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2020

Food Policy: Stability, Sustainability, and Safety

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CHAPTER 8

Food Policy: Stability, Sustainability, and Safety

Everyone needs to eat, and eat well, as it is essential to the process of slowing down the pace to and time of our death, the point of maximum entropy for each person. As a result, it is perhaps the best example of the need to seek one's Self-interest. It also puts us in the position, however, to more easily Empathize, walk-in-the-shoes of someone who may not have enough food, or the best kind of food, and help in forming a shared Other-interest, too. As a result, we might choose to support, with our tax money, some kind of a Government program like the US Food and Drug Administration to ensure food safety; the US Department of Agriculture (as well as fund public research, teaching and extension services, associated with the public US Land Grant Universities), to help keep the supermarkets full, through a strong scientific base for food production; and, the US Natural Resource Conservation Service to help sustain soil, water, and other Spaceship Earth Systems working in the background of the food production and supply system, to list a few.

The shared Other-interest in food might also result in seeing the need to provide background support for the profitability of agricultural producers, to ensure that food supplies are forthcoming and stable over time. It is in our shared Other-interest with the farmers to ensure a viable, stable agricultural production system. There has been a long history in the US, starting especially in the 1930s, about the extent to which Government is to be involved in the agricultural Market system, reflecting the shared Other-interest in food. We now explore several of the different kinds of

shared Other-interest; it becomes clear that food production is about far more than just the Self-interest represented in the payoff from producing and eating it.

STABILITY: SUBSIDIZING CROP INSURANCE

One of the key programs is federal crop insurance. Calamities in growing crops generally are hard to predict, involving such things as drought, floods, crop pests and disease, windstorms, and other natural disasters. As a result, it is virtually impossible for private insurance companies to survive, because of the generally wide-spread disaster when it does occur: While said companies could offer insurance, the premiums would have to be so high that few farmers could buy it. Yet, it is especially desirable from the consumer perspective to ensure the survival and continuance of the agricultural production sector through such events. The result has been a heavily subsidized federal crop insurance program, with farmers still buying the insurance from private companies. As Metaeconomics would suggest, it is about finding a balance in private&public-insurance by which we achieve stability in the food supply.

Stability in food supply is also ensured by the sharing of costs for research and development about food production and nutritional needs, which is also a matter of the shared Other-interest. It is a major reason that, historically, there was substantial federal and state commitment to providing funding of food-related research in the US Land Grant University of each State. Said budgets have been cut back drastically. One wonders what the politicians (and the constituents who vote for them) who cut public research budgets for food research are thinking? Metaeconomics analysis would likely show there is a clear Other (shared broadly across the entire set of Travelers)-interest inherent in the public research related to food. Metaeconomics would likely suggest it is impossible to justify the rationale of the politicians and their supporters who oppose public-funded research. Metaeconomics would also likely suggest that a Market-only approach, that is, private sector research, only, would be inadequate to the task of providing an adequate and stable supply of food. Empirical questions.

Also, it seems to have been missed that the empirical reality is: Most of the agricultural scientists are educated and trained in public universities, in the US Land Grant Universities, so just, who exactly, is going to do the research in the private universities and private companies when the

budgets of the public universities are cut? Empirical questions, with the Metaeconomic answers likely to be that there needs to be good balance in private&public-research and education.

SUSTAINABILITY, THROUGH EMPATHY CONSERVATION

A close relative of stability pertains to that of ensuring a long-term, sustainable capability to produce food. It is about being a virtuous farm, ensuring “the goods and services... are of value to the community... and the resources ... are used wisely” while seeking and providing reasonable profits consistent with sustaining the farm financially (Hirschfeld 2018, p. 137). Farming needs to be done in such a way as to not mine soil and not to pollute or otherwise waste the water. Historically, said sustainability has been helped by Government efforts to bring about soil and water conservation, going back to the 1930s. The 1930s were a time in which there was widespread drought, with huge soil loss, in the infamous dust belt area of the US. It was also a time of severe poverty in the agricultural production sector caused not only by extremely bad weather conditions but also by inadequate Market prices, reflecting a great deal of bad capitalism at work.

The situation had evolved into inordinate power in the banking industry that provided capital to farmers; monopolized food transportation (mainly railroads in that time), food processing and manufacturing; and, considerable concentrated power in the larger grocery stores. There was massive Market-failure to address both long-term sustainability and the short-term reality that farmers were nearly destitute.

So, there was a growing, felt need to use Government to move a larger share of the wealth to the farming sector, to do something about the poverty, as well as ensure sustainability of the food system. A shared Other-interest evolved in keeping producers operating within a truly Sustainable Spaceship Earth system, such that a continuous supply of food would find its way into the stores.

Yet, there was inadequate agreement in the US Congress, and US Administrative branch, and perhaps in society in general, about the extent to which agricultural producers should be subsidized. It was considered “socialism” to provide Government payments to (even if destitute) agricultural producers. So, to get around the stigma associated with the “socialism” framing, it was decided to make direct conservation payments to farmers for taking care of soil and water systems, and the agricultural

land in general. By paying farmers to do a better job of managing soil and water, and farmland in general, it would ensure a stable food supply in years to come. Buying soil and water conservation also meant it could be framed as in effect buying a Good in the Market without handing out money in the Government/Socialism frame.

The shared Other-interest changed content. That content reflected a new moral and ethical community, one that saw it legitimate to make conservation payments to farmers from general tax revenues. The new shared Other-interest also, reflecting said shift in value V , in effect asked everyone to join in paying the price P of a more sustainable food supply. A new balance in Market&Government emerged regarding soil and water conservation.

Early Intrigue with Drivers in Farmer Soil and Water Conservation

As might be imagined, the fact that Government had been involved in buying soil and water conservation effort by farmers going back to the 1930s had led to a substantial research literature by the late-1980s on what motivated adoption. We set out to contribute to that literature.

Our first study applied the framework of the NeoClassEcon, as represented in Production Microeconomics. To our dismay, the best we could do was to explain 15–20 percent of the variation in conservation choices (Lynne, Shonkwiler, and Rola 1988). Something substantial was clearly missing in Neoclassical-based Microeconomics, which turned out to be the exclusive focus on Self-interest. Neoinstitutional Economics did not work, either, even though the emphasis on what we eventually came to call the Other-interest was found as a major force. The problem was that the NeoInstiEcon had no way of connecting the Other-interest to the Self-interest being expressed by farmers: There was no coherent, integrating theory.

The empirical and theoretical shortfall of both Neoclassical and Neoinstitutional Economics became especially apparent in homogeneous farming communities. In said communities, essentially the same seed, chemical and machinery technologies were available to all the farmers, who were all similarly educated to the best farming practices, and who were all farming similar quality land. Profit opportunities through the Market were in effect identical for everyone, and Government prices paid for conservation were the same. Self-interest-based maximizing profit

(and utility) should have led to the same mix and level of conservation practices.

Instead, the earliest Metaeconomics-based look, which is what we eventually called it, at reality showed tremendous variability in the behavior of real farmers. So, what was going on? It did become clear that it had something to do with the shared Other-interest at work in said communities, as suggested by Neoinstitutional Economics. Somehow the community (again, what we eventually call the shared Other-interest) was conditioning the Self-interest, albeit Neoclassical Economics did not address it, and had no way to address the linkage if it did.

In the first study we did (Lynne, Shonkwiler, and Rola 1988), it became obvious that Conservation attitudes varied widely within otherwise homogeneous farming communities, again, including even the attitudes toward Self-interest only profit (and the utility it could buy). Profit seeking was a driver, but the degree to which it was being pursued was found to be highly variable. Not every farmer, indeed, just a very small percentage, were profit maximizers as presumed in Neoclassical Microeconomics. It had become clear, in what would be called Metaeconomics, it was not the only driver at work. One also could not think in terms of farmers choosing conservation “as though they were profit maximizers,” a common approach in Neoclassical Economics, obviating the need to go find out what farmers are really doing. In addition, it was found that Conservation Norms, a close relative of what Metaeconomics eventually represented as the shared Other-interest, again, the community, also played a substantive role but also did not explain much of the variation by itself.

A breakthrough of sorts came in the Lockeretz (1990) paper. A review of the conservation literature to that date showed clearly that the theoretical framing being used to understand farmer choices in soil (and water) conservation was rather ad hoc. And, the answer to the question in his title “What Have We Learned About Who Conserves Soil?” (and, highly related to it, the water) was simply “Not much.” In fact, regarding the lack of a coherent theoretical framework, the NeoClassEcon conservation researcher would often insert sociological kinds of variables, without theoretical justification. Why? Well, we can only surmise it was because of the frustration arising in the reality that Microeconomics did such a poor job at explaining conservation choices. So, why did they, the Microeconomists, persist in using what looked to be a flawed theory at explaining what is really going on?

Similarly, the SocioLogic and NeoInstiEcon would sometimes allude to the power of price in the Market, and profit seeking, in enhancing their favored framing. Yet, they generally would not insert said variables into their largely Other-interest frames. We showed in Lynne and Rola (1988) that doing so, inserting Microeconomics suggested variables into the widely used, in SocioPsych framing, the Theory of Planned Behavior, gave substantive improvement.

It started to become clear that a framework and theory was needed that integrated the best notions from both the NeoClassEcon and NeoInstiEcon Isles (recall Table 2.1). And, it worked: In a nutshell, we finally figured it out. Integration across the frames and theories was not only needed, but shown to be possible. The entire story of how it was done, in substantial detail, is in Lynne et al. (2016). The following is a brief overview of it.

Early Testing Led to Proposing the Overlapping Isocurves of Conservation

The first breakthrough came in the early-1990s, arising out of the jointness framework from Frisch (1965). Lynne (1995) proposed for the first time (as far as could be found, based upon an extensive research of the economics literature, albeit Ainslee 1986, had alluded to the possibility) overlapping isocurves as in Fig. 8.1. It was first proposed in Lynne (1995, p. 75) that farmers pursue I-utility as represented in the Self-interest-oriented possibility I_G set of isocurves, and, at the same time, pursue We-utility as represented in the I_M set of isocurves. Notice too how the proposal identifies the impossibility of separating the two payoffs, with I-utility and We-utility occurring at every place in the space, such as at points A , B , and C . It also became clear that efficiency took on a new meaning, now defined in the area bounded by path OG and path OM .

Empirical testing of the proposition rested on arguably the most empirical science of such things, as represented in social psychology, as practiced by the SocioPsych. It was clearly demonstrated in the Lynne (1995) paper that including measures of both I-Utility (attitudes) and We-Utility (norms) in the model improved the capacity to explain variation in farmer soil and water conservation behavior. Interaction terms would also be shown to be needed, as represented in attitudes&norms, a precursor to Self&Other-interest framing. Utility in both domains was viewed as cardinal, so utility had to be measured, or at least some proxy found for it. It was demonstrated that the level of utility, in both domains, jointly drove

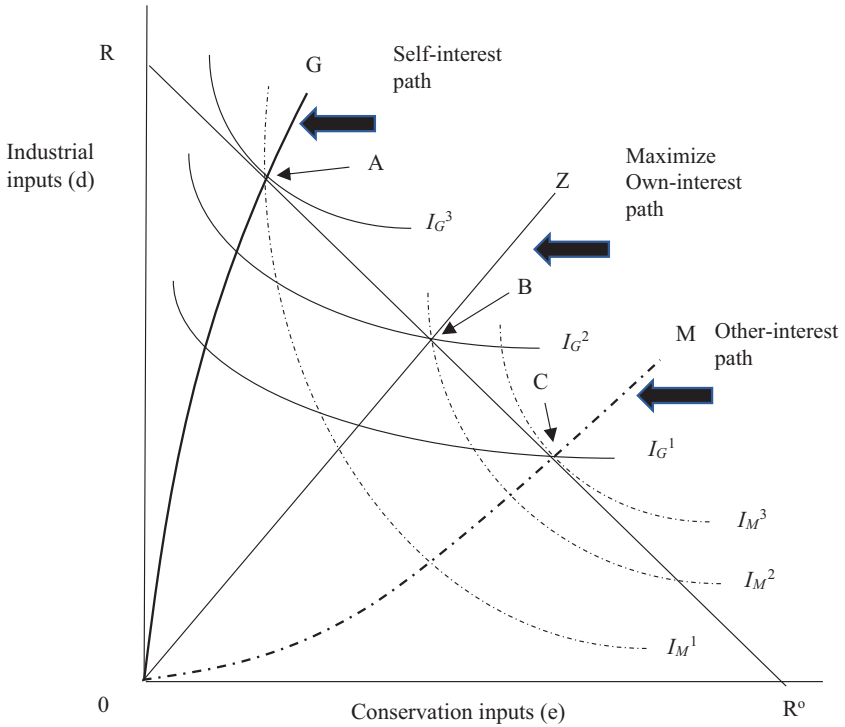


Fig. 8.1 Industrial inputs (d) joint (nonallocable) with conservation inputs (e) to produce a market product in the self-interest (I_G) and a non-market environmental production in the other-interest (I_M). (Source: Author's creation)

the amount of drip irrigation technology installed in Florida strawberry fields.

Lynne et al. (1995), Lynne and Casey (1998), Casey and Lynne (1999) continued to apply and refine the methods developed by the SocioPsych to measure utility, focusing on expected utility. The methods developed by the SocioPsych were adopted (see especially Lynne et al. 1995) to measure attitude as a proxy for the expected utility related to Self-interest, and for measuring the Social Norm as a proxy for the expected utility related to Other-interest. The effort also started to consider the role of Self-control, as an influence on economic choice (Lynne et al. 2016, p. 263). It also started to become clear that conservation choice involved balance in the

I&We-utility, and by the end of this set of research, balance in the Self-&Public-interest. We had not yet developed the notion of an Other-interest, but the notion of an Interest rather than that of utility was emerging.

Lynne (1999) took another step in the direction of Other-interest, now speaking of the balance in I&We-interest. Also, it was in Lynne (1999) that the phrase Metaeconomics was first associated with the idea of dual interest, and that economic choice was about pursuing the balance. It was about maximizing Own-interest, composed of that balance. It was also proposed for the first time that altruism was about sacrifice in both the I-interest and the We-interest. A breakthrough idea was that one could maximize the Own-interest while sacrificing in both domains. Indeed, it was clarified that maximizing Own-interest inherently meant sacrificing in both domains. The paradox of self-sacrifice only vanished.

Siles et al. (2000) provided more empirical evidence that something akin to a shared Other-interest, described therein as Social Capital, was a major influence in farmland markets. It was not just in conservation. The price P of farmland was influenced by the shared value V represented in the community surrounding that Market trade, the Social Capital influencing the Private (farmland) Capital. Cordes et al. (2003) also showed the key role of Social Capital in rural community resilience and development, again the norm, which is represented in the shared Other-interest. It was also demonstrated in Zhang and Lynne (2016). Cutforth et al. (2001) further confirmed the role of social norms in influencing the diversity of crops and livestock on farms. Said norms represent another way to think of both social capital and the shared Other-interest. By the time of Lynne (2002), the notion of a shared others-interest (notice the “s”) was starting to move toward what would eventually be the shared Other-interest.

It was now recognized there were likely many of said kinds of Other-interest, perhaps in overlapping sets, influencing the Self-interest. It also came to be realized, after considering Nelson (1991), that the NeoClassEcon claim that only Self-interest was at work in economic choice was only weakly supported in empirical science. Self-interest only is instead primarily a theological and ideological claim (Lynne et al. 2016, p. 264). Among those of us who became the MetaEcon, we started to ask our NeoClassEcon brethren to “show me.” Show the MetaEcon, with solid empirical testing, that only Self-interest is the driver in a real Human. Generally, the request could not be satisfied, as testing is not generally part

of the NeoClassEcon claim, at least not in the arena of soil and water conservation, and other research on sustaining Spaceship Earth Systems.

While the relationship with Ego and Empathy had already been suggested, going back to Cory (1999) and Lynne (1999), the proposition was more fully developed as the Ego’N’Empathy idea in Hayes and Lynne (2004). It suggested the new framework and theory about I&We, Self&Other, and, more fundamentally, about an integrated Ego&Empathy, be placed at the core of the emerging field of Ecological Economics. The latter sees inherent interdependence, in that the economy is seen as embedded within the Spaceship Earth System (Gowdy 1984; Daly and Farley 2011; Hayes and Lynne 2013; Lynne et al. 2016, p. 264).

It had it come to be realized that Metaeconomics could now be formalized. Mathematical Consumption Metaeconomics was developed in Lynne (2006a; essence of it in Appendix A herein). Mathematical Production Metaeconomics was developed in Lynne (2006b; essence of it in Appendix B herein). A couple of major conclusions came out of that effort. First, the formal derivations in Lynne (2006a) demonstrated that it is essential to abandon the NeoClassEcon contention that utility is ordinal; utility has to be viewed as cardinal, and has to be measured, in that it does not just “drop out” of the mathematical formulations. Second, the formal derivations in Lynne (2006b) demonstrated that the NeoClassEcon contention that all production was independent of every other kind of production had to be abandoned: Production, by being embedded in the Spaceship Earth System, always had an Other-interest component. We are all Travelers on the same Spaceship, a system governed by 1st and 2nd Law of Thermodynamics. Perhaps most importantly, Metaeconomics had matured enough to give a way to consider Self&Other-interest choice in a specific way, through the concise language of mathematics.

Also, by 2008 or so, Metaeconomics had been moved away from the other-interest as being a kind of Empathy-altruism phenomenon. Sautter et al. (2011) made it clear that Metaeconomics posited an Ego-based Self-interest and an Empathy-based Other-interest (Lynne et al. 2016, p. 264). The influence of Other-interest in farmer choices of environmental technologies (e.g., an anaerobic digester) was also confirmed in a couple of other tests at about the same time, by Chouinard et al. (2008) and Bishop, Shumway, and Wandschneider (2010).

The next major breakthroughs came in Sheeder and Lynne (2011). It came out of the realization of the strong connection between empathy, compassion, and ethics, after Solomon (2007), and how to bring the

insight into the Dual Interest Theory. It led to the idea of staging: Mindfulness on the part of the farmer of possible downstream (both physically and temporally) effects, leading to Empathy, to “walking-in-the-shoes of the downstream entity.” The next step would involve sympathy, arising from asking “how would I wish to be treated if in that situation.” Finally, there would be the possibility of compassion, leading to action to do more soil and water conservation onsite, on the farm. The pieces of the puzzle converged: Empathy sympathy (which gave rise to ethics shared widely) compassion, and, then, tempering of the Self-interest.

Also, while the idea had been proposed in Sautter et al. (2011), it had also become clear that Self-interest was likely a more primal driver. The Other-interest was now viewed as more about nudging the Self-interest (in the Market), or, bounding and otherwise regulating and restraining (with Government) when nudging failed (Lynne et al. 2016, p. 266).

So, where did it all lead? Specifically, referring to Fig. 8.1, similar to Figure I in Sheeder and Lynne (2011, p. 437): Metaeconomics suggests that while producing more marketable agricultural product (e.g., field corn) at point A gives more profit, it also produces much less of the environmental product (e.g., wildlife), as represented at level I_M^1 . In fact, if the Other-interest were maximized, level I_M^3 would be achieved, but with much less corn represented in I_G^1 . The best, rational point is B with corn at I_G^2 and wildlife at I_M^2 : It is the point of maximum Own-interest, with sacrifice in both domains of Interest. We might say the farmer has to “give a little” in both domains in order to “gain a lot” overall: It is efficiency at work.

Another breakthrough in Sheeder and Lynne (2011) was the recognition of a Higher Plane of interests represented in the value V (see Lynne et al. 2016, p. 266), the wants about wants, and the meta-references idea. The relationship between the dual interests is represented in the space of a Production Possibilities Frontier, and the Higher Plane of value V . Using Fig. 4.2 for the purpose, think of it now as representing produced outputs rather than consumed goods. We move along RR^0 in Fig. 8.1 to produce the Possibilities Frontier in Fig. 4.2, but now think of the Self-interest axis I_G representing the product (field corn) grown for profit while the Other-interest axis I_M represents, again, some environmental possibility like more wildlife, or enhanced atmospheric (e.g., lower carbon) quality. Again, maximizing profit suggests Point A outcomes; maximizing environmental quality, shared with others, serving the shared Other-interest, is represented at Point C . Experience will generally suggest that neither is best:

The best place to be is where we sacrifice a bit in both domains, with the outcome more sustainable through time, as represented at the maximum payoff of the joint interest at point *B*.

Notice, too, how the Higher Plane of Value *V* represented at point *B* in Fig. 4.2 now influences the ultimate choice at point *B* in Fig. 8.1. Selecting point *B* in Fig. 4.2 says the higher environment value *V* (more wildlife produced, in general, more biodiversity) also influences the price *P* of the product (field corn), that is, $V \rightarrow P$, and, $P \rightarrow V$, and, possibly not commensurable. The *V* can easily be priceless.

So, looking back, the intriguing empirical question over the years of the research program was one about where all the farmers landed in the spectrum. It might reasonably be expected that some would likely be found at *A*, others at *B*, and still others at *C*, dependent upon the influence of the Other-interest on their economic choice. The choice would also be influenced by higher values *V*, such as doing the right thing by having a few more wildlife in the corn fields, which could serve to override the influence of the price *P* of corn from the Market. As expected, we found huge, substantive, lots of variability in actual conservation choices. Such findings also led to asking, too, if we wanted to nudge farmers, with Government policy and programs, to move toward path 0M, point *B* choices, what would be the best way to accomplish it?

Clearly it would not work to apply a “one size fits all approach.” The answer depended on the starting point of the farmer being nudged, with quite different programs needed if at point *A* or *B* or *C*. And, as always, it was about finding the best balance in Market&Government.

Experimental Laboratory Tests Continue to Confirm Dual Interest

In order to further confirm whether Metaeconomics worked better or not, it was decided to also do testing under controlled settings. We developed the Experimental and Behavioral Economics Laboratory at the University of Nebraska-Lincoln.

Findings under controlled, laboratory conditions include the following, examining a wide array of conservation and sustainability related behaviors, not just soil and water conservation:

1. In a carbon offsets trading experiment, participants could sell carbon offsets to an environmental organization, who would retire the offset, in effect reducing the carbon load on the atmosphere. Or, they could sell the offset on the market, which maintains the current level of carbon load, except to the extent that people selling the offset would not normally be able to do so unless they first reduced their own contribution to the load. Strong support was found for Metaeconomics on three fronts (Ovchinnikova et al. 2009, pp. 227–228):

First, subjects in the experiments demonstrated overall tendencies to seek balance within their Own-interest as between the egoistic–hedonistic pursuit of material gains and the empathy–sympathy based pursuit of shared Other-interest as reflected in providing an environmental good. Second, subjects were willing to sacrifice more in one domain or the other as they oriented and reoriented their interests in going through the various phases of each experiment, giving new meaning to the notion of altruism, as metaeconomics proposes. Third, by stirring their thought processes in the priming and the psychological questioning, we stirred rational consideration and reconsideration, moving choice out of the domain of only intuition-based habitual behavior, within which the pursuit of Self-interest is likely more primal, as the play of the experiment evolved. By stirring thought, this Self-interest is tempered and conditioned by the consideration of shared Other-interest, leading to a truly rational choice.

2. Follow-up experiments (Czap and Czap 2010, 2011) added the option to donate the offsets to the environmental organization, who then retired same; the experiments gave additional support:
 - (a) 10 percent took the option of donating options, even when prices that could be received for selling the offsets were increased: “the participants consider donations as something that they ‘ought to do’ regardless of the income that they are getting from other (selling) activities” (Czap and Czap 2010, p. 2038), suggesting pecuniary and non-pecuniary domains of interest are not subject to a simple trade-off.
 - (b) Changing the prices for offsets did influence the selling choices as between the environmental organization and the offsets Market, suggesting that Self-interest also conditions and otherwise influ-

ences the Other-interest, if both are in the pecuniary domain (both have Prices).

- (c) Decisions to join in the shared Other-interest, environmental cause were stirred by people who first start moving more offsets to an environmental organization (Czap and Czap 2011); Other (shared with others)-interest can be nudged by people already in the cause.
3. Czap, Czap, and Bonakdarian (2010) measured the level of Empathy, and probed into the matter of contributing to the provision of public goods, finding:
 - (a) The degree of Empathy is the important driving force behind the shared Other-interest in a common cause.
 - (b) Locus of control and past contributions (i.e., habit, represented in longer standing shared Other-interest) are among the most important determinants of current behavior.
 - (c) More empathetic people are more likely to engage in a new Other-interest, to “join the cause” of providing a public good.
 - (d) People will contribute more in the Other-interest when it reflects a true public (i.e., nonexcludable) good than an excludable public good, suggesting they are more likely to join in sympathy with goods they cannot freely opt out of being affected by the outcomes; having less freedom to affect outcomes results in more voluntary engagement in the shared Other-interest of the common, truly public good, suggesting another dimension of control and Self-control, with control a main focus of Metaeconomics.
 4. A series of downstream water pollution experiments were conducted, relating to upstream soil and water conservation efforts, keeping soils from eroding (and, related thereto, keeping chemicals and fertilizer from entering downstream waters), with substantial support for Metaeconomics as follows:
 - (a) A one-unit change in Empathy (as measured on the Likert scale) leads to an increase in conservation effort by 3.3–9.5 percent depending on the model, which is quite substantial (Czap et al. 2012a).
 - (b) Empathy framing works in nudging people toward more environmentally friendly behavior; an Empathy frame caused upstream farmers to allocate on average 47 percent of their land toward conservation, while in the Self-interest frame only 19.6 percent.

Metaeconomics would propose that Empathy tempers Self-interest, which is confirmed by the finding.

- (c) Farmers on the river who also drew water from the river for drinking purposes gave strong evidence for the balancing of Self&Other that Metaeconomics predicts is essential. Such farmers (experimental participants in the role) did the balancing to a substantial degree, no matter which framing was used: They allocated 45 percent and 39.2 percent of their land for conservation in the Empathy and Self-interest treatments, respectively. The group, as designed in the experiment, had to “walk-in-the-shoes-of-others” and they indeed chose to give up a significant share of their potential profit even when nudged to look for their Self-interest.
- (d) Emotional feedback was examined in Czap et al. (2013b) via players being able to send smiley ☺ and frowney ☹ emoticons to other players. Several findings support Metaeconomics, and especially the finding that the expression of the frowneys by the downstream water users was quite effective in moving the upstream farmers toward giving up some of their profits in favor of the downstream users. Passing on the negative emotions resulting in evoking Empathy in upstream farmers and stirred the Other-interest in better quality water for everyone.
- (e) Follow-up studies compared the effectiveness of inducing conservation by imposing a fine for non-compliance (Czap et al. 2012b, Czap et al. 2014) and the assignment of property rights to the downstream water user (Czap et al. 2013a, 2018b). In both approaches, participants chose levels of conservation close to the shared optimal level, with inducing Empathy working better for achieving more equal profit distributions than imposing a fine (Czap et al. 2012b). Intriguingly, as Metaeconomics predicts, imposing monetary fines was found to be counterproductive: Fines lowered conservation levels, while not affecting sharing. In contrast, Empathy nudging increased sharing behavior but did not significantly affect conservation (Czap et al. 2014). Assigning the property rights to the downstream water users led to more sharing (Czap et al. 2013a, 2018b). Overall, Metaeconomics suggests that Empathy nudging would be more effective than fines, that is, encouraging people to temper their Self-interest, rather than to punish (fine) them for not doing so.

- (f) Continuing the conservation behavior testing, Czap et al. (2015, 2016) examined four alternative conservation policy designs: financial incentives through a crop insurance subsidy given regardless of conservation nudging; crop insurance subsidy associated with and used to directly nudge conservation; and, Empathy nudging with each of the subsidy cases. Intriguingly, as Metaeconomics would predict: “only the combination of increased pecuniary incentives (appealing to the egoistic-hedonistic self-interest) AND nudging for empathy (appealing to other (shared ethic)-interest) is effective in achieving more balanced, more rational decisions, providing financial/environmental gains to upstream farmer as well as downstream water user” (Czap et al. 2016). Other Behavioral Economics studies have given similar outcomes: Financial incentives matter, but money isn’t everything (Altman 2012, loc 1731), as the Other-interest framing and influencing the pursuit of Self-interest makes clear.
- (g) Czap et al. (2015) also found that no matter the current level of conservation, financial incentives focused on the Ego-based Self-interest are far more powerful and effective in inducing more conservation when combined with Empathy nudging.
- (h) Gender also makes a substantive difference, in contrast to NeoClassEcon contentions that male and female preferences are essentially identical (Altman 2012, loc 5113). In general, the differences arise in the Other-interest, with Empathy playing a larger role in females than in males (Czap et al. 2014; Czap et al. 2018a).

Bottomline: The empirical testing going back to the late 1980s suggests the missing variable in the conservation research literature, and the reason, again, sorry, Lockeretz (1990) said “no, we do not know why farmers conserve soil (or water):” The reason is in not seeing Empathy. As we have perhaps indicated too many times, but it is extremely important: It has also been emphasized in Brown et al. (2019), as relating to all manner of environmental and sustainability issues. So, overall (also, see Reimer et al. 2014; and for overall implications for conservation policy, see Czap et al. 2018c):

1. The notion of “Empathy Conservation,” as part of good capitalism, has emerged, that is, the empirical evidence on what drives conservation choices historically had missed the role of empathy-sympathy, the

resulting compassion that leads to action. The focus is on tempering Self-interest, especially the excessive Greed associated with moving to a state of a Tragedy. Another way to say the same thing: Historically, researchers had missed the role of the moral and ethical dimension (both arising out of Empathy) in producing a shared Other-interest in conserving resources, and avoiding the Tragedy driven by excessive Greed.

2. The empirical testing also provides substantial support for Metaeconomics and little support for Microeconomics, except for a rather small proportion of the population. That is, Microeconomics represents the people who operate on Self-interest only, which at most is likely about 15–20 percent of the farming population, or, overall, on average every farmer operating more strictly in the Self-interest frame only 15–20 percent of the time, albeit the question also needs more empirical assessment. Specifically, point *A* (or, perhaps even point *R*) is the only choice possible under a Neoclassical Microeconomics analysis, and it occurs only 15–20 percent of the time. Testing continues.

Specific Conservation Programs

Metaeconomics makes it clear that one size does not fit all. Also, Metaeconomics helps makes sense of why various approaches that have been used work, or do not work.

Importantly, if Self-interest is left to its own, while listening to the Neoclassical Microeconomics claims that it is only about the money, we arrive at point *A* in Fig. 8.1 with lots of corn but little to no wildlife and other environmental products. Clearly it would not be efficient, in that when asked, both farmers and consumers would likely support having some wildlife traveling along with us on the Spaceship? Also, most farmers and consumers would like value *V* keeping carbon emissions within the limits of what the Spaceship can hold and process? So, what do?

Neoclassical Microeconomics pointing as it always does, implicitly, to pure capitalism (everything privately owned) would call for creating private property in the wildlife (and/or the capacity of the atmosphere to process carbon), with said owners then negotiating with the farmer. The owners of wildlife would pay the farmer the price *P* for having wildlife in the fields. We would see a price *P* evolving for both grain and wildlife, which theoretically could result in the efficient choice at point *B* in

Figs. 8.1 and 4.2. It is theoretically possible that the slope of the value V in Fig. 4.2 could be the relative price of wildlife and corn: Theoretically. The problem is, how would you establish private property in wildlife that would be allowed to freely wonder through corn fields? Minor issue, we might suppose, for a NeoClassEcon.

The fact is, Microeconomics by seeing only a single interest at work, does not even have the I_M set of wildlife production curves in the analytical lens. It is about corn, not wildlife. So, Microeconomics does not deal with the reality that most farmers and consumers are Human, and may indeed have Empathy with wildlife (and with other systems on the Spaceship), all generally ignored by the Econ. As one farmer asked, during a focus group styled research meeting, oriented to designing a questionnaire: “So, you are trying to figure out what turns my crank?” Answer: Yes. And, the Metaeconomics testing shows that it is about what turns the crank of a Human, not just the Econ.

Seeing farmers and consumers as Human, Metaeconomics might point, empirically, to offering some Government programs and not just use the Market. Metaeconomics is not ideologically bound to not including Government in a good mix with the Market. Metaeconomics would see it as efficient to offer payments to farmers (reflecting the value V reflected in the shared Other-interest between farmers and everyone else), to provide for some wildlife habitat on their farms with point B outcomes.

More specifically, given enough political attention to the problem (and the willingness to pay the price/taxes by hunters and bird watchers to produce the money for the farmer payment), the Government could in effect reflect the value V of wildlife relative to the price P of corn. With payments reflecting shared value V , the farmer might shift a bit toward path OM , perhaps moving to path OZ , and arriving at point B . In fact, if the payment for wildlife habitat is high enough, overall profits coming from the price&value-payments could be identical at both points A and B .

Another scenario also suggested as an empirical question by Metaeconomics would have the Government require, mandate wildlife production, without any financial compensation, at point B or perhaps even at the extreme point C . Profit would be considerably less, with hunters and bird watchers having a “free ride” while the farmer pays all the cost. Farmers would likely not be pleased, either, as liberty and freedom have been sacrificed for wildlife production. Metaeconomics encourages

freedom and liberty, free to choose within context, in a liberal and humane democracy-based capitalism-based outcome at point *B*.

Notice, too, that in the Metaeconomics styled analyses and policy, wildlife and other Spaceship Earth Systems are retained as a public property, with the Government reflecting the value *V* of that property. Private property is respected in the farmer using the land to produce corn. Public property is respected by asking both farmers and consumers to pay a bit more in taxes, now reflecting the value *V* coming out of the Other Forum of Government.

The reality since the 1930s, here in the US, has put farmers and consumers into all three Metaeconomic frames. Government has been operating to represent the overall shared Other-interest along path 0M and using tax dollars/prices to in effect pay for more wildlife, funneled through the US Farm Service Agency, to bring about point *B* outcomes. We have also explored mandates/controls, as in conservation compliance to receive crop subsidy payments. Government, through the US Natural Resource and Conservation Service and the US Cooperative Extension Service, has also engaged in nudging farmers through technical support and educational programming to become conservation farmers.

Microeconomics approaches simply do not work: In fact, turning it too much into a “money game” tends to cause farmers to want even more money. Farmers move away from any semblance of a path 0M within: The Econ stops empathizing with wildlife. Metaeconomics-based Empathy Conservation does work, as already confirmed by historically, reasonably good balance in Market&Government in the conservation arena of agriculture. To make it even better, add more Empathy.

SAFETY: GMO AND CORONAVIRUS

The fact that the Coronavirus likely is a crossover from the lower animals into the human animal led to wild speculation in some quarters about crossover genes, orchestrated in a laboratory, as in a Genetically Modified Organism (GMO). Conspiracy theory, anyone? It appears to have no basis in scientific reality (Conrow 2020). Another matter also came to the fore: The Wet Markets in China may have contributed to transmission of the virus, SARS-CoV-2, from animals to humans. So, as a result, some have called for said markets to be immediately shut down (recall Kling 2019, and Conservative barbarism), completely, while others welcomed (recall Kling 2019, and Libertarian liberty, as well as, ironically, Progressive stopping of the oppressors) the reopening (Fickling 2020). Metaeconomics helps clarify.

Clearly a Shared Other-Interest in Food Safety

On the matter of food safety, Metaeconomics suggests that Empathy already plays a substantive role in bringing Government into influencing the safety of food supplies in the Market. Examples include the US Food and Drug Administration to assure safety and the US Department of Agriculture to monitor and recommend nutrition needs for the population. Both food safety and nutrition respond to the notion that “walking in their shoes, I would want a safe and nutritious food supply” for not only myself but for everyone else. A safe and higher quality, nutritious diet ensures longer lived people, a more productive population. So, while it is in the Ego-based Self-interest to eat whatever one wishes, it is in the Empathy-based shared Other-interest to eat safe food and follow dietary guidelines developed by Government agencies. It would be beneficial if everyone helped pay the price P to support agencies, which have a value V . It is the case that one wants the shared Other-interest to temper and otherwise restrain food producers from providing less than safe food products that are not sufficiently nutritious to ensure long lived, sustainable populations.

A specific case in point, regarding food safety, revolves around the matter of food produced using products coming from a GMO, for example, a tomato with a fish gene in it, that makes the tomato more cold hardy (plants less likely to freeze and be killed in a cold snap). Another example: A corn plant resistant to corn borers, or another corn plant that will not be killed when sprayed with an herbicide while the weeds working to out compete the plant for fertilizer and water will be stopped. Groups having joined in sympathy with the contention that GMOs are somehow not safe have also joined in the shared Other-interest in reducing the amount of GMO foods produced and sold. Suppliers have responded, with many food products labeled, and, indeed, marketed to people with the shared Other-interest, as “non-GMO.” Intriguingly, there is essentially no scientific evidence linking GMOs to any kind of health issue, so what is going on?

Microeconomics can only see “irrational” behavior, in that GMO food prices P are generally lower, since yields, the amount produced, can be increased significantly with GMO plants and animals. Metaeconomics, in

contrast, can easily explain what is going on, and, also, suggest ways to address and arrive at a resolution of the GMO question.

Through recognizing there is an Other-interest to be considered here, a moral dimension, alternative moral community, as it were, Metaeconomics suggests at least two considerations. First, if people avoiding GMOs are concerned with health issues, it appears to be completely unfounded, based on the science, so, an educational program showing the scientific facts could change views on GMOs in substantive ways. Second, if Other-interest is about Empathizing with the natural system, then the conversation could be focused here. It could be pointed out that the Spaceship Earth, ecosystem has always, within itself, changed the gene pool, as plants and animals have crossed, and otherwise inter-bred, over thousands, perhaps millions of years. The process of creating a GMO is in many ways a process of mimicking the natural system, which has been all about gene manipulation since the beginning.

The kind of shared Other-interest in not having humans directly change the gene pool can now be better understood. For example, a concern might be that the pace of change is too fast, so we might ask if the natural system will be able to adequately adjust as the GMO-based genes are released into it? Back to the fish gene in the tomato: To what extent is moving genes between plants and animals an issue for the sustainability and resilience of the natural system? Importantly, while Microeconomics can only proclaim consumers are irrational, Metaeconomics can help in framing what is at issue, and suggest that no concern for the shared Other-interest is what is irrational.

Chinese Wet Markets

The Wet Market issue is far too complex to address in a short paragraph here. Yet, Metaeconomics could perhaps be helpful by focusing attention on both ethics and empirical reality, and the need for balance in Market&Government. In particular, the shared Other-interest in better ensuring a virus is not moved from the animal into the human (as animal, too) system is clear. Regulations on just what is food for a human (perhaps keeping certain animal species out of the human food chain) are probably needed. Also, hygiene in food markets needs standards, for example, the fact that wild animal cages are right next to vegetable stands in some Chinese Wet Markets likely needs attention. Also, animals are often slaughtered on site, causing challenges in managing virus contamination. A

free-for-all-wet-market, without the shared Other-interest giving context, tempering Self-interest, does not work: Extremes do not work, balance does. Many empirical questions here, to find out just what is going on.

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