

令和3年度特色入試問題

《 農学部 食料・環境経済学科 》

小論文試験

200点満点

(注意)

1. 問題冊子および解答冊子は係員の指示があるまで開かないこと。
2. 問題冊子は表紙のほかに10ページある。
3. 解答冊子は表紙のほかに、下書き用紙を含め10ページある。
4. 試験開始後、解答冊子の表紙所定欄に受験番号・氏名をはっきり記入すること。
表紙には、これら以外のことを書いてはならない。
5. 解答はすべて解答冊子の指定された箇所に記入すること。
6. 解答に関係のないことを書いた答案は無効にすることがある。
7. 解答冊子は、どのページも切り離してはならない。
8. 問題冊子は持ち帰ること。解答冊子は持ち帰ってはならない。
9. 解答は日本語で記入すること。

1] 以下の英文を読んで問 1～問 6 に答えなさい。(100 点)

Since 1991, when economists first reported a systematic relationship between income changes and environmental quality, the relationship known as the Environmental Kuznets Curve (EKC) has become standard fare in technical conversations about environmental policy. When first unveiled, EKCs revealed a surprising outcome. The early estimates showed that some important indicators of environmental quality such as the levels of sulfur dioxide*¹ and particulates in the air actually improved as incomes and levels of consumption went up.

Prior to the advent*² of EKCs, many well-informed people believed that richer economies damaged and even destroyed their natural resource endowments at a faster pace than poorer ones. They thought that environmental quality could only be achieved by escaping the clutches*³ of industrialization and the desire for higher incomes. The EKC's ①paradoxical outcome inspired a large amount of research. We now know far more about linkages between an economy and its environment than we did before 1991.

EKCs are statistical artifacts that summarize a few important aspects of collective human behavior in two-dimensional space. A chart showing an Environmental Kuznets Curve reveals how a technically specified measurement of environmental quality changes as the fortunes of a nation or other large human community change.

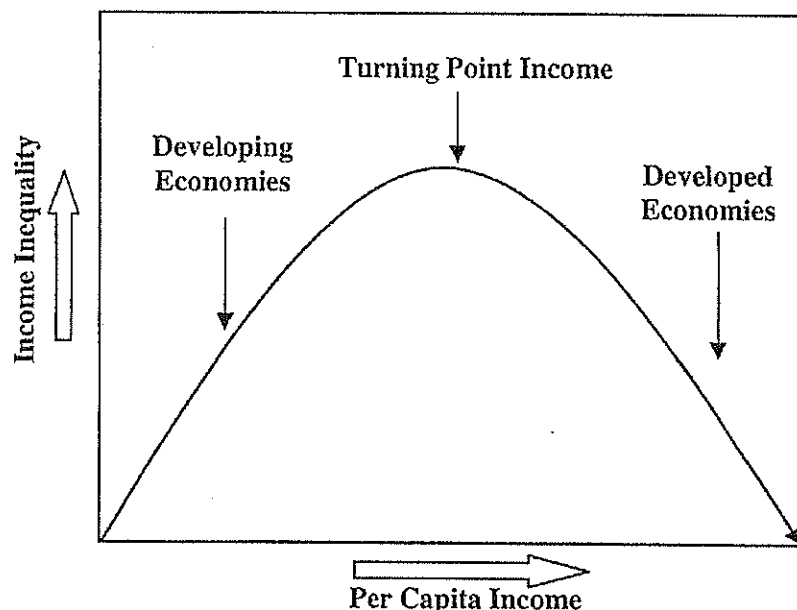
The advent of EKCs raise many questions: Where did the name "Environmental Kuznets Curve" come from? Why Kuznets? What have we learned about the statistical relationships between various measures of environmental quality and income? Do all aspects of environmental quality deteriorate or improve systematically with economic development? Does the degree of property rights and contract enforcement make a difference?

This primer addresses each of these questions. The following section explains how the EKC got its name, describes the general form of the first Kuznets Curve, and shows how the original concept was modified for environmental use. Some brief theoretical considerations are offered in this section to lay groundwork for further discussion.

At the sixty-seventh annual meeting of the American Economic Association in December 1954, Simon Kuznets delivered the presidential address, entitled "Economic Growth and Income Inequality." He suggested that as per capita income increases, income inequality also increases at first but then, after some turning point, starts declining. Kuznets believed that the distribution of income becomes more unequal at early stages of ②income growth but that the distribution eventually moves back toward greater equality as economic growth continues. This changing relationship between per capita income and

income inequality, now observed empirically, can be represented by a bell-shaped curve now known as the Kuznets Curve. The general form of the original Kuznets Curve is shown in figure 1.

Figure 1
The Kuznets Curve



In 1991, the Kuznets Curve took on a new existence. It became a vehicle for describing the relationship between measured levels of environmental quality, such as the concentration of sulfur dioxide emissions, and related measures of per capita income, across time. As economists were able to marshal⁴ data on the environment for larger samples of countries and income levels, evidence began to mount that as countries develop, certain measures of the quality of life might initially deteriorate but then improve. Specifically, there is evidence that the level of environmental degradation and conventionally measured per capita income follows the same inverted-U-shaped relationship as does income inequality and per capita income in the original Kuznets curve. With only slight modification, the original Kuznets Curve figure can be converted to the Environmental Kuznets Curve shown in [③Figure 2](#).

④The logic of the EKC relationship is intuitively appealing. At the low levels of per capita income found in pre-industrial and agrarian economies, where most economic activity is subsistence farming, one might expect rather pristine⁵ environmental conditions, relatively unaffected by economic activities—at least for those pollutants

associated with industrial activity. The ⑤EKC statistical relationship suggests that as development and industrialization progress, environmental damage increases due to greater use of natural resources, more emission of pollutants, the operation of less efficient and relatively dirty technologies, the high priority given to increases in material output, and disregard for—or ignorance of—the environmental consequences of growth. However, as economic growth continues and life expectancies*⁶ increase, cleaner water, improved air quality, and a generally cleaner habitat become more valuable as people make choices at the margin about how to spend their incomes. Much later, in the post-industrial stage, cleaner technologies and a shift to information and service-based activities combine with a growing ability and willingness to enhance environmental quality.

Generally speaking, the transition from lower to higher levels of per capita income occurs over a long period of time, perhaps as much as a century, if not more. But the transition from destruction to enhancement of the environment may take place in a much briefer time period. For example, a population may be just at the enhancement threshold when rising incomes from trade expansion generate the necessary demand for environmental improvement.

Saying all this may tempt one to think that higher incomes alone will solve most environmental problems. Unfortunately, life is not that simple. If it were, transfers of income from richer to poorer societies—through foreign aid, for example—would enable the recipients to avoid environmental destruction. The movement along an environmental Kuznets curve is also a movement through a well-known set of ⑥property rights stations.

In primitive societies managed by tradition or tribal*⁷ rule, part of the resource base may be treated as a commons. The cost of defining and enforcing transferable private property rights is simply too large to do otherwise; the net gains are too small. With growing scarcity, however, a time comes when some aspects of the commons become defined as public or private property. As "propertyness" expands—and private property is the most incentive-enriched form—individuals have a greater incentive to manage, to conserve, and to accumulate wealth that can be traded or passed on to future generations. Under such circumstances, what might be viewed as a waste stream affecting the commons, or no-man's-land, is seen as an invasion of property. Those who impose uninvited costs are held accountable*⁸.

Eventually, when most aspects of the environment are defined as property, the community moves rapidly in the race to improve environmental life. The pace of this progress is determined partly by the extent to which environmental assets are protected by private property rights. Thus, the Environmental Kuznets Curve is a proxy for a

property rights model that begins with a commons and ends with private property rights.

(出典 : Yandle, B., M. Vijayaraghavan, and M. Bhattarai(2001) "The Environmental Kuznets Curve: A Primer" Property and Environmental research center, Research Study 02-1 を一部改変。)

(語註) *1 sulfur dioxide : 二酸化硫黄、*2 advent : 出現、*3 clutch : 支配、*4 marshal : 整理する、*5 pristine : 素朴な、*6 life expectancies : 平均寿命、*7 tribal : 部族の、*8 (be) held accountable : 責任を負う

- 問 1 下線部①の“paradoxical outcome”の内容と理由について具体的に説明しなさい。
- 問 2 下線部②の“income growth”について、ある A 国では一人あたりの所得 Y が一年間に一定の成長率 r で増加しているとする。以下の問いに答えよ。なお、(2) と (3) の計算には $\log_e 2 \doteq 0.7$ を用いなさい。
- (1) A 国のある年 t ($t = 0, 1, 2, \dots, t, \dots$) の一人あたり所得を Y_t とし、初期年のそれを Y_0 とする。 Y_t を Y_0, r, t を用いて表わしなさい。
 - (2) 近似的に $(1 + r)^t \doteq e^{rt}$ が成り立つものとする。A 国が $t = 0$ 時点から 10 年 ($t = 10$ 時点) で一人あたり所得が倍になった場合、一年間に何%で成長したことになるか答えなさい。
 - (3) ある B 国の成長率は一定で、(2) で求めた A 国の成長率の 2 分の 1 であったとする。この B 国の所得が 4 倍になるためには何年必要となるか答えなさい。
- 問 3 下線部③の“Figure 2” (Environmental Kuznets Curve) の概念図を Figure 1 を参考に描きなさい。
- 問 4 下線部④に関連して、著者が述べている環境改善の“logic”について本文を参考に説明しなさい。
- 問 5 下線部⑤の“EKC statistical relationship”が以下の関係式で表されたとする。
- $$E(X) = a + b \cdot \log_e 2X - c \cdot (\log_e X)^2$$
- ここで E は環境水準 (数値が大きいほど環境水準が劣悪であることを示す数値) を、 X は国民一人あたりの所得を表している。ただし、 a, b, c は正の定数であり、 $X > 0, E > 0$ とする。
- (1) 上の関係式を X について微分し、導関数を求めなさい。また、 $E(X)$ が極値をとる国民一人あたり所得 X^* を答えなさい。
 - (2) (1) の X^* が最も環境水準 E が劣悪となる国民一人あたりの所得であることを示しなさい。
- 問 6 下線部⑥の“property rights”が環境改善に果たす役割とそのメカニズムについて、本文をふまえながら具体的に説明しなさい。

2 以下の英文を読んで問1～問5に答えなさい。(100点)

Fair trade is usually promoted to consumers in the North^{*1} by juxtaposing^{*2} it against an unjust or unfair global trading system with historically inequitable terms^{*3} of trade for Southern producers of basic commodities. Yet this formulation, while essentially accurate, obscures basic differences within the growing fair-trade movement about the nature, goals, and practice of fair trade. Depending on their philosophy and, to some extent, their location on the fair-trade chain, different participants view fair trade variously as a “market-breaking” force, a “market-reform” device, or a “market-access” mechanism. ①Such distinctions are more than merely ideological: they reveal fundamentally different conceptions of the relationship of alternative trade^{*4} to the larger global market and to free-trade policies. In the often unwieldy^{*5} coalition^{*6} that constitutes the fair-trade movement, these incongruities^{*7} manifest themselves in barely disguised disagreements over tactics and strategy in the actual practice of fair trade.

②To some participants, the principal value of fair trade lies not in changing the logic of markets per se^{*8} but in righting the market’s historic injustices. Unequal terms of trade, protective tariffs, quality standards, and other barriers have long combined to deny farmers in the global South, both small and large, access to lucrative consumer markets in the rich nations. At the same time, they watch as their economies are flooded by the dumping of heavily subsidized^{*9}, impossibly cheap food and consumer products from abroad that sabotage their efforts simply to make ends meet. In this view, then, trade justice consists of facilitating access for producers to the Northern markets from which they have traditionally been excluded. This is the stance of many producer groups in the South, some of the alternative trade organizations (ATOs) that work directly with them, some for-profit businesses engaged in fair trade, and many certifying organizations. The craft-oriented alternative trade organization SERRV^{*10}, for example, defines fair trade as “a system of trade that allows marginalized^{*11} producers in developing regions to gain access to developed markets.” According to the late Subhashini Kohli, former vice president of International Federation for Alternative Trade (IFAT)^{*12} and the founding director of Sasha Exports^{*13} in India, the “main concern for the producers remains with accessing markets and a fair wage.”

③A second view, in contrast, acknowledges that the market is structurally unfair: it is broken and needs fixing, not just tweaking^{*14}. These participants tend to be more ideologically motivated—NGOs such as Oxfam^{*15}, many 100 percent fair-trade coffee roasters^{*16}, Southern civil society groups, and many consumer activists. Existing markets, they assert, need to be changed to reallocate resources and to place value on

fundamentally different criteria in transactions—in effect, to reduce their marketness^{*17}. This theme of carving out^{*18} spaces or “zones of control” within existing capitalist rationality is captured by the sociologist Marie-Christine Renard, who writes that fair trade operates in the “interstices^{*19} of globalization.” Oxfam, which in 2002 introduced a major international campaign titled “Make Trade Fair,” asserts that markets in the rich countries have been closed to Southern producers because of “rigged^{*20} rules and double standards.” The solution the group advocates is to eliminate intermediaries^{*21} and use fair-trade labels to communicate directly with “conscious consumers” in order to channel more capital back to the Southern producers. Essentially, this is a market-redesign solution: not a fundamental challenge to the existence of the market, but a strong critique of its efficacy at fairly rewarding some participants.

A third group asserts that alternative markets such as fair trade operate, in the words of the British writer Michael Barratt Brown, “in and against” the larger global market. Adherents^{*22} to this stance—including many of the activist groups—explicitly link their work in building concrete fair-trade commodity initiatives to a more basic critique of an unjust world economic order. Deborah James, formerly the director of the Global Economy campaign at Global Exchange^{*23}, describes the objective of fair trade in no uncertain terms: “A movement is developing that aims to smash ④the current system of production.” According to this viewpoint, unfair prices and flawed^{*24} markets are merely symptoms of a conscious plunder^{*25} of the wealth of the global South accomplished through the imposition of foreign debt, structural-adjustment programs^{*26} justified by that debt, privatization of public resources, and coercive^{*27} “trade rules.” These practices are enforced through the policies of institutions such as the WTO, the International Monetary Fund, and the World Bank. The student activist organization United Students for Fair Trade also embraces this stance: the group’s literature declares that “we contextualize our work around fair-trade products and certification within the framework of our critique of neoliberal economics and global trade policy.” Academics too, such as David Goodman and Michael Goodman, would like to see fair trade result in “a fundamental transformation of capitalist society and its distinctive rationality.” This position, however, generates some controversy within the movement. For example, delegates at the 1999 IFAT conference eliminated part of a proposed definition of fair trade that would have described it as seeking “structural changes in the international economic framework.”

The boundaries between these positions are blurry^{*28}, and they suggest a continuum^{*29} rather than distinct ideological camps. Still, the differences are substantive and significant, and they extend beyond philosophy to disagreement over basic goals and practices. As the fair-trade movement has grown beyond its roots in development NGOs and activist

circles into a broader, more mainstream coalition that includes commercial importers, corporate retailers, and marketing consultants, these contradictions have become more apparent. To some extent, they reflect distinctions that have been present since the genesis of fair trade—the movement’s solidarity strand versus its development strand. Other aspects of the divergence are newer, related to the entry of new ⑤constituencies^{*30} such as large corporate roasters and retailers, who belong to neither of these currents. The various stances also partly mirror the positionality of different participants—the notion that “where you stand depends on where you sit.” The urgent material needs of some Southern producer groups, for example, may lead them to see enlarging demand for fair-trade products as the movement’s preeminent goal. However, it would be inaccurate simply to equate the market-access position with Southern producers and the more radical rhetoric with Northern activists; there is a broad range of positions in both North and South. This diversity of positions, while generally healthy, also raises interesting issues of how equitably power is shared between the producer and consumer ends of the movement.

(出典：Daniel Jaffee (2014) *Brewing Justice: Fair Trade Coffee, Sustainability, and Survival* (Updated Edition). Univ of California Press, pp.26-29 を一部改変。)

(語注)

*1 the North：南北問題を論じるときに用いられる表現で、主に北半球に位置する先進工業国を指す、*2 juxtapose：並べて置く、*3 term：条件、*4 alternative trade：ここではフェアトレードを指す、*5 unwieldy：扱いにくい、*6 coalition：提携、合同、*7 incongruity：不一致、*8 per se：それ自体、*9 subsidized：助成された、*10 SERRV：米国ブレザン教会主導で組織されたフェアトレード団体、*11 marginalized：社会の主流から取り残された、*12 International Federation for Alternative Trade (IFAT)：国際フェアトレード連盟、*13 Sasha Exports：フェアトレード団体の名称、*14 tweak：微調整する、*15 Oxfam：オックスフォード飢餓救済委員会（英国のNGO）、*16 roaster：焙煎業者、*17 marketness：競争的な市場のあり方、*18 carve out：作り出す、*19 interstice：裂け目、*20 rigged：不正に仕組まれた、*21 intermediary：仲介業者、*22 adherent：支持者、*23 Global Exchange：アメリカの人権団体の名称、*24 flawed：欠点のある、*25 plunder：略奪、*26 structural-adjustment programs：構造調整プログラム（累積債務問題に対処するため国際通貨基金 IMF と世界銀行が開発途上国政府に要請する経済構造・経済政策の改革案）、*27 coercive：強制的な、*28 blurry：不鮮明な、*29 continuum：連続体、*30 constituency：得意先、支持者

問1 下線部①の such distinctions が示す内容を簡潔に説明しなさい。

問2 下線部②の見解において、貿易の公正さは何によって構成されるととらえられているのか、説明しなさい。

問3 下線部③の見解をもつ人々は、現在の市場をどのように変えるべきだと主張しているのか説明しなさい。また、そのために、このグループが提唱している解決策は具体的にどのようなことなのか、説明しなさい。

問4 第3のグループが考える下線部④の内容について説明しなさい。

問5 Figure 1 は、アメリカの代表的なフェアトレードコーヒー取扱業者について、フェアトレード事業開始年、2010年のコーヒー全取扱量、フェアトレード認証コーヒー取扱量、全取扱量に占めるフェアトレード認証コーヒー取扱量の割合を表している (M lbs = million pounds)。

- (1) 下線部⑤において指摘される大企業の一つに、米国に本社をもつコーヒーチェーン Starbucks 社が挙げられる。Starbucks 社のフェアトレード事業への取り組みの特徴について、米国の協同組合 Equal Exchange と比較しながら、Figure 1 から読み取れることを説明しなさい。
- (2) Starbucks 社にみるような大規模コーヒー焙煎・小売業者のフェアトレードへの取り組みは、本文中で示されたフェアトレード運動が目指す目標に対して、どのように影響していると考えられるか。(1) で読み取った内容、および本文の内容をもとにして論じなさい。

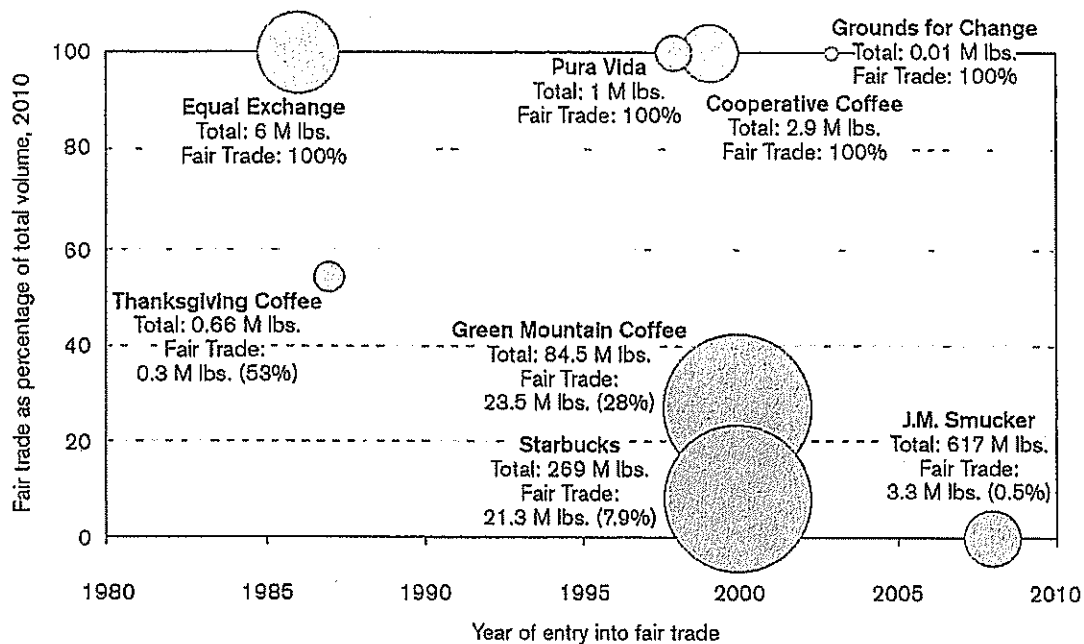


Figure 1. Selected U.S. coffee roasters, year of fair-trade entry, and 2010 fair-trade-certified purchases. Size of circle represents fair-trade-certified coffee volume purchased in 2010.

Note: Data for Smucker's are for 2008; J.M. Smucker acquired Folger's in 2008, and Folger's Millstone Brand had established a fair-trade line in 2003. Graphic adapted from Howard and Jaffee, "Tensions between Firm Size and Sustainability Goals."

(出典 : Daniel Jaffee (2014) *Brewing Justice: Fair Trade Coffee, Sustainability, and Survival*(Updated Edition). Univ of California Press, pp.296, Figure 25 を転載。)

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問題訂正
(農学部 食料・環境経済学科
小論文試験)

下記のとおり、小論文試験の問題について一部訂正があります。

記

問題訂正

小論文試験 問題冊子
5 ページ 17 行目

1 問4

(誤) ... 参考に説明しないさい。

↓

(正) ... 参考に説明しなさい。

以上