Journée Dynamique

Cofinancé par: Labex MME-DII “Modèles Mathématiques et Économiques de la Dynamique, de l’Incertitude et des Interactions” et ANR “Novo Tempus”.

Université d’Evry – Val d’Essonne
Centre d'Études des Politiques Économiques (EPEE)

Salle 312, Département Économie, Batiment Ile de France
4, Bd François Mitterrand 91025 Evry,

8 Novembre 2012

Programme

10:30 – 11:05 - Ha Huy Thai “A Never-decisive and Anonymous Criterion for Optimal Growth Models” [travail conjoint avec Alain Ayong Le Kama]


11:40 – 12:15 - Michel Guillard TBA

12:15 – 12:50 – Carmen Camacho “Land use dynamics and the environment” [travail conjoint avec Agustin Perez-Barahona]

12:50 – 14:20 - Déjeuner

14:20 – 14:55 - Emmanuelle Augeraud Veron "Optimal consumption with internal habit formation” [travail conjoint avec Mauro Bambi et Fausto Gozzi]

14:55 – 15:30 – Hippolyte d’Albis “Frequency of trade and the determinacy of equilibrium in economies of overlapping generations” [travail conjoint avec Emmanuelle Augeraud Veron]

15:30 – 15:50 - Pause café


16:25 – 17:00 - Stefano Bosi “Dynamic Fiscal Competition” [travail conjoint avec Hubert Jayet]


Organisateurs: Giorgio Fabbri et Stefano Bosi
Abstracts:

– Ha Huy Thai [avec Alain Ayong Le Kama]

“A Never-decisive and Anonymous Criterion for Optimal Growth Models”

We address in this paper the question of the existence of a Social Welfare Function that would be sustainable and would allow to obtain solutions to optimal growth models. We define sustainability by two new axioms called Never-decisiveness of the present and Never-decisiveness of the future. We first show that a SWF which has Never-decisiveness properties cannot be defined on a ball of $\mathbb{R}^{\infty}$. We must (i) restrict to the set of utility streams for which the value of the SWF is finite and (i) introduce additional assumptions in order to obtain the Never-decisiveness properties. Our main result in this paper is therefore to show that the undiscounted utilitarian criterion is an anonymous and never-decisive criterion for optimal growth models. We consider the set of utilities of consumptions which are generated by a specific technology, namely a technology with decreasing returns for high levels of capital and restrict ourselves to good programmes, i.e. any programme for which intertemporal utility is well defined.

– Orntangar Nguenamadji [avec "Jean-Marc Bonnisseau"]

"Walrasian Exchange Process"

In an exchange economy, we provide a discrete exchange process, which is Walrasian since the trades are given by the equilibrium allocation of the local equilibrium. We prove that this process attains a Pareto optimal allocation after a finite number of steps and the local equilibrium price then supports the Pareto optimal allocation. Furthermore, along the process, the allocation is feasible and the utility of each consumer is non-decreasing.

– Carmen Camacho [avec Agustin Perez-Barahona]

“Land use dynamics and the environment”

We build a benchmark framework to study optimal land use, encompassing land use activities and environmental degradation. We focus on the spatial externalities of land use as drivers of spatial patterns: even if land is immobile by nature, location's actions affect the whole space through pollution, which flows across locations resulting in both local and global damages. We illustrate the richness of our model by means of a numerical analysis. Considering a global dynamic algorithm, we find that our model reproduces a great variety of spatial patterns related to the interaction between land use activities and the environment. In particular, we identify the central role of abatement technology as pollution stabilizer, allowing the economy to achieve stable steady states that are spatially heterogeneous.

– Emmanuelle Augeraud Veron [avec Mauro Bambi et Fausto Gozzi]

“Optimal consumption with internal habit formation”

In the literature, habit formation has been often introduced to enhance the agents' desire to smooth consumption over time.
In this paper we consider habit formation in an AK model, where habit formation takes into account intensity of the habit and the length of the memory effect. The problem rewrites as an optimal control problem with distributed delay. We write the dynamics on an abstract space, and solve Hamilton-Bellman Jacobi problem, and exhibit the policy function. We prove that the internal habit formation problem writes as the same solutions as the external habit formation problem. We unveil two mechanisms which point to the opposite direction: the habits may reduce the desire of smoothing consumption over time and then may potentially decrease the power of a model in explaining the previously mentioned facts.

– Hippolyte d’Albis [avec Emmanuelle Augeraud Veron]

“Frequency of trade and the determinacy of equilibrium in economies of overlapping generations”

Demichelis and Polemarchalis (2007) highlighted the role played by the frequency of trade on the degree of indeterminacy of equilibrium in economies of overlapping generations. Assuming that time has a finite starting point and extends into the infinite future, they prove that the degree of indeterminacy increases with the number of periods in the life-span of individuals, which is assumed to be deterministic. We show that this result does not hold when individual longevity is represented by an exponential survival function: the degree of indeterminacy depends on individual preferences and monetary policy but is independent of the frequency of trade.

– Enareta Kurtbegu [avec Jerome Glachant]

“Asset Meltdown in a Model with Last-Moment Consumption”

This paper consists in pricing financial assets in a continuous time OLG model with demographic cycles and explaining the asset meltdown phenomenon, in an economy where agents have a finite lifetime and consume all their resources only at the last moment, just before their death. This endowment economy consists of one long-lived asset providing a flow of dividends and an exogenous stream of wages. Contrary to Gollier (2008), we aim to price the trees (assets) present in this economy independently of agents preferences while considering the quantities given. In this deterministic framework, we study and verify the asset meltdown phenomenon (i.e. the impact of demographical change in the Internal Rate of Return (IRR), in the asset price and yield curve).

– Stefano Bosi [avec Hubert Jayet]

“Dynamic Fiscal Competition”

In this paper, we consider the fiscal policies in two jurisdictions as an outcome of a non-cooperative game between their governments. We assume a mobile capital across the borders and immobile labor forces. Each government decides the optimal paths for capital taxation and public investment as a best reply to the other. Households are price-takers and their rational behavior in response to the announced policies is taken in account by both the governments. We compare the first best, where the government decides private savings over time, with the second best, where consumers decide their private savings. We find that, surprisingly, the outcome of the fiscal competition coincides at the stationary symmetric equilibrium with the second best where at least one input is underprovided. In addition, consumers’ impatience may have a positive impact on capital accumulation.

– Giorgio Fabbri [ avec Silvia Faggian et Giuseppe Freni]


Following the lead of Mitra and Wan, the theory of optimal forest management has been mainly developed in terms of discrete time and, to date, a consistent continuous time version of the Mitra-Wan model is lacking in the economic literature. In this paper the discrete time Mitra-Wan model is reformulated in continuous time as an infinite dimensional control problem.
Besides the new continuous time modeling, the paper provides a golden-rule configuration for the undiscounted case (i.e., an uniform density function with cutting at the age that obtains the maximum sustained yield) and modified golden-rule configurations for the discount case which turn out to be optimal for the problem. In each of these configurations, the optimal control is something more general than a function, i.e. a positive measure. It is also shown that if the golden-rule configuration is unique, then a maximal (or optimal) path exists from any given initial configuration of the forest and, provided the utility function is strictly concave, converges over time to the golden rule configuration. Finally, the optimality of the Faustmann policy is proved for the case of a linear utility function.