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Sickeningly Sweet: Analysis and Solutions for the Adverse Dietary Consequences of European Agricultural Law

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SICKENINGLY SWEET: ANALYSIS AND SOLUTIONS FOR THE ADVERSE DIETARY CONSEQUENCES OF EUROPEAN AGRICULTURAL LAW

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ABSTRACT

Sixty-nine percent of adults in the United States, sixty-four percent in the United Kingdom, and over one-third worldwide are overweight or obese. These staggering figures continue to grow, with accompanying emotional, physical, and economic consequences, both for individuals and society as a whole. The role law plays in facilitating this global trend is significant, and yet puzzlingly, little recognized or understood. The current food system is profoundly structurally flawed: it establishes unhealthy dietary behaviors as the default option for consumers. This Article is the first to examine how agricultural law has facilitated these unhealthier diets for the past fifty years, analyzing these issues through the lens of the European Union's Common Agricultural Policy (CAP). The Article is particularly timely, examining how the most recent 2013 sugar reforms may worsen diet and health over the next decade in Europe and globally, especially in developing and emerging economies.

Recognizing the centrality of the law in fostering poor diet and obesity; the inadequacy of individually targeted anti-obesity interventions to date; and the significance of obesity to public health, this Article calls for a new paradigm for addressing diet, obesity, and health. This paradigm combines legal and public health analysis. It shifts away from downstream interventions targeting "individual choice," which have thus far proven unsuccessful and inefficient, and shifts focus upstream to structural changes in agricultural law, which can help recalibrate production and improve the food supply. The Article then offers policy solutions to the problems agricultural law poses for health, including re-conceptualizing agricultural law to integrate dietary public health objectives and most importantly, explicitly financially incentivizing healthier production through subsidies, special program funds, and improved agricultural research. Pairing such structural interventions with a legal-public health paradigm will address these issues in a novel way with a potentially much more successful and efficient impact on diet and health.

I. INTRODUCTION

Obesity and noncommunicable disease rates are rapidly growing around the world.[1] Countless interventions have been deployed in an attempt to address these disquieting statistics, but with the numbers unabated, it is clear past approaches have proven inadequate. Understanding of the role of law in creating an overarching obesogenic (or obesity-fostering) environment is underdeveloped and often overlooked in the obesity and noncommunicable disease discourse to date. This Article reveals how macro-level laws in Europe and elsewhere have contributed to the creation of an obesogenic food system that worsens dietary behaviors and increases obesity and noncommunicable disease rates. It deepens the discourse in the growing field of food and health law, focusing on agricultural law as both a starting point at the top of the production chain and as an archetypical example of this phenomenon.

The current food system is profoundly structurally flawed: it facilitates unhealthier rather than healthier dietary behaviors as the default option. Structural interventions acknowledge that societal structures—including laws and policies—deeply affect individual actions.[2] They identify and attempt to improve the *contextual* factors that affect dietary behavior, obesity, and health outcomes.[3] These interventions have potential for greater impact because they are broader in scope and require less individual effort

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1. *Global Status Report on Noncommunicable Diseases 2010*, WORLD HEALTH ORG. vii (2011), *available at* http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf?ua=1 [hereinafter *Global Status Report*].

2. Kim M. Blankenship et al., *Structural Interventions: Concepts, Challenges and Opportunities for Research*, 83 J. URB. HEALTH 59, 60 (2006).

3. *See, e.g.*, *id.* at 59. Structural interventions "locate . . . the cause of public health problems in contextual or environmental factors that influence risk behavior, or other determinants of infection or morbidity, rather than in characteristics of individuals who engage in risk behaviors." Changing industry standards to reformulate recipes to include fewer calories, less sugar, or less salt, or mandating the fortification of certain foods with certain vitamins (such as folic acid or iodine) are two examples of structural changes that require little to no individual effort or compliance to be effective. Educational or labeling campaigns are examples of individual interventions.

or compliance to be successful.[4] In contrast, individual interventions target individual behaviors, largely removed from social context.[5] Historically, individual interventions have been much more widely utilized than structural interventions, particularly in the public health and obesity context.[6] Although structural interventions have begun gaining some traction, the food system will require more and stronger structural interventions to address society's serious dietary, obesity, and health problems.[7] Recognizing the inadequacy of individually targeted anti-obesity interventions to date; the centrality of the law in fostering obesity and poor dietary behavior; and the significance of obesity and overweightness to public health, this Article calls for a new paradigmatic approach to addressing dietary behavior, obesity, overweightness, and noncommunicable disease.[8] It advocates greater synthesis between law and public health and calls for adopting a legal approach to public health and a public health approach to law. This approach acknowledges that obesity and poor dietary behavior are complex, multifactorial problems requiring a comprehensive package of solutions. Pairing structural interventions with a legal-public health paradigm will address these dietary and obesity issues in a new, more comprehensive, and potentially more effective manner.

This Article aims to deepen the fields of food and health law by examining in an unprecedented way the role agricultural law has played in creating the modern food system, dietary patterns, and health outcomes. It analyzes these issues through the lens of the European Union's Common Agricultural Policy (CAP). It also provides policy recommendations for its improvement, including that agricultural law be re-conceptualized to integrate dietary public health objectives and that it shift funding toward incentivizing healthier production.

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4. Thomas R. Frieden, *A Framework for Public Health Action: The Health Impact Pyramid*, 100 AM. J. PUB. HEALTH 590, 590 (2010).

5. *Id.* at 591.

6. INST. OF MED. COMM. ON HEALTH & BEHAVIOR: RESEARCH, PRACTICE, AND POLICY, HEALTH AND BEHAVIOR: THE INTERPLAY OF BIOLOGICAL BEHAVIORAL, AND SOCIETAL INFLUENCES 183, 191 (2001), *available at* http://www.ncbi.nlm.nih.gov/books/NBK43749/.

7. Tim Lang, *Reshaping the Food System for Ecological Public Health*, 4 J. HUNGER & ENVTL. NUTRITION 315, 323-325 (2009).

8. *See* THOMAS KUHN, THE STRUCTURE OF SCIENTIFIC REVOLUTIONS 10 (3d ed. 1996) (arguing in the context of the hard sciences that a new paradigm emerges after an intellectual crisis sets the stage for a "paradigm shift," wherein unexplained anomalies accumulate sufficiently to destabilize the existing consensus and eventually give way to a new theoretical framework); *see also* Brian R. Cheffins, *The Team Production Model as a Paradigm*, 38 SEATTLE U. L. REV. 397, 401–402 (2015) (applying the Kuhnian framework in a legal (corporate law) context).

This approach shifts away from targeting "individual choice" and from downstream, individually targeted interventions, which have thus far proven unsuccessful and inefficient. It suggests shifting the focus upstream and implementing structural changes into agricultural law which can help recalibrate production and restructure the food system, which can in turn improve the food supply and potentially have a greater and more efficient impact on improving diet and health. This Article operates from the premise that agricultural policy should seek to provide sufficient quantities of nutritious foods in an environmentally sustainable way, while ensuring a fair income for farmers, who work in a uniquely volatile and essential sector.[9] Agricultural law should help reduce, and not exacerbate, the obesogenic nature of the food system. Thus far, the nutrition and health components of agricultural law have been largely overlooked; they must be meaningfully integrated going forward.

While farmers might ordinarily be expected to match commodity production to consumer demand in a completely free market, the reality in Europe (and in the U.S.) is that CAP has shaped farming practices, commodity production, and food prices since the origins of the common European market in the 1960s.[10] The original agricultural policy artificially supported certain sectors for several decades—including sugar, red meats, dairy, cereals, and vegetable fats—enabling many of these industries to grow and flourish.[11] These decades of government support meant that even when these sectors were eventually "liberalized," it did not suddenly create a level playing field; historical contingency meant the "free" market was still distorted.[12] Correcting this unhealthy skew will require positive action. It is not enough simply to lift previous policies. Because agricultural production determines the composition of the food supply, it is an essential and unique sector—similar to water, utilities, and a few other similar commodities—which cannot be left entirely to free market forces without risking food insecurity and the grave and varied consequences thereof. Agricultural policy must therefore be consciously and positively (re)calibrated to explicitly support the production of healthier crops. The role of agricultural

9. *See e.g.*, Neil D. Hamilton, *The Study of Agricultural Law in the United States: Education, Organization, and Practice*, 43 ARK. L. REV. 503, 503–504 (1990).

10. Celine Delayen, *The Common Agricultural Policy: A Brief Introduction*, INST. FOR AGRIC. & TRADE POL'Y 1 (Sept. 2007), http://www.iatp.org/files/451_2_100145_0.pdf.

11. Christopher Birt, *A CAP on Health?: The Impact of the EU Common Agricultural Policy on Public Health*, U.K. FAC. OF PUB. HEALTH 4 (2007), *available at* http://www.fph.org.uk/uploads/r_CAP.pdf.

12. Stanley R. Thompson et al., *Agricultural Market Liberalization and Instability of Domestic Agricultural Markets: The Case of the Cap*, 82 AM. J. AGRIC. ECON. 718, 724-725 (2000).

policy must include creating a healthy, rather than an entirely free, market for the benefit of society. Otherwise, as has proven true over the past fifty years, the consequences for population diet and health are dire.

The remainder of the introduction provides a justification for addressing obesity and the need for a legal perspective when doing so. Section II provides an overview of CAP and its evolution over the past fifty years from interventionist beginnings to modern liberalization. Section III delves more deeply into the European Union (EU) sugar regime and explores its potential negative implications for diet and health. Section IV offers policy recommendations to improve agricultural policy to better serve health and begin to fix this broken system.

A. Why Obesity?

The worldwide statistics on obesity are startling. In the U.S., 69% of adults are overweight or obese.[13] Europe is quickly catching up, with 64% of the population in the U.K. estimated to be overweight or obese.[14] As of 2008, over one-third of adults in the world—or 1.46 billion people—were overweight or obese.[15] This issue is not localized to the developed world. Mexico just surpassed the U.S. as the most obese country in the world,[16] and the figures of obese or overweight people in the developing world nearly quadrupled from 250 million in 1980 to 904 million by 2008, well outpacing the 1.7 growth rate of obesity and overweightness in the developed world for the same period.[17] It is clear obesity rates are high and growing worldwide, and common parlance frequently refers to the current state of obesity as an "epidemic."[18] Are those characterizations fair? To what extent do the dramatic increases in obesity worldwide constitute a health crisis, as some claim? Before embarking on a discussion of the reasons behind the increases in obesity and proposing policy interventions for its solution, this section of

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13. *Fast Stats: Obesity and Overweight*, CTR. FOR DISEASE CONTROL & PREVENTION, http:// www.cdc.gov/nchs/fastats/obesity-overweight.htm (last updated Sept. 30, 2015).

14. *Obesity Quadruples to Nearly One Billion in Developing World*, BBC NEWS (Jan. 3, 2014), http://www.bbc.co.uk/news/health-25576400 [hereinafter *Obesity Quadruples*].

15. Sharada Keats & Steve Wiggins, *Future Diets: Implications for Agriculture and Food Prices*, ODI 1 (Jan. 2014), *available at* http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8773.pdf.

16. *The State of Food and Agriculture*, FOOD & AGRIC. ORG. OF THE UNITED NATIONS 77, 79 (2013), *available at* http://www.fao.org/docrep/018/i3300e/i3300e.pdf.

17. Keats & Wiggins, *supra* note 15.

18. *The Obesity Epidemic*, CTR. FOR DISEASE CONTROL (July 22, 2011), http://www.cdc.gov/cdctv/diseaseandconditions/lifestyle/obesity-epidemic.html.

the Article will address the severity of the obesity problem from a health and policy perspective.

From a health perspective, obesity is highly associated with global growth of noncommunicable disease rates, including type 2 diabetes, cardiovascular disease, strokes, and many cancers.[19] The estimated global disease burden of the combination of poor nutrition and inadequate physical activity was 10% as of 2010, meaning that 10% of years lived with disability around the world can be attributed to poor diet and inadequate physical activity *alone*.[20] Notably, obesity itself is cited as an independent primary factor contributing to these statistics, along with, but separately from, poor diet, inadequate physical activity, alcohol, and tobacco use.[21] Recent research increasingly names obesity, in and of itself, as a direct and proximate cause of several serious health problems and noncommunicable diseases.[22] Noncommunicable diseases are by far the leading cause of death in high income countries,[23] with nearly one-quarter of deaths caused by noncommunicable diseases occurring in the sub-seventy age group, meaning noncommunicable diseases affect the population as a whole and not simply the elderly.[24] Body Mass Index (BMI) is on the rise, although this indicator of obesity is increasingly considered an inaccurate or misleading measure of health.[25] However, high waist circumferences, which are considered perhaps better measures of health and which are positively correlated with type 2

19. Keats & Wiggins, *supra* note 15.

20. Stephen S. Lim et al., *A Comparative Risk Assessment of Burden of Disease and Injury Attributable to 67 Risk Factors and Risk Factor Clusters in 21 Regions, 1990–2010: A Systematic Analysis for the Global Burden of Disease Study 2010*, 380 THE LANCET 2224, 2224 (Dec. 2012). *Global disease burden is defined as the sum of years lived with disability and years of life lost, which is attributable to poor diet and inadequate physical activity as independent risk factors.*

21. *Non-communicable Diseases in the UK: A Briefing Paper Prepared for the UK Parliament (House of Lords)*, C3 COLLABORATING FOR HEALTH 3-4 (Sept. 2011), *available at* http://www.c3health.org/wp-content/uploads/2009/09/NCDs-briefing-paper-20111010.pdf [hereinafter C3 *Briefing Paper*].

22. *State of the Nation's Waistline, Obesity in the UK: Analysis and Expectations*, NAT'L OBESITY FORUM 3 (2014), *available at* http://www.nationalobesityforum.org.uk/media/PDFs/StateOfTheNationsWaistlineObesityintheUKAnalysisandExpectations.pdf.

23. *The Top Ten Causes of Death by Country Income Group*, WORLD HEALTH ORG., http://www.who.int/mediacentre/factsheets/fs310/en/index1.html (last visited Nov. 1, 2015); *see also*, C3 *Briefing Paper*, *supra* note 21.

24. C3 *Briefing Paper*, *supra* note 21; *Global Status Report*, *supra* note 1,, at 106.

25. *See* Christian Nordqvist, *Why BMI is Inaccurate and Misleading*, MED. NEWS TODAY (Aug. 25, 2013), http://www.medicalnewstoday.com/articles/265215.php.

diabetes regardless of BMI, are also increasing rapidly.[26] Curbing obesity is crucial to stemming the rising noncommunicable disease rates that are claiming the most lives in the EU and U.S. and are significantly decreasing quality of life globally. These health implications alone form a compelling case for undertaking further research and policy action to counter high obesity rates.

Aside from its negative health costs, obesity is also extremely economically costly. As of 2007, it was estimated that 60% of men and 50% of women in the U.K. would be obese by 2050[27] and that the projected annual cost of obesity and its associated problems would be up to £49.9 billion (about $75 billion).[28] This figure is 7 times the cost of obesity in 2002, which was estimated at £7 billion (about $10.8 billion).[29] The annual costs of obesity break down into several categories. Most obvious are the direct healthcare costs of treating obesity and its related health problems, estimated between £991 million and £1,124 million (between $1 billion and $1.2 billion) annually in the U.K. in 2002 (the last year for which there are available data).[30] However, obesity also has indirect costs, such as dependence on state benefits, lost worker productivity, and reduced earnings.[31] In 2001, the U.K. government conservatively estimated total lost earnings of *at least* £827 million ($1.6 billion) due to obesity, and an additional £1.3 billion ($2.6 billion) in lost earnings from days of work missed due to obesity-related sickness.[32] Together, these conservative estimates of the indirect costs of obesity represented 0.2% of GDP that year.[33] Because obesity rates are higher in the U.S., [34] the associated costs are also likely higher. These figures illustrate obesity's significant and

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26. Claudia Langenberg et al., *Long-Term Risk of Incident Type 2 Diabetes and Measures of Overall and Regional Obesity: The EPIC-InterAct Case-Cohort Study*, 9 PLoS MED. 1, 16 (2012); *see also*, *State of the Nation's Waistline, supra* note 22, at 4, 8.

27. Kerry Swanton, *Healthy Weight, Healthy Lives: A Toolkit for Developing Local Strategies*, NAT'L HEART FORUM, http://fph.org.uk/uploads/full_obesity_toolkit-1.pdf (last visited Nov. 1, 2015).

28. Foresight, *Tackling Obesities: Future Choices—Project Report*, GOV'T OFFICE FOR SCI. 40 (Oct. 19, 2007), *available at* http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthimprovement/Obesity/DH_079713.

29. *Id.* at 39.

30. *Id.*

31. *Id.*

32. MARIO MAZZOCCHI ET AL., FAT ECONOMICS: NUTRITION, HEALTH, AND ECONOMIC POLICY 97 (2009).

33. *Id.* at 98.

34. *Fast Stats, supra* note 13; *see also, Obesity Quadruples, supra* note 14.

unsustainable cost burden and highlight the economic importance of addressing obesity.

It is important also to discuss quality of life considerations and the sociology of obesity. Many economists and other social scientists attempt to quantify quality of life and integrate it into the economic analysis of obesity.[35] Such quantification is important in the context of many research studies. However, in this context, it is worth conceptualizing quality of life as a qualitative factor in its own right, separate from the economic analysis above. The qualitative and experiential impact of obesity and overweightness on daily life is often significant. Many, if not most, people in these categories experience an array of socially or legally sanctioned discrimination due to their weight and what it purportedly reflects about their personhood or their value as individuals.[36] This discrimination spans from prejudices in social contexts;[37] to often overt discrimination in the employment context, which remains legal in the U.S.;[38] all the way, in the extreme cases, to legal determinations of incompetence to serve as a parent.[39] A recent Yale study found that 40% of individuals with BMI over thirty-five had experienced weight discrimination, either institutionally or interpersonally, with women and younger individuals experiencing even higher rates.[40] In the U.K., twenty-five of the ninety-one National Health Service (NHS) Trusts have implemented treatment bans for obese patients since 2011, refusing to provide these patients certain procedures, including in vitro fertilization, breast reconstructions, and hip and knee replacements.[41] This is not to suggest that such treatment bans are medically unwarranted or that there are not legitimate medical reasons for refusals of treatment. Indeed, if so, it is all the more problematic that rising obesity rates preclude some patients from certain medical treatments otherwise provided by the government. The denials of treatment suggest that not only are obese patients not receiving medical treatments to which their non-obese

35. *See, e.g. id.*, at 94-110.

36. *See* ANNA KIRKLAND, FAT RIGHTS: DILEMMAS OF DIFFERENCE AND PERSONHOOD 7-8 (2008).

37. *See* Rebecca Puhl et al., *Perceptions of Weight Discrimination: Prevalence and Comparison to Race and Gender Discrimination in America*, 32 INT'L J. OBESITY 992, 992 (2008).

38. *See* 42 U.S.C. § 2000e-2(b) (2011) (showing that in the U.S., overweight and obesity are not considered protected classes under Title VII of the Civil Rights Act of 1964).

39. *See* KIRKLAND, *supra* note 36, at 82.

40. *See* Puhl, *supra* note 37.

41. Simon Newman, *Obesity Pandemic Looms Large as Half of Britons Could be Overweight by 2050*, REUTERS (Jan. 13, 2014), http://rt.com/news/obesity-pandemic-britons-overweight-516/.

counterparts are entitled, they are not receiving these treatments for the precise reason of their obesity, compounding the social stigma associated with obese status. In this scenario, the obese patient experiences the double injury of not receiving the desired or needed medical care, while also being implicitly—or explicitly—chastised by the NHS for his or her weight.

Finally, but importantly, it is significant that these rising obesity rates do not affect each socioeconomic class proportionately.[42] In general, obesity rates negatively correlate with socioeconomic status: the lowest socioeconomic statuses are more obese than the middle and upper socioeconomic statuses.[43] Both income *and* education negatively correlate with obesity, cardiovascular disease, and type 2 diabetes rates.[44] Obesity also disproportionately affects ethnic minorities.[45] In addition, socioeconomic status negatively correlates with overall diet quality, such that higher socioeconomic status is associated, for example, with greater intake of fruits and vegetables and oily fish and with lower intake of added sugars and red and processed meat.[46] From an inequality perspective, this troubling socioeconomic patterning presents another compelling reason to address obesity.

In sum, there are many and varied reasons why obesity is a pressing matter requiring better solutions than those offered to date. Obesity has serious health consequences, particularly vis-à-vis noncommunicable diseases. It has high costs, both direct and indirect, which will become insupportable in the near future at the current rate. Obesity presents serious quality of life and psychosocial concerns, particularly in the long-term. The experiential impact of obesity has wider ramifications affecting conceptions of personhood and self-value. It can impede legal access to societal institutions. And particularly troubling, the socioeconomic patterning of

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42. Rosie Sutton, *Adult Anthropometric Measures, Overweight and Obesity*, HEALTH SURVEY FOR ENG. 1 (Dec. 20, 2012), *available at* http://www.hscic.gov.uk/catalogue/PUB09300/HSE2011-Ch10-Adult-obesity.pdf.

43. *See* Charles L. Baum & Christopher J. Ruhm, *Age, Socioeconomic Status and Obesity Growth* 3 (Nat'l Bureau of Econ. Research, Working Paper No. 13289, 2007), *available at* http://www.nber.org/papers/w13289.pdf; Sutton, *supra* note 42.

44. *See id.*, at 3; Allison Moody, *Diabetes and Hyperglycaemia*, HEALTH SURVEY FOR ENG. 1 (Dec. 20, 2012), *available at* http://www.hscic.gov.uk/catalogue/PUB09300/HSE2011-Ch4-Diabetes.pdf; Oyinlola Oyebode, *Cardiovascular Disease*, HEALTH SURVEY FOR ENG. 14 (Dec. 20, 2012), *available at* http://www.hscic.gov.uk/catalogue/PUB09300/HSE2011-Ch2-CVD.pdf; Sutton, *supra* note 42.

45. *See* Baum & Ruhm, *supra* note 43, at 3; Moody, *supra* note 44; Oyebode, *supra* note 44; Sutton, *supra* note 41.

46. Eva R. Maguire & Pablo Monsivais, *Socio-economic Dietary Inequalities in UK Adults: An Updated Picture of Key Food Groups and Nutrients from National Surveillance Data*, 113 BRIT. J. NUTRITION 181, 181 (2015).

obesity and diet, disproportionately affecting the lowest socioeconomic statuses, raises serious equity concerns.[47]

B. Why a Legal Perspective?

Laws in various fields structure the global food system, which is the focus of the field of food law.[48] They significantly impact the entire food chain, including production, manufacturing, processing, distribution, purchasing, and ultimately, consumption of food.[49] However, these laws are diverse and decentralized, scattered at international, EU, national, state, and local levels.[50] Their impact on the food supply chain, consumption, and health outcomes tends to be underemphasized. To improve the food system, it will be necessary to adopt a new legal paradigm and to develop a formal, coherent branch of food and health law that conceptually assembles and synthesizes the various legal principles that govern the food system and recognizes their effects on diet and health. The field of food and health law is only about ten years old and is expanding, but remains underdeveloped both in the U.S. and especially globally, particularly from a dietary public health perspective.[51] To be successful, this field must incorporate diverse areas and sources of law, including agricultural, trade, corporate, antitrust (competition), and environmental law, among many others.[52] Recognizing

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47. *Why Low-Income and Food Insecure People Are Vulnerable to Obesity*, FOOD RES. & ACTION CTR., http://frac.org/initiatives/hunger-and-obesity/why-are-low-income-and-food-insecure-people-vulnerable-to-obesity/ (last visited Nov. 6, 2015). It is important to note briefly the human rights and environmental implications of the food system, though these are outside the scope of this Article. From a human rights perspective, the right to food and adequate nutrition is central to the dignified living of the individual. Second, the current obesogenic food system also has significant environmental costs that must be addressed. These include, for example, intensive and unsustainable energy and water inputs, particularly for the production of many meats and especially beef.

48. Katherine Ralston, *How Government Policies and Regulations Can Affect Dietary Choices*, GOV'T REG. & FOOD CHOICES, http://www.ers.usda.gov/media/91084/aib750q_1_.pdf (last visited Nov. 6, 2015).

49. *Id.*

50. *See* Baylen J. Linnekin & Emily M. Broad Leib, *Food Law & Policy: The Fertile Field's Origins and First Decade*, 2014 WIS. L. REV. 585, 557 (2014); Peter Barton Hutt, *Food Law & Policy: An Essay*, 1 J. FOOD L. & POL'Y 1, 2 (2005).

51. Linnekin & Leib, *supra* note 50, at 561.

52. *See* François Collart Dutilleul, *Analysis and Assessment of the New European Agri-Food Law in the Contexts of Food Safety, Sustainable Development and International Trade*, EUR. RES. COUNCIL 3 (2009), *available at* http://www.droit-aliments-terre.eu/documents/sources_lascaux/projet_lascaux/projet_lascaux_EN.pdf; *see also* Linnekin & Leib, *supra* note 50, at 586–87.

the multifaceted nature of the food system, it must also incorporate diverse disciplines, including public health, epidemiology, economics, sociology, business, and psychology, again, among others. In theoretical terms, this movement strives for the emergence and recognition of food and health law and policy as a maturing, coherent, and accessible field of legal study, capable of critical examination and of improving food systems.[53] Conceptualizing this field and achieving coherence in food and health law and policy is critical to addressing the large-scale problems of our current food system, dietary behaviors, and obesity and health outcomes.

II. THE COMMON AGRICULTURAL POLICY

A. The Relevance of Agricultural Law and CAP to Diet and Health

The sets of laws and policies that govern agricultural systems have a profound impact on food availability and, therefore, on foods consumed and ultimately on health outcomes.[54] In the EU, CAP is the macro-level policy governing and funding agricultural production.[55] CAP sets a basic legal framework of policies to which EU Member States must adhere when implementing their own domestic agricultural policies.[56] It is one of the earliest EU policies, dating back to the origins of the EU (then known as the European Economic Community) in 1957.[57] It has taken various forms over the past fifty years, each of which has directly impacted the production of certain commodities and, consequently, the price and types of food available

53. *See* Linnekin & Leib, *supra* note 50, at 561–562; Dutilleul, *supra* note 52, at 6.

54. *Sustainable Table*, GRACE COMM. FOUND., http://www.sustainabletable.org/871/food-policy-economics (last visited Nov. 6, 2015).

55. *Agriculture*, EUR. UNION, http://europa.eu/pol/agr/index_en.htm (last visited Nov. 6, 2015).

56. *See* Council Regulation 1234/2007, Establishing a Common Organisation of Agricultural Markets and on Specific Provisions for Certain Agricultural Products (Single CMO Regulation), 2007 O.J. (L 299) 1 (EC) [hereinafter Single CMO Regulation 2007].

57. *See Treaty Establishing the European Economic Community, EEC Treaty*, EUR-LEX, http://europa.eu/legislation_summaries/institutional_affairs/treaties/treaties_eec_en.htm (last updated Oct. 26, 2010) (though it should be noted that the first CAP did not actually come into effect until 1962). CAP is enumerated in Articles 38–47 of the Treaty of Rome (the popular name of the EEC Treaty). *See* Treaty Establishing the European Economic Community art. 38-47, Mar. 25, 1957, 298 U.N.T.S. 11 [hereinafter EEC Treaty]. For purposes of simplicity, this Article will refer to the EEC throughout as the EU.

across Europe.[58] It is crucial to examine how CAP, in each of its forms, has contributed to the creation of the current food system in the EU. Understanding the interplay between macro-level policy and the resulting food system and food availability can help provide understanding as to how the current population-level increases in obesity and noncommunicable disease have occurred and continue to grow.

Too often, the predominant rhetoric pejoratively frames obesity as a "personal choice" and attributes it to a lack of education, a failure of personal values, or a calculated utilitarian choice made by an individual who prefers short-term sensual pleasures to long-term health outcomes.[59] While there may be some truth to these assessments, this conception cannot fully account for a reality in which two-thirds of the U.S. and U.K. population are overweight and obese;[60] in which adult obesity rates in the U.S. alone increased by over 20% in the past forty years, from 14% in the early 1970s[61] to 35% as of 2012;[62] in which obesity rates disproportionately affect minority and low socioeconomic groups;[63] and in which obesity rates in the developing world are increasing at a faster rate than in the developed world, coinciding with the importation of Western diets.[64] It is implausible that global personal preferences would have shifted so dramatically in the past four decades to account entirely for these significant increases in obesity, especially as beauty standards have gotten increasingly thinner. These dramatic increases strongly suggest there are important structural components at play. Macro-level laws and policies play a large role in structuring the food system, including in particular, the availability and pricing of different commodities and foods.[65] Agricultural law is the basic

58. Nicola Cantore et al., *CAP Reform and Development*, ODI 3-5 (May 14, 2011), *available at* http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7245.pdf.

59. Kelly D. Brownell et al., *Personal Responsibility and Obesity: A Constructive Approach to a Controversial Issue*, 29 HEALTH AFFAIRS 379, 379 (2010).

60. *Fast Stats, supra* note 13; *see also, Obesity Quadruples, supra* note 14.

61. David M. Cutler et al., *Why Have Americans Become More Obese?* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 9446, 2003), *available at* http://www.nber.org/papers/w9446.pdf.

62. Cynthia Ogden et al., *Prevalence of Childhood and Adult Obesity in the United States, 2011-2012*, 311 J. AM. MED. ASS'N 806, 809 (2014).

63. Youfa Wang & May A. Beydoun, *The Obesity Epidemic in the United States—Gender, Age, Socioeconomic, Racial/Ethnic, and Geographic Characteristics: A Systematic Review and Meta-Regression Analysis*, 29 EPIDEMIOLOGIC REV. 6, 6 (2007).

64. Keats & Wiggins, *supra* note 15.

65. *Marketing Functions, Markets, and Food Price Formation*, STAN. U. FAST RES. INTERFACE, http://web.stanford.edu/group/FRI/indonesia/documents/foodpolicy/chapt4.fm.html (last visited Nov. 6, 2015).

foundation of the food system.[66] It governs almost all food originates and has far-reaching implications at the local, national, and international levels.[67] To analyze and address obesity, diet, and health, we must first situate ourselves at the beginning of the production chain and understand how farming policies shape food systems, which is why this Article takes agricultural policy as its starting point.

But why CAP? CAP has been the most significant agricultural policy in Europe since the late 1950s, and along with U.S. agricultural policy, is one of the two most important agricultural policies in the world.[68] EU agricultural policy has significant global effects[69] and is important for audiences to understand beyond Europe. The EU is a powerful entity with significant economic and political clout: it is both the largest economy and the largest trading bloc in the world, it ranks first in both inbound and outbound foreign direct investment, and it is the top trading partner for eighty countries (compare the U.S., which is the top trading partner to just over twenty countries).[70] In conjunction with international trade policies, CAP is highly interconnected with U.S. agricultural policy and also significantly impacts developing and least developed country economies and world food pricing and availability.[71] It is crucial to understand EU agricultural policy in order to understand the global food system, U.S. farm and food policies, and the patterning of dietary behaviors, obesity rates, and health outcomes over the past several decades.[72] The fact that powerful corporate lobbies on both sides of the Atlantic invest significantly in shaping these agricultural

66. Margaret Sova McCabe, *Foodshed Foundations: Law's Role in Shaping Our Food System's Future*, 22 FORDHAM ENVTL. L. REV. 563, 563 (2010).

67. "Almost all" because agriculture policy is separate from fishery and seafood policy, which are not specifically addressed here and are covered in the Common Fisheries Policy. *See* Council Regulation 1380/2013, of the European Parliament and of the Council of 11 Dec. 2013 on the Common Fisheries Policy, 2013 O.J. (L354) 22 (EU).

68. CAP has ripple effects throughout the economy beyond agriculture, food, and public health, including on the environment, labor, trade, and rural development, among many other areas. It also has significant effects beyond Europe, in both the U.S. and globally. *See* David R. Stead, *Common Agriculture Policy*, EH.NET ENCYCLOPEDIA (June 21, 2007), https://eh.net/encyclopedia/common-agricultural-policy/.

69. *EU Position in World Trade*, EUR. COMM'N, http://ec.europa.eu/trade/policy/eu-position-in-world-trade (last updated Oct. 2, 2014).

70. *Id.*

71. WAYNE MOYER & TIM JOSLING, AGRICULTURAL POLICY REFORM: POLITICS AND PROCESS IN THE EU AND US IN THE 1990S 41 (2002).

72. In order to understand the current food system, it is important to understand U.S. agricultural policy and to analyze additional macro-level policies beyond agriculture, including, especially, international trade policies. A detailed treatment of these is beyond the scope of this Article.

laws helps illustrate their magnitude.[73] From a functional perspective, it is also important to study CAP because its relative flexibility leaves Member States discretion in implementing their own domestic agricultural policies, giving ample opportunity for Member States to enact domestic policies that are both CAP-compliant *and* aligned with public health goals.[74]

B. A Brief History of CAP

1. The First Thirty Years: Origins and Crisis

The Common Agricultural Policy dates back almost to the beginning of the EU.[75] It is enshrined in the Treaty of Rome, the agreement that originally established the EU (at that time called the EEC) as a common market and customs union among six original Member States.[76] The first formal iteration of CAP came into force in July 1962 and was a synthesis of the six original Member States' pre-EU agricultural policies.[77] It remains today, both managed and funded at the EU level.[78] Historically, CAP has primarily been concerned with public market intervention; quota and aid schemes for farmers; marketing and production standards; and trade with third (i.e. non-EU) countries.[79]

To understand the impetus for the original CAP, the Policy must be understood in its post-World War II context.[80] At that time, European countries were struggling to feed their citizens and to keep their agricultural

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73. *See, e.g., Q&A: Reform of EU Farm Policy*, BBC NEWS (July 1, 2013), http://www.bbc.co.uk/news/world-europe-11216061. The significant expenditure on influencing negotiations of the agricultural components of the Transatlantic Trade and Investment Partnership is another example of this phenomenon.

74. *More Flexibility to Member States to Use Remaining Rural Development Funds for Previous Period*, EUR. COMM'N (Oct. 8, 2015), http://ec.europa.eu/agriculture/newsroom/220_en.htm.

75. *Treaty Establishing the European Economic Community, EEC Treaty*, *supra* note 57.

76. *See id.* (noting that the six original Member States were Belgium, France, West Germany, Italy, Luxembourg, and the Netherlands). *See also* EEC Treaty, *supra* note 57.

77. *The History of the European Union: 1960–1969*, EUR. UNION, http://europa.eu/about-eu/eu-history/1960-1969/index_en.htm (last updated Oct. 19, 2015).

78. *The European Union Explained: Agriculture,* EUR. COMM'N 3 (Nov. 2014), *available at* http://europa.eu/pol/pdf/flipbook/en/agriculture_en.pdf.

79. *Common Organisation of Agricultural Markets*, EUR-LEX, http://europa.eu/legislation_summaries/agriculture/agricultural_products_markets/l67001_en.htm (last updated Apr. 3, 2011).

80. *The Early Years: Establishment of the CAP*, EUR. COMM'N, http://ec.europa.eu/agriculture/cap-history/early-years/index_en.htm (last updated Apr. 22, 2015).

sectors afloat.[81] Food security was (and is still today) considered tantamount to national security.[82] As a result, Europe sought to subsidize and ensure the availability of energy-dense foods, a phenomenon paralleled in the U.S..[83] Both the U.S. and Europe sought high-calorie returns—the greatest "bang for their buck," so to speak—at a time when the role of nutrition for health and the impact of diet on obesity and noncommunicable disease was not yet understood.[84] Agricultural policy did not evolve in either country as the understanding of nutrition for health improved.[85] Although this paper addresses the effects of European agricultural policy specifically, it is important to note that European policy did not develop in a vacuum: it both influenced and was influenced by concomitant U.S. interventionist agricultural policies.[86] The transatlantic relationship between these agricultural policies and their combined effects on diet and health in Europe, the U.S., and globally are critical concepts and will be the subject of future research.[87]

Against this backdrop, the Treaty of Rome set forth five CAP objectives: (a) increase agricultural productivity and ensure optimum utilization of labor; (b) ensure a fair standard of living for the agricultural community, particularly by increasing farmers' incomes; (c) stabilize markets; (d) assure food availability; and (e) ensure reasonable food prices for consumers.[88] Notwithstanding CAP's stated objectives, protecting European farmers from foreign competition and supporting farm incomes were of particular concern and arguably the Policy's underlying purpose.[89] The resulting CAP was a synthesized policy aimed at agricultural protectionism and market interventions.[90] These interventions included fixing high internal prices for agricultural commodities, setting high tariffs for imports, and implementing export subsidies to enable the profitable sale

81. *Id.*

82. Johan F.M. Swinnen, *On the Future of Direct Payments*, EUR. COMM'N 9 (Feb. 26, 2009), *available at* http://ec.europa.eu/dgs/policy_advisers/docs/session1_swinnen_future_of_dps.pdf.

83. *Id.*

84. Scott Fields, *The Fat of the Land: Do Agricultural Subsidies Foster Poor Health?*, 112 ENVTL. HEALTH PERSP. A820, A821 (2004).

85. Swinnen, *supra* note 82.

86. *The EU's Common Agricultural Policy (CAP): On the Move in a Changing World*, EUR. COMM'N 5 (2010), *available at* http://agriregionieuropa.univpm.it/sites/are.econ.univpm.it/files/FinestraPAC/Editoriale_20/text_en.pdf.

87. *Id.* at 14.

88. EEC Treaty, *supra* note 57, art. 39, at 30-31.

89. Swinnen, *supra* note 82, at 3.

90. *Id.* at 4.

of surplus EU commodities on the world market.[91] The Policy was substantial, originally comprising 80% of the EU budget.[92]

CAP's basic rules derived from the EU foundational principles of creating a unified market, promoting internal EU product preference, and achieving financial solidarity.[93] Three original CAP rules are particularly relevant to this discussion.[94] First and most importantly, CAP established market support for several sectors, including the dairy, beef, and sugar sectors, primarily by guaranteeing minimum prices for producers.[95] Second, it established a common agricultural market for certain commodities,[96] ensuring their free trade, common price, and common customs tariffs among Member States.[97] Third, it established a fund to finance CAP to which all Member States were required to contribute, roughly in proportion to their economies and benefits received from CAP.[98] The original CAP chiefly relied on domestic price support to stabilize markets, guarantee food supply, increase agricultural production, and support farmers.[99] In general, though with some notable exceptions, price support interventions kept consumer

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91. *Id.*

92. Charlemagne, *Milking the Budget*, ECONOMIST (Nov. 24, 2012), http://www.economist.com/news/europe/21567122-even-times-austerity-europe-spends-too-much-subsidising-rich-farmers-milking-budget.

93. *See Common Agricultural Policy,* USDA ECON. RES. SERVICE (May 30, 2012), http://www.ers.usda.gov/topics/international-markets-trade/countries-regions/european-union/common-agricultural-policy.aspx#.UuprmbQQSCI [hereinafter *CAP* USDA ERS].

94. *The Early Years*, supra note 80.

95. *Id.*

96. *See id.* (explaining the original commodities as cereals, pigmeat, eggs, poultry meat, fruit and vegetables, and wine and later expanding to include additional commodities). *See also* Council Regulation 1308/2013, of the European Parliament and of the Council of 17 Dec. 2013 Establishing a Common Organisation of the Markets in Agricultural Products, Annex I, 2013 O.J. (L 347) 1 (EU) [hereinafter Single CMO Regulation 2013].

97. *The Early Years*, supra note 80; *CAP* USDA ERS, *supra* note 93.

98. For example, by 1980 the U.K. had become a net contributor to the CAP budget, paying in 20% of the gross cost and receiving only 10% of the CAP budget in return. The U.K. renegotiated its contribution to become a net beneficiary in the early 1980s. It received rebates that functionally reduced its net contributions to CAP and helped make the policy politically palatable in Britain. The U.K. voluntarily agreed to reduce its rebate levels after the European Union expansion in 2004 in recognition and support of the less-economically developed positions of the new Member States acceding to the European Union. Even so, the U.K. remained only the eleventh-largest per capita contributor to CAP in 2009. Without its rebates, the U.K. would have been the largest or second largest per capita contributor. *See* BRIAN E. HILL, THE COMMON AGRICULTURAL POLICY: PAST PRESENT AND FUTURE 155 (1984); *The Early Years*, *supra* note 80; *CAP* USDA ERS, *supra* note 93.

99. *CAP* USDA ERS, *supra* note 93.

prices below producer prices, allowing consumers to obtain foods at relatively low prices while still guaranteeing high minimum prices to producers, with CAP financing the difference.[100]

The market interventionist strategies succeeded in creating internal EU market stability but had several distorting economic effects.[101] It soon became apparent that CAP was perhaps too successful in creating an agriculturally self-sufficient Europe.[102] By the 1980s, the price support mechanisms had resulted in near-permanent surpluses of all of Europe's major agricultural commodities, requiring drastic measures to dispose of excess production.[103] The surpluses had to be stored, destroyed, or exported, all at great expense.[104] In an effort to control supply and maintain high producer price guarantees, CAP introduced several measures to this effect in the 1980s, including production quotas, storage aid, and the incentivizing of alternative uses for commodities.[105] It also provided export subsidies to encourage producers to unload their surpluses on the world market.[106] To enable these underpriced exports, the EU subsidized the difference between EU prices and world prices, allowing EU producers to undercut world producers and effectively subsidizing consumption for world consumers.[107] Outside of Europe, exporting surplus commodities at these artificially low prices also came at the expense of world market security in agricultural commodities.[108]

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100. *Twenty Years of European Agriculture*, NEWSL. ON THE COMMON AGRIC. POL'Y (Comm'n of the Eur. Communities), 1987, at 48-49, *available at* http://ec.europa.eu/agriculture/cap-history/crisis-years-1980s/20-years_en.pdf.

101. *Common Agricultural Policy (CAP)*, EUR. CROP PROTECTION ASS'N, http://www.ecpa.eu/information-page/agriculture-today/common-agricultural-policy-cap (last visited Nov. 19, 2015).

102. Guy Wilkinson, *Agriculture and the Problem of Surpluses*, NEWSL. ON THE COMMON AGRIC. POL'Y (Agric. Info. Serv. of the Dir.-Gen. for Agric. Eur. Cmty. Comm'n), Mar. 1980, at 3, *available at* http://ec.europa.eu/agriculture/cap-history/crisis-years-1980s/surpluses_en.pdf.

103. *See The Crisis Years I: The 1970s*, EUR. COMM'N, http://ec.europa.eu/agriculture/cap-history/crisis-years-1970s/index_en.htm (last updated Apr. 22, 2015); *The Crisis Years II: The 1980s*, EUR. COMM'N, http://ec.europa.eu/agriculture/cap-history/crisis-years-1980s/index_en.htm (last updated Apr. 22, 2015); *Twenty Years of European Agriculture*, *supra* note 100; *see also* Birt, *supra* note 11; Wilkinson, *supra* note 102, at 9, 16.

104. *The Crisis Years II*, *supra* note 103.

105. *Id.*

106. *Twenty Years of European Agriculture*, *supra* note 100, at 48.

107. *See id.*

108. *See* Swinnen, *supra* note 82, at 4.

CAP encouraged overproduction of essentially every commodity, but most notably of milk and butter, beef products, sugar, and cereals[109]—the overconsumption of which is troubling from a health perspective. In addition, these four sectors were the main ones to benefit from export subsidies,[110] further artificially enabling their growth without regard for potential negative public health implications. Unsurprisingly, consumption of these foods increased steadily in the twenty years after CAP's inception.[111] In these first decades of CAP, infrastructure for these four industries strengthened considerably and they entrenched themselves as major players in European and global agricultural markets.[112] This deep entrenchment set the stage for European consumption for years to come, even as subsequent reforms would move toward an increasingly liberalized agricultural market.[113] Worse yet, this process was occurring on both sides of the Atlantic, further entrenching itself and shaping domestic diets in both Europe and the U.S.[114]

Perhaps counterintuitively, most farmers did not benefit from the price support mechanisms due to unequal distribution of aid within the farming sector, reflecting a growing unequal distribution of wealth in agriculture to the disadvantage of small farmers.[115] The policies thus encouraged overproduction, leading to a proliferation of unhealthy commodities, without actually providing adequate income support to most farmers.

2. Reform in the 1990s and 2000s: A New Set of Objectives

Beginning in the 1990s and through the 2000s, CAP began lowering interventionist price supports, including those for cereals, beef, and dairy, and replacing them with direct payments to farmers.[116] These measures were structured such that those farmers who had produced the highest levels of a

109. *Twenty Years of European Agriculture*, *supra* note 100, at 48.
110. *See id.*
111. *See id.* at 25-46.
112. *Id.*
113. *Id.* at 25-36.
114. Fields, *supra* note 84.
115. *See The 1992 Reform ("MacSharry Reform")*, EUR. COMM'N, http://ec.europa.eu/agriculture/cap-history/1992-reform/index_en.htm (last updated Apr. 22, 2015) (stating the need to improve competitiveness in European Union markets) [hereinafter *The 1992 Reform*]. *See also CAP* USDA ERS, *supra* note 93 (stating the policy was to give direct payments based on historical yields).
116. *The 1992 Reform*, *supra* note 115; *CAP* USDA ERS, *supra* note 93; *CAP Reform: A Policy for the Future*, EUR. COMM'N, http://ec.europa.eu/agriculture/publi/fact/policy/index_en.htm (last visited Nov. 7, 2015). The MacSharry Reform was triggered in large part by the coming into force of the World Trade Organization Agricultural Agreement.

commodity in the past would continue to receive the most compensation under the new policy.[117] In practice, this meant the EU was still intervening to decide which products should receive the most support, enabling EU-supported sectors to continue to grow, and allowing those who were already big to get bigger, to the disadvantage of smaller farmers. The Agenda 2000 also added an important new set of environmental and rural development objectives to CAP, including an entirely new second pillar exclusively aimed at rural development.[118] This reform followed from the enactment of the 1999 Treaty of Amsterdam, an EU-level agreement that required EU lawmakers to incorporate environmental considerations into all new legislation.[119]

The 2003 CAP reform was the most radical yet. Its central feature was the introduction of the Single Payment Scheme (SPS), which replaced direct payments and gave farmers a single, yearly payment that would no longer be tied to production, known as "decoupling."[120] Decoupling subsidies from production was meant to create a more free market system in which farmers could produce according to market demand.[121] It was also meant to simplify CAP administration and better comply with World Trade Organization (WTO) obligations.[122] It is important to note that SPS gave Member States significant discretion, including to maintain some production-linked payments where they deemed necessary.[123] A version of SPS remains in place today, renamed the Basic Payment Scheme (BPS) in 2015.[124]

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117. *CAP* USDA ERS, *supra* note 93.

118. *Agenda 2000*, EUR. COMM'N, http://ec.europa.eu/agriculture/cap-history/agenda-2000/index_en.htm (last updated Apr. 22, 2015).

119. *Id. See also, CAP Reform: A Policy for the Future*, *supra* note 116. Like environment, health should also benefit from a European Union treaty, requiring its consideration in all new legislation.

120. *The 2003 CAP Reform: Information Sheets, Single Payment Scheme – The Concept*, EUR. COMM'N 1 (Oct. 2004), *available at* http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=KF6004733&CatalogCategoryID=un8KABstLQ4AAAEjIYcY4e5K [hereinafter *2003 Reform, SPS, The Concept*]. Decoupling occurred for most, though not all, sectors and was maintained for those products where it was feared production would be abandoned in the absence of coupled payments.

121. *Id.*

122. *Id. See, e.g., CAP* USDA ERS, *supra* note 93. Whether SPS actually simplified administration of the system remains unclear. It was also meant to help compensate farmers for the decreased dairy price guarantees.

123. *2003 Reform, SPS, The Concept*, *supra* note 120.

124. Swinnen, *supra* note 82, at 4; *CAP Reform – An Explanation of the Main Elements*, EUR. COMM'N (Oct. 25, 2013), http://europa.eu/rapid/press-release_MEMO-13-937_en.htm.

One crucial element of SPS is that farmers did not have to raise crops or produce from their land in order to receive payments; they simply had to maintain land in "good agricultural and environmental condition" and fulfill certain cross-compliance requirements, discussed in greater detail below.[125] This policy created legal loopholes, allowing landowners of certain non-agricultural lands, including, for example, airports, railway services, water works, real estate services, and permanent sports and recreation grounds, to claim direct payments.[126] However, if farmers did produce crops, they were entitled to produce any type, *except* that fruits, vegetables, and ware potatoes (i.e. potatoes grown for human consumption) were either excluded from SPS or subject to numerical limits,[127] raising questions about the health implications of this reformed policy.

SPS gave Member States three options for calculating the amount of farmers' payment entitlements.[128] Option One was to calculate payments historically based on an individual farmer's production during a past reference period.[129] If a Member State chose this option, fruits and vegetables were excluded from what farmers could produce.[130] Option Two was a flat rate regional approach that made uniform payments to all farmers within a given region according to land size.[131] Option Three was a hybrid of the historical approach and the flat rate approach to vary by sector.[132] Options Two and Three both imposed numerical limits on producing fruits and vegetables.[133] The implications of these options were that the historical

125. *2003 Reform, SPS, The Concept*, *supra* note 120.

126. *See CAP Reform – An Explanation of the Main Elements*, *supra* note 124. BPS attempted to close these loopholes by excluding these lands from eligibility and enabling Member States to exclude additional non-agricultural lands if desired.

127. *The 2003 CAP Reform: Information Sheets, Single Payment Scheme – The Detail*, EUR. COMM'N 1 (Oct. 2004), *available at* http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=KF6004733&CatalogCategoryID=un8KABstLQ4AAAEjIYcY4e5K [hereinafter *2003 Reform, SPS, The Detail*]. Whether these crops were excluded or limited depended on how individual Member States chose to calculate their direct payments (they were given three options—another example of Member State discretion in CAP).

128. *Id.*

129. *Id.*

130. *Id.*

131. *2003 Reform, SPS, The Concept*, *supra* note 120, at 2. Under the flat rate regional approach, the payments received by farmers in a certain region would be aggregated and then divided by the number of eligible hectares in the region in the year SPS was introduced. Each farmer would receive the value of this entitlement multiplied by the number of hectares she declared, introducing a redistributive element to the calculus.

132. *Id.*

133. *2003 Reform, SPS, The Detail*, *supra* note 127.

approach, unsurprisingly, reinforced the status quo, while the flat rate approach introduced a redistributive element to the payment scheme because it regarded all farmers within a given region equally, irrespective of historical output.[134] These options exemplify the policy decisions CAP leaves to Member States without consideration of what that might mean for health or the composition of the food supply: in this case, whether to continue reinforcing historical norms and exclude fruits and vegetables, or to redistribute farm support more equally among all players (and limit, although not exclude, fruits and vegetables).

The 2003 reform also set cross-compliance requirements with which landowners had to comply to receive their direct payments.[135] Cross-compliance had two strands which remain in place today.[136] First, as discussed above, farmers were required to maintain land in good agricultural and environmental condition.[137] Importantly, the meaning of "good agricultural and environmental condition" was left to be defined individually by each Member State,[138] providing another example of the extent to which agricultural policy is decided at the Member State level. Second, farmers had to meet a set of eighteen statutory management requirements in the area of public, animal and plant health, the environment, and animal welfare.[139] Though present in theory for the first time, public health objectives were weak in practice and were rolled into a category encompassing "public, animal and plant health."[140] These requirements referred primarily to food safety, animal welfare and disease, and the regulation of substances and

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134. *Id.*

135. *The 2003 CAP Reform: Information Sheets, Cross-Compliance*, EUR. COMM'N 1 (Oct. 2004), *available at* http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=KF6004733&CatalogCategoryID=un8KABstLQ4AAAEjIYcY4e5K [hereinafter *2003 Reform, Cross-Compliance*]; *see also* Council Regulation 1782/2003, of 29 Sept. 2003 Establishing Common Rules for Direct Support Schemes Under the Common Agricultural Policy and Establishing Certain Support Schemes for Farmers, arts. 3, 5, 2003 O.J. (L 270) 1 (EC) [hereinafter Direct Support Regulation 2003].

136. *2003 Reform, Cross-Compliance, supra* note 135.

137. Direct Support Regulation 2003, *supra* note 135; *2003 Reform, Cross-Compliance, supra* note 135.

138. Direct Support Regulation 2003, *supra* note 135; *2003 Reform, Cross-Compliance, supra* note 135.

139. Direct Support Regulation 2003, *supra* note 135, art. 4; *2003 Reform, Cross-Compliance, supra* note 135; *see also Cross-Compliance*, EUR. COMM'N, http://ec.europa.eu/agriculture/envir/cross-compliance/index_en.htm (last updated Apr. 22, 2015).

140. Direct Support Regulation 2003, *supra* note 135, at Annex III.

chemicals used in farming.[141] Public health in this context is narrowly conceived and does not include *dietary* public health—that is, using agriculture to improve nutrition and diet or to reduce noncommunicable disease. Of course, the point is not to argue that cross-compliance should necessarily take dietary public health into account, as imposing significant requirements on farmers is probably an inappropriate venue for achieving dietary public health goals. The important point here is that the minor public health objectives included in cross-compliance should not be conflated with the type of dietary public health objectives to which this Article refers, and that what may seem to be a victory for health was not actually meaningful in practice, for our purposes. The 2003 CAP did, however, undermine dietary public health, most notably through the limitations it set on the production of fruit and vegetables.[142] A pro-health policy might have encouraged fruit and vegetable production or, at worst, a health-neutral policy would not have placed production limitations or exclusions on fruits and vegetables. The 2003 CAP, however, placed limitations or exclusions on fruits and vegetables and not on *any* other crops in the SPS context.[143]

Although there are several stated objectives for cross-compliance, its primary motivation was to incorporate the environmental requirements of the Agenda 2000 into CAP.[144] Although woefully inadequate from a public health perspective, this conceptual shift is important because it indicates the potential for EU policymakers to integrate new objectives. As mentioned above, the new CAP was divided into two pillars: Pillar I consisted of SPS and the few remaining price support mechanisms, and Pillar II was dedicated to rural development.[145] The incorporation of a new environmental objective into CAP is significant for public health.[146] Since its inception in 1962, CAP had been dedicated primarily to farmer and market support, as enumerated in its five original objectives.[147] However, in 2003, for the first time in forty years, CAP formally recognized a new objective for European agricultural policy.[148] Whether it has delivered meaningfully on its stated environmental objectives is hotly contested, but the conceptual significance this shift represents is key. Profit and income support were no longer the sole end goals of CAP, which for the first time integrated a broader perspective on the

141. *See id.*
142. *See 2003 Reform, SPS, The Detail*, *supra* note 127.
143. *Id.*
144. *Cross-Compliance*, *supra* note 139.
145. *CAP* USDA ERS, *supra* note 93. The budget for Pillar II was siphoned off from Pillar I, which also had a spending ceiling imposed.
146. *Id.*
147. *Id.*
148. *Id.*

normative functions of agricultural policy and began to acknowledge and account for its own externalities.[149] With this conceptual foundation laid, and as poor diet, obesity, and noncommunicable disease increasingly come to be recognized as negative externalities of agricultural policy, CAP's objectives should expand in the future to include dietary public health.[150]

C. The Present and Future CAP: 2013 Reform and Looking Ahead Through 2020

The most recent reform in 2013, implemented from January 2015, was the first time CAP was reviewed in its entirety, with every sector receiving consideration.[151] The 2013 reform reflects shifting CAP objectives, which can be delineated broadly into three categories: stable food production; environmental sustainability; and balanced rural development.[152] Dietary public health remains conspicuously absent. CAP has continued to shift away from product support and market management toward direct producer support.[153] As of January 2015, SPS was replaced with a two-pronged direct payment scheme comprised of the Basic Payment Scheme (BPS) and the Greening Payment.[154] BPS approximates the SPS: it comprises approximately 70% of the direct payment scheme and will be paid as direct income support to farmers.[155] Individual Member States can also slightly reduce (or "modulate") this percentage to fund schemes for young farmers, small farmers, or farmers in less favored areas where farming is more difficult.[156] The Greening Payment accounts for the remaining 30% of direct

149. *See id.*

150. Andrew Dorward & Alan D. Dangour, *Agriculture and Health*, 344 BRIT. MED. J. 1, 1-2 (2012); Sophie Hawkesworth et al., *Feeding the World Healthily: The Challenge of Measuring the Effects of Agriculture on Health*, 365 PHIL. TRANSACTIONS ROYAL SOC'Y B: BIOLOGICAL SCI. 3083, 3083 (2010); Richard J. Jackson et al., *Agriculture Policy Is Health Policy*, 4 J. HUNGER & ENVTL. NUTRITION 393, 393-94 (2009); Birt, *supra* note 11, at 4, 7; Rachel Nugent, *Bringing Agriculture to the Table: How Agriculture and Food Can Play a Role in Preventing Chronic Disease*, THE CHI. COUNCIL ON GLOBAL AFF. 9-11 (2011), *available at* http://www.thechicagocouncil.org/sites/default/files/Bringing_Agriculture_To_The_Table(1).pdf.

151. *Overview of CAP Reform 2014-2020*, EUR. COMM'N, 1, 10 (Dec. 2013), *available at* http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/05_en.pdf.

152. *Id.* at 2.

153. *Id.* at 4; *see also CAP* USDA ERS, *supra* note 93 (noting direct payments account for around 70% of the CAP budget and have almost entirely replaced price supports as the backbone of CAP farm support).

154. *CAP Reform – An Explanation of the Main Elements, supra* note 124.

155. *Id.*

156. *Id.*

payments and is conditioned on compliance with three environmental requirements (maintaining grassland, diversifying crops, and ensuring "ecological focus areas.")[157] Receipt of all direct payments—whether under BPS or Greening—remains as before, contingent upon adherence to cross-compliance requirements.[158] Although many market management measures remain legal, CAP continues to phase out their use.[159] Market management has shifted from comprising over 90% of the CAP budget in 1992 to just 5% at the end of 2013,[160] though some key products still retain their minimum guaranteed prices—including the familiar trio of sugar, beef, and dairy products.[161]

These most recent reforms are important for three reasons. First, they illustrate the current CAP's unprecedented flexibility as a piece of legislation.[162] EU policymakers have granted Member States extensive abilities in CAP, including to shape direct payments; to fund young famers, small farmers, or farmers in less favored areas if desired; to set the specifics of cross-compliance and environmental requirements; and to allocate funds between Pillar One (direct payments) and Pillar Two (rural development), to name just a few examples.[163] It would not be a big leap to next give Member States the discretion to use CAP monies to fund healthier agricultural practices. Second, CAP has shifted toward a new set of multi-faceted objectives.[164] Agricultural policy has begun to recognize and account for its negative externalities. The major externality missing, for which CAP must next account, is health. The fact that CAP has proven amenable to integrating new objectives means this should be possible, at least in theory. Third, even with these developments, CAP still supports unhealthy sectors. These supports are phasing out, but their decades-long existence has shaped—and continues to shape—the landscape of the food system, including the ongoing prevalence of these commodities in the food supply and the consolidated power of many of these industries. Not only, then, is CAP not actively working to make its policy healthier, it actually continues to facilitate unhealthy sectors despite all of these reforms.

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157. *Id.*
158. *Id.*
159. *Overview of CAP Reform 2014-2020*, *supra* note 151, at 4.
160. *Id.*
161. *CAP* USDA ERS, *supra* note 93.
162. *See* Mark Allen et al., *CAP Reform 2014–20: EU Agreement and Implementation in the UK and in Ireland*, RAISE 9 (Oct. 30, 2014), *available at* http://www.niassembly.gov.uk/globalassets/Documents/RaISe/Publications/2014/dard/allen10314.pdf.
163. *CAP Reform – An Explanation of the Main Elements*, *supra* note 124.
164. *Id.*

III. IMPORTANT SECTORS FOR HEALTH: FRUITS, VEGETABLES, AND SUGAR

The late 2000s brought several reforms, including continuing to decouple farmers' payments from production and further reducing minimum price guarantees, especially for the dairy sector.[165] Most importantly, however, two sectors which are critical to health were restructured: fruit and vegetables and sugar. [166] These two had been passed over in previous reforms due to their political intractability and so-called "uniqueness" as sectors.[167] We turn now to a discussion of these two sectors and their separate reforms.

A. The Fruit and Vegetables Regime

Understanding how CAP governs fruit and vegetable (F&V) production is particularly important from a public health perspective, given the nutritional benefits of fruits and vegetables, the emphasis placed on fruit and vegetable consumption in dietary guidelines,[168] and CAP's impact on the availability and prices of fruits and vegetables over the past fifty years. The CAP F&V regime has applied to nearly all unprocessed fruits and vegetables produced in the EU[169] since the original CAP in 1962.[170] Initially, and familiarly, the main functions of the F&V regime were to establish a system of price support; to withdraw produce as necessary from the market to

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165. Mariann Fischer Boel, *Agricultural and Rural Policy Under Commissioner Mariann Fischer Boel*, EUR. COMM'N 9 (2009), *available at* http://ec.europa.eu/agriculture/publi/mfb/2004-2009_en.pdf; *CAP* USDA ERS, *supra* note 93; *"Health Check" of the Common Agricultural Policy,* EUR. COMM'N, http://ec.europa.eu/agriculture/healthcheck/index_en.htm (last updated Feb. 2, 2009).

166. Boel, *supra* note 165, at 3.

167. *Id.*

168. *See, e.g.*, *Let's Eat for the Health of It*, USDA 2 (June 2011), *available at* http://www.choosemyplate.gov/sites/default/files/printablematerials/DG2010Brochure.pdf; *The Eatwell Plate*, NHS CHOICES, http://www.nhs.uk/livewell/goodfood/pages/eatwell-plate.aspx (last visited Nov. 8, 2015).

169. Not covered in this regime are potatoes, peas and beans, wine grapes, olives, sweet corn, and bananas, along with processed fruits and vegetables. Each of these is governed either by another or by their own individual regime. *See* Single CMO Regulation 2013, *supra* note 96; *see also* Boel, *supra* note 165, at 5; *CAP* USDA ERS, *supra* note 93.

170. *Fruit and Vegetables: The Regime for Fruit and Vegetables Before the 2007 Reform*, EUR. COMM'N 1 (May 2010), *available at* http://ec.europa.eu/agriculture/fruit-and-vegetables/2007-reform/before-2007_en.pdf [hereinafter *Fruit and Vegetables Before 2007*]. *See generally Fruit and Vegetable Regime*, EUR. COMM'N, http://ec.europa.eu/agriculture/fruit-and-vegetables/index_en.htm (last updated Apr. 22, 2015).

maintain prices at specified levels in periods of oversupply; to protect domestic production against imports via tariffs; and to enable the profitable export of domestic produce at lower world prices via export subsidies.[171] As a result, farmers were guaranteed a minimum price, even during periods of oversupply, and consumers paid a higher price in the grocery store.[172] By the early 1990s, millions of tons of produce were being regularly withdrawn from the market and destroyed due to oversupply in order to maintain stable high prices.[173]

Previous reforms of the F&V sector in the 1980s and 1990s had reduced market interventions and otherwise adjusted policies in an attempt to counter the insupportable rate of produce withdrawal.[174] The 2007 reform, however, was the most substantial fruit and vegetable reform to date. This reform, which came into force in 2008, had four objectives: (i) improve sector competitiveness; (ii) ensure income stability during crises; (iii) promote environmental protection; and (iv) *encourage consumption to improve public health.*[175] This fourth objective is perhaps the most important conceptual aspect of the F&V reform. For the first time, albeit in a small way, dietary public health was featured in CAP.[176] Through this simple objective, CAP implicitly—and modestly—began to acknowledge the role of agricultural law in shaping the food supply and consumption. Identifying this objective in the F&V regime lays a conceptual foundation for including dietary public health in agricultural law and is an important first step toward acknowledging this objective more broadly in CAP in the future.

Despite this advancement, however, the reformed F&V regime has not adequately implemented supplementary measures to achieve this objective in practice.[177] The EU has instituted the voluntary School Fruit Scheme, which had the dual purpose of providing F&V to schoolchildren and providing EU F&V producers with a consistent buyer.[178] Although a positive development in theory, in practice this measure has not had a high

171. *CAP* USDA ERS, *supra* note 93; *Fruit and Vegetables Before 2007, supra* note 170.

172. *CAP* USDA ERS, *supra* note 93.

173. *Fruit and Vegetables Before 2007, supra* note 170.

174. *Id.* at 1-2.

175. *Fruit and Vegetables: The 2007 Reform*, EUR. COMM'N, http://ec.europa.eu/agriculture/fruit-and-vegetables/2007-reform/index_en.htm (last updated Apr. 22, 2015) [hereinafter *Fruit and Vegetables: The 2007 Reform*] (emphasis added).

176. *Id.*

177. *See id.* (illustrating that although the reform called for increased consumption of fruits and vegetables, it did not provide specific details on how the objective was to be accomplished).

178. Boel, *supra* note 165, at 5.

impact. In 2009–10, the first year of implementation, the School Fruit Scheme reached about 8.1 million school children across Europe and provided each one with an average of about sixty total servings of F&V over the course of the year.[179] It is important to keep in mind that in 2015, there were approximately 79 million children ages zero to fourteen in the EU and that the World Health Organization recommends five servings of F&V per *day*.[180] Thus, the School Fruit Scheme provided just over one serving *per week* for but a small fraction of EU children. The reform also modestly increased funding for organic farming and reduced the export subsidies that had allowed farmers to sell surplus production on the world market for below world prices.[181] These are, again, positive developments, but have not adequately served the objective of improving public health.

This reform also recognized the relative weakness of individual growers and incentivized them to unite into producer organizations (POs), even across Member State borders, in order to group supply and give the industry more leverage when negotiating with processors and retailers.[182] It also gave these POs greater crisis prevention and management power over the sector.[183] This aspect of the reform is laudable, but it does beg the question of why, when other sectors were enabled to grow and flourish for the first forty years of CAP, F&V growers were experiencing such sectoral weakness. It is a real shortcoming of CAP that it not only failed to allow the F&V sector to flourish while incubating other, unhealthier sectors, but that it left F&V growers actually *weak* in comparison. Against this backdrop, what initially may have seemed a promising reform for health with respect to F&V actually reveals itself to be woefully inadequate. Given the weakness and volatility of the F&V sector, even after forty years of purported agricultural support,[184] this sector reform needed to go much

179. *Highlights: Free Fruit for Children!*, EUR. COMM'N, http://ec.europa.eu/health/highlights/2012/15/short_content_en.htm (last visited Nov. 8, 2015).

180. *Healthy Diet, Fact Sheet No. 394*, WORLD HEALTH ORG., http://www.who.int/mediacentre/factsheets/fs394/en/ (last updated Sept. 2015); *The World Factbook*, CIA, https://www.cia.gov/library/publications/the-world-factbook/geos/ee.html (last updated Oct. 28, 2015).

181. *Fruit and Vegetables Before 2007*, *supra* note 170, at 3. Export subsidies are also known as "export refunds."

182. Boel, *supra* note 165, at 5; *Fruit and Vegetables: The 2007 Reform*, *supra* note 175.

183. Boel, *supra* note 165, at 5.

184. *The Common Agricultural Policy*, ECON. ONLINE, http://www.economicsonline.co.uk/Global_economics/Common_Agricultural_Policy.html (last visited Nov. 8, 2015).

further if it was to demonstrate a real commitment to improving F&V consumption.

However, one aspect of the F&V reform did have real practical significance. The reform simplified F&V marketing standards to enable more, previously un-sellable produce to make it to market.[185] Prior to this simplification, thirty-six types of fruits and vegetables were subject to specific individual requirements set at the EU level, strictly mandating factors such as the shape produce was required to take in order to be sold.[186] This reform abolished twenty-six of those requirements, instantly granting market access to millions of tons of previously wasted produce.[187] It exemplifies a structural agricultural policy solution that makes a practical difference in improving healthy food availability and actually moves toward the objective of improving consumption.

The CAP F&V scheme has moved in a positive direction: it explicitly identifies as an objective encouraging F&V consumption to improve public health; it supported this stated objective with a School Fruit Scheme to attempt to improve consumption in practice and mitigate destruction of produce; it sought to empower relatively weak producer organizations; and it simplified fruit and vegetable marketing standards, enabling more produce to make it to market.[188] It is significant that these reforms have begun to acknowledge a role for public health and nutritional objectives within agricultural policy. However, aside from simplifying marketing standards, these reforms have had more theoretical or conceptual significance than practical impact in terms of improving production and consumption of F&V. F&V lagged behind other sectors despite decades of European agricultural policy, necessitating reforms to catch the sector up, let alone to allow it to flourish. There is significant progress yet to be made in empowering this sector and improving production, market access, and post-production practices to support increased population consumption of F&V. Potential policy options in this area are discussed in greater detail in Section IV.A.

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185. *See Fruit and Vegetables: Marketing Standards*, EUR. COMM'N, http://ec.europa.eu/agriculture/fruit-and-vegetables/marketing-standards/index_en.htm (last updated Apr. 22, 2015); *see also* Boel, *supra* note 165, at 14.

186. *Fruit and Vegetables: Marketing Standards*, *supra* note 185; *see also* Boel, *supra* note 165, at 14. Previously, thirty-six fruits and vegetables had to meet product-specific marketing standards mandating maturity, color, size, presentation, labeling. For example, the specific marketing standards for apples are eighteen pages long and mandate, for example, how much of the apple must be a certain color. The streamlining of the regulation eliminated these specific requirements for twenty-six products, including apricots, artichokes, asparagus, eggplants, avocados, carrots, zucchinis, and cucumbers.

187. *Fruit and Vegetables: Marketing Standards*, *supra* note 185; *see also* Boel, *supra* note 165, at 14.

188. *See supra* notes 162-187 and accompanying text.

If there is significant progress still to be made in the F&V sector, there is dire need for improvement in the rest of CAP. CAP claims to have progressed due to its increased alignment with "free market" principles.[189] Setting aside the debatable notion of whether CAP has actually achieved these free market principles, it must be noted as a threshold matter the danger of free market objectives when it comes to agricultural policy. Agricultural law is a uniquely important area because food is an essential commodity which, unlike most other sectors, cannot risk being left entirely to free market forces without risking food insecurity and all of its consequences,[190] including insufficient supply of nutritious food. At the same time, neither is this sector wholly unique: other sectors, such as utilities and water, have parallel concerns. As a result, these types of sectors are frequently fully or partially state-run, or may be subject to special regulation recognizing their critical value and unsuitability to be left entirely to free market forces. Indeed, the original CAP framers recognized food's special role when they devised an agricultural policy of significant market intervention and product support post-World War II.[191] They identified uniting Member States' agricultural production as one of the three key factors to Europe's successful economic and political unification and its lasting peace, along with creating a common economic market and uniting steel and coal production.[192] Viewing agricultural policy from this perspective calls into question the basic premise of the desirability of a pure free market objective in food production, and thus of the premise of the EU's subsequent CAP reforms.

Free market objectives for food production are also somewhat at odds with many public health interventions. Most public health interventions today primarily target the individual and aim to change individual behaviors.[193] Take, for example, public health information campaigns such as the U.K. Five-a-Day campaign.[194] On the one hand, individuals are instructed to eat five servings of fruits and vegetables per day[195] and compliance is framed as a personal choice resulting from adequate education. On the other, a free market agricultural policy does nothing to ensure these foods are available in adequate supply and at affordable prices.

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189. *See Fruit and Vegetable Regime*, *supra* note 170.

190. Hamilton, *supra* note 9, at 503, 504-06.

191. *The Founding Fathers of the EU*, EUROPA, http://europa.eu/about-eu/eu-history/founding-fathers/index_en.htm (last visited Nov. 8, 2015).

192. *Id.*

193. INST. OF MED. COMM. ON HEALTH & BEHAVIOR: RESEARCH, PRACTICE, AND POLICY, *supra* note 6, at 183, 191.

194. *See, e.g.*, *Five a Day*, NHS CHOICES, http://www.nhs.uk/Livewell/5ADAY/Pages/5ADAYhome.aspx (last visited Nov. 8, 2015).

195. *Id.*

For reference, a family of four will need to acquire, prepare, and consume one-hundred forty total servings of fruits and vegetables each week to meet this F&V guideline, equating to 11.2 kilograms or just under twenty-five pounds of fruits and vegetables each week. The sheer volume required of these relatively expensive[196] and perishable food items has not historically been adequately considered when designing agricultural policy. F&V production and innovation into enhanced storage and transportation techniques should be encouraged, rather than left to free market devices or, worse yet, discouraged relative to other unhealthier commodities. Food balance data over the past twenty years illustrates how CAP has fallen into this trap, with a consequent undersupply of affordable F&V compared to these other commodities.[197] An insufficient food supply will make it difficult if not impossible for population-level compliance with dietary guidelines and for meeting the stated F&V objective of improving consumption.

Recent CAP reforms miss the point when they cater to "free market" objectives. Agriculture is too important a sector to be left to its own devices, not only for health reasons, but also for national security, labor relations, environmental, and several other reasons. Interventionism in this context is not negative *per se*, as long these interventions are better designed to serve a thoughtful set of delineated objectives, including among others, health. CAP has halfheartedly attempted to address health concerns in recent years, but it must improve further.

B. The Sugar Regime

1. A Brief History

Sugar has arguably been among the most protected European agricultural products. Its regime began in 1968, but unlike every other sector, it did not undergo reform until 2006, receiving the same complex level of support for nearly forty years.[198] CAP primarily protects sugar beet, a raw commodity which can grow in cooler European climates and is

196. *See* Nicholas R.V. Jones et al., *The Growing Price Gap Between More and Less Healthy Foods: Analysis of a Novel Longitudinal UK Dataset*, 9 PLOS ONE 1, 4 (2014), *available at* http://www.plosone.org/article/fetchObject.action?uri=info:doi/10.1371/journal.pone.0109343&representation=PDF.

197. *See e.g.*, *Commodity Balances - Crops Primary Equivalent*, FAOSTAT, http://faostat3.fao.org/browse/FB/BC/E (last visited Nov. 8, 2015).

198. *See* Boel, *supra* note 165, at 4; Alison Burrell et al., *EU Sugar Policy: A Sweet Transition After 2015?*, EUR. COMM'N 4 (2014), *available at* http://publications.jrc.ec.europa.eu/repository/bitstream/JRC76619/jrc%20tr%20sugar_study_pubsy_v6.pdf .

processed into sugar.[199] For the sugar sector, more so than for essentially any other sector, the EU has kept commodity prices high, set limits on production of competing products (that is, other caloric sweeteners, and namely, high fructose corn syrup), and protected EU-produced sugar from competing imports of more cheaply produced sugar (especially cane sugar) from around the world.[200]

Sugar has historically been protected in four ways: (i) import tariffs, (ii) minimum price guarantees and production quotas, (iii) export subsidies, and (iv) a production cap.[201] Import tariffs required world producers to pay high duties to access the EU market, effectively preventing importation of cheaper sugar from outside Europe.[202] Minimum price guarantees and production quotas ensured EU producers were paid a high minimum price, significantly above the world price, for all in-quota sugar and enabled otherwise uncompetitive EU sugar producers to remain competitive.[203] These prices were high enough that they effectively cross-subsidized the production of out-of-quota sugar as well.[204] Moreover, export subsidies made it even more profitable to produce an excess of sugar beyond the quota and export it to other countries, with the EU paying the difference between the higher EU price and the lower world price.[205] European producers were able to dump their sugar at or just below the world price, providing cheaper sugar to the rest of the world, distorting the world market, and undercutting local producers.[206] The sugar policy encouraged overproduction of sugar, ensuring that a structural surplus was built into the system.[207] Since 1977, CAP also maintained a production cap on high-fructose corn syrup (HFCS) of about 5% of all production, affording additional protections to the

199. *Sugar*, EUR. COMM'N, http://ec.europa.eu/agriculture/sugar/ (last updated Apr. 22, 2015). Sugar cane, the source of 80% of the world's sugar, does not grow in the EU (with a small exception for a small number of overseas territories). This Article uses the term "sugar" to refer to sugar derived from sugar beet. It refers separately to high-fructose corn syrup (HFCS) and sugar derived from sugar cane. When referring to them together, it uses the term "sugars" or "caloric sweeteners."

200. *See* Aziz Elbehri et al., *The EU Sugar Policy Regime and Implications of Reform*, USDA ECON. RES. SERVICE iii (July 2008), *available at* http://www.ers.usda.gov/media/205576/err59_1_.pdf; *Twenty Years of European Agriculture*, *supra* note 100, at 31.

201. BEN RICHARDSON, SUGAR: REFINED POWER IN A GLOBAL REGIME 70 (2009).

202. *CAP* USDA ERS, *supra* note 93. These high tariffs have two exceptions. The first is for African-Caribbean-Pacific nations and the second for least-developed countries, both of which enjoy duty-free and quota-free sugar access to the EU.

203. Boel, *supra* note 165, at 4.

204. Burrell et al., *supra* note 198.

205. Boel, *supra* note 165, at 4.

206. Elbehri et al., *supra* note 200, at 9-10.

207. RICHARDSON, *supra* note 201, at 93; *see also* Boel, *supra* note 165, at 4.

European sugar beet industry by preventing large-scale replacement of sugar with HFCS, as has occurred in the U.S.[208]

Finally, the fact that the financing for this complex system came from producer levies and higher consumer prices, *and not from the CAP budget, i.e. the taxpayer,* made this system politically palatable—or at least enabled it to fly under the radar—largely enabling its prolonged decades-long existence.[209] The net effect of these policies was to ensure that sugar beet was the predominant sugar in the EU and that it was as profitable as possible. The biggest beneficiaries of this system have been large sugar companies, and in particular, sugar beet processors. Perhaps unsurprisingly, these companies have played a big role in shaping CAP sugar policies over the years.[210]

Protective sugar policies enabled the EU to become the world's largest producer of beet sugar, producing around 50% of the world's supply.[211] However, beet sugar only accounts for about 20% of the world's overall sugar production, with the remaining 80% deriving from sugar cane (which does not grow in continental Europe).[212] However, sociopolitical factors may help explain sugar beet's ongoing support in Europe, as three of the top four most competitive production areas for sugar beet are in wealthy areas of the U.K., northern France, and Germany (the fourth being Poland).[213] Without this support, EU producers likely would not have grown to their prolific status over the past fifty years, nor competed so handily with world sugar cane producers, which still produce 80% of the world's sugar.[214]

2. The 2006 Reform

Critiques of this system had been growing for some time from various sources within the EU, its Member States, and third parties, until finally in 2005 it was decided that for several complex reasons, the first-ever major sugar reform was necessary.[215] The EU saw it as politically important to reform the sugar sector to achieve consistent treatment of all commodities;[216]

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208. *Sugar*, *supra* note 199; *see also* Burrell et al., *supra* note 198, at 8.
209. *See* RICHARDSON, *supra* note 201, at 93-97.
210. These companies include, for example, Südzucker, Tereos (formerly Eridania Béghin-Say), British Sugar, Danisco, and Tate & Lyle. Many of these companies also used additional tactics prior to 2006 that resulted in prices being driven even higher and leading to even higher "ultra-profits." *See* RICHARDSON, *supra* note 201, at 93-97.
211. *Sugar*, *supra* note 199.
212. *Id.*
213. *Id.*
214. *Id.*
215. RICHARDSON, *supra* note 201, at 103.
216. *Id.* at 97–98.

to gain international leverage in trade relations;[217] to assist the EU in tackling "entrenched domestic lobbies;"[218] and finally, to improve trade by cheapening sugar prices for food processors.[219] In addition, the accession of ten new Member States to the EU in 2004 and the granting of unimpeded access to the EU market for least developed countries in 2001 (with sugar to take effect in 2009) also necessitated reorganizing the sugar regime.[220] The underlying desire for reform probably explains the EU's meager defense before the WTO in the case challenging the EU export subsidy regime.[221] The EU's loss in that case, resulting in the abolition of EU sugar export subsidies,[222] was apparently both unsurprising to those present for its adjudication and covertly welcomed by the EU.[223] The decision from the WTO Appellate Body required the EU to alter its sugar policies particularly vis-à-vis export subsidies by May 2006[224]—and conveniently gave the EU an external scapegoat for reform.[225]

Once the decision was made to liberalize, the main question remaining was the form liberalization would take. There were three main possible courses of action: (i) reduce production quotas, (ii) reduce minimum price guarantees, or (iii) reduce both simultaneously.[226] In practice, these options meant the EU could either reduce the number of tons that would qualify for the guaranteed price, but keep the price the same; reduce the price to be paid per ton, but keep the number of eligible tons the same; or reduce both. Reducing quotas would result in a proportionate split among all players in the sugar market, such that all players big and small would bear the burden proportionately.[227] However, lowering prices would mean that some smaller players would no longer be able to compete at the new, lower price and would be forced out of the market.[228] The bigger players would experience reduced but sustainable profit margins, but would have a smaller competition pool in the long run.

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217. *Id.* at 100–101.
218. *Id.* at 98.
219. *Id.* at 101.
220. Elbehri et al., *supra* note 200.
221. RICHARDSON, *supra* note 201, at 98-99.
222. Elbehri et al., *supra* note 200, at 1.
223. RICHARDSON, *supra* note 201, at 98-99.
224. *See European Communities—Export Subsidies on Sugar*, WORLD TRADE ORG. (Feb. 24, 2010), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds266_e.htm.
225. RICHARDSON, *supra* note 201, at 98-99.
226. *Id.* at 102.
227. *Id.*
228. *Id.*

With this reasoning in mind, and at the behest of the powerful sugar processors, policymakers chose to lower prices (option two).[229] Minimum price guarantees were lowered in 2006 by 36%, to be phased in over 3 years.[230] Production quotas were maintained, but were now at the new, lower price.[231] Although reduced, this price was still significantly higher than the world price.[232] To compensate for the price cuts, the new policy brought the sugar sector into SPS, making sugar growers eligible for direct payments for the first time.[233] A significant amount of restructuring aid was also made available to producers and processors to encourage inefficient players to exit the market preemptively.[234]

As predicted, the reform resulted in increased consolidation of the EU sugar market.[235] In the years following reform, sugar production ended in Bulgaria, Ireland, Latvia, Slovenia, and mainland Portugal and was significantly reduced in Finland and Italy; the number of growers in the EU dropped from 250,000 to 175,000; and the number of factories fell from 188 to 108.[236] By 2010, 42% of the remaining EU sugar factories were located in France and Germany.[237] Simultaneously, leading sugar companies continued to grow, consolidate via mergers and acquisitions, and multi-nationalize their operations, resulting in European sugar companies becoming among the largest in the world.[238] By 2007, five of the world's top ten sugar-producing companies were based in Europe.[239] The reform helped grow the largest sugar companies, drove out smaller players, and reduced the commodity price of sugar to the benefit of processors (and, for the first time, at the expense of growers).[240]

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229. *Id.* at 103.

230. Boel, *supra* note 165, at 4; *CAP* USDA ERS, *supra* note 93.

231. Burrell et al., *supra* note 198, at 6; *see also* Commission Regulation 952/2006, of 29 June 2006 Laying Down Detailed Rules for the Application of Council Regulation No 318/2006 as Regards the Management of the Community Market in Sugar and the Quota System, 2006 O.J. (L 178) 39 (EC).

232. RICHARDSON, *supra* note 201, at 103.

233. Boel, *supra* note 165, at 4; *CAP* USDA ERS, *supra* note 93.

234. Council Regulation 320/2006, of 20 Feb. 2006 Establishing a Temporary Scheme for the Restructuring of the Sugar Industry in the Community, 2006 O.J. (L 58) 42, 45 (EC); *see also* Burrell et al., *supra* note 198, at 6.

235. *See* RICHARDSON, *supra* note 201, at 104.

236. *Id.*; Burrell et al., *supra* note 198, at 3.

237. Burrell et al., *supra* note 198, at 3.

238. RICHARDSON, *supra* note 201, at 105.

239. *Id.* at 105 (Figure 5.2) (citing F.O. Lichts, *International Sugar and Sweetener Report*, 140 AGRA EUR. 471 (2008)).

240. *Id.* at 101.

C. The 2013 Reform: Liberalizing the Sugar Sector

The 2013 CAP reforms go even further and will almost fully liberalize the sugar market in Europe over the next several years, culminating in the elimination of production quotas, minimum price guarantees, and the production cap in 2017.[241] At that time, all four of the original protection mechanisms (import tariffs, production quotas and minimum price guarantees, export subsidies, and the production cap) will be lifted.[242] However, this reform does still maintain some protections for sugar, including import tariffs; coupled support for the sugar beet sector (as well as nineteen other sectors) in limited circumstances in certain Member States;[243] private storage aid for surplus sugar production; and safety net mechanisms including the withdrawal of sugar from the market in times of crisis.[244]

The European Commission predicted the reform would cause the commodity price of sugar to drop significantly, HFCS production and consumption to treble, and production of caloric sweeteners overall to increase by around 15% in the decade after quotas end.[245] Early indications suggest these predictions are broadly accurate. The price of European sugar has fallen considerably, and analysts in 2015 now expect an increase of around 20% in sugar production post-2017.[246] The main players in the European sugar industry are growing larger and preparing to increase production to remain competitive, both as a direct result of this reform,[247] because as prices fall, the only way to maintain profits will be to produce more sugar.

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241. Single CMO Regulation 2013, *supra* note 96, arts. 124-25, at 728-729.

242. *Id.*

243. Council Regulation 1307/2013, Establishing Rules for Direct Payments to Farmers Under Support Schemes Within the Framework of the Common Agricultural Policy, art. 52, 2013 O.J. (L 347) 645 (EU).

244. Single CMO Regulation 2013, *supra* note 96, arts. 17, 130 at 694, 730.

245. *Prospects for Agricultural Markets and Income in the EU 2013-2023*, EUR. COMM'N 65 (Dec. 2013), *available at* http://ec.europa.eu/agriculture/markets-and-prices/medium-term-outlook/2013/fullrep_en.pdf.

246. *See* Kate Burgess, *Life Looks Sweeter for RGF As It Offloads Sugar Business*, FIN. TIMES (May 3, 2015), http://www.ft.com/cms/s/0/c4271f34-ef54-11e4-87dc-00144feab7de.html#axzz3lwe6EJ5M.

247. *See id.* In May 2015, Europe's second largest sugar company, Tereos, purchased the sugar distribution business of a U.K.-based baked goods company, Real Good Foods, in an attempt to vertically integrate as a direct result of the CAP sugar reforms. Tereos has also stated it will increase sugar production by 20% once the quotas are abolished in 2017.

D. The Nutritional and Public Health Implications of the Sugar Regime

Concerns about the health effects of sugar have recently taken center stage, reflecting an emerging understanding of the importance of sugar, and particularly sugary drinks, in the development of obesity and type 2 diabetes.[248] Recent research estimates that consumption of sugar-sweetened beverages (SSBs) alone will cause 1.8 million new cases of type 2 diabetes in the U.S. between 2010 and 2020, which comprises 8.7% of all new type 2 diabetes cases over that time frame.[249] In early 2015, the World Health Organization (WHO) recommended sugar intake should be less than 10% of daily calories, and preferably below 5%.[250] In the U.K., in July 2015, the Scientific Advisory Committee on Nutrition (SACN) halved its recommendation for sugar to no more than 5% of daily calories.[251] Similarly, the U.S. dietary guidelines recommend limiting total intake of discretionary calories, including both added sugars and solid fats, to 5%-15% per day.[252] Sugar makes up approximately 16% and 13% of dietary calories among children and adults, respectively, in the U.S., and about 15% and 11%, respectively, in the U.K.[253]—far exceeding limits, especially for children. Some are calling on industry to voluntarily reformulate foods, while others are calling on government to tax or introduce warning labels on sugary

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248. Cara B. Ebbeling et al., *A Randomized Trial of Sugar-Sweetened Beverages and Adolescent Body Weight*, 367 NEW ENG. J. MED. 1407, 1408 (2012); Lisa Te Morenga et al., *Dietary Sugars and Body Weight: Systematic Review and Meta-Analyses of Randomised Controlled Trials and Cohort Studies*, 346 BRIT. MED. J. 1, 1 (2013); Denise Romaguera et al., *Consumption of Sweet Beverages and Type 2 Diabetes Incidence in European Adults: Results from EPIC-InterAct*. 56 DIABETOLOGIA 1520, 1520 (2013).

249. Fumiaki Imamura et al., *Consumption of Sugar Sweetened Beverages, Artificially Sweetened Beverages, and Fruit Juice and Incidence of Type 2 Diabetes: A Systematic Review, Meta-Analysis, and Estimation of Population Attributable Fraction*, 351 BRIT. MED. J. 1, 1 (2015).

250. *Guideline: Sugars Intake for Adults and Children*, WORLD HEALTH ORG. 4 (2015), *available at* http://apps.who.int/iris/bitstream/10665/149782/1/9789241549028_eng.pdf?ua=1.

251. *Carbohydrates and Health*, SCI. ADVISORY COMM. ON NUTRITION 4 (2015), *available at* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/445503/SACN_Carbohydrates_and_Health.pdf.

252. R. Bethene Ervin & Cynthia L. Ogden, *Consumption of Added Sugars Among U.S. Adults, 2005-2010* 1 (May 2013), *available at* http://www.cdc.gov/nchs/data/databriefs/db122.pdf.

253. *Id.* at 1, 5; *Scientific Experts: Sugar Intake 'Should Be Halved,'* BBC NEWS (July 17, 2014), http://www.bbc.com/news/health-33551501.

drinks.[254] The government agency Public Health England recently released a consultation document setting out a series of potential measures to reduce sugar consumption.[255]

Amidst these public debates, little attention has been paid to the larger structural factors, including agricultural law, which influence sugar availability and consumption,[256] despite the recognition that agricultural policy, through its effect on price and availability of foods, is an important determinant of health.[257] This public concern around sugar is at odds with the newest agricultural reform.[258] The discussion now turns to the various mechanisms by which the new policy may lead to an increase in consumption of sugar,[259] posing a threat to public health efforts to reduce sugar consumption.[260] Worse, this policy could impact disproportionately on the lowest socioeconomic groups, threatening to widen health inequalities even further.[261]

1. Sugar Sector Reforms and Consumption

There is limited evidence about the effects the 2006 reforms have had on sugar consumption.[262] Projections from France suggested the 2006 reform would lead to reduced SSB prices and contribute to an increase in SSB consumption of 7.5% in that country.[263] Given that SSB consumption in France is among the lowest in Europe, the effects could be even higher elsewhere.[264] The new sugar reforms go much further than those of 2006 and have greater potential to increase sugar consumption through several mechanisms.

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254. Simon Capewell, *Sugar Sweetened Drinks Should Carry Obesity Warnings*, 348 Brit. Med. J. 23, 23 (2014); Oliver T. Mytton et al., *Taxing Unhealthy Food and Drinks to Improve Health*, 344 BRIT. MED. J. 1, 1 (2012).

255. *Sugar Reduction: Responding to the Challenge*, PUB. HEALTH ENG. 4 (2014), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/324043/Sugar_Reduction_Responding_to_the_Challenge_26_June.pdf.

256. *See* Jackson et al., *supra* note 150 (showing that the article does not focus on larger structural factors, but rather, three public health issues).

257. *See* Birt, *supra* note 11, at 5; Wilkinson, *supra* note 102.

258. Céline Bonnet & Vincent Requillart, *Does the EU Sugar Policy Reform Increase Added Sugar Consumption? An Empirical Evidence on the Soft Drink Market*, 20 HEALTH ECON. 1012, 1022 (2011).

259. *Id.* at 1.

260. Birt, *supra* note 11, at 5.

261. *Id.*

262. Bonnet & Requillart, *supra* note 258, at 1012.

263. *Id.*

264. *See id.* at 1022-23.

Although the above French study found that the 2006 sugar reform could affect the price of SSBs, for most processed food products containing sugar other than SSBs, lowering the commodity cost of sugar is not likely to have an appreciable effect on consumer prices.[265] This is because, for most products, the commodity price of sugar comprises just a fraction of the end price the consumer pays for the processed product in a grocery store, and so fluctuations in the commodity price have very little bearing on consumer price.[266] As a result, with the notable exception of SSBs for which the commodity cost of sugar comprises a larger fraction of the consumer price, lowering the commodity cost of sugar is unlikely to immediately lower the price of products containing sugar.[267] The ways in which the reform impacts sugar consumption is more likely to arise through other mechanisms.

First, lowering the cost of sugar to food processors will make it more economically viable to incorporate sugars into processed foods as an easy, inexpensive means of increasing palatability, potentially resulting in higher sugar content in foods that already contain sugars.

Second, the price fall in sugar and the increased availability of HFCS may result in both of these being added to a broader range of foods that previously did not contain sugar or HFCS. This is of particular concern for HFCS, which has a number of advantageous properties apart from sweetness, including flavor enhancement, stability, freshness, texture, pourability and consistency, and that it can be used as a sweetener in both sweet foods and some savory foods (e.g. ketchup, breads, and soups). [268] HFCS use in Europe is kept artificially low at present with the production cap in place, but when this restriction disappears in 2017, it will then become feasible to produce and use—so much so that the European Commission predicted its production and consumption would treble by 2023.[269]

The parallel example of the rise of HFCS in the U.S. provides an illustrative comparison and some useful insights. The widespread use of HFCS in the U.S. food supply began when the U.S. Food and Drug Administration (FDA) declared HFCS "generally recognized as safe," removing restraints on its use.[270] In less than five years, Coca-Cola and Pepsi

265. RICHARDSON, *supra* note 201, at 101.

266. *Id.* (explaining that processed products that incorporate sugar have substantial costs in the form of marketing, packaging, transport, and other factors, but sugar's contribution to the consumer price is quite low).

267. *Id.*

268. Suzen Moeller et al., *The Effects of High Fructose Syrup*, 28 J. AM. C. NUTRITION 619, 619 (2009).

269. *Prospects for Agricultural Markets and Income in the EU 2013-2023*, *supra* note 245, at 5, 25.

270. Marilyn D. Schorin, *High Fructose Corn Syrups, Part 1: Composition, Consumption and Metabolism*, 40 NUTRITION TODAY 248, 248 (2005).

replaced sugar with the cheaper and easier to process HFCS in their beverages and HFCS soon became the primary source of added sugars in U.S. SSBs.[271] In the thirty years since, there has been a long-term decline in the price of carbonated soft drinks relative to food.[272] In contrast, in the U.K., where sugar has remained the predominant sweetener, the price of soft drinks relative to food has *risen* during a similar time period.[273] Moreover, in the U.S., consumption of caloric sweeteners increased by 20% over a fifteen-year period after the introduction of HFCS, *even though* sugar consumption declined, likely due to increased HFCS consumption in SSBs.[274] This history of HFCS in the U.S. illustrates the potential effects macro-level sugar policy can have on product formulation and consumption, and on the price of SSBs. Because of other differences between the U.S. and Europe, including the heavy subsidies for corn in the U.S., it is unclear whether this effect will be seen to the same degree in Europe. Nonetheless, it demonstrates the potential for a liberalized HFCS sector to increase caloric sweetener consumption.

Third, reliably cheap sugar commodity pricing will enable food processors and manufacturers to make stable, low-risk investments in sugar processing infrastructure and encourage them to enter into long-term sugar contracts. This reinforces a food system that centralizes sugar as a cheap additive to enhance palatability and discourages innovation into new, healthier food additives and recipe reformulations. The resulting food system will consist of unhealthy food comprised of large quantities of sugar (and likely also various combinations of four to five other cheap unhealthy commodity crops). These unhealthy foods will be cheaper to the consumer relative to healthy foods, especially where the latter have not received the historic levels of market support of the former.[275]

Fourth, significantly cheaper sugar and HFCS may also lead to greater marketing of foods high in sugars, as these foods will remain very profitable—and potentially more profitable than in the past, since the significant decline in the cost of sugar will result in substantial cost savings to these companies which purchase millions of tons of sugar per year.[276] Assuring the profitability of sugars may further encourage industry to resist

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271. *Id.* at 250.

272. *See* Emilie Aguirre et al., *Liberalising Agricultural Policy for Sugar in Europe Risks Damaging Public Health*, Brit. Med. J (2015);351:h5085).

273. *See, e.g.*, *id.*

274. Schorin, *supra* note 270.

275. Aguirre et al., *supra* note 272.

276. *See Creating New Choices: The 2014 UK Soft Drinks Report*, BRIT. SOFT DRINKS ASS'N 5 (2014), *available at* http://www.britishsoftdrinks.com/write/MediaUploads/Publications/Revised_BSDA_Annual_Report_2014.pdf. Consumption of regular soft drinks in the U.K. alone totaled 14520 million liters in 2013.

any regulations designed to reduce the use of sugars or to limit advertising of these products.

Finally, and significantly, the effects of the reforms are likely to be felt beyond Europe.[277] It is intended that the sugar reforms will help open up the world market, particularly in developing and emerging economies, to European processed food, which will become cheaper to produce as sugar prices fall.[278] This is particularly troubling as many of these developing and emerging countries have populations at high risk of cardio-metabolic disease, which is worsened by increased consumption of processed foods high in sugar.[279] The EU Trade Commission and the U.K. Department for Environment, Food, and Rural Affairs (Defra) both championed the reforms precisely because of the opportunities they would bring for the European and U.K. processed food industry to more readily export unhealthy processed foods to these markets.[280] In fact, Defra has stated that "the boom in global demand for Western-style foods is creating huge opportunities for growth in [the sugar and food manufacturing] sector which [the U.K. and Europe] should not hold back."[281] As a result, this reform may also increase access to and consumption of processed foods high in sugar in countries outside of Europe without regard for the potential consequences of further exporting the Western diet there.

2. Possible Effects on Health Inequalities

This policy change also risks widening socioeconomic inequalities in diet and health. There is already a socioeconomic gradient in sugar consumption among adults and a similar gradient in the consumption of SSBs, which are a major source of added sugars in the diet.[282] High sugar-containing foods are among the cheapest foods available.[283] Any

277. RICHARDSON, *supra* note 201, at 1.

278. *Id.*; Press Release, Dep't for Env't, Food, & Rural Aff., Common Agricultural Policy Deal Struck (Mar. 20, 2013). The international implications of the CAP sugar reform are complex and beyond the scope of this paper, but also have serious potential consequences for sugar producers in the rest of the world as EU production and exports increase.

279. *See* Salim Yusuf et al., *Global Burden of Cardiovascular Diseases, Part I: General Considerations, the Epidemiologic Transition, Risk Factors, and Impact of Urbanization*, 104 CIRCULATION 2746, 2746 (2001).

280. *See* RICHARDSON, *supra* note 201, at 1; Press Release, *supra* note 278.

281. *See* Press Release, *supra* note 278.

282. Euna Han & Lisa M. Powell, *Consumption Patterns of Sugar Sweetened Beverages in the United States*, 113 J. ACAD. NUTRITION DIET 43, 43 (2013).

283. *See* Sara Cappacci et al., *The Regional Price of Junk Foods Relative to Healthy Foods in the UK: Indirect Estimation of a Time Series, 1997-2009*, CONF. OF THE AGRIC. ECON. SOC'Y 1, 2 (2012), *available at* http://purl.umn.edu/134720.

reformulation to increase sugars in processed foods is unlikely to happen equally across all product lines and will be more likely to occur in cheaper, processed food items, which are marketed on price rather than quality and which continue to become cheaper relative to healthy foods in both the U.S. and U.K., even without the sugar reform.[284] These cheaper foods are already purchased and consumed more frequently by lower socioeconomic groups,[285] which are the most price sensitive consumers.[286] These food items becoming even cheaper relative to healthy foods may lead to their more frequent consumption by these lower socioeconomic groups.[287] In contrast, food items marketed on grounds of quality or health value, which tend to be more expensive,[288] may be less susceptible to reformulation as the addition of sugars could undermine the perceived quality. Consequently, this reform may disproportionately increase sugar consumption among lower socioeconomic groups, contributing to the widening of already growing health inequalities.

3. Sending Mixed Signals

The CAP reform incentivizes the use of sugars at the same time that pressure is growing to use and consume less sugar, creating a tension between agricultural policy and health policy.[289] The example of the U.K. is instructive. On the one hand, Defra has championed the reforms and welcomed the opportunities for the U.K. processed food industry.[290] On the other, bodies such as the WHO, SACN, and Public Health England are simultaneously calling for less sugar to be produced and consumed.[291] These bodies, some of which come from the same domestic government, are at odds with each other on this issue. Indeed, European agricultural policy and

284. *See* Jones et al., *supra* note 196; Mayuree Rao et al., *Do Healthier Foods and Diet Patterns Cost More Than Less Healthy Options? A Systematic Review and Meta-Analysis*, 3 BRIT. MED. J. OPEN 1, 15 (2013).

285. Rachel Pechey et al., *Socioeconomic Differences in Purchases of More vs. Less Healthy Foods and Beverages: Analysis of Over 25,000 British Households in 2010*, 92 SOC. SCI. & MED. 22, 22 (2013).

286. *See* Shanthy A. Bowman, *A Comparison of the Socioeconomic Characteristics, Dietary Practices, and Health Status of Women Food Shoppers with Different Food Price Attitudes*, 26 NUTRITION RES. 318, 318 (2006); Cappacci et al., *supra* note 283, at 1, 10.

287. *See* Cappacci et al., *supra* note 283, at 10.

288. *See* Rao et al., *supra* note 284.

289. Press Release, *supra* note 278.

290. *Id.*

291. *Sugar Reduction: Responding to the Challenge, supra* note 255.

particularly sugar policy over the past fifty years have largely ignored nutritional health as a priority or even as a consideration.[292]

While some weak public health objectives have been incorporated in recent years, these do not primarily relate to nutrition or dietary public health. Health remains absent from CAP's five main objectives and is not mentioned in any of the supporting Articles on implementing CAP.[293] The structuring and sequencing of the reforms in 2006 and 2013 indicate that they were orchestrated primarily to benefit industry, including, especially, large sugar processors and EU political and international trade interests,[294] rather than with the public's health in mind. During this process, there has been no pause to consider the broader health implications of sugar reform—*even though* from the outset, the European Commission forecasted that sugar consumption would increase as a result of these reforms.[295] This tension between agricultural and nutritional policies is widespread beyond Europe.[296] In most countries, departments of agriculture and health are separate with little interaction.[297] For example, U.S. agricultural policy has heavily encouraged overproduction of corn since the 1970s, contributing to large-scale production and consumption of HFCS, which conflicts with the health goals of reducing obesity and noncommunicable disease, including type 2 diabetes.[298]

Consensus is growing, however, that agricultural policy is integral to population health.[299] There are a small number of notable examples of successfully aligning agricultural policy with public health objectives. The North Karelia project in Finland successfully instituted changes in agricultural policy, including a switch from dairy to fruit production and the introduction of rapeseed, which alongside other initiatives, was associated

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292. Hawkesworth et al., *supra* note 150, at 3094.

293. Consolidated Version of the Treaty on the Functioning of the European Union art. 39, Oct. 26, 2012, 2012 O.J. (C 326) 62 [hereinafter TFEU].

294. RICHARDSON, *supra* note 201, at 1.

295. *Prospects for Agricultural Markets and Income in the EU 2013-2023*, *supra* note 245, at 5, 25.

296. Aguirre et al., *supra* note 272.

297. Jessica L. Johnston et al., *Understanding Sustainable Diets: A Descriptive Analysis of the Determinants and Processes That Influence Diets and Their Impact on Health, Food Security, and Environmental Sustainability*, 5 ADVANCES IN NUTRITION 418, 426 (2014).

298. *See* David Wallinga, *Agricultural Policy and Childhood Obesity: A Food Systems and Public Health Commentary*, 29 HEALTH AFF. 405, 405-06 (2010); Imamura et al., *supra* note 249. The SACN and Defra tension in the U.K., discussed above, provides another example of this tension.

299. *See* Dorward & Dangour, *supra* note 150, at 1; Hawkesworth et al., *supra* note 150; Jackson et al., *supra* note 150, at 393; Birt, *supra* note 11; Nugent, *supra* note 150, at 3.

with improvements in population diet and reduced cardiovascular disease.[300] Poland removed dairy and other animal fat subsidies in the 1990s, contributing to a shift in fat consumption away from saturated fat to polyunsaturated fat and to an observed decline in coronary heart disease.[301] Both of these high-level policy changes resulted in population level changes in diet and health outcomes.[302] They are encouraging examples for agricultural policymakers elsewhere of the potential positive health benefits that can result relatively quickly from changes in macro-level policy.

The timing of the CAP sugar reform is particularly unfortunate, as conflicting messages from health and agriculture generate mixed signals for the food industry.[303] There is a real risk that ongoing and proposed measures designed to reduce sugar consumption (for example, reformulation targets to remove sugar from processed foods, taxes on sugary drinks, and marketing restrictions) could be significantly undermined by larger trends in production and pricing of sugar in Europe, due to this reform.[304] Greater attention must be paid to the role agricultural policy plays in determining the price, availability, and consumption of sugar and HFCS, and the health implications of sugar policy reforms must be considered or else risk worsening public health.[305] Further increasing availability of cheap, unhealthy commodities—in this case, sugar and HFCS—may prove to worsen the structural problem and increase these commodities' use in processed products.[306] Of particular importance, policymakers must take special account of equity considerations in order to reduce—and not exacerbate—growing socioeconomic inequalities in diet and health.[307] It is pressing that Europe explore short- to medium-term responses to address the immediate concerns of its sugar policy and projected increase of sugars in the food supply.[308] In the longer term, it must align sugar and agricultural policy with health objectives to begin to address the larger structural factors

300. Puska Pekka et al., *Influencing Public Nutrition for Non-Communicable Disease Prevention: From Community Intervention to National Programme—Experiences from Finland*, 5 PUB. HEALTH NUTRITION 245, 247-248 (2002).

301. Witold A. Zatonski & Walter Willett, *Changes in Dietary Fat and Declining Coronary Heart Disease in Poland: Population Based Study*, 331 BRIT. MED. J. 187, 187 (2005).

302. *Id.*

303. *See* Birt, *supra* note 11, at 7.

304. *Id.*

305. *Id.* at 5.

306. *Id.* at 12.

307. *Id.* at 14.

308. Birt, *supra* note 11, at 17.

affecting diet and population health outcomes.[309] These and other policy recommendations are discussed in greater detail below.[310]

IV. MESSAGES FOR POLICYMAKERS

Understanding CAP's history from its inception up to its most current form sheds light on the formation of the obesogenic food system and how it has evolved to support unhealthy over healthy products.[311] Recent studies support this conclusion, showing that various aspects of CAP may significantly increase noncommunicable disease and likely also obesity rates.[312] The WHO estimated the cardiovascular "disease burden attributable to CAP appears substantial" based on conservative estimates of saturated fat intake and the policy's historic market support of products containing saturated fat, such as beef.[313] The U.K. Faculty of Public Health, the standard-setting body for public health in the U.K., also found CAP to have a substantial death and disease burden based on its historic support of products high in saturated fat.[314] Although previously unstudied, it is possible that CAP's historic support of the sugar industry has also had negative health effects, given excess sugar intake is associated with adipose weight gain (a particularly unhealthy type of weight gain), obesity, and noncommunicable disease, including type 2 diabetes and cardiovascular disease.[315] These negative effects may increase as the sugar market

309. *Id.*

310. *See infra* Part IV.

311. *See, e.g.*, Ffion Lloyd-Williams et al., *Estimating the Cardiovascular Mortality Burden Attributable to the European Common Agricultural Policy on Dietary Saturated Fats*, 86 BULL. WORLD HEALTH ORG. 535, 535 (2008).

312. *Id.* at 535-36.; Birt, *supra* note 11.

313. *See* Lloyd-Williams et al., *supra* note 311.

314. *See* Birt, *supra* note 11.

315. *See* Sanjay Basu et al., *The Relationship of Sugar to Population-Level Diabetes Prevalence: An Econometric Analysis of Repeated Cross-Sectional Data*, 8 PLoS ONE 1, 1 (2013) (finding increased sugar availability is linked to increased type 2 diabetes prevalence at the population level, an association which no other food types in the study exhibited and which statistically explained variations in diabetes prevalence rates that physical activity, overweight, and obesity could not explain); Alexandra Shapiro et al., *Fructose-Induced Leptin Resistance Exacerbates Weight Gain in Response to Subsequent High-Fat Feeding*, 295 AM. J. PHYSIOLOGY - REG., INTEGRATIVE & COMP. PHYSIOLOGY R1370, R1370 (2008); Kimber Stanhope et al., *Adverse Metabolic Effects of Dietary Fructose: Results from Recent Epidemiological, Clinical, and Mechanistic Studies*, 24 CURRENT OPINION LIPIDOLOGY 198, 198 (2013) (finding that sugar plays a role in the epidemics of metabolic syndrome, cardiovascular disease, and type 2 diabetes); Kimber Stanhope et al., *Consuming Fructose-Sweetened, Not Glucose-Sweetened, Beverages Increases Visceral Adiposity and Lipids and Decreases Insulin Sensitivity in Overweight/Obese Humans*, 119 J. CLINICAL INVESTIGATION 1322, 1322

liberalizes, sugar commodity pricing significantly decreases, and HFCS production and consumption increase.[316] It is an important moment to integrate health into agricultural policy at both the Member State and the EU level, particularly vis-à-vis fruits and vegetables, sugar, and HFCS.

It should be acknowledged that the current CAP is a necessary transitional step away from the intractable state of affairs of previous CAP iterations.[317] The fact that the system used to be worse, however, does not justify maintaining its current form. It is time to reform CAP to better meet a new set of agricultural policy needs. EU agricultural law has skewed agricultural production against health for fifty years. The policy does not become health-neutral (nor truly free market) simply by removing historically skewed support. Until agricultural law considers health and incorporates a set of counter-incentives to recalibrate the market for healthier production, the system remains health-averse. The developments in the fruit and vegetable sector are a constructive first step, but CAP must go further.

The current CAP framework applies until 2020.[318] However, Member States still have significant opportunities prior to 2020 to improve agriculture for health and to implement CAP in health-conscious ways. First, agricultural law is a shared competence under EU law, meaning Member States may enact laws in agriculture to the extent the EU has not exercised its own competence.[319] Second, EU policymakers have delegated increasing flexibility to Member States in implementing CAP, giving domestic governments significant discretion when enacting their agricultural policies.[320] Member States must capitalize on their legal authority in agriculture to counter the obesogenic food system that the macro-level EU agricultural legal framework has entrenched for fifty years.

In addition to the fact that CAP is fixed until 2020, it is also important to recognize the political and practical difficulty of conducting EU-level negotiations among twenty-eight Member States to reform CAP, even in 2020. Thus, much of the responsibility will lie with Member States to utilize their domestic powers to enact health-aligned agricultural policies, even in

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(2009); Quanhe Yang et al., *Added Sugar Intake and Cardiovascular Diseases Mortality Among US Adults*, 174 J. AM. MED. ASS'N INTERNAL MED. 516, 516 (2014).

316. Fields, *supra* note 84. As previously noted, HFCS has attractive qualities as a sweetener, leading to its frequent and cheap use to sweeten beverages outside of the EU, where HFCS production is not restricted. It will be important to track sweetener use and consumption rates in the EU post-2017 to help determine the effects of reform.

317. *The Cap in Perspective: From Market Intervention to Policy Innovation*, EUR. COMM'N 3 (Jan. 2011), http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/01_en.pdf.

318. *Overview of CAP Reform 2014-2020*, *supra* note 151, at 1.

319. TFEU, *supra* note 293, art. 4, at 51.

320. *See* Allen et al., *supra* note 162, at 1.

the absence of centralized reform at the EU level. Many of the recommendations below, therefore, apply both to CAP and to Member States individually.

A. Policy Recommendations

1. Integrate Dietary Public Health as an Agricultural Policy Objective

First and foremost, dietary public health should be added as one of the main objectives of agricultural policy, both at the EU and the Member State level. To do so will begin to associate dietary public health with agricultural policy, and to establish improving dietary public health as a legitimate, achievable aim in agricultural policy. For CAP, this process would be as simple as adding one word to the fourth objective, which currently reads, "to assure the availability of supplies,"[321] so that instead it reads, "to assure the availability of healthy supplies." Doing so would create a legal basis for implementing health-conscious agricultural policies at the EU level. It would also set an important conceptual foundation for integrating health into agriculture. This policy recommendation may even be politically feasible. CAP has already shown it can expand its objectives conceptually to fit the modern context by incorporating environmental and rural development objectives, two objectives previously thought unrelated to agricultural law.[322] In addition, the current CAP legislation describes the need to improve CAP's consistency with the environment, public health, animal health, plant health, and animal welfare policies,[323] such that public health is at least already on CAP's radar.

In addition, Member States should seek to align domestic policies across health and agriculture. They should explicitly incorporate dietary public health objectives and supplementary measures into domestic policies, and should facilitate and proactively encourage—or even require—interaction between the departments of health and agriculture. This could be effected, for example, via regular secondments between departments; via legally requiring consultations between departments under certain circumstances, including in the implementation of agricultural policy; or via legal mandates to jointly conduct health impact assessments of agricultural policies, to give only a few examples.

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321. TFEU, *supra* note 293, art. 39, at 62-63; *see also* EEC Treaty, *supra* note 57, art. 39, at 30-31.

322. *See CAP Reform: A Policy for the Future*, *supra* note 116.

323. *Id.*

2. Conduct Health Impact Assessments of Agricultural Policies

Given the demonstrated influence of agricultural policies on food availability and consumption, agricultural policies should be subject to a full and meaningful health impact assessment.[324] No health impact assessment of CAP has been undertaken, including of the sugar reforms. Such an assessment would provide an estimate of the scale of potential population health impacts and help identify solutions to mitigate health harms. Although a challenging task to undertake, the relative success of conducting health impact assessments in other sectors (for example, in transport and in integrating health into transport decision-making) suggest it is achievable.[325]

3. Mandate Reformulation Targets

It may also be necessary for governments to mandate targets for improving nutritional contents of processed foods, and especially for reducing sugar contents, given the financial pressures on the industry to reformulate foods to incorporate more sugar (or at least maintain existing formulations) as sugar prices drop. These targets would also require robust systems for monitoring compliance to be put into place. Doing so could help improve the nutritional composition of the food supply, even as agricultural policy encourages food companies to act in health-averse ways.

4. Implement Robust Surveillance Mechanisms

It will also be important to maintain, and periodically enhance, surveillance of food prices, diet, and health to track the effects of these reforms on the cost and availability of foods, the sugar and HFCS in the food supply, and the impacts on diet, including patterning of consumption among socioeconomic groups. This surveillance includes comprehensive data collection on purchasing and consumption. This sort of data collection is

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324. *See, e.g.*, Alan D. Dangour et al., *Linking Agriculture and Health in Low- and Middle-Income Countries: An Interdisciplinary Research Agenda*, 71 PROCEEDINGS NUTRITION SOC'Y 222, 222 (2012).

325. Sonja Khalmeier et al., *"Health in All Policies" in Practice: Guidance and Tools to Quantifying the Health Effects of Cycling and Walking*, 7 J. PHYSICAL ACTIVITY & HEALTH S120, S120 (2010); James Woodcock et al., *Public Health Benefits of Strategies to Reduce Greenhouse-Gas Emissions: Urban Land Transport* 374 THE LANCET 1930, 1930 (2009); *Local Sustainable Transport Fund—Guidance on the Application Process*, DEP'T FOR TRANSPORT 4 (Jan. 2011), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43561/guidance.pdf.

well-precedented in many countries, including the U.K. and U.S.,[326] indicating it is feasible. However, it should be implemented across the EU, either by individual Member States or with support from EU funds, to ensure each country monitors its diet patterning. Only through comprehensive data collection and analysis can we hope to more adequately understand the effects agricultural policy has on diet, health, and socioeconomic inequalities.

5. Shift Agricultural Funds to Healthy Commodities and Incentivize Healthy Production

Policymakers should shift agricultural funds toward healthy commodities in legally compliant ways. In the past, the EU has intervened in favor of sugars, fats, red meats, dairy, and cereals.[327] Removing or phasing out these interventions does not do enough for health, which must now proactively facilitate healthier production as a structural means of improving diet and health.

Healthier diets have consistently been shown to be costlier, while less healthy foods have been found to be the cheaper option, in many cases making health outcomes contingent on the ability to pay for healthier foods.[328] These findings suggest that structural economic interventions that alter the cost gradient between healthier versus unhealthier foods may provide an effective means of improving diet and health, particularly among cost-conscious consumers.[329] It may also be more effective to achieve healthy production via an incentive structure, rather than attempting to do so through punitive legislation and mandatory requirements—taking a "carrot" rather than a "stick" approach to induce companies to produce healthier products.

In fact, using fiscal measures to improve diet and health has begun to gain traction as a potential policy option.[330] Although research has not been

326. *See National Diet and Nutrition Survey: Results From Years 1 to 4 (Combined) of the Rolling Programme for 2008 and 2009 to 2011 and 2012*, PUB. HEALTH ENG. (May 14, 2014), https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-results-from-years-1-to-4-combined-of-the-rolling-programme-for-2008-and-2009-to-2011-and-2012; *About the National Health and Nutrition Examination Survey*, CDC, http://www.cdc.gov/nchs/nhanes/about_nhanes.htm (last updated Nov. 12, 2015). In the U.K., this data set is called the National Diet and Nutrition Survey (NDNS). In the U.S., it is called the National Health and Nutrition Examination Survey (NHANES).

327. *The Early Years*, supra note 80.

328. *See* Jones et al., *supra* note 196, at 1.

329. Blankenship et al., *supra* note 2, at 59-60.

330. Ashley M. Fox & Carol R. Horowitz, *Best Practices in Policy Approaches to Obesity Prevention*, 24 J. HEALTH CARE POOR UNDERSERVED 168, 168 (2013).

conducted on the effects of incentivizing healthy primary production *per se*, there is a modest but growing body of research on individual-level incentives that suggests these measures effectively increase healthy food purchasing across socioeconomic groups, even when they only modestly lower the price of healthy foods.[331] Higher level incentives in agricultural policy could include financial incentives to producers of healthy commodities, including fruits, vegetables, pulses, and legumes, among others. They could also include financial incentives to manufacturers to incorporate these commodities into processed food products. Agricultural policy should also fund applied agricultural research in this area, which is discussed in greater detail below. More research should also be conducted on the effectiveness of higher-level incentives on changing the composition of the food supply and lowering the price of healthy foods.

There is one important caveat to using financial incentives: these fiscal measures must be carefully developed to comply with domestic, EU, and international laws, and particularly with international trade law on subsidies and EU competition law on state aid. They must also be sure to comply with the basic, though flexible, framework which CAP sets for Member States.

To take each legal parameter in turn, the WTO Agreement on Subsidies and Countervailing Measures (SCM) generally prohibits financial contributions by governments which confer a benefit to a specific recipient.[332] However, the meaning of "benefit conferred" is complex and underdeveloped, particularly in cases involving government attempts to produce broad social benefits in health.[333] Recent cases in environmental

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331. *See, e.g.*, Ruopeng An, *Effectiveness of Subsidies in Promoting Healthy Food Purchases and Consumption: A Review of Field Experiments*, 16 PUB. HEALTH NUTRITION 1215, 1215 (2013); Cliona Ni Mhurchu et al., *Effects of Price Discounts and Tailored Nutrition Education on Supermarket Purchases: A Randomized Controlled Trial*, 91 AM. J. CLINICAL NUTRITION 736, 736 (2010); Roland Sturm et al., *A Cash-Back Rebate Program for Healthy Food Purchases in South Africa*, 44 AM. J. PREVENTIVE MED. 567, 567 (2013); Wilma E. Waterlander et al., *Price Discounts Significantly Enhance Fruit and Vegetable Purchases When Combined with Nutrition Education: A Randomized Controlled Supermarket Trial*, 97 AM. J. CLINICAL NUTRITION 886, 886 (2013); Candace R. Young et al., *Improving Fruit and Vegetable Consumption Among Low-Income Customers at Farmers Markets: Philly Food Bucks, Philadelphia, Pennsylvania, 2011*, 10 PREVENTING CHRONIC DISEASE 1, 1 (2013).

332. Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, THE LEGAL TEXTS: THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS 231 (1999), 1869 U.N.T.S 14 [hereinafter SCM Agreement].

333. *See, e.g.*, Appellate Body Report, Canada—Certain Measures Affecting the Renewable Energy Generation Sector, Canada—Measures Relating to the Feed-in Tariff Program, WT/DS412/AB/R (May 6, 2013); *see also* Aaron Cosbey & Petros C. Mavroidis, *A Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable*

law before the WTO may provide some guidance to Member States when drafting incentive measures, although the case law is still limited and not necessarily generalizable within environmental law cases, let alone transferable conceptually to dietary public health measures.[334]

Relatedly, Article 107 of the Treaty on the Functioning of the EU (TFEU) seeks to curb anti-competitive behaviors by prohibiting Member States from granting aid or subsidies to private parties in distortion of free competition.[335] State aid is defined as "any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings."[336] This definition is broadly construed: although subsidies to individual consumers meant to further social causes (such as healthy food vouchers or a tax-free bike scheme), or general policies available to any enterprise (such as general tax policies) are permissible, any fiscal policy granting favorable treatment to particular enterprises may be in contravention of state aid requirements.[337]

Measures that may confer a benefit, aid private undertakings, or concern agriculture must therefore be carefully written to comply with or qualify for an exemption from the SCM Agreement and state aid law, and must fall within the flexible bounds of CAP legislation.[338] The recent EU Commission investigation of the repealed Danish "fat tax" of 2011 for potentially violating prohibitions against state aid, including a threat of backdated penalties with compound interest, indicates the necessity of performing comprehensive legal analysis prior to implementing any such measures at the national level.[339] Creating healthy food fiscal measures which simultaneously meet public health and legal objectives is an important

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Energy: The Case for Redrafting the Subsidies Agreement of the WTO, 17 J. INT'L ECON. L. 11, 19 (2014); Mark Wu & James Salzman, *The Next Generation of Trade and Environment Conflicts: The Rise of Green Industrial Policy*, 108 NW. U. L. REV. 401, 404 (2014).

334. *See* Cosbey & Mavroidis, *supra* note 333, at 21.

335. TFEU, *supra* note 293, art. 107, at 91.

336. *Id.*

337. *State Aid Control*, EUR. COMM'N, http://ec.europa.eu/competition/state_aid/overview/index_en.html (last updated Aug. 16, 2013).

338. SCM Agreement, *supra* note 332.

339. Henriette Jacobsen, *Commission Opens Inquiry into Danish 'Fat Tax,'* EURACTIV.COM (Feb. 6, 2015), http://www.euractiv.com/sections/health-consumers/commission-opens-inquiry-danish-fat-tax-311890?utm_source=EurActiv+Newsletter&utm_campaign=a0f3c97fa9-newsletter_daily_update&utm_medium=email&utm_term=0_bab5f0ea4e-a0f3c97fa9-245710005; *see also* Malene Bødker et al., *The Rise and Fall of the World's First Fat Tax*, 119 HEALTH POL'Y 737, 737 (2015).

area for future research and could represent an effective policy option for improving dietary behaviors and health outcomes.

6. Invest in Agricultural Research and Development

CAP should shift funds away from the current single payment scheme, which comprises 70% of the CAP budget, toward investment into agricultural research and development. This research should focus on developing sustainable methods to efficiently produce, harvest, transport, and store nutrient-dense foods.[340] The production research should include research into agroecological methods tailored to specific localities. Agroecology "refers to a range of agronomic techniques . . . that reduce the use of external inputs and maximize resource efficiency."[341] It is a locally specific, knowledge-intensive approach, requiring extensive understanding of local ecosystems.[342] Because this methodology relies on a sophisticated polyculture (i.e. use of a wider range of diverse crops) as a farming technique, rather than on the monoculture technique currently prevailing in the EU and U.S., it provides the opportunity to raise a more nutritionally diverse set of crops overall.[343]

Agroecology presents an opportunity to positively change the food supply by increasing the production and overall availability of a greater number of nutrient-dense crops.[344] Cuba provided a natural experiment on the merits of agroecology: after losing trade relations with the Soviet Bloc in the early 1990s, it was left suddenly without the means for industrial agriculture and was forced to adopt agroecological techniques.[345] After introducing these techniques, the country rebounded remarkably, posting the best food production performance in Latin America and the Caribbean

340. *See* Swinnen *supra* note 82, at 15-16.

341. Special Rapporteur on the Right to Food, *Final Rep.: The Transformative Potential of the Right to Food*, Human Rights Council, U.N. Doc. A/HRC/25/57 (Jan. 24, 2014) (by Olivier De Schutter).

342. *Id.*

343. Ramona Cristina Ilea, *Intensive Livestock Farming: Global Trends, Increased Environmental Concerns, and Ethical Solutions*, 22 J. AGRIC. & ENVTL. ETHICS 153, 154 (2009).

344. De Schutter, *supra* note 341.

345. Miguel A. Altieri & Fernando R. Funes-Monzote, *The Paradox of Cuban Agriculture*, 63 MONTHLY REV. 23, 23 (2012) (citing PETER ROSSET & MEDEA BENJAMIN, EDS., THE GREENING OF THE REVOLUTION 20 (1994); FERNANDO FUNES ET AL., SUSTAINABLE AGRICULTURE AND RESISTANCE 163 (2002); BRAULIO MACHÍN SOSA ET AL., REVOLUCIÓN AGROECOLÓGICA 15 (2010)).

between 1996 and 2005, and averaging an impressive annual growth rate of 4.2% per capita, compared to a regional average of 0% growth.[346]

Agroecology has several benefits beyond improving the nutrition of the food supply. It is also economically efficient in the long-term, after the admittedly significant initial investment both financially and informationally, because it reduces the use of costly external inputs such as pesticides, fossil fuels, and specialized GMO seeds.[347] Redirecting CAP funds into agroecological research may even ultimately serve small farmers better economically than the current system of direct income support. Unlike CAP direct payments, agroecology benefits both small-scale and large-scale farmers and can help smaller farms remain competitive and efficient without costly and potentially ineffective direct payments. Enabling small farmers to remain competitive will also bolster rural development, another main objective of CAP. In addition to the economic benefits, agroecology reduces environmental impact, as many of the costly external inputs referenced above are also energy-intensive, including pesticides, fertilizers, and fossil fuels.[348]

Both the EU and Member States should redirect funds to this type of applied agricultural research, especially at the university level. Because agroecological techniques are knowledge-intensive and locally specific, they will require extensive research across the EU to be effective.[349] In tandem with this research, Member States can encourage farmers to adopt agroecological techniques through innovative domestic fiscal measures, for example, offering tax breaks for agroecological farmers of a delineated set of healthy crops that meet a minimum standard of objective nutrition criteria. These incentives would help healthier sectors attain a more level playing field and help reorient the agricultural system toward health.[350] It would also help increase the supply of healthy food.[351] Ideally, in the long-term, this would induce private sector research to incorporate these now relatively cheaper food items into processed foods. Member States could also consider tax breaks or other fiscal incentives for private companies that invest in agroecological research methods, increase crop diversification, or reduce

346. *Id.* (citing *The State of Food and Agriculture,* FOOD AND AGRIC. ORG. OF THE U.N. 123 (2006), ftp://ftp.fao.org/docrep/fao/009/a0800e/a0800e.pdf).

347. De Schutter, *supra* note 341, at 9.

348. *See, e.g., Putting Meat on the Table: Industrial Farm Animal Production in America,* PEW COMM'N ON INDUS. FARM ANIMAL PROD. 29 (2008), *available at* http://www.ncifap.org/_images/PCIFAPFin.pdf; *see also* De Schutter, *supra* note 341, at 9.

349. De Schutter, *supra* note 341, at 9.

350. *Id.*

351. *Id.*

energy-intensive input use. Of course, these incentives would have to be carefully written to be legally compliant.[352]

Research into the production of healthy foods should be supplemented by research into improved harvesting, transport, and storage of these foods. These stages are crucial but overlooked components of the food supply chain. It is estimated that over one-third of all food in the world is lost or wasted on a yearly basis,[353] highlighting among other things, the profound need for improving harvest, transport, and storage technology, particularly for the most perishable foods, which often happen to be among the healthiest.[354] Research that improves healthy crop yields, only to have these yields lost to inefficient harvest and postharvest techniques, significantly undermines the original investment into production research. Developing enhanced storage techniques for these foods also enables these sectors—including, for example, nutrient-dense commodities, such as fruits, vegetables, and nuts—to better withstand the volatility to which they are particularly vulnerable.[355]

In summary, through research into agroecology and improving postharvest mechanisms, CAP and Member States may be able to improve the nutritional density of the food supply while increasing economic efficiency, improving environmental impact, and assisting farmers of all sizes, including, especially, small farmers.

7. Incorporate Education into CAP

Improving knowledge and attitudes toward healthy diets is an important, though not sufficient, factor in improving nutrition.[356] Dietary

352. As discussed previously, any financial benefits or advantages conferred by domestic governments onto private undertakings must comply with the WTO SCM Agreement and state aid requirements of EU competition law set forth under Article 107 of the TFEU. How to craft these policies to be in compliance is an important subject for future research. *See* TFEU, *supra* note 293, art. 4, at 51-52.

353. *Food Wastage Footprint*, FOOD AND AGRIC. ORG. OF THE U.N., http://www.fao.org/nr/sustainability/food-loss-and-waste/en/ (last visited Nov. 13, 2015).

354. These include, for example, fruits, vegetables, and nuts.

355. *See generally* Marita Cantwell, *Estimates of Shelf-Life of Raw Nuts Held at Different Temperatures*, U.C. DAVIS (June 24, 2014), *available at* www.ucanr.edu/datastoreFiles/234-2753.pdf; Adel A. Kader, *Regulation of Fruit Physiology by Controlled/Modified Atmospheres*, U.C. DAVIS (1995), *available at* http://ucce.ucdavis.edu/files/datastore/234-273.pdf.

356. *See* Aggarwal et al., *Positive Attitude Toward Healthy Eating Predicts Higher Diet Quality at All Cost Levels of Supermarkets*, 114 J. ACAD. NUTRITION & DIETETICS 266, 266 (2014); McKinnon et al., *The Contribution of Three Components of Nutrition Knowledge to Socio-Economic Differences in Food Purchasing Choices*, 17 PUB.

public health interventions should therefore include an educational component—a finding supported by empirical analyses[357]—but cannot rely solely on education. The EATWELL Project, a European Commission-funded comprehensive assessment of the effects of nutrition policy interventions across the EU, has recommended that nutrition education be compulsory in all EU schools.[358] The European Commission has also proposed introducing an educational component focusing on agriculture, nutrition, and the environment into the EU School Fruit and Milk Schemes.[359] An important caveat to this recommendation, however, is that investment in nutrition education must include research into improving its effectiveness.[360] Although it recommended nutrition education, EATWELL expressed concerns over effectiveness and expressed doubt at the marginal benefit of additional investment into nutrition education *in its current form*.[361] The EU and its Member States must conduct careful research into which nutrition education techniques are most effective at improving diet and should look to other successful education programs when developing their own.[362] The fact that the platform and impetus for nutrition education already exists[363] means this policy recommendation could be particularly feasible, even at the EU level. Though it would likely fall under the remit of the department of education, Member States can also consider making nutrition education compulsory throughout primary, secondary and, even perhaps tertiary education.

Aside from schools, Member States may also consider integrating nutrition education into already existing social assistance and health

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HEALTH NUTRITION 1814, 1814 (2014); J. Wardle et al., *Nutrition Knowledge and Food Intake*, 34 APPETITE 269, 269 (2000).

357. *See Effectiveness of Policy Interventions to Promote Healthy Eating and Recommendations for Future Action: Evidence from the EATWELL Project*, EATWELL PROJECT 8 (2013), *available at* http://eatwellproject.eu/en/upload/Reports/Deliverable%205_1.pdf [hereinafter *EATWELL Project*].

358. *See id.*

359. *See Proposal for a Regulation of the European Parliament and of the Council Amending Regulation (EU) No 1308/2013 and Regulation (EU) No 1306/2013 as Regards the Aid Scheme for the Supply of Fruit and Vegetables, Bananas and Milk in the Educational Establishments*, EUR. COMM'N 6 (Jan. 30, 2014), *available at* http://ec.europa.eu/agriculture/school-scheme/legislative-proposal/com-2014-32_en.pdf.

360. *Id.* at 2-3.

361. *See EATWELL Project, supra* note 357, at 27-29.

362. *See, e.g.*, *EATWELL Project, supra* note 357, at 43; Janie Burney & Betsy Haughton, *EFNEP: A Nutrition Education Program That Demonstrates Cost-Benefit*, 102 J. AM. DIETIC ASS'N 39, 39 (2002).

363. *EATWELL Project, supra* note 357, at 43.

programs. For example, in the U.S., the federally funded Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) mandates nutrition education as a prerequisite to enrollment.[364] The U.S. also runs the Expanded Food and Nutrition Education Program (EFNEP) for low-income families and youth, a program which includes hands-on training in food preparation and budgeting.[365] Assessments of these education programs carried out in both the U.S. and the EU suggest they provide cost-effective means for improving nutrition and health among deprived and often vulnerable populations.[366] Given these positive results, other countries should consider incorporating nutrition education into similar existing social assistance programs (such as the Healthy Start program in the U.K.[367]) or launching their own separate nutrition education programs, targeting the populations most in need of nutritional interventions according to dietary surveillance data.

It is important to conceptualize the proper role for nutrition education in improving diets and to recognize its limitations as an intervention within a structurally obesogenic food system. These are necessary measures in which CAP and Member States should invest, but they are insufficient alone and will ultimately fall short unless the structure of the food system is changed in tandem.

B. Properly Contextualizing CAP

364. 42 U.S.C. § 1786 (2010); *Women, Infants, and Children (WIC)*, USDA, http://www.fns.usda.gov/wic/women-infants-and-children-wic (last updated Sept. 2, 2015) (explaining that WIC provides federal funding to states to support nutrition among low-income, nutritionally at-risk pregnant and postpartum women and their children up to age five). *Supplemental Nutrition Assistance Program (SNAP)*, USDA, http://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap (last updated Aug. 21, 2015) (explaining that the Supplemental Nutrition Assistance Program (SNAP) provides food-purchasing assistance to low-income individuals and families).

365. *Expanded Food and Nutrition Education Program (EFNEP)*, USDA, http://nifa.usda.gov/program/expanded-food-and-nutrition-education-program-efnep (last visited Nov. 13, 2015). Individuals and families eligible for federal nutrition assistance programs, including WIC and SNAP, are eligible for EFNEP.

366. *See EATWELL Project, supra* note 357, at 43; Burney & Haughton, *supra* note 362.

367. *Do I Qualify for Healthy Start?*, HEALTHY START, http://www.healthystart.nhs.uk/healthy-start-vouchers/do-i-qualify/ (last visited Nov. 13, 2015); *Your Questions Answered*, HEALTHY START, http://www.healthystart.nhs.uk/healthy-start-vouchers/your-questions-answered/ (last visited Nov. 13, 2015).

It is important to properly contextualize CAP and not to overstate this or any policy's role in creating problems in diet, noncommunicable disease, and obesity. Discrepancies among Member States in obesity and noncommunicable disease rates underscore this point.[368] For example, the U.K. has a significantly higher general population obesity rate (25%) than, for example, Italy and France (each about 10%).[369] CAP is but a framework and agriculture a shared competence. Member States have significant flexibility in establishing domestic agriculture laws,[370] enabling them to maintain national distinctiveness in agriculture, despite a common policy across the EU. It may help explain food supply, dietary, and health outcome differences among Member States.

There are also of course many factors beyond CAP that are responsible for distinctions in diet and health outcomes among Member States, including differences in socio-historical and sociological approaches to food, climate, smoking rates, physical activity levels, and a host of other factors.[371] Distinctions in obesity and noncommunicable disease rates among Member States suggest that although CAP may be skewed against public health in the EU, dietary behavior and health outcomes are the product of a complex bundle of circumstances.[372] They also suggest Member States may be able to mitigate the negative effects of CAP.

However, it is also the case that a convergence of unhealthy policies is resulting in a problematic food system that threatens even historically non-obese countries. To continue with the Italian example to help illustrate this point, although Italy's general population obesity rates are relatively low, its *child* obesity rates are rapidly growing and are now among the highest in the Organisation for Economic Co-operation and Development at 33%.[373] It is true that agricultural policy reform alone will likely be insufficient to solve

368. *Obesity and the Economics of Prevention: Fit Not Fat – United Kingdom (England) Key Facts*, ORG. FOR ECON. CO-OPERATION & DEV., http://www.oecd.org/els/health-systems/obesityandtheeconomicsofpreventionfitnotfat-unitedkingdomenglandkeyfacts.htm (last visited Nov. 13, 2015).

369. *Id.*; *Obesity and the Economics of Prevention: Fit Not Fat - Italy Key Facts*, ORG. FOR ECON. CO-OPERATION & DEV., http://www.oecd.org/els/health-systems/obesityandtheeconomicsofpreventionfitnotfat-italykeyfacts.htm (last visited Nov. 13, 2015) [hereinafter *Obesity Key Facts Italy*]; *Obesity and the Economics of Prevention: Fit Not Fat - France Key Facts*, ORG. FOR ECON. CO-OPERATION & DEV., http://www.oecd.org/els/health-systems/obesityandtheeconomicsofpreventionfitnotfat-francekeyfacts.htm (last visited Nov. 13, 2015).

370. *See* Allen et al., *supra* note 162, at 1.

371. Sanjiv Kumar & GS Preetha, *Health Promotion: An Effective Tool for Global Health*, 37 INDIAN J. CMTY. MED. 5, 5 (2012).

372. Birt, *supra* note 11.

373. *Obesity Key Facts Italy*, *supra* note 369.

these complex problems, but a health-averse agricultural policy only exacerbates them. Reforming these policies can and should play a role in reshaping the food system to better serve public health.

V. CONCLUSION

Poor diet, obesity, and noncommunicable disease are serious problems worldwide, especially throughout Europe and the U.S. From a medical and public health perspective, an economic perspective, and a sociological perspective, these issues warrant immediate attention and will require comprehensive, complex, cross-sectorial solutions. This Article contends that these solutions must move further upstream, shifting away from the individual as the primary unit of analysis and instead addressing the basic structure of the obesogenic food system within which individuals operate. Individuals cannot succeed in consuming healthy diets when the food supply is so seriously skewed with an excess of cheap, unhealthy food. The law's role—and in particular, agricultural law's role—in determining food prices, food availability, diet, and health must be acknowledged and better developed in both legal and public health discourse.

At present, agriculture and health are working at odds with each other instead of in tandem. Agricultural policies miss a key component by excluding health and must be changed to begin to recalibrate the entire system of food production. The law must seek to improve the obesogenic food system; it cannot afford to exacerbate it any longer. In light of recent CAP changes, particularly in the sugar regime, and in light of wider emerging public health evidence, it is imperative that Europe enact a set of policy responses to align agricultural policy with health. In practice, this must include incentivizing healthier production and processing in creative, legally compliant ways.

Reforming agricultural policy alone will not be sufficient to solve this serious set of dietary, obesity and health problems. However, it is an important part of the solution. It is crucial as a threshold matter to establish a sound foundational agricultural policy upon which to build a healthy food system if we are to improve diet and health across the world's populations.