



Economic impact of selected EU policy options for animal welfare

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Selected policy options addressed

- Loose housing of sows in farrowing unit
- Additional space for rearing and fattening pigs



Assumptions for estimations of costs for farrowing unit

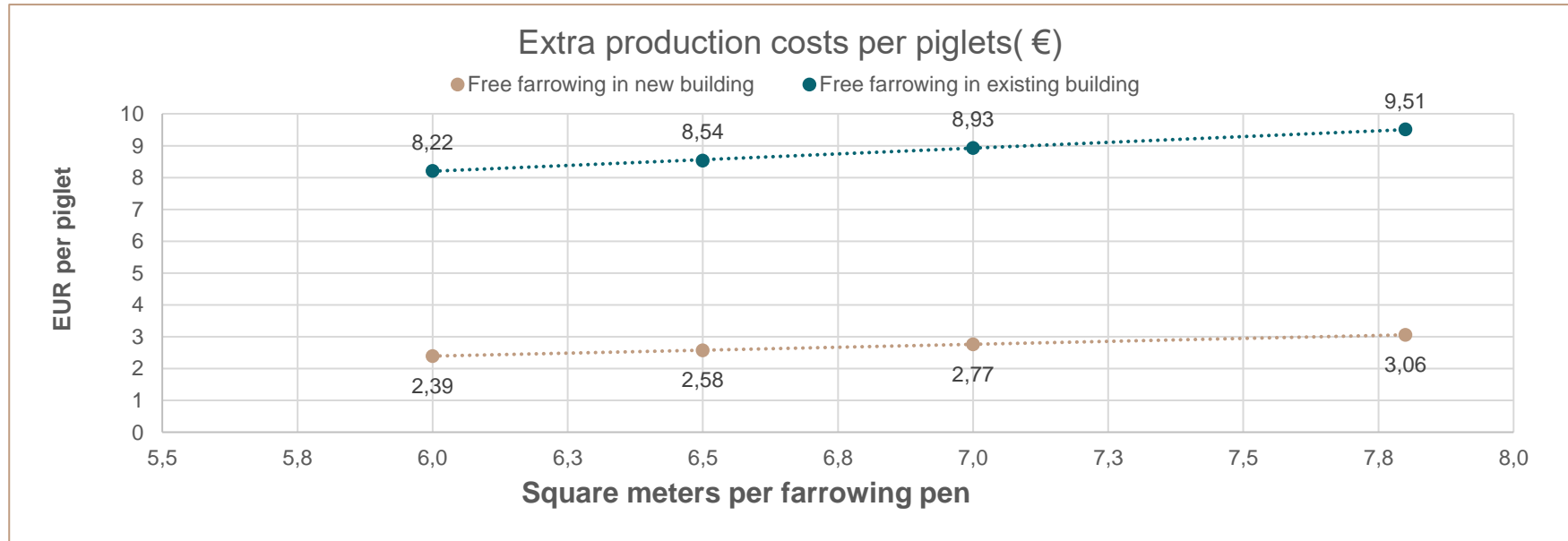
- Calculations based on efficiency numbers from a range of EU countries from InterPIG data
- Feed prices based on average prices from 2016-2020
- Base-line scenario is a traditional system with farrowing crates
- Cost calculations made for loose housing in new buildings and in existing buildings
- Four different scenarios with different square meters for farrowing pens (6.0, 6.5, 7.0, and 7.8 m²)
- Sows are allowed to be temporary confined for up to 7 days
- Increased piglet mortality of 2.5 percent point with temporary confinement – If case of 100 percent ‘being loose’ then piglet mortality is expected to increase with 6 percentage points
- 50 pct of increase in cost of production compensated for by the market

Assumptions efficiency numbers traditional sow farm

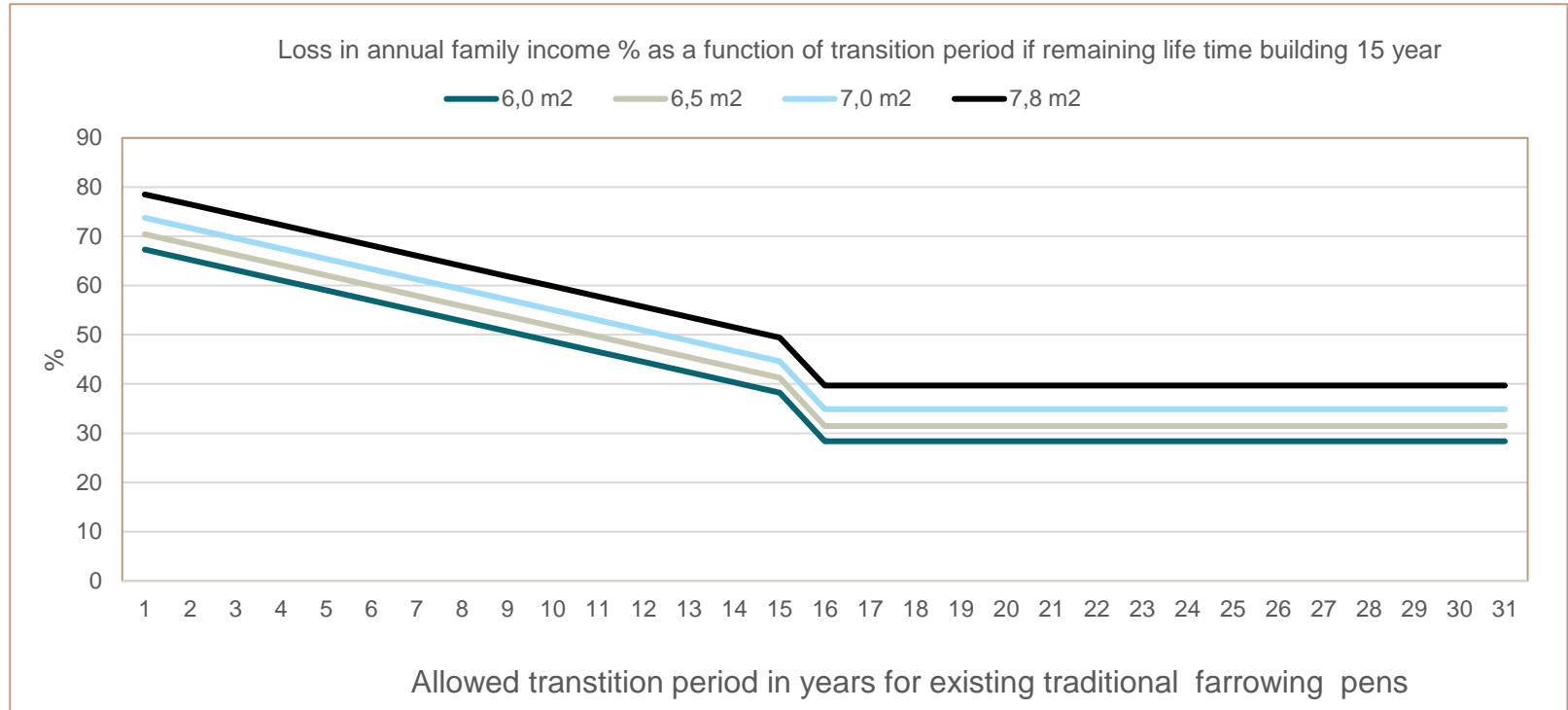
- annual sow replacement (InterPIG range 2021: 40 - 55)	%	45
- purchase price gilts (198 days)	€	329
- revenue slaughtered sows	€	176
Lost gross margin due to 6 months temporary empty stables	€/farm	
Delivered piglets per sow per year	Nr	30,36
- litters per sow per year (InterPIG range 2021: 2,24 - 2,35)	Nr	2,30
- liveborn piglets per litter (InterPIG range 2021: 14,3 - 17,9)	Piglets/litter	16
- piglet mortality until weaning (InterPIG range 2021: 12,1 - 15,2)	%	13,50
- post weaning mortality (InterPIG range 2021: 2,5 - 5,3)	%	4
Total average cost per piglet	€/piglet	52,21
- Feed	€/piglet	22,17
- Housing	€/piglet	12,00
- Labour	€/piglet	7,08
- Miscellaneous	€/piglet	8,70
- Purchasing gilts minus revenue slaughtered sows	€/piglet	2,27

Additional production cost of free farrowing

The additional production costs in case of the absence of an allowed transition period are calculated for both new buildings and for an existing building with its inventory just being renovated.



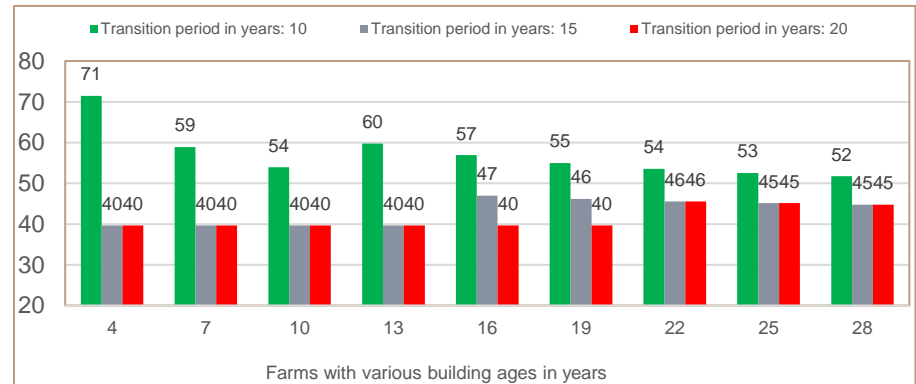
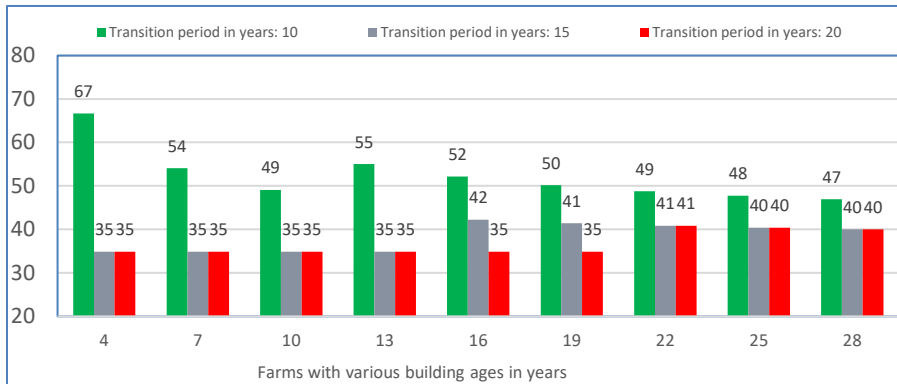
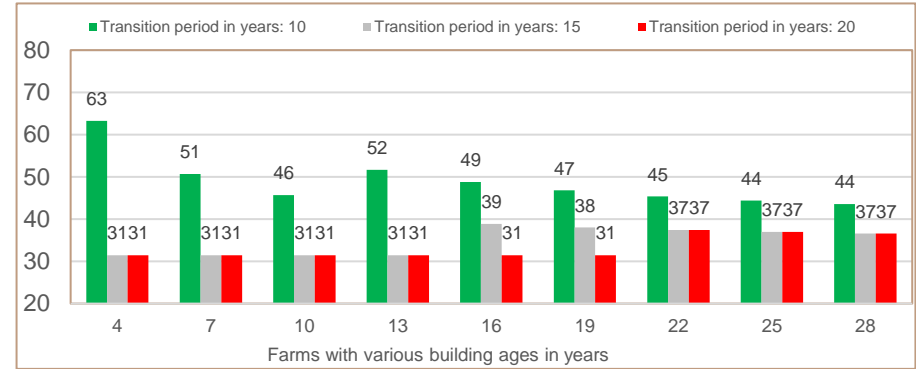
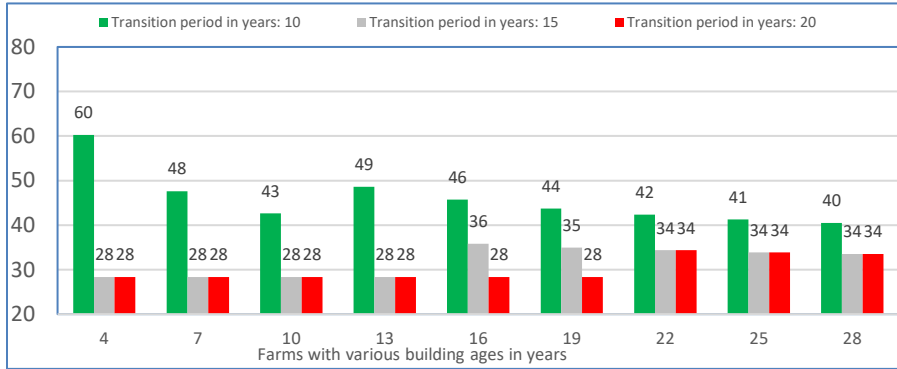
Impact of transition period on a farm with 15 years building age



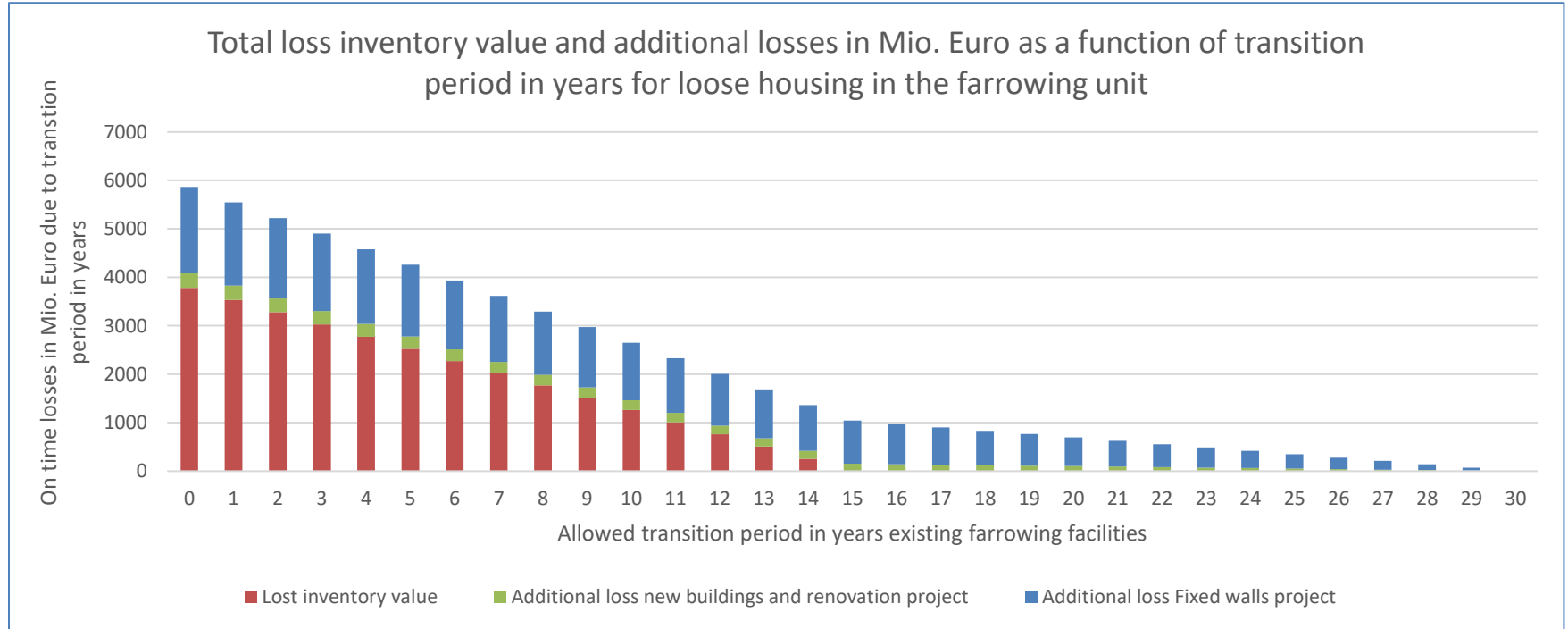
Resilience of the European Pig Industry

EPP-Congress 2023

% loss in annual individual income: by farrowing space and building age for alternative transition periods



Total sector loss on EU level as a function of transition period



Summary for transition of free farrowing

- Free farrowing results in higher piglet production cost ranging from €2,39 to €9,51 depending on the square meters of the farrowing pen.
- Great uncertainty about the level off uptake of cost increase in the market. Many research results conclude that food affordability is the major food quality attribute. A main driver within the food supply chain is economics of scale to supply the market with affordable products.
- For new buildings with a farrowing place area ranging from 6,0 m² to 7,8 m², the calculated reduction in family income ranges from 18% to 23%.
- Most farmers must renovate existing building. Depending on farrowing area, herd size must be reduced. Then, besides increased production cost, also revenue levels will be affected.
- The associated reduction in family income depends on:
 - *Allowed transition period of 10 years results in most cases in double loss of income, compared to a transition period of 20 years.*
 - *Possibility to maintain same numbers in sow herd depends on the farrowing space. A farrowing space of 7,8 m² instead of 6,0 m² results in most cases in a 10% further income reduction.*
 - *Age farm building: impact of loss in inventory value is higher for relatively new inventory and can result in further income decrease of > 50%.*
- Calculations based on possibility for temporary confinement of the sow for up to 7 days. Impact will be even larger with zero confinement. If temporary confinement is not allowed, piglet mortality is expected to increase with 6 percentage points, and thus further increasing production costs.

Estimations of costs for extra space for rearing and fattening pigs

Assumptions for cost estimations for growing pigs

- EU numbers for slaughtering in 2021 (249 Mio head) and total number of fattening places of 82.4 Mio.
- Space allowance for rearing pigs: 0,3 m²
- Space allowance for fattening pigs: 0,65 m²
- InterPIG efficiency data from The Netherlands for weight of piglets and slaughter weight
- Feed prices based on the average for the years 2016-2020
- Energy costs
- Building costs expected European average
- Depreciation rate is assumed to be 30 year for buildings and 15 years for inventory

Impact additional space on fattening production on EU pig sector level

Additional area per fattening pig (m ²)	0.1	0.2	0.3	0.4
Total additional cost (€mln./yr.)	344	688	1,033	1,377
Additional investment to maintain production level (€mln.)	4,166	8,332	12,497	16,663
Decrease in EU 2021 level of pig production	-13%	-22%	-30%	-36%
New level of production (mln. pigs/yr.)	218	194	175	159
Impact on EU self sufficiency pork (126 in 2021)	110	98	88	80
Additional production cost per slaughter pig (€)	1.38	2.76	4.14	5.52

Assumptions for cost estimations for rearing pigs

- Number of sows in EU 2022: 9,47 Mio sows present
- Average sow productivity: 26,4 pigs/sow/year
- Estimated total reared piglets: 258,6 Mio per year
- Total rearing places: 36,1 Mio places

Impact additional space on weaners production on EU sector level

Additional area per weaning pig (m2)	0.05	0.10	0.15	0.20
Total additional cost (€mln./yr.)	74.8	149.6	224.3	299.1
Additional investment to maintain EU production level (€mln.)	1,050	2,099	3,149	4,199
Percent more rearing space area compared to 2022 baseline	16.7%	33.0%	50.0%	66.7%
Additional production cost per weaning pig (€)	0.29	0.58	0.87	1.16

Summary for additional space to weaners and fattening pigs

- Increased space allowance for fattening pigs will increase production cost per slaughter pig going from €1.36 per pig with an increase of 0.1 sqm to €5.43 per pig with an increase in space of 0.4 sqm.
- To maintain current production level additional investments of between €4,076 to €16,303 mln must be made
- Alternatively, production will decline with 13%-36% leading to a significant reduction in EU pork self sufficiency
- Production of weaner pigs will also be impacted leading to an additional production cost of €0.29 - €1.16 per weaning pig, if the allowed space is changed between 0.1 and 0.20 sqm.
- It is assumed that additional production costs of more space for growing pigs will not be compensated for by the market.



Thank you for your attention!

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