

Going micro: Analysing SAM multipliers for the dairy chain on Reunion Island

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BACKGROUND

- Analysis of the importance of dairy chain on Reunion Island
- Highly organised supply chain for dairy products
- Aims of the study are to
 - Estimate multiplier effects of increased production
 - Study the importance of subsidies for sustainability of milk production

PROBLEM STATEMENT

- High dependency on imports
- Expected rise in transportation costs, inflating input costs
- High unemployment rates → need to find economic activities
- Volcanic island & high population pressure : access of farm land
- Highly subsidized agricultural sector → future perspectives?



STUDY AREA

- Island in the Indian Ocean
- One of the French overseas departments
- Outermost region for the EU
- Population: almost 800,000

MILK CHAIN

- Dairy production started in the early 60s
- Highly organised around cooperatives
 - Sicalait for collection
 - Cilam main processor of local milk
- Subsidies from EU and French government:
 - Direct support of the milk price
 - Clearing pastures on hilly terrains
 - Investment in infrastructure
- Production increase over the last years
- Need for productivity increase
- Demand for local dairy due to increased transport costs

Dairy production on Reunion	2006
Milking farms (nb)	123
Milk production ('000 l)	24,614
Milking cows (nb)	4,090
Milk production per farm (l)	200,110
Average yield (l/cow)	5,950

METHODOLOGY

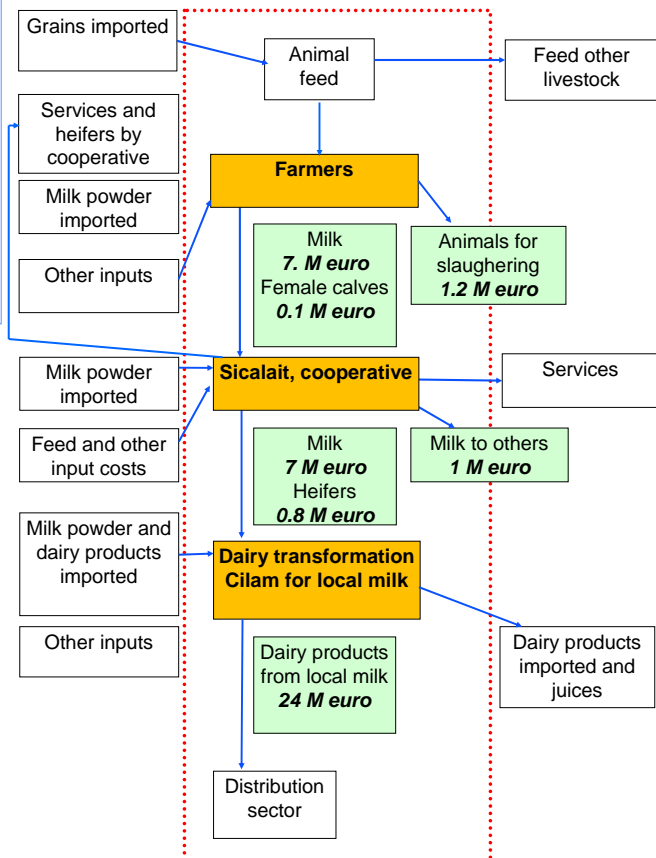
- Social Accounting Matrix
- With disaggregated accounts for actors in the dairy chain
- Data from the Statistical Institute INSEE and key informants of the dairy chain
- Calculation of the multipliers by inverting the SAM
- Simulating effects of exogenous shocks
- Key actors in the chain are in the red rectangular

RESULTS OF SIMULATION WITH SAM MULTIPLIERS

- Increased demand (through increasing export) by 21 million euro
 - Increased value of production activities by 87 million euro
 - Increased value of production in local dairy chain by 35 million euro
 - Small benefits for milk farms
- Direct support of milk price by 0.085 euro per litre + extra subsidies to the farm and the cooperative
- Removal of farmer subsidies
 - Production value decreases by 11 million euro
- Removal of subsidies in the dairy chain
 - Production value decreases by 16.5 million euro

CONCLUSIONS

- SAM is appropriate to model a small economy such as Reunion Island
 - Possible to disaggregate a sector to analyse importance and multiplier effect
 - Drives on large amounts of data
 - Does not account for limits in production factors, price effects, and changes in technology → CGE model ?
- Dairy sector on Reunion Island is important for the economy and employment
- Increased demand will increase economic activity and employment significantly
- Removal of support will have a strong effect on the sector and its future



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