Impact of off-farm income and paid taxes on the composition and volatility of incomes and wealth of dairy farmers in the Netherlands

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DAIRY FARMING IN THE NETHERLANDS







Specialised dairy farms:

18,000

Cows per farm:

94

Total number of dairy cows

1.69 mln

Milk per dairy cow

9,000 liter

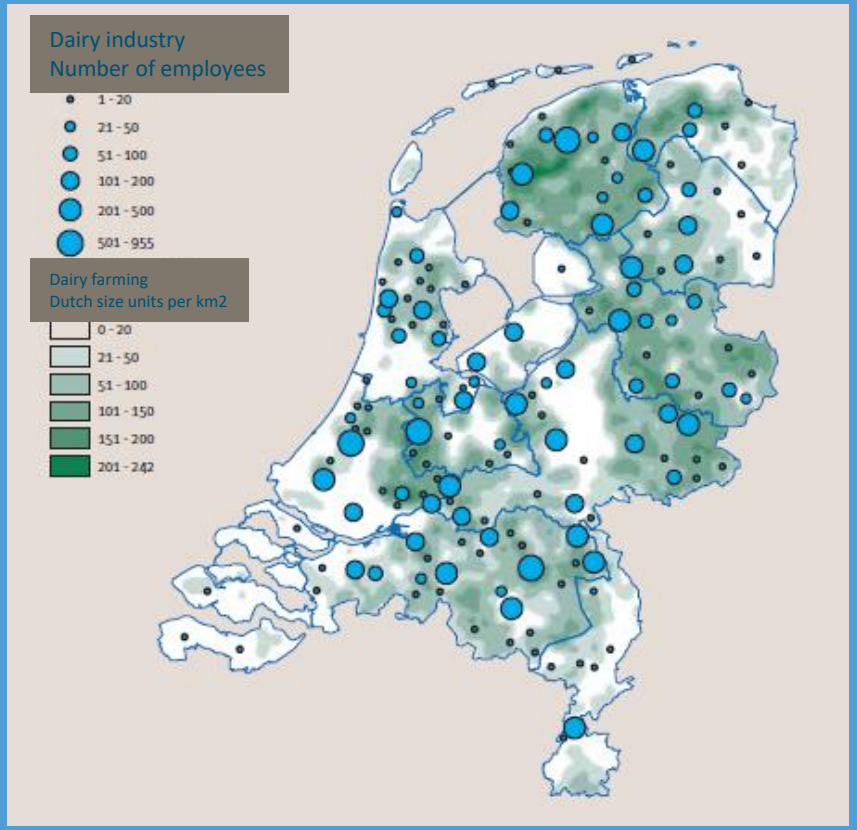
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Dairy farming in the Netherlands







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Composition and volatility of income

Farming perspective



Farm household perspective

Income of farming
• Farming activities
• Subsidies
Off farm income
• Labour income
• Revenues from other assets (excl. interest)
• Received interest
• Other off farm income sources
• Disability payments
• Other social security payments
Total income
Personal taxes
Disposable income
Consumption
Savings

More studied



Less studied

Objective of the paper

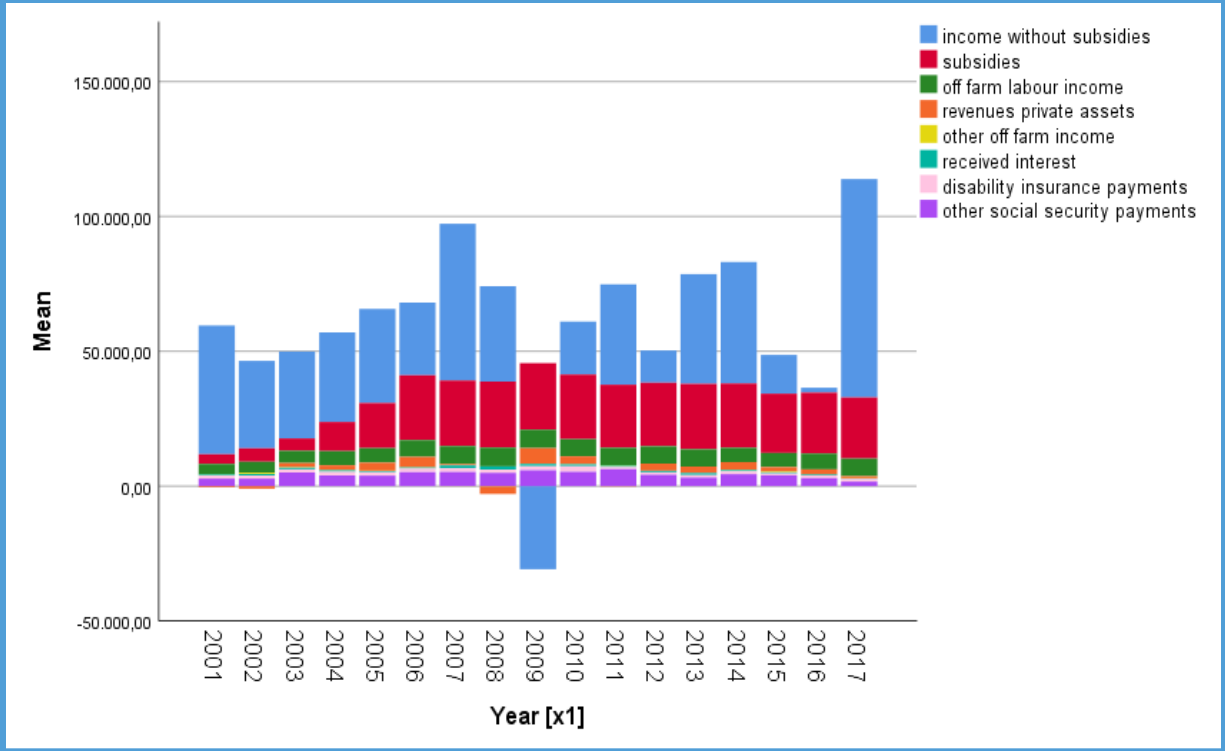
- To analyse the composition and volatility of the total income of dairy farmers
- and the importance and volatility of the different components contributing to the total income and wealth
- The relation between wealth and income



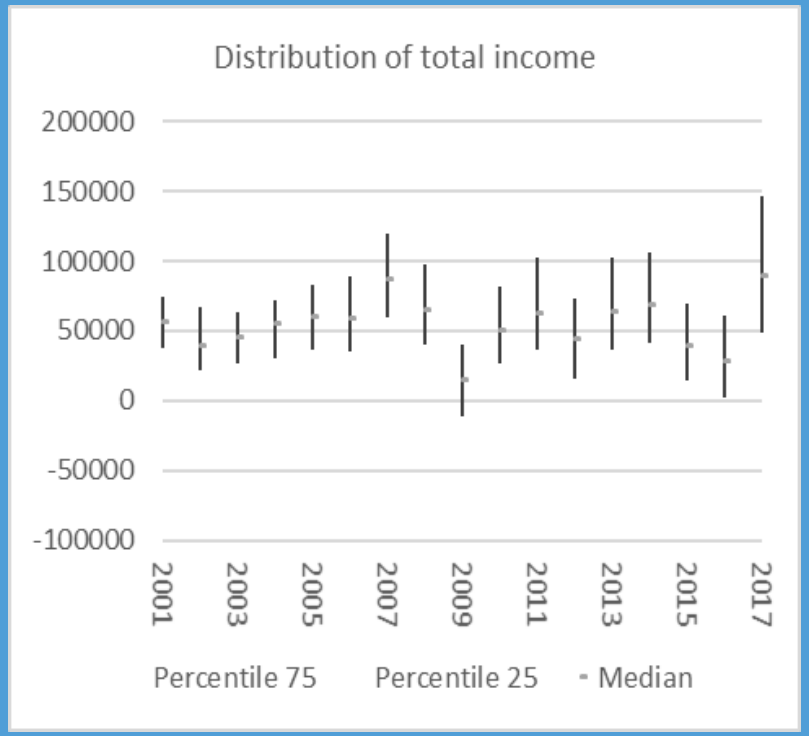
Data and method

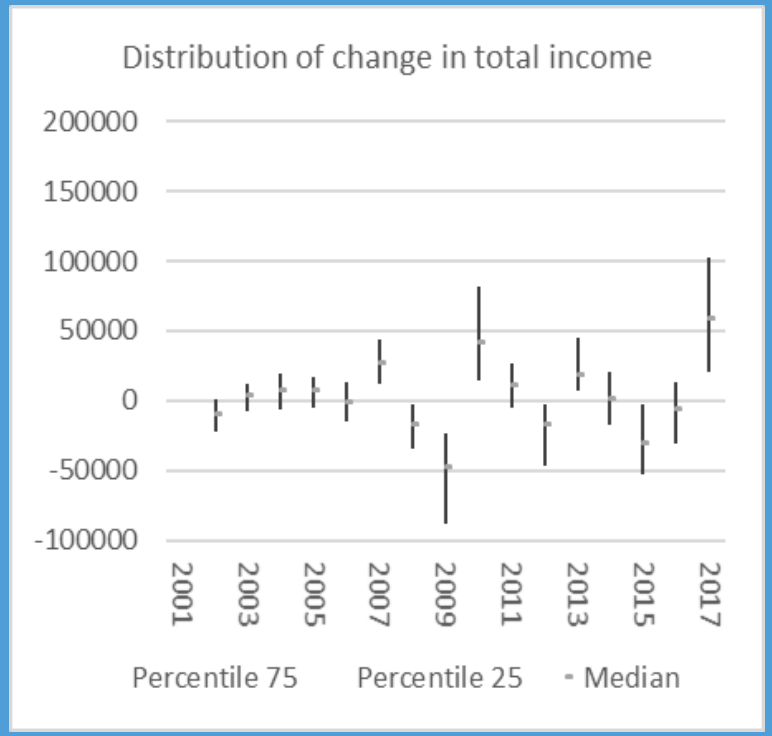
- Dutch FADN
    - Much broader than EU FADN (including environmental variables, such as mineral balances, pesticides use, use of antibiotics and energy use).
    - Additional socio-economic variables such as off-farm income, paid taxes and innovation.
- Unbalanced panel between 130 and 180 observations per year for the period 2001 – 2017.
- Coefficient of variation to estimate volatility
- Analyses at farm level and then aggregated to groups
- Futher analysis on poverty thresholds and wealth impacts

Development and composition of income (group)



Averages hide large differences in distribution





Volatility of income and income components

	Median of coefficient of variation			
	Total	Size class small	Size class medium	Size class large
Income of farming, of which:	0.62	0.55	0.64	0.72
• Farming activities	0.86	0.79	0.92	1.16
• Subsidies	0.31	0.39	0.19	0.11
Off farm income, of which:	0.66	0.59	0.76	0.98
• Labour income	0.81	0.75	0.82	1.12
• Revenues from other assets (excl. interest)	2.26	2.26	2.65	1.77
• Received interest	1.40	1.10	1.72	1.73
• Other off farm income sources	2.65	2.65	2.84	2.83
• Disability payments	1.73	1.73	2.00	1.45
• Other social security payments	0.95	0.77	1.14	1.28
Total income	0.47	0.42	0.53	0.66

Volatility of consumption and savings

	Median of coefficient of variation			
Variable	Total	Size class small	Size class medium	Size class large
Total income	0.47	0.42	0.53	0.66
Personal taxes	1.91	2.15	1.73	1.57
Disposable income	0.52	0.48	0.55	0.75
Consumption	0.20	0.20	0.20	0.19
Savings	1.53	1.76	1.30	1.26

Stability of income distribution (year t vs t+1)

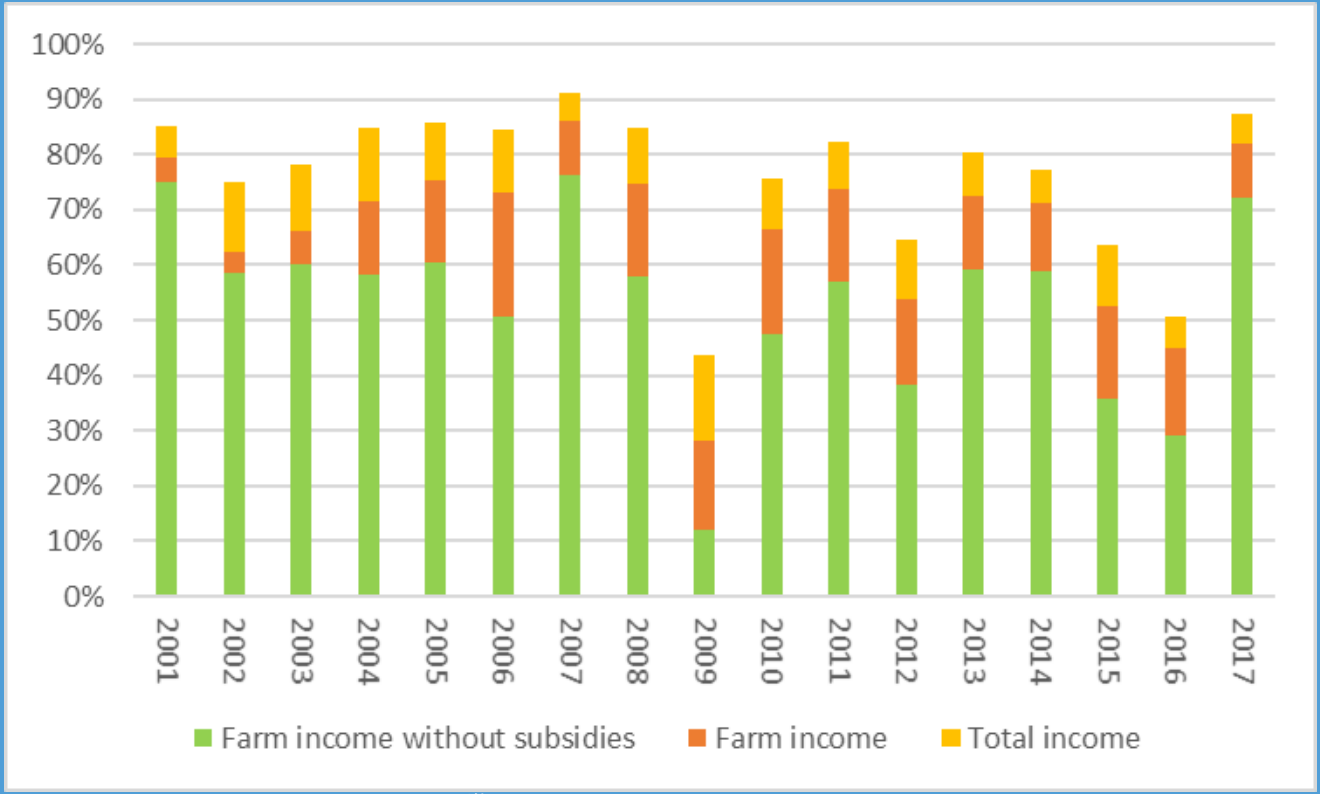
Income from farming activities (without subsidies)					
	1	2	3	4	5
1	57.4%	25.8%	9.6%	4.3%	2.9%
2	25.1%	36.1%	24.7%	11.3%	2.7%
3	11.2%	24.2%	36.1%	21.9%	6.6%
4	4.1%	11.5%	24.1%	40.6%	19.7%
5	2.8%	3.8%	5.8%	20.2%	67.5%

- 57.4% of low quintile group stay in lowest quintile group
- 67.5% of highest quintile group remain in same group

- Subsidies only have a small impact on stability of distribution mainly at the higher quintile groups

Income from farming incl. subsidies					
	1	2	3	4	5
1	55.9%	27.5%	9.3%	4.7%	2.5%
2	25.8%	38.1%	23.3%	10.9%	1.8%
3	8.3%	23.5%	40.3%	21.2%	6.7%
4	5.8%	11.6%	22.4%	43.0%	17.2%
5	3.4%	2.5%	3.8%	20.1%	70.1%

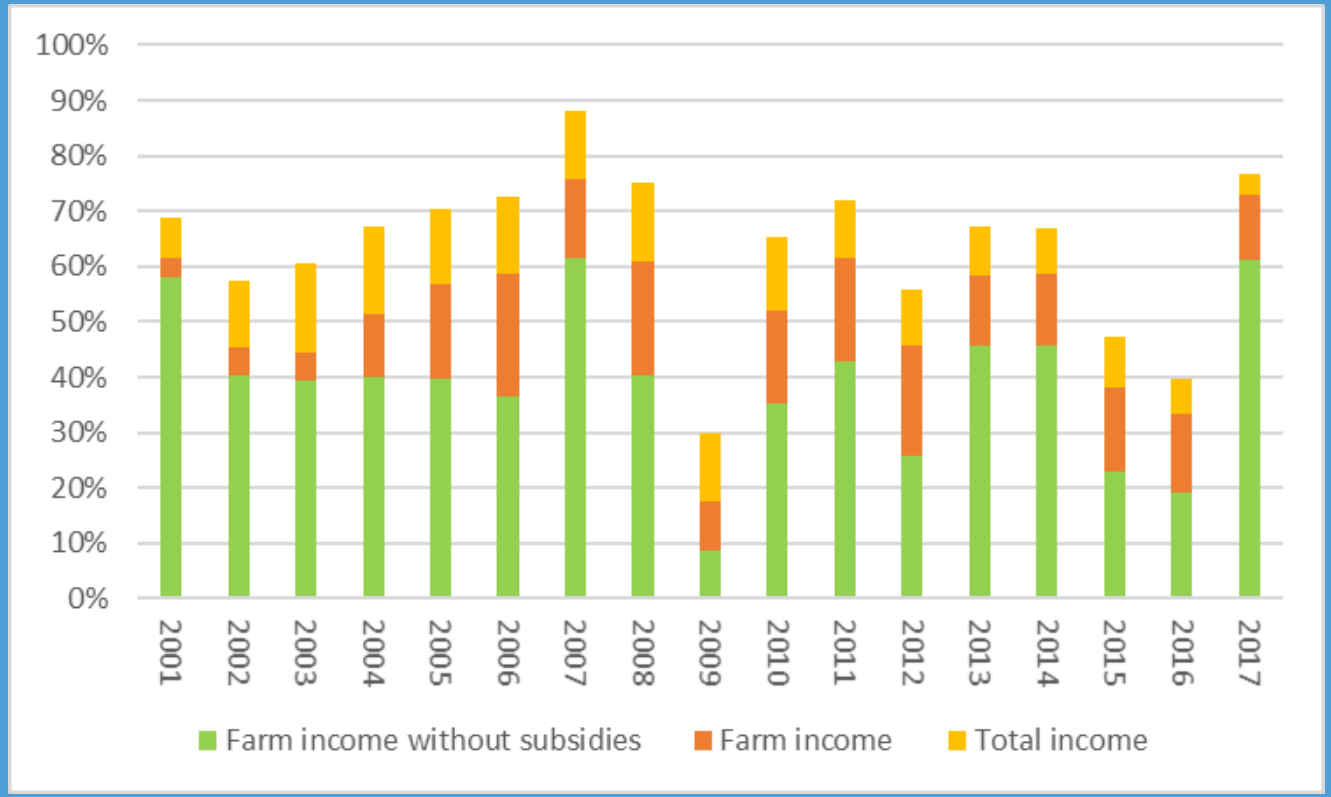
Percentage of farms above the poverty threshold





Percentage of entrepreneurs above the poverty threshold





Impact of capital formation on wealth of farmers

- Decreasing solvability
- Impact of quota abolishment
- Increase in land values



Year	Three year average income	Solvability	Own capital	Intangible assets	Fixed tangible assets
2001		79	1408948	782877	1067998
2002		77	1415536	872755	1068638
2003	52053	75	1428203	911484	1096353
2004	51214	74	1426032	965627	1099071
2005	59112	73	1524616	1033423	1198735
2006	64152	71	1456255	807673	1289658
2007	76869	71	1474370	588969	1394372
2008	76213	71	1580237	638957	1509978
2009	59140	71	1785213	659961	1837952
2010	47815	72	1926573	594614	1996950
2011	50584	72	1900515	487495	1960298
2012	62808	71	1936848	348280	2123223
2013	69560	73	2172986	413345	2362970
2014	70958	69	2021619	129135	2464656
2015	69132	67	1950653	27443	2496046
2016	53804	67	2076033	34154	2663059
2017	67770	70	2338172	27191	2875270

Link between own assets and 3 year income

- 26% low incomes and low assets
- 14% low income but more favourable net worth
- 8% high income but low own assets
- 32% high income and favourable net worth

Quintilles of 3 year average total income	Quintiles of total own assets				
	1	2	3	4	5
1	8.50%	4.28%	3.12%	3.12%	0.98%
2	7.62%	5.82%	3.78%	2.06%	0.72%
3	3.74%	7.06%	5.12%	3.08%	1.00%
4	3.24%	3.92%	5.06%	4.08%	3.70%
5	0.18%	0.70%	3.40%	5.64%	10.10%

Discussion (1)

- Farm income has always been a central element in the CAP.
- A broader perspective (including off-farm income and wealth effects) provide a more realistic picture of the income and wealth effects as experienced by farmers
- Promoting off-farm income, social security and options in tax-law (like averaging incomes to reduce marginal rates, or set up a special savings account with non-taxed income for leaner times) are alternatives for policy options
- Subsidy payments could be more targeted if the main objective is to achieve an acceptable standard of living.

Discussion (2)

- Within the group of low income farms there is still a sub-group with a low income situation in combination with a more vulnerable own asset situation that requires special attention.
- Farmers are well able to maintain their consumption levels with savings in good years and un-saving in more challenging years
- Real problems occur with persistent low income levels
- Farming is a risky business, but in situations with efficient capital markets, farm-friendly tax regimes and risk-management by households that involves non-farm activities and income, farm households have several tools to cope with price and yield risks. Policy evaluations should take all these aspects into account.

Thanks for your attention



Full paper:

http://edepot.wur.nl/500004

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