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Aggregation-Theoretic Monetary Aggregation over the Euro
Area, when Countries are Heterogeneous

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ABSTRACT

We derive fundamental new theory for measuring monetary service flows aggregated over countries within the European Monetary Union (EMU). We develop three increasingly restrictive approaches: (1) the heterogeneous agents approach, (2) the multilateral representative agent approach, and (3) the unilateral representative agent approach. Our heterogeneous agents approach contains our multilateral representative agent approach as a special case.

In our most general approach, we assume the existence of a representative consumer within each country to aggregate within each country. We use a stochastic approach to aggregation across countries over the heterogeneous representative agents, and we derive the resulting formulas for stochastic aggregation over countries. Our theory permits monitoring the effects of policy at the aggregate level over the euro area, while also monitoring the distribution effects of policy among the countries of the euro area. Our approach requires the simultaneous use of two inflation indexes over the euro area.

KEYWORD: Monetary Aggregation, Aggregation over Countries, Heterogeneous Agents, Multilateral Aggregation; Euro Area.

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