here. My limited focus on the basic structure of UI benefits provision that the NRR rates describe aims to very general remarks on the actual UI schemes. An obvious initial remark is that the apparent rationale behind the constructions of the schemes is deeply different. The first group of countries is mainly characterized by the composition given to the schemes through forms of unemployment assistance that follow unemployment insurance benefits. The overall extension of the UI support joins to levels of initial unemployment insurance benefits that are on average lower than those in the two other typologies of UI schemes. Composition and extension of the benefit support are the interesting general features of these countries' schemes. In all the other countries the schemes are instead characterized by a more varied and complex action. Both the time extension of constant benefits and the decreasing benefit path are components that can more directly tackle the trade-off between insurance and incentives. The specific modalities to tackle this trade-off further differentiate the structures of the schemes in the two groups of countries. Beyond specific differences and the influence and conditioning of generosity, constant benefits and decreasing benefits over the time design two totally independent UI schemes. This statement simply records the observation of *facts* without any implications on the efficiency and effectiveness of the individual schemes.

The actual UI schemes are clearly the object of a multiplicity of analyses. To mention particularly relevant fields, the assessment of the scheme adopted in a specific country is often the empirical conclusion of the analytical design of the optimal UI policy. The issue of a common scheme in a large area, in particular the European area, and the possible external references for this kind of construction

are other very important areas of analysis[13]. However, the great interest on the empirical side of the UI problem leaves rather open the diversified adoption of the schemes, the rationale behind them and above all the substantial independence of the basic structures of the schemes. In particular, the independence that emerges from the juxtaposition of schemes set on constant benefits or on decreasing benefits is open to question and thus to further analyses and insights.

The obvious independence on the one hand between different structures of actual UI schemes and on the other between analytical designs of optimal UI policies leads to the conclusive section about the questions that the two distinct areas and their possible interactions can raise.

6. Open Questions and Final Remarks

As to the analytical field, clear and great distances emerge from the formal designs of UI policies. To some extent these designs may have certainly drawn inspiration and stimuli from actual schemes and not surprisingly they appear to reflect, again to some extent, the great differences between the actual schemes. The distances within this field can be read and defined in different ways, even independently of the specific setup of the UI problem adopted by the authors. The final recipes of the models, it has been argued, can also be linked to general principles underlying the construction of the models. A main remark on this area is that the approaches to the problem and the resulting components and properties of the optimal UI policy have not been the object of extensive comparative comments or even a source of debate. The optimal benefit level and the temporal characterization of benefit provision in fact give totally independent UI policy indications. Moreover, although in different ways, the indications include open points: the optimal benefit level has in any case an indefinite time dimension and the decreasing benefit level is linked (very interestingly but) simply to assumptions about the starting level, i.e. about the government's initial choices. In this respect it is important to observe again that a principle of efficiency that joins with a "generosity" initial choice of the government can tone down the "severity" of the principle. As regards the empirical side of the analytical works, comments and assessments of the factual implementations of UI schemes have been largely limited to individual implementations. From a more general perspective, possible relations between the independent formal indications for an optimal UI policy and characteristics and problems of the labor markets are largely open issues, whose relevance or irrelevance is hopefully open to be more considered and argued. A comparative focus or comparative analysis on these relations remains just a rather open work.

The picture of the actual UI schemes that the NRR rates of **Table 1** provide

[13]Beblavy & Lenaerts (2017) and Lenaerts, Paquier, & Simonetta (2017) are useful general references on these topics. A quite interesting proposal for a European Unemployment Insurance System has recently been put forward by Abraham, Brogueira de Sousa, Marimon, & Mayr (2023) with the calibration of a multi-country equilibrium model with frictions in the labor markets. The model and its calibration aim to define a "harmonized" scheme for the euro area from which welfare gains for all the area are computed.

shows in turn a multiplicity of differences between the countries' choices. Almost every scheme is different in some way from every other, but important differences between groups of countries and within each group clearly emerge. The only common aspect concerning all groups is given by different degrees of "generosity" in the benefit levels within each group. As seen, three groups of countries can be identified from Table 1 depending on the basic structure of the benefit provision. The composition of this structure through unemployment insurance benefits and unemployment assistance forms characterizes the first group. Beyond the "generosity" aspects, deeper differences in the benefit provision in the two other groups of countries indicate total independent UI schemes. Constant benefit levels and decreasing benefit levels are substantially different schemes. But this independence can also be further specified. Level and time provision of constant benefits within the second group of countries and decreasing benefits with a time constraint within the third group can actually follow different paths to tackle the trade-off between insurance and incentives. The different rationale behind these paths further characterizes the independence between the relative UI schemes.

A number of questions can be raised from the composite set of the actual UI schemes. A question is immediate: to what extent is a country's choice of a specific structure in the provision of benefits related to features and problems (even temporal ones) of the country's labor market? And conversely, how can these choices impact or have impacted on the labor markets? These relations and mainly the comparative aspects appear largely open to insights, which could be also useful in better clarifying the role of the individual analytical designs of UI schemes. On a pure hypothetical level, a requirement of sustainability or a preference towards directly countering opportunistic behaviors may have concurred to countries' choices prompted by specific features and problems of the labor market. A further question directly concerns the relevance of the "generosity". The reading of the NRR rates suggests that the individual schemes are driven by policy decisions in which the breadth and characteristics of the category "policy" could be rather varied. "Generosity" synthetizes this possible complex extension, which certainly can include more specific principles or rules in the construction of the scheme. The relative importance and impact of "generosity", that is pure policy choices, of the actual UI schemes in all three groups of countries is a further relevant question. A third point concerns the state of the economy. Stability and crises are also important references for relative comparisons of changes and impact of the independent UI schemes.

The focus of all these questions on comparative aspects between countries is a very interesting enlargement of the empirical analysis on the UI problem. Such a focus could better frame, even historically, the independence between actual UI schemes, the relevance and the meaning of their specific differences, and the weight of possible connections with the analytical designs. In particular, the results of these investigations could help to verify whether and how the differences in actual patterns of UI schemes are linked in some way to problems and charac-

teristics of the labor markets or even to the general state of the economy. Possible significant relationships could lead to reading the independence between the schemes in a more articulate way, that is also as complementary forms of unemployment insurance. "Complementarities" between UI schemes in dependence on countries' features and problems is a very interesting open question, a question worth tackling. The relevance or the relative weight of policy' choices is a parallel point of considerable interest. A question here is to what extent political choices can, so to speak, weaken the characterization of the basic structure of the adopted scheme. A possible predominant weight of "pure policy choices", as choices of independent guiding rules in the construction of UI schemes, would analogously be a point of great interest. Independence here is clearly referred to the specific aspects of the labor market. General criteria or guiding rules dependent on features and problems of the labor market or independent from those aspects lead to a further and more radical question for the reading of the actual UI schemes. It is useful to add that both scenarios are compatible with pure measures of generosity and that the efficient implementation of the chosen guiding rule is a distinct issue within the two scenarios. Finally, the relevance of the indications from the empirical analyses cannot but be linked to the extension of these analyses over the UI schemes. On the other hand, the composite differences between the schemes could make it difficult to draw unique conclusions.

Let me return in conclusion to the total independence between analytical designs of UI schemes. It has been argued that the schemes can also be defined as alternatives. It is worth adding here that a more complete reading of the analytical schemes can have as its counterpart a conscious adoption by governments of an exclusive general criterion or rule in the construction of their own UI scheme. At the same time, it is important to stress that whatever the reading of the relation between the analytical schemes, the factual implications of these readings/definitions exclude any form of cooperation between the recipes of the analytical models. However, the questions just raised indicate that the issue could be actually open. Significant relations between different features of the labor markets and different actual UI schemes could lead to the conclusion that a sort of complementarity between those analytical designs could also be defined. Clarifying if and how different UI schemes can better fit characteristics and problems of different economic frameworks could give useful indications for such a further definition. This point completes the more general issue of the possible connections between independent analytical schemes, actual UI schemes, and specific economic features of individual countries. This is a final and broad open issue that my remarks and questions aimed at underlying.

Outside or without significant connections between the three subjects, the link between specific economic features of the countries and the adoption of different specific structures of UI schemes vanishes and the empirical assessment of the efficiency of an actual UI scheme is only linked to the analyst' chosen variable for assessment. How the lack of those connections is produced becomes in turn a very

interesting question. The area of comparisons and questions becomes even wider, but it goes beyond the scope of this article. It seems useful in conclusion only to add that outside significant references to analytical UI schemes for the actual UI schemes, the issue of general principles underlying the analytical UI schemes is again completely open to assessments and, hopefully, some debate.

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Conflicts of Interest

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