UNIVERSITÀ DEGLI STUDI DI MILANO – Di.S.A.A.

Dottorato di Ricerca in Agricoltura, Ambiente e Bioenergia
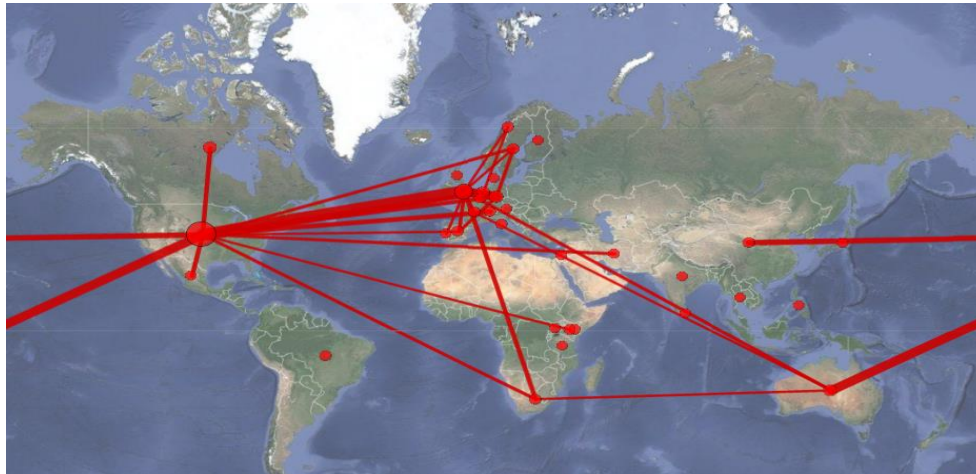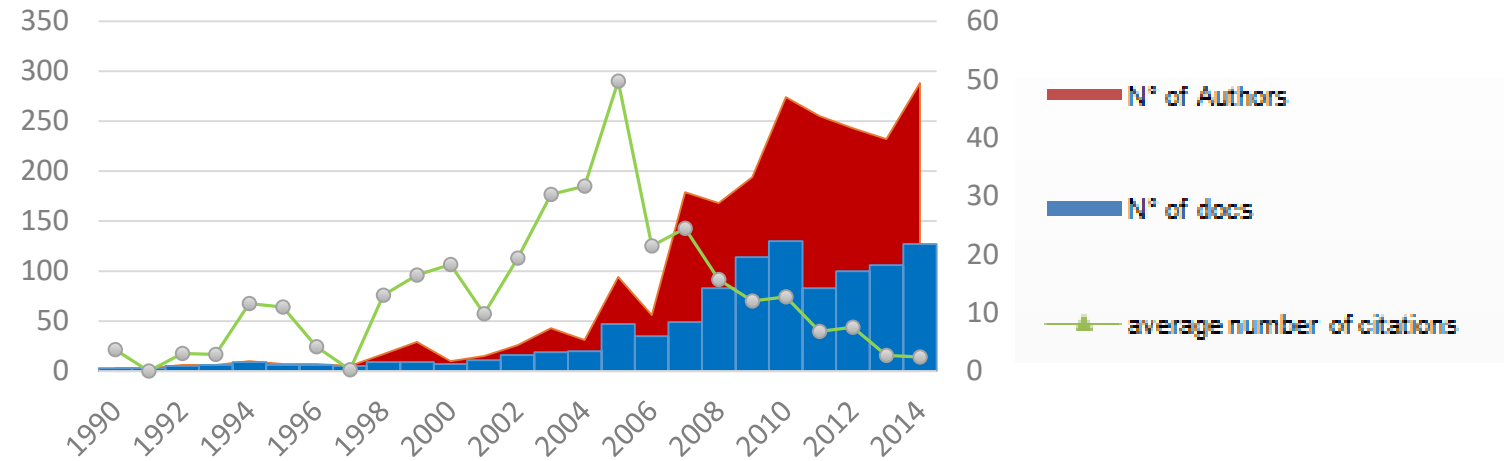
UNIVERSITÀ DEGLI STUDI DI MILANO

Analysis of the MEL database of Fairtrade certified organizations
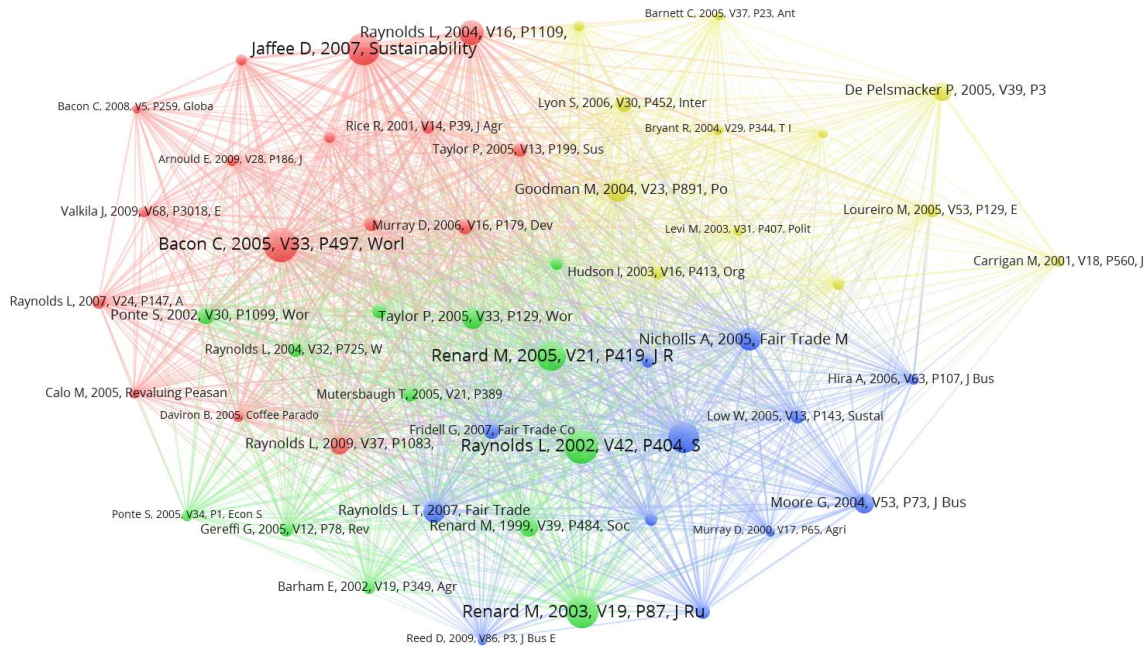
Literature Review

More than 1000 documents published from 1985 to 2015.

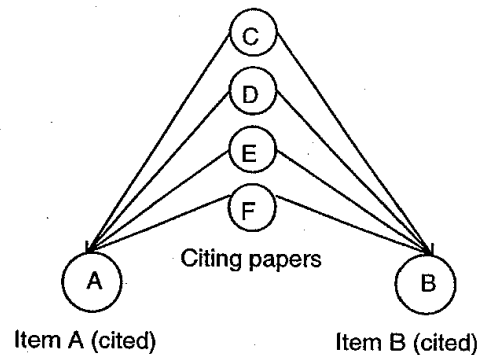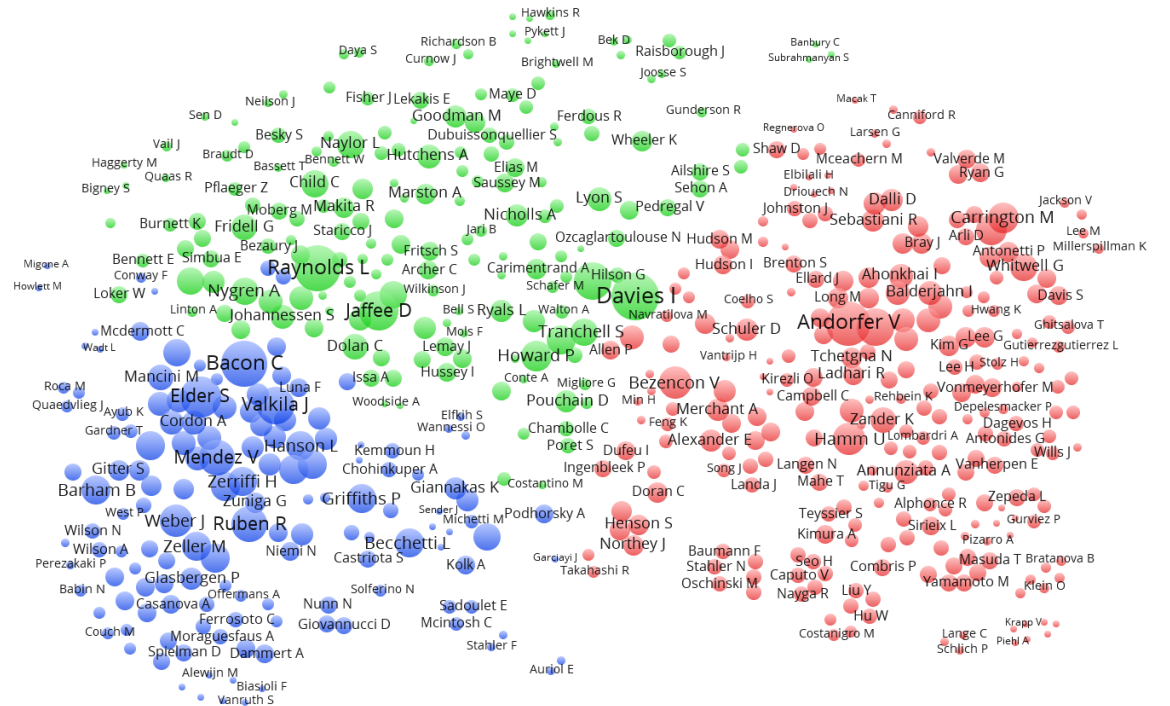| Country	N° of publication	%
USA	190	28%
UK	137	20%
CANADA	50	7%
France	40	6%
Netherlands	30	4%
Germany	27	4%
Italy	22	3%
Australia	22	3%
SPAIN	21	3%
Belgium	17	3%

Literature Review

Cocitation network

Years 1985 – 2015

- 🟢 FT overview and principles
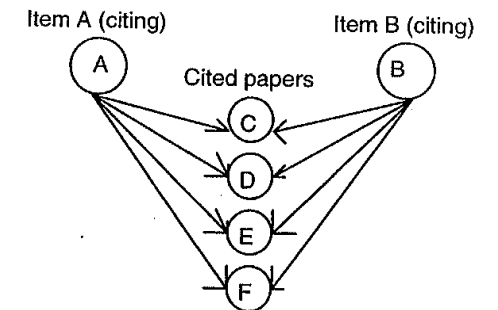- 🔵 FT challenges and issues
- 🔴 FT production
- 🟡 FT consumption

Bibliographic coupling network

Years 2010 – 2015

- 🟢 Consequences of the mainstream strategy
- 🔵 FT production
- 🔴 FT consumption

Fair trade impact debate: issues

- Studies on FT producers
- The vast majority of researches focus on Fairtrade coffee case studies at regional or local scale;
- Most of the case studies are located in Latin America and focus on a limited range of products;
- The vast majority of the studies focus on smallholder farmer organizations;
- The vast majority of the studies focus on price and income differentials;
- Very few "proper" impact studies (Griffiths 2011)

- Fairtrade criticism
- Minimum price effect is relevant only when the market price is low (Valkila and Nygren 2010)
- Little money reaches the developing world (Bacon 2010)
- Less money reaches farmers, «oversupply» of certification (De Janvry, McIntosh and Sadoulet 2015)
- Contested incorporation of plantations and workers

- Social premium
- There is very little analysis of the allocation of social premium;
- "Greater potential and effectiveness in addressing inequalities than the minimum price" (Valkila 2014)
- Very little research on FT Premium price (Bacon 2010)

Objective of the research

- Provide a comprehensive image of the Fairtrade producers' organizations network

- Analyze the dynamics of distribution of the revenues and of the social premium in the Fairtrade network

- Investigate the features of the organizations that receive higher revenues and social premium

MEL Database

ORGANIZATIONS

- Main product
- Type of organization
- Year of first certification
- Country World Bank classification
- Region

MEMBERS/WORKERS

- Number of total members/workers
- Number of workers per hectare
- Number of females

PRODUCTION

- Total volume produced
- Organic volume produced
- Yield
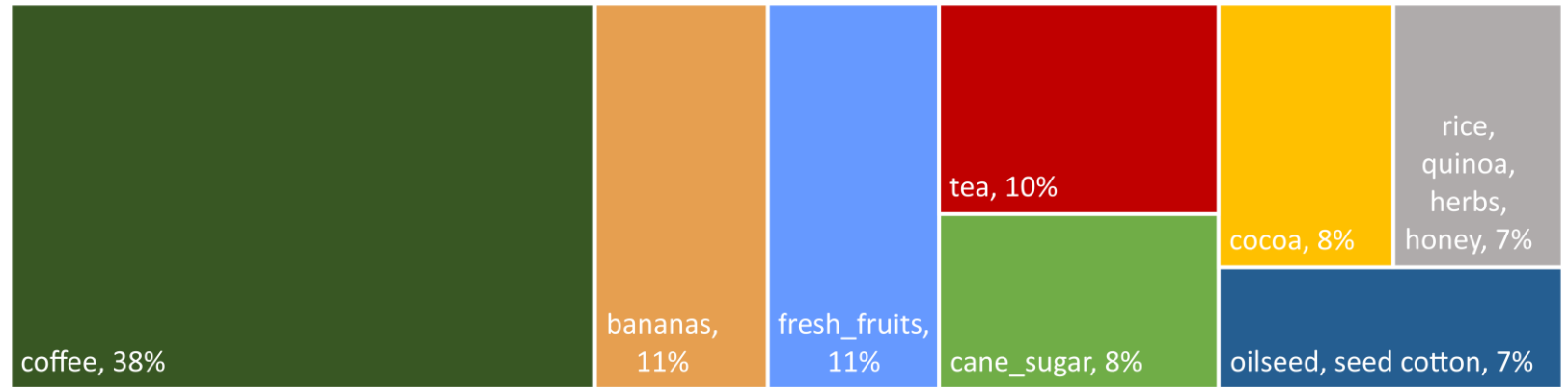- Product differentiation

SOCIAL PREMIUM

- Premium Value
- Entropy (differentiation of expenditures)

SALES

- FT sales revenues
- Total sales revenues
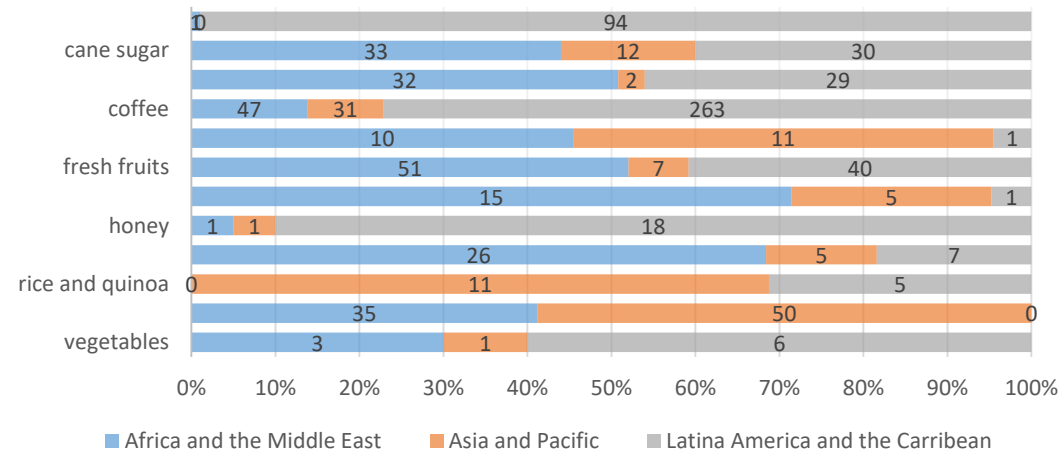
➤ ORGANIZATIONS

- Main product

- Type of organization

- Small producers organizations (SPOs) = 748

- Hired labor set-up (HL) = 136

- Year of first certification

products and regions

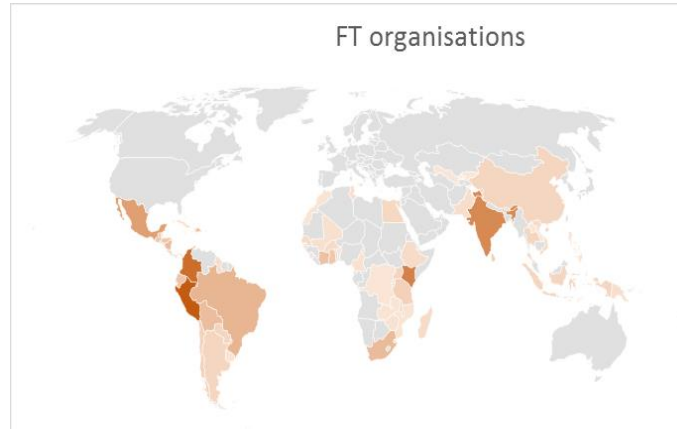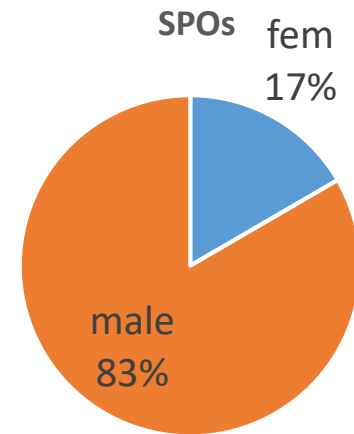- Country World Bank classification

- Region

MEMBERS/WORKERS

- Number of total members/workers

- Number of workers per hectare

- Number of females

FT organisations

Total workers

Percentage of female workers

Africa and the middle East | Asia and Pacific | Latin America and the Carribeans | Total

■ 1SPO ■ HL ■ Total

HL

male 49%   fem 51%

SPOs

fem 17%   male 83%
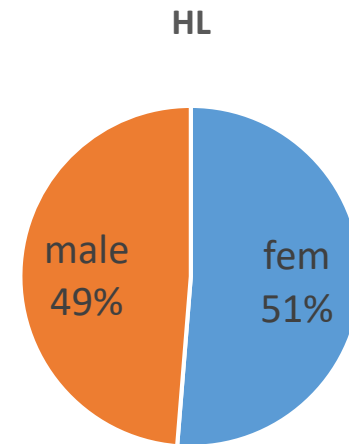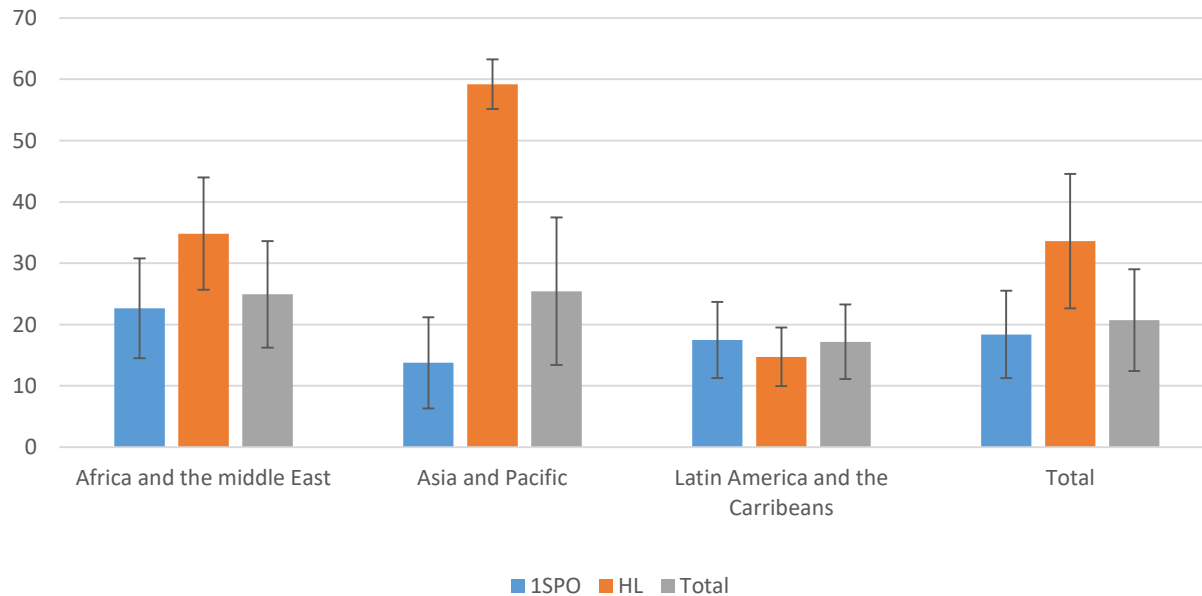
PRODUCTION

- Organic volume produced
- Yield
- Product differentiation
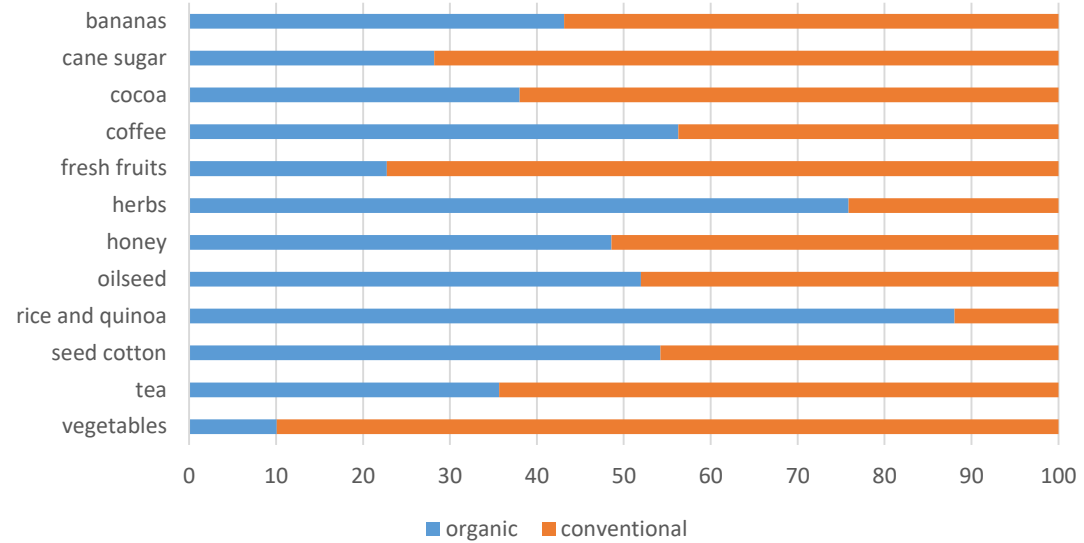
SALES

- FT sales revenues
- Total sales revenues

% of organic production

% of products sold through FT

SOCIAL PREMIUM

- Premium Value

- Entropy (differentiation of expenditures)

Premium per product

geographical distribution of the premium price

Expenditures of social premium

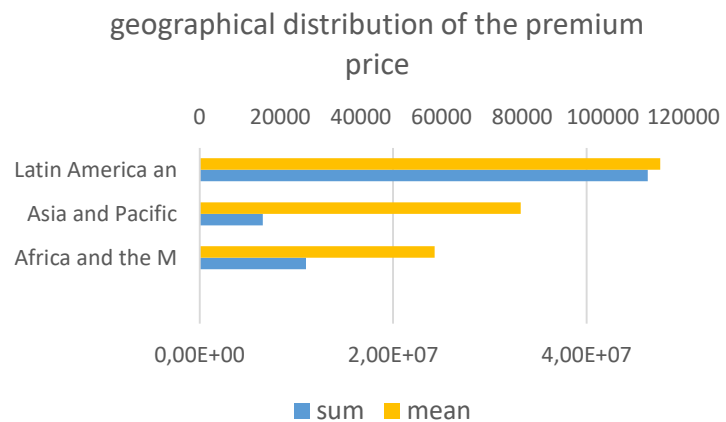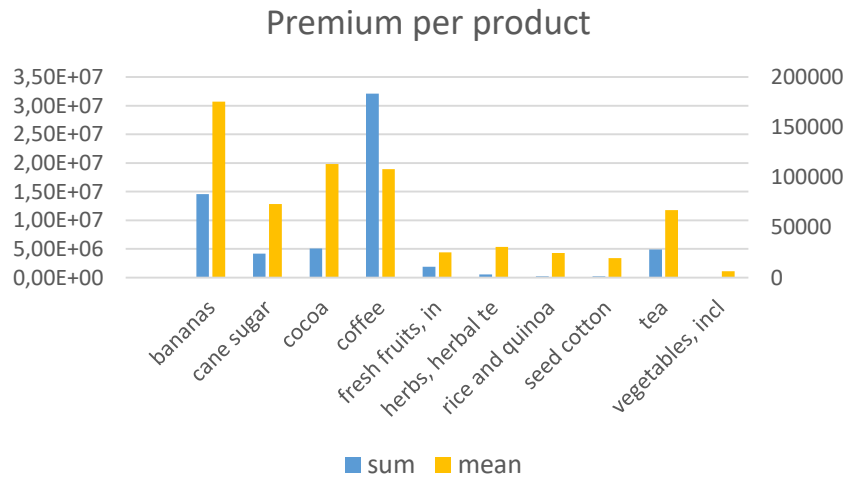| Krls regression	LOGFTSALESREV	LOGTOTREV
logtotvolume	0.652038***	0.698049***
percfem	0.435035*	0.3275050
percorg	0.220631***	0.177862***
percvol	1.0804***	-0.551599***
workersha	0.014690	0.0484460
yield	-0.027482***	-0.025321***
certificat~r	-0.034685***	-0.028934***
entropy	0.34702***	0.225538***
differentiation	0.0484110	0.0894120
Asia and ..	-0.0869580	0.0052690
Latin America	0.0347850	-0.0264970
High income	-0.235878*	-0.1712180
Low income	0.0696050	0.0248940
Lower mid..	0.0751360	0.0714320
SPO Standard	-0.0283750	-0.1136410
bananas	-0.2645730	-0.361941**
cane sugar	-0.543618***	-0.634672***
cocoa	-0.0457040	-0.1065220
fresh fruiyd	-0.842993***	-0.884399***
herbs, etc.	-0.3638670	-0.574763**
rice and quinoa	0.0184320	-0.0257960
seed cotton	-0.877002***	-0.895409***
tea	-0.479808***	-0.1625110
vegetables	-0.716502***	-0.54291**
Number of obs.	802	802
Lambda	0.3486	0.3786
Tolerance	0.802	0.802
Sigma	24	24
Eff.	193.6	187.5
R2	0.8446	0.864
Looloss	426.4	350

Beta std. coefficients

■ FT Revenues   ■ Total Revenues

> FACTORS THAT PROMOTE THE REVENUES FOR CERTIFIED ORGANIZATIONS:

- Total volume produced (control variable)

- % of females of members/workers

- % of organic production

- Product differentiation

- Duration of the involvement in FT

- Labor intensive organizations (higher ratio workers / hectares) are associated with greater revenues

- capital intensive organizations (> yields) are associated with lower revenues

Krls regression	LOGFTSALESREV	LOGTOTREV
logtotvolume	0.652038***	0.698049***
percfem	0.435035*	0.3275050
percorg	0.220631***	0.177862***
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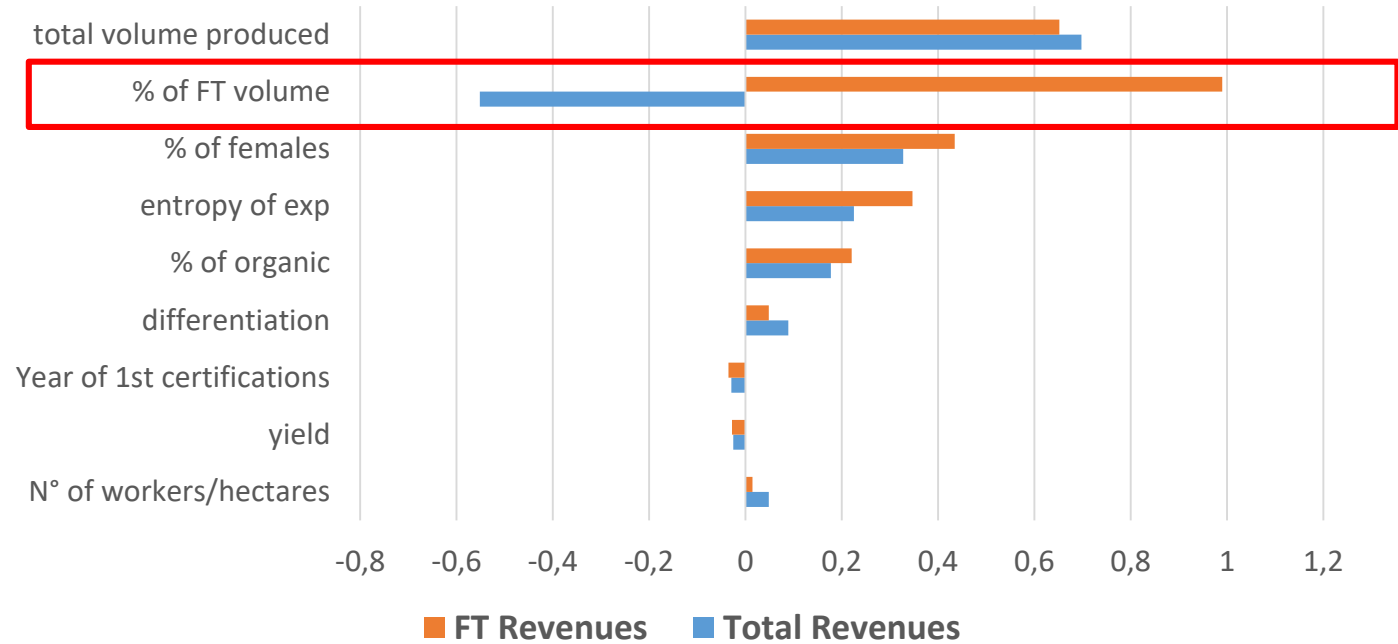
Beta std. coefficients

FT Revenues   Total Revenues

> FACTORS THAT PROMOTE THE REVENUES FOR CERTIFIED ORGANIZATIONS:

- Total volume produced (control variable)

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TOTAL REVENUES
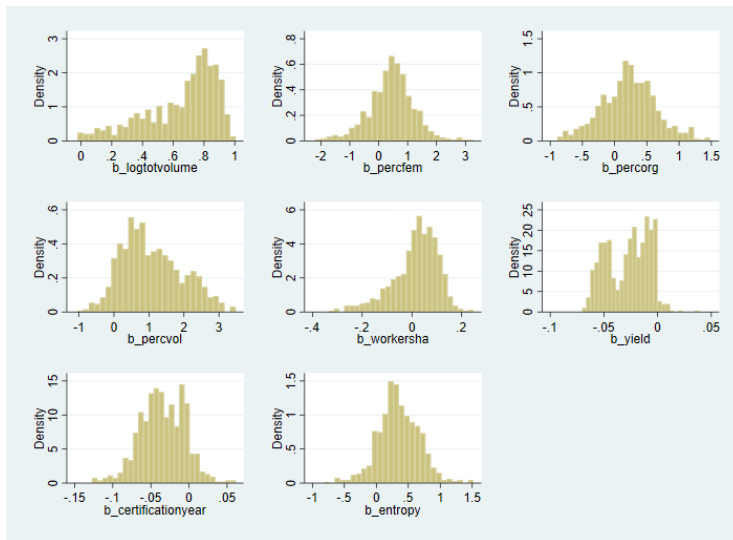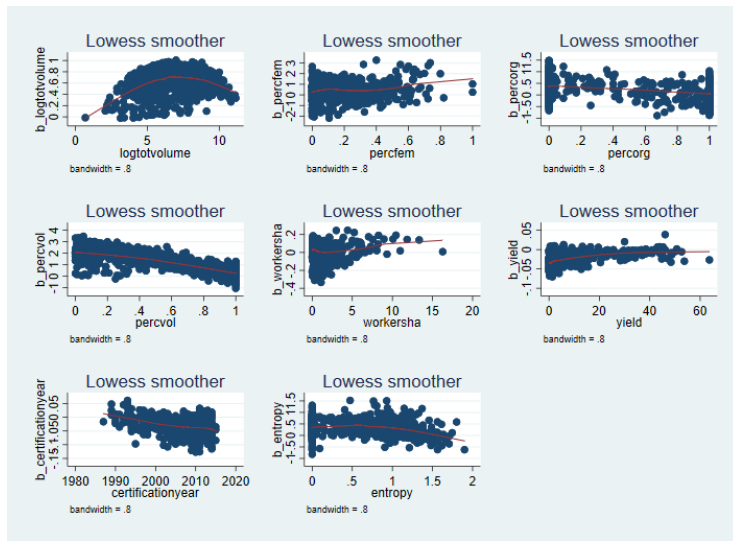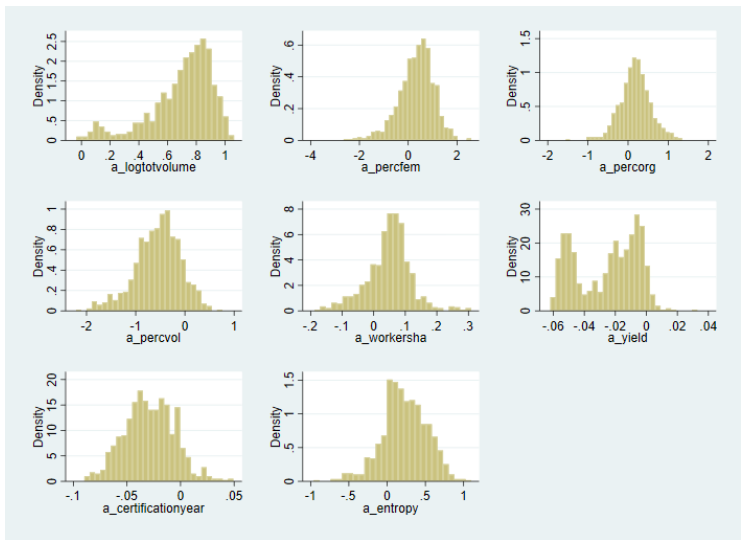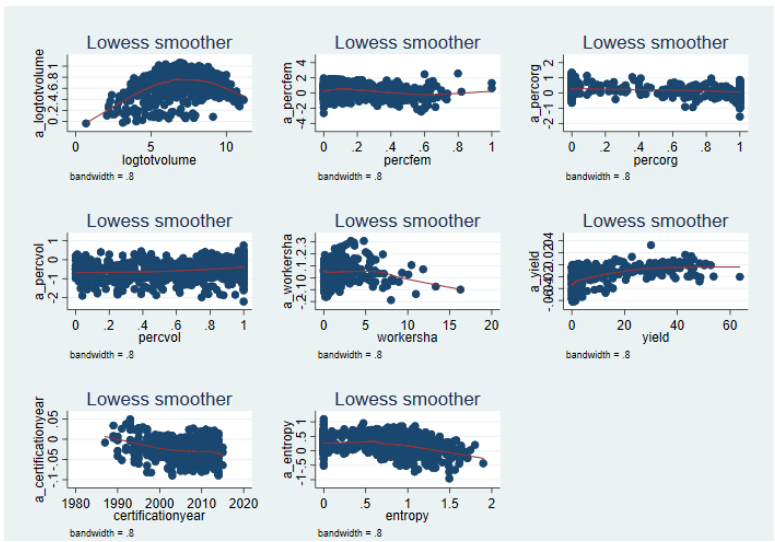
FAIRTRADE REVENUES

Effect of the percentage of FT volume on the revenues

TOTAL REVENUES
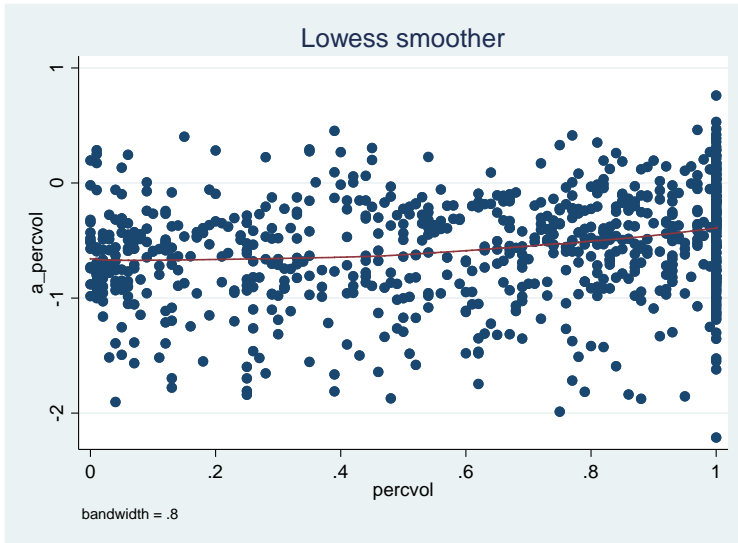
- Marginal effects mostly negative

- Marginal effect doesn't change much in the covariate space

FAIRTRADE REVENUES
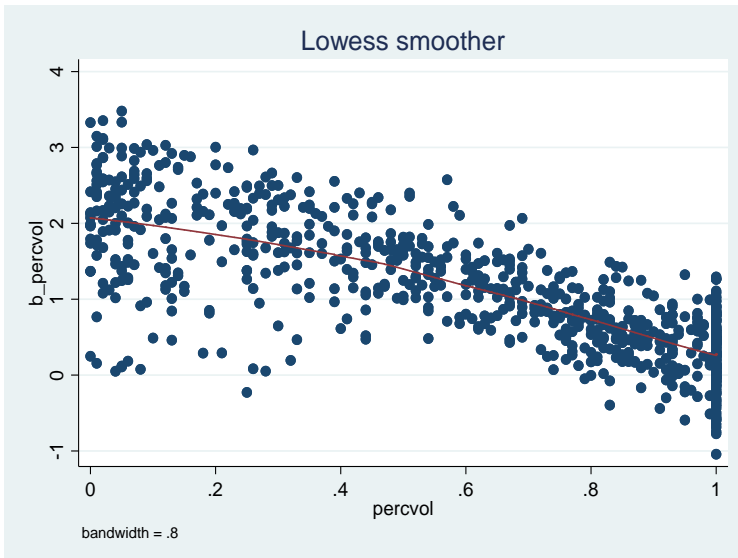
- Marginal effects mostly positive

- Marginal effect is larger at low percentages of volume sold to FT: decreasing marginal effect.

- Larger effect in the transition from 20 to 30% of volume percentage destined to FT rather than between 80 and 90%

- Smaller organizations generally have greater dependency on FT

Effects on total and FT revenues
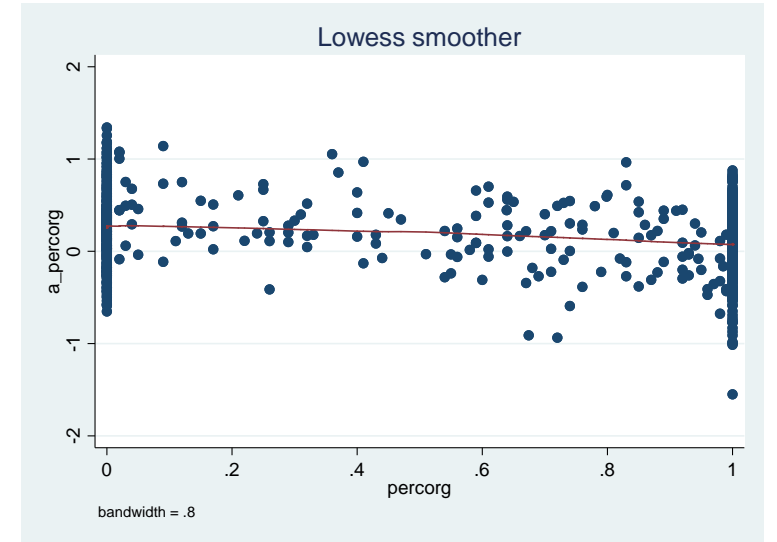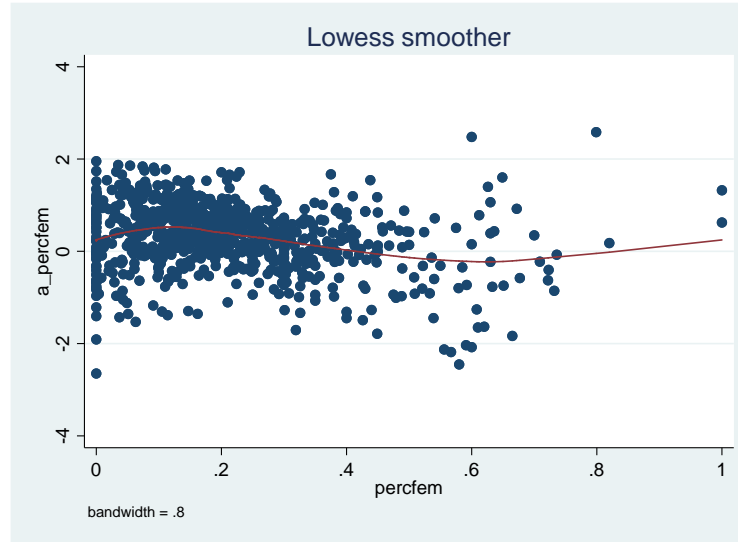
	PREMIUM	PREMIUM EXPENDITURES
logtotvolume	0.662508***	0.508283***
percfem	0.3543520	0.5765530
percorg	0.141285**	0.198206*
percvol	1.06267***	0.48637***
workersha	0.0338230	-0.0542890
yield	0.028465***	-0.011618**
certificat~r	0.030793***	-0.05493***
entropy	0.313281***	0.667795***
differentiation	0.0216910	-0.0144880
Asia and ..	0.0992370	-0.0229790
Latin Ame..	0.1329140	0.1411210
High income	0.330339**	-0.380157*
Low income	0.2112340	-0.0101570
Lower mid..	0.0834710	0.1263860
SPO Stand..	0.1472340	0.1589420
bananas	0.353982**	-0.483968*
cane sugar	0.291616*	-0.442255*
cocoa	0.1639710	-0.1133970
fresh fru..	0.878197***	-0.763095***
herbs, he..	0.430574*	-0.2478550
rice and ..	0.1810770	-0.1038070
seed cotton	0.554967**	-0.662233**
tea	0.0926730	0.0573910
vegetable..	-0.74742***	-0.912601***

Beta std. coefficients

Total expenditures · Premium

➤ CHARACTERISTICS OF ORGANIZATIONS THAT RECEIVE HIGHER SOCIAL PREMIUM and USE OF THE PREMIUM:

- Total volume produced (control variable)
- % of females of members/workers
- % of organic production
- Product differentiation has a positive effect on premium
- Duration of the involvement in FT has a positive effect on the amount of the premium, negative on the expenditures of the premium
- Labor intensive organizations (higher ratio workers / hectares) are associated with greater premium but less expenditures of the premium
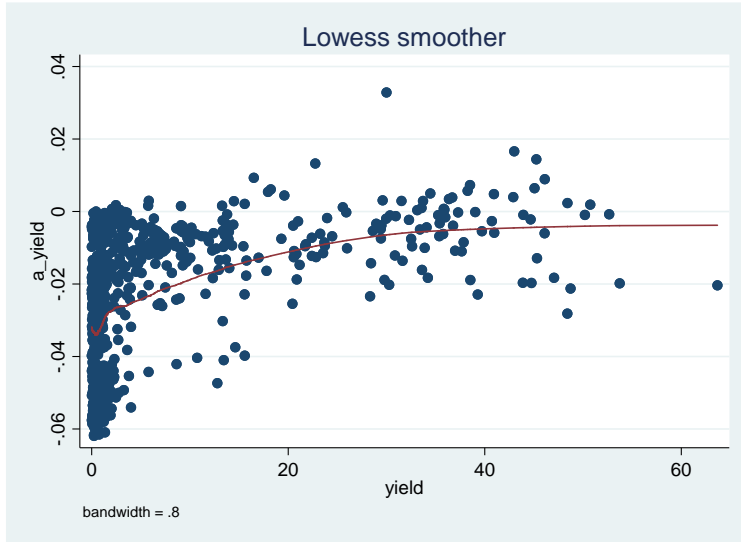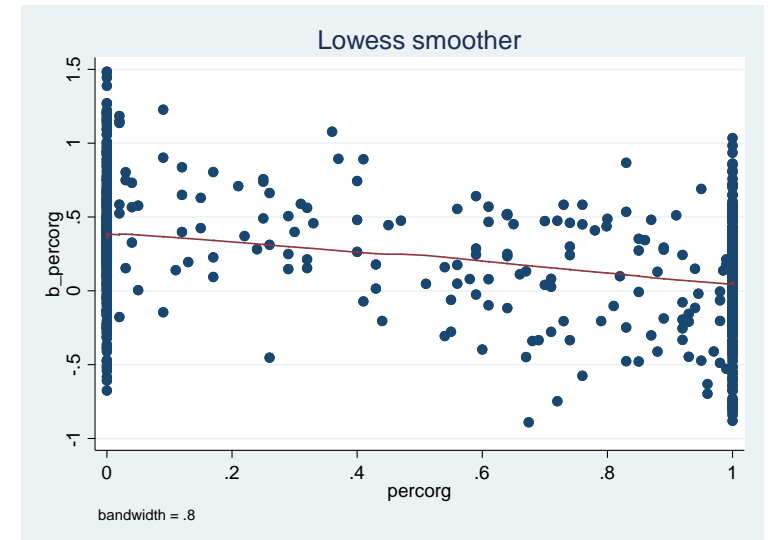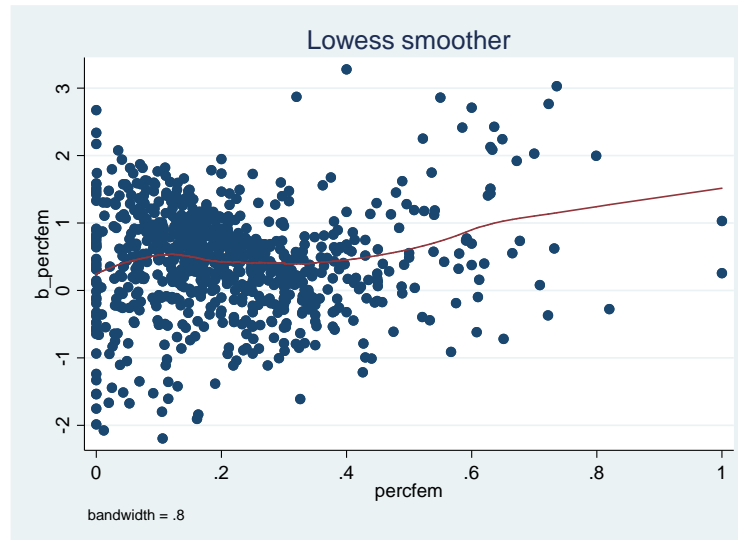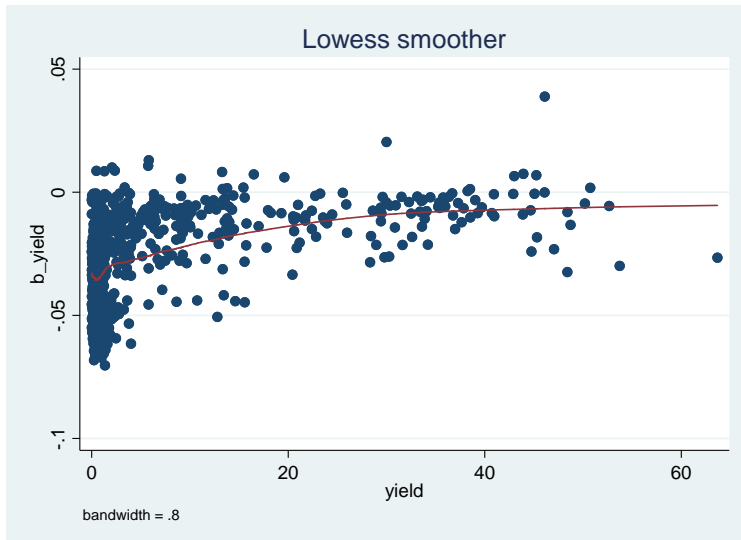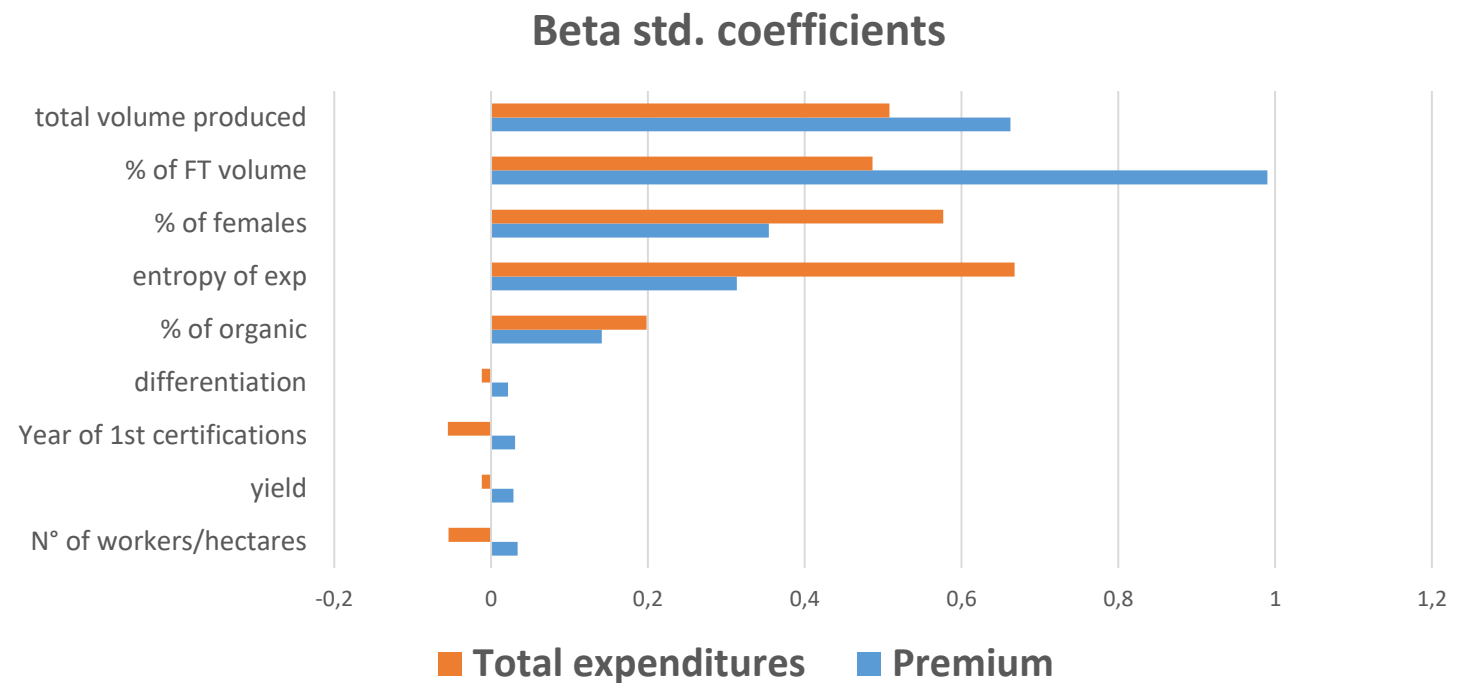- capital intensive organizations (> yields) are associated with higher premium but less expenditures of the premium

Lowess smoother (bandwidth = .8) plots: left panel shows d_logtotvolume vs logtotvolume, d_percfem vs percfem, d_percorg vs percorg, d_percvol vs percvol, d_workersha vs workersha, d_yield vs yield, d_certificationyear vs certificationyear, d_entropy vs entropy. Right panel shows c_logtotvolume vs logtotvolume, c_percfem vs percfem, c_percorg vs percorg, c_percvol vs percvol, c_workersha vs workersha, c_yield vs yield, c_certificationyear vs certificationyear, c_entropy vs entropy.

FIXED EFFECT MODEL

- fixed effects models control for, or partial out, the effects of time-invariant variables with time-invariant effects.

- remove the effect of time-invariant characteristics, so we can assess the net effect of the predictors on the outcome variable

- the key insight is that if the unobserved variable does not change over time, then any changes in the dependent variable must be due to influences other than these fixed characteristics." (Stock and Watson, 2003, p.289-290).

- fixed-effects models are designed to study the causes of changes within an entity

VARIABLE	LOG TOTAL REVENUES	LOG FT REVENUES
logtotvolume	.5088129***	.44872222***
percfem	-0.16947	-0.16084
percorg	.39005336***	.59619872***
percvol	-.31521997***	1.5550452***
workersha	0.004825	0.004013
yield	-0.00573	-.0109863*
certificat~r	-0.00456	-0.01809
entropy	0.056507	.19200339***

RANDOM EFFECT MODEL

- the unobserved variables are assumed to be uncorrelated with (or, more strongly, statistically independent of) all the observed variables.

- models heterogeneity using subject-specific parameters, that vary by individuals

- can include time invariant variables

- models heterogeneity using subject-specific parameters, that vary by individuals

- can include time invariant variables

VARIABLE	TOTAL REVENUES	FT REVENUES
logtotvolume	.76403867***	.67008938***
percfem	0.156927	0.25522
percorg	.25278045***	.33680367***
percvol	-.31207188***	1.6198024***
workersha	0.004235	0.003047
yield	-.0132616***	-.01388253***
certificat~r	-.02744104***	-.03350306***
entropy	.13562379***	.25471109***
product differentiation	-0.09534	-0.11797
Asia	-.66670544***	-.62198986***
Latin America	-0.19326	-0.14516
High	.71924447***	0.386522
Low	-.40138213**	-0.19853
Lower	0.027172	-0.0117
SPO	-.46600764***	-0.16024
bananas	-1.1268994***	-.7899776***
cane sugar	-1.3505295***	-1.5263959***
cocoa	-.54578129***	-.47096235***
coffee	(base)	(base)
fresh fruits	-1.5019448***	-1.6066778***
herbs ..	-.54936715**	-.51964735*
rice and quinoa	-1.2741611***	-1.1073352***
seed cotton	-1.2563075***	-1.3227283***
tea	-0.03627	-1.0528739***
vegetables ..	-.83614898**	-.78225037*
_cons	64.7314***	75.221667***

Conclusions (so far)

- increasing the percentage of volume sold through FT generates a growth in FT revenues, however the total revenues remain overall unaffected;

- participation in FT expresses maximum effectiveness where the percentage of volume sold via FT is not close to 100%;

- for Small organizations, with low production volumes, it makes sense to have a certain dependence on FT, while for larger organizations the differentiation of sales channels is more suitable.

- Larger organizations tend to differentiate the sales channels of their products

- Smaller organizations depend heavily on FT to sell their products