



Estimating the CAP 2023/27 payments for FADN2020 farms

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Introduction

- Modelling with IFM-CAP to support the implementation of the CAP and related policies
- IFM-CAP: farm-level model, “reproduces” the behaviour of EU farmers
 - Uses FADN data for 80,000 farms
 - Static, comparative model: calibration of baseyear, to construct usual future (baseline) and compare with alternative scenario (policy, or other shocks)

$$\begin{aligned}
 \max_{x_i, \zeta_{i,m} \geq 0} E[U] = & \sum_i E[gm_i]x_i - e - \sum_i x_i \left(d_i + 0.5 \sum_j Q_{i,j}x_j \right) \\
 & - \sum_{i \in \text{animals}} x_i \zeta_{i,m} \left(d_{i,m}^F - 0.5 \sum_m Q_{i,m}^F \zeta_{i,m} \right) \\
 & - 0.5\varphi \sum_{i,j} x_i \Omega_{i,j} x_j
 \end{aligned}$$

Need to estimate payments for the baseline (2027)



Introduction

- Delay between FADN data availability and policy
 - Last available data with CAP subsidy: 2021 reporting year -> CAP2014/20
 - Now farmers under CAP2023/27
 - Impact Assessment for the next CAP post 2027 **starting**
- FADN data on subsidy (Table M) are not always sufficient for modelling
 - Aggregated data
 - Needs interpretation / calculation
- CAP is evolving (sometimes less, sometimes more...): CAP Strategic Plans (CSPs)

CAP changes

CAP 2014/20 Payments	CAP 2023/27 Payments
1. Pillar 1	1. Pillar 1
1.1 Direct Payments	1.1 Direct Payments
1.1.1 Basic Payment/Single Area Payment Scheme (BPS/SAPS)	1.1.1 Basic Income Support for Sustainability (BISS) and Small farmers scheme (SMALL)
1.1.2 Small farmers scheme (SMALL)	
1.1.3 Redistributive Payment (RDP)	1.1.2 Complementary Redistributive income Support for Sustainability (CRISS)
1.1.4 Greening Payment (GREEN)	1.1.3 Schemes for the climate, the environment and animal welfare (ECO)
1.1.5 Payment for Young Farmers (YOUNG)	1.1.4 Complementary income support for young farmers (CISYF)
1.1.6 Coupled payments, incl. cotton (COUPLED)	1.1.5 Coupled income support, incl. cotton (CIS)

CAP changes

CAP 2014/20 Payments	CAP 2023/27 Payments	Approach
1. Pillar 1	1. Pillar 1	
1.1 Direct Payments	1.1 Direct Payments	
1.1.1 Basic Payment/Single Area Payment Scheme (BPS/SAPS)	1.1.1 Basic Income Support for Sustainability (BISS) and Small farmers scheme (SMALL)	Modelled
1.1.2 Small farmers scheme (SMALL)		
1.1.3 Redistributive Payment (RDP)	1.1.2 Complementary Redistributive income Support for Sustainability (CRISS)	Modelled
1.1.4 Greening Payment (GREEN)	1.1.3 Schemes for the climate, the environment and animal welfare (ECO)	Modelled
1.1.5 Payment for Young Farmers (YOUNG)	1.1.4 Complementary income support for young farmers (CISYF)	Scaled
1.1.6 Coupled payments, incl. cotton (COUPLED)	1.1.5 Coupled income support, incl. cotton (CIS)	Scaled/Modelled

CAP changes

CAP 2014/20 Payments	CAP 2023/27 Payments
1.2 Market measures	1.2 Sectoral Interventions
2. Pillar 2	2. Pillar 2
2.1 Agri-environment and animal welfare (AEAW)	2.1 Environmental, climate-related and other management commitments (ENVCLIM)
2.2. Organic (ORG)	
2.3 Investment (INV)	2.2 Investments, including investments in irrigation (INV)
2.4 Natura 2000 (NAT2000)	2.3 Other (natural handicap, mountain, other)
2.5 Other (natural handicap, mountain, other)	

CAP changes

CAP 2014/20 Payments	CAP 2023/27 Payments	Approach
1.2 Market measures	1.2 Sectoral Interventions	Not included
2. Pillar 2	2. Pillar 2	
2.1 Agri-environment and animal welfare (AEAW) 2.2. Organic (ORG)	2.1 Environmental, climate-related and other management commitments (ENVCLIM)	Scaled
2.3 Investment (INV)	2.2 Investments, including investments in irrigation (INV)	Scaled
2.4 Natura 2000 (NAT2000) 2.5 Other (natural handicap, mountain, other)	2.3 Other (natural handicap, mountain, other)	Scaled

CAP changes

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Basic income support for sustainability - BISS

- Replaces BPS and SAPS in the CAP 2023/27
- BISS mechanism constitutes:
 - An annual **area-based** decoupled payment
 - **Amount** paid for all the **eligible hectares** declared by farmers
 - Accessible to all **active farmers** in the EU
- Unit value subject to convergence and territorialisation

Modelling BISS payment

- Active farmers: all FADN farms
- Entitlement: scaling down

	CAP23/27 BPS/SAPS regime	CAP 2023/27 BISS regime
Yes	AT, BE_FL, BE_WA, DE, DK, EL, ES, FI, FR, HR, IE, IT, LU, MT, NL, PT, SE, SI	BE_FL, BE_WA, EL, ES, FR, HR, IE, IT
No	BG, CY, CZ, EE, HU, LT, LV, PL, RO, SK	AT, BG, CY, CZ, DE, DK, EE, FI, HU, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK

- FADN data: UAA, area paid (TABLE M)
- Policy notions: Entitlement, area paid, unit value

Modelling BISS payment

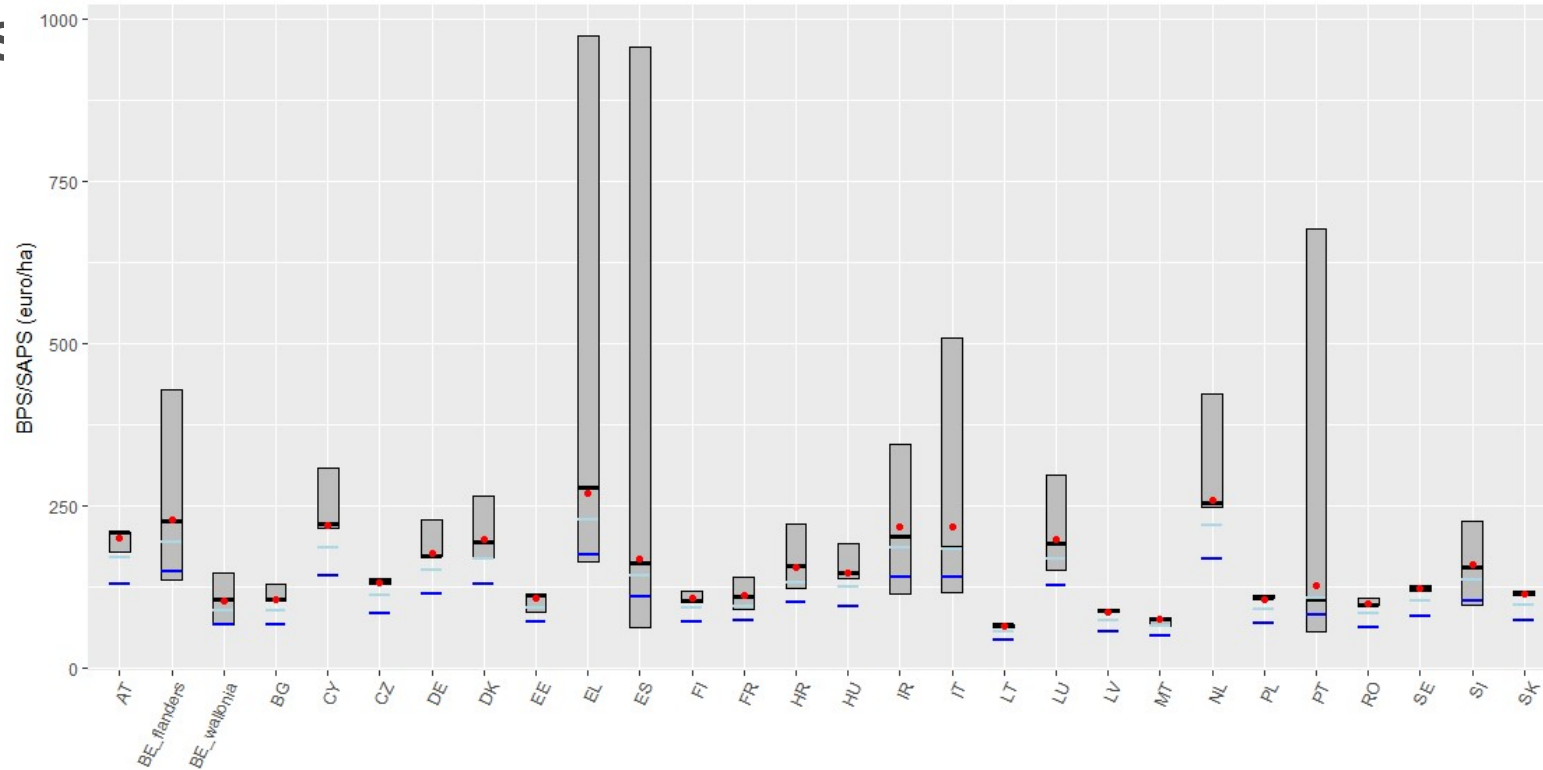
- Area paid for 2020 – need to estimate for new CAP
 - Phasing out of entitlements
 - Eligible are in FADN <> UAA
 - Solution: Use official BISS area from CSPs and apply different rules / MS to approximate
 - elig.area (FADN SBPS_1_1_N or SSAPS_1_2_N)
 - $\text{min}(\text{elig.area}, \text{uaa})$
 - Other more complex calculation depending on CSP (AT, ES, EL, FI)

Modelling BISS payment

- Unit [BPS]
- BPS

BPS unit values and reference values in CAP2014

Black line is median; Red dot is the reference unit value; Blue lines are 65% and 85% of reference



ADN

Modelling BISS payment

- Modelling BISS from BPS, considering:
 - Convergence (2 levels: 100% and 85%)
 - Territorialisation (Admin or AgroEcological zone, or both)

Convergence		Territorialisation in CAP 2023/27 (Regionalisation)		
CAP 2014/20	CAP 2023/27	No Territories	Administrative	Non-Administrative
100%	100%	BG, CY, CZ, DE, EE, HU, LT, MT, NL, PL, RO, SE, SI, SK	FI, LV (only in CAP 2023)	AT
Not 100%	100%	HR, PT, LU, DK	FR-Corsica	EL
Not 100%	85%	BE-FL, BE-WA, IE, IT	FR-National, ES	ES

Modelling BISS payment

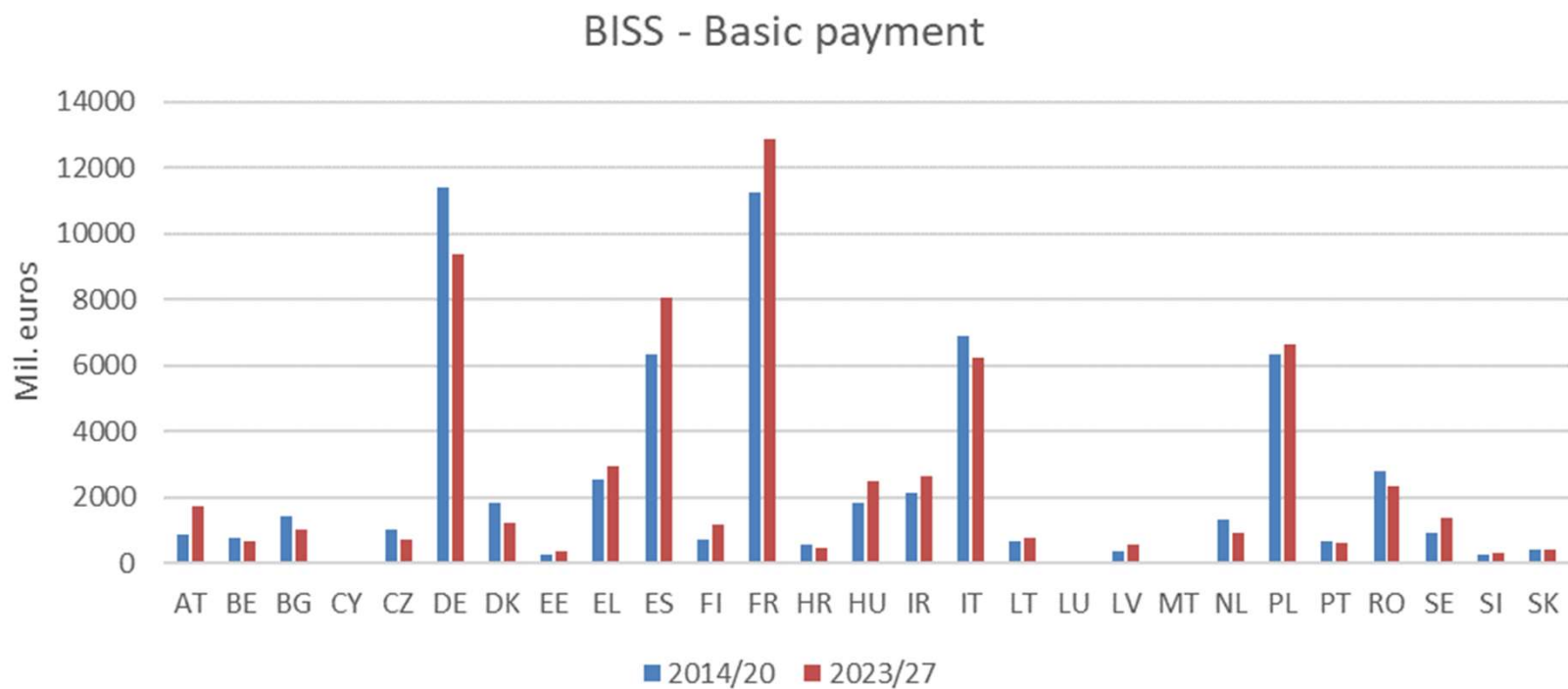
- For farms with 100% convergence: unit value from CSPs
- If territorialisation: apply different unit values (CSPs)
- 85% convergence: simulation of the trajectory, based on starting point (FADN2020):
 - Below 85% convergence: estimation of required budget
 - Higher than maximum unit value (if provided in CSPs): trimmed
 - Higher than reference value (national or regional average): proportional cut according to available budget

NUTS_CAP	Area paid (AGRI)	Area paid (own)	Area paid (coverage)	Budget value (AGRI)	Budget value (own)	Budget value ¹ (coverage)
AT	2,512,000	2,338,645	93.1%	475,631,200	450,998,177	94.8%
BE_FL	579,589	607,056	104.7%	108,962,783	105,409,798	96.7%
BE_WA	731,602	711,287	97.2%	79,071,563	75,975,662	96.1%
BG	3,983,046	4,076,924	102.4%	400,415,584	409,853,163	102.4%
CY	133,000	97,121	73.0%	30,953,090	22,602,988	73.0%
CZ	3,531,022	3,425,979	97.0%	234,530,481	227,553,498	97.0%
DE	16,860,194	16,591,567	98.4%	2,484,855,392	2,445,265,130	98.4%
DK	2,540,170	2,744,301	108.0%	577,177,427	623,560,068	108.0%
EE	967,358	1,038,507	107.4%	106,409,380	114,235,764	107.4%
EL	3,835,821	3,579,641	93.3%	829,567,122	795,283,057	95.9%
ES	19,257,103	17,060,115	88.6%	2,466,880,500	2,178,092,743	88.3%
FI	2,286,000	2,328,687	101.9%	297,699,120	303,502,365	101.9%
FR_COR	133,285	87,253	65.5%	19,416,959	12,711,017	65.5%
FR_NAT	24,822,841	25,052,775	100.9%	3,216,791,965	3,234,171,071	100.5%
HR	1,095,482	955,324	87.2%	142,412,690	124,192,124	87.2%
HU	5,000,000	4,773,587	95.5%	735,300,000	702,003,688	95.5%
IE	4,407,042	4,048,036	91.9%	728,494,838	726,649,682	99.7%
IT	10,037,416	10,076,484	100.4%	1,678,155,581	1,632,950,791	97.3%
LT	2,817,109	2,880,987	102.3%	230,890,286	236,125,678	102.3%
LU	121,221	118,026	97.4%	16,059,358	15,636,093	97.4%
LV	1,760,942	1,639,582	93.1%	161,898,630	151,784,512	93.8%
MT	6,558	2,726	41.6%	3,286,279	1,365,823	41.6%
NL	1,840,010	1,844,878	100.3%	314,604,988	315,437,292	100.3%
PL	14,209,713	14,585,323	102.6%	1,701,897,326	1,746,884,179	102.6%
PT	3,233,128	2,419,048	74.8%	260,913,462	195,217,161	74.8%
RO	9,697,000	9,293,203	95.8%	976,100,020	935,453,803	95.8%
SE	2,887,000	2,908,026	100.7%	398,406,000	401,307,624	100.7%
SI	450,001	441,006	98.0%	82,890,238	81,233,233	98.0%
SK	1,837,507	1,799,589	97.9%	190,765,641	187,157,292	98.1%

A few results

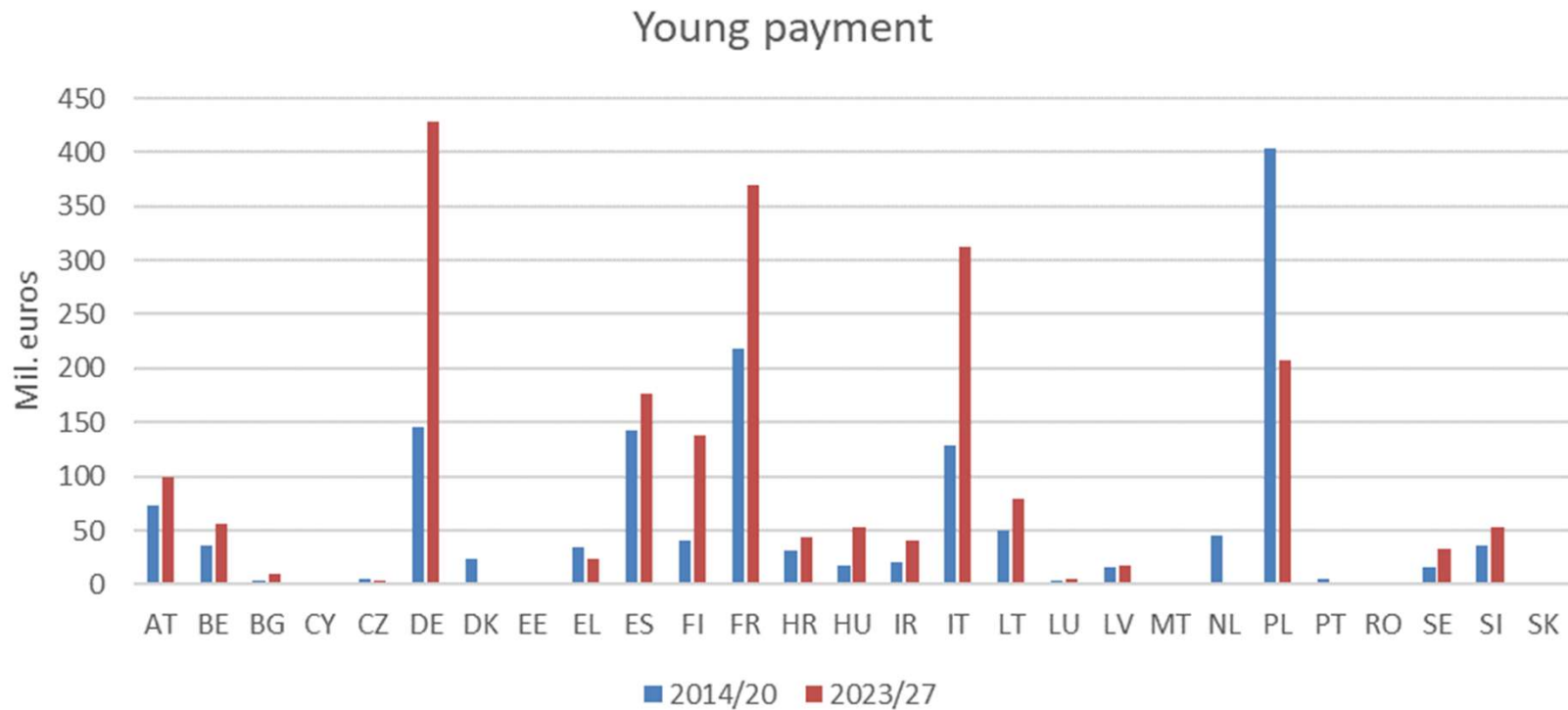
Pillar 1 by MS

- BISS – Basic income support for sustainability



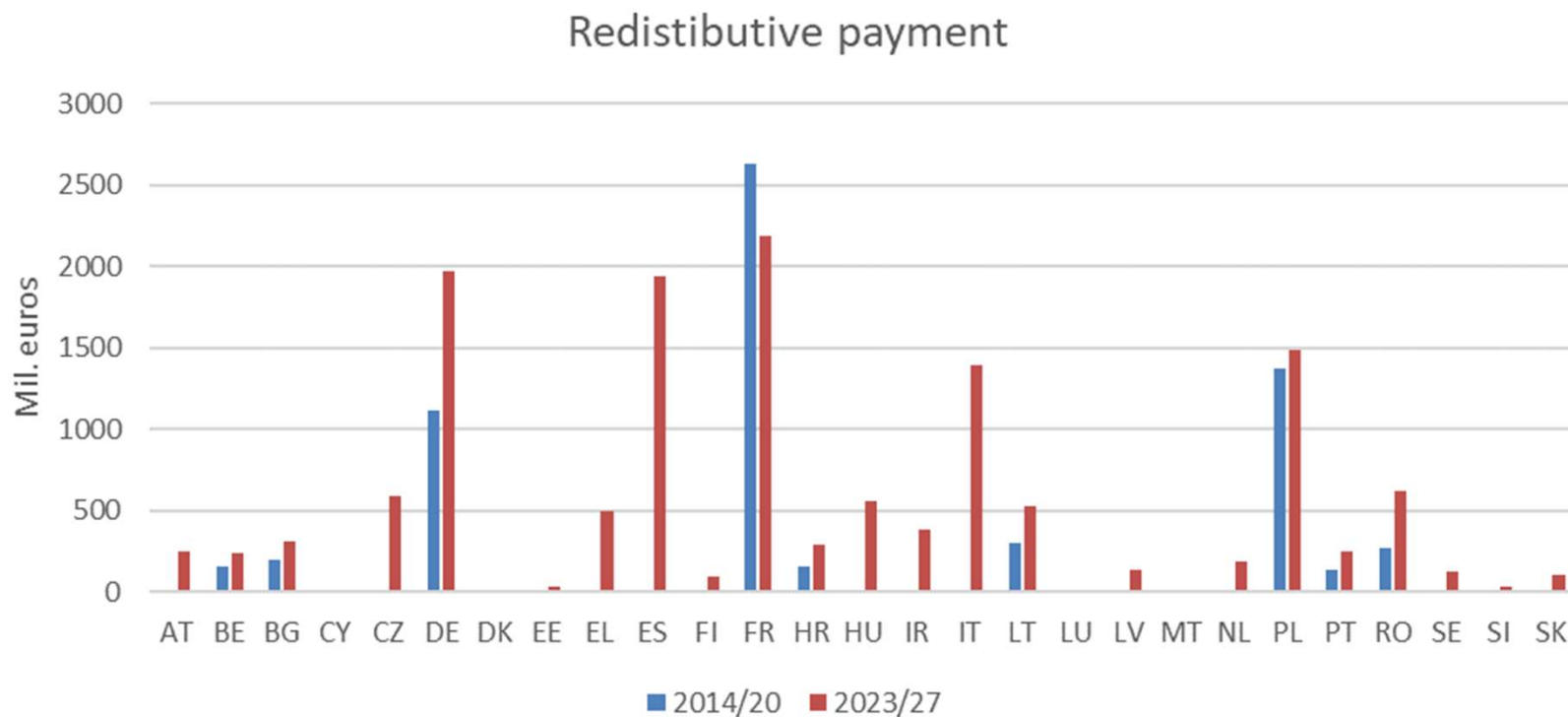
Pillar 1 by MS

- Young farmer payment



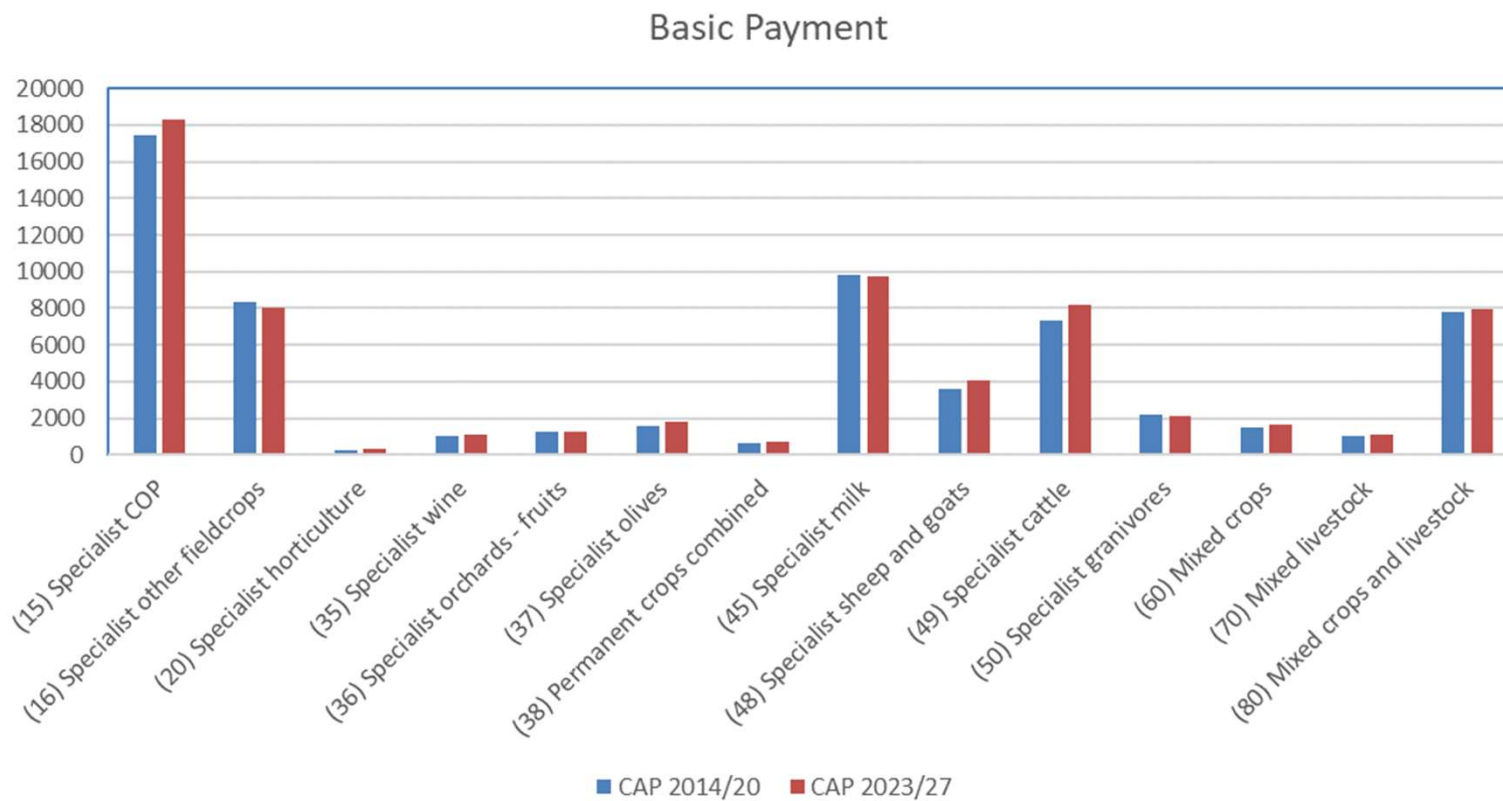
Pillar 1 by MS

- Redistributive payment



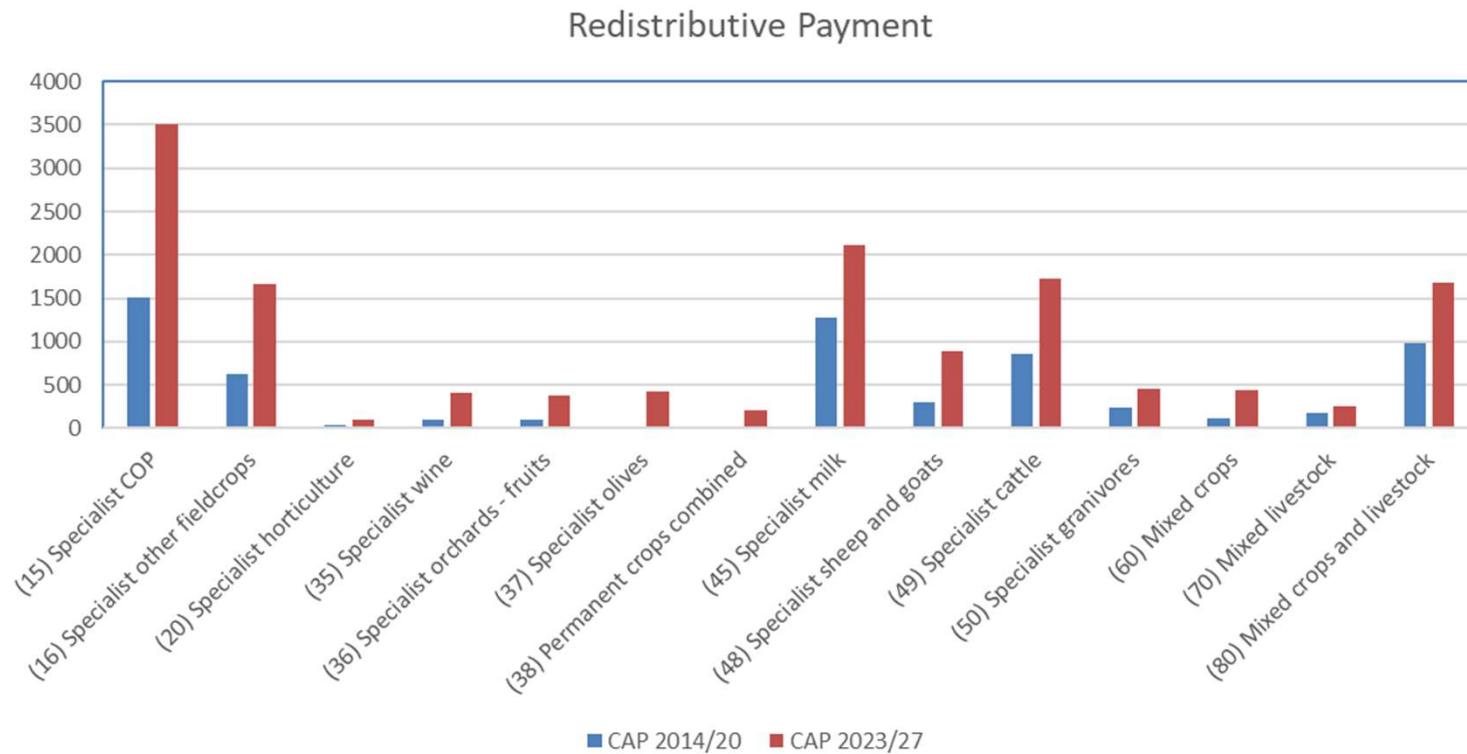
Pillar 1 by TF14

- BISS – Basic income support for sustainability



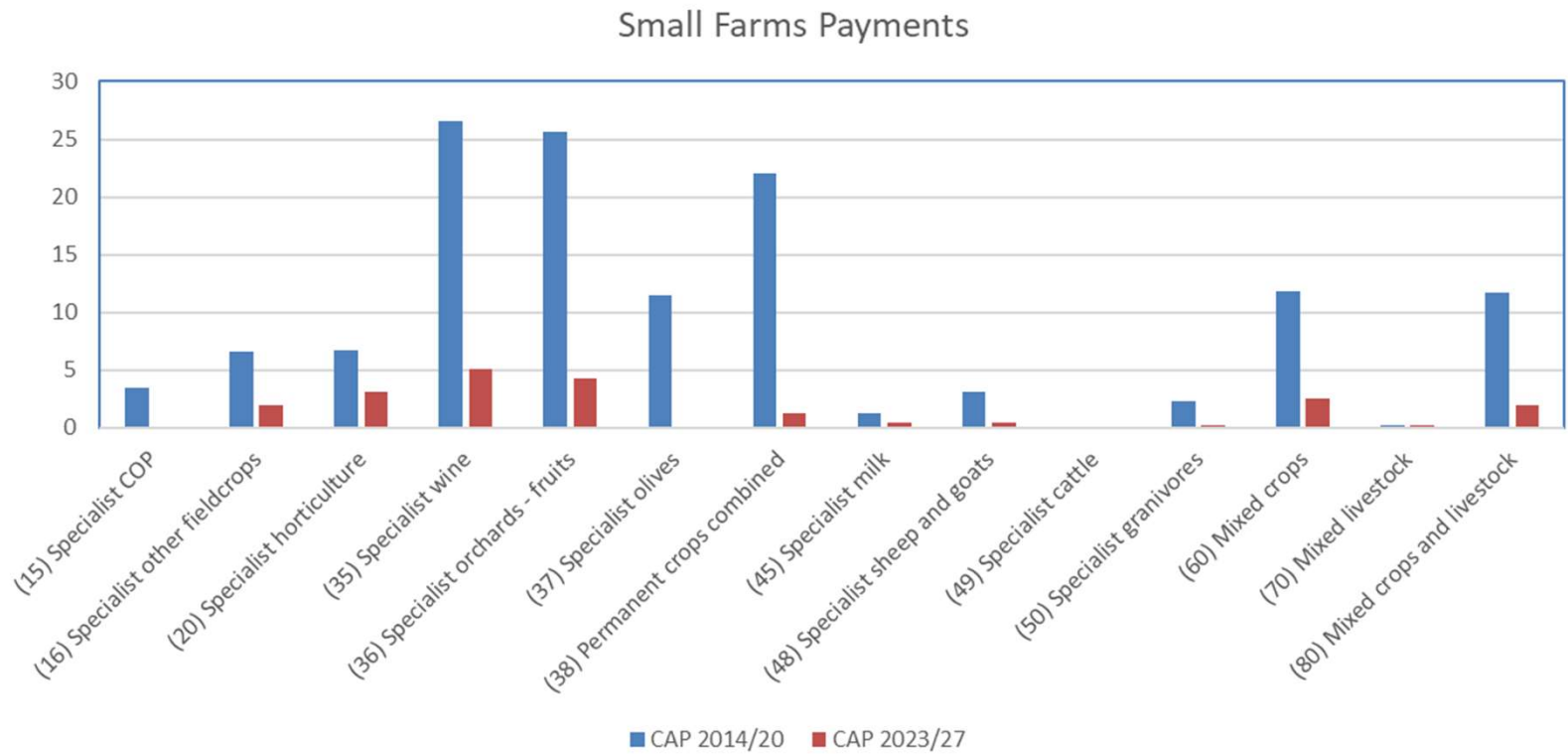
Pillar 1 by TF14

- Redistributive payment



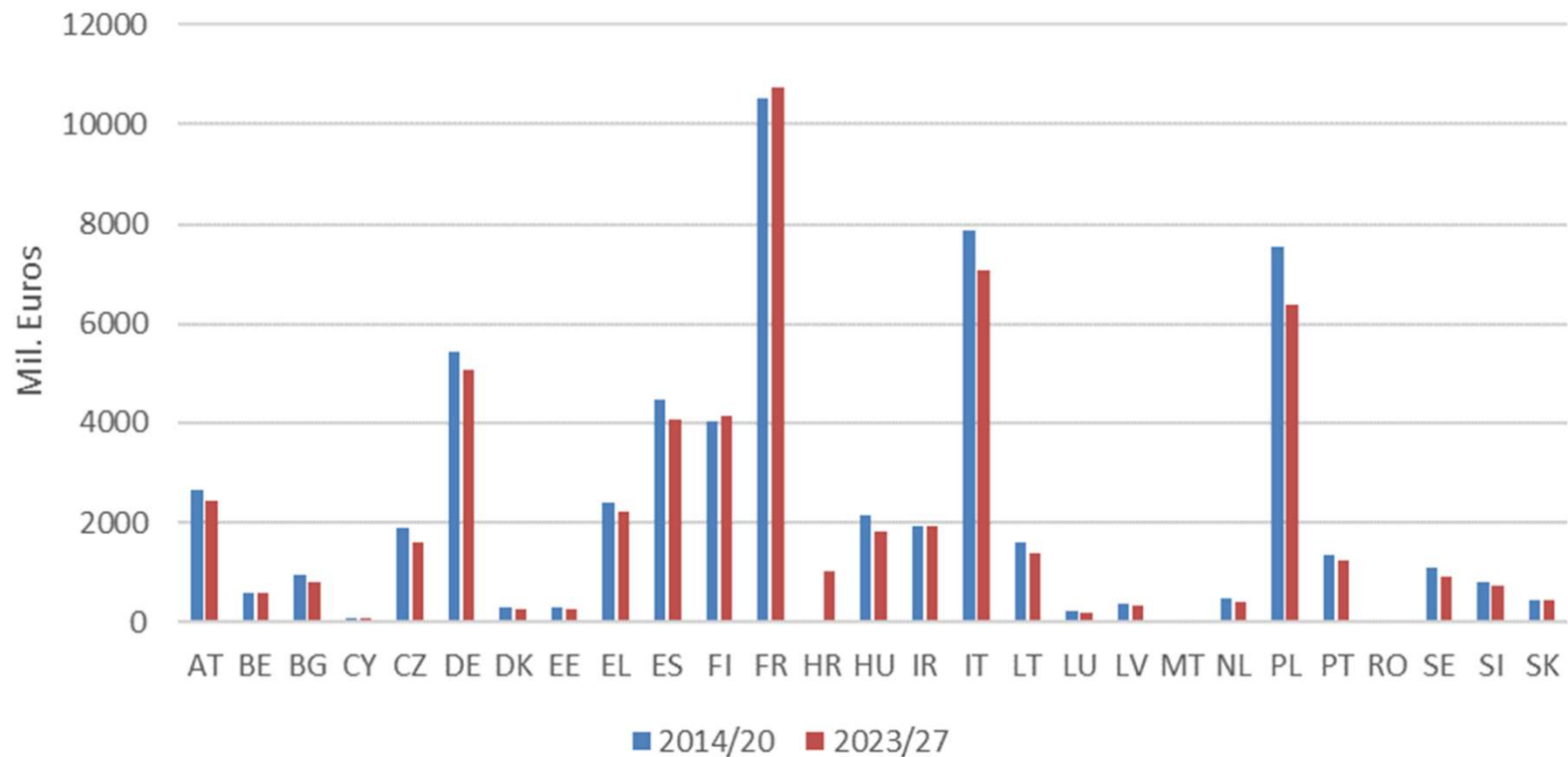
Pillar 1 by TF14

- Small farms payment



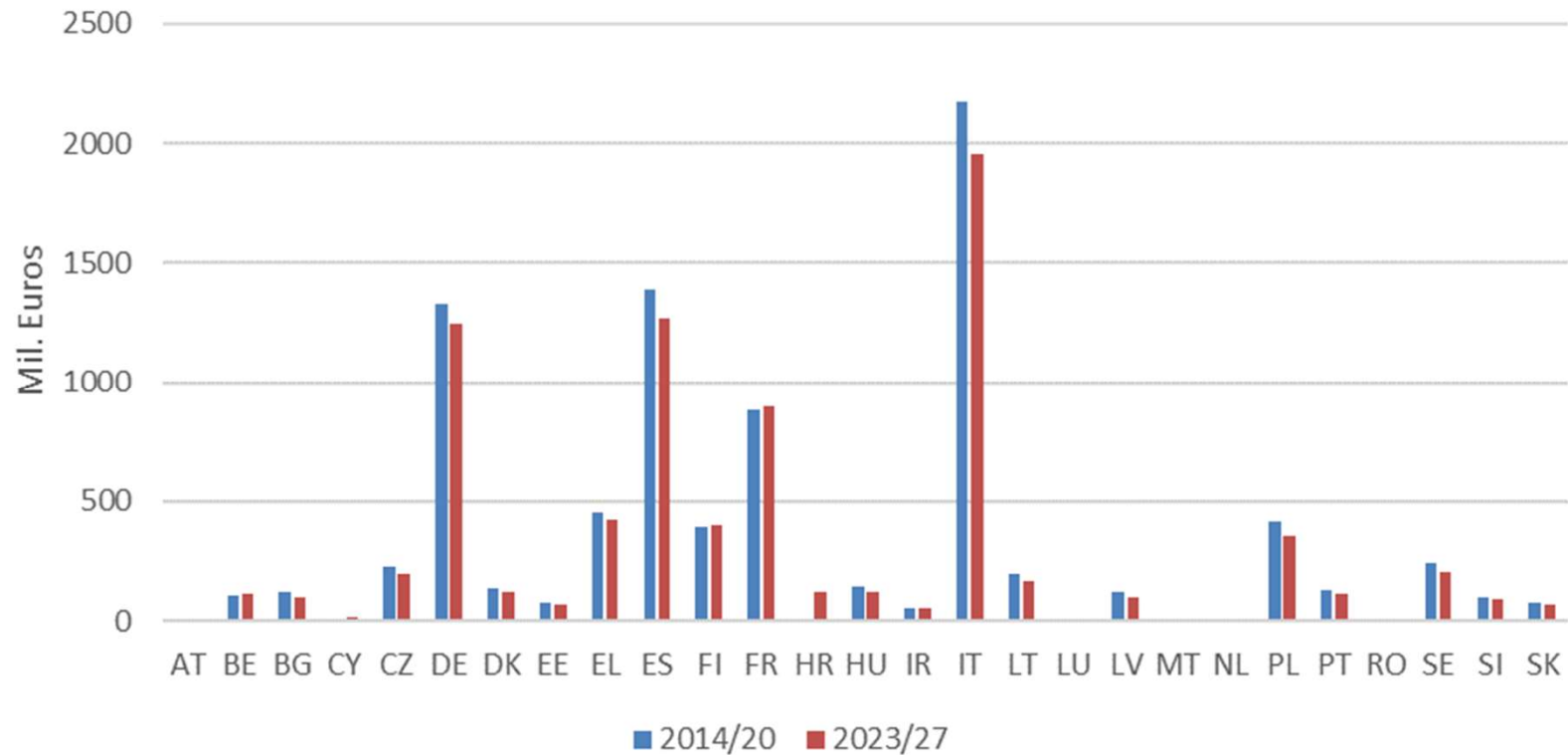
Pillar 2 by MS

- Total spent by MS: ANC, AEAW, Investment, Natura 2000, Other



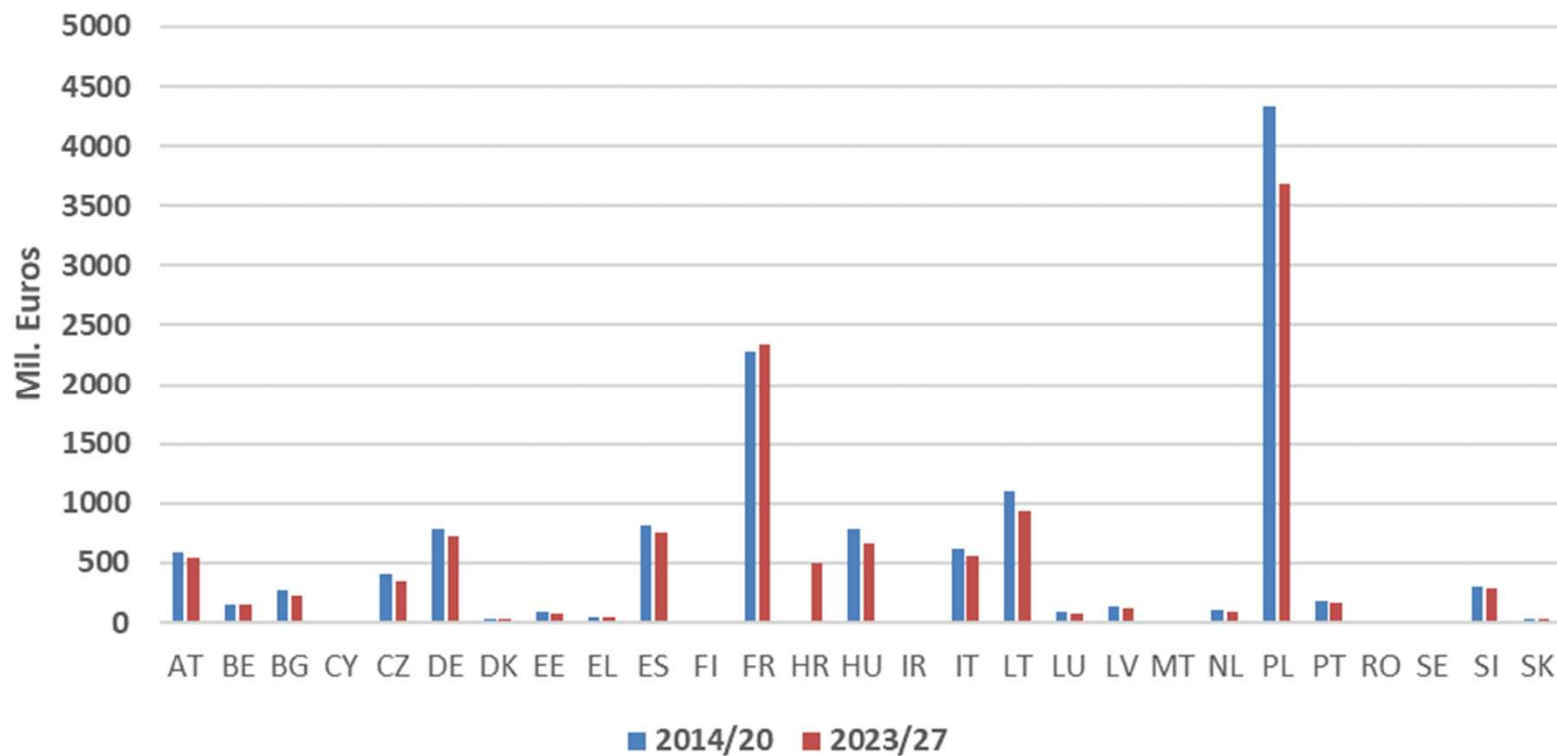
Pillar 2 by MS

- Organic farming



Pillar 2 by MS

- For investment



Conclusions

- Estimating future CAP subsidies for FADN farms is possible, but challenging
- Requires hypothesis on farm characteristics
- Policy interventions not always sufficiently detailed in CSPs
- Future developments:
 - Modelling Eco-Schemes endogenously (adoption yes or no) – important data requirements
 - Linking FADN with DIB would represent significant progress

Thank you

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