How much should we pay to avert a bad life: Valuing reductions of industrial farming

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Reducing factory farming *feels* welfare enhancing

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- Assume no comparable increase in high-welfare animals being raised; just a pure lack-of-existence effect

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But what if I had to **choose** between that and:

- Reducing poverty by $x\%$ or
- Reducing GHGs by $y\%$ or
- Increasing z middle-class households income by $10,000

Economist have (very) little guidance on this

A recent agenda of mine: formalizing these costs

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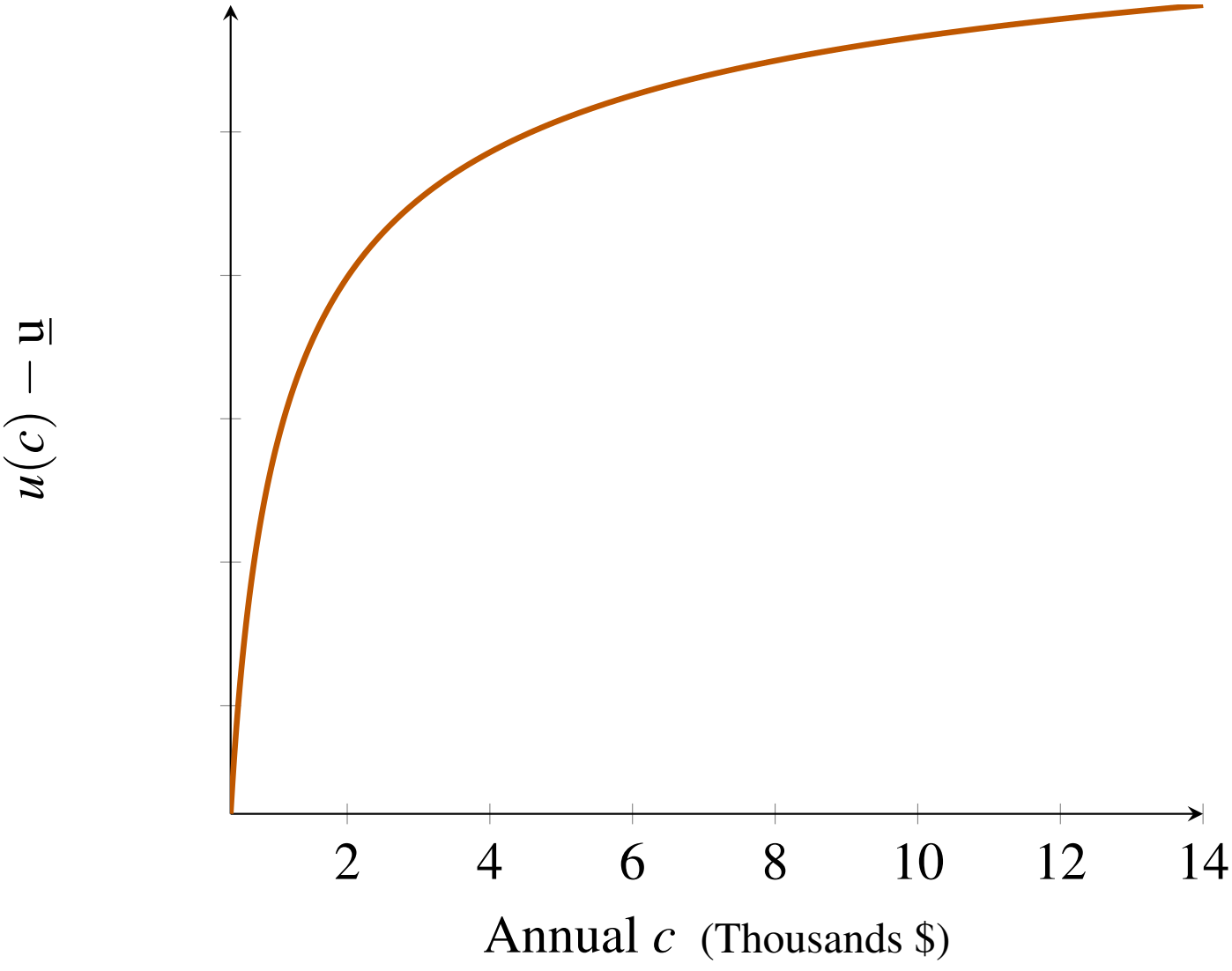
Notice: this is **conceptually distinct from a VSL**, we are not talking about saving lives here

Summarizing Kuruc and McFadden (2022) graphically



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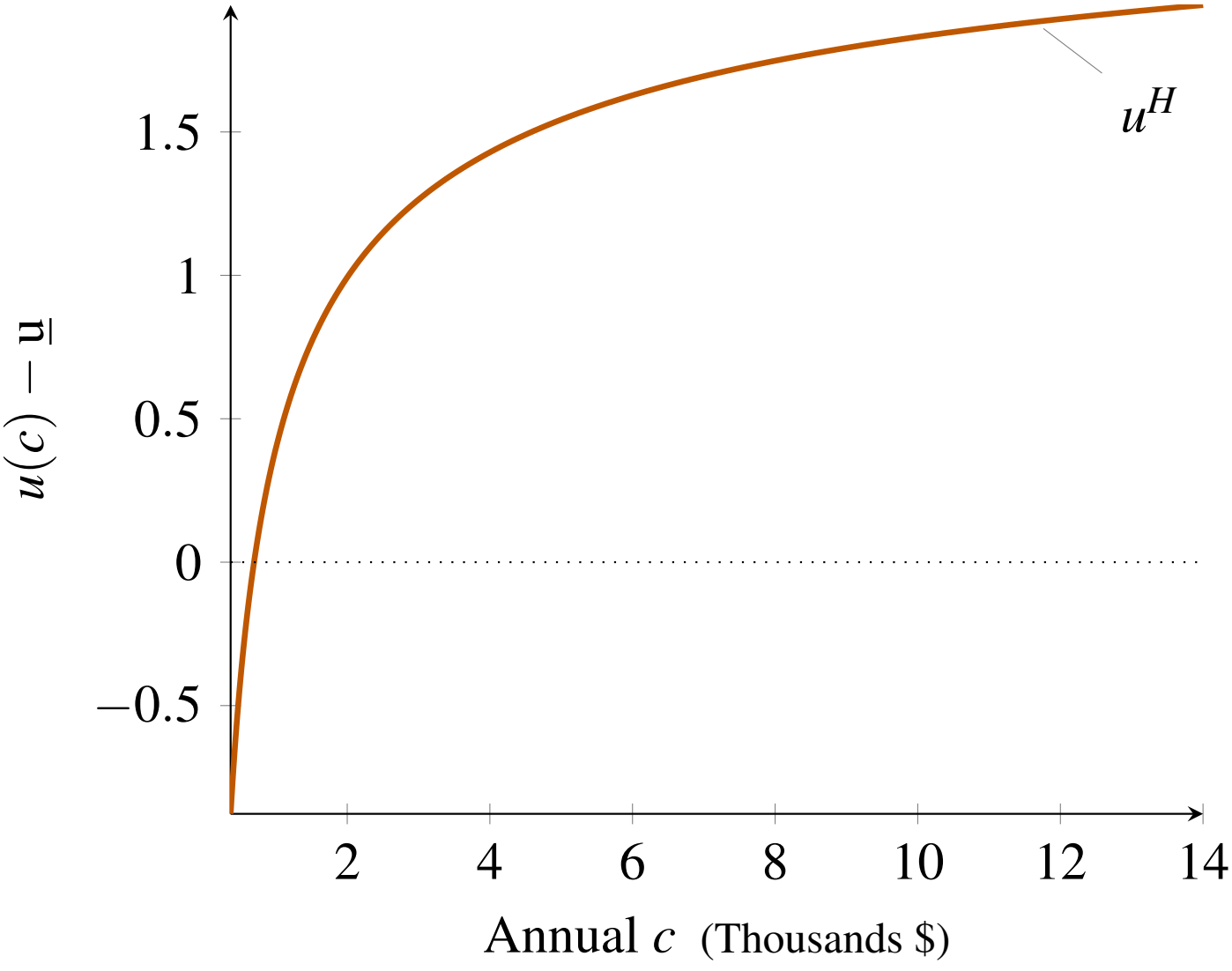

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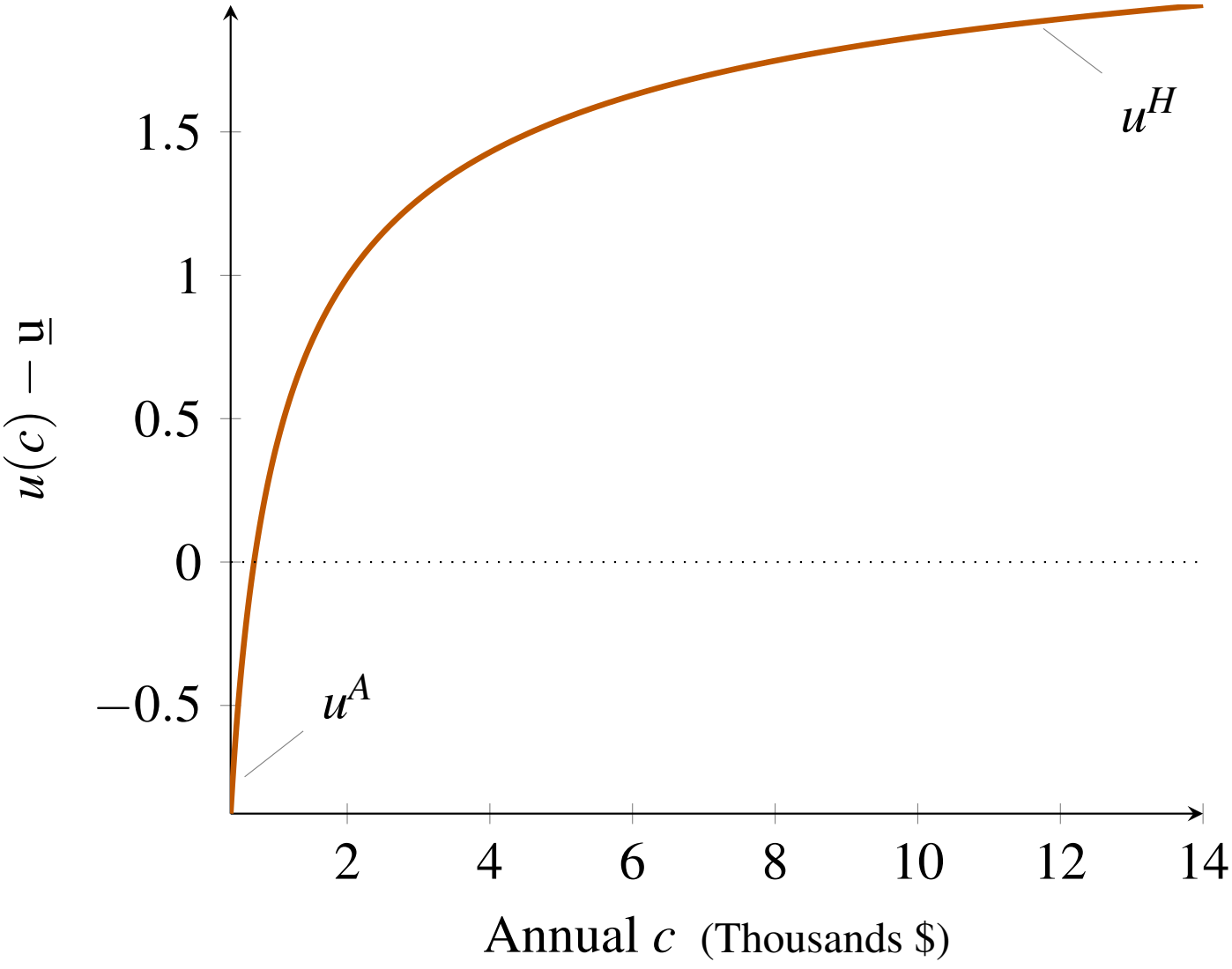

Each animal life-year worth $\approx -\$25,000$(!)

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iii. Level of utility for animal existence

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"\$1 dollar creates Y utility if given to humans. If we can gain Z utils via preventing an animal existence we should be willing to pay $\$\frac{Z}{Y}$ to do so."

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3. On that subset, **where *do* different animals lie**?
   - (Indirectly) Rely on Espinosa & Treich's excellent work

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Then, we could create 3 utils with 3 $\times$ \$10K *or* averting 1 chicken-life-year

Averting a single broiler-life-year worth more than $30,000

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   - I've been thinking about this as the **extensive margin** of utility, lots of ground to cover!
2. If animal experiences are 10-100% as rich as humans, life-death decisions on their behalf are going to be valued highly
   - Even if you thought it was 3-5% instead of 30-50%, still large results

Forget small quantitative disagreements: these conceptual points imply that it's hard to avoid the large findings generated here

Roadmap

1. Conceptually linking "income $\rightarrow$ happiness" findings with "dollar value of life"
2. Detail best available data on income $\rightarrow$ happiness, and its implications
3. Map different animals onto these scales
4. Employ various numerical assumptions to generate order-of-magnitude findings

Conceptual and Ethical Framework

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Results should be qualitatively robust to inequality concerns, existence asymmetries, etc.

Valuing Outcomes in Dollar Terms

When economists say "The economic cost of X is $\$Y$." what is commonly meant is "increasing GDP by $\$Y$ is **as valuable** as preventing Y."

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- Preventing 1 ton of CO_2 is as valuable as raising GDP by \$185

This would imply that spending less than $\$Y$ to prevent X ought to improve collective welfare

- Important complications wrt inequality: welfare loss depends who the cost burden falls on

How much does a util cost?

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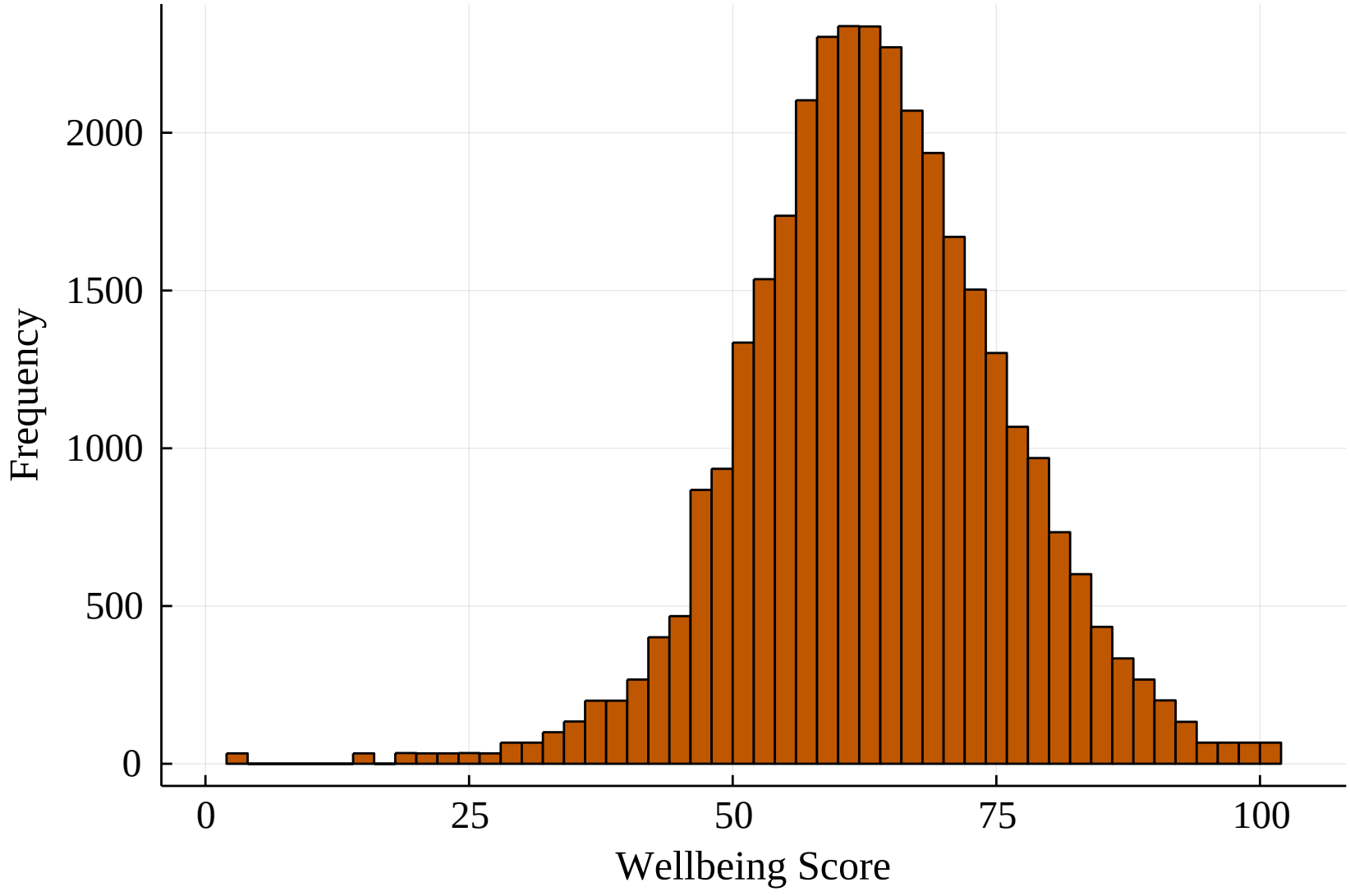
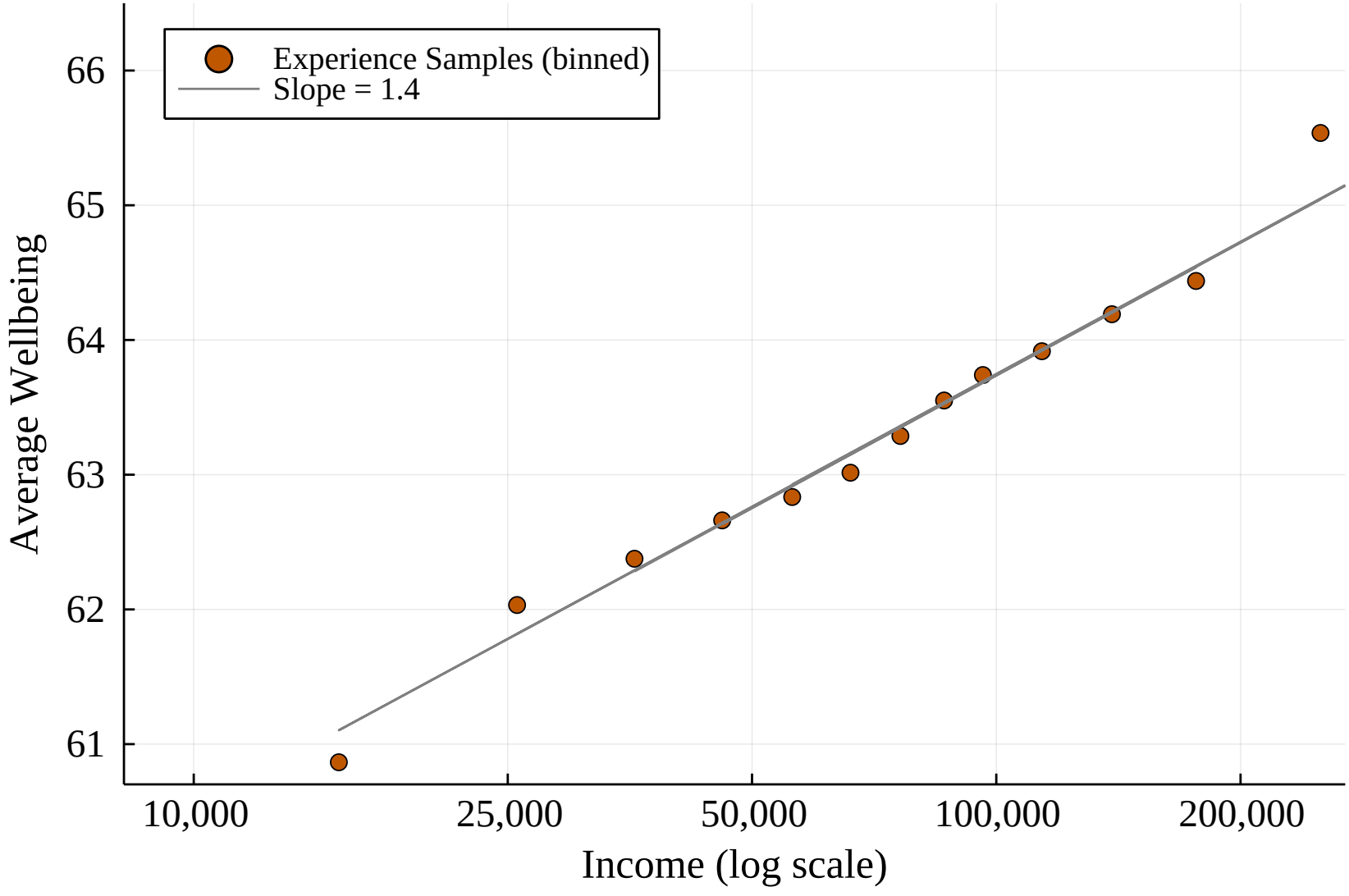
Cross-country data generates similar results

Distribution of Wellbeing is (Surprisingly) Reasonable



Happiness is linear in log-income



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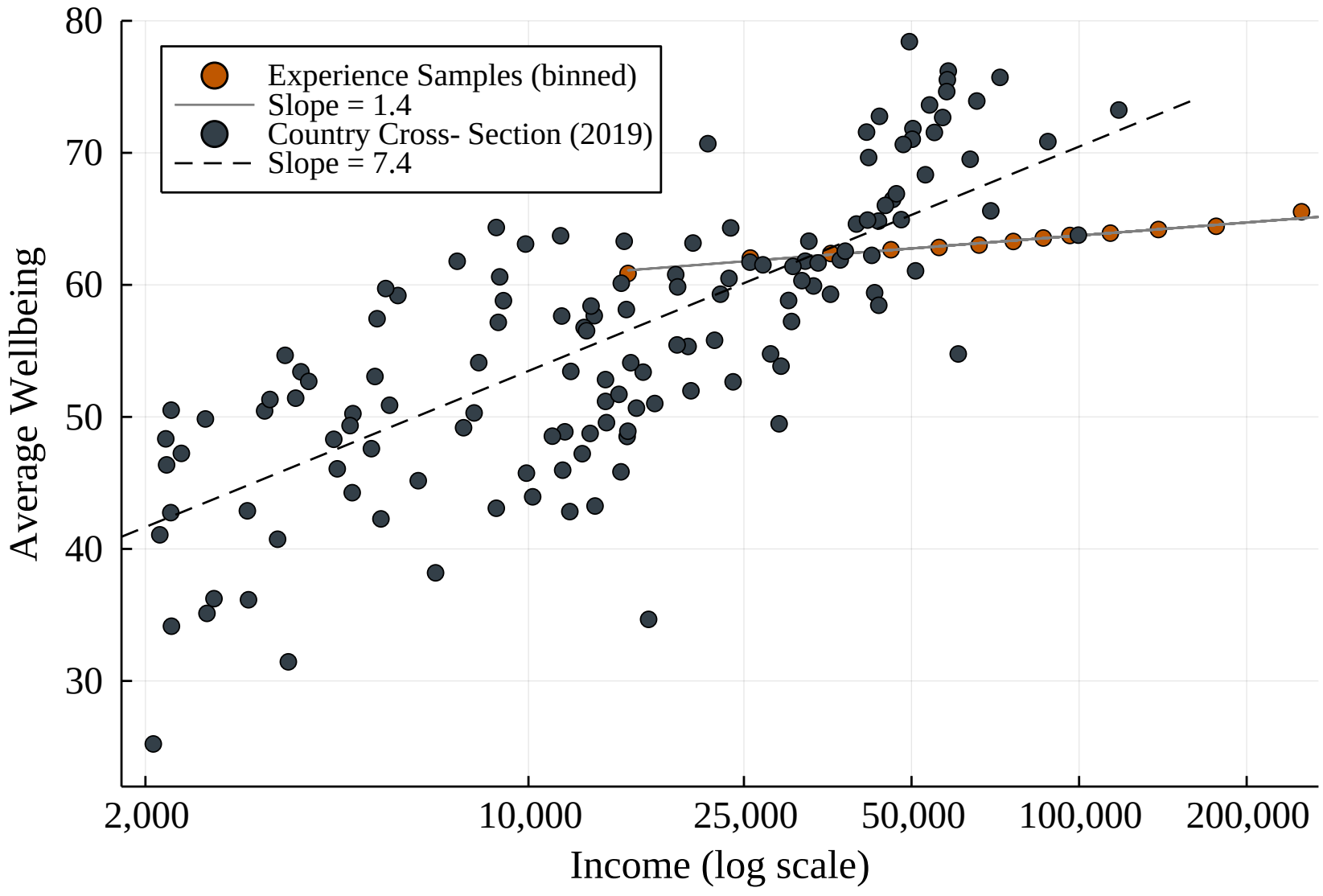

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A 1% increase in HH income $\Rightarrow$ 0.014 util increase on a 0-100 scale

- Assume all 2.5 members experience this increase (so .035 utils total)
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Let's call it $10K per util

Where do animals fall on this 0-100 scale?

Welfare Ranges

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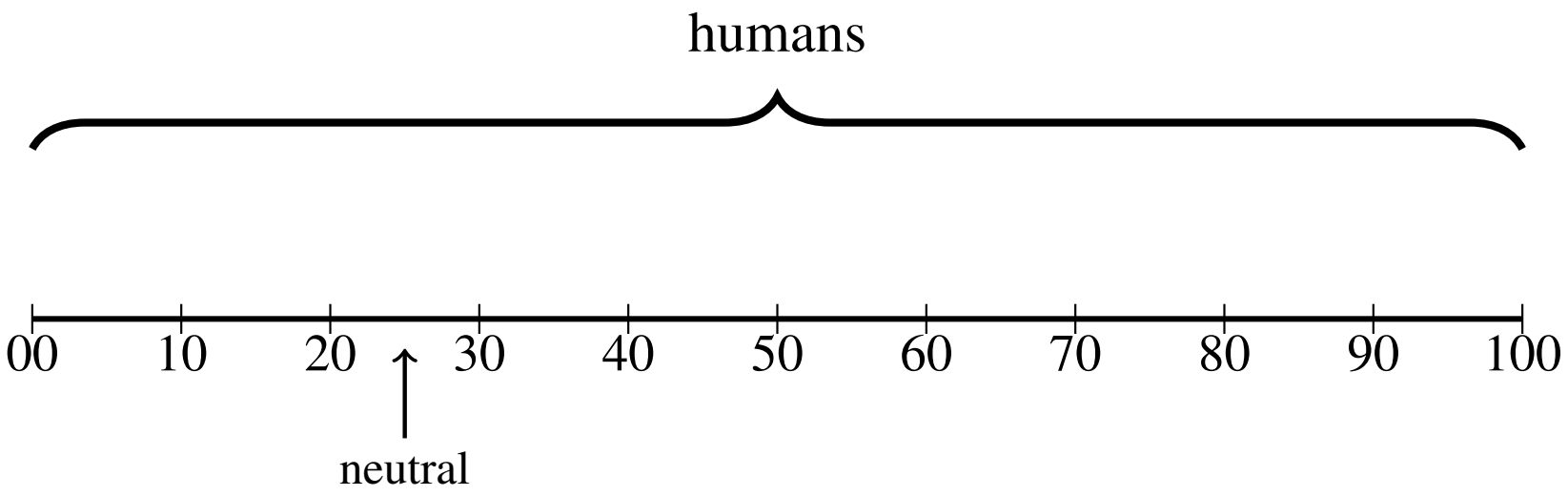
Let's arbitrarily call 25 neutral, such that pigs range from [0-50] on this scale

- Chickens on [10-40] (30 util range around 25)

Diagram of Humans, Pigs, Chickens



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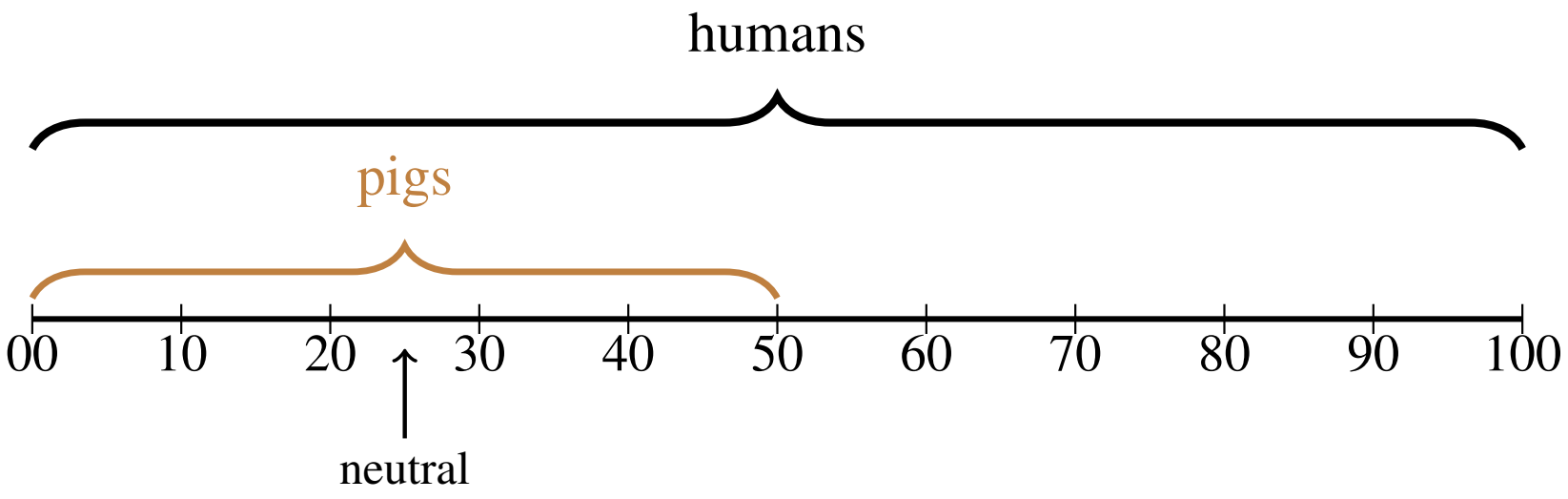

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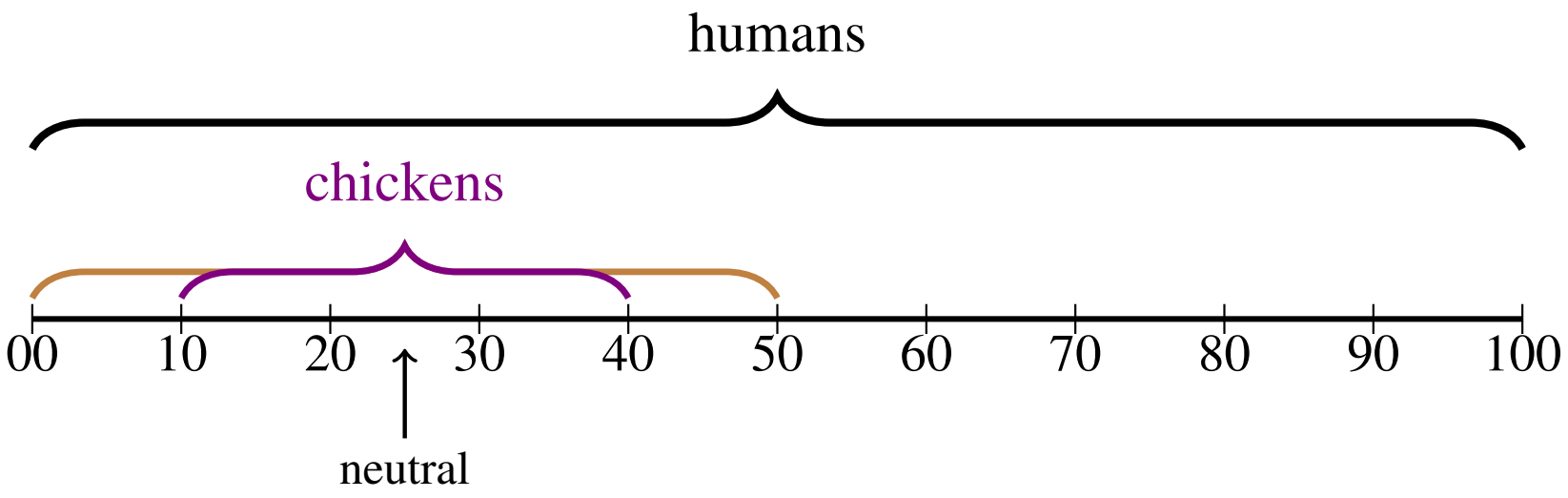

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Key Takeaway: If pigs have ≈ a range of 25 utils between "neutral" and "worst possible life", it seems very likely **pigs are at least 1 util below neutral**

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- A score of 20 $\Rightarrow$ 20% towards worst life (0) from neutral (25)
- For chickens something similar is likely

(See Espinosa and Treich (2021) for survey details on whether these lives are "worth living")

Monetary Results and Implications

Baseline implications: $10-50K per animal life year

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- And astoundingly close to the $26,000 in Kuruc and McFadden (2023)

Total externalities are large

The average American consumes 23 chickens per year (3.2 life-years)

- About $100,000 in external costs from chickens alone!

US per capita GHG externality is $2500 (with $185 SCC)

Animal externality is huge!

Another general methodological takeaway

This **does not** need to be limited to (non-)exitence value

$$M = \underbrace{\eta}_{\text{Cost per util}} \times \underbrace{\Delta u}_{\text{Improvement}}$$

Here I've assumed the improvement is non-existence

- Might instead consider *intensive* change in welfare
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The key ingredients were merely:

i. **Dollar per experienced util**, coming from human wellbeing surveys

ii. **Range of plausible improvements** for other animals on this scale, coming from Bob's work

Conclusion

Using results on scientifically grounded welfare-ranges (plus pop. ethics) find that **value of reducing the number of industrially farmed animals is on the $10K order of magnitude** per life-year.

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Follows directly from these sub-claims:

1. Money doesn't appear to translate well to happiness, so it's going to be much easier to change total utility via adding or subtracting lives than trying to improve lives
2. Life-death decisions about animals are going to be valued highly if animal experiences are 10-100% as important as humans
   - Or even 1-10%

Aside: What does this imply about the VSL?

Existence is worth about 40 utils per year (65 avg answer - 25 neutral life)

- Or, $400,000 per year of existence

This would imply a VSL of:

- 26M for a 20 year old
- 18M for a 40 year old
- 10M for a 60 year old

This methodology is generating numbers in the right ballpark Back