

Aggregated national FADN data for farm rating tool for commercial banks in Hungary Szilárd Keszthelyi

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National FADN data collection

- National data collection is based on Hungarian Accountancy Law
- Conversion to EU FADN format
- Extension of FADN data with sectoral data
- 80% of FADN farms provide sectoral data
- Sectoral data can support other purposes
 - Policy making, policy decisions
 - Agricultural crisis insurance scheme
 - Providing benchmarks to commercial banks for lending





The aim of developing Cash flow calculator tool

- Farm level cash flow estimation
- Involvement of agricultural farms without accounting in lending (on a business basis)
- Verification of financial plans of clients with accounting







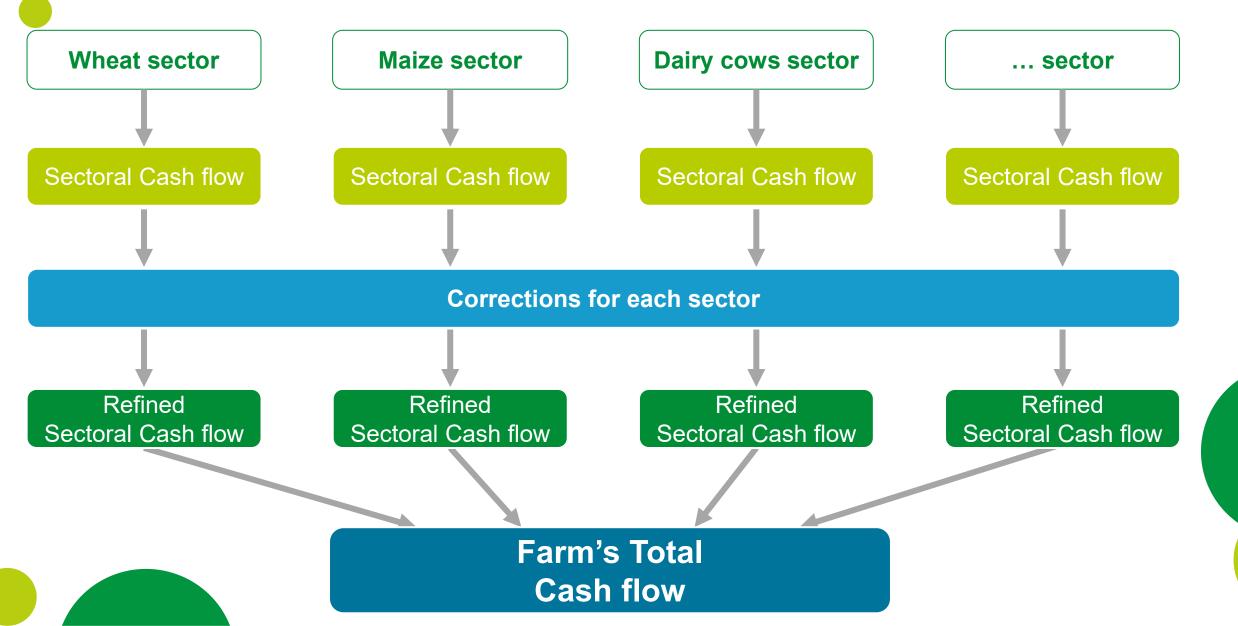
• Cash flow (CF) calculator

- CF calculator is used by 4 commercial banks in Hungary
- MS Excel file with VB macros
- Average of 3 years of sectoral data are used as benchmarks in the CF calculator
- CF calculation: Farm income + Amortization
- DSCR (Debt Service Coverage Ratio)
- Sensitivity analysis



Calculation of Farm's Total Cash flow

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CF calculator - Input

- Easy to use, only a few input data is needed from the farm
 - Legal status
 - Area of crops by sector
 - Number of livestock by sector
 - Area of rented land
 - Annual debt service
 - Educational level
 - Land classification value
- Results are corrected (only for crop sectors) based on:
 - Land classification value (AK)
 - Educational level of the farmer



Refine the CF calculation based on the available information.

- Elements of the CF calculation are interchangeable:
 - Direct subsidies
 - Yields
 - Average prices
 - Costs



Cash flow is refined based on credible information



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| • | History | | | Open culation | Agrárközgazdasági Intézet |
|----------|---|---|--|--|--|
| | | | | | Current Current Current year Year + 1 Year + 2 |
| | Legal status | v | DSCR limit 1,25 | Rented UAA (ha) | |
| | Education | Y | | Land rental fee (1000 HUF/ha) | |
| ~ | Land class. value | v | correction | Annual debt service (1000 HUF) | |
| | Current Current Current year Year + 1 Year + 2 | | Animal husbandry | Current Curren year Year + | |
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| | | Legal status Education Land class. value Current year Year + 1 Year + 2 Year + 1 Year + 2 Year + 1 Year + 2 Year + 1 Year + 2 Year + 1 Year + 1 | Legal status Education Land class. value Current Year + 1 Year + 2 Modify data Modify data | Legal status Education Education Current Year + 1 Year + 2 Modify data Modify data | Legal status Education Land class. value Current Veal*1 Veal*2 Modify data Modify data |



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Results

Cash-flow becslő számolótábla - eredmény

| Sensitivity analysis | Data correction matrix | | | | | | |
|---|------------------------|---------|---------|--|--|--|--|
| Output crop production in thousand HUF | | | | | | | |
| | n | n+1 | n+2 | | | | |
| Production value | 148 111 | 125 946 | 174 094 | | | | |
| In which direct subsidies | 13 796 | 12 923 | 15 326 | | | | |
| Seeds and seedlings | 14 302 | 13 884 | 19 803 | | | | |
| Fertilizers | 7 959 | 8 602 | 10 423 | | | | |
| Crop protection | 7 711 | 7 505 | 9 299 | | | | |
| Total direct variable costs | 32 100 | 32 892 | 43 118 | | | | |
| Depreciation | 4 892 | 4 545 | 5 973 | | | | |
| Overheads | 1 020 | 1 188 | 1 365 | | | | |
| Land rental fee | 3 243 | 1 776 | 150 | | | | |
| Total production costs | 81 822 | 72 529 | 92 346 | | | | |
| Farm income | 66 290 | 53 417 | 81 748 | | | | |
| Cash flow | 71 182 | 57 962 | 87 721 | | | | |
| Cash flow (corrected) | | | | | | | |

| trix | Export results | | Save r | esults |
|---------|---|---------|---------|---------|
| | Output animal husbandry in thousand HUF | | | |
| n+2 | | n | n+1 | n+2 |
| 174 094 | Production value | 606 280 | 667 829 | 656 377 |
| 15 326 | In which direct subsidies | 76 496 | 85 042 | 89 021 |
| 19 803 | Replacement value and deprec. of breeding animals | 80 804 | 90 243 | 113 417 |
| 10 423 | Feedingstuff | 248 714 | 259 513 | 248 891 |
| 9 299 | Veterinary costs | 14 359 | 15 494 | 14 453 |
| 43 118 | Total direct variable costs | 384 055 | 411 252 | 422 539 |
| 5 973 | Depreciation | 16 842 | 19 344 | 19 528 |
| 1 365 | Total production costs | 506 029 | 549 191 | 563 572 |
| 150 | Farm income | 100 251 | 118 638 | 92 805 |
| 92 346 | Cash flow | 117 093 | 137 982 | 112 332 |

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Total output in thousand HUF

| in thousand HUF | | | |
|--|---------|---------|---------|
| | n | n+1 | n+2 |
| Production value | 754 391 | 793 775 | 830 471 |
| In which direct subsidies | 416 155 | 444 144 | 465 658 |
| Depreciation | 21 735 | 23 889 | 25 501 |
| Total production costs | 587 851 | 621 720 | 655 918 |
| Farm income | 166 541 | 172 055 | 174 552 |
| Cash flow | 188 275 | 195 944 | 200 053 |
| Cash flow (corrected) | | | |
| | | | |
| | n | n+1 | n+2 |
| DSCR (cash flow / annual debt services) | | | |

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Sensitivity analysis

| Cash-flow bed | cslő számoló | itábla - Érzéke | nység vizsgála | ət | Total production value | | | | | |
|------------------------|--------------|-----------------|----------------|-------|------------------------|------|------|------|------|-------|
| | | 80% | 85% | 90% | 95% | 100% | 105% | 110% | 115% | 120% |
| | 80% | 1,55 | 1,93 | 2,30 | 2,68 | 3,06 | 3,44 | 3,81 | 4,19 | 4,57 |
| | 85% | 1,26 | 1,63 | 2,01 | 2,39 | 2,76 | 3,14 | 3,52 | 3,90 | 4,27 |
| | 90% | 0,96 | 1,34 | 1,72 | 2,09 | 2,47 | 2,85 | 3,22 | 3,60 | 3,98 |
| | 95% | 0,67 | 1,05 | 1,42 | 1,80 | 2,18 | 2,55 | 2,93 | 3,31 | 3,69 |
| Total production costs | 100% | 0,37 | 0,75 | 1,13 | 1,51 | 1,88 | 2,26 | 2,64 | 3,01 | 3,39 |
| | 105% | 0,08 | 0,46 | 0,83 | 1,21 | 1,59 | 1,97 | 2,34 | 2,72 | 3, 10 |
| | 110% | -0,21 | 0,16 | 0,54 | 0,92 | 1,29 | 1,67 | 2,05 | 2,43 | 2,80 |
| | 115% | -0,51 | -0,13 | 0,25 | 0,62 | 1,00 | 1,38 | 1,76 | 2,13 | 2,51 |
| | 120% | -0,80 | -0,42 | -0,05 | 0,33 | 0,71 | 1,08 | 1,46 | 1,84 | 2,22 |

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Thank you for your attention!

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