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## ECONOMIC KNOWLEDGE AND THE SCIENCE OF NATIONAL INCOME IN TWENTIETH-CENTURY JAPAN

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In *A History of the Modern Fact*, Mary Poovey attempts to retrace the history of knowledge practices that from the sixteenth to the nineteenth centuries increasingly accepted numbers as the most appropriate representation of fact. That numerical modes of knowledge seemed to allow transparent description, immune from questions of interpretation, contributed to a near obsession by the nineteenth century with counting—that is, with assigning numbers to observed particulars. The embracing of inductive methods in the emerging disciplines of social science during that century, Poovey suggests, continued alongside careful warnings about their limits by some such as the philosopher John Herschel.<sup>1</sup> But the question of how practitioners of the sciences of wealth and society sought to generate and represent their particular forms of knowledge does not end, of course, as Poovey's account essentially does, with the nineteenth century. The discipline of economics, in particular, turned to statistical epistemologies with renewed fervor in the twentieth century, increasingly by supplementing older forms of induction with mathematical practices and modeling.

This paper attempts an initial examination of some of the statistical forms that economic knowledge took during the mid-twentieth century and the manner in which these affected institutional structures and economic practice in Japan. At the end, it considers how the new forms of economic knowledge that emerged during this period have helped condition our readings of the Japanese past. The story of nearly unprecedented economic growth in Japan during the postwar period dominates histories of the country, coloring not only the story of the post-World War II decades, but also retrospectively much of the literature on the whole span of modern and even early modern times as well. Indeed, the story of the postwar period is

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<sup>1</sup> Mary Poovey, *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society* (Chicago: University of Chicago Press, 1998), pp. 1-16, 317-325.

often implicitly told as if it were synonymous with the trajectory of high-speed growth. In essence, economic growth is what we know about modern Japan. Yet this narrative frame of growth is more than a simple reflection of the material fact of enlarged accumulation in itself. The paradigmatic accounts of Japanese history cast in terms of growth themselves depend on the specific forms of economic knowledge that will be examined here and that emerged contemporaneously with the growth that they set out to describe, predict, and regulate. In part, at least, we speak of growth in the ways that we do because of the rise of specific techniques that enabled the positing of these forms of growth as objects of both economic and national enquiry.

### **Empiricizing Economics and The Pursuit of Total War**

The highly mathematical nature of the preponderance of economic research today—the dominance of statistical modeling, game theory and the like, the econometric fusion of empirical data and policy analysis—makes it easy to forget that these mathematical and statistical aspects of economics are a relatively recent phenomenon, one that has particularly dominated the field only since the end of World War II.<sup>2</sup> The so-called “statistical revolution” in twentieth-century economics—the transition from a largely deductive and descriptive discipline to a quantitative one—got its start in the 1920s and 1930s. Antecedents, of course, had existed. Attempts to apply mathematical techniques and empirical data to economic enquiry can be traced back to the earliest history of European political economy, and the use of basic economic tallies by the state in Japan also had a long history. Yet, in the words of one prominent postwar economist, statistics everywhere until this time had remained “the poor and largely passive relation of economics.”<sup>3</sup>

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<sup>2</sup> For a useful survey of representative changes in economics, especially the rise of quantification, statistical methodologies, and mathematical models, during the postwar half century in the United States, in many ways the metropole of economic research during that period, see the *Daedalus* issue titled “American Academic Culture in Transformation: Fifty Years, Four Disciplines,” p. 126, no. 1 (1997).

<sup>3</sup> John Kenneth Galbraith, *Economics in Perspective: A Critical History* (Boston: Houghton Mifflin, 1987), p. 245.

Regnant neoclassical economic theory came under attack from many quarters in the first several decades of the twentieth century for remaining too “hypothetical-deductive” and disconnected from historical experience.<sup>4</sup> From around the 1920s some economists, led most visibly by members of the institutionalist school in the United States, began attempting to move their profession towards a more empirical, inductive approach by which the theories devised through traditional deductivist strategies might be statistically supported or falsified. In general, a shift was underway in industrialized countries everywhere from a view of economics based on natural laws to one based on operational theories.<sup>5</sup> New empirical research was designed to gauge the effect and probability of economic phenomena through the use of large scale statistical collection and emerging procedures such as model and simulation analysis.

The linchpins in the complex of statistical projects that soon began to reorient the discipline of economics were the emerging macroeconomic measures of national income and gross national product. In fact, the post-World War I empiricizing movement that would eventually transform economics from a generally literary and descriptive discipline to a quantitative one was in large part motivated by the need to accumulate large data sets to support research into these new aggregate techniques. The idea gained strength during the 1930’s in particular that a clearer understanding of national production and expenditure was required to deal with the great worldwide economic challenges of that decade. Especially in the United States and Britain, the magnitude of the crisis of capitalism in the 1930s stimulated a new, deeper interest in improved calculation of the various components of national wealth. Diagnosing what ailed industrial capitalism seemed to demand a rigorous focus on the statistical measurement of all facets of national economic activity and a practical understanding of the aggregate components of the national economy.

The Depression, the expansion of government programs in its wake in the U.S. and Britain, and the findings emerging out of efforts to ground theory empirically all acted as spurs to national accounting research

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<sup>4</sup> Daniel Bell, “Models and Reality in Economic Discourse,” in Daniel Bell and Irving Kristol, eds., *The Crisis in Economic Theory* (New York: Basic Books, 1981), p. 58.

<sup>5</sup> Tamanoi Yoshirô, *Nihon no keizaigaku*, Chûkô Shinsho no. 267 (Tokyo: Chûkô Kôronsha, 1971), pp. 224-225.

by dramatically exposing the insufficiencies of prevailing neo-classical theory. Although economic orthodoxy demanded small and balanced government budgets, the increasingly important role of government expenditure in the national economy as a whole was becoming hard to deny. This new awareness was by the late 1930s greatly influenced in Anglo-American circles by a growing cadre of economists inspired by Keynesian ideas, who argued that government outlay would be required to make up the shortfall between national spending and national production. Keynesians argued that the economic stagnation of the 1930s was a result, not of insufficient production, but of insufficient demand. The national accounting techniques, devised in large part by the American economist Simon Kuznets, by which national income and its allied statistics were produced were part of new attempts to understand how economic conditions not accounted for in orthodox thinking (i.e., massive, long-term unemployment) might be explained and remedied. The statistical categories Kuznets created in GNP (and its companion calculations of national income), and his concurrent work in devising the consumption, savings, and investment components of national income, were designed as tools for measuring total aggregate demand (national purchasing power) in relation to the total value of production. Keynes himself was at the forefront of related innovations in England that allowed analysts to understand the relation of government income and expenditure to total national income and expenditure.<sup>6</sup> These national accounting tools made it possible to indicate a dearth of demand in relation to supply. The power of these new accounting techniques thus gave a shot in the arm to emerging Keynesian arguments for counter-cyclical fiscal intervention in the economy by the government, for as John Kenneth Galbraith has felicitously explained, "it was one thing to resist Keynes' theory; it was something else and much harder to resist the Kuznets statistics."<sup>7</sup>

In Japan, this broad empiricizing movement gave greater weight to domestic calls by bureaucrats and scholars for statistical reform in the face

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<sup>6</sup> Paul Studenski, *The Income of Nations: Theory, Measurement, and Analysis, Past and Present* (New York: New York University Press, 1958), p. 153.

<sup>7</sup> Galbraith, *Economics in Perspective*, p. 246.

of rapid economic change at home in the 1910s and 1920s.<sup>8</sup> A push for better quantification of economic phenomena was manifested in a variety of developments. These include the formation at the end of the Taishō period of a Central Committee on Statistics, which spearheaded the first government collection of data on labor conditions and standards of living, a revamped national population census, and more detailed industrial surveys.<sup>9</sup> The efforts by Marxists to back their claims to scientism by marshalling great amounts of statistical data in their debates of the 1920s on Japanese capitalism similarly reflected growing concern with the measurement of actual economic behavior.

The history of attempts to measure economic wealth in Japan is a long one, reaching as far back in the documentary record as the land allotment surveys and population registers of the Taika Reforms in the seventh century. Numerical measures were always valued as important to the problem of statecraft, but the desire to quantify economic and social phenomenon began to increase in the mid-nineteenth century in Japan, as in other nation-states of the time, as intensifying competition within the international state system lent new urgency to measurements of national wealth and power. Calculations of production and commerce output expanded in Japan as bureaucrats and academics erected a modern statistical infrastructure during the Meiji period.<sup>10</sup> Several rough attempts to calculate total national income were made as early as the turn of the twentieth

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<sup>8</sup> Nihon Tôkei Kenkyûjo, *Nihon tôkei hattatsushi* (Tokyo Daigaku Shuppankai, 1960), pp. 7-8, 23-24.

<sup>9</sup> Kazushi Ohkawa, *The Growth Rate of the Japanese Economy Since 1878*, Hitotsubashi University, Institute of Economic Research, Economic Research Series, no. 1 (Tokyo: Kinokuniya Bookstore, 1957), p. 136; Hijikata Seibi, *Kokumin shotoku no kôsei* (Tokyo: Nihon Hyôronsha, 1933), p. 5; Nihon Tôkei Kenkyûjo, *Hattatsushi*, pp. 107-108; Okuno Sadatori, "Nihon no tôkei jijô," in Nihon Seisansei Honbu, *Seisainsei no riron to jissai*, vol. X (Tokyo: Nihon Seisansei Honbu, 1959), p. 56.

<sup>10</sup> See Yabuuchi, *Nihon tôkei hattatsushi kenkyû* Gifu keizai daigaku kenkyû sôsho, no. 7 (Kyoto: Hôritsu Bunkasha, 1995), main text 2; Nihon Tôkei Kenkyûjo, ed., *Nihon tôkei hattatsushi*, pp. 4-5, 12; and Okuno, "Nihon no tôkei jijô," p. 56.

century, but these amounted to simple production aggregates employing few formalized accounting procedures.<sup>11</sup>

Sharing much with developments elsewhere, interest in national income increased in Japan, however, as the cumulative effects of the long economic crisis of the 1920s, the Wall Street Crash of 1929, and the disastrous return to the gold standard by Japan in early 1930 all seemed to demand a better grasp of the large mechanisms of the economy's swings and a reappraisal of how government policy ought to respond to economic ills. With the inauguration of Finance Minister Takahashi Korekiyo's expansionary budgets beginning in 1931, the issue of active fiscal policy became the subject of heated debate, and this also worked to focus new attention on the question of fiscal policy and, by extension, on national income research. These questions prompted official attention to turn to national income analysis for the first time, and the Cabinet Statistics Bureau made sporadic estimates in the 1920s and 1930s.<sup>12</sup> The landmark work of the period, however, was *Kokumin shotoku no kôsei* (*The Composition of the National Income*) of 1933 by the scholar Hijikata Seibi, which presented for the first time a statistical series covering more than ten years of economic performance.<sup>13</sup>

It was not economic hard times, however, but war that truly propelled national income and wealth research into the policy arenas of the industrial powers. This was true in Japan, where practitioners of national

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<sup>11</sup> Yano Tsuneta, *Nihon kokusei tokai* (Tokyo: Nihon Hyôronsha, 1929), pp. 31-32; Asahi Isoshi, *Economic Strength of Japan* (Tokyo: Hokuseido, 1939), pp. 25-32; Keizai Kikakuchô, Chôsabû, Kokumin Shotokuka, *Kokumin shotoku to kokumin keizai keisan*, Kokumin shotoku kaisetsu, shiryô dai 2 go (Tokyo: Keizai Kikakuchô, 1953), p. 223; Keizai Kikakuchô, Keizai Kenkyûjo, *Keizai kenkyû nijûnen* (Tokyo: Keizai Kikakuchô, 1978), p. 327.

<sup>12</sup> Keizai Kikakuchô, Chôsabû, Kokumin Shotokuka, *Kokumin shotoku to kokumin keizai keisan*, p. 225.

<sup>13</sup> Hijikata Seibi, *Kokumin shotoku no kôsei* (Tokyo: Nihon Kyôronsha, 1933), preface 1 and main text 1-2; Ôkawa Kazushi, et al. *Kokumin shotoku*. Kazushi Ôkawa, Miyôhei Shinohara and Mataji Umemura, series eds. *Chôki keizai tôkei: suikei to bunseki*, vol. 1 (Tokyo: Tôyô Keizai Shinpôsha, 1974), introduction 1.

income research became preoccupied during the 1930s with the question of whether the Japanese economy could support a protracted war.<sup>14</sup> Prime Minister Konoe Fumimaro's New Economic System guidelines of 1941 called for the use of national income-like aggregative techniques to devise capital allocation plans (*shikin keikaku*), while the Finance Ministry began an ambitious initiative to determine statistically the total of what it called National Economic Resource Strength (*kokka shiryoku*).<sup>15</sup>

Despite intensifying interest in various statistical computations of national wealth, however, the government began cutting back its economic data collection as the war dragged on in the 1940s and the fortunes of Japan turned. Civilian government and the military began to shrink or eliminate statistical institutions altogether.<sup>16</sup> Statistical research projects were halted, and soon even basic data sources ceased to be published.<sup>17</sup> Ôuchi Hyôe was a leftist economist who was to become one of the most influential analysts of the postwar period and who worked at the Bank of Japan at the time that it was contributing to *kokka shiryoku* research. He later lamented that the lack of both resources and contact with outside developments ensured that the national wealth analysts associated with the Bank were "never able to produce the sort of research that had been hoped for."<sup>18</sup> By the last years of the war, statistical systems in Japan were so debilitated that national

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<sup>14</sup> See, for example, Asahi, *The Economic Strength of Japan*, especially chapter III, "Increased Capacity to Bear Tax Burden" and Chapter IV, "Growth of National Income."

<sup>15</sup> Keizai Kikakuchô, *Keizai kenkyû nijûnen*, p. 329.

<sup>16</sup> Okuno, "Nihon no tôkei jijô," p. 56; Nihon Tôkei Kenkyûjo, *Nihon tôkei seido saikenshi: tôkei iinkai shikô*, kijutsu hen (Tokyo: Nihon Tôkei Kenkyûjo, 1962), p. 1.

<sup>17</sup> The Japan Statistical Yearbook, for example, which had been published by the Statistics Bureau of the Office of Prime Minister every year since 1882, ended publication in 1941, while the public announcement of national income data ended in 1942. Nihon Tôkei Iinkai Jimukyoku, *Sôrifu Tôkeikyoku. Nihon tôkei nenkan*. vol. 1. (Tokyo: Nihon Tôkei Kyôkai, 1949), preface 3-4; Studenski, *Income of Nations*, p. 497; Nihon Tôkei Kenkyûjo, *Hattatsushi*, p. 32.

<sup>18</sup> Ôuchi Hyôe, *Keizaigaku no gojûnen*, vol. 2 (Tokyo: Tokyo Daigaku Shuppankai, 1959), pp. 330-331.

accounting work played little reliable role either in management of the economy in general or in the prosecution of the war.

Just as statistical systems in Japan were foundering, however, national accounting was being put to vigorous use by the governments of the U.S. and Britain. The great swell of theoretical and applied work in those countries from the early days of the Depression was now turned toward mobilization for war. The practical power of new national accounting knowledge was soon made clear to doubters, and new institutional arrangements developed under which this work began to be carried out.

GNP is an assessment of the total annual production of goods and services, a figure related to its companion, gross national income, which is the income derived from that output (minus depreciation). By applying the new forms and values for computing national accounts developed by Simon Kuznets and others, it was possible for the first time to determine the size of the war effort that might be mounted and to plan war mobilization strategy accordingly. In the U.S., these techniques were famously employed in the Victory Program of the War Production Board, in which a schedule for weapons, tank, and ship manufacture was planned and subsequently met. Although it may seem improbable that a statistical technique such as GNP accounting would be identified as a strategic wartime advantage, John Kenneth Galbraith appraises the economist most responsible for its present form, Simon Kuznets, as “one of the least recognized of the pillars of Allied power in World War II.”<sup>19</sup> Elsewhere, it has been noted that knowledgeable opinion after the war held that “the power of national economic accounting in the war effort [in the U.S.] was greater than that of the atomic bomb.”<sup>20</sup>

The use of national accounting by the Allied powers during the war had the effect of embedding these statistical techniques in official contexts to a relatively large degree in those countries. By the end of the war, officials and their scholarly allies in the U.S. and Britain had begun to

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<sup>19</sup> Galbraith, *Economics in Perspective*, p. 247. For general discussions of national accounting in the U.S. during the war see Galbraith, *Economics in Perspective*, pp. 245-247 and John Kenneth Galbraith, *A Journey Through Economic Time: A Firsthand View* (Boston: Houghton Mifflin, 1994), p. 115.

<sup>20</sup> Mitsuharu Itô, “Munitions Unlimited: The Controlled Economy,” *Japan Interpreter* 7, no. 3-4 (1972) p. 362.

erect mechanisms for the regularized production of national income statistics and formal systems by which these would be linked to the policy apparatus of the state. These Anglo-American economic experts, furthermore, had begun to forge a consensus on measurement criteria, term definitions, and accounting methods by which these statistics would be standardized and thus made trans-nationally commensurable for the postwar period.

#### A “New State System of Statistics”

Despite the difficulties encountered in the actual practice of planning and the controlled economy during the war in Japan, discourses on the technical manipulation of the national economy generated in the context of the colonial project and total war survived into the postwar period. Analysts and leaders trying to forge a vision of a rebuilt Japanese economy after the war quickly revived old dreams of rationalized planning and guidance. Critical to success this time, they believed, would be a vigorous, broad system of statistical research. Yet as the war ended, statistical systems in Japan had all but ground to a halt. It was clear to many that any hope for successfully rationalized management of the postwar economy would be predicated on a renovated statistical system. In a sense, these calls by business leaders, economists, officials, and not least, the Allied Occupation, for fortified statistical practices were heir to the empiricizing drive that began in the 1920s, only now more rigorously bound to the discourse on rationalization than ever before. Defeat and the prostrate condition of the nation in its wake, however, gave special significance to the old problem of statistics. Just as was the problem of planning itself, statistical production was now viewed through the prism of the wartime experience.

The immediate concern for those demanding quick reform of statistical systems was that the “vacuum” (*kūhaku*) of reliable economic facts imperiled recovery.<sup>21</sup> Japanese planners were not the only ones dismayed by the lack of data. Exasperated by the inability of government agencies to supply Occupation administrators and planners with economic

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<sup>21</sup> See, for example, Nonomura Kazuo, “Nihon no ‘kiki’ keizai no shoriron,” in Osaka Shiritsu Daigaku, Keizai Kenkyūjo. *Sengo shakai kagaku bunken kaisetsu*. (May 1947-December 1947). Reprint. *Keizaigaku bunken shūmoku*. 4th series. *Shakai kagaku bunken kaisetsu, 1945-1947*. 2 vols. in 1. (Bunshō Shoin, 1984), pp. 22-23 of reproduced original.

data, GHQ forcefully demanded measures to remedy the problem.<sup>22</sup> Complaints about these immediate problems were just the first points of attack in a broad critique of wartime statistical practices articulated by commentators from all quarters. The most serious problem was not simply the dearth of data, but the manipulation of statistics that critics charged had routinely taken place at all levels.<sup>23</sup> The influential Statistics Commission (*Tôkei linkai*) created in the cabinet in 1946 to revamp statistical systems, located the crux of the problem in what it dubbed a “system of secrecy” (*himitsushugi*) during the war that sent statistical production into “disarray” and resulted in crippling political and economic “confusion.”<sup>24</sup> If Japan’s loss in the war could be blamed on maladroit administration of the war effort, the Statistics Commission and other groups argued, then the proximate cause surely was that leaders had “ignored statistics.”<sup>25</sup>

Commentators, moreover, saw fundamentally reformed statistical systems as essential not only to address the immediate emergency, but to serve as the backbone of the new “systematized” economic order they were convinced would characterize the postwar period.<sup>26</sup> At the heart of the postwar pursuit of robust statistical production was increasing faith that recent technical developments improved the possibility of a truly scientific knowledge of the economy in all of its aspects. Kawashima Takahiko, director of the Cabinet Statistics Bureau argued soon after the war for a “new state system of statistics” (*shin naru kokka tôkei seido*). He marveled

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<sup>22</sup> Nihon Tôkei Kenkyûjo, *Nihon tôkei seido saikenshi*, kijutsu hen, 1; Arisawa Hiromi, *Shôwashî e no shôgen: Sengo keizai o kataru* (Tokyo: Tokyo Daigaku Shuppankai, 1989), pp. 53-54.

<sup>23</sup> Ôuchi Hyôe, “Sengo tôkei kotohajime,” in *Tôkei jôhô* (August 1957). Reprint. Ôuchi Hyôe *Chosakushû*. vol. 12. (Tokyo: Iwanami Shoten, 1975), p. 261; Ôuchi, *Gojûnen*, vol. 2, p. 333.

<sup>24</sup> “Tôkeihô no rippô no shui” (Feb. 12, 1947), in Nihon Tôkei Kenkyûjo, *Nihon tôkei seido saikenshi*, shiryô hen, vol. 2, p. 55.

<sup>25</sup> Nihon Tôkei Kenkyûjo, *Nihon tôkei seido saikenshi*, kijutsu hen, p. 1.

<sup>26</sup> See, for example, Special Survey Committee, Ministry of Foreign Affairs, *Postwar Reconstruction of the Japanese Economy* (University of Tokyo Press, 1992), p. 96. See also the original Japanese language version as reprinted in Nakamura Takafusa, ed. *Nihon keizai saiken no kihonmondai in* Arisawa Hiromi, series ed., *Shiryô: Sengo Nihon no keizai seisaku kôsô* vol. 1 (Tokyo: Tokyo Daigaku Shuppankai, 1990), pp. 143-263.

at the pioneering use in the U.S. and the Soviet Union of what he called management statistics (*keiei tōkei*) for the “comprehensive management of the entire nation and all of society.”<sup>27</sup> Yamanaka Shirō, chief of the Cabinet Deliberation Office, expressed what would become the basic assumptions of the bureaucrats and academics who would soon participate in the Statistics Commission. In 1946 he urged that postwar reconstruction be founded on “comprehensive, scientific analysis” supported by a vast statistical complex. He envisioned legions of economists pumping out research for the powerful Economic Stabilization Board and the “broad mobilization” (*hiroku dōin shi*) of universities and other outside research organizations in the private sector toward that effort.<sup>28</sup>

Against this backdrop of idealized calls for statistical management of the economy, Japanese government officials and leading economists set about to create a coherent, national system of data production. The Statistics Commission set up by the government of Yoshida Shigeru in 1946 to reform the government’s official statistical institutions oversaw the creation by the early 1950s of a newly sophisticated, national statistical infrastructure and the protocols by which it operated.<sup>29</sup> A new Statistics Law passed in March 1947 formalized the authority of the Commission to direct official statistical research; stipulate the public reporting and preservation of statistics; hold researchers and research subjects to strict standards of accuracy; and improve the quality of statistical personnel throughout the government.

The Statistics Law inaugurated two reforms in particular to impose standards and ensure a new level of comprehensiveness in statistical studies. The first was the *shitei tōkei* (designated statistics) system, under which the

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<sup>27</sup> Kawashima Takahiko, “Waga kuni tōkei seido kaikaku no shushi” (July 1946), in Nihon Tōkei Kenkyūjo, *Nihon tōkei seido saikenshi*, shiryō hen, vol. 1, p. 121.

<sup>28</sup> Yamanaka Shirō, “Keizai antei honbu no unyō ni kansuru shiken” (March 17, 1946), in Nihon Tōkei Kenkyūjo, *Nihon tōkei seido saikenshi*, shiryō hen, vol 1, pp. 1-3.

<sup>29</sup> “Tōkei iinkai kansei” (Dec. 28, 1946), Nihon Tōkei Kenkyūjo, *Nihon tōkei seido saikenshi*, shiryō hen, vol. 1, pp. 262-263; Nihon Tōkei Kenkyūjo, *Nihon tōkei seido saikenshi*, kijutsu hen, pp. 1-5; Ōuchi Hyōe, “Sengo tōkei kotohajime.” In *Chosakushū*, vol. 12 (Tokyo: Iwanami Shoten, 1975), pp. 262-263; Ōuchi, *Gojūnen*, vol. 2, p. 334.

Statistics Commission acted as a coordinating directorate and information clearing house for statistical research nationwide. It designated what “important” official national statistics would be regularly collected, when, and by what specific private organs or by what local or national governmental agencies.<sup>30</sup> The second reform was the rapid expansion of local statistical organs, designed to create an integrated network of official statistical production that was truly nationwide in scope.<sup>31</sup> The Commission, furthermore, stipulated across-the-board training requirements for official statistical researchers, sponsored education initiatives in schools, and began the transition of the government’s technical infrastructure toward a new generation of electrical calculating machines.<sup>32</sup>

By the time of its succession by the Administrative Management Agency (*Gyōsei Kanrichō*) amidst the post-Occupation changes in the bureaucracy, the Statistics Commission had presided over the unprecedented institutionalization of many of the statistical practices so insistently called for by critics immediately after the war. The Statistics Commission and the Administrative Management Agency after it, though embattled by the ministries, exercised unequalled oversight over the operations of official statistical systems.<sup>33</sup> The Cabinet Statistics Bureau was strengthened, and this along with the statistics bureaus in the ministries and the Economic Planning Agency created an institutional breadth and

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<sup>30</sup> *Tōkei hō*. Law no. 18 (March 26, 1947), in *Nihon Tōkei Kenkyūjo, Nihon tōkei seido saikenshi*, shiryō hen, vol 2, pp. 67-71.

<sup>31</sup> The number of prefectural statistical operatives alone jumped nearly four-fold to 4,365 people during 1947. “Chihō tōkei kikō seibi yōkō” and “Chihō tōkei kikō seibi yōkō ni tsuite no hōkoku,” in *Nihon Tōkei Kenkyūjo, Nihon tōkei seido saikenshi*, shiryō hen, vol. 2, pp. 209-18; *Nihon Tōkei Kenkyūjo, Nihon tōkei seido saikenshi*, kijutsu hen, pages 7 and 22-24.

<sup>32</sup> “Tōkei iinkai tōkei kōshūkai junsoku.” *Sōrifu Kokuji* no. 8 (May 23, 1947), in *Nihon Tōkei Kenkyūjo, Nihon tōkei seido saikenshi*, shiryō hen, vol. 3, pp. 160-161; See “Tōkei tanki daigaku setchi yōkō (an)” (July 18, 1950), in *Nihon Tōkei Kenkyūjo, Nihon tōkei seido saikenshi*, shiryō hen, vol. 3, pp. 160-163; *Nihon Tōkei Kenkyūjo, Nihon tōkei seido saikenshi*, kijutsu hen, pp. 49-51, 66-67.

<sup>33</sup> Arisawa Hiromi has characterized the Statistics Commission as wielding a “considerable amount of power” and controlling a significant budget for its operations. (Arisawa, *Kataru*, p. 79).

scale unseen before the end of the war. Under the Statistics Law, moreover, the official function of the state as a producer and manager of statistical knowledge was now codified, legislated as it had not been earlier. The *shitei tōkei* system both reflected and promoted an explosion in new fields of study as the economy came to be defined by an ever increasing variety of sophisticated, formalized statistics. By the early 1950s, Japanese planners and bureaucrats—under the watchful eye of the Occupation—had architected an elaborate new national “statistical system” (*tōkei taikai*), run by a class of expert officials who would manage the economy, and society as a whole, through the science of statistical fact.

### **Knowing the Postwar Economy through National Income Accounting**

As the Statistics Commission created a postwar statistical infrastructure, macroeconomic statistics such as national income accounting began to emerge as governing analytical tools within the new system. American Occupation administrators were animated from the very first days of the Occupation by the belief that a dearth of statistical data threatened their success in Japan, and high on the wish list of the Economic and Scientific Section staff at GHQ were figures on national income. The rising prominence of national income in the U.S. during the war did not end when the fighting ceased. By now many American analysts believed that national accounting was a powerful tool that could be applied, not only to the special circumstances of wartime mobilization, but to the general problem of measuring and, it was hoped, regulating the broad swings of the national economy.

Regularized, official national accounting conducted according to the standards devised in wartime America and Britain began in Japan under the strong influence of the U.S. mission on statistical reform. This was led by Stuart A. Rice, deputy chief of the U.S. Office of Management and Budget and chairman of the United Nations Committee on Statistics. Easily the least recognized of the many Occupation missions to Japan, the Rice Mission began its work at the end of 1946 just as the Statistics Commission was getting under way. Rice and his team supported the work of the Commission and gave advice on institutional arrangements and new statistical techniques. The Mission “particularly” pushed gross national product and national income techniques, arguing that they were “fast

becoming one of the most vital and powerful means by which economic policies [were] instituted and measured in the major nations of the world."<sup>34</sup>

Rice urged the Japanese government to step up their training of statisticians in the concepts and methods of national income and GNP. He argued that only the unity and consistency of statistical output would ensure the success of national income accounting, and emphasized to his Japanese colleagues the need to reform the survey statistics—such as population, wages and income, production, employment, consumer income and expenditure—that fed into income calculations. The Rice Mission also reviewed methods used in the past to calculate national income in Japan and instructed its Japanese counterparts in agencies throughout the government about the standards and definitions employed in computing national income in the United States.<sup>35</sup>

The computation of national income and product is a complex enterprise dependent upon contributing data from many sources, Rice argued, and therefore advised his Japanese counterparts to assign national accounting functions to one central authority. As a result, all national accounting work was moved in June 1947 to the young Economic Stabilization Board, which in its later incarnation as the Economic Planning Agency remains the institutional home of national accounting today. By October of that year, a National Income Research Office (*Kokumin Shotoku Chôshitsu*), with 42 technical staff, had been created within the Stabilization Board exclusively devoted to the computation of the statistic.<sup>36</sup>

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<sup>34</sup> Michael Sapir, "Nihon no kokumin shotoku tôkei (keikaku to hyôka)," (1947) [Japanese trans. of original] in Keizai Kikakuchô, *Sengo keizaishi: kokumin shotoku hen* (Keizai Kikakuchô, 1963), pp. 231 and 234; Stuart Rice, "Nihon tôkei soshiki no kindaika." [Japanese trans. of original] (April 1947), in *Nihon tôkei seido saikenshi: tôkei iinkai shikô, shiryô hen*, vol. 2 (Tokyo: Nihon Tôkei Kenkyûjo, 1963), pp. 113-114.

<sup>35</sup> Rice, "Nihon tôkei soshiki no kindaika," pp. 113-114.

<sup>36</sup> The 42 staff members included only those responsible for computing national income statistics in the Economic Stabilization Board from the basic data provided to them by many others in relevant ministries and agencies throughout the government. Keizai Kikakuchô, *Sengo keizaishi: shotoku hen*, pp. 16-18.

The assignment of national income accounting to the Economic Stabilization Board (hereafter ESB) came at an important moment in the history of that organization. It had begun operations in August 1946 as a fairly weak planning and coordinating organ virtually ignored by the ministries. By the next spring, however, the ESB enjoyed virtual complete control over the flow of all major commodities in Japan. This strengthening of the agency was encouraged by SCAP, which directed that it should assume all ministerial planning functions. Suddenly at the center of economic policymaking and implementation, the ESB exploded in size: by May of that year, it had 2,000 employees, up from just some 300 the year before.<sup>37</sup> Thus the assignment of national accounting work to the ESB institutionally situated it at the heart of the government's economic policy apparatus. The ESB began annual reporting of national income by the turn of the decade, and by 1953, the income reports had attained "white paper" status and were formally presented to the Diet. These in turn, informed both the government's overall Economic White Papers (*keizai hakusho*), so influential in the 1950s and 1960s in setting the parameters of public debate on the economy, and the series of influential long-term plans produced by the Economic Planning Agency during those decades.

The orientation of statistical production around national income was reinforced well into the 1950s by the continuing interventions of foreign, overwhelmingly American, economists. This influence included the training of young Japanese scholars in the U.S. as well as frequent study missions between the U.S. and Japan and direct reviews by American economists of Japanese national income practices.<sup>38</sup> Members of the Rice Mission also continued to shape developments. Some stayed on as advisors in the Economic and Scientific Section of SCAP after the Mission had formally ended, and Rice himself returned with a new mission in 1951. During that second trip, he continued to exhort Japanese officials to strengthen the research work of the ESB, "especially . . . the capability to

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<sup>37</sup> Chalmers Johnson, *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975*. (Stanford, CA: Stanford University Press, 1982), p. 183.

<sup>38</sup> Keizai Kikakuchô, *Sengo keizaishi: kokumin shotoku hen*, pp. 10-11.

carry out national income and related forms of analysis.” In response, the Japanese government further bolstered the income unit of the ESB.<sup>39</sup>

The spate of new institutions set up to manage postwar multilateral relations, particularly the United Nations, also played a role in promoting national income accounting in Japan and in nations the world over. Economists in the national income accounting unit at the UN quickly set out after the war to standardize statistical approaches. This was in part a response to a system in which member nations paid dues to the UN according to the size of their national income. Membership thus required some kind of formal accounting system, and UN experts conducted reviews of practices in member nations. In 1954, for example, the UN released a report by Harry Oshima of its Statistics Bureau critically evaluating the ESB’s income calculation for 1951 and proposing changes to the methods used by the Japanese statisticians.<sup>40</sup>

The attempt to formulate international standards for national accounting also reflected postwar hopes that organizations such as the UN, the World Bank, and the IMF would work to stabilize the world economy and regularize its multilateral management. Soon these statistical practices were deployed more directly as well as a means of gauging and promoting the comparative development of national economies. By 1952 the UN, working with other institutions such as the Organization for Economic Cooperation and Development, completed a set of common national accounting conventions, and it was expected that nations work to meet their requirements. Japanese bureaucrats and scholars were in close contact with UN developments in national accounting and worked steadily through the 1950s to bring their practices in line with these international standards.<sup>41</sup>

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<sup>39</sup> Stuart A. Rice, “Nihon no tōkei kikō no arikata,” [Japanese trans. of original] (1951) in Keizai Kikakuchō, *Sengo keizaishi: kokumin shotoku hen*, p. 19.

<sup>40</sup> See the synopsis of Oshima’s report in Keizai Kikakuchō, *Sengo keizaishi: kokumin shotoku hen*, pp. 400-416.

<sup>41</sup> These standards were known by the name of the document in which they appeared, “A System of National Accounts,” or SNA. Other international organizations such as the Organization for European Economic Cooperation also devised similar standards for their members. The OECD required entering member nations to submit formal income calculations beginning in 1953.

By the early 1950s, then, highly empirical, aggregate economic practices such as national accounting had increasingly come to form the conceptual ether in which economists and bureaucrats operated. These modes of economic analysis lay at the heart of a new international institutional order that determined national income accounting standards, promoted their use throughout the world in a host of multilateral organizations, and employed them in an assertive program of economic developmentalism across the globe. At home, the dream of a comprehensive statistical structure by which a true science of the economy might operate had necessitated the construction of newly formalized national statistical machinery. Economic measures and modes of analysis that placed a premium on manipulation of aggregate flows and structures of the national economy, particularly as represented in the statistics of national income and GNP, grew from modest roles in early recovery plans to increasingly rule many of the chief analytical activities of this state statistical system. Regularized national income accounting by the government thus came to reflect the logic of the new institutional muscle of postwar technocracy. By the late 1950s the statistic of GNP would assume an outsized place in official analysis, wider public discourse on the economy, and shared conceptions of national purpose and power.

#### **Statistical Knowledge and the Pursuit of Post-Imperial Growth**

Although originally constructed as a limited set of techniques by which to measure the long-term disequilibria of national economies, analysts eventually came to see national income accounting as a convenient yardstick to measure what was defined as the material progress of economies. Taken together with the host of related statistical tools of the new economics, national accounting offered new entrees into older questions about the determinants of material wealth and its increase over time. Thus, scholarly and official campaigns to extend and standardize national accounting and related techniques, as well as to produce the comprehensive statistical data sets they required, contributed to a sharpening focus within the field on the question of the overall expansion of national economies across time. These technocratic tools helped define the parameters by which what was now persistently spoken of in terms of “growth” (in Japanese, *seichô*) was known and, at the same time, served as the barometers by which it was monitored.

During the 1950s and especially the 1960s, attempts to compare the long-run economic performance of nations became a bedrock element in

the research programs of economics departments around the world. The twentieth-century forms of this field of growth theory were fundamentally based upon historical series of national income and product data. Simon Kuznets, in fact, the economist with claims to being the most responsible for devising the early national accounting rules and forms by which GNP came to be computed, led the way in accumulating historical income statistics and applying them to exploration of the historical dynamics of increased macroeconomic accumulation. As researchers in major universities across the world busied themselves identifying the morphology of growth and the conditions for the “take-off” into modern growth, economists in Japan and elsewhere specifically set out to apply the principles of growth analysis to the case of Japanese history. The massive, two-decade project at Hitotsubashi University to compile comprehensive and coherent series of historical data on the economy, the generation of research projects on historical growth that sprang out of that statistical compendia, and the innumerable studies of Japanese growth by researchers in Europe, the United States, and in not yet industrialized nations, were all evidence of an obsession with Japan as a developmental model by which to test theoretical precepts on the wealth of nations.

In the powerful success story of its emerging economic miracle, Japan appeared a particularly attractive object of scholarly enquiry. There was the appeal of the storybook plotline: from military defeat to economic victory; from vanquished fascist enemy to capitalist stronghold and ally. And there was also the easy assignment to Japan of the familiar role of earlier years, though now cast in economic terms stripped of the explicit geo-political rivalries of the past, as the model of the successful non-Western modern nation. The unfolding postwar story became the latest and most dramatic chapter in the longer narrative of modern economic growth by which economists and historians had begun to recast the previous century of Japanese history. Indeed, the key to explaining what was by the mid-1950s already being dubbed the “miracle” of Japan’s recovery seemed precisely to lie in the longer record of past growth.

The increasing fetishization by the 1960s of the deceptively tidy statistic of GNP acted at least in part to symbolically efface the many contradictions inherent in postwar economic change and supported totalizing representations of the national economy as a coherent macro-ledger of accounts. In *Numbers and Nationhood*, Silvana Patriarca speaks of the ways in which statistics served during the nineteenth century to represent the emerging abstraction of the nation in terms of spatial unities

and coherences.<sup>42</sup> The specific forms of statistical discourse and practice examined in this paper seem to have little to do with the sort of geographical anxiety about fixing boundaries that Patriarca illuminates. Provisionally, one might say, rather, that they appear to both support and to be symptomatic of a logic of power which, on the surface at least, discards spatial categories altogether to embrace an internalist logic of power founded on the domestic accumulation of material wealth expressed in terms of capital and income alone.<sup>43</sup> Thus the loss of empire—and the bankruptcy of earlier conceptions of national purpose based on a territorialist logic of power—formed the seldom spoken backdrop to calls after the war for a new, scientific Japan based on statistical renovation and to the mobilization for rapid national growth that those statistical practices were eventually made to serve.<sup>44</sup>

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<sup>42</sup> Silvana Patriarca, *Numbers and Nationhood: Writing Statistics in Nineteenth-Century Italy* (Cambridge: Cambridge University Press, 1996).

<sup>43</sup> Limits to this schema about the postwar logic of power must also be acknowledged, as postwar growthism also possessed significant “external” characteristics: the Japanese economy was always particularly dependent on the circulation of international trade, and in its export-import relations with other countries significant imbalances of power favorable to Japan have often obtained.

<sup>44</sup> For the suggestion that the modes of rule or logics of power pursued by nation states can be understood in terms of opposing systems of either “territorialism,” in which the extent or populousness of the domain defines power, or “capitalism,” in which territorial expansion is only an intermediate step in the further accumulation of capital, see Giovanni Arrighi, *The Long Twentieth Century: Money, Power, and the Origins of Our Times* (New York: Verso, 1994), pp. 33-34.