



Prices of Healthy and Unhealthy Foods. A global review.

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Diet diversity is essential for proper nutrition

Markets interact with household budgets to influence diet diversity.

My IFPRI colleague, Derek Headey, and I used data on the prices of 657 commodities (the same prices used for purchasing power parity) to show that in low income countries healthy foods were generally more expensive relative to staples compared to well-off countries.

This was especially the case with most animal sourced foods and fortified infant cereals

That is, the poorer the setting the higher the cost of diet diversity

Global Prices reflect transport and storage as well as production costs

Animal source foods as well as fruits and vegetables often are hard to transport and store which adds to their cost

Not only is milk perishable, but in some climates cows are subject to tsetse flies. Yields per tropical cow are far below those in temperate climates

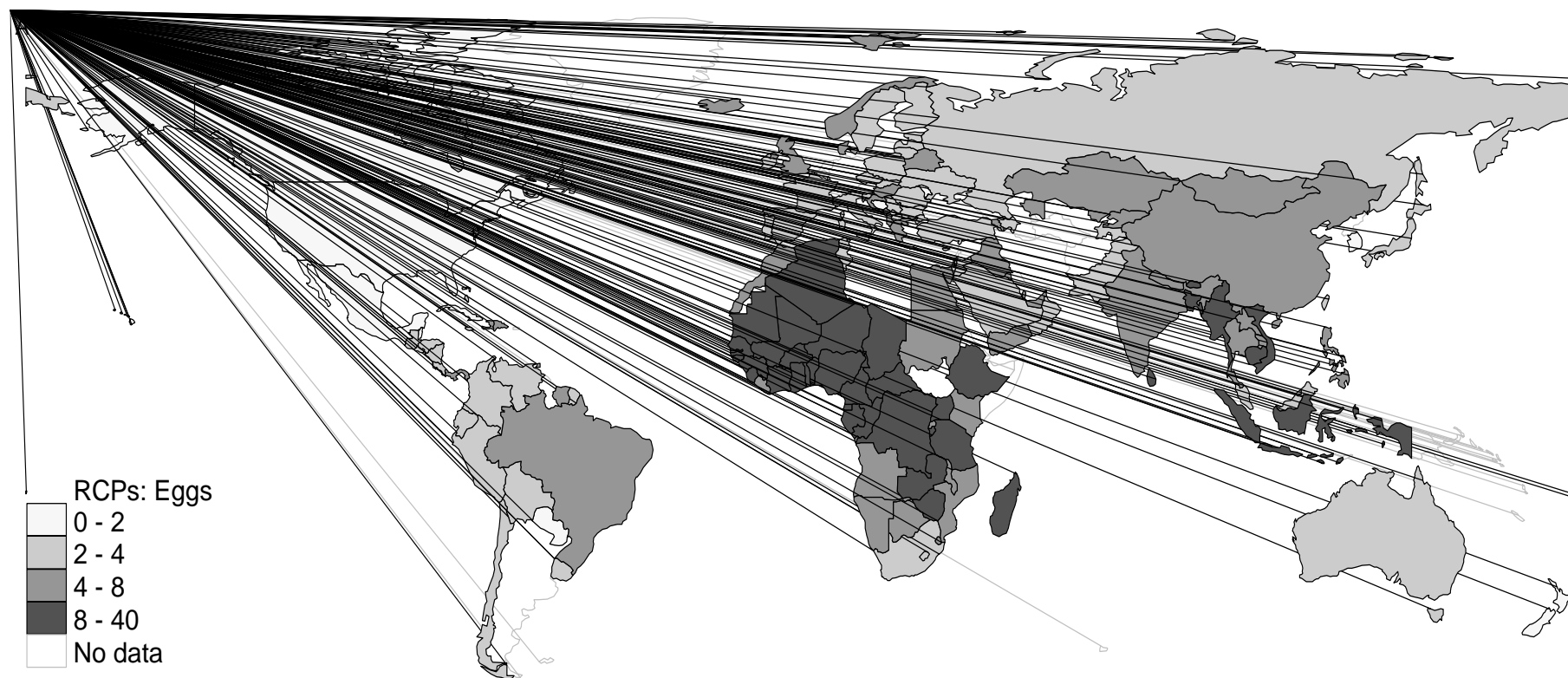
Similarly, chickens are subject to tropical disease (and heat).

Relative caloric prices of Animal Source Foods [ASFs] vary across incomes levels and regions:

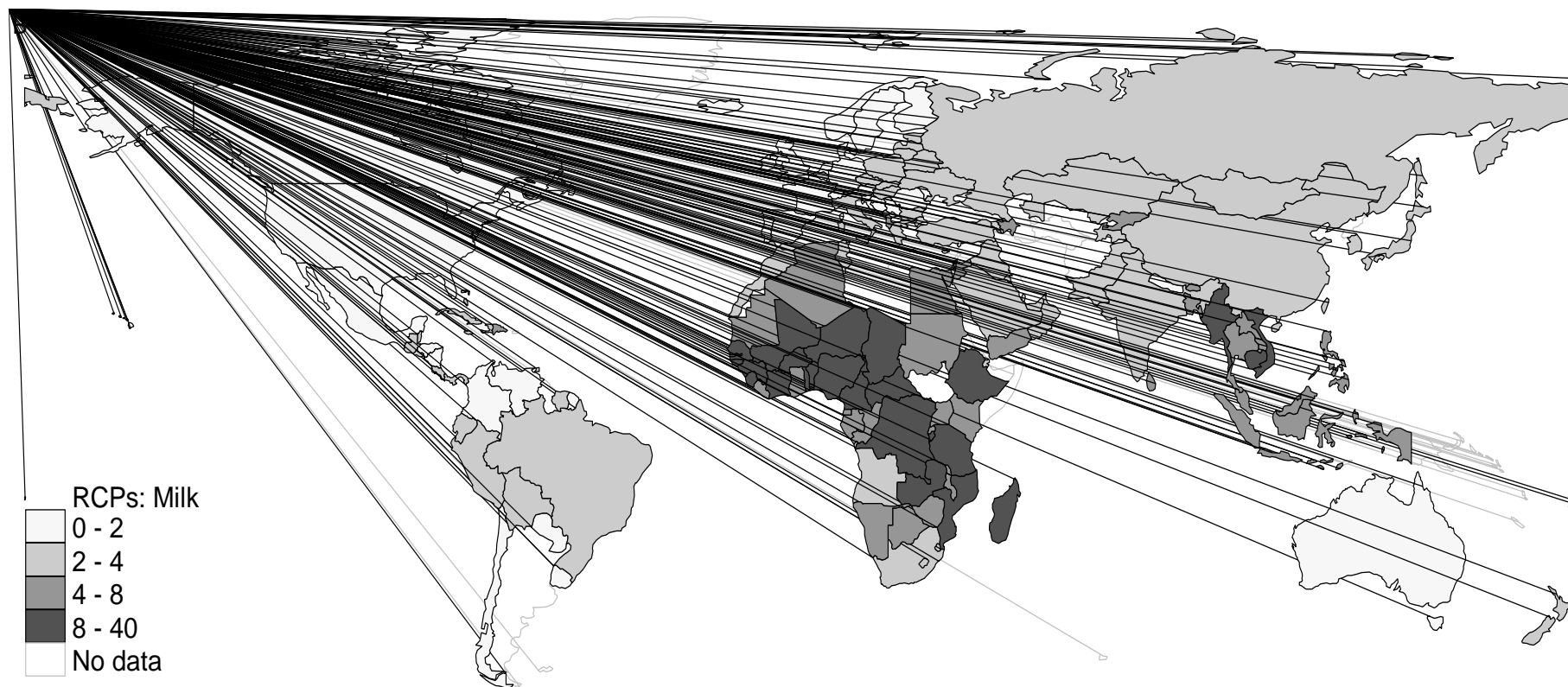
- *Generally cheap in middle and upper income countries*
- *Dairy cheap in South Asia and East Asia*
- *Dairy & eggs expensive in Africa and SE Asia, but fish is cheap*

	Milk	Eggs	White meat	Red meat	Fish
Europe (N=39)	2.11	3.42	4.09	3.38	5.84
North America & Australasia (N=6)	1.48	1.72	1.85	2.00	6.47
Latin America & Caribbean (N=38)	2.32	3.25	2.76	2.95	5.41
Middle East & North Africa (N=18)	4.28	5.35	5.06	5.09	5.31
Central Asia (N=6)	3.80	4.67	4.47	3.58	8.28
China (N=1)	2.46	4.69	3.64	1.97	3.47
Other East Asia (N=5)	2.57	2.24	6.17	4.82	4.52
South-East Asia (N=10)	6.63	8.18	5.74	3.82	4.89
India (N=1)	2.77	5.32	7.09	2.27	6.98
Other South Asia (N=6)	3.95	5.75	6.99	4.74	10.14
Eastern & Southern Africa (N=19)	8.96	8.97	9.33	3.10	10.13
Western & Central Africa (N=27)	9.94	12.87	9.29	3.76	6.58

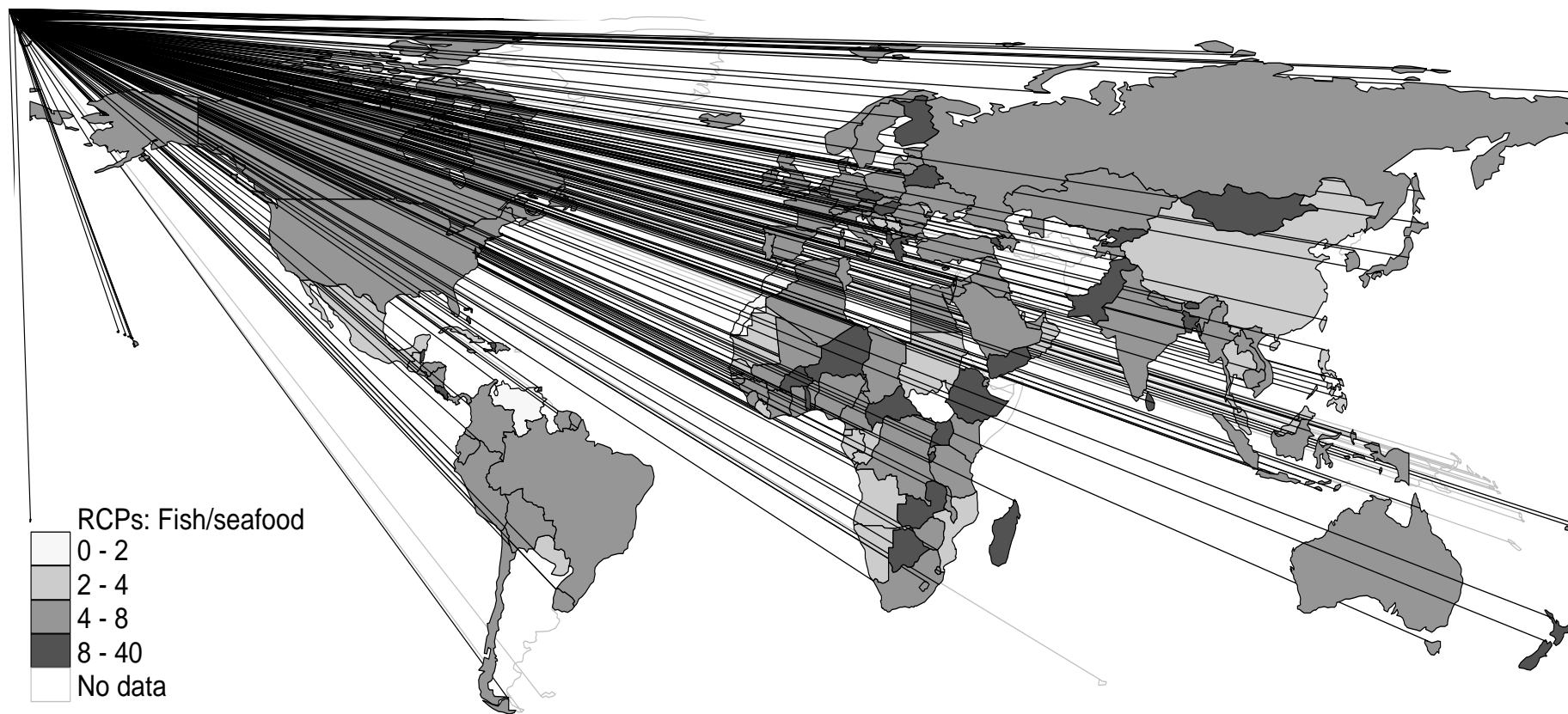
Prices of Eggs Relative to Staples



Prices of Milk Relative to Staples



Prices of Fish Relative to Staples



ASF Prices Affect Stunting

WHO stunting regressed on ASF prices & stunting across ~100 countries
 Adjusting for GDP p.c., urbanization, education, women's empowerment, sanitation

	Milk RCP, logged	Egg RCP, logged	Meat/fish RCP, logged	Infant cereal RCP, logged
<u>Unadjusted model</u>	12.53*** (9.68,15.38)	11.60*** (8.21,14.98)	9.70** (3.64,15.75)	11.36*** (8.33,14.39)
R ²	0.44	0.33	0.10	0.38
N (countries)	101	101	101	95
<u>Dairy results are easily the most robust to alternative dependent variables & specifications</u>	4.79*** (2.02,7.56)	3.34* (0.42,6.26)	0.48 (-3.52,4.49)	3.14* (0.28,5.99)
R ²	0.75	0.72	0.70	0.72
N (countries)	101	101	101	94

Prices of Fruits and Vegetables

Vitamin A rich fruits and vegetables are also relatively expensive globally.

The analytic approach used, however, is not well targeted to address seasonal availability and attendant price variability

With well developed value chains seasonality is mitigated by storage and transport

This hints at the double edged evidence on expansion of supermarkets

- They have the potential to increase availability of perishable fruits and vegetables

- However, studies also point to their contribution to obesity

In contrast, many foods that are empty calories are easy to transport and store and are relatively inexpensive.

Relative cheap sugars, sugary beverages, and vegetable oils contribute to obesity, a rising concern and part of the dual burden malnutrition.

For example, a one standard deviation decrease in soft drink prices predicted a 3.9 percentage point increase in overweight prevalence

Prices of Sugar Relative to Staples



Conclusion

Getting prices right was a credo for development economists when government induced distortions harmed producers

Many of the most egregious barriers and distortions have been dismantled

But more subtle distortions – such as a focus on calorie availability in past CGIAR research – have a remaining legacy that influence the ability of the poor to purchase diverse and adequate diets.

As indicated, relative food prices vary systematically across countries and partially explain international differences in the prevalence of undernutrition and overweight. Future agronomic research as well as infrastructure investment could influence relative prices to achieve better dietary and nutrition outcomes

Further Information

Headey, Derek and Harold Alderman. The relative caloric prices of healthy and unhealthy foods differ systematically across income levels and continents. Journal of Nutrition. 149(11): 2020-2033. 2019.

<https://academic.oup.com/jn/article/149/11/2020/5535433>