



HAL
open science

Happiness and Public Spending

François Facchini

► **To cite this version:**

François Facchini. Happiness and Public Spending. *Quarterly Journal of Austrian Economics*, 2022, 25 (2), pp.147-174. <10.35297/qjae.010132>. <hal-03911710>

HAL Id: hal-03911710

<https://hal.science/hal-03911710v1>

Submitted on 7 Mar 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



HAL Authorization

Happiness and Public Spending

FRANÇOIS FACCHINI*

JEL CLASSIFICATION: H50, H40, H11

ABSTRACT: This article presents the traditional limitations of happiness economics and the uncertainty about the econometric relationship between public spending and happiness. It also argues that the happiness metric is a new form of social engineering, and that as such, happiness economics is biased toward a particular political utopia and scientific ideal. The political utopia is liberticidal, antidemocratic. It transforms democracy into “pollo-crazy”—i.e., the government (*kratos*) to the pollsters. The scientific ideal is positivist and favors government by numbers. This scientific norm underestimates the limits of statistical work. The social engineering of happiness is a new fatal presumption of policy makers. It is a new way to critique the free market economy and to substitute profit with a social criterion of quality of life and happiness.

“Let us ask authority to remain within its limits; let it confine itself to being just. We will take care of being happy.”

—Benjamin Constant (2016, 46)

Why question public spending’s negative impact on production if economic growth has no beneficial consequences for social satisfaction, for happiness? This is one of the questions the economics of happiness addresses.

* François Facchini (francois.facchini@univ-paris1.fr) is professor of economics at the University of Paris 1 Pantheon-Sorbonne and directs the public policy program at the Centre d’Economie de la Sorbonne (CES), France.

The study of the possible links between happiness and public spending is the consequence of some economists and intellectuals' opposition to economic growth and its measurement instrument gross domestic product (GDP) (Frey and Stutzer 2002; Diener and Seligman 2004). In the United States in 1966, a working group on social indices was created around Daniel Bell and Alice Rivlin. These social indices were infant mortality, the crime rate, and life expectancy. They were meant to complement GDP in evaluating public policies. The Stiglitz, Sen, and Fitoussi (2009) report institutionalized this debate in France and gave it a political dimension.

Criticism of GDP is not new and during the Cold War also gave rise to the Human Development Index (HDI), which sought to modify the evaluation criteria for economic development in order to take into account populations' health and education. GDP does not take into account economic activity's collateral damage, such as pollution and the risks and dangers associated with work. Criticism became even more radical under *degrowth* theory, which emerged with the Club of Rome's theses that the depletion of natural resources is imminent and that present generations' advocacy for ever more production and consumption poses a risk to future generations. Underlying these debates is always criticism of capitalism, consumerism, and individualism. Capitalism would succeed in making us rich, but it would fail to promote the happiness of society (Bentham [1789] 2008, 46).

In this context, public spending can be unproductive, but it can make society happy. If it does, public spending is virtuous, not economically, but because it makes people happy. The consequences of public policy choices should therefore no longer be evaluated on the basis of wealth but of happiness. A good public expenditure is one that increases the happiness of the greatest number. To ensure that public expenditure is beneficial, it is thus sufficient to know what makes people happy, to have sufficient political will, and to create the conditions for happiness through appropriate public policies.

This article examines the relationship between happiness and public spending and explains why many observers doubt the value of replacing the economy of wealth production with an economy of happiness production. First, wealth and happiness are closely linked. If public spending is negatively correlated with

economic growth, it will have a negative impact on happiness. In addition, the correlation between public spending and happiness is uncertain and the direction of causality is not clear. Second, the happiness metric, like all statistics, has its limits. Finally, the search for social happiness has the same limits as all other forms of social engineering. It can thus be concluded that public spending does not guarantee happiness and that the government should not set happiness as its objective.

THE HAPPINESS METRIC AND PUBLIC SPENDING

Bruno S. Frey (2008) defines happiness as the ultimate goal of human life. Happiness, he notes, is changeable and affected by a multitude of factors.¹ Consequently, if happiness is the goal of human life, public expenditure should not maximize national wealth but national happiness. For this reason, it is necessary to measure happiness and to substitute happiness for GDP. Measuring happiness will make it possible to answer the question of how many units of happiness society will gain by increasing public expenditure. How much does one euro of public spending increase happiness?

To answer this question, happiness and public spending must be measured. Then, econometrics can ask if there is any regularity between these two variables. Public expenditure is measured by the ratio of public expenditure to GDP, happiness through surveys. How can happiness be measured?

THE HAPPINESS METRIC

The happiness metric has the same purpose as national income accounting. Its purpose is to help quantify people's suffering and evaluate public policies. Modern national income accounting was meant to be an improved indicator of the economy's performance that would allow government policy makers to better control the economy (Holcombe 2004). The difference is that GDP is substituted with an indicator of happiness, such as gross national happiness,

¹ The World Database of Happiness (<https://www.eur.nl/en/ehero/activities-0/gathering-existing-knowledge/world-database-happiness>) lists all the existing scholarship in this field.

whose increase Bhutan's government pursues. A gross national happiness measure would be a new economic paradigm because it would integrate inclusive economic development² with the goals of strengthening communities, protecting the environment, providing universal access to health services and education, and preserving traditional culture and heritage.³ While the GDP and social indices are calculated top down, the well-being metric is self-reported and bottom up.

A happiness metric would be an answer to the criticism that social welfare indicators such as the HDI include factors such as GDP per capita, health, and education but do not deal with air quality, crime, water pollution, public transport, leisure, access to culture (such as books and theater), and other variables. It is difficult to reach a consensus on social welfare. Therefore, instead of using an arbitrary social index, a happiness metric simply asks people if they are happy. Happiness economists adopt a subjective posture because it is difficult to objectively define happiness (Diener 2000). They use a subjective well-being approach to define "objective happiness," basing it on a person's instant utility (a person's subjective evaluation of a particular moment) (Kahneman 1999).

Satisfaction surveys have opened the way to a happiness metric, to determining "objective happiness." It is a question of observing correlations, or even causalities, between an indicator of happiness, constructed on the basis of a satisfaction questionnaire (are you very happy, happy, or unhappy? as the Gallup World Poll asked), and individual data (age, sex, income level, location, occupation, etc.) or macroeconomic data.⁴ Happiness is declarative and subjective. The question is not what happiness is, what the good life is, but how many people are satisfied with life or not. The economics of happiness is thus based on where people place themselves on a happiness scale generally ranging from—5 or 1 (absolute unhappiness) to 5 or 10 (absolute happiness).

² Inclusive growth is economic growth that raises living standards for broad swaths of a population.

³ On April 2, 2012, the Royal Government of Bhutan convened the High-Level Meeting on Wellbeing and Happiness. See Royal Government of Bhutan (2012).

⁴ It is not always easy to define happiness, especially if happiness is equivalent to satisfaction or joy.

PUBLIC SPENDING AS AN OBJECTIVE DETERMINANT OF HAPPINESS

A survey makes measuring happiness possible. It makes it possible to say that men are happier than women in a given country or that happiness is greater in Germany than in France. Happiness statistics posit laws of the type “If p , then q ,” where q is the level of happiness.

Figure I. The research of objective determinants of happiness

Objective conditions (determinants) → Subjective well-being

Public spending is one determinant of happiness among others (figure 1). Indeed, the happiness metric lists over one hundred determinants of happiness (Dolan, Peasgood, and White 2008). The main determinants of happiness are age;⁵ gender;⁶ physiological qualities such as hypertension (Blanchflower and Oswald 2008a); unemployment and job dissatisfaction (Wolfers 2003); inflation (Di Tella and al. 2001; Di Tella 2003; Helliwell 2003; Alesina et al. 2004); alcohol (Massin and Kopp 2014); number of children (Cetre et al. 2016); economic freedoms (Gropper et al. 2011); political ideology (Dreher et al. 2011); and efficiency and government size (Kim et al. 2012). For each factor, the happiness economists calculate a coefficient. In the case of the happiness-unemployment relationship, for example, an unemployment increase of 1 percent causes a happiness loss of 4.7 percent (Wolfers 2003). This method expresses the idea that happiness can be treated like temperature. Everything that reduces social ills increases happiness (table 1).

⁵ Self-reported happiness seems to decrease until age forty-five before rising again, forming a kind of U-shaped curve.

⁶ Women are happier than men. In 2013, a gender and happiness study based on Gallup World Poll data for 160 countries concluded that women were happier than men but also more stressed.

Table I. Social evils, happiness, and public policy

| Author | Social evils | Impact on happiness | Public policy solution |
|---------------------------------------|-------------------|---------------------|------------------------------|
| Di Tella, MacCulloch, and Oswald 2003 | Unemployment | Negative | Increase employment |
| Lucas 2007 | Disability | Negative | Disability benefits |
| Ifcher 2011 | Single motherhood | Negative | Transfers to single mothers* |
| Oishi, Schimmack, and Diener 2012 | Inequality | Negative | Progressive taxation |
| Levinson 2012 | Air Pollution | Negative | Ecotax |

*The policy solution for single motherhood comes from the 1996 US Personal Responsibility and Work Opportunity Reconciliation Act.

Wealth has a special place among the determinants of happiness. Wealth (GDP) is correlated to inflation, unemployment, and economic freedom—i.e., to many determinants of happiness. Wealth was also at the heart of the Easterlin paradox and the opposition between proponents of material growth and defenders of a form of decay (Easterlin 1974). That explains in part why Stiglitz et al. (2009) argued that happiness was a good alternative to GDP.

The Easterlin paradox argues that being rich is not enough to be happy and that pursuing wealth diminishes happiness. Easterlin (1974) found that average happiness in the United States did not increase from 1946 to 1970, even though GDP had doubled. Richard Easterlin put forward two explanations.

- i) He blamed wealth accumulation and the consumer society, arguing that material satisfaction is fleeting. The satisfaction from a new pair of shoes fades very quickly. The more goods one acquires, the faster satisfaction will fade.
- ii) He noted the importance of each individual's relationship with others' success, positing that happiness depends more on relative income than on absolute income. That is, rank changes in the income and wealth hierarchy matter more than income increases. If everyone's incomes increase by the same amount, happiness stays the same, because what increases happiness is not seeing one's situation improve in absolute terms, but seeing it improve relative to others'. Knight and Gunatilaka (2011) confirmed this, showing that relative income affects happiness at least twice as much as absolute income.

Inequality therefore affects a country's happiness. People who are high income relative to people in poorer countries can only declare themselves less happy because they are at the bottom of their social scale. According to Easterlin, happiness depends more on perceiving the order as just than on income. Individuals, for the same level of inequality, will report greater happiness if they believe that the inequality is linked to individual merit rather than luck or some form of genetic or cultural injustice. US citizens generally believe that individual talent is the source of inequality, whereas European citizens tend to believe that it is luck (Alesina, Di Tella, and MacCulloch 2004). The relationship of relative income to happiness is therefore very much dependent on citizens' political ideology.

The discussion around Easterlin's paradox is significant because it considers a major social question, whether money makes people happy.

The increase in empirical studies and the availability of data for longer periods and larger country samples suggest that, on average, the share of individuals who report being unhappy is higher in rich countries than in poor countries (Frijters, Haisken-DeNew, and Shields 2004; Frijters et al. 2006). Daniel W. Sacks, Betsy Stevenson, and Justin Wolfers (2012) also observe a strong positive relationship between output growth and wealth. Based on their happiness metric, they find that it is impossible to calculate a satiation point. Reported satisfaction always increases with income, regardless of the level of income attained, but at a decreasing rate. This means that the relationships between happiness and inflation, unemployment, economic freedom, and even government spending will depend on the positive relationship between happiness and the country's wealth. The links between happiness, inflation, and unemployment are probably very dependent on the relationship between the unemployment rate and growth (Okun's law). Less growth means more unemployment and ultimately less happiness. Similarly, the countries with the most economic freedom are also those with the highest GDP per capita and ultimately where happiness is highest.

The relationship between public spending and happiness, furthermore, depends heavily on that between public spending and economic production. Scully (2001) and Bjørnskov, Dreher, and Fischer (2007) take the view that more public spending means more taxes, less disposable income, therefore less happiness. Both

studies show a negative relationship between public spending and quality of life. The disconnect between public spending and quality of public services, as well as significant corruption in many countries may explain this result (Helliwell and Huang 2008; Tay, Herian, and Diener 2014). Ram (2009) and Kacapyr (2008) have argued that there is no statistically significant relationship between public spending and happiness, while Blanchflower and Oswald (2008b) attribute the happiness differential between Europeans and Americans to more developed social security systems. In this case, rather than looking at total public spending or GDP, scholars should consider the composition of public spending; i.e., the share of health or education expenditure in total public spending or GDP. It is also because countries have become richer that they have been able to offer quality social and educational systems.

Public spending's connection to economic freedom is also important because more public spending by definition means less economic freedom because it means more taxes and a more constrained consumption structure. People's basic expenditures are food, housing, entertainment, personal insurance, healthcare, education, and transportation. The individual has to pay for and consume education, even if he would rather buy a car. Yet there is a robust relationship between economic freedom and per capita GDP and happiness. This leads to the question of what links might exist between happiness and freedom. Less freedom can lead to poorer mental health and ultimately to less happiness. Psychology shows that autonomy, understood as the ability to decide how to live one's own life, plays a fundamental role in well-being (Devi and Ryan 2002). As soon as individuals realize that it is impossible to change the course of events, they become depressed. This explains why freedom is a condition for good mental health.⁷ Autonomy thus appears as an essential dimension of happiness. Increased public spending in the name of the social good mechanically reduces citizens' budgetary freedom by imposing a particular consumption structure on them. Citizens have to finance schools, healthcare,

⁷ Mental health is an essential component of health. The World Health Organization's mental health fact sheet defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." An important corollary to this is that mental health is more than the absence of mental disorder or disability.

pensions, roads, universities, justice, and more. They have no choice but to pay. Once they have paid for all these services, they no longer have financial autonomy and no longer believe that they can change their way of life. This affects their mental health.

Empirically it is currently difficult to say that public spending makes people happy. In fact, many arguments even favor the opposite thesis, most notably because more public spending means less freedom and ultimately less autonomy, which negatively affect individuals' mental balance, but also because there is evidence that more public spending above a certain threshold means less wealth, which means less happiness.

To the uncertain statistical relationship between public spending and happiness and the numerous hypotheses that govern the calculation of happiness add the classic problem of causality in econometrics: First, happiness is probably in us and not outside us. Second, government can change our conception of happiness through large investments in education, creating a risk of endogeneity. It can teach its population that one must be educated to be happy. Educated people will therefore consider themselves happy. Third, results can be misinterpreted. Correlation does not establish causality. Jean-Baptiste Say (1828–29, 536) argued that the best statistics expose only quantities. They cannot explain them.

Hayek (1935, 4–5) developed Say's argument in *Prices and Production* when he remarked that "neither aggregates nor averages do act upon one another, and it will never be possible to establish necessary connections of cause and effect between them as we can between individual phenomena, individual prices, etc. I would even go so far as to assert that, from the very nature of economic theory, averages can never form a link in its reasoning."

The reason is the interaction of individual plans: social science phenomena are often practically impossible to test empirically because the characteristics of all the individuals whose actions generate the overall order are just too complex to capture statistically (Christainsen 1994, 14). In causal models, policy makers assume that the economic system is like themselves, a willing and acting being. They understand the social order as something whose output can be mechanically modified by working on one specific variable. In reality, the social order is complex. It is the result of

human action but not of human design. It emerges from a large number of separate choices. The happiness of some can harm or improve the happiness of others. There is an ecology of happiness just as there is an ecology of production plans (Wagner 2012). Public policies on happiness, like public policies in general (Facchini and Melki 2019), cannot know their future impact, because they cannot know that making some people happier will not make others even more unhappy.

Therefore, the empirical literature does not support the conclusion that public spending is positively or negatively correlated with happiness. Neither is there any certainty about the direction of the causality in either position.

More fundamentally, happiness statistics are uncertain. That will be explained in the following section.

THE HAPPINESS METRIC AS STATISTICS

Happiness metrics are statistics. Statistics are quantitative facts collected to serve as a foundation for the formulation of policy. The statistician is the professional who presents his findings in an objective manner. There are, however, many reasons to doubt the quality of happiness statistics.

First, it is difficult to know what the surveys are measuring. Surveys probably do not measure happiness but mood. Happiness is a state, a final end, and must be distinguished from joy, which is transient. Aristotle says, “It is not one swallow or one fine day that makes a spring, so it is not one day or a short time that makes a man blessed and happy.” (*Nicomachean Ethics*, 1098a18). The happiness metric is in this sense more a satisfaction metric.

Secondly, the happiness metric faces the classic problem of aggregation, assuming that well-being is additive (Coyne and Boettke 2006). The self-positioning, or subjective well-being, approach to happiness is explicitly or implicitly utilitarian: the happiness of the greatest number is the determining factor, and utility can be known, measured, and aggregated. Nevertheless, the happiness metric assumes interpersonal comparability. The observer feels that each individual’s answers can be compared. However, some individuals are satisfied with little, while others want it all. For this reason, one

cannot infer that a person who rates himself 3 on a happiness scale of 1 to 10 is half as happy as a person who rates himself 6. Calculations based on self-reported happiness are meaningless, which means there can be no cost-benefit analysis.

Thirdly, like all statistics, happiness economics is based on averages. On average, people are happier in Finland than in France. On average, the rich are happier than the poor. The average assumes aggregation, and aggregation assumes that the happiness of Peter and the happiness of James are comparable. Comparison assumes the same scale for everyone. An average is a special type of aggregate (Spadaro 1956, 142). But agents' plans to be happy are, on the contrary, heterogeneous, making aggregation impossible (Wagner 2012, 434). Nobody can add apples and carrots. Average happiness also is impossible.

Fourth, the limitations of averaging and the impossibility of a cost-benefit calculation make it impossible to use happiness as a basis for public policy decisions. The work of the defenders of happiness economics demonstrates this.

Evaluating public policies based on units of happiness assumes that a cost-benefit calculation is possible, that there is something like a unit of happiness (Frijters et al. 2020). To answer the question of whether a public policy is desirable, whether its objectives will make the population happy, it must be assumed that happiness can be measured on a cardinal scale (like temperature) and that individuals' happiness can be compared. If these two assumptions are accepted, the marginal happiness contribution of one euro in education can be compared to that of one euro in health. This means that governments can find out which expenditure maximizes social happiness. To create a good policy—i.e., a policy which maximizes happiness—all possible policies would have to be ranked in terms of happiness production and *extra* happiness gains. The cost-benefit ratio of one public euro in education or health takes the value τ , where $\tau = \text{gain in happiness} / \text{net cost}$ (Frijters et al. 2020, 153). To calculate this ratio, one needs to know a public euro's happiness gains and its costs in terms of units of happiness. The happiness gains and costs for each citizen must then be aggregated and even discounted (Frijters et al. 2020, 154). An assumption made here is that the price of public expenditure in units of happiness remains

the same from year to year.

This simple presentation of the happiness economics approach shows its hypothetical limitations. Can we compare temperature and happiness? Can we accept the Frijters et al. (2020) hypothesis on the discount rate? Can we accept interpersonal comparisons of happiness? One person's happiness is not another person's happiness. One person's ambition is not another person's ambition either. In addition to these almost obvious difficulties with the happiness metric, its method is debated. Is it not preferable to reflect on the good life⁸ instead of sacralizing the subjects' opinion of what a happy life is, which in the end only reflects their moral values, reflects their ideology? Can we experience happiness without unhappiness? Can we experience joy without sadness, laughter without tears, etc.?

Finally, the discrete nature of surveys tends to pose several problems (Johns and Ormerod 2007, 32–33). GDP implicitly assumes nonsatiation, whereas the happiness indicator assumes that one can be perfectly happy. GDP sometimes evolves strongly because economic growth involves increasing both production (limited by inputs) and the quality of what is produced (unlimited). By contrast, happiness indicators evolve very little from one year to the next, notably because the number of individuals who place themselves on a certain happiness scale is fairly stable. Increasing happiness by 10 percent in a country would therefore appear to be an almost impossible task. This explains the Easterlin paradox quite easily.

THE HAPPINESS METRIC AS NORMATIVE PUBLIC ECONOMY

The economics of happiness proposes, contrary to appearances, a normative approach to happiness. The standard (norm) is not that of philosophy but of average happiness.

First of all, the metric assumes that happiness life's ultimate end. This assumption is normative. Nietzsche (2008), for instance, in *Thus Spake Zarathustra*, rejected the idea that happiness is the

⁸ This means that the philosophy of happiness is more interesting than the statistics of happiness. It produces more relevant knowledge because it succeeds in confronting the different visions of happiness with rational arguments.

highest good. He thought that man should not strive for happiness but for power. A government that chooses to maximize happiness could therefore go against the morality of citizens who want to maximize their personal power.

The happiness metric also chooses to make interpersonal utility comparisons. This too is a normative choice (Rothbard 1956).

Finally, it places itself in the framework of what Karl Popper (1952) called piecemeal social engineering. The belief in a social technology, piecemeal social engineering, is uncontestably a belief in a form of historicism (de Jasay 1991, 505). Historicism treats history as a series of events displaying certain regularities that are more predictable than most (de Jasay 1991, 503). Past events can thus constitute a sufficient body of evidence from which to extrapolate future events. Figure 1 is based on this belief. History and happiness have laws that statisticians can discover. The weaknesses of historicism are also the weaknesses of piecemeal social engineering. There are reasons to doubt not only the quality of happiness statistics, but also of government by numbers.

The happiness metric is piecemeal social engineering. It is not axiologically neutral. It defends a liberticidal and antidemocratic political utopia and a scientific ideal that underestimates the limits of government by numbers.

PIECEMEAL SOCIAL ENGINEERING

The happiness metric is piecemeal social engineering. It is government by numbers. The engineer uses mathematical probability and social statistics to model social order. Engineering refers to the figure of the engineer, the person who is able to take active scientific and technical roles with a view to creating, organizing, and directing activities arising from them, as well as hold management roles.

Like social physics (Quetelet 1835), the happiness metric is characterized by measured variables that follow a normal distribution and allow the calculation of a mean and a standard deviation.

Among the advocates of social engineering is Otto Neurath. Neurath received the epithet the “other Austrian economics”

(Nemeth 2013) retrospectively because he criticizes the deductive method (apriorism) and believes in the benefits of planning (Nemeth 2013).

Otto Neurath is of interest in analyzing the happiness metric because he places happiness at the center of his concerns as a social engineer (Zwer 2016, 156).⁹ He thinks resources should be allocated on the basis of quality of life rather than profitability (Zwer 2016, 151). The happiness metric is a new tool in the service of this idea that the profit metric must be replaced by social criteria of quality of life and happiness.

Neurath's work is also of interest because he is neopositivist and socialist. He argued that it was possible to achieve a rational calculation process in physical units and supported a planned socialist economy (Neurath 2004). Neurath came from outside the Marxian socialist tradition. He was an economist of the German historical school and a leader of the Vienna Circle, an informal discussion group that met in the Austrian capital 1900 and the mid-1930s. He advocated a pulpit socialism that proposed a centrally planned, moneyless economy based on implemented by a new kind of expert: a social engineer (Zwer 2016, 144). Neurath's work shows well that the ideal of social physics is narrower than the socialist utopia.

The ideal of social physics is prediction, the law "If p then q ." The ideal of socialism is organization and planning. For this reason, prediction is a prerequisite for socialism. The law "If p then q " is, moreover, a law to the average. That explains why Spadaro wrote that socialism can be defined as "the political form of central tendency; it uses the concept of average not only as a means of computation but also as an end" (Spadaro 1956, 160).

The happiness metric is not a form of collectivist planning but rather a piecemeal social engineering. As in Popper's work, the word "piecemeal" is a synonym for "testable" (de Jasay 1991, 506). An act of piecemeal social engineering is one whose effects can be discerned and judged in the finite future.

⁹ In France, one of the first to speak of social engineering was Frédéric Le Play. For Pierre Bourdieu, social engineering is a question of instrumentalizing the sciences for the benefit of the institutions (Bourdieu, 1984; Savoye and Audren 2008).

The proposition that public spending will raise happiness is testable. Public spending is an instrument used to solve social problems, in this case happiness. Solving the misfortune of men is the goal of public policies. To solve these problems, the policy maker must be able to define a target to influence, such as happiness indicators, as well as instruments to use toward that end. Public policy is the instrument that the policy maker directly controls, and the policy maker must control an instrument to achieve the target. If social happiness is the target, the policy maker's instrument is public spending. The model is causal: public spending → subjective well-being (figure 1). Social happiness can be achieved as far as the policy maker knows the relationship between it and public spending. The policy maker believes that social happiness can result from public spending because statisticians know the regularity between this instrument and the target of social happiness.

ENGINEERED HAPPINESS AS POLITICAL UTOPIA IS LIBERTICIDAL

Engineered happiness is not a positive public economy but a new normative public economy. Its political utopia is not a free economy or the defense of liberty. In the arbitrage between happiness and liberty, the state chooses happiness. Government prefers to promote happiness rather than freedom or equality. In 1835, Alexis de Tocqueville explained the relationship between happiness and paternalism:

Above this race of men stands an immense and tutelary power, which takes upon itself alone to secure their gratifications, and to watch over their fate. That power is absolute, minute, regular, provident, and mild. It would be like the authority of a parent, if, like that authority, its object was to prepare men for manhood; but it seeks on the contrary to keep them in perpetual childhood: it is well content that the people should rejoice, provided they think of nothing but rejoicing. For their happiness such a government willingly labors, but it chooses to be the sole agent and the only arbiter of that happiness: it provides for their security, foresees and supplies their necessities, facilitates their pleasures, manages their principal concerns, directs their industry, regulates the descent of property, and subdivides their inheritances—what remains, but to spare them all the care of thinking and all the trouble of living? Thus it every day renders the exercise of the free agency of man less

useful and less frequent; it circumscribes the will within a narrower range, and gradually robs a man of all the uses of himself. The principle of equality has prepared men for these things: it has predisposed men to endure them, and oftentimes to look on them as benefits (Tocqueville 2013, chap. 6)

Initially man accepts the rule of law. Central government enforces the rights of man, over his property in particular. Under this institutional framework, each person uses his resources (human and social capital) to be happy. Those in government can propose to increase each individual's resources. They implement economic growth policies and arrogate to themselves the right to confiscate part of the people's resources, since the government consider themselves to have participated in production. The tax is not payment for a public good but of the social debt that everyone owes to society, to the state. Public policy which promotes economic growth is justified by increased incomes. More money for everyone means more happiness.

As there is always suffering and unhappiness even though incomes increase, the government proposes to understand why and to act not only on the conditions of production, but on the causes of unhappiness. As long as there is human suffering, public policies are justified. Each citizen identifies an opportunity for gain in this principle. Unhappiness is the political justification of public aid. A race to misfortune is organized under it. All the people demonstrate their suffering and use it to get help from the state. The community is on a slippery slope (Rizzo and Whitman 2008). Private individuals grow more and more apt to look upon the supreme power in the same light; they invoke its assistance in all their necessities, and they fix their eyes upon the administration as their mentor or their guide. Among the European nations of our time the power of governments is increasing, although the persons who govern are less stable. And the rulers seem to "[think] themselves responsible for the actions and private condition of their subjects" (Tocqueville 2013, chap. 5).

By accepting the tutelary power of the central government and its benevolence, people risk being infantilized and losing control over the smallest details of daily life.

The achievement of income equality, for example, is no guarantee against frustration or the desire to possess what others have. If a

man wants what another possesses—his wife, his husband, his beauty, his personality, his charisma, his smile, his racing car—the other's apparent happiness is a source of unhappiness for everyone. The social engineer makes this unhappiness a political problem, while the social order makes it a moral problem that is a matter for informal institutions. The good commandments condemn jealousy and covetousness. The ninth and tenth commandments of the Old Testament (Exod. 20:1–17); the words “you shall not covet your neighbour's wife” and “you shall not covet his house or his field, nor his man-servant, nor his maid-servant, nor his ox or his ass, nor anything that belongs to him” are good illustrations of this moral solution to the problem of covetousness and its effects on happiness. Covetousness can lead to unhappiness for those who are dispossessed of their spouses or property.

ENGINEERED HAPPINESS IS AN ANTIDEMOCRATIC POLITICAL IDEAL

Engineered happiness is also antidemocratic. Democracy is government of the people, by the people, for the people. It is based on a deliberative process in which indeterminacy dominates.

Happiness engineering is a step toward technocracy. It excludes deliberation. It makes citizens passive, whereas democracy has an ideal of participation. Happiness engineering replaces debate with a poll.

In a poll, the individual does not have to justify his choice. He only gives a number. This number is processed, and the happiness experts say which people declared themselves happy. The happiness metric crowds out political debate, replacing it with polling. In a government that tries to engineer happiness, the power lies with the technician, and the technician decides what leads to happiness and what promotes unhappiness. Happiness engineering therefore risks creating a “pollo-crazy.”

ENGINEERED HAPPINESS AS A SCIENTIFIC IDEAL AND THE LIMITS OF GOVERNMENT BY NUMBERS

Happiness engineering is not just liberticidal and antidemocratic. It is an unrealistic scientific ideal that does not correctly evaluate the limits of government by numbers.

An ordinary economy is decentralized, while an imperial or public economy is centralized around a state and its taxes. The engineering of happiness is part of the imperial economy. It lives on taxes and proposes to allocate taxes under a new criterion, happiness.

In a decentralized order, the knowledge available to individuals is practical, ephemeral, and tacit. It is a knowledge of time and circumstance. It is a fact of experience. A large part of human knowledge is a by-product of the decisions made. Adjustments are continual. Each individual learns to know himself and to know others. Each individual corrects his mistakes and seeks step by step to discover the reasons for happiness.

In a centralized order, knowledge is statistical. Statistics originated in politics. Historically considered they were *state-istics*. The suffix *-istic* is used to form an adjective from a noun, often one related to a function. Statisticians were once statist. Unlike individuals, the government knows nothing about what makes an individual happy. It has to raise money to find out. Government must “obtain knowledge that is not personal, day to day experience; and the only form that such knowledge can take is statistics” (Rothbard 1997). Statistics are critical to all interventionist and socialist government activities (Rothbard 1997). Statisticians produce numbers, averages, and empirical regularity (correlation). If statistics are imperfect knowledge, public policy and the politics of happiness are ill founded. If the correlations are not causalities and are uncertain, it is impossible to manipulate reality, social happiness. Statistics are indeed very imperfect knowledge, especially because they do not have the characteristics of practical knowledge. Statistics are not an immediate datum of experience but an indirectly apprehended summary of perception data (Spadaro 1956, 144). Governments use this imperfect knowledge because they cannot do otherwise. They sacrifice a certain measure of realism for the sake of numerical accuracy (Spadaro 1956, 144). Statistics are, on the one hand, “a reaction to the inability to deal, with any degree of

certainty, with individual events and represents a compromise with epistemological difficulties” and, on the other hand, “a facet of our hastening approach to central control as an ideal in economic affairs” (Spadaro 1956, 159).

Statistical information is of poor quality for many reasons. Collecting it is costly and limits its scope (Rothbard 1997). Practical knowledge, on the other hand, is partly free because it is a by-product of experience. Because statistical information consists of averages, it artificially creates unity in a world that is fundamentally plural (section 1). It is also flawed because it is collected through surveys. Verbal surveys do not respect the principle of demonstrated preference (Rothbard 1956). Actual choice reveals, or demonstrates, a man’s preference. Preferences are only deductible from what someone has chosen in action. In a survey, there is no action. The answers that people give to surveyors are low-cost decisions. They can say they are happy or unhappy, but this is of no consequence. It expresses a mood and not their reality. The survey is not a demonstrated preference concretized by a real action.

Statistical information is also static, whereas people’s conception of happiness is fundamentally dynamic. Statistics fix the meaning of words. When questioned, men are forced to give black-or-white answers, even though their representations of the world and their conceptions of happiness are blurred. They don’t know, but they feel compelled to answer. In this sense, the poll pretends that men have clear definitions of the world and of reality, whereas in actuality they are vague and imprecise. In the real world of human action, words evolve. Men learn step by step what makes them happy. They modify their conception of life based on their experiences. They are sensitive to the conversations they have with others. They are diverse, while the statistics hope to synthesize them in numbers.

Finally, statistical information is a social construct that, like any social construct, can be manipulated by subjects (citizens), elected officials, and experts. Once subjects understand that their self-positioning on the happiness scale can have an effect on public policy, they will seek to manipulate the organizations that produce the happiness surveys and polls and will lie about their happiness level. For their part, governments, which do not necessarily seek the happiness of the greatest number but their own happiness and that of their

political clientele, will seek to manipulate happiness statistics by selecting the experts who are most favorable toward their ideology. A strong ideological bias in the construction of happiness indicators may appear. The government may finance studies that show, for example, the central role of social spending in happiness in order to justify an increase in social spending. Knowing this, the experts will position themselves in the marketplace of ideas and propose studies that support the elected representatives' ideologies. They will perceive in the happiness metric an opportunity for monetary gain, but also an opportunity to influence political choices well beyond their simple ballot. Such power will improve their sense of autonomy, their mental balance. The happiness metric is thus, like all forms of centralized decision-making, subject to strategic behavior.

For all these reasons, statistical information does not have the precision of the practical knowledge that influences individuals' daily choices. It does not have the richness of people's feelings. Statistics are poor knowledge.

Moreover, correlation between statistical variables is not causality. The statistical happiness laws of the type "If p , then q " often equate correlation with causality (Hayek 1935, 4–5). But if there is no causality, when government increases public spending there will be no mechanical impact on the population's happiness.

Correlation is also difficult to interpret because this is linked to the concept of statistical significance. If a correlation's significance is misinterpreted, the public policy based on that correlation can create unemployment, injustice, and unhappiness. However, McCloskey and Ziliak (2008) showed that statistical significance is neither necessary nor sufficient for a result to be scientifically meaningful. Statistical significance is a matter of probability and judgment. Statistical inference does not produce any certainty. Its propositions are more or less probability judgments. It is more or less likely that liberal countries will have an above-average economic growth rate. If there is no certainty, this means that econometrics always maintains a margin of error. The significance levels of 1 percent, 5 percent, and 10 percent are, moreover, arbitrary. The H_1 hypothesis is accepted or rejected based on a comparison of the p value with values in the student's table. The p value must be very low to reject the hypothesis, but very low compared to what?

Relative to a threshold that is arbitrarily defined by the researcher (McCloskey and Ziliak 2008). Correlations are therefore neither causal relationships nor regularities that are easy to interpret.

Happiness engineering can thus lead governments to take unfair decisions based on faulty reasoning (on averages and on bad statistical interpretations). On average, women are happier than men. Social engineers are not afraid to govern on the basis of averages. But they take the risk of imposing the average conception of happiness on individuals whose conception of happiness is most distant from the average (standard deviation). They risk being unfair.

Let's take an example of a fair social order—one governed by the principle "To each according to his contribution." In this order, an entrepreneur pays his employee according to his marginal productivity. He applies the principle "To each according to his contribution." A redistribution from high-productivity individuals to low-productivity individuals would be unfair under these principles. If inequalities increase unhappiness on average, inequalities should be reduced, according to happiness economics. Nonetheless, if everyone is receiving what they deserve, reducing inequality is an unjust decision. In this situation, the social engineer might increase average happiness, but by creating a more unjust society.

CONCLUSION

The happiness metric cannot rehabilitate public spending. The political use of this metric is, moreover, dangerous and impracticable, as is all social engineering. Basing public policy on a happiness metric risks placing European democracies, already in crisis, in the hands of happiness experts and a "pollo-crazy" that can only reinforce citizens' passivity and their rejection of politics. In this sense, it is wise to stick to the principle laid down by Benjamin Constant (2016, 46): "Let us ask authority to remain within its limits; let it confine itself to being just. We will take care of being happy." This will be all the simpler, since freedom is a condition of happiness (Thucydides, *History of Peloponnesian War* 2.43).¹⁰

¹⁰ Abdur Rahman and Veenhoven (2018) find that freedom and happiness are positively correlated in contemporary nations. The correlation pattern differs somewhat across cultures and types of freedom. They found no pattern of

REFERENCES

- Abdur Rahman, Amanina, and Ruut Veenhoven. 2018. "Freedom and Happiness in Nations: A Research Synthesis." *Applied Research in Quality of Life* 13, no. 2 (June): 435–56. <https://doi.org/10.1007/s11482-017-9543-6>.
- Alesina, Alberto, Rafael Di Tella, and Robert MacCulloch. 2004. "Inequality and Happiness: Are Europeans and Americans Different?" *Journal of Public Economics* 88, nos. 9–10 (August): 2009–42. <https://doi.org/10.1016/j.jpubeco.2003.07.006>.
- Bentham, Jeremy. (1789) 2008. *An Introduction to the Principles of Morals and Legislation*. Reprint, New York: Barnes and Noble.
- Bjørnskov, Christian, Axel Dreher, and Justina A. V. Fischer. 2007. "The Bigger the Better? Evidence of the Effect of Government Size on Life Satisfaction around the World." *Public Choice* 130:267–92. <https://doi.org/10.1007/s11127-006-9081-5>.
- Blanchflower, David G., and Andrew J. Oswald. 2008a. "Well-Being over Time in Britain and the USA." *Journal of Health Economics* 27, nos. 7–8 (July): 1359–86. [https://doi.org/10.1016/S0047-2727\(02\)00168-8](https://doi.org/10.1016/S0047-2727(02)00168-8).
- . 2008b. "Hypertension and Happiness across Nations." *Journal of Health Economics* 27, no. 2 (March): 218–33. <https://doi.org/10.1016/j.jhealeco.2007.06.002>.
- Bourdieu, Pierre. 1984. *Questions de sociologie*. Paris: Les Éditions de minuit.
- Cetre, Sophie, Andrew Clark, and Claudia Senik. 2016. "Happy People Have Children: Choice and Self-Selection into Parenthood." *European Journal of Population* 32:445–73. <https://doi.org/10.1007/s10680-016-9389-x>.
- Christainsen, Gregory B. 1994. "Methodological Individualism." In *The Elgar Companion to Austrian Economics*, edited by Peter J. Boettke, 11–16. Cheltenham, U.K.: Edward Elgar.
- Constant, Benjamin. 2016. *De la liberté des anciens compare à celle des modernes*. Paris: Berg International.

declining happiness returns, which suggests that freedom has not peaked in the freest countries.

- Coyne, Christopher J., and Peter J. Boettke. 2006. "Economics and Happiness Research: Insights from Austrian and Public Choice Economics." In *Happiness and Public Choice: Theory, Case Studies, and Implications*, edited by Yew-Kwang Ng and Lok Sang Ho, 89–106. Basingstoke, U.K.: Palgrave Macmillan.
- Deci, Edward L., and Richard M. Ryan. 2002. *Handbook of Self-Determination Research*. Woodbridge, U.K.: Boydell and Brewer.
- de Jasay, Anthony. 1991. "The Twistable Is Not Testable Reflexions on the Political Thought of Karl Popper." *Journal des économistes et des études humaines* 2, no. 4 (December): 499–512. <https://doi.org/10.1515/jeeh-1991-0406>.
- Diener, Ed, and Eunkook M. Suh. 2000. *Culture and Subjective Well-Being*. Cambridge, Mass.: MIT Press.
- Diener, Ed, and Martin E. P. Seligman. 2004. "Beyond Money: Toward an Economy of Well-Being." *Psychological Science in the Public Interest* 5, no. 1 (July): 1–31. <https://doi.org/10.1111%2Fj.0963-7214.2004.00501001.x>.
- Di Tella, Rafael, Robert J. MacCulloch, and Andrew J. Oswald. 2001. "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness." *American Economic Review* 91, no. 1 (March): 335–41. <https://doi.org/10.1257/aer.91.1.335>.
- . 2003. "The Macroeconomics of Happiness." *Review of Economics and Statistics* 85, no. 4 (November): 809–27. <https://doi.org/10.1162/003465303772815745>.
- Dolan, Paul, Tessa Peasgood, and Mathew White. 2008. "Do We Really Know What Makes Us Happy? A Review of the Economic Literature on the Factors Associated with Subjective Well-Being." *Journal of Economic Psychology* 29, no. 1 (February): 94–122. <https://doi.org/10.1016/j.joep.2007.09.001>.
- Dreher, Axel, and Hannes Öhler. 2011. "Does Government Ideology Affect Personal Happiness? A Test." *Economics Letters* 111, no. 2 (May): 161–65. <https://doi.org/10.1016/j.econlet.2011.02.020>.
- Easterlin, Richard A. 1974. "Does Economic Growth Improve the Human Lot? Some Empirical Evidence." In *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*, edited by Paul A. David and Melvin W. Reder, 89–126. New York: Academic Press.

- Facchini, François, and Mickael Melki. 2019. "The Democratic Crisis and the Knowledge Problem." *Politics and Policy* 47, no 6 (December): 1022–38. <https://onlinelibrary.wiley.com/doi/10.1111/polp.12330>.
- Frey, Bruno S., 2008. *Happiness: A Revolution in Economics*. Cambridge, Mass.: MIT Press.
- Frey, B., and A., Stutzer 2002. "What can economists learn from Happiness Research?" *Journal of Economic Literature*, 40 (2), 402–35
- Frijters, Paul, Andrew E. Clark, Christian Krekel, and Richard Layard. 2020. "A Happy Choice: Wellbeing as the Goal of Government." In "On Happiness Being the Goal of Government," edited by George Akerlof, Adam Oliver, and Cass Sunstein. Special issue, *Behavioural Public Policy* 4, no. 2 (July): 126–65. <https://doi.org/10.1017/bpp.2019.39>.
- Frijters, Paul, Ingo Geishecker, John P. Haisken-DeNew, and Michael Shields. 2006. "Can the Large Swings in Russian Life Satisfaction be Explained by Ups and Downs in Real Incomes?" *Scandinavian Journal of Economics* 108, no. 3 (October): 433–58. <https://doi.org/10.1111/j.1467-9442.2006.00459.x>.
- Frijters, Paul, John P. Haisken-DeNew, and Michael A. Shields. 2004. "Money Does Matter! Evidence from Increasing Real Income and Life Satisfaction in East Germany Following Reunification." *American Economic Review* 94, no. 3 (June): 730–40. <https://doi.org/10.1257/0002828041464551>.
- Gropper, Daniel M., Robert A. Lawson, and Jere T. Thorne Jr. 2011. "Economic Freedom and Happiness." *Cato Journal* 31, no. 2 (Spring/Summer): 237–55.
- Hayek, Friedrich A. 1935. *Prices and Production*. 2d ed. New York: Augustus M. Kelly.
- Johns, Helen, and Paul Ormerod. 2007. *Happiness, Economics and Public Policy*. London: Institute of Economic Affairs.
- Helliwell, John F. 2003. "How's Life? Combining Individual and National Variables to Explain Subjective Well-Being." *Economic Modelling* 20, no. 2 (March): 331–60. [https://doi.org/10.1016/S0264-9993\(02\)00057-3](https://doi.org/10.1016/S0264-9993(02)00057-3).
- Helliwell, John F., and Haifang Huang. 2008. "How's Your Government? International Evidence Linking Good Government and Well-Being." *British Journal of Political Science* 38, no. 4 (October): 595–619. <https://doi.org/10.1017/S0007123408000306>.

- Holcombe, Randall G. 2004. "National Income Accounting and Public Policy." *Review of Austrian Economics* 17, no. 4 (December): 387–405. <https://doi.org/10.1023/B:RAEC.0000044638.48465.df>.
- Ifcher, John, 2011. "The Happiness of Single Mothers after Welfare Reform." *B. E. Journal of Economic Analysis and Policy* 11, no. 1 (December): 1–29. <https://doi.org/10.2202/1935-1682.2727>.
- Kacapyr, Elia. 2008. "Cross-Country Determinants of Satisfaction with Life." *International Journal of Social Economics* 35 (6): 4–00–416. <https://doi.org/10.1108/03068290810873384>.
- Kahneman, Daniel. 1999. "Objective Happiness." In *Well-Being: The Foundations of Hedonic Psychology*, edited by Daniel Kahneman, Edward Diener, and Norbert Schwarz, 3–25. New York: Russell Sage Foundation.
- Kim, Seoyong, and Donggeun Kim. 2012. "Does Government Make People Happy?: Exploring New Research Directions for Government's Roles in Happiness." *Journal of Happiness Studies* 13, no. 5 (October): 875–99. <https://doi.org/10.1007/s10902-011-9296-0>.
- Knight, John, and Ramani Gunatilaka. 2011. "Does Economic Growth Raise Happiness in China?" *Oxford Development Studies* 39 (1): 1–24. <https://doi.org/10.1080/13600818.2010.551006>.
- Levinson, Arik, 2012. "Valuing Public Goods Using Happiness Data: The Case of Air Quality." *Journal of Public Economics* 96, nos. 9–10 (October): 869–80. <https://doi.org/10.1016/j.jpubeco.2012.06.007>.
- Lucas, Richard E. 2007. "Adaptation and the Set-Point Model of Subjective Well-Being: Does Happiness Change After Major Life Events?" *Current Directions in Psychological Science* 16, no. 2 (April): 75–79. <https://doi.org/10.1111%2Fj.1467-8721.2007.00479.x>.
- Massin, Sophie, and Pierre Kopp. 2014. "Is Life Satisfaction Hump-Shaped with Alcohol Consumption? Evidence from Russian Panel Data." *Addictive Behaviors* 39, no. 4 (April): 803–10. <https://doi.org/10.1016/j.addbeh.2014.01.005>.
- McCloskey, Deirdre N., and Stephen T. Ziliak. 2008. *The Cult of Statistical Significance: How the Standard Error Costs Us Jobs, Justice, and Lives*. Ann Arbor: University of Michigan Press.

- Nemeth, Elisabeth. 2013. "The Philosophy of the "Other Austrian Economics."" In *New Challenges to Philosophy of Science*, edited by Hanne Andersen, Dennis Dieks, Wenceslao J. Gonzalez, Thomas, 339–50. Dordrecht: Springer.
- Neurath, Otto. 2004. "Economic Plan and Calculation in Kind. In *Economic Writings: Selections 1904–45*, edited by Thomas E. Uebel and Robert S. Cohen, translated by Robert S. Cohen, Marie Neurath, Christoph Schmidt-Petri, and Thomas E. Uebel, 405–65. Dordrecht: Kluwer Academic Publishers.
- Nietzsche, Friedrich. 2008. *Thus Spake Zarathustra*. Translated by Thomas Common. Project Gutenberg. www.gutenberg.org/files/1998/1998-h/1998-h.htm.
- Oishi, Shigehiro, Ulrich Schimmack, and Ed Diener. 2012. "Progressive Taxation and the Subjective Well-Being of Nations." *Psychological Science* 23, no. 1 (January): 86–92. <https://doi.org/10.1177%2F0956797611420882>.
- Popper, Karl. 1952. *The Open Society and Its Enemies*. Vol. 2, *The High Tide of Prophecy: Hegel, Marx, and the Aftermath*. 4th ed. London: Routledge and Kegan Paul.
- Quetelet, A. 1835. *Sur l'homme et le développement de ses facultés, ou Essai de physique sociale*. 2 vols. Paris.
- Ram, Rati. 2009. "Government Spending and Happiness of the Population: Additional Evidence from Large Cross-Country Samples." *Public Choice* 138, no. 3–4 (March): 483–90. <https://doi.org/10.1007/s11127-008-9372-0>.
- Rizzo, Mario J., and Douglas Glen Whitman. 2008. "Little Brother Is Watching You: New Paternalism on the Slippery Slopes." NYU Law School, Public Law Research Paper No. 08–12 and NYU Law and Economics Research Paper No. 08–15, New York, N.Y., April 8, 2008, revised March 6, 2009. <http://dx.doi.org/10.2139/ssrn.1119325>.
- Rothbard, Murray N. 1956. "Toward a Reconstruction of Utility and Welfare Economics." In *On Freedom and Free Enterprise: Essays in Honor of Ludwig von Mises*, edited by Mary Sennholz, 224–62. Princeton, N.J.: D. Van Nostrand.
- — —. 1997. "Statistics: Achilles' Heel of Government." *The Logic of Action One: Method, Money, and the Austrian School*. New York: Edward Elgar.

- Royal Government of Bhutan (2012). *Defining a New Economic Paradigm: The Report of the High-Level Meeting on Wellbeing and Happiness*. New York: Permanent Mission of the Kingdom of Bhutan to the United Nations. https://sustainabledevelopment.un.org/content/documents/617BhutanReport_WEB_F.pdf.
- Sacks, Daniel W., Betsey Stevenson, and Justin Wolfers. 2012. "The New Stylized Facts about Income and Subjective Well-Being." *Emotion* 12, no. 6 (December): 1181–87. <https://psycnet.apa.org/doi/10.1037/a0029873>.
- Say, Jean-Baptiste. 1814. *Traité d'économie politique, ou simple exposition de la manière dont se forment, se distribuent et se consomment les richesses*. 2d ed. 2 vols. Paris.
- . (1828–29) 1968. *Cours complet d'économie politique pratique*. Rome.
- Savoye, Antoine, and Frédéric Audren, comps. 2008. *Naissance de l'ingénieur social: Les ingénieurs des mines et la science sociale au XIXe siècle*, by Frédéric Le Play and his students. Paris: Mines ParisTech / Presses de l'École des mines de Paris.
- Scully, Gerald W. 2001. "Government Expenditure and Quality of Life." *Public Choice* 108, nos. 1–2 (July): 123–45. <https://doi.org/10.1023/A:1017518926640>.
- Spadaro, Louis M. 1956. "Averages and Aggregates in Economics." In *On Freedom and Free Enterprise: Essays in Honor of Ludwig von Mises*, edited by Mary Sennholz, 140–60. Princeton, N.J.: D. Van Nostrand.
- Stiglitz, Joseph E., Amartya Sen, and Jean-Paul Fitoussi. 2009. *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Paris: Editions Odile Jacob.
- Tay, Louis, Mitchel N. Herian, and Ed Diener. 2014. "Detrimental Effects of Corruption and Subjective Well-Being: Whether, How, and When." *Social Psychological and Personality Science* 5, no. 7 (September): 751–59. <https://doi.org/10.1177%2F1948550614528544>.
- Tocqueville, Alexis de. 2013. *Democracy in America*. Translated by Henry Reeve. Vol. 2. Project Gutenberg.
- Wagner, Richard E. 2012. "A Macro Economy as an Ecology of Plans." *Journal of Economic Behavior and Organization* 82, nos. 2–3 (May): 433–44. <https://doi.org/10.1016/j.jebo.2011.07.019>.

- Wolfers, Justin, 2003. "Is Business Cycle Volatility Costly? Evidence from Surveys of Subjective Well-Being." *International Finance* 6, no. 1 (March): 1–26. <https://doi.org/10.1111/1468-2362.00112>.
- Zwer, Nephys, 2016. "'De la durabilité des courts de tennis': L'ingénierie sociale d'Otto Neurath (1882–1945) ou l'art de piloter la société" ("On the sustainability of tennis courts": Otto Neurath's [1882–945] social engineering or the art of steering society). *Revue d'Allemagne et des pays de langue allemande* (Review of Germany and the German-speaking countries) 48, no. 1 (January–June): 143–58. <https://doi.org/10.4000/allemande.360>.