

The Uno Newsletter:

Rejuvenating Marxian Economics through Uno Theory

(Vol. II, No. 19) 20 March 2017

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The Uno Newsletter: Rejuvenating Marxian Economics through Uno Theory (Vol. II, No. 19) 20 March 2017. In the fourth English volume of the Uno Newsletter, we feature three articles. Nobuharu Yokokawa (Musashi University, Japan), “The rise and fall of Japanese economy in super long waves of capitalist world systems”, follows long and super long waves of the capitalist economy, and examines the rise and fall of the Japanese economy to find the requirements for more stable and egalitarian economic development. Richard Westra (Graduate School of Law, Nagoya University, JAPAN), “A Theoretical Note on the Commodification of Labour Power in China Under the Conditions of Globalization”, explores the social relations of production in China and the world economy through the prism of Marx’s theorising of the commodification of labour power in the general theory of capitalism. Kei Ehara (The University of Tokyo, Japan), “From Classical Market View to Marxian Market View: Reinterpreting the Theory of Market Value”, tries to capture the image of the capitalist market from the viewpoint unique to Marx.

The Uno Newsletter (in Japanese) started after the 30th Memorial Conference (2007) in honour of Kozo Uno (1897-1977) who developed an approach to understanding capitalism (and appropriating Marx’s ideas) that contains three levels of analysis: the general theory of capitalism; the stages of capitalist development; and detailed historical analysis of capitalism as it manifests itself in particular countries and time-periods. In the open spirit of Japanese political economy, contributions to the Uno Newsletter draw on diverse intellectual traditions. The focus of The Uno Newsletter includes the basic theory of capitalism; the integration of heterodox economics such as Marxian, Post Keynesian, Institutional, Evolutionary, and Neo-Schumpeterian economics; the theory of capitalist development; and the empirical analysis of capitalism.

The Uno Newspaper (English version) editors encourage scholars around the world to submit their working papers and rough drafts for ongoing research in the aforementioned traditions to the Newsletter for dissemination in the spirit of scholarly camaraderie and congenial critique.

We welcome comments on the newspaper editorsEN@unotheory.org and on each working paper.

Nobuharu Yokokawa (Musashi University)

Richard Westra (Nagoya University)

Contents:

Nobuharu Yokokawa (Musashi University, Japan), “The rise and fall of Japanese economy in super long waves of capitalist world systems”

Richard Westra (Graduate School of Law, Nagoya University, JAPAN), “A Theoretical Note on the Commodification of Labour Power Under the Conditions of Globalization”

Kei Ehara (The University of Tokyo, Japan), "From Classical Market View to Marxian Market View: Reinterpreting the Theory of Market Value"

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**The rise and fall of Japanese economy
in super long waves of capitalist world systems**

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The rise and fall of Japanese economy in super long waves of capitalist world systems

Nobuharu Yokokawa (Musashi University)

Introduction

After the financial crisis of 2007–2008 we are facing the beginning of the end of the postwar capitalist world system. Once I called the 1920s an interregnum when the old hegemon Britain lost economic and military power to organize capitalist world system and the potential new hegemon the USA did not have will to create a new capitalist world system. It was a period of discontinuity in social order accompanied by widespread unrest, wars, and power vacuums. It continued three decades before a new capitalist world system was reestablished by the USA. On the other hand, an interregnum is a most important period to create a more stable and egalitarian world system. In this paper, I will follow long and super long waves of the capitalist economy, and examine the rise and fall of the Japanese economy to find the requirements for more stable and egalitarian economic development.

In the first section, long waves and super long waves are examined introducing concepts of dynamic industries and VAL. The dynamic comparative advantage of industries depends on the difference between VAL and wages. Dynamic comparative advantages of dynamic industries do not last forever, because of the eventual decrease of VAL and increases in wages. Long waves are stages of development in a capitalist world system. They are explained by the shift of dynamic industries and corresponding capital accumulation regime (or “techno-economic paradigm” Perez 2003). A capital accumulation regime with new dynamic industries follows formation, development, maturity, and then structural crisis. The structural crisis of a capital accumulation regime is a creative destruction from the viewpoint of new dynamic industries. Super long waves are explained by the shifts of capitalist world systems. The first capitalist world system was created by Britain in the early 19th century. It followed three stages of development: mercantilism, liberalism, and imperialism. They are the stage of formation of the capitalist world system, that of establishment and that of diversification. The stage of diversification (imperialism) was that of the formation of a new capitalist world system, Bureaucratic Capitalism. It was created by the USA, and also followed the stage of establishment (the golden age) and then that of diversification (neoliberalism).

In the second section, I build a new flying geese theory incorporating dynamic comparative advantage theory with Akamatsu’s flying geese theory (Akamatsu 1962). The new flying geese theory enables to analyze both linear (catchup) industrialization and non-linear (uneven) development, vertical specialization, and changes in the leaders of dynamic industries (Yokokawa 2016).

In the third section, I follow Asian flying geese pattern of industrialization and the rise of Japanese economy after World War II (Yokokawa 2013). In the golden age after World War II, Japan shifted its dynamic industry from textile to heavy and chemical industries. The upgrading of Japanese industries left

room for less-developed East Asian countries to industrialize in the flying geese pattern. After the structural crisis of the 1970s, Japan shifted its dynamic industries to machinery industries such as automobiles and electrical machinery, and Asian NIEs shifted their dynamic industries to heavy and chemical industries with export-led growth strategies.

In the fourth section, I examine open product architecture and the fall of the Japanese economy. In the 1980s, The Japanese car industry and other machinery industries improved productivity by introducing integral product architecture. It was very effective and quality and productivity in automobile and electronic machinery industries improved significantly. Facing declining international competitiveness, US encouraged joint R and D based on consortia of firms to develop industry-wide consensus standard. In the standardized open area implicit knowledge and know how were revealed and became explicit where competition reduced VAL. In the protected closed area that required high technology, existing companies could enjoy high VAL. This inequality of the VAL distribution between open and closed areas led to a drastic change in the division of international labour. In the 1990s US platform leaders successfully encapsulated their core technology with the standardized interface and built-in software. Platform leaders supplied capsulated technology to companies in emerging world, which made assembly makers in developing countries to produce quality products easier and more competitive. Design and production makers in advanced countries are losing competitiveness to the combination of platform leaders and assembly makers in developing countries. It is not Japanese integral product architecture in machinery industries but the combination of closed and open product architecture in ITC and knowledge intensive industries that have become a new dynamic industry.

In the fifth section, I argue that the new dynamic industries enabled China's compressed industrialization, and the China-centric Asian production network replaced the Japan-led Pacific Rim triangle trade regime in the 2000s.

In the conclusion, I speculate the possibility to create a new production-led capital accumulation regime. Information and communication technology with built-in software and the internet has high possibility to increase productivity. I argue that in order to create a new golden age with a production-led accumulation regime solving demand constraint is required. Firstly, Inequality in the distribution of VAL between closed and open areas must be resolved. Secondly, inequality in the distribution of VAL between wages and profits must be reduced. Thirdly, a stable international monetary system such as Keynes' International Clearing Union must be created (Keynes 1980).

1. Long waves of Capitalist economy

Dynamic industries and VAL

In the history of capitalism, clusters of new technological innovations emerged several times. Following Reinert (2003) I use the term "dynamic industries" to denote these revolutionary clusters of new technologies. Perez (2003) summarized evolution of dynamic industries as follows: (1) between the mid-18th and mid-19th centuries, mechanization of the cotton industry, wrought iron, the steam engine, and

railways; (2) between the 1860s and the 1910s, cheap steel, electrical machinery, the internal combustion engine, synthetic dyes, and artificial fertilizers; (3) between the 1920s and the 1960s, mass produced automobiles, cheap oil fuels, petrochemicals, air planes, electricity, and home electrical appliances; and (4) since the 1980s, information revolution, cheap microelectronics, computers, software, telecommunications, computer control instruments, and new materials.

In dynamic industries clusters of innovations accelerate productivity growth, which follows an S shaped logistic curve. Their productivities are measured by VAL. VAL is decomposed to the volume of product and value added per product.

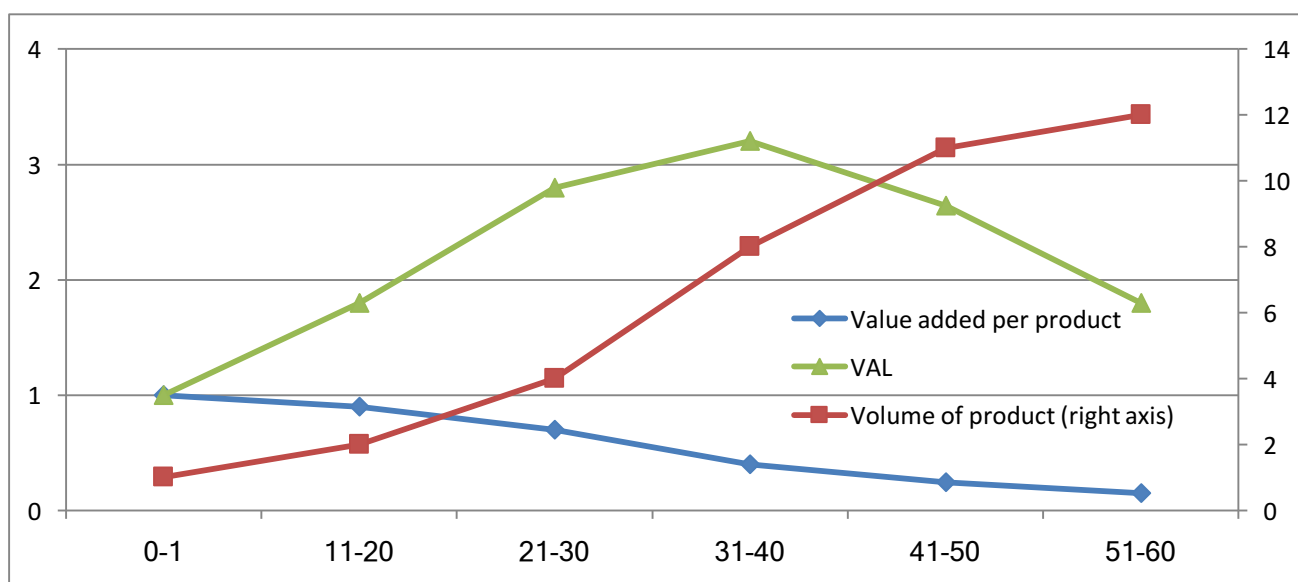
VAL = the volume of product x value-added per product

Dynamic comparative advantage depends on the difference between VAL and wages.

Profits = VAL - Wages

Figure 1 shows that in dynamic industries the volume of the product increases with productivity growth which follows an S shaped logistic curve. The value added per unit of product is large when a new product is exclusively supplied by a limited number of firms. When a new technology spreads, the price of a product becomes cheaper, and value-added per product is reduced. The result is a bell-shaped VAL curve that shows dynamic industry's VAL increases with the increase in productivity and eventually decreases. Historically, real wages increased with average productivity. Then dynamic comparative advantage of a dynamic industry does not last forever, because of the eventual decrease of VAL and increases in wages.

Fig.1 The rise and fall of VAL of a dynamic industry

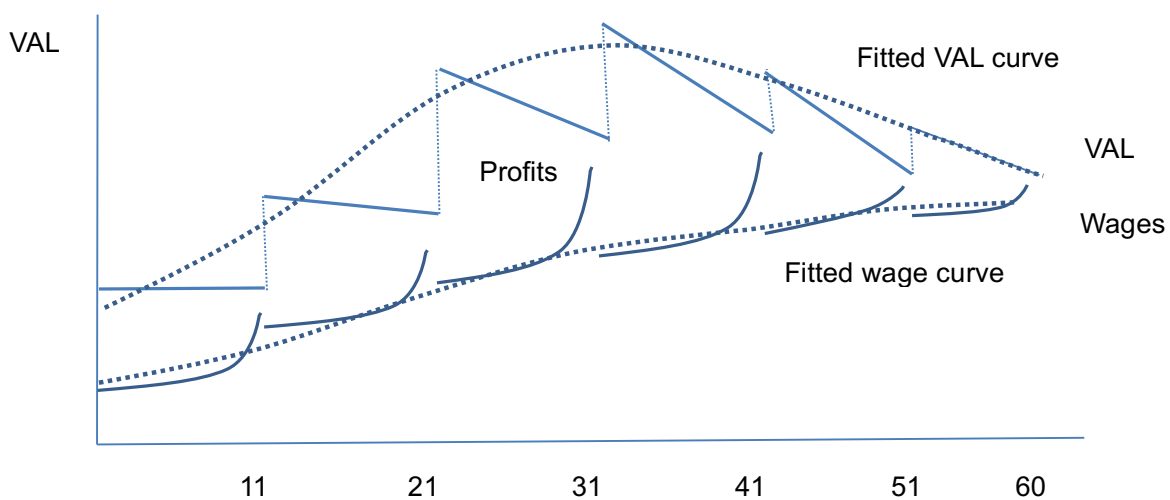


Cyclical crises: dynamic industries and business cycles

Figure 2 shows the relation between capital accumulation and business cycles. When a new capital accumulation regime to accommodate new dynamic industries is created, the new dynamic industries

become the engine of economic growth. When capital accumulation increases in the dynamic industry, capital accumulation in other sectors also increases. The new technology spreads with the progress of prosperity, and the price of the product becomes cheaper reducing VAL. While some types of labour in the dynamic industries become scarce, and wages rise. This reduces the profits and eventually causes a cyclical crisis which spread to other sectors. In dynamic industries, productivity continuously increases by means of the new method of production, which is introduced by replacing old fixed capital with new and more productive fixed capital in a depression. It increases VAL and profits in the dynamic industry. Then the accumulation of capital recommences under sound conditions of exploitation, starting a new business cycle. Through business cycles productivity growth eventually decreases and diffusion of technology eventually decreases prices of products, and their VAL decrease.

Fig. 2 Dynamic industries and business cycles



Long waves: creation, development, and maturity of dynamic industries

Fig. 3 Dynamic industries and long waves

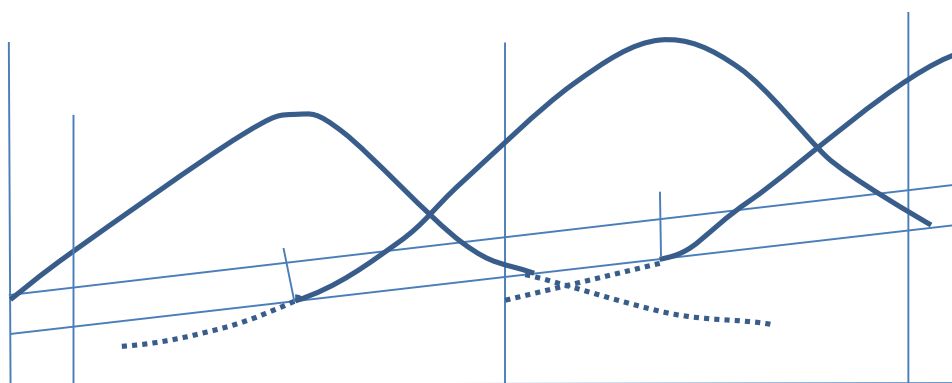


Figure 3 shows long waves of the capitalist economy. It shows that maturity of the old dynamic industry, and big-bang and bubble of the new dynamic industry overlap, and that the structural crisis of the old capital accumulation regime is creative destruction from the viewpoint of a new dynamic industry (Yokokawa 2016).

(1) Maturity and Creation: When old dynamic industries reach their maturity and VAL are reduced, search for new dynamic industries starts. When a new dynamic industry B takes off (Big-bang B), its faster growth of VAL than wages increases its dynamic comparative advantage and profits. Then investment concentrates in this new industry, and often speculation causes a bubble. When the bubble bust the old accumulation regime is destroyed (structural crisis A = creative destruction B). In the turning point B new financial and other institutions are created to accommodate the new dynamic industries B.

(2) Development The new technology becomes the engine of economic growth and creates a new capital accumulation regime. Through business cycles, the expansion of dynamic industries at first increases their VAL since the growth rate of productivity is larger than the decrease rate of the prices of their products. With the diffusion of technology, competition between firms increases, and the reduction of the prices of their products eventually decrease their VAL

(3) Maturity: Reduction of the prices of products of dynamic industries, on the other hand, revitalizes mature industries, either through lower input prices or through the production of relative surplus value with cheaper wage goods. While profits in the dynamic industries decrease average profits increases, and economic growth continues. When the available labour of the industrial reserve army is eventually absorbed with economic growth, wages in lagging sectors have to be increased in order to secure workers. Large wage increases in the dynamic sectors spill over into the lagging sectors, and are mostly passed on to consumers in the form of higher prices. Unlike wage rises in dynamic sectors, they are not compensated by productivity growth.

(5) Structural Crisis: When average wages eventually become higher than the average VAL, production in many industries cannot continue, which causes serious structural crises of the accumulation regime B. If a new dynamic industry C has been created and new financial and other institutions are created to accommodate the new dynamic industry C in the turning point C, a new long wave starts.

2. Super long waves: formation, establishment, and diversification of capitalist world systems

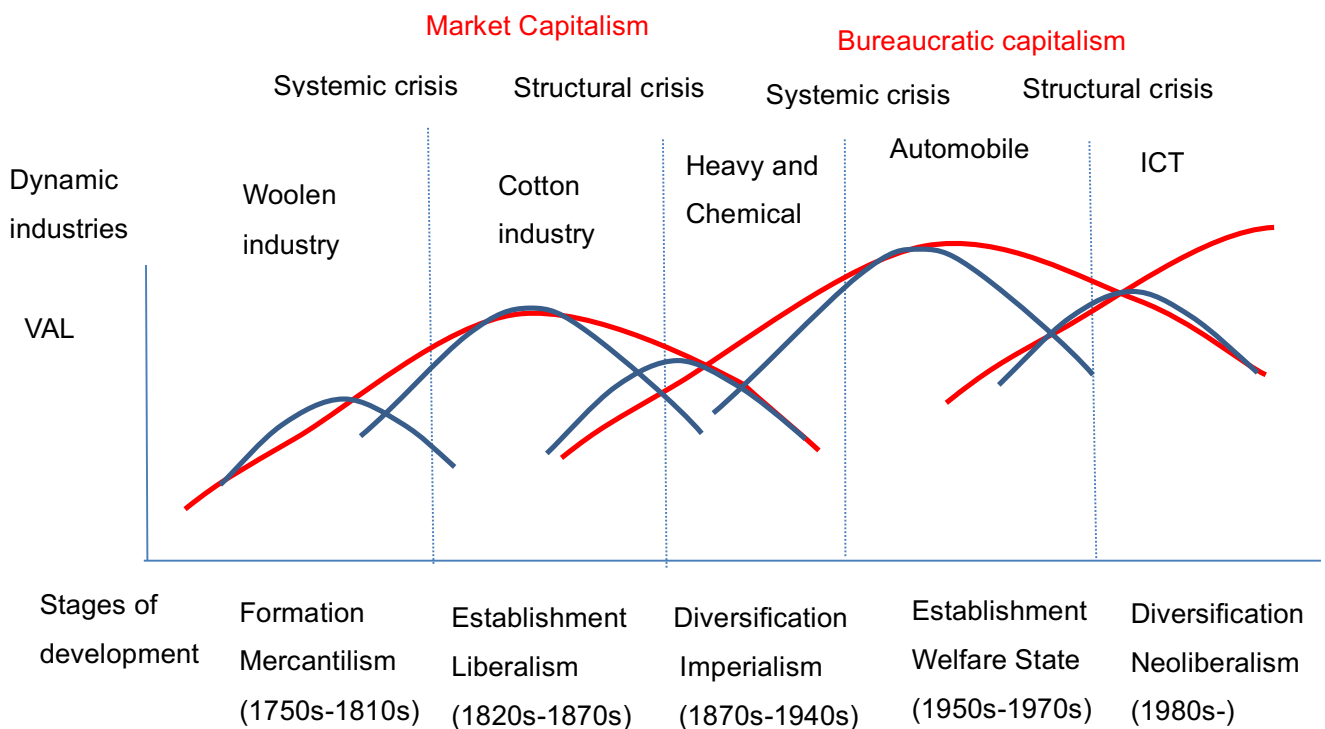
During the evolutionary process of capitalism, numerous varieties of capitalist economies have appeared. While most of them have failed to establish a new world system, the British variety in the nineteenth century, and the US variety in the twentieth century were able to establish respective capitalist world systems with complementary institutions. Figure 4 shows 2 super long waves of the capitalist world systems and 5 long waves of dynamic industries. The capitalist world systems followed formation, establishment and diversification stages.

Market Capitalism: formation, establishment, and diversification

Formation of market capitalism started when Britain started industrialization in the woolen industry following the Low Countries. Mechanization of cotton industries started at the end of the 18 century in Britain. It developed into a new dynamic industry in the early 19 century in Britain. The first capitalist world system, market capitalism was established by Britain since its capital accumulation regime was depended on an international monetary and trade system. Britain imported raw cotton and other raw material and food from all over the world and exported cotton and other manufactured products to all over the world. The dynamic comparative advantages of British cotton and other manufacture industries were fully developed with foreign demand as the engine of demand growth.

After the structural crisis in the late 19th century, the locus of dynamism shifted to heavy and chemical industries, and the centers of economic growth shifted from the UK to the US and Germany (diversification). A new capital accumulation regime, imperialism, was created with two challengers and one old hegemon.

Fig. 4 Long waves and super long waves



The 1920s was an interregnum when the old hegemon Britain lost economic and military power to organize capitalist world system and the potential new hegemon the USA did not have will to create a new capitalist world system. It was a stage of discontinuity in social order accompanied by widespread unrest, wars, and power vacuums. The structural crisis in the US in 1929 took a form of the systemic crisis of finance. It developed into the systemic crisis of the market capitalism in the 1930s. The systemic

crisis of a capitalist world system, such as the great depression in the 1930s is the most serious crisis that abolishes not only the capital accumulation regime but also the current capitalist world system. The interregnum continued for three decades before a new capitalist world system was established by the USA.

Formation of Bureaucratic Capitalism

The stage of diversification and systemic crisis of market capitalism overlapped the formation stage of a new capitalist world system (Fig. 4). There are four characteristics in the diversification stage.

(1) Imperialism was a demand constrained economy. It destroyed the link between productivity growth and export growth which was the engine of demand growth in the liberalism stage for Britain. The dynamic advantage of heavy and chemical industries was not fully developed under imperialism due to demand constraint

(2) "Finance-led economy". The financial system expanded to encompass longer term capital credit, and investment bankers dominated financial markets. Bankers controlled industrial capital. Minsky (1992, p. 109) wrote "bankers were aware that cut-throat competition was hazardous to the health of their clients . . . They sought to protect the cash flows that the firm they financed generated by forming trusts, cartels and monopolies".

(3) Globalization. In the latter half of the 19th century, Britain invested more abroad than at home. It accounted for 42% of total international investment before 1914. (Panic 1992, p. 93)

(4) Diversification. After the structural crisis in the late 19th century, the locus of dynamism shifted to heavy and chemical industries, and the centers of economic growth shifted from the UK to the US and Germany.

Establishment: the Golden Age of Capitalism

After World War II, bureaucratic capitalism established the mutually reinforcing mechanism between productivity growth and economic growth, resulting in the long-lasting prosperity of the 1950s-1960s with occasional recessions.

(1) International monetary system. The Bretton Woods system was designed to decrease the external constraint that the gold exchange standard imposed on national economies by creating an international lender of last resort. The US dollar, fixed at the rate of 35 dollars per gold ounce, was chosen as the key currency. All member countries were obliged to fix their exchange rate to the dollar. International balances of payments were to be settled by multilateral payment systems of private banks and central banks. It was the commitment of the USA as the hegemon of the capitalist world system that sustained the Bretton Wood regime, offering international means of payment by the public capital export such as Marshall Plan (Panic, 1988, p. 280).

(2) International Trade. The smooth expansion of international trade under the free and multilateral trade

regime (GATT) and the abundant availability of international currency accelerated the growth of international trade, which in turn accelerated capitalist countries' catching-up and GDP growth.

(3) Big government and the welfare state. The experience of the Great Depression and the war economy established large, well-organised bureaucratic governments, and created a managed currency system in advanced capitalist countries. This experience proved that full employment and stable price levels are achievable with government intervention within a broadly capitalist regime. In the new managed currency system, the central banks could create currency to meet the liquidity needs of the expanding domestic economy. To avoid bank crises, monetary institutions were strengthened by such regulations as central bank controls, close supervision of banks, and the separation of commercial and investment banking, and by such remedies as account insurance and lender-of-last-resort policy.

Welfare state policy was the result of the requirements of oligopolistic firms and states. First, many advanced countries had lost colonies. Oligopolistic firms could not rely upon foreign demand and domestic demand had to replace it. Second, the success of socialist planned economies undermined the superiority of capitalist ones. The bureaucratic government had to achieve full employment and higher living standards. The welfare state policy was constructed by means of two principal policies. First, Keynesian macro policy addressed the absolute gain of national wealth such as GDP growth and price stability. Bureaucratic governments had powerful institutions with which to achieve these ends, such as fiscal and monetary policy, and the sheer size of government stabilized economic fluctuations. Second, social policy addressed the relative gains among the different classes of the state.

(4) Dynamic Industry. The mass production system of consumer durable known as 'Fordism' was established by the early 1950s in the USA, which was introduced in the 1950s and 1960s in Europe. In Japan, the dynamic industries shifted from light industries to heavy and chemical industries in the 1950s and 1960s, and then to the machinery and electronics industries in the 1970s. All countries especially catching up countries benefited from increasing VAL.

(5) Production-led economy (Managerial capitalism). Minsky (1992) gives three causes for the reestablishment of a production-led economy. Firstly, government intervention in the market reduced the bankers' role. Secondly, investment was mainly financed by an internal reserve. Thirdly, management control was established which reduced the power of shareholders.

(6) Industrial Relations. Experience in the Great Depression and the war economy gave strong influence to post-war capital-labour accords. In order to win the total war, capital had to compromise with workers, and capital-labour accords were established during World War II. After World War II, labour unions eventually accepted the introduction of more productive methods in exchange for relatively long and secure employment contracts with productivity-indexed money wages.

The dynamic comparative advantage of the mass production system was fully developed in this production-led capital accumulation regime with wages as the engine of demand growth. This created the second golden age of capitalism. In this production-led capital accumulation regime wages increased

in proportion to increase of productivity, which enabled for demand to grow in proportion to supply¹.

Maturity and Structural Crisis

The long-lasting high rate capital accumulation in advanced countries itself made further accumulation difficult in the 1970s. It eventually reduced productivity growth in dynamic industries. First, “Fordism” reached the saturation stage in many advanced countries by the early 1970s. In Europe, the scope for a catchup with US productivity levels had declined. Second, part of the productivity slowdown stemmed from slower output growth in industries characterized by economies of scale reflecting instability of economies (Glyn 2006). Third, the relative backwardness of productivity growth in the service sector forced de-industrialization (Rowthorn and Wells, 1987). Productivity growth in the service sector was difficult with available technology. On the other hand, diffusion of technology increased competition both domestically and internationally, and reduced the price of products and value-added. As the result, VAL of dynamic industries was reduced.

Long-lasting capital accumulation eventually exhausted the available industrial reserve army in advanced countries. With the over-accumulation of capital relative to available labour, labour unions became militant, and wage bargaining changed from Keynesian with sticky money wages to Marxist with sticky real wages. Large wage increases in the dynamic sectors spilled over into the lagging sectors and were mostly passed on to consumers in the form of higher prices, which further increased wages under Marxist wage bargaining with sticky real wages.

Increases in wages under a declining VAL reduced the dynamic comparative advantage. When demand for higher real wages surpassed limping VAL growth, wage pressure contributed to a squeeze on profitability. The USA and Europe suffered from a structural crisis of the mass production system in the 1970s.

Neoliberalism: Diversification of Bureaucratic capitalism

After the structural crisis of the 1970s, the Anglo-American neoliberal accumulation regime reshaped the capitalist world system. Neoliberalism shares the four characteristics with Imperialism.

(1) Demand constraints: Neoliberalism destroyed the link between wages and productivity growth. Wages were the engine of demand growth in the Golden Age.

(2) Finance-led economy: neoliberal financial relaxation was introduced to solve demand constraints in advanced countries. It includes regulatory capture such as Wall Street’s lobbying efforts to decrease regulations, regulatory relapse such as memory loss regarding the lessons of the great depression, and regulatory escape such as the shadow banking system, derivatives, options, home equity loans, and

¹ Ghosh noted that “without generating synergies that rely on the interaction between domestic production and consumption, it is impossible to have virtuous cycles of expansion that also allow for continuous productivity increases.” (Ghosh 2016, p. 296)

securitization and tranching of securities (Palley, 2010). Minsky (1992) emphasized the parasitic character of the new finance-led economy: “unlike the earlier epoch of finance capitalism, the emphasis was not upon the capitalist development of the economy but rather upon the quick return of the speculator, upon trading profits”.

(3) Globalization: Advanced countries transferred industries which had lost their dynamic comparative advantage to countries with low wages. Capital flows increased significantly, and the neo-liberal international monetary regime made economies extremely vulnerable to short-term capital flows both in the advanced and developing economies as in the 1920s.

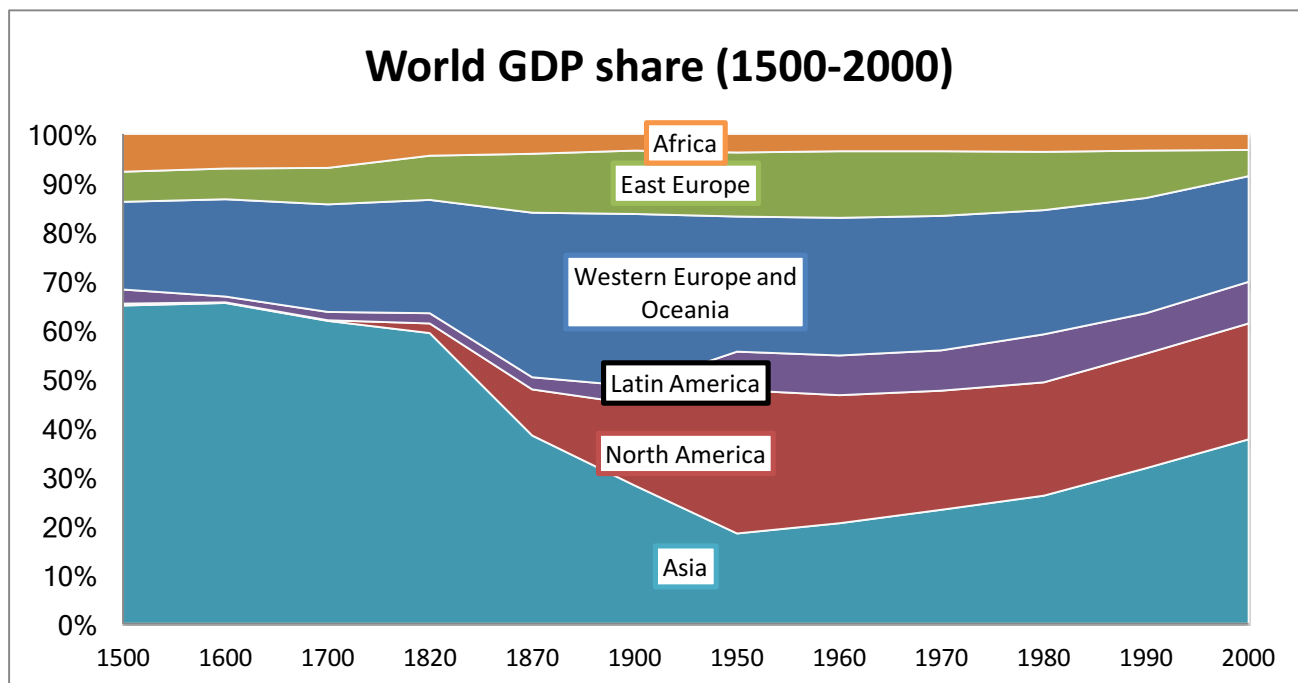
(4) Diversification: The center of economic growth shifted from the USA and Europe to Asia.

2. Reemergence of Asia and the new flying geese theory and

Reemergence of Asia

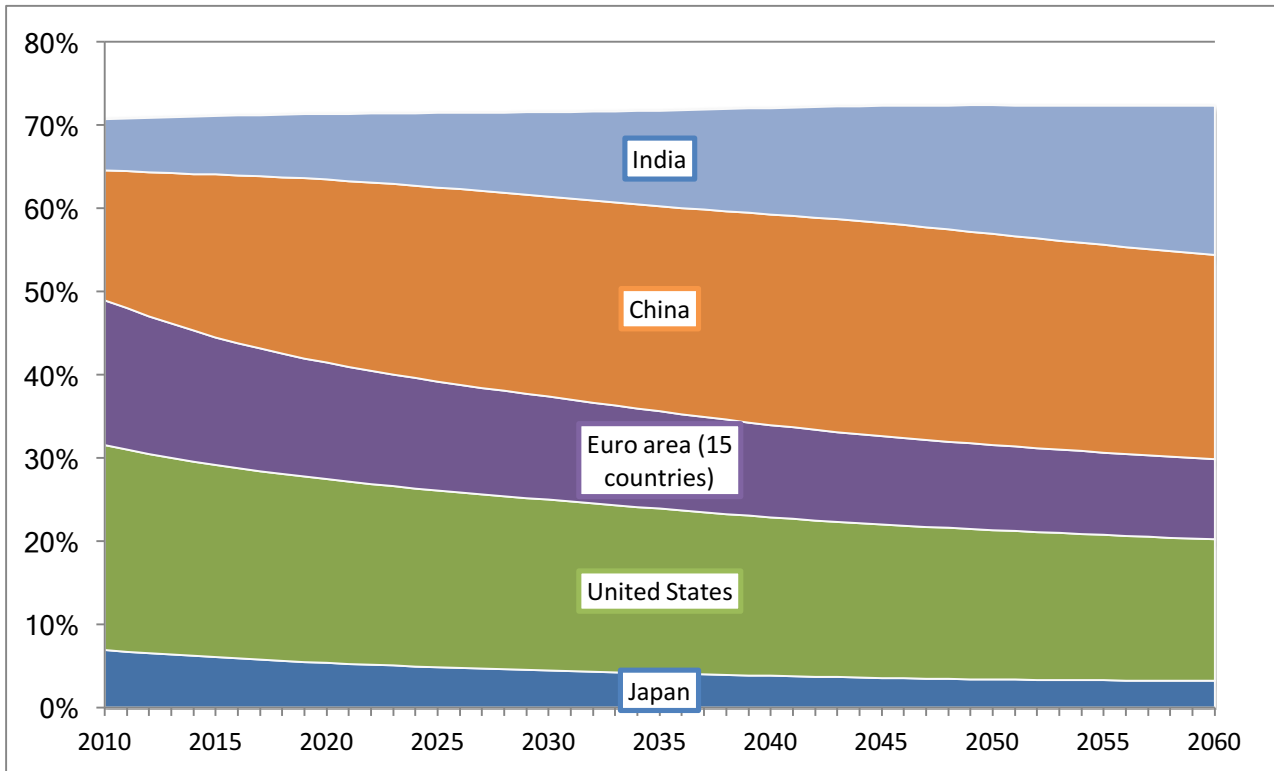
Figure 5 shows that Asia’s share of the world GDP was 60% in 1820. It dropped significantly in Market capitalism (15% in 1950). Only Japan successfully industrialized in the diversification stage of Market Capitalism. Asia’s Reemergence started in the Golden Age of Bureaucratic capitalism and accelerated in its diversification stage (35% in 2014). It may return to 60% in the latter half of this century at the cost of Europe and the North America (Fig. 6).

Fig. 5 World GDP share PPP (1500-2001)



Source: Maddison 2007

Fig. 6 World GDP share at 2005 PPP (2010-2060)



Source: OECD (2014)

Japanese GDP share among selected Asian countries² was 37.3% in 1991, then decreased to 11.5% in 2014 (Fig. 7), and in the world 8.8% and 4.4% respectively (IMF WEO 2016). Chinese share was 18.7% in 1991, then increase to 47% in 2014 (Fig. 7), and in the world 4.4% and 16.6% respectively (IMF WEO 2016). Japanese economic growth peaked in the early 1990s, and the center of economic growth in Asia shifted to China and India in the 2000s. OECD (2014) “Long-term baseline projections” projected by the latter half of this century Japanese world share will be 3.2% while Chinese share 24.6% (Fig. 6). Rowthorn (2016, p. 199) commented “It is interesting how small the projected shares of Japan, Indonesia (3.8%) and the two BRIC countries, Brazil (2.8%) and Russia (2.4%) are. . . . The major players will be China, India (17.9%), the USA (17.0%), and the Euro-area (9.6%)” (parentheses are GDP share in 2060 added by Yokokawa).

² Most of longer term GDP data use PPP exchange rates which are based on prices of a basket of average consumption goods. They greatly overstate incomes in poorer countries with low average wages. Compare Fig 7 and Fig 8.

Fig. 7 GDP shares of selected Asian countries PPP (1980-2014)

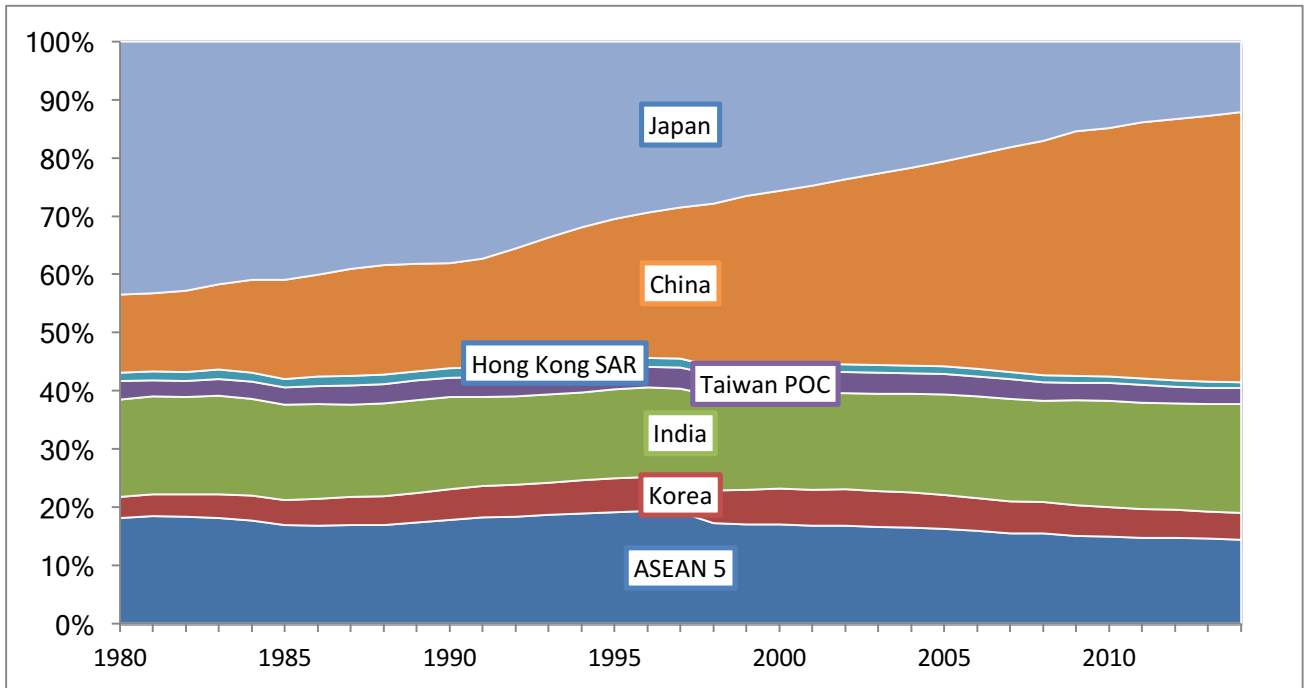
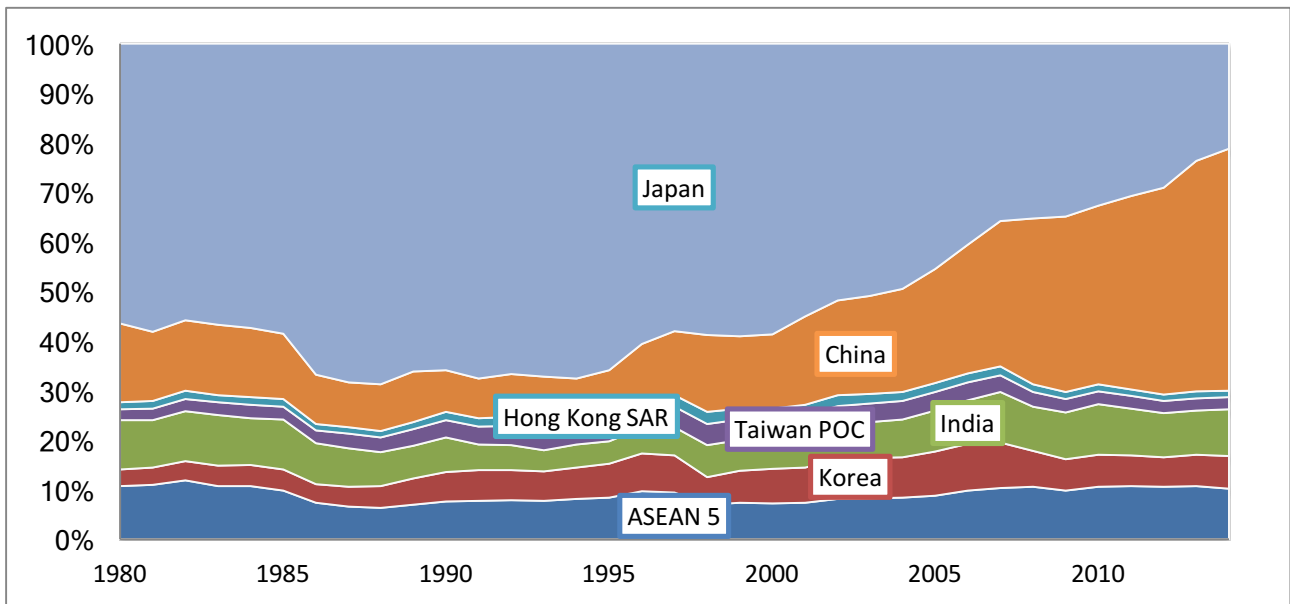


Fig. 8 GDP shares of selected Asian Countries in current US\$ (1980-2014)



Source: IMF WEO

Akamatsu's flying geese theory

Industrialization in East Asia has been studied in the framework of Akamatsu's flying geese theory (Akamatsu 1962), which is a proto-dynamic comparative advantage theory and the most original framework for the analysis of East Asian industrialization (Yokokawa 2013). The theory of dynamic comparative advantage complements Akamatsu's flying geese theory and creates a new flying geese

theory (Yokokawa 2016).

The first flying geese pattern is that importation, domestic production, and exportation trace inverted V-shapes, one after another in the flying pattern of migrating geese. (1) A new product is imported from advanced countries. (2) “Previously imported goods” are domestically produced. (3) “The domestic industry develops into the export industry”. (4) With the increase in wages and falling prices of the product due to international competition, the dynamic comparative advantage is reduced, and production declines. In the original theory, the flying geese theory is an import substitution theory.

The second pattern is “development from crude goods to elaborate goods” (ibid.), i.e. the shift to more sophisticated products or industries. Akamatsu emphasized a linear development path and argued that latecomers should imitate the path taken by industrialized countries, and shift specialisation towards more capital- and skill-intensive industries when they lost existing dynamic comparative advantages, such as cheap labour.³

The third pattern is the “development of advanced and less-advanced countries in a wild-geese-flying pattern” (ibid). With the progress of Japanese industrialization, the Japanese dynamic industries shifted continuously, and this gave room for the Asian NIEs to industrialise. The Asian NIES followed suit so that their industrialization also took the form of the flying geese patterns. Thus, production and the trade structure in East Asia formed a well-ordered vertical production and trade pattern, or a flying geese pattern starting with Japanese geese, and followed by NIES geese and then ASEAN4 geese.

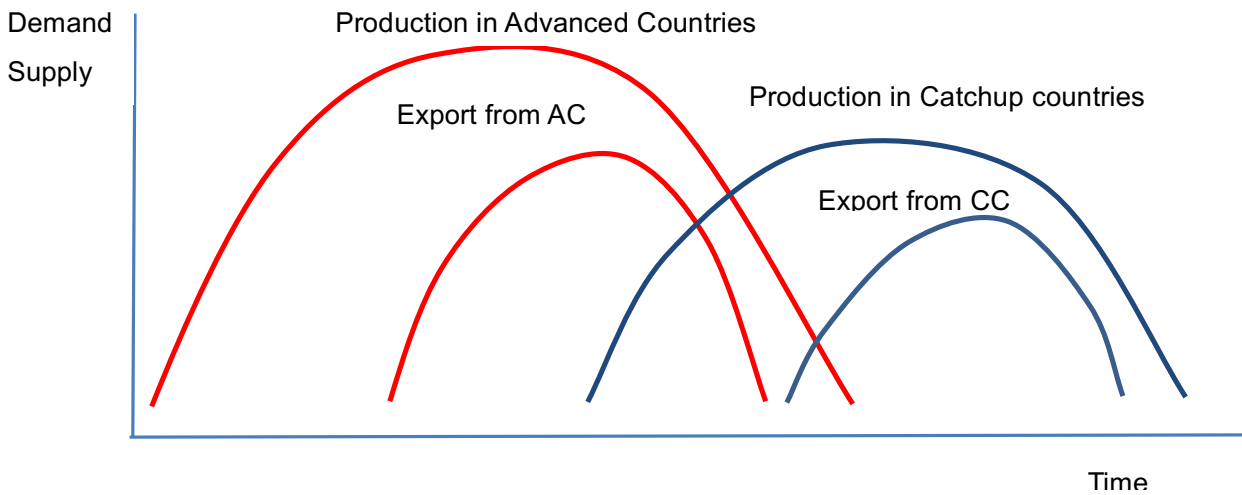
The new flying geese theory

The first thesis

The new flying geese theory examines capitalist development from the point of view of the most advanced country as in the case of Vernon’s product cycle theory (Vernon 1966). Figure 9 shows the flying geese pattern 1A in the established stage of a capitalist world system.

³ It may be noted here that for advanced economies, a reduction in VAL is a more important cause of the reduction of dynamic comparative advantage than increases in wages. For catching-up economies which import ready-made technologies, increases in wages are the main reason behind decreasing dynamic comparative advantage.

Fig. 9 Flying geese pattern 1A



- (1) A dynamic industry is first developed in advanced countries. Demand for its products develops in advanced countries.
- (2) As the dynamic industry develops in advanced countries VAL increases. Production expands to achieve economies of scale, and exports begin.
- (3) With the further spread of production, the VAL falls. Decreasing dynamic comparative advantage forces reductions in domestic production, and production moves to less-developed countries with lower wages.
- (4) Finally, the foreign-produced commodity is imported.

Fig. 10 Flying geese pattern 1B

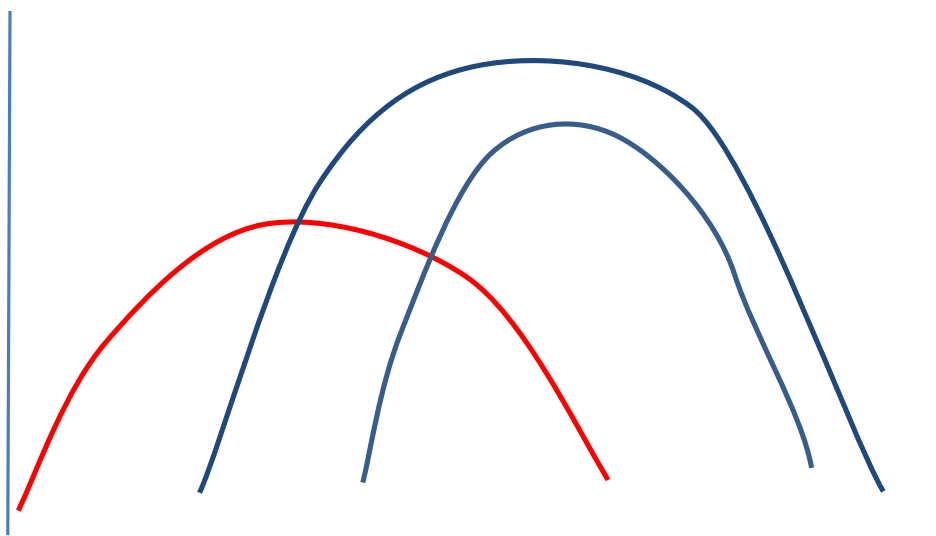


Figure 10 shows the flying geese pattern 1B in the diversification stage of a capitalist world system. In the new theory, flying geese pattern 1 is expanded to explain intermediate goods trade and vertical specialization. It shows reduced deployment in advanced countries and a forwarded catchup in developing countries.

(1) A dynamic industry is first developed in advanced countries. Demand for its products develops in advanced countries.

(2) If a new capital accumulation regime to accommodate the dynamic industries are not created, demand for the product do not increase in proportion to increase of productivity. VAL of the new dynamic industries falls prematurely.

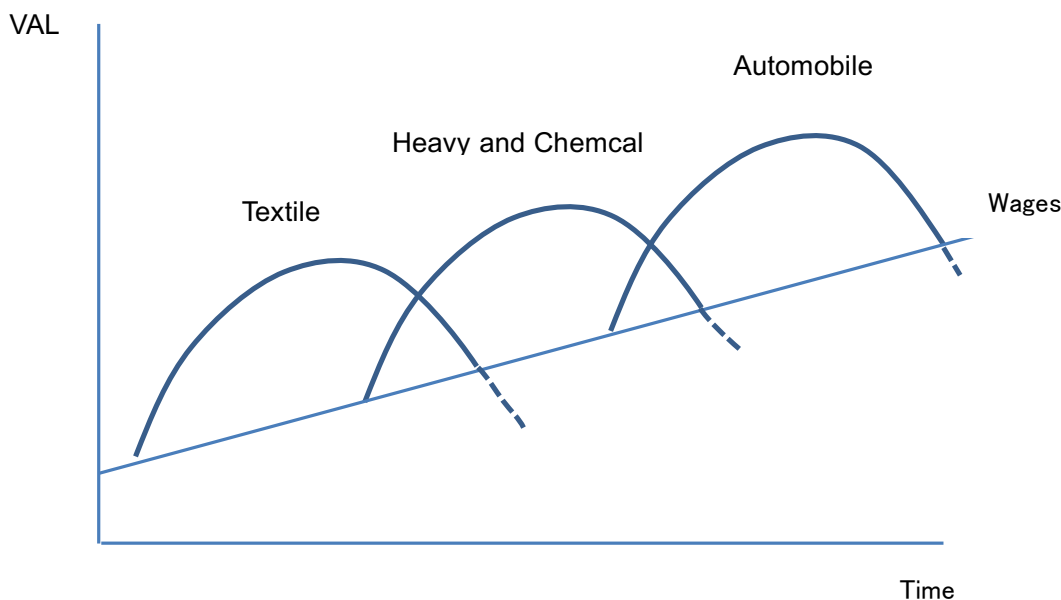
(3) The decreasing dynamic comparative advantage in advanced countries forces reductions in domestic production, and production moves to less-developed countries with lower wages.

(4) If a new accumulation regime to accommodate the new dynamic industries are created in developing countries, production expands to achieve economies of scale, and exports begin.

The second thesis

Figure 11 shows that dynamic industries shift to more sophisticated products or industries when existing dynamic comparative advantages are lost. In the new theory with intermediate goods trade and vertical specialization, simultaneous industrialization of different levels of sophistication is possible.

Fig. 11 Flying geese pattern II

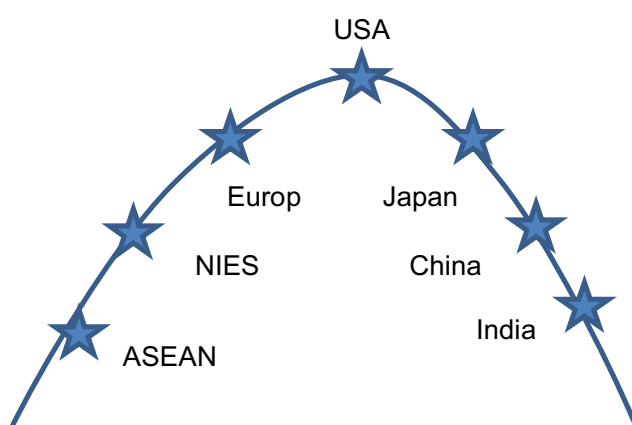


The third thesis

Figure 12 shows “Development of advanced and less-advanced countries in a wild-geese-flying pattern”

(Akamatsu 1962). In its original form, the flying geese theory does not cover uneven development (Akamatsu 1962). In the new flying geese theory changes in the leaders of dynamic industries such as from Britain to the USA and Germany at the end of the 19th century, are explained by the uneven development and the strategies adopted by the countries when they face structural crises in a capital accumulation regime (Yokokawa 2013). Flying geese pattern of industrialization is more efficient if the top goose changes time to time to share the high pressure to the top goose. Intermediate goods trade and vertical specialization make leapfrogging also possible.

Fig. 12 Flying geese pattern III



The new flying geese theory is adaptable to many types of economic development. 3 patterns of industrialization may be identified: (1) flying geese pattern industrialization such as the East Asia; (2) premature de-industrialization as in some countries of Latin America; and (3) service driven growth path such as India. We will show that both second and third cases must be changed to the first case to achieve the genuine structural change. (Rowthorn 2013, Ghosh 2016)

Conversion of VAL by catchup industrialization

Figure 13 shows that reemergence of Asia has started reconversion of VAL among advanced and developing countries. It is difficult to obtain historical data of VAL of dynamic industries. Maddison's estimate of per capita real income is the best available data as an indicator of average VAL. Figure 13 shows as follows:

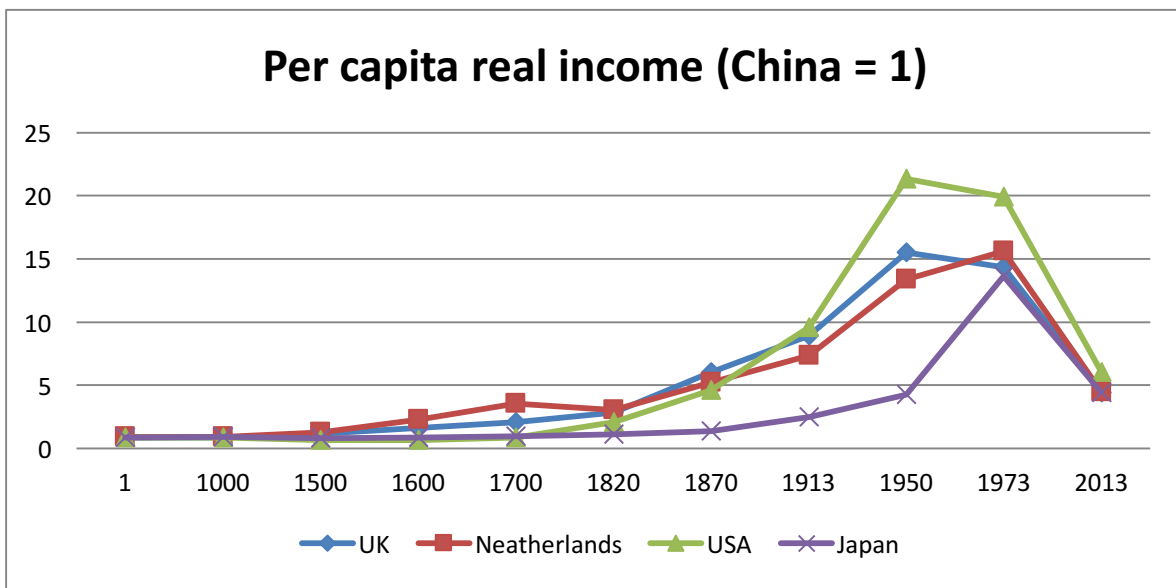
- (1) There was no disparity in average VAL between Europe and Asia until 1500 due to the Malthusian trap where productivity growth increased the population. Industrialization in Europe started VAL disparity. European countries became rich because they specialized in dynamic industries where technological change was being focused. Asian countries became poor because they specialized in mature industries.
- (2) The center of dynamic industries shifted from Netherlands (wool industry) to the UK (cotton industry), then to the USA (heavy and chemical industries then mass produced machinery). The disparity of VAL increased in the period of development of the new dynamic industries, and it was reduced in the period of its maturity.

(3) Industrialization increased the disparity of VAL at first, and among advanced countries conversion of VAL is nearly completed. Disparities of VAL among advanced countries were less than 2 times and it was reduced significantly by 1973. The conversion was nearly completed in 2014.

(4) The disparity of VAL between Japan and advanced countries was 5 times in 1950. Catchup industrialization in the 1950s and 60s reduced it to less than 1.5 times in 1973.

(5) For developing countries, it is necessary to industrialize to reduce the widened VAL gap. Chinese VAL gap was 20 times in 1980. It is reduced to 3 to 4 times in 2014 thanks to catchup industrialization.

Fig. 13 International disparity of VAL (Chinese per capita real income = 1)



Source: Maddison (2007) until 1998, then IMF WEO (2014)

In order to find the relation between catchup industrialization and conversion of VAL, it is useful to decompose growth of per capita income into three factors following Aoki (2011). (1) demographic factors such as increases in working age population and labour participation rate. (2) structural change such as increasing employment in secondary and tertiary sectors reducing that in the primary sector. (3) increasing VAL in secondary and tertiary sectors⁴. Table 1 shows the following:

⁴ Decomposition is made as follows:

$$y = \frac{Y}{N} = \left(\frac{E}{N}\right) \left[\left(\frac{E_A}{E}\right) \left(\frac{Y_A}{E_A}\right) + \left(\frac{E_I}{E}\right) \left(\frac{Y_I}{E_I}\right) \right] = \left(\frac{E}{N}\right) (1 - \alpha\beta) \left(\frac{Y_I}{E_I}\right)$$

where Y =GDP, N =population, E =total employment, Y_A =output in primary sector, Y_I = output in secondary and tertiary sectors, E_A =employment in primary sector, E_I = employment in secondary and tertiary sectors. α is the employment share of primary sector ($\alpha = \frac{E_A}{E}$). β is productivity differential between primary and other sectors ($\beta = 1 - \left(\frac{Y_A}{E_A}\right) \left(\frac{E_I}{Y_I}\right)$). Let $(1 - \alpha\beta) = S$, which means impacts of structural effects.

(1) Contributions by demographic factors are quite large in the beginning of industrialization (population bonus). Once industrialization is completed this factor becomes smaller or even negative.

(2) Contribution by the structural change can be quite large in the beginning of industrialization since employment in the secondary and tertiary sectors increases shifting employment from primary sector to more productive secondary and tertiary sectors. Once industrialization is completed it becomes minimal.

(3) The increase of VAL in secondary and tertiary sectors is the main source of growth once industrialization is completed. In the catchup period, it is exceptionally large because of the gains to be had from emulating the dynamic industries of the advanced countries.

Table 1 Contributions of demographic factors (D), structural change(S), and VAL

	Japan			Korea			China		
	D	S	VAL	D	S	VAL	D	S	VAL
1950s	1.43	2.34	2.54						
1960s	0.091	0.98	6.24				0.76	0.58	0.77
1970s	-0.41	0.62	3.59	2.22	2.29	3.29	0.28	1.65	0.28
1980s	0.23	0.40	3.18	1.60	2.27	4.74	1.44	3.47	3.21
1990s	0.10	0.28	0.53	0.51	0.11	4.86	0.03	1.07	8.39
2000s	-0.34	0.10	1.93	1.22	0.11	3.28	0.30	1.60	7.41

Source: derived from Aoki 2011, however, periodization is approximate

These results show that genuine structural transformation of an economy requires industrialization and that this remains a necessary stage that cannot simply be bypassed.

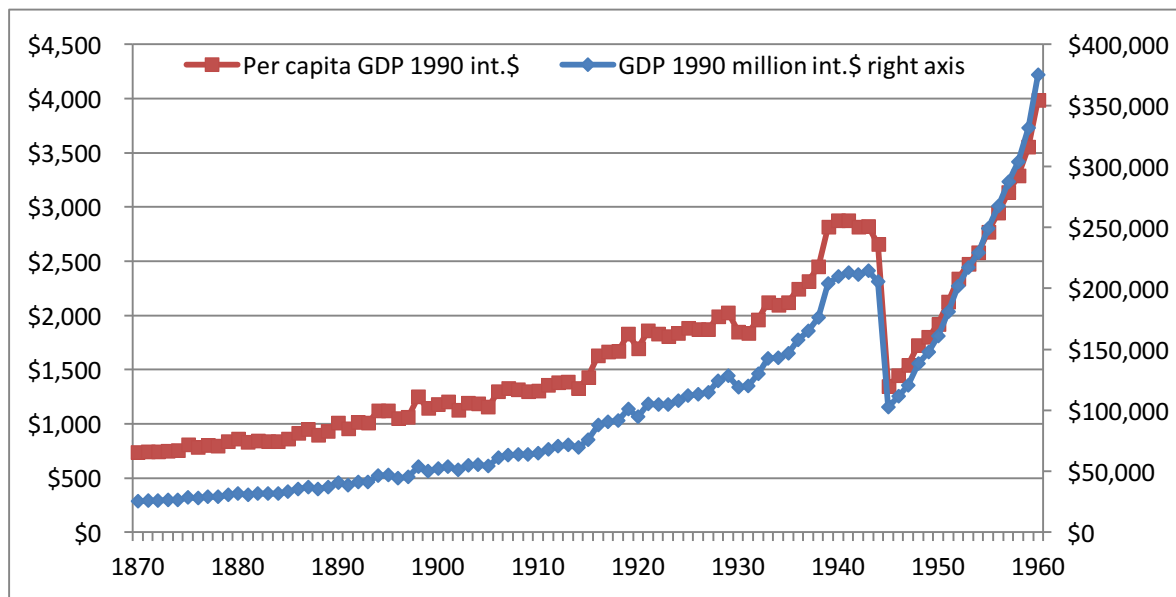
3. Asian flying geese pattern industrialization in the Golden Age

Japanese flying gees Pattern industrialization

Japanese GDP dropped half from 1940 (210 billion US dollar) to 1950 (161 billion US dollar) because of the distraction by World War II (Fig. 14). Employment share in the secondary sector also dropped from 26% in 1940 to 22% in 1950, increasing that of the primary sector from 44% to 49% respectively (Fig. 15). Reindustrialization started in the 1950s. Contributions to per capita GDP growth by demographic factors are quite large in the 1950s (1.43%). Contribution by the structural change is quite large in the 1950s (2.34%) and 60s (0.98%) shifting employment from primary sector to more productive secondary and tertiary sectors (Table 1).

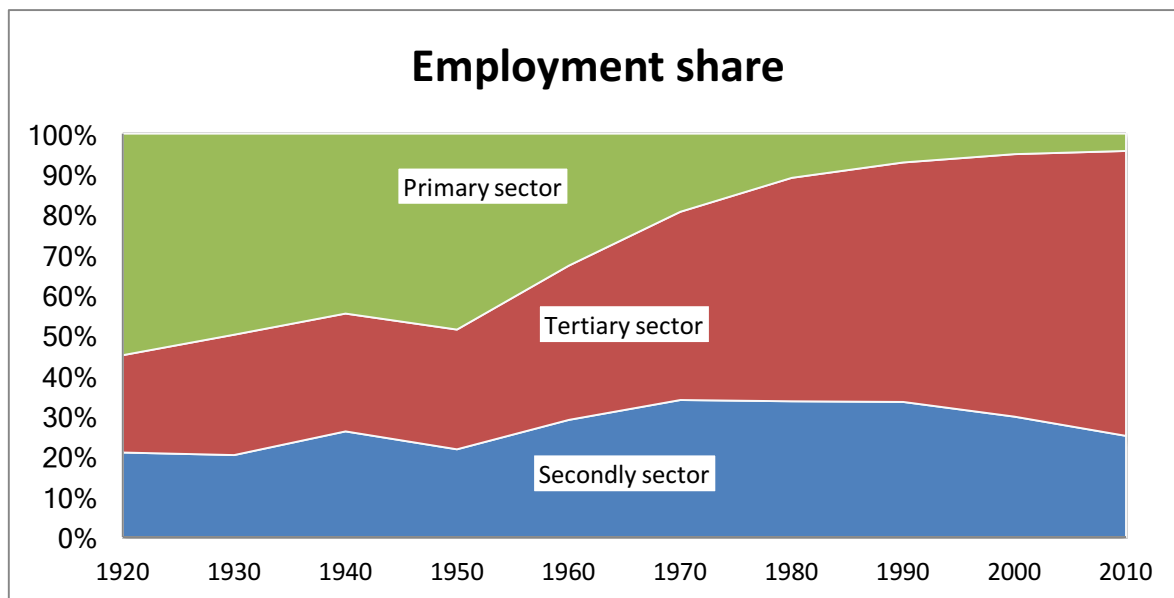
The rate of growth of GDP per capita is decomposed as follows. $\Delta y = \Delta \left(\frac{E}{N} \right) + \Delta S + \Delta \left(\frac{Y}{E} \right)$

Fig.14 Japanese GDP (1870-1960)



Source: Maddison 2007

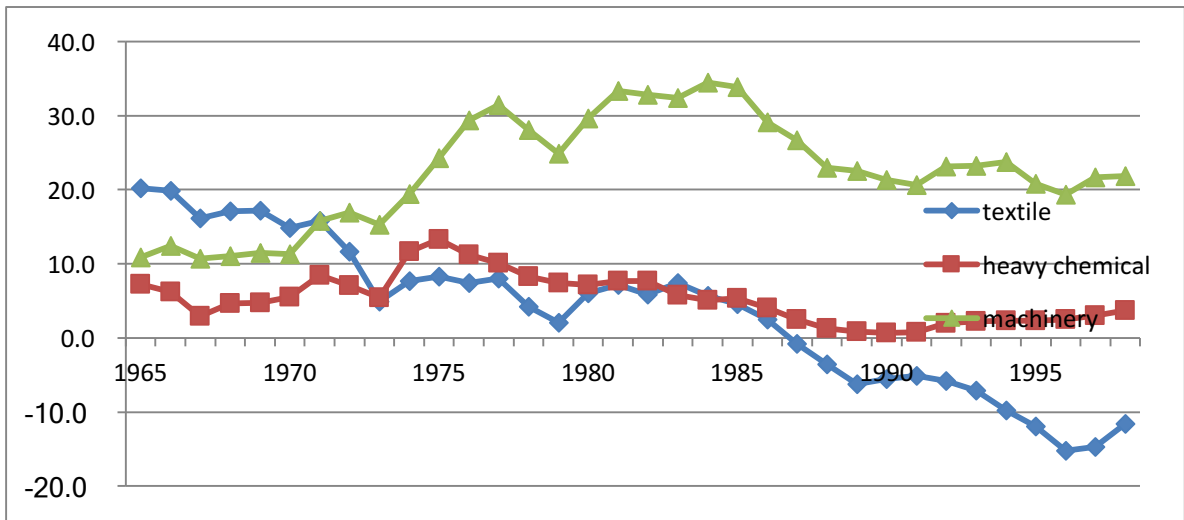
Fig. 15 Japanese employment share (1920-2010)



Source: Nihon Kokusei Zue 2013.

Fig. 16 Flying geese pattern II: Export competitiveness of Japanese industries (1965-1998)

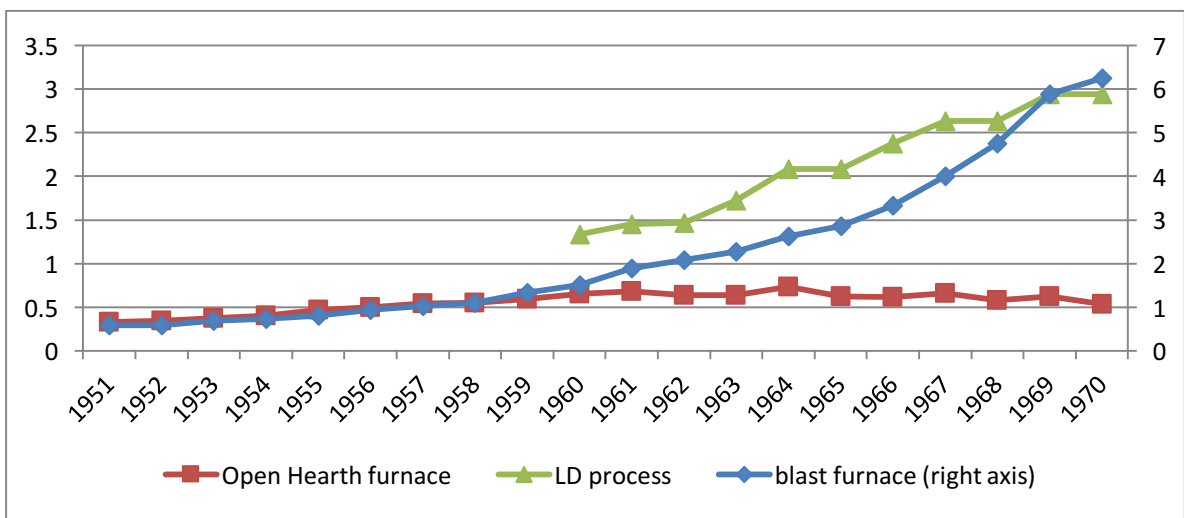
Export Competitiveness = (Production/Domestic Demand) – 1



Source: MITI (2001)

Japan shifted its dynamic industry from textile to heavy and chemical industries in the 1950s and the 1960s. Japanese export competitiveness of textile industry peaked in the 1960s. Figure 17 shows that labour productivity of blast furnace (pig iron) increased 6 times, and Introduction of Linz-Donawitz process (steel) increased productivity more than 5 times compared conventional open hearth furnace in the 1960s, making Japanese iron and steel industry most efficient in the world. Japan lost the dynamic comparative advantage in the heavy and chemical industries, and its export competitiveness peaked in the 1970s (Fig. 17). Japan shifted its dynamic industries successfully to mass production methods in machinery industries, such as automobiles and electrical machinery, from the mid-1970s onwards (Fig. 17).

Fig. 17 Labour productivity of iron and steel industry (1951-1970)



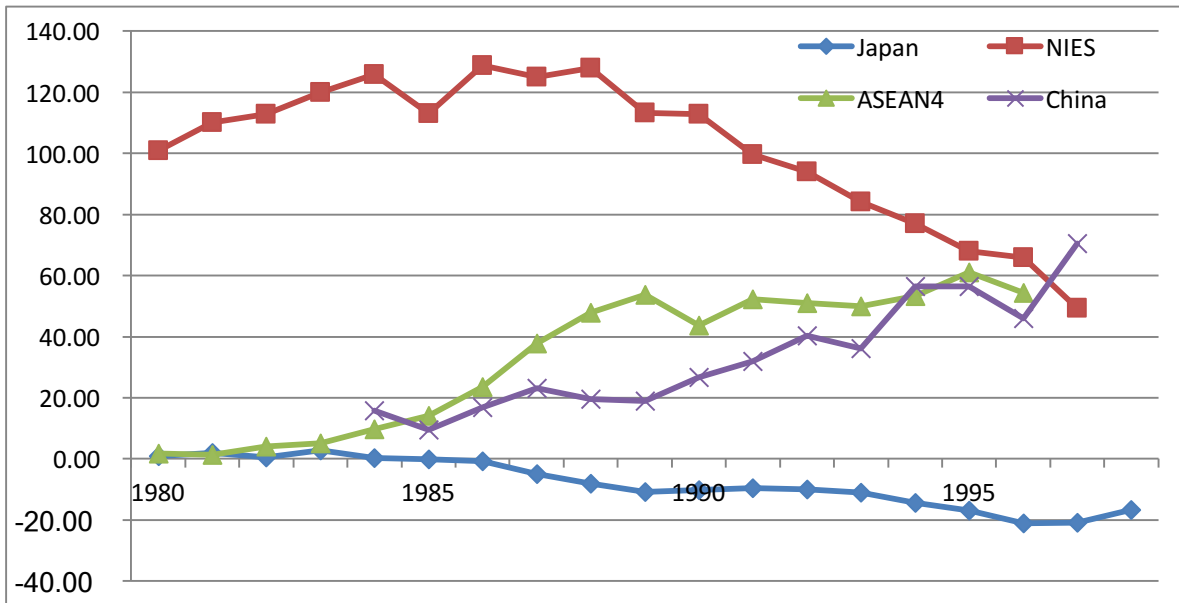
Labour productivity= ton/labour

Source: Ministry of Labour (quoted from Yoshikawa 2012)

Flying geese pattern industrialization in Asia

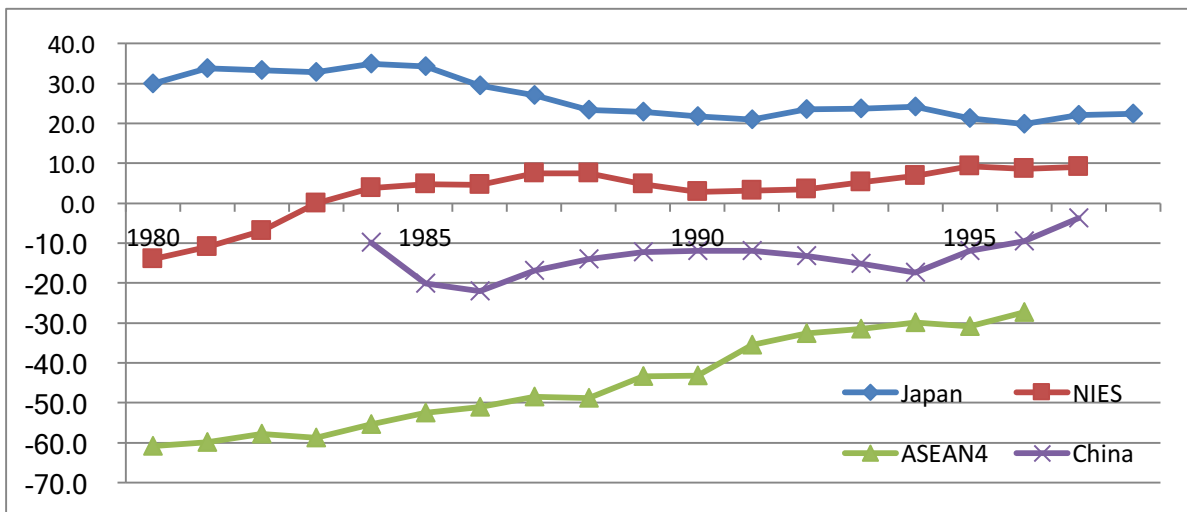
The upgrading of Japanese industries left room for less-developed East Asian countries to industrialize in the flying geese pattern (Fig. 18 and 19). NIEs started industrialization with light industries such as textile in the 1960s. Figure 18 shows that export competitiveness of textile industry peaked in the 1980s in Asian NIEs. In the 1970s, the upgrading of Japanese industries left room for Asian NIEs to promote heavy and chemical industries and other more sophisticated industries (Fig 19). It enabled ASEAN 4 then China to industrialize in textile industries in the flying geese pattern. China leapfrogged ASEAN 4 both in textile and machinery in the 1990s.

Fig. 18 flying geese pattern III: Textile export competitiveness in Asian countries (1980-1997)



Source: MITI 2001

Fig. 19 Flying geese pattern III: Machinery Export competitiveness in Asian countries (1980-1997)



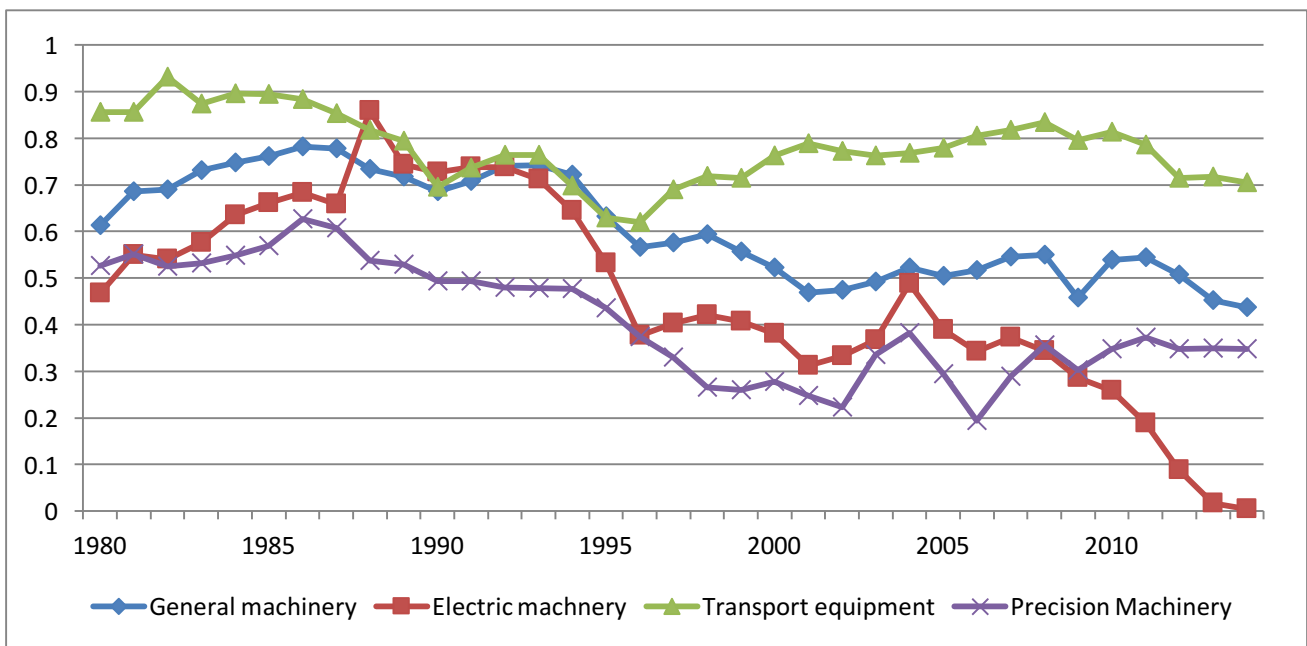
Source: MITI 2001

Asian Flying geese pattern industrialization in neoliberalism

After the structural crisis of the 1970s, Japan shifted its dynamic industries to machinery industries such as automobiles and electrical machinery. Japan adopted an export-led industrialization strategy increasing its trade dependency from 10% in the Golden Age to 15%. Asian NIEs shifted their dynamic industries to heavy and chemical industries with export-led growth strategies. In the first half of the 1980s, the US dollar was hugely overvalued against the Japanese, Korean and Taiwanese currency. Japan and NIES's export-led growth strategies were hugely successful in the first half of the 1980s. The total current account surpluses of Japan, Korea, and Taiwan were more than 50 percent of the world's combined surplus. After the Plaza accord of 1985, these countries' currencies appreciated rapidly which triggered structural changes of their accumulation regimes. Firstly, they increased foreign direct investment initially to ASEAN 4 (i.e. Indonesia, Malaysia, Philippines, and Thailand) and then to China to reallocate less sophisticated industries. In this period Japan created a Pacific Rim triangle trade regime whereby Japan exported capital goods to the ASEAN and China, and ASEAN and China exported completed products to the USA (Yokokawa 2013). Korea and Taiwan followed Japan to export intermediate goods.

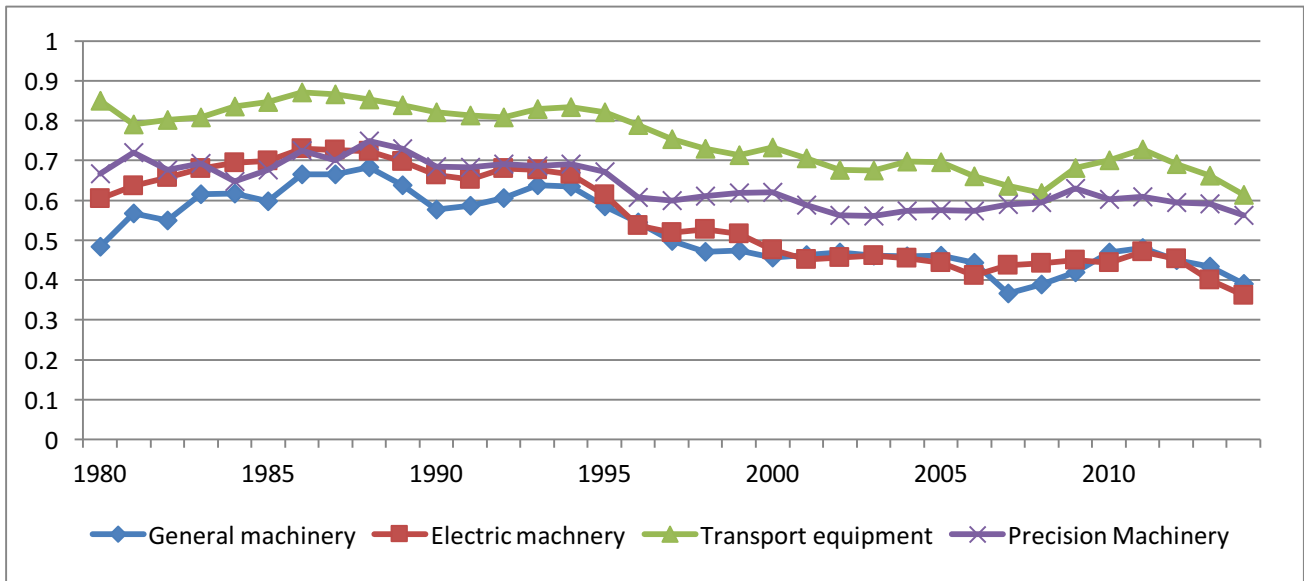
Japanese trade dependency fell to 10% again from 1985 to 2000. Figure 20 shows that Japanese trade specialization of final good in machinery industries peaked in the latter half of the 1980s then decreased significantly. Figure 21 shows that although Japanese specialization of intermediate goods peaked in the latter half of the 1980s, they kept high in the 2000s. They also show that Japanese trade specialization of transport equipment such as auto mobiles kept much stronger than that of other machinery.

Fig 20 Japanese trade specialization of final goods in machinery industries



Source: RIETY 2014. Trade specialization = (Export – Import) / (Export + Import)

Fig 21 Japanese trade specialization of intermediate goods in machinery industries



Source: RIETY 2014.

4. New dynamic industries: are they Japanese integral architecture or open modular architecture?

Toyotism and the integral product architecture

When Japan shifted its dynamic industry to automobile industry in the 1970s, the industry had already reached maturity in the USA and Europe. The Japanese car industry improved productivity by introducing the integral product architecture. Fujimoto (2014) defines it as follows. “Each component is functionally incomplete and interdependent with other components functionally and/or structurally. Designs of the components tend to be specific to each variation of the total system. For each product, components have to be optimized with the other component designs by mutual adjustment”.

The integral product architecture has strong complementarity with Japanese management system, which includes institutionalized incentives to develop contextual skills; subcontracting systems through which diverse components are efficiently supplied (just in time system) and through which subcontractors cooperate closely with prime contracting firms in product development. Integral product architecture, such as Toyotism, was very efficient, and quality and productivity of Japanese design and production makers in automobile and other machinery industries improved significantly in the 1980s.

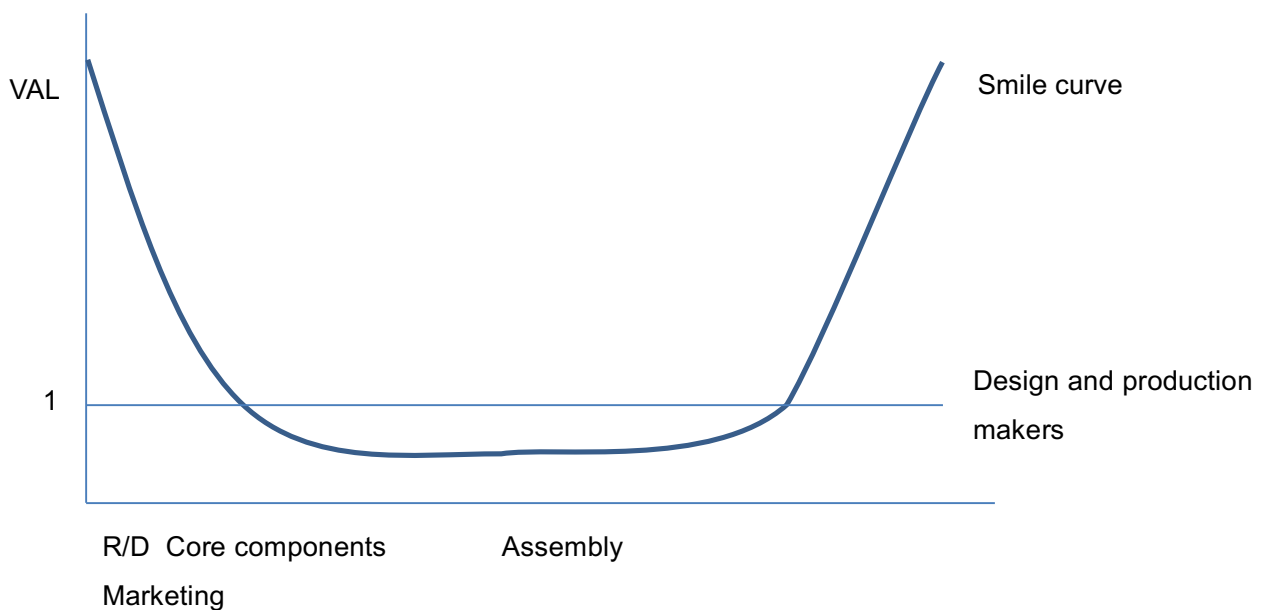
Open modular architecture

In the US the locus of dynamism shifted from mass-production system to information and communication technology (ICT) and knowledge intensive industries in the 1980s. Facing declining international competitiveness in manufacturing, US encouraged joint R and D based on consortia of firms to develop industry-wide consensus standard (Tatsumoto et al 2010). In consensus standardization, multiple firms built consensus and set the industry-wide standard in a cooperative manner. In the standardized open

area, implicit knowledge and know-how were revealed and became explicit (Tatsumoto et al 2010). It enabled new companies to compete with existing companies under the same conditions in the standardized open area. Fujimoto (2014) defines this product architecture as open modular architecture: “*Open architecture* is a type of modular architecture, in which ‘mix and match’ of component designs is technically and commercially feasible not only within a firm but also across firms.”

Fig. 22 Disparity of VAL in global value chain

VAL of research and production maker = 1



Fierce price competition reduced VAL in the open area, while in the protected closed area that required high technology existing companies could enjoy high VAL. This change in the distribution of VAL led to a drastic change in the division of international labour and made vertical specialization in global value chain possible. Figure 22 shows the disparity of VAL in the global value chain, assuming VAL of design and production maker as unity. VAL of platform leaders which specialize in closed area such as research and development, core components, and marketing is much higher than unity (for example 3), and that of assembly makers in the open area are much lower than unity (for example 0.2). Firms in advanced countries specialized in closed area differentiating products by technological accumulation and implicit knowledge, while firms in emerging countries welcomed open area with detailed standardization as a good opportunity for industrialization.

Platform leaders and vertical specialization

The open product architecture has strong complementarity with ICT and knowledge intensive industries. Breakthrough started in the 1990s. In the US, the platform business in the closed area has been most successful. The platform is composed of core components and other peripheries with standardized interfaces. US platform leaders successfully encapsulated their core technology and supplied them to

companies in emerging world (Vertical specialization). It made assembly makers in open area especially in developing countries to produce quality products easier and more competitive. Design and production makers in advanced countries are losing competitiveness to the combination of platform leaders and assembly makers in developing countries. For example design and production makers in personal computers such as IBM, Compaq, and Hewlett-Packard are losing competitiveness to the combination of Intel and assembly makers in developing countries (such as Quanta, Compal, Inventec, and other Chinese makers); in LCD TV, Sharp, Panasonic, and Sony are losing their competitiveness to the combinations of platform leaders (Genesis Microchip, Pixelworks, and Philips) and assembly makers in Korea, Taiwan, and China; and in mobile phone Nokia is losing its competitiveness to the combinations of platform leaders (Texas Instruments, Infineon Technologies, and MediaTek) and assembly makers in Korea, Taiwan, and China (Suehiro 2014).

It is not Japanese integral product architecture in machinery industries but US open product architecture with platform leaders in ICT and knowledge intensive industries that has become a new dynamic industry. Although integral architecture still shows strength in auto mobile industries, it may lose competitiveness when autonomous electric cars become dominant.

5. The rise of China

China's compressed industrialization

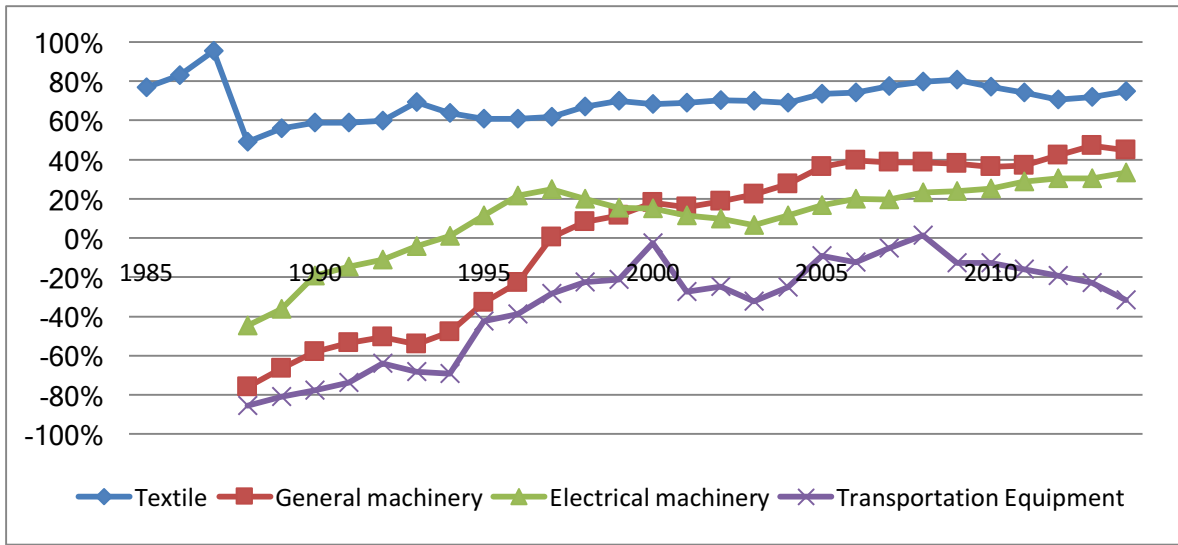
Chinese industrialization until the mid-1990s was based on cheap labour backed by state industrial, technological and trade policies⁵. Chinese wages were kept at 5 per cent of US levels by the devaluation of Yuan until then (Yokokawa 2013). Contribution by the structural change (3.47%) and the increase of VAL in second and tertiary sectors (3.21%) are quite large in the 1980s (Table 1). When its exchange rate was stabilized in the mid-1990s Chinese Lewis-type industrialization reached its limits. Its rapid wage rise was reflected in its trade specialization in light industries such as textiles and toys which peaked in the late 1980s (Fig. 24). In the 1990s and 2000s, open product architecture with vertical specialization enabled China's compressed industrialization. Chandrasekhar (2013, p. 83) noted: "There is a new international division of labour emerging in which Knowledge is controlled by firms in the developed countries even while the production of knowledge-based industries and services moves to countries like India and China." Chinese trade specialization in sophisticated industries such as electrical and general machinery increased rapidly from the mid-1990s onwards⁶ (Fig. 23).

⁵ "China had undertaken much less trade liberalisation than most other developing countries. This is why manufacturing employment grew so rapidly in China, because it was not counterbalanced by major losses of employment through the effects of displacement of domestic industry because of import competition" (Ghosh, 2016, p. 281). For ITT policies see Chang 2002.

⁶ "The output of high-technology manufacturing located in China rose nine fold over the period 1995-2007 from \$19 billion to \$167 billion. . . . high-tech export from China rose rapidly after 2000" (Chandrasekhar 2013, p. 63).

Fig. 23 China's compressed industrialization (1985-2014)

Trade specialization = (export-import) / (export+import)



Source: RIETI-TID, <http://www.rieti-tid.com/>

A China-centric Asian production network in the 2000s

Table 2 Chinese Trade

	Exports from China %					China's imports %				
	Japan	Korea + Taiwan	ASEAN5	USA	EU27	Japan	Korea + Taiwan	ASEAN5	USA	EU27
1991	13.1	3.4	4.8	18.5	16.7	18.1	1.7	6.1	15.6	17.5
1995	16.1	4.7	4.4	21.6	14.9	24.8	9.2	8.1	13.8	18.6
2014	8.0	6.1	7.2	20.9	19.7	11.0	12.6	10.0	9.2	14.5

ASEAN5=Indonesia, Malaysia, Philippines, Singapore, and Thailand.

Source: RIETI-TID, <http://www.rieti-tid.com/>

Table 2 shows that Japan's influence on the Chinese economy peaked in the early 1990s. After China became a member of the WTO, its share of international trade skyrocketed. Japanese goods exports to China and imports from China increased dramatically, raising Japanese trade dependence from 10% since 1985 to 15% again between 2002 and 2007. This enabled Japan to adopt export-led growth strategy again and to recover from the decade long depression. However, Japan could not keep pace with China, and its share in China's international trade was reduced both as exports and imports. Applying open architecture with vertical specialization China imports technology from the USA, capital goods from Japan, Korea, and Taiwan, and food and raw material from less developed countries, and exports completed products to the EU, USA, Asia, and other areas. The cross-border division of work and trade in Asia has been completely rebuilt by China, and the Japan-led Pacific Rim triangle trade

regime has been replaced by a China-centric Asian production network.

Conclusion

The rise and fall of Japanese economy may be summarized as follows. In the stage of diversification of Bureaucratic Capitalism, the center of economic growth shifted from the USA to Asia. Japan introduced integral product architecture in machinery industries and created Pacific Rim triangle trade regime. The USA created open modular architecture in ICT and knowledge intensive industries as the new dynamic industries, which successfully combined platform leaders in the USA and assembly makers in developing countries. The new dynamic industries enabled China's compressed industrialization, and the China-centric Asian production network replaced the Japan-led Pacific Rim triangle trade regime in the 2000s.

We are still at the beginning of the end of Bureaucratic Capitalism. Although ICT and knowledge intensive industries have high possibility to increase productivity with built-in software and the internet (IoT), developing productivity of ICT requires solving demand constraint by creative destruction of the neoliberal capital accumulation regime and creating a new production-led capital accumulation regime⁷. It requires following. Firstly, inequality of VAL between closed and open areas must be resolved. The non-rivalrous character of software-led ICT and other knowledge intensive industries with near zero marginal costs make it more and more difficult to keep closed area closed. Reduced deployment of the new dynamic industries has accelerated deindustrialization and increased income inequality in advance countries. On the other hand, low VAL distribution to developing countries made it impossible to increase demand in proportion to productivity increase in developing countries. It may require making these goods to public goods to reduce international VAL inequality. Secondly, inequality in the distribution of VAL between wages and profits must be reduced in order to make wages the engine of demand growth. Thirdly, a stable international monetary system such as Keynes' International Clearing Union, and the stable domestic monetary system must be recreated to reduce parasitic character of financialisation (Yokokawa 2016, Kregel 2015, and Ghosh 2016).

References

Akamatsu, K. (1962) "A Historical Pattern of Economic Growth in Developing Countries", *The Developing Economies, Institute of Asian Economic Affairs*, Preliminary Issue No.1, pp. 3-25.

Aoki, M. 2011. "The Five-Phases of Economic Development and Institutional Evolution in China and Japan", ADBI Working Paper 340. Tokyo: Asian Development Bank Institute. www.adbi.org/working-paper/2011/12/30/4836.five.phases.economic.dev.evolution.prc.japan/ Aoki

Chandrasekhar, C.P. "Knowledge and the Asian Challenge" in Yokokawa et al. eds. (2013).

⁷ "Growth strategies need to change towards models that focus on the potential of domestic and regional markets, not just global markets. This means increasing employment and ensuring that wages increase with productivity" (Ghosh, p. 276)

- Chang, Ha-Joon (2002) *Kicking Away the Ladder – Development Strategy in Historical Perspective*, Anthem Press.
- Fujimoto, Takahiro (2014) “Architecture, Capability, and Competitiveness of Firms and Industries”, mimeo.
- Glyn, A. (2006), *Capitalism Unleashed*, Oxford, Oxford University Press.
- Ghosh, Jayati (2013) “Growth and emergent constraints in the Indian economy in the context of global uncertainty”, in Yokokawa et al. eds. (2013).
- Keynes, J. M. (1980) *The Collected Writings of John Maynard Keynes, Activities 1940-44 Shaping the Post-war world* The Clearing Union, Vol. XXV, London: Macmillan for the Royal Economic Society.
- Kregel, Jan (2015) “Emerging Market Economies and the Reform of International Financial Architecture: The “exorbitant privilege” of the dollar is only the symptom of a structural problem”, Levy Economics Institute of Bard College, *Public Policy Brief*, No. 139, 2015
- Minsky, Hyman (1992) “Chapter 7: Schumpeter and Finance”, pp. 103-115, in Salvatore Biasco, Alessandro Roncaglia and Michele Salvati, Eds. *Market and Institutions in Economic Development: Essays in Honor of Paulo Sylos Labini*. London, England, New York, NY: MacMillan, 1992.
- MITI (2001) *White Paper on International Economy and Trade*.
- Nihon Kokusei Zue (2013), Tokyo, Yano Tuneta Publish.
- OECD (2014) “Long-term baseline projections” *Economic Outlook* No 95, May
<http://stats.oecd.org/index.aspx?queryid=51396>
- Palley, Thomas I. (2010) “The Limits of Minsky’s Financial Instability Hypothesis as an Explanation of the Crisis” *Monthly Review*
- Perez, Carlota (2003) *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar
- RIETI (Research Institute of Economy, Trade and Industry), RIETI-TID, <http://www.rieti-tid.com/>
- Rowthorn, R. E. (2016) “The emergence of China and India as great powers”, in Yokokawa et. al, eds. (2016).
- Rowthorn, R. E. and Wells, J. R. (1987), *De-industrialisation and Foreign Trade*, Cambridge: Cambridge University Press.
- Suehiro, Akira (2014) *Shinko Ajia Keizairon* (in Japanese), Tokyo, Iwanami.
- Tatsumoto, Hirofumi, Ogawa, Koichi, and Shintaku, Junjiro (2010) “Standardization, International Division of Labor and Platform Business” *Tokyo University MMRC DISCUSSION PAPER SERIES*.
- Vernon, Raymond (1966) “International Investment and International Trade in the Product Cycle”,

Quarterly Journal of Economics, Vol. 80, May pp. 190-207.

Yokokawa, Nobuharu (2012) "Cyclical Crisis, Structural Crisis, Systemic Crisis, and Future of Capitalism" in Yokokawa et al. eds.(2012).

Yokokawa, Nobuharu (2013) "The Renaissance of Asia and the Emerging World System" in Yokokawa Ghosh, and Rowthorn. eds. (2013).

Yokokawa, Nobuharu (2016) "Dynamic Comparative Advantage and the New Flying Geese Theory of Capitalist Development" in Yokokawa et. al. eds. (2016).

Yokokawa Ghosh, and Rowthorn. eds. (2013) *Industrialization of China and India: Their Impacts on the World Economy: Their Impacts on the World Economy*, Routledge.

Yokokawa, Kiichiro Yagi, Hiroyasu Uemura, and Richard Westra eds. (2016) *The Rejuvenation of Political Economy (Routledge Frontiers of Political Economy)*.

Yoshikawa, Hiroshi (2012) *Kodo Seicho*, Tokyo, Cyuou Koron Sha.

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A Theoretical Note on the Commodification of Labour Power in China Under the Conditions of Globalization

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Introduction

This article explores the social relations of production in China through the prism of Marx's theorising of the commodification of labour power. This task is immensely important given the preponderant role China's labour force plays in global production networks, particularly in regards to the bundle of consumer goods around which mass consumption of advanced capitalist economies revolves. It is maintained that world economic processes euphemised as globalisation have crystallised social relations of production across the non-developed third world in a pattern shaped in important ways by the configuring of production relations in China. This is the case because of the sheer weight of China's labour force in the global economy.

To build the argument the article commences with an extended elaboration upon the conceptualising of the commodification of labour power in Marxian economic theory. The discussion builds on the point that commodification of labour plays a far more substantive role in material reproduction of capitalist society than captured by the simple empirical existence of the wage form in remuneration for work. Narrow focus upon low wages in China and the third world blinds analysis to deeper structural issues of the qualitative transformation of production relations that has occurred across the globe from the closing decades of the twentieth century.

The organisation of this paper is as follows: The next three sections develop the theorising of the commodification of labour power in relation to Marx's writing on the subject as supplemented by insights of Japanese Marxian economists Kozo Uno and Thomas Sekine. Its empirical referent is the historical experience of early commodification of labour power in Britain. The fourth section applies insights from the theoretical discussion to questions of the commodification of labour power under the impetus of tendencies euphemised as globalisation. The fifth section moves to analyse China's toxic labour configuration through the prism of the theorisation of the commodification of labour power undertaken in the previous sections. To be sure, it is always with some trepidation that an author attempts to make connections through several subject domains in a single article. In this case, the article builds upon Marxian economic theory and the empirical milieu in which Marxian economic categories are first elaborated. It then briefly treats world economic processes euphemised as globalisation to further draw out issues raised in the conceptualising of the commodification of labour power. Finally the paper turns to social relations of production in China. Yet, there is a determinate method to this procedure. Such big picture work can be highly productive of knowledge. The article is animated

by the profound belief that, in times like the present, where the global economy is undergoing seismic transformations, it is vital to think carefully about the application of conceptual categories. China offers an important new ‘laboratory’ for this endeavour (Bernstein 2015).

The commodification of labour power in Marxian theorising of capital

For Marx, the commodification of labour power is not just about workers receiving wages for their work. Nor is it simply a reflection of workers or even peasants engaging in ‘market’ activities. As Marx argued, commodity *forms* such as wages, money, ‘markets’, even profits, existed at various points throughout precapitalist history in what he dubbed the ‘interstices’ of

ancient worlds (Marx 1977, 172).¹ Marx explains here that modes of production antedating capitalism were marked by economic principles other than those of capital. In particular, in precapitalist economies human beings found themselves enmeshed in interpersonal social relations of production. And, except for the historical epoch Marx characterised in his schema of historical materialism as primitive communism, the interpersonal relations of production of precapitalist economies tended to imbricate human beings in relations of domination and subordination. Hence, to the extent the sorts of ‘exchanges’ of goods associated with the capitalist era occurred in the social milieu of precapitalist economies, the economic impact of these was always external to the ways precapitalist material livelihoods were reproduced.

The historical specificity of capitalism resides firstly in the way it draws categories such as commodities, money, wages, profits and so forth, into a unique symbiosis predicated upon maintaining human labour power, the very wellspring of human material reproduction, social wealth and sustenance, as a commodity. Put differently, in the historical emergence of capitalism, spreading marketisation of economic life subsumes or internalises as the material reproductive core of human society which had always remained external in precapitalist historical epochs. Secondly, paradigmatically at least, the historically progressive hallmark of the capitalist era is the fact of capital ‘freeing’ human beings from their enmeshment in interpersonal production relations of domination and subordination. In Marx’s iconic phrase, capital converts these interpersonal production relations into *impersonal* ‘relations among things’. This in effect *reifies* human economic life such that as our ‘free’ human beings pursue their individual, self-seeking proclivities, capital wields these like a Stalinist dictator for its abstract goal of value augmentation or profit making. Nevertheless, the form compulsion takes in capitalist economies is economic to be differentiated from extra-economic compulsion idiosyncratic of precapitalist economies.

In the foregoing vein, I find recent debate over so-called ‘unfree’ labour in reference to capitalism and commodification immensely distracting (Brass 2010). Questions relating to such debate are handled with far greater precision in terms of commodification vs. non-

commodification. This is how Marx himself frames the discussion. As Engels, following Marx, expressed it, capitalism plays an important role in raising humanity up the ladder of human freedom. For the direct producers specifically, it ‘frees’ them from extra-economic compulsion of interpersonal relations of domination and subordination which ensnared them in precapitalist economies. But capitalism harbours one major remaining human un-freedom. That is, it subjects human beings to blind economic forces of the society-wide market. This is the ‘kingdom of necessity’. Commodification of labour power is the mechanism of this subjection for the direct producers. The ‘kingdom of freedom’ in Marx’s conceptualising exists *only* when extra-economic coercion of precapitalist economies *and* economic coercion of capitalism are surmounted by socialism (Engels 1954, 391-3). For pre-socialist economies including capitalism, the question, therefore, is *not* ‘free’ vs. ‘unfree’ labour. Serfdom ‘freed’ the direct producers from chattel slavery. Capitalism ‘frees’ human labour from feudal interpersonal bonds and so forth.

There is a second dimension to the historically specific way commodification of labour power ‘frees’ the direct producers which is a further signpost of capitalism. This is the fact that, as workers, the working class is economically driven to sell their labour power to capital on the market in order to receive wages through which they access their means of livelihood. Yet, as consumers, workers are generally free as other ‘traders’ on the capitalist market to purchase the particular array of goods suitable to them as individuals. With this said, let us return to the commodification of labour power as the *sine qua non* of capitalism to examine the architecture of the foregoing.

Marx himself was crisply clear that the metabolic interchange between human beings and nature which furnishes the useful goods or ‘use values’ of human sustenance and survival is common to all human societies. We cannot imagine human society, in other words, in the absence of some labour process of material provisioning of use values. Making an analogy with computer systems, the metabolic interchange between human beings and nature which materially reproduces human society constitutes the transhistorical ‘hardware’ of human economic existence. On the other hand, the historically specific principles of economy through which human material life is reproduced constitute the ‘software’ or ‘operating system’. The *law of value* which undergirds workings of capitalist market principles is the discrete ‘software’ of capitalist economies (we will return to this point momentarily). And the commodification of labour power as the indispensable mechanism of this ‘operating system’ is the specific way capital manages the metabolic interchange between human beings and nature common to all human societies.

Marxist theory has been forceful on the ills of capitalism. Capitalism is a class divided and class antagonistic, asymmetric wealth distributive society. It is exploitative and alienating,

and an ‘upside-down’ society reproducing human material life for an abstract ‘extra-human’ purpose of value augmentation or profit making. Capitalism is crises ridden and operates anarchically. But, one question which Marxist theory has paid scant attention to is how a society manifesting such a litany of ills is able to exist as an historical society and reproduce the material existence of human beings in the first place? If, as stated above, market principles of capital predicated upon the commodification of labour power constitute an historically specific and delimited ‘operating system’ for a transhistorical metabolic interchange between human beings and nature, it is therefore incumbent upon Marxist theory to demonstrate precisely what ‘general norms’ of human material life capitalism must satisfy to exist as an historical society.² Put differently, while capital is wielding human society for its abstract purpose of value augmentation or profit making, saddling humanity along the way with the aforementioned ills, at minimum as a *byproduct* of this, capital necessarily must meet some norms or requirements of managing the metabolic interchange between human beings and nature for it to reproduce economic life and exist as a human society.

As elaborated upon elsewhere, in developing Marx’s work in *Capital*, it is possible to set out three cardinal norms that capitalism, like any really existing human society in history, must satisfy (Westra 2014, 58): First, no human society could survive for long if its direct producers do not at minimum receive the product of their *necessary labour*. Second, no human society could survive for long in the face of chronic misallocation of social resources, particularly human labour power, with regards to the meeting of social demand for basic goods. That is, both means of production and means of consumption must be produced in appropriate proportions to ensure such. Third, if productive technology remains constant, the material reproduction process of society cannot expand faster than the natural rate of growth of the working population. Though, if it trends in that misdirection, socio-economic dislocation will follow. It is largely ramifications of the first two which factor into the argument in this article over the commodification of labour power and social relations of production in China and the global economy.

Necessary labour and commodified labour power

In *Capital* Volume One, Marx draws upon the fabled example of Robinson Crusoe working alone on his island (Marx 1977, 169-72). Necessity, Marx explains, compels Robinson to organise his time around various life sustenance production activities. Robinson may even decide once his immediate needs are satisfied to prolong his work (before he relaxes with a book) in order to put things away for a rainy day or upgrade his living facilities. For Marx, *all* these activities represent *necessary labour*. Only if a few armed pirates encountered Robinson on his island, and liking his set up but not wanting to work themselves so coercing Robinson to extend

his work time each day to support them, would Robinson end up performing *surplus labour*. And, whatever the apportioning of the total product of Robinson's work, if the pirates did not allot Robinson the equivalent of his necessary labour that sustains Robinson's life, Robinson would soon expire forcing the pirates to do the work they disdain or cast off to find other pliant 'Robinsons' on other islands.

In capitalist economies where the metabolic interchange between human beings and nature to furnish use values for human sustenance takes place under conditions of the commodification of labour power the same requirement as existed for Robinson to receive the product of his necessary labour holds for the direct producing class. But the capitalist 'operating system' has its own historically specific program. First, the social production relations of domination and subordination or extra-economic coercion ensnaring Robinson and the pirates are eliminated in capitalist economies. They are replaced, paradigmatically at least, by economic compulsion. Second, in capitalist economies the direct producers are separated from the means of production and livelihood which is the property of capital. Hence, the direct producers receive the product of their necessary labour through the impersonal nexus of the capitalist market. However, the way that the capitalist market organises such 'exchange' under conditions of the commodification of labour power is wholly different from the mythical encounter between beaver trapper and deer hunter memorialised by neoclassical followers of Adam Smith. That is, diverging from such an exchange where both commodities are available in the hands of their owners at the time of the exchange, when workers sell their labour power to capital in the market the wage goods that factor into the equivalent of the workers' necessary labour do not yet exist. They are produced in the capitalist process of production and value augmentation. And, come pay day, whatever the wage in money terms or movements of prices in the capitalist market, the wage must be able to purchase the equivalent of the workers necessary labour in a basket of goods that will reproduce the livelihood of the worker and ensure the material reproduction of the direct producers as a class. As put by John Bell: 'In the exchange of labour power for wage goods the law of value appears in its purest form' (Bell 2009: 71). But this brings us to the question of the sorts of socio-economic transformations which enable the above.

Capitalist allocation of social resources to materially reproduce a human society

In his manuscript fragment 'Results of the Immediate Process of Production', Marx differentiates between 'formal' and 'real' subsumption of material life by capital in a fashion which shines light on the question we face (Marx 1977, Appendix). Marx pointed to the 'sweated trades' of proto-capitalist, proto-industrial garment industries operated by *merchant capital*. These proto-capitalist operations, found in wool production though other 'light' industries as well, entailed modes of 'putting-out' systems of manufacture. Marx referred to this putting-out system as the formal subsumption of the labour and production process by capital. The reason Marx

distinguished formal subsumption from what he calls the real subsumption of the labour and production process by capital is, on the one hand, because the former existed in modes of production other than capitalism where capital operated in its antediluvian forms in the interstices of ancient worlds, as he put it. On the other hand, the formal subsumption of the labour and production process does little to alter it in a substantive fashion.

To make crucial determinations over whether the formal subsuming of the labour and production processes commences significant transformation which marks it off as a nascent capitalism: or, put differently, whether labour power is, at least, *becoming* commodified or remaining non-commodified, Marx sets out the following criteria.

First, Marx points to the issue of the compulsion for work. Precapitalist economies, as noted above, are marked by extra-economic coercion as opposed to capitalism in which the paradigmatic form in which surplus labour is performed derives from the ‘free’ sale of labour power by workers to capital in the capitalist market; thus the compulsion for work is solely, economic. The economic import here of ‘freeing’ the worker from interpersonal webs is that in a society where the direct producers are separated from the means of production, and the latter are coveted in the hands of capital which itself is divided into private businesses across a division of labour, both the material reproducibility and characteristic economic ‘efficiency’ of that society require workers making their labour power available in the market to produce *any* good according to shifting patterns of social demand and profit making. Approached from another angle, capital requires commodified labour power rendered *indifferent* to the production of particular use values. This is the case because given the social goal of capitalism – the augmentation of value or profit making – capital itself is indifferent to use value in all the latter’s qualitative heterogeneity. Rather the sole interest of capital in use value is as a vehicle for quantitative expansion of value. And the labour power that produces use values as commodities for capital’s abstract purpose, must itself be commodified and ‘freed’ from non-capitalist, noneconomic encumbrances.

Second, there is the question of ‘time’; whether the manufacturing activity which is drawn into the circuit of merchant capital or even ‘usurer’s’, money lending capital is supplementary to the means by which the material reproduction of the direct producing class is ensured. And, third, there is the question of the scale of the operation (Marx notes that whether the tools or raw materials are supplied to producers is less of a determinant here).

In early 18th century Britain, the historical period from which Marx drew his evidence on formal subsumption, enclosures had accomplished much to separate the direct producers from land entitlements they held in the feudal era. But enclosures did not automatically lead to capitalist farming practices taking root. Rather, feudal land tenure was replaced by a congeries of diverse landholding arrangements that bore little resemblance to transformation of agriculture in the

hands of capitalist farmers in the mid 19th century (Overton 1996, 205). Indeed, even by 1831, 36 percent of landholders were not employing farm labourers in order to produce for profit and sale on markets. Much production remained oriented to satisfying family and community needs. Only from 1851 did decisive changes toward capitalist farming for market profit become widespread where land was worked by capitalist farmers who hired labour through impersonal contracts (Overton 1996, 178, 204). Further evidence of the mid 19th century as the period of decisive change in agriculture is the steep rise in agricultural productivity from the 1850s into the 1870s. This is the period historical specialists view in terms of the onset of ‘high farming’ where modern agriculture efficiently interlocks grain production and livestock in single farming operations (Jones 1974, 191ff).

Freedom of movement for the erstwhile peasantry was restricted through Settlement Acts, Poor Laws, and the Speenhamland system (the latter enforced to 1834) each which, in their own way, endeavoured to keep the newly ‘freed’ rural workforce rural and poor, yet surviving (Polanyi 1957, 77ff.). We can surmise that in its formal subsumption of labour power proto-capital compensated for its dearth of control over the production process by exerting control over ‘exit’ options for workers through harsh legislation. Further, most work available to the newly ‘freed’ workforce at this historical juncture was casual, irregular and contingent. The ‘freed’ workforce divided its time between engaging in regional putting-out operations organised by merchants, with farm work for family sustenance or as agricultural labourers. The latter were often ‘servants-in-husbandry’ residing at the house of a landowning farmer and paid in kind. Indeed, the historical record confirms that even putting-out labour was often paid in kind. In 1700 around 50 percent of the commons had not yet been enclosed allowing workers to supplement their sustenance outside of paid work. This also meant that when wages for work were paid they did not amount to a subsistence wage as the concept of workers receiving the product of their necessary labour specifies. Therefore, despite ‘freeing’ of workers from feudal interpersonal bonds, persistence of both paternal social relations and the product of workers necessary labour deriving only marginally from specifically capitalist market activity, meant even in the to-be capitalist heartland the commodification of labour power was never a *fait accompli* (Albritton 1991, 78-80).

On Marx’s third criteria the historical evidence on the putting-out system is that cottage production incrementally transformed the division of labour in wool production by separating amongst rural cottager families tasks such as spinning and weaving which would have been undertaken by a single multi-skilled worker in urban guilds. Technological advancements in the design of spinning wheels, and flying shuttle in weaving, improved labour productivity. Yet the unit of production in the putting-out system remained the family cottage. And only under

conditions of piece work was merchant capital of the putting-out system able to exert a modicum of impersonal force over the labour and production process (Albritton 1991, 76-7, 79).

The real subsumption by capital of the labour and production process emerged rapidly from a confluence of forces. Expensive technical improvements in farming benefitting larger landowners both hastened final enclosing of the commons and ruination of small farmers, driving the latter into ranks of farm labour. And, as farm labour demanded a more dedicated agricultural workforce, landowners increasingly prohibited the rural cottage industry, which had been the staple of the putting-out system, from operating on their land (Hill 1969: 268-73). In the end, of course, the improvements in agriculture facilitated made by greedy landlords and capitalist farmers producing for expanding markets did lower the price of food across Britain in a way that supported urbanization and industrial revolution, but this was little solace to the immediate human carnage.

Simultaneously, a raft of innovations in mechanising cotton production along with steam energy that supplied industry with power underpinned the rapid growth in scale of manufacturing operations. And cotton proved far more amenable to mechanisation and capitalist manufacture than woollen industries of the putting-out system. Already by 1815 cotton spinning factories employing up to 1500 workers were recorded, this trend certainly meeting Marx's third criteria for the real subsumption by capital of the labour and production process. Through mechanisation capital dispenses with paternalism as it exerts its control over labour power by rendering workers appendages of its machines. As mechanisation proceeds apace, it impels processes of work deskilling amongst the labouring class as a whole. Capital in this way increasingly confronts the 'abstract' worker in the labour market, ready to sell their labour power to be applied by capital to production of *any* good as per shifting patterns of social demand and opportunities for profit making. Transformation of industry, and the fact of industry surpassing agriculture in terms of its overall contribution to Britain's economy and employment by 1820, in turn drove the final changes in farming that are held as synonymous with capitalist development. As agriculture in Britain mechanised the population in agriculture declined precipitously with only 15 percent of families bound to that sector in 1871 (Albritton 1991: 128-9, 134-41). By 1881, 44 percent of the labour force in Britain was employed in industry and related operations. Agriculture in that year employed only 13 percent of the working population. Remaining workers found 'service' employment in burgeoning transportation industries (Bayly 2004, 173).

Though abundantly spiked with empirical material, Marx's *Capital* is not a genetic historical study in the real subsuming by capital of the labour and production process of society (Westra 2009, 13-20). Rather, Marx's *Capital* is devoted to exposing the inner program or 'operating system' of capital as it wields human material life in capitalist society as a byproduct of value augmentation (offering a critique of bourgeois political economy along the way).

In *Capital* Marx establishes how under conditions of the major means of production configured in the hands of capital as manufacturing and factory production, human labour power itself converted into a commodity, and commodity production generalised across society including in capitalist agriculture, the material reproducibility of capitalist economies is ensured. The fact is private production is never directly social. The question is obviated in a mythical society of ‘Robinsons’, with no division of labour, where each direct producer is responsible for their own material reproduction. In precapitalist landlord-peasant economies, which did have a division of labour based upon their discrete social class relations of production, private production is rendered social on top of the backs of the direct producers through interpersonal relations of domination and subordination. In capitalist economies it is rendered social behind the backs of the direct producers.

According to Marxian economic theory the validity of the law of value and material reproducibility of capitalism imply each other. That is to say, the allocation of social resources including the expenditure of available labour power is determined objectively through the operation of the capitalist market which mandates that goods be produced in socially necessary quantities by what Marx terms *socially necessary labour*. Capitalist calculus demands such because if commodified labour power is set in motion in private units of capital with non-competitive technologies or on products which are not in social demand, no value augmentation or profit making will occur and from the perspective of the material reproducibility of capitalist society, social resources will be deemed misallocated.³ Put differently, the condition of commodified labour power as value augmenting being the same as that ensuring all commodities are produced with socially necessary labour constitutes the *differentia specifica* of capitalism as an historical society. However, if the capitalist economy was marked by a division of labour unable to allocate basic goods in line with shifting patterns of social demand due to chronic waste or misallocation of social resources, primarily human labour power, it would die out as any other human society caught in such a predicament.

The commodification of labour power and globalisation

Marx’s *Capital* offers a basic theory of what capital in its most fundamental incarnation *is*. It is this ‘definition’ of capital that acts as the touchstone for distinguishing the capitalist from non-capitalist in the rough and tumble empirical world. Arguably, therefore, there exists no ‘classic’ model of capitalist development. Each actual historical experience of capitalist development across states has unique empirical features. In drawing above upon the British example (as did Marx) of the real subsumption of the labour and production process by capital the intention was not to suggest that it constitutes a metric for capitalist development per se. Rather it was to

highlight in the historical context of the initial geospatial locus of capitalist development the fact of the commodification of labour power as the *sine qua non* of capitalism.

Restating the foregoing in somewhat different terms there is no 'pure' capitalist society in history. But, that capitalism as a determinate *kind* of historical society did come into existence is widely accepted as fact amongst Marxists. Nevertheless, Marxist debate cutting across diverse fields continues to rage over its beginnings and defining features. While reviewing the meandering debate on characterising capitalism by far outstrips the bounds of this article, for heuristic purposes it is possible to reduce it to two broad strands.

The first, found in its most sophisticated version in writing of Robert Brenner, begins from Marx's understanding adverted to above of the existence of commodity forms in precapitalist economies. The capitalist substance of forms such as money, trade, commodities and so forth, according to Brenner, 'depends on the class structure of production with which they are associated [and where they]...perform indispensable functions in production and reproduction' (Brenner 1977: 83). And, when a capitalist 'class structure' is in place, the commodity forms factor into its dynamic of revolutionising the forces of production under the impetus of profit maximisation from which all the historically progressive features and ills of capitalism flow.

The second position, which Brenner disparages as 'neo-Smithian' Marxism, is reflected in an array of perspectives we may place under the umbrella term, world systems/dependency theory. These shift the 'unit' of analysis of capitalism from the context of the bourgeois state container in which capitalism developed in Western Europe, to the world economy as a whole. Arguing somewhat tautologically, world systems/dependency approaches start with the identification in world history of commodity forms noted above, particularly the incidence of production for profit, to claim that with the emergence of such production in Western Europe the international trade based division of labour spawned thereby constituted a capitalist 'world system'. The 'dependency' aspect derives from the way the 'periphery' of this capitalist 'world system' is purportedly co-opted by the 'core' of more advanced capitalist economies to the advantage of the latter. The latest version of this view is advanced by David Harvey. His key observation is that given how capitalism developed 'unevenly' across the global economy the crises tendencies that mark accumulation in its more advanced core potentially find a 'spatial fix' in relations with its periphery or 'outside', this latter tendency 'necessary' for the stability of capitalism itself (Harvey 2003: 141).

What both overarching positions in the debate occlude, however, is discussion of how, at minimum, as a byproduct of those economic tendencies they identify as idiosyncratic of capitalism (along with the ills of these), capital is nevertheless able to meet general norms of human material life to exist as an historical society in the first place. And further, the specific role the commodification of labour power plays in the capitalist 'operating system' as such.

Brenner's work, which is largely upheld as the 'winner' in debates over the rise of capitalism, miscarries on precisely this point. It is not just a question of the trenchant though largely unheralded critique over the historical record levelled against Brenner by Albritton (1993). That is, as discussed above, while the peasantry were being increasingly enclosed out of from the land they held under feudal tenure by the 17th century, a significant quotient of precapitalist extra-economic compulsion remained in force, restricting the mobility of labour power. Remember, if labour power cannot be applied by capital across the social division of labour to production of *any* good according to shifting patterns of social demand and profit making, capitalist market operations cannot guarantee an allocation of social resources to materially reproduce a human society. Further, whether wages were paid in kind or money, a significant component of the product of the necessary labour of the direct producers was not obtained through activities that bear even a partial resemblance to capitalism. Leaving both these issues hanging carries the weightiest ramifications for our grasp of world historic processes euphemised as globalisation. This is because if capitalist principles of material reproduction have only a partial grip on the material reproduction of historical societies other principles filling the gap must be in evidence or the societies in question would soon perish.⁴

Indeed, quibbling over the historical record is not even the most important part of this question. Thinking about it logically 'agricultural capitalism' is a contradiction in terms. Marx could not have been clearer: landed private property in capitalist society is irrelevant to the production of commodities as *value*. On the other hand, land and its prime activity for human sustenance, agriculture, play an important role in production of commodities as *use values*. And land as means of production is a necessary component of the division of labour in capitalist economies. Yet, because agricultural production is contingent upon nature's haphazard forces, and its use values subject to great natural variance, agricultural goods are most unsuited to the commodity form. That is to say, capital flourishes where value augmentation is able to manifest the most extreme indifference to use value as is the case with production of standardised material goods the production inputs of which are also capitalistically produced standardised goods. Thus, historically, capitalism emerges hesitatingly in agriculture (Sekine 1997, 73). Only by mid-19th century in Britain, as the historical record confirms, was the peasant/small producer cohort supplanted by capitalist farming for market profit.

On the other hand, capitalist agriculture partaking in the division of labour in capitalist economies and producing its goods as commodities for sale on the capitalist market must strive to be as responsive to changing patterns of social demand in terms of maintaining capitalistically rational prices for its products as industry (entailing the seamless flow of commodified labour power in and out of its branches as with industry according to the changes). This holds in

particular for supply of basic agricultural goods. If such was not the case capitalism would be unable to meet the general norms of economic life to ensure its material reproducibility as a human society (Sekine 1997, 74). Nevertheless, given the specific use value nature of agricultural commodities, the ability of the capitalist market to set capitalistically rational production prices for them is far more tenuous than with industrial production. Governed by the process of value augmentation, prices in capitalist economies are particularly attuned to the measurement of *direct costs* of commodified labour power and standardised material, capitalistically produced inputs of production centred activities. It is these capitalist production centred activities around which capitalist accumulation ‘rhythms’ or business cycles oscillate.

The role the law of value plays in materially reproducing capitalist societies as a byproduct of value augmentation is open to subversion from many directions. From what has been discussed such would be the case if proto-capitalist type ‘sweatshop’ manufacturing with its ‘captive’ labour forces reappeared to any great degree; or if agriculture is marked by wide swaths of subsistence farming and significant rural populations bound to the latter. We may also add the point that if modern production centred activities are saddled disproportionately with *indirect costs* in pricing of goods through enlarged knowledge intensity of production, or if services emerged as a disproportionate part of total economic activity in society. Then pricing would be imbued with an increasing subjective dimension wrecking havoc upon the distributional principles of capitalism notwithstanding its social class relations of production. Recent study of the increasing proportions of indirect costs (also referred to as ‘intangible assets’) in current economic calculations, confirm the confounding of both corporate accounting and government national accounts by this trend (Seabrooke and Wigan 2014, 259).

It is instructive to examine the overarching employment profile of the most developed capitalist economies from the end of the 19th century to the close of the 20th. In a survey of 25 Organisation for Economic Cooperation and Development (OECD) economies it is shown that in 1900 agriculture employed an average of just above 40 percent of the labour force, though with wide variation between the more advanced of these, for example in Britain the figure is 10 percent, and 9 countries belatedly entering the capitalist era including, Poland, Japan and Hungary, where it is over 50 percent. The average in industry for his OECD 25 in 1900 is near 30 percent and services around 26 percent. Yet by 1950, the average percent of working populations employed in agriculture drops to below 30 percent across the OECD 25 while that in industry rises to near 35 percent. Though during the 1950s in Britain and Belgium employment in industry is 49.9 and 49 percent of working population respectively. While during the 1960s industry employment in the Netherlands and United States is at 41.1 and 36 percent respectively. By 1971 the OECD average in agriculture is just over 10 percent, industry near 40 percent (Germany comes in here at almost 50 percent) and services average around 50 percent. However,

at this juncture, growth in services is closely correlated with their support for industry. But by 1998 the employment landscape alters qualitatively with service sector employment among the OECD 25 hypertrophied at near 70 percent of total employment while industry average plummets to a level below that in 1900 and agriculture to around 6 percent (Feinstein 1999).

Again, there exists no ‘pure’ or ‘evenly developed’ (to paraphrase Harvey) *capitalist* economy in history. Nevertheless, from what Marxian economic theory teaches us about the capitalist ‘software’ in its fundamental incarnation, when we account for temporal development trajectories in this brief tour of employment structures evidence points to profiles which mark capitalism off as a production centred society. The concern in this article with the place of commodified labour power in meeting general norms of economic life to materially reproduce a human society sharpens our focus upon questions of potential deviation from this capitalist profile and the ramifications of this for economic reproduction in human societies.

Further, the ‘operating system’ of capital has never worked in the complete absence of extra-economic, extra-capitalist supports. In Britain during the late 19th century ‘liberal’ capitalist heyday, these were minimal. On the other hand, during the post WW2 ‘golden age’, state support for capital accumulation, for example, was considerable. As elaborated upon elsewhere, a significant social wage and countercyclical macroeconomic fiscal policy served to partially decommodify labour power (Westra 2009: 69ff.). Paradoxically, however, this was crucial for the maintenance of labour power as a commodity given the structure of accumulation based upon oligopolistic corporate production and mass consumption of expensive consumer durables. What we are interested in, hence, is not the simple fact of extra-capitalist supports for accumulation. But the sheer economic weight of these and the economic roles they play. Or whether an economy is marked by significant non-capitalist practices in material reproduction which leads us to question the extent to which it is capitalist. Indeed, argument has been made that while the ‘golden age’ economy certainly manifested an array of capitalist practices, it cannot be described as a capitalist economy in the most substantive sense given the sheer weight of non-capitalist practices which supported accumulation (Bell and Sekine 2001). Then there is the question of why, despite potentially manifesting elements of capitalism, extensive non-capitalist practices in an economy persist? What are the human impacts of such an assemblage? And so forth.

Finally, to deal with the ‘unit’ of analysis question, there is no *a priori* reason capital had to spawn within nation states. Nevertheless, the historical existence of these as ready-made containers for accumulation proved extremely convenient for capital. For the commodification of labour power to perform its role as the historically specific way capital manages the metabolic interchange between human beings and nature to materially reproduce a human society it must receive the product of its necessary labour through the impersonal cash nexus of the capitalist market. And social resources must be allocated across the division of labour in a way that

accommodates this. The capitalist ‘software’ here operates with a given monetary and banking system. And, even in the ‘liberal’ heyday, we need to hold implicit a minimal superstructure to support the foregoing. That capital is able to manage use value asymmetries to meet general norms of economic life and reproduce a human society as a byproduct of value augmentation in the geospatial context of nation states is already a herculean feat.

In the period preceding the industrial revolution in Western Europe the bulk of traded commodities were agricultural goods produced under conditions of persisting peasant production. The vagaries and instabilities of such production are accentuated when we bring into the picture traded commodities produced outside Western Europe under social class configurations of great variance. The rampant uncertainty merchant trade faces here is exacerbated when shifting political conditions are factored into the mix in a world where nation-state formation was at best in a process of gestation. As put tersely by Bayly (2004, 135): ‘Huge bottlenecks could emerge and then collapse, so that no one could be quite sure of profits, or even survival’. Even in the early 19th century, Bayly continues, much international trade was hardly driven by capitalist forces of supply and demand. Rather, it involved remittances of colonial military personnel and goods pillaged by colonial governments.

To claim that capitalism in its fundamental incarnation constitutes a ‘world system’, however that is defined, it would need to be demonstrated how according to those same specifically capitalist economic principles held by proponents, this ‘capitalist world system’ reproduced the material existence of human beings across the world as its byproduct. That, of course, is impossible. Not just due to the fact that the idea of ‘world system’ market prices bringing about an allocation of global resources that responds to changing patterns of demand for basic goods on the part of a ‘world system’ of direct producers is nonsensical. But because even during the post world war two period when ‘world systems’ theories first originated, the general norms of economic life for the bulk of humanity were guaranteed by principles of economy that have virtually nothing to do with what is historically distinct about capitalism.

On the other hand, from its inception, capitalism has had an international or global dimension. Yet, the degree with which capital has been international and the forms its global dimension have taken are subject to immense variation. However the historical specificity of capitalism as a human society is the bourgeois class projects of augmenting abstract mercantile wealth, based upon the commodification of human labour power, in production centred settings of historically constituted nation state containers. The latter are the base camps from which patterns of the international dimension of capital have been configured. As succinctly stated by Costas Lapavitsas, ‘the world market as a set of institutions, mechanisms, practices and customs is a creation of industrial, commercial and financial capitals which have become dominant in their respective national economies’ (Lapavitsas 2013, 19).

To sum up, to the extent historical circumstances arise where the idiosyncratic capitalist production centred activity of value augmentation predicated upon commodification of labour power is eclipsed by wealth extracting or expropriating activities Harvey refers to obliquely as ‘outside’ capital (with the ramifications this would carry for meeting the general norms of economic life), then such an assemblage would not be capitalism.

What is instructive about current world systemic processes euphemised as globalisation is that these have been compelled by advanced capitalist states that have in fact abdicated much of their capitalist production centred accoutrement. Employment profiles of advanced economies like the US are dominated by services, an activity in no way idiosyncratic to capitalism. And remnants of industry there have for some time been operated by the highly fragmented workforce departed manufacturing left in its wake (Letto-Gilles 2002: 118). The evidence is that erstwhile industrial economies have little need to maintain mass commodified labour forces with all that entails for materially reproducing lives of so many human beings in those societies. And much of the third world, with a manufacturing employment profile reminiscent of pre-modernity, is already experiencing ‘premature deindustrialisation’ (Dasgupta and Singh 2006). As summarised by Milberg and Winkler (2013, 13): ‘The new wave of globalization has altered the magnitude, structure and role of international trade. It has changed the nature of economic growth in the developing world and it has heightened insecurity in many industrialized countries’. Indeed, from a macro global perspective, 2006 initiated a trend where mass population shifts across the world as a whole are no longer from agriculture to industry as characterising the few centuries of capitalist development, but from agriculture into services (ILO 2008).

Production centred activities that once propelled whole economies to development have been disarticulated across the globe into what the specialised literature dubs global value chains (GVCs). Several key features of this process with impacts upon countries like China through which production and assembly operations are routed are the following: First, global trade is increasingly reconfigured around ‘intermediate goods’ or sub-products such that full-scale integrated industrial economies, and the mass commodified labour forces which worked these, are being relegated to the dustbin of history. Second, production centred activities are off-shored and outsourced to contract suppliers or non-equity modes (NEM) of control enabling major transnational corporations (TNCs) to morph into ‘brands’ that no longer make anything. Third, NEM operations more often than not are plied from special economic zone (SEZ) enclaves. SEZs tend to be delinked from host economies and offer scant spill-over effects for indigenous industry (Milberg and Winkler 2013, 45, 53). Fourth, the lowering of bottom line costs by TNCs in this process meant that businesses found themselves with bloating pools of cash in hand. With no demand for reinvesting these monies in profit making production centred activities which are transferred into NEM hands, TNCs utilize funds in ‘financialisation’ games buying and selling

their own stock to increase ‘shareholder value’. Hence a ‘downsize and distribute’ dynamic spread across TNCs world-wide. TNCs are encouraged to further pare down to their ‘core competencies’ in advanced economies generating less employment opportunities there. And the evidence indicates that those TNCs which applied growing proportions of their pooled funds to financialisation games to increase shareholder payouts were most notorious in ruthless cost cutting enforcements upon their global suppliers (Milberg and Winkler 2013, 220-34).

Commodification of labour power and China

Historically, China ranks as one of the most rural societies of all time. When Mao and the communists marched into Beijing in 1949 they ascended to power in one of the poorest countries in the world. In the early 1950s, China sought to build up owner operated small peasant agriculture to support development of industry and an urban proletariat through a ‘mixed’ public and private ownership economy (Aglietta and Bai 2013: 75-8). Exigencies of the cold war and ultimate rift with the Soviets over development directions saw China increasingly press collectivisation in the countryside which led to construction of a network of Great Peoples’ Communes (GPCs) across its rural expanse by the mid-1960s. The last major policy initiative of the Mao era was the ‘Third Front’. Prior to the rapprochement with the US as the reality of the latter’s Vietnam debacle dawned, Mao advocated a build up of manufacturing processes as adjunct to GPCs so as to fortify defence capacities should China’s cities come under attack (Naughton 2007: 69-76).

With a brief interregnum following Mao’s passing, the acceding of Deng Xiaoping to China’s top leadership unleashed a dramatic ‘reform’ process from 1978. Arguably, the signature policy of the post 1978 reform era was the ‘household responsibility system’ that replaced the GPCs across China’s vast agricultural spaces. Put succinctly, the household responsibility system entailed mass de-collectivisation where all farmland in China operated by GPCs was divided on a per capita basis into allotments for individual households composed of extended families. Property entitlements were nebulous with ‘contracts’ initially set at two years ultimately revised up to fifty years. The purpose of the ‘contract’ was not a mere land transfer but an arrangement whereby basic agricultural goods of specified quantities were to be sold to the state. However, any produce beyond that would be available for household consumption or market sale (Nee and Oppen 2012: 161).

The initial impacts of this were firstly increased productivity in agriculture where output of grains rose one third by 1984, offering China food security for virtually the first time in its history. Secondly, labour released due to rising productivity in agriculture provided a workforce for a congeries of new town and village enterprises (TVEs) which sprung up around remnants of Mao’s ‘Third Front’ rural industrialisation initiative. As semi-public ‘collective’ entities decentralised TVEs, constituting 26 percent of China’s GDP by 1996, particularly enthused

socialist observers of China around the world. Though the extent to which ‘unregulated’ TVE activities contributed to the break-up of state owned enterprises and planned economy with its state ‘regulated’ system of entitlements for workers was not readily appreciated (Westra 2012: 150-1).

It is the third impact of the household responsibility system, however, which is of greatest concern here. Given the nature of the new system land could not be sold by contracted households. Average size of ‘farms’ was proportionate to approximately two-thirds of a football field. Land allotment of that limited scale offered a guarantee of subsistence for much of China’s population. At the same time, the increase in agricultural productivity which released labour for off-farm work did so under conditions where the guarantee of subsistence for this burgeoning cohort predisposed it to part-time, irregular, and contingent employment. This was the case for both skilled and unskilled work. Further, a household registration and permit or *hukou* system, instituted in 1958 as part of communist efforts forestalling rural-urban migration, was maintained, persisting to this day in fact. While renowned Maoist social policies – employment security, education, health care and so forth – were as conspicuous features of rural GPCs as for urban workers, with de-collectivisation many social welfare entitlements vanished from rural China. Thus, as rural-urban migration ramped up during the reform era, *hukou* maintained a divide between urban workers in the state sector with entitlements and off-farm labourers responding to urban employment market pull without them. As legally it is *hukou* which determines eligibilities along with ultimate residence (Nee and Oppen 2012: 162-4).

Debates over agrarian change in the rise of capitalism which draw in China as a new laboratory for theory development revolve around the divergence of paths from the initial British case and the experience of ‘later’ developers including East Asian economies of South Korea and Taiwan. One important point on the historical record adduced in this regard is that the transition to the capitalist form of landed property treated by Marx is precisely reproduced in only one other case (Bernstein 2015, 456-7). As we note above, however, *Capital* is not a genetic theory of capitalist development. Rather, Marx assumes the historical existence of a capitalist economy on the basis of which theory is tasked with logical elaboration of categories of capital in its most fundamental incarnation. When Marx turns in *Capital* Volume Three to production relations in agriculture his primary interest resides in developing the category of ‘rent’ (Marx 1959, 600-3). Marx highlights the fact of modern landed property in Britain characterised by a *modus vivendi* between capital and the landlord class. With land ‘freed’ of all precapitalist tenure arrangements, and its erstwhile peasant inhabitants hurled into the proletariat, land is worked by wage labour under direction of capitalist farmers bent upon augmenting value or profit making with the same indifference to use value as the industrialist. But landed property itself remains an alien principle for capital because ownership titles of land are bound to murky inheritances of the past. This

form of ownership is distinctly different from the way titles to property in commodities circulate on the capitalist market. Commodities are bought and sold on the market based upon the fact that a capitalistically rational ‘original’ price has been paid for them. For capital to deal with land, Marx explains, it needs to create a *legal fiction*. The fiction is that land, bequeathed to humanity by nature, but at the dawn of the capitalist era found monopolised in the hands of a particular social class, is the legal entitlement of its current owners as is the case of all commodity owners in capitalist society. Land is thus integrated into the circulation of commodities as an ‘asset’ the ownership of which constitutes entitlement to the income stream of *rent* (Sekine 1997, 130-3).

While Marx discusses the mechanisms for calculating rent his signal point is that the rent flow from capitalist farmer and industrial capitalist ‘dissolves the connection between landownership and land so thoroughly that the landowner may spend his whole life in Constantinople’ (Marx 1959, 603). As such, what is more important for analysis of the role agrarian transformation plays in the commodification of labour power and capitalist development than the specific form of the formative British transition is the extirpating of precapitalist landlord tenant relations and the passing of land into the hands of independent farmers unencumbered by vestiges of extra-economic coercion.

When we take up the cases of South Korea and Taiwan, one neglected question in explanations of their meteoric rise to development from the post WW2 third world is the transformation in both of social relations in agriculture (Kay 2002, 1074). What marks processes of capitalist development in each is the institution of radical land reforms prior to their industrialization drives. In South Korea, compelled in part by demonstration effects of socialist actions in the North, then spurred by American Military Government policy in the South, land reform which eliminated landlords as a class quickly became a major success. Tenant owners were incentivised to dramatically increase efficiency of rice production which underpinned the massive exodus from rural areas to feed growing demand for proletarians in burgeoning urban labour intensive industries. Taiwan unfolded its land reform at a less intense pace given the need for the Kuomintang fleeing China to gain a measure of legitimacy over the ethnically distinct populace it sought to govern. Nevertheless, by 1956 owner operated farms amounted to 60 percent of agriculture with the remainder composed of combinations of owner operated farms and tenancy (Kay 2002, 1079-82).

A comparison of these East Asian cases with Latin America demonstrates that the divergence which stunted capitalist development in Latin America hinged upon the persistence of powerful landed classes well into the period of industrialisation. Even as control over Latin American states shifted from landed oligarchies of the 1930s with commitments to primary product export policies toward democratic governments oriented to inward industrialisation in the 1950s, powerful entrenched landlord classes thwarted land reform with adverse impacts upon

capitalist development (Kay 2002, 1086). The symmetry with the capitalist mode of agrarian transition in South Korea and Taiwan and rise of capitalism in Britain is the massive release of surplus populations from agriculture in tandem with rapid growth of industry. Only sustained productivity rises made by market oriented owner operated farming could support mass commodification of labour power while simultaneously keeping food costs low and thus industrial wages in check. Resultant industrial profit fed continuing capital accumulation and high rates of growth which sustained the virtuous circle of industrialization and development even as wages ultimately began to rise with absorption of populations jettisoned from agriculture (Kay 2002, 1095).

In the case of China, while the landlord class was eviscerated by socialist revolution the direct producing peasantry were never 'freed' from extra-economic relations of domination and subordination. As argued elsewhere, one of the peculiarities of the 'soviet style' of socialism China imbibed is that while labour power was decommodified it was subjected to extra-economic compulsions and social relations of subjection akin to that existing in precapitalist economies. This was one reason why that model more easily took root in societies with marginal experience with capitalism rather than the most advanced capitalist economies where the direct producers experienced 'freedom' of economic compulsion and viewed socialism as a regression from that (Westra 2011). Even de-collectivisation and break-up of GPCs did not yield owner operated agriculture. And extra-economic encumbrances with respect to land entitlements and rural-urban mobility persist to this day. This is China's toxic labour configuration. Let us turn to the intersection between such 'freezing' of agrarian relations around subsistence farming in China and the form industrialisation has assumed.

For this we need to factor the second major policy initiative of the Deng reform period into our analysis. China's opening to foreign capital was hesitating and initially barely registered on the political radar. As China's 'reform' architects peered across the region, they noticed how countries like Malaysia and Taiwan encouraged foreign capital to set up shop in SEZ enclaves producing for world markets and sought to emulate them. When China's first SEZs came into operation in 1980, 35 such enclaves already existed in East and Southeast Asia.

During early 'golden age' years internationalisation of production largely took the form of 'tariff jumping' to create economies of scope which supplemented domestic production and sales of TNCs. But, from the mid 1960s, beginning in the US and somewhat later in other advanced economies, relocation of productive capacity to SEZ 'export platforms' by TNCs producing for world markets began to supplant TNC production in their domiciles. Particularly from the 1970s, as economic travails hit the advanced economies, capital outflows spurred the relocation of productive capacity to the benefit of economies such as South Korea and Taiwan the internal transformations of which made them good hosts for this newer wave of

internationalised production (Webber and Rigby 2001, 259-60). However, as set out above, ramping up in closing decade of the 20th century and proceeding apace in the 21st, wholly different processes euphemised as globalisation engulfed the world economy. Advanced economy TNCs disinternalised their production centred activities, disarticulating them across the globe. As treated in detail elsewhere (Westra 2012: 75ff; Hart-Landsberg 2013: Part I), East and Southeast Asia, to a large extent as an outcome of anticommunist ‘showcase’ alliances forged among its economies under US auspices, played a major role in this newest modality of internationalised TNC production.

So enamoured by perceived benefits of early SEZs, Deng opened them en masse up and down China’s coast in major cities. To be sure, the initial combined social wealth impacts of the household responsibility system, TVEs and the formative opening of SEZ’s to foreign investment in largely joint ventures, were positive. China had commenced its ‘reform’ in 1978 with a heavy industry structure and thus bucked the trend of developing country import substitution industrialisation by moving away from heavy to light, more labour intensive industry directed towards consumption goods. Income distribution overall was relatively egalitarian into the early 1990s. Yet, from 1985, the ‘dual track’ pricing system, intended to spur entrepreneurial initiative outside the planned economy, enabled those with well oiled connections to the party-state apparatus, along with military and provincial elites, to abundantly accumulate private wealth holdings as well as covet vast tracts of land at bargain prices. By 1992 what remained of socialist planning was essentially vitiated. This was officially endorsed during that years’ party congress with proclamation that China was a ‘socialist market economy’. Whatever the latter meant, the decade that followed saw increased central government macroeconomic control over the economy and a spate of investment led growth in producer and infrastructure industries yielding the sort of patterning mainstream economists had castigated as ‘crony capitalism’ at the time of the 1997-98 Asian Crisis (Westra 2012: 151-4).

For China, however, the shift toward import substitution industrialisation, superintended by state macroeconomic management and instituted by remaining state owned enterprises, did prove successful at the outset. Bolstered by China’s toxic labour configuration, financial repression induced low borrowing costs, and a spate of residential building in coastal cities catering to new wealth accumulation there, China developed globally competitive domestic capacity in steel, cement and machinery equipment heavy industries (Aglietta and Bai 2013: 142). But China’s real wealth source was the inflow of foreign capital into the SEZ economy and resultant massive trade surplus that financed the import substitution. From 1993 through 2008 as the global meltdown struck China was the largest recipient of foreign direct investment (FDI) among developing countries (and, in select years, among all countries in the world), with FDI growing at an annual average of 20.1 percent (well over annual GDP growth). Over 70 percent of

this by 2004 went to 100 percent foreign owned subsidiaries. Thus, in 2006, foreign capital effectively controlled 21 of 28 leading sectors in China. Beginning with clothing, footwear, furniture and toys China moved rapidly into export of manufactured goods. By 2007 manufactures composed a whopping 94.9 percent of China's exports (Westra 2012: 155-6). China was soon exporting over two-thirds of all microwaves, TVs, DVDs and computers in the world. Yet 80 percent of export of technology products derives from foreign subsidiaries. Thus China's technology export profile is largely confined to middle and low tech grades. While the imported components which enter its assembly mills are high value added China has not climbed the technology ladder (Aglietta and Bai 2013: 137-8).

However, there is a bigger point to be made here. As observed by Naughton (2007: 142-3), in *all* recorded world history, per capita GDP growth over 6 percent for an extended period has occurred only *three* times with each episode taking place in post WW2 East Asia. Japan's spurt, averaging over 8 percent annually from 1955 to 1973, is the first. Second, South Korea and Taiwan's growth in GDP per capita in the period 1982-1996, averaged 7.4 percent and 7.1 percent respectively. Third, there is China's post 1978 continuing trajectory averaging near 7 percent GDP growth per capita which is the longest. But make no mistake about it. In the previous instances growth translated into development and full scale capitalist industrialisation. South Korea is a case in point where, despite its renowned export prowess, domestic demand and mass consumption of consumer durables played a major role in its development (Westra 2006). The paradox of China's growth spurt is the fact that as it turned outwards to the world it did so as part of a 'miracle' growth pole initially erected to contain it. Yet in its opening to the world economy China was confronted with a very different international environment of trade and investment than that facing most certainly Japan, though also South Korea and Taiwan. True, China's GDP growth spurt in per capita terms began at rock bottom. Yet, depending on the Index (World Bank, IMF and so forth) China currently finds itself in comparative GDP per capita company of Montenegro, Peru and Saint Vincent and the Grenadines. More significantly, China's export dependence as a percent of GDP is much greater than ever reached by Japan, South Korea and Taiwan. And, while the share of consumption in GDP of Japan, South Korea and Taiwan ranged from between 50 to 60 percent during their growth spurts, China's plummeted from 50 percent in 1990 to a nadir of around 30 percent in 2004 (Westra 2012: 155). In short, in China, growth has been radically decoupled from development as unfolded in advanced economies and the developed economies of East Asia.

It is instructive that when we look at China's sectoral employment, the primary or agricultural sector continued to employ over 50 percent of China's workforce to 2002. It remained around 40 percent up to 2008 as the global meltdown struck. Secondary sector employment including manufacturing and construction in 2002 constituted a meagre 21.4 percent

of the workforce and was already outstripped by services at 28.6 percent. In 2008 secondary and service sector employment came in at 27.2 and 33.2 percent respectively. Even in 2010, secondary sector employment in China is still below the 1900 average of OECD economies studied by Feinstein (above), with agricultural employment remaining 36.7 percent while the service sector rises to 34.6 percent of employment. It has to be added here as well that the service sector did not grow in tandem with industry and remains highly underdeveloped in China compared to countries at a similar levels of development. For example, there exists no country-wide retail distribution network in China for consumer goods and what consumer distribution logistics do exist were emplaced in major urban centres by foreign retail chains such as Wall Mart and McDonalds catering to new found urban wealth (Aglietta and Bai 2013, 224-6).

To be sure, understanding China's current configuring of social relations of production demands that account be taken of the fact that these emerged from dismantling of an ostensibly socialist planned economy rather than from a precapitalist landlord peasant structure as the case with Britain. Here, as collectivisation was replaced by the household responsibility system of smallholder farming and initial impacts of rising agricultural productivity reverberated across China, the state looked away. As underscored in Alexander Day's study, 'rural public society was not rebuilt...[T]he state largely divested itself of rural public works and social welfare: collectively owned irrigation, public medical care,[...] and schooling fell into disrepair and often local government took on a predatory relationship to the local population'(Day 2013, 165). On the other hand, as collectivist structures dissolved, capitalist social relations of production did not take their place.

Firstly, what was identified above as synonymous with the capitalist era, the rapid diminution in population tied to agriculture alongside absorption of workers in industry and ultimate mechanising of agriculture, never occurs. Nebulous land rights in rural China forestalled a potential amalgamation of holdings by enterprising dedicated farmers which in turn might have spawned mechanisation. State owned enterprises were themselves jettisoning workers, 36 million to be precise between 1996 and 2001, and could not play a part in absorbing surplus agricultural labour (Westra 2012: 153-4). By the mid 1990s, even the once vibrant TVE 'collectives' increasingly faced forces of privatisation, as that sector also began shedding workers and opportunities for productive rural off-farm work. Chinese agricultural specialist Wen Tiejun, who in disagreement with state policy left his government position, argued that by the late 1990s China's agriculture could be efficiently operated at its then current level of output by 100 million farmers. Yet the rural labouring population at that juncture was approximately 600 million. Of those over 100 million constituted the urban migrant or 'floating' population while up to 200 million laboured in non-urban secondary and tertiary industries. Under such conditions, Wen maintained, it is nonsensical to conceive of labour power as a commodity given the fact that

there simply exists no possibility for urban industry to absorb such a gargantuan peasant multitude. There is no way to support this population through the market system, he concludes (Day 2013: 105-7).

China's workforce was drawn to the SEZ economy dominated largely by foreign owned enterprises serving as cogs in global 'value chains' but from which titanic wealth gains accrued to China's ruling party connected elites. By 2003 well over 100 SEZs had been established including Hainan Island in its entirety and the giant Pudong Development Zone linked to Shanghai. The labour force that drives this engine of China's growth is the burgeoning migrant floating population (defined legally as those living for at least 6 months somewhere other than their *hukou* mandated residence). By 2000 it constituted 12 percent of China's total population or 144 million workers. In 2009 the floating population numbered 211 million migrants and estimates in China have the floating population growing to 350 million by 2050 (Westra 2012, 152, 160). Yet, do not expect manufacturing to absorb China's rural labour force in a capitalist industrial revolution scenario. In the decade and a half following early 1990s proclamation of China as a 'socialist market economy', there was no increase in the total number of manufacturing jobs (Day 2013: 190).

Secondly, in terms of the meeting of general norms of economic life where commodified labour power receives the product of its necessary labour through the production and circulation processes of capital, China's labour configuration reveals disturbing parallels with the early putting-out system and formal subsumption of the labour and production process. The long term consequences of China's de-collectivisation into the household responsibility system were the anchoring of material reproduction of much of China's working population in subsistence agriculture and predisposing of this working population to casual, irregular and contingent off-farm labour. As hundreds of millions of workers from this population 'floated' into China's growth engine of SEZ manufacturing employment, wages fell significantly below what was necessary and sufficient for workers to gain access to the product of their necessary labour. There is therefore no reproduction of these hundreds of millions of workers as a *class* through the wage form as raising their families, care for the elderly, and so forth, is subsidised by subsistence farming (Day 2013, 188).

Superimposed on this is the authoritarian *hukou* system which ensures that at the behest of the state, workers may be dispatched back to their rural residences at the crack of a whip. And this is essentially what occurred as the 2008 meltdown struck. Waves of 'ragged clothed' migrants were observed flooding out of cities clutching their meagre belongings and beddings. When we factor into the mix abundant evidence of serial non-payment of migrant workers wages by companies, often prison-like conditions of work with debilitating fifteen hour days and prohibitions on leaving and entering production compounds where migrants are crammed by the

dozen into squalid living quarters. And even the scourge of child labour. It is evident that except for Marx's criterion on enterprise size China's labour configuration shows little evidence of the real subsumption of the labour and production process by capital. Nor the commodification of labour power with the historically specific way commodification manages the metabolic interchange between human beings and nature to materially reproduce a human society (Westra 2012, 162-3).

Further, the absence of capitalistically rational pricing for labour power coupled with ambiguous entitlements for land and an authoritarian state fomented a chronic misallocation of social resources across China's economy. Predatory local state officials 'grabbed' land from farmers at extremely low prices and either sold the land at astronomically high prices to real estate developers or at very low prices for the industrial parks (over 80 percent of all land transfers) that accommodate the economy of state owned enterprises and SEZs. The former mode of rent seeking contributed to a festering real estate bubble. The latter to lucrative income flows from taxes on industrial uses of land 10 times higher than agriculture. Access to vast tracts of undervalued land also fed tendencies toward large scale investment projects in energy and resource-intensive heavy industries. Therefore, though the 2010 census pegged China's working age population around 70 percent, even should wages rise from its continued absorption, this is hardly sufficient to undo China's toxic social relations of production and misallocation of social resources (Aglietta and Bai 2013: 213-18).

International analysts like Guy Standing recognise how the low wage structure of China's labour configuration has been perpetuated by the sheer scale of the floating population phenomenon. And that the continued existence of this toxic labour configuration given China's key positioning in global value chains bodes ill for workers of the world (Standing 2011, 106-8). However, the remedy offered of 'full labour commodification' along with achievement of related 'rights' reveals an inadequate understanding of what is really at stake (Standing 2011: 161ff). The fact is, as touched on above, tendencies obviating the need for maintaining commodified labour forces have been driven by advanced economy TNCs, commencing in their own domiciles, from the 1990s. The disinternalising of production centred activities leading to precipitous declines in manufacturing employment is compounded by recent process innovations where disarticulated production has reset global trade largely around 'intermediate goods' or sub-products as we note. While non-developed so-called middle income countries in Asia in particular, including China here, of course, are coveting an increasing share of world manufacturing capacity and exports, they are doing so by imbibing the full suite of pathologies TNC capital has saddled the process with (Hart-Landsberg 2013:18-20, 31-6). China itself, opened its economy into this maelstrom, doing so with a healthy, disciplined labour force, imbued with manufacturing skills and marked by high levels of literacy for a country at its then

per capita income level (Naughton 2007: 81-2). And China became the assembly lynchpin in a regional production network already dominated by TNC capital. Indeed, as the mouthpiece for TNC capital the World Bank by 2008 already had no illusions about what was really going on. As it shamelessly peddled as ‘development’ policy the template of non-developed country off-farm labourers streaming into contingent work in urban construction or sweatshops while maintaining their ‘footholds’ in subsistence farming (World Bank 2008: 216).

In advanced economies themselves the abdicating by TNCs of the business of making things for financial gamesmanship and rents from ownership of ‘intangible assets’ has left the material reproduction of the livelihoods of mass populaces not to precapitalist subsistence agriculture but principles of state ‘redistribution’ running the gamut from food stamps to few remaining social welfare systems. US food stamp recipients, for example, number near 50 million, a figure exceeding the total population of such countries as Kenya, Ukraine and Argentina (Meyer 2015).

For China, the end of its development road has been reached. An estimated \$7 trillion has been poured into its economy since the onset of the 2008 economic crisis manifesting itself in a landscape littered with ‘ghost’ cities and infrastructure (Anderlini 2014). But there has been little significant movement out of its social relations of production with vast swathes of peasant farming and a swelling floating population with no possibility of ever becoming commodified with all that entails for material reproduction of a human society. Nor will commodification of mass labour forces return to advanced economies. The world has reached the point where the material conditions for any kind of capitalism with its production centred accoutrement have been outstripped by historical transformation. Marx conceptualised the global roadblock humanity faces in terms of the forces of production outpacing relations of production demanding revolutionary change for society to move forward.

Notes:

¹ For the specialised debate over commodity *forms* see Sekine (2009).

² The earliest elaboration upon Marx’s study of the capitalist economy in *Capital* confirming the existence of ‘general norms of economic life’ was made by Japanese Marxian economist Kozo Uno (1980).

³ For an article length argument on the operation of the law of value in *Capital* and the specific contribution of all three volumes of *Capital* to demonstrating how capital reproduces the economic life of a human society as a byproduct of value augmentation, see Westra (2012/13).

⁴ On questions of non-capitalist ‘principles of economy’ and their material reproductive features see Westra (2014: 138-48).

References:

- Albritton, R. 1991. *A Japanese Approach to Stages of Capitalist Development*. Basingstoke: Macmillan.
- Albritton, R. 1993. ‘Did agrarian capitalism exist?’ *Journal of Peasant Studies*, 20(3), 419-441.
- Aglietta, M. and Bai, G. 2013. *China’s Development: Capitalism and empire*. London: Routledge.
- Bayly, C. A. 2004. *The Birth of the Modern World 1780-1914*. Malden, MA: Blackwell.
- Bell, J. 2009. *Capitalism and the Dialectic: The Uno-Sekine Approach to Marxian Political Economy*. London: Pluto.
- Bell, J. and Sekine, T. 2001. ‘The Disintegration of Capitalism: A Phase of Ex-Capitalist Transition’ in Albritton, R., Itoh, M., Westra, R and Zuege, A. eds. *Phases of Capitalist Development: Booms, Crises and Globalizations*. Basingstoke: Palgrave/Macmillan.
- Bernstein, H. 2015. ‘Some Reflections on Agrarian Change in China’. *Journal of Agrarian Change*. 15, 3 pp. 454-477.
- Brass, T. 2010. ‘Unfree labour as primitive accumulation?’ *Capital & Class*. 35, (1) 23-38.
- Brenner, R. 1977. ‘The Origins of Capitalist Development: A Critique of Neo-Smithian Marxism’. *New Left Review* I, 104.
- Dasgupta, S. and Singh, A. 2006. ‘Manufacturing, Services and Premature De-industrialization in Developing Countries: A Kaldorian Empirical Analysis’, Center for Business Research, University of Cambridge Working Paper no. 327, accessed on line March 20 2013, <http://www.cbr.cam.ac.uk/pdf/WP327.pdf>.
- Day, A. 2013. *The Peasant in Postsocialist China*. Cambridge UK: Cambridge University Press.
- Engels, F. 1954. *Anti-Dühring*. Moscow: Foreign Languages Publishing House.
- Feinstein, C. 1999. ‘Structural Change in the Developed Countries during the Twentieth Century’, *Oxford Review of Economic Policy*, 15, 4.
- Hart-Landsberg, M. 2013. *Capitalist Globalization: Consequences, Resistance, and Alternatives*. New York: Monthly Review Press.
- Harvey, D. 2003. *The New Imperialism*. Oxford: Oxford University Press.
- Hill, C. 1969. *Reformation to Industrial Revolution*. Harmondsworth: Penguin Books.

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- Letto-Gilles, G. 2002. *Transnational Corporations: Fragmentation amidst integration*. London: Routledge.
- Jones, E. L. 1974. *Agriculture and the Industrial Revolution*. Oxford: Basil Blackwell.
- Lapavistas, C. 2013. *Profiting Without Production: How Finance Exploits Us All*. London: Verso.
- ILO. 2008. *Global Employment Trends*. International Labor Office: Geneva.
- Kay, C. 2002. 'Why East Asia overtook Latin America: agrarian reform, industrialization and development'. *Third World Quarterly*, 23, 6.
- Marx, K. 1959. *Capital Volume Three*. Moscow: Foreign Languages Publishing House.
- Marx, K. 1977. *Capital Volume One*. Translation by Ben Fowkes. New York: Vintage Books.
- Meyer, A. 2015. 'Food Stamp Beneficiaries Exceed 46,000,000 for 38 Straight Months', CNS News, January 13 2015, <http://www.cnsnews.com/news/article/ali-meyer/food-stamp-beneficiaries-exceed-46000000-38-straight-months>.
- Milberg, W. and Winkler, D. 2013. *Outsourcing Economics: Global Value Chains in Capitalist Development*. Cambridge: Cambridge University Press.
- Naughton, B. 2007. *The Chinese Economy: Transitions and Growth*. Cambridge: MIT Press.
- Polanyi, K. 1957. *The Great Transformation*. Boston: Beacon Press.
- Seabrooke, L. and Wigan, D. 2014. 'Global wealth chains in the international political economy'. *Review of International Political Economy*, 21, 1.
- Sekine, T. 1997. *An Outline of the Dialectic of Capital V II*. Basingstoke: Macmillan.
- Sekine, T. 2009. Arthur on money and exchange. *Capital & Class*, 33 (3), 35-57.
- Standing, G. 2011. *The Precariat: The New Dangerous Class*. New York: Bloomsbury Academic.
- Uno, K. 1980. *Principles of Political Economy*. Sussex: Harvester Press.
- Webber, M. and Rigby, D. 2001. 'Growth and Change in the World Economy Since 1950', in Albritton, R., Itoh, M, Westra, R and Zuege A. eds. *Phases of Capitalist Development: Booms, Crises and Globalizations*. Basingstoke: Palgrave/Macmillan.
- Westra, R. 2006. 'The Capitalist Stage of Consumerism and South Korean Development', *Journal of Contemporary Asia*, 36, 1.
- Westra, R. 2009. *Political Economy and Globalization: Frontiers of Political Economy Series*. London: Routledge.
- Westra, R. 2011. 'Renewing Socialist Development in the Third World', *Journal of Contemporary Asia*, 41, 4, pp. 519-43.
- Westra, R. 2012. *The Evil Axis of Finance: The US-Japan-China Stranglehold on the Global Future*. Atlanta, GA: Clarity Press.

Westra, R. 2012/13. 'Capital as Dialectical Economic Theory'. *Journal of Australian Political Economy*, Special Issue on *Capital* against Capitalism: New Research in Marxist Political Economy, 70.

Westra, R. 2014. *Exit from Globalization*: Frontiers of Political Economy Series. London: Routledge.

World Bank. 2008. *World Development Report 2008*. Accessed on line March 20 2013.
http://siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf.

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Reinterpreting the Theory of Market Value**

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From Classical Market View to Marxian Market View: Reinterpreting the Theory of Market Value

Kei Ehara*

Contents

Introduction	1
1 The Theory of Market Value in <i>Capital</i>	4
2 Development of the Theory of Market Value	7
3 Dual Standards in Investment	11
4 Requirement of Market Stability	15
References	22

Introduction

View on market is not much discussed in economics. The reason is quite plain: almost all economists use the word “equilibrium” to describe the mechanism of market. Needless to say, mainstream economics mathematically formulates the theory of equilibrium, which is reflected in the belief to the natural force of market, expressed as neoliberalism. Although many heterodox economists reject the idea of neoliberalism, they more or less rely on the theory of equilibrium developed in orthodoxy. The 2007-8 crisis stimulated the interest in the turmoil in the financial market and the ensuing income gap among the people. While post-Keynesians rediscovered “the financial instability hypothesis” in Hyman Minsky’s

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works, analysing the dysfunction innate in finances, Marxians relaunched the criticism against the mainstream trickle-down myth by stressing the inevitable disparity in wealth under the capitalist mode of production. Nevertheless, in order to theorise, or even just to talk about, these contemporary issues in economics, we still need to think of the state of equilibrium first. Talking of disequilibrium or other failures of market requires talking of equilibrium. Thus, we have just a single market view: equilibrating view on market. This is so prevalent in economics because it originates in classical political economy, as we shall see later. Equilibrating view on market, therefore, can be put classical market view as well.

In my opinion, Marxians today are more liable to this classical market view than post-Keynesians. This is at least partly due to Marx's renowned theory of exploitation. The former half of *Capital* Vol.I mainly argues how the surplus value is created even on the condition that all commodities are sold at their value. Marx raises the problem in Chapter 5 as "contradictions in the general formula" of capital: the transformation of money into capital "must, and yet must not, take place in the sphere of circulation" where all commodities are exchanged with their equivalents (Marx[1990]p.289). It is addressed in Chapter 7, Section 2, "the valorisation process". While the value of the labour-power is determined by the value of the means of subsistence of the workers, the working time is not restricted to the time necessary for producing the means of subsistence. Thus, the labour-power can be employed longer than its value and the resultant difference is the source of the surplus value. The exploitation of the workers occurs, therefore, even if the market functions perfectly in the sense of the equivalent exchange. This theoretical explanation on the exploitation is mathematically sophisticated as the Fundamental Marxian Theorem later, and has been discussed repeatedly in various forms. As the mathematical formulation evolves, Marxians seem to become more and more addicted to the theory of equilibrium, or classical market view.

Meanwhile, Marx's contribution to our study on capitalism should not be reduced to the theory of exploitation. What Marx remained to us is the whole set of theoretical apparatus to analyse the capitalist social system and its history. The theory of exploitation is only a part of them. While the theory of exploitation is about the capitalist mode of production, Marx sheds light on the dynamics of what we can put as the capitalist mode of market as well. When the exploitation is revealed, the market should be assumed to be working perfectly with no price fluctuations or unsold commodities, but this does not mean that we must stick to this presumption throughout the analysis. The moment we doubt this presumption, we plunge into the world of disequilibrium. But calling the state disequilibrium is of no use: it is just saying "this is not an equilibrium". Here we need a completely different view on market. This paper tries to capture the image of the capitalist market from the viewpoint unique to Marx, which will be encapsulated as Marx-

ian market view in the following texts.

There are a number of issues to be addressed in the capitalist market: roughly speaking, all the subjects the mainstream economics does not pay enough attention to can be the point of argument, including the existence of money and the resale of commodities which presupposes the price fluctuations. In this paper, we are going to deal with the production techniques, or the conditions of production in a broad sense. The general equilibrium theory has developed a very effective tool on this issue: the non-substitution theorem. It is formulated in Samuelson[1951] as follows:

Theorem 1 (The Non-substitution Theorem). *Regardless of the assigned values of $C_2, C_3, \dots, C_n, x_{n+1}$, the optimal coefficients of production will always assume the same constant values, and the resulting production-possibility schedule for society will be of the simple linear form*

$$K_1C_1 + K_2C_2 + \dots + K_nC_n = x_{n+1},$$

where the K 's are constants independent of the C 's and x_{n+1} .

This theorem allows us to assume the uniformity of the condition of production in each industry under competition. It is a simple but powerful proposition. Each producer has now no need to compare the production techniques on producing some kind of commodities by herself/himself: competitive market automatically selects a single optimal condition of production in every branch of industry. In consequence, the theory dependent on this theorem misses what features global capitalism. Multi-national companies are constantly exposed to global management issues, including the decisions on production locations. Applying this theorem consciously or unconsciously, we would assume the global market to be perfectly working, consequently overlooking the problem of global conditions of production.

What is important here is not the fact that the non-substitution theorem is unrealistic. Every theory must be in some respect unrealistic in order to be logically compelling. Nevertheless, the assumption on the theorem might oversimplify the matter by removing practically all the questions of selecting conditions of production. It might fall short of grasping the defect in market that is globally expanded in contemporary capitalism. Then, Marxian political economy might be able to offer another viewpoint by handling the problem of the plurality of the production process in a renovated theory. It is no easy task also for Marxian political economy. The difference in the conditions of production is discussed in one of the most complicated chapters in Marx's *Capital*, viz. Chapter 10 in *Capital* Vol.III. This chapter, titled "the Equalisation of the General Rate of Profit through Competition. Market Prices and Market Values. Surplus Profit", has been regarded as

the argument on “the theory of market value”. We begin this paper by analysing Marx’s text there.

1 The Theory of Market Value in *Capital*

Part 2 in *Capital* Vol.III is titled “The Transformation of Profit into Average Profit”, mainly discussing how the general rate of profit is achieved among various industries and the price system is described. The first two chapters in Part 2, viz. Chapter 8 and 9, are today summarised as “the theory of price of production”. Here the commodities are bought and sold not at their value, or in proportion to their objectified labour times, but at their price of production as the general rate of profit is determined. On the other hand, the exchange of commodities at their value was assumed throughout the analysis of *Capital* Vol.I. The gap between the two volumes had to be bridged in some way, and this is what the long-discussed “Transformation Problem” is all about. Because it has to do with the theoretical consistency of the whole framework of *Capital*, both Marxians and their opponents have been involved in the debate, making the problem one of the most popular theoretical topics in Marxian political economy. Meanwhile, the following Part 3 is about the tendency of the rate of profit to fall (TRPF). This is a clear-cut view on historical feature of capitalism in *Capital*, and has also attracted wide attention from Marxians. Sandwiched between the two, the Transformation Problem and the law of TRPF, the theory of market value in Chapter 10 is relatively unnoticed, remaining to be studied carefully. But the unattractiveness of Chapter 10 is not owing to its position in the configuration of *Capital* Vol.III. It is because of its difficulty in catching what the problem itself is in the theory of market value. We must, therefore, look into Marx’s text itself in order to define the problem first. Marx uses the term “market value” for the first time in *Capital* Vol.III in the following sentences:

The assumption that commodities from different spheres of production are sold at their values naturally means no more than that this value is the centre of gravity around which price turns and at which its constant rise and fall is balanced out. Besides this, however, there is always a *market value* (of which more later), as distinct from the individual value of particular commodities produced by the different producers. The individual value of some of these commodities will stand below the market value (i.e. less labour-time has been required for their production than the market value expresses), the value of others above it. (Marx[1991]p.279)

“The assumption” presented in the first sentence is no surprise. We can observe everywhere throughout the text of *Capital* the idea that the value is “the centre of gravity” that constantly attracts price fluctuations. It is true that this “assumption” about the value is also applied to the market value in this chapter, as Marx maintains “if supply and demand regulate market price, or rather the departures of market price from market value, the market value in turn regulates the relationship between demand and supply, or the centre around which fluctuations of demand and supply make the market price oscillate.” (Marx[1991]p.282) Accordingly, the problem of the market value would be to find out how to determine the centre of gravity for price fluctuations under the general situation, i.e. where capitalists are faced with several conditions of production in certain industry.

The above-quoted sentences, however, use the contradictory conjunction to introduce the concept of market value after referring to the well-known “assumption”. At least in this quotation, it is maintained that the value should not be regarded just as the centre of price fluctuations, but should be divided into two kinds, viz. the individual value and the market value. This distinction means not only the plurality of the conditions of production for certain commodity: what it exactly means is the coexistence of the plural conditions of production. The capitalists who produce the commodities of the individual value unequal to the market value do not disappear, but coexist with those who produce at the market value. If this is not the case, the concept of the market value is of no use in fact: if the commodities of the individual value are immediately swept away from the market, the market value always becomes the sole value, making the distinction nonsense. This might be the reason why the theory of market value has not been discussed so much. We must, therefore, contemplate the theory of market value as the problem of how the situation of the coexistence of different conditions of production affects the market. The determination of the centre of price fluctuations is just one of the points at best: here we must deal with broader questions regarding the market to which various individual capitalists with different conditions of production provide one kind of commodity.

Indeed, a very interesting idea is suggested in the texts on competition among capitalists in this chapter. Marx states “Nothing is easier to understand than the disproportions between demand and supply, and the consequent divergences of market prices from market values. The real difficulty lies in determining what is involved when demand and supply are said to coincide”, following which he discusses why political economists assume that demand and supply coincide despite the fact that they rarely do in reality. The following text is his answer, depicting how price fluctuations appear in market.

For the disproportions are contrary in character and, since they constantly follow one another, they balance each other out in their move-

ment in contrary directions, their contradiction. Thus if there is no single individual case in which demand and supply actually do coincide, their disproportions still work out in the following way — and the result of a divergence in one direction is to call forth a divergence in the opposite direction — that supply and demand always coincide if a greater or lesser period of time is taken as a whole; but they coincide only as the average of the movement that has taken place and through the constant movement of their contradiction. Market prices that diverge from market values balance out on average to become market values, since the departures from these values balance each other as pluses and minuses, when their average is taken. And this average figure is by no means of merely theoretical significance. It is, rather, practically important for capital whose investment is calculated over the fluctuations and compensations of a more or less fixed period of time. (Marx[1991]p.291)

While this text regards the market value as the “average” of the movement of prices during “a greater or lesser period of time”, the motion of capital behind this balance is somewhat different from what political economy usually assumes. Price fluctuations and capital movement are generally related with each other in a way that can be described as *a posteriori* adjustment typically shown in Chapter 4 of Ricardo’s *On the Principles of Political Economy and Taxation*.

Suppose now that a change of fashion should increase the demand for silks, and lessen that for woollens; their natural price, the quantity of labour necessary to their production, would continue unaltered, but the market price of silks would rise, and that of woollens would fall; and consequently the profits of the silk manufacturer would be above, whilst those of the woollen manufacturer would be below, the general and adjusted rate of profits. ... This increased demand for silks would however soon be supplied, by the transference of capital and labour from the woollen to the silk manufacture; when the market prices of silks and woollens would again approach their natural prices, and then the usual profits would be obtained by the respective manufacturers of those commodities. (Ricardo[1951]pp.90,91)

If this classical law of price and capital were applied to the above text of Marx’s, however, we would not be able to understand why the “average figure” could be “practically important for capital”. If capital were invested accordingly as price fluctuations instructed, the “average figure” would be just a consequence

of the transference of capital, “of merely theoretical significance”. Here it is assumed that capital does not blindly abide by the price fluctuations as Ricardo describes. The market value itself is supposed to influence capital allocation among industries as “practically important” figure in this text.

This way of developing the theory of market value, however, seems to have failed. Although Marx illustrates various kinds of motion of capital in this chapter, it is very difficult to grasp how the market value, not the market price, definitely becomes practically important for capital. Instead, the common understanding appears as follows: “Capital withdraws from a sphere with a low rate of profit and wends its way to others that yield higher profit. This constant migration, the distribution of capital between the different spheres according to where the profit rate is rising and where it is falling, is what produces a relationship between supply and demand such that the average profit is the same in the various different spheres, and values are therefore transformed into prices of production.” (Marx[1991]p.297) This style of the motion of capital is virtually identical with what is told in Ricardo’s *Principles*, which leaves no room for the presence of the market value. Marx’s progress from Ricardo could be found only in the distinction between values and prices of production, hence most Marxians have concentrated on the study of the Transformation Problem.

However, Japanese Marxians, the Uno school in particular, were the exception. They regarded the theory of market value as no less important than the theory of price of production, debating fiercely on the construction of the field. The next section overviews the debate and its consequence.

2 Development of the Theory of Market Value

Kozo Uno, who had a great impact on the postwar academia in Japan, challenged Marx’s work in various fields, including the theory of market value. He emphasised the significance of the market value on the basis of his own understanding on the relation between value and price. Though *Capital* usually assumes commodity price is equal to its value and ignores the accidental difference between the two, Marx sometimes pays attention to the irregular disparity. The following sentences are the most quoted one: “The possibility, therefore, of a quantitative incongruity between price and magnitude of value, i.e. the possibility that the price may diverge from the magnitude of value, is inherent in the price-form itself. This is not a defect, but, on the contrary, it makes this form the adequate one for a mode of production whose laws can only assert themselves as blindly operating averages between constant irregularities” (Marx[1990]p.196). Here, Marx admits that price can depart from value and that the departure is “inherent in the price-form itself”. This possible “incongruity” does not immediately mean instability, but it can be

the cause of unstable price fluctuations by promoting speculation on commodity price. If we can replace “price-form” with the word “market”, this quotation is about possible instability “inherent in” market, which is often regarded as absent in Marx’s theory.

But we should notice Marx points out that the possible “incongruity” between price and value “is not a defect”. Rather, this inherent feature of market is regarded as appropriate for the capitalist mode of production, which is always subject to “constant irregularities”. We cannot precisely know what the “constant irregularities” mean in this quotation. Going on reading, we bump into the similar terminology in Chapter 12, where Marx discusses the difference between the division of labour in manufacture and the division of labour in society: “The planned and regulated *a priori* system on which the division of labour is implemented within the workshop becomes, in the division of labour within society, an *a posteriori* necessity imposed by nature, controlling the unregulated caprice of the producers, and perceptible in the fluctuations of the barometer of market prices” (Marx[1990]p.476). If we could guess the meaning of “irregularity” from this passage, it would be the way in which individual capital is distributed to various branches of industry, signalled by the fluctuations of commodity prices. The social division of labour is “irregularly” arranged by industrial investment judged individually by each capitalist, whilst the division of labour within each factory is “regularly” controlled. This difference is also put as “anarchy in the social division of labour and despotism in the manufacturing division of labour” (Marx[1990]p.477). Here, the “irregularity” is assumed to be the same with the “anarchy”, which is contrasted with the planned economy. It is natural that many respected scholars, including Rudolf Hilferding, paid more attention to the “anarchy” as the nature of the capitalist mode of production ¹⁾.

On the other hand, Uno’s point is that the fluctuation in prices is not only because of the “anarchy in social division of labour”, but also due to the inherent nature of capitalist market. This is not to say that he regarded the “incongruity” as “the defect”. Quite the contrary. He highly stressed the autonomy of market through price movements, but commodity prices move irregularly and independently from the state of social reproduction. Even if the scale of social reproduction was balanced quantitatively like the model in reproduction schema, prices could accidentally deviate from its value. This is because individual capitalists cannot observe the socially balanced scale of reproduction and are always driven to enhance their own production capacity to generate higher profit. The “anarchy in social division of labour” is, therefore, not the sole source of the “irregularity” in market, but only one of the causes. We can say that Uno contributed to Marxian political economy by distinguishing the irregular mobility inherent in market from the anarchical aspect of the capitalist mode of production.

Instead of reducing the “irregularity” of market to the anarchical capital allo-

cations in social division of labour, Uno tries to capture the nature of capitalist market in two theoretical fields: the one is the measure of values as one of the functions of money, and the other is the theory of market value. Since Uno's developments in these two fields are quite unique and related with each other, we need to check his argument on the measure of values in the theory of money before going onto the argument on the market value. According to Uno,

The price of a commodity expresses its value in terms of the socially recognised *general equivalent*. But mere pricing by itself does not signify that society has approved of it; a money price too is a value-form which reflects a subjective evaluation on the part of the commodity-owner. Even if his pricing is made with due consideration of what other sellers of similar commodities do, that alone does not guarantee that his price is an accurate indication of the value of his commodity... A commodity offered at a certain price is socially confirmed in its value only when it is recurrently purchased at that price by the money-owners who demand that commodity. (Uno[1980]p.9)

Here Uno opposes Marx's view that money as the measure of values displays the value of commodities. Money does play the role, but if it were the function of measuring values, why would we need to discuss it after analysing a value-form? In order to understand what money does, we must carefully observe what the price-form does. The values of commodities cannot be measured only by showing themselves in price-forms. They must be purchased, and this should be the true function of money to measure values. The purchase must be recurrent, Uno insists. As commodities are purchased recurrently, their prices rise and fall incessantly and a resultant central price is confirmed as the value. Thus, money "functions as the measure of value in M—C" (Uno[1980]p.10).

This unique view on the measure of value is the basis of Uno's theory of market value. Again, Uno condemns Marx for the opaque description on market value in *Capital* and expresses his original idea as follows:

As a general rule, the bulk of any kind of product tends to be supplied under average (or normal) conditions of production and the market value of the product is determined by the *individual value* of it supplied under such conditions. But this need not always be the case. The market value of a commodity must reflect an equilibrium of demand and supply, the market value being the centre of attraction for the market price of the commodity. This means that the supply of the commodity increases as the demand for it raises its market price above the centre, and decreases in the reverse case. Hence the determination of the market value of a commodity depends upon the

conditions of production under which the supply of the commodity is capable of being adjusted to the demand for it. If in general the value of a commodity produced under normal conditions of production is said to determine the market value of the same kind of commodity, this means that the supply at the margin of this kind of commodity is, in most cases if not always, drawn from an increase of its production under the normal conditions and seldom from an increase of production under particularly favourable or unfavourable conditions. (Uno[1980]p.83)

It is clear in this text that Uno considers the problem of the theory of market value lies in finding out how the centre of gravity of price is determined. The centre is reached by the function of money as the measure of values, but is not determined. Uno solved this question raised in the function of money by maintaining that it “depends upon the conditions of production under which the supply of the commodity is capable of being adjusted to the demand for it”. In other words, the determinant of the centre of gravity is the condition of production that can be adopted to expand production to meet the additional demand. Even if most part of the commodity is supplied under normal condition of production, the market value as the centre of gravity is determined by an inferior or superior condition when capitalists using normal condition fail to meet the increasing demand. Hence the market value cannot be fully grasped when considered only within the sphere of production. The determination of the market value must be related to “an equilibrium of demand and supply” on the basis of the function of money as measure of value within irregular price fluctuations ²⁾.

Uno’s solution to the problem of market value looks quite simple and elegant. It is also systematic in that it is grounded on the development on the function of money, which casts a light over the essential “irregularity” of market. However, if his understanding on the problem itself is not relevant, the simplicity and elegance is obstructive to the insightful discussion of Marx, if not meaningless. As we have studied in the previous section, finding the centre of gravity for price fluctuations is just one part of the problems in the theory of market value in *Capital*. Of course, this question is of greatest importance when we need to establish quantitative labour theory of value. We must reconcile single price for one kind of commodity with different labour time objectified, or individual value, under plural conditions of production. But what is really unique in this chapter is the premise of the concept of the market value itself, viz., the situation in which different conditions of production do coexist. Indeed, considerable amount of Marx’s text here is devoted to examining how capitalists compete with each other under such circumstances. Uno’s theory of market value subsumes this issue on competition, which seems to have troubled Marx, under the banal equilibrating process. While

Uno is unique in determining the centre of gravity for price, his market view is rather stale, almost indiscernible from classical market view. In other words, the “irregularity” depicted in how values are measured by money is now just “regulated” by the market value as the centre of price, not investigated further.

Uno’s emphasis on the theory of market value was driven by his reinterpretation of the functions of money, remaining the relation to the theory of price of production, which is discussed just before the market value, to be examined by his followers. In order to address this issue, they substitute the concept of “market prices of production” (Marx[1991]p.300) to that of market value. By the time we focus on the theory of market value, value has already been transformed into the price of production, which is based on competition among individual industrial capitalists. If this equilibrating process is also taken into consideration in the theory of market value, why don’t we take it as the applied theory of price of production? Consequently, the concept of market value lost its position even in the configuration of Uno’s style of discussion. This history of the Uno school teaches us that Uno’s theory of market value, which is firmly based on uncriticised classical market view, is not compatible with the fundamental idea latent in the concept of market value.

3 Dual Standards in Investment

Therefore, we must recognise that we cannot make full use of the concept of market value unless we criticise our common sense on market: classical market view. We must go into a deeper question: why did Marx bring up this concept of market value? This concept is based on the unusual premise, i.e. the coexistence of plural conditions of production. This is, indeed, not at all unusual in our real world, but unusual just in theory. We must penetrate into theoretical feature of Marxian political economy so as to understand how different conditions of production could coexist theoretically.

Admittedly, the theory of surplus value must be recalled together with the labour theory of value. In so far as every capitalist successfully produces surplus value from exploitation, all of them can earn profit regardless of their technical condition of production. Even the worst technical condition can produce surplus as long as it is employed under exploitative capitalist mode of production since the surplus comes from the difference between labour time and necessary labour time, not from the difference in technical efficiency. The less competitive conditions of production yield less profit, but they cannot be the direct cause of loss. Thus, capitalists with those unfavourable techniques do not retire immediately, consequently letting different conditions of production coexist in the same industry.

Nonetheless, less profit means losing competition in market. Though fixed

capital prevents quick change in employed technology, capitalist gradually renews their conditions of production into advantageous ones. Then we should assume the uniform condition of production in each industry in the long run. However, this assumption can be justified when the unfavourable techniques always lead to less profit. The surplus generated in the sphere of production must be realised in market. Without the realisation in market, the surplus cannot be turned into profit in cash. Even if one could have attained higher level of surplus than the other by employing the competitive condition of production, s/he could realise less profit than the other if s/he failed to sell her/his products successfully.

The realisation process has no regularity and is totally unpredictable. Capitalists with favourable conditions of production usually have money to spare for more circulation costs, but it does not necessarily mean that more spending leads to fast turnover of capital. This means capitalists with unfavourable conditions of production do not always lose competition in market. Those capitalists always produce less surplus, but they can enjoy more profit if they sell their products with fewer circulation costs. As a result, irregular capitalist market has room for inefficient technologies.

If we are to capture this irregularity in market, we need at least two kinds of standard to evaluate the valorisation of capital. One is for estimating the efficiency in production, and the other is for circulation. The latter is what we usually consider as the rate of profit. It has realised profit as a numerator and has invested capital as a denominator. We can break it down more as follows:

$$r = \frac{\text{gross profit} - \text{circulation cost}}{\text{production capital} + \text{circulation capital}}$$

If all products were sold at the price of production, the gross profit would be realised. But in order to get through the circulation process, capitalists must spend circulation cost. Some part of the products remain unsold and turn to be loss included also in circulation cost. The realised profit will be net profit, which is less than gross profit. Hence gross profit is a maximum amount of profit under the given condition of production. Besides, industrial capitalists invest circulation capital that consists of cash reserve and commodity stock to be ready for unexpected change in conditions of circulation process. They would be in no need if we would not have to worry about circulation process. If we abstract the factors in the circulation process, we can get the following fraction as an ideal rate of profit, as it were:

$$R = \frac{\text{gross profit}}{\text{production capital}}$$

This gross rate of profit, R , can be a measure of the efficiency in production, namely the productivity of conditions of production. The advantageous condition

of production gives larger R than the disadvantageous, which can be described as $R_A > R_B$. But it does not necessarily follow that the net rate of profit, r , is also larger. $r_A < r_B$ can follow if the capitalist with advantageous technology spends too many circulation costs and/or invests too much circulation capital³⁾.

This dual formulation of the rate of profit is useful to enhance our understanding on investment in production, or capital allocation to branches of industry. Following Ricardo, we have long assumed that capital is invested into the branch of industry where the product is sold at higher price, and is withdrawn from where the price of product is falling. The price fluctuations are reflected in r in the above formulation, not in R , since the cause of those fluctuations is the very “irregularity” in circulation sphere. It is true that a capitalist tries to raise the net rate of profit, r , as high as possible, but it is quite difficult to identify where the highest profit can be earned among various kinds of industries. Capitalists are suffered from the “irregularity” in market, confronted with considerable difficulty in investing their capital to response to the fluctuations of r . Meanwhile, the difference in the gross rate of profit, R , is relatively easier to observe. Because R is the indicator of the productivity in the conditions of production, we can forget about the unstable factors in circulation when estimating the value. When there are several conditions of production coexisting in the same branch of industry, capitalists are likely to find the difference in R , not in r . The advantageous R does not necessarily mean the larger net profit, but it certainly means the larger gross profit, which will be the resources for expending circulation costs to win the competition in market.

Here we have dual standards in investment of capital: the gross rate of profit and the net rate of profit. The gross rate of profit is a comparatively reliable index, but on the other hand, cannot directly measure the valorisation of capital. The net rate of profit has the opposite feature: it is what all capitalists intend to improve, but is subject to incessant “irregularity” in circulation process. Classical market view pays attention only to the ebb and flows in the latter. Meanwhile, Marx’s theory of market value is founded upon the theoretical situation where inferior conditions of production can survive due to the precarious market environment, which conceals the difference in the gross rate of profit underneath the difference in the net rate of profit. In this case, we observe capitalists who invest their capital to achieve higher R , if the fluctuations in r are too difficult to predict. These doubled investment goals characterise Marxian market view.

Everyone knows that market is incessantly unstable. Theoretical works must seek how to design the framework to describe this instability. When the equilibrating process of capital investment is taken, as is in classical market view, the market instability is considered as a symmetric and reciprocal movement. The centre of gravity for market prices cannot exist if the excess of investment, which is in itself estimated accordingly on the basis of the price movement, is not off-

set by the outflow of capital. This symmetry in the transference of capital is the foundation for the equilibrating market. On the other hand, if we think of the dual standards in investment, we must completely change the common sense on market. We have here two different approaches to achieve the valorisation of capital. Even if R goes higher, it will never be offset by the investment aiming at higher r , since these two standards are calculated differently. The two standards will never balance out at any centre of gravity. Without the equilibrating process, will the capitalist market collapse?

In order to answer this question, we need to discuss the relation between investment for R and that for r more in detail. When capitalists invest to achieve higher level of R , what they do in practice is to improve their technical condition of production. This improvement usually includes the introduction of the fixed equipment, if not the renewal. This fixed capital investment leads to the increase in demand in other branches of production, which will be followed by the increase in r in the demanded industry. When there is an industry with high R that attracts investments, there must be some other industries related to it where r is subsequently pushed up by increased demand. Though the rise in R does not accompany the downward pressure in itself, it brings the rise in r among other sectors, which disperses the investment socially. Fixed capital will be allocated in all industries through the combination of the two channels of investment.

Therefore, the dual standards in investment do not entail the disastrous dysfunction of market in itself, let alone collapse. Though the circulation process cannot avoid incessant instability, it is basically related only to the fluid and circulation capital. The movement of fixed capital abides by other principles, decisively affected by technological conditions. Here market is not equilibrating, but is stable with some irregular fluctuations.

In such market, the market value cannot be the centre of gravity of price fluctuations. It is supersensory but objective judgment on commodity prices in the market, the stability of which is maintained by the dual ways of investment. Within the stable market, we have a common six sense for the “phantom-like objectivity” (Marx[1990]p.128) regarding the reasonable level of price of every kind of commodity. It is rarely a unique dot, but is latitude of possible prices. Capitalist mode of production establishes this reasonable price for every commodity by regularly manufacturing it in a large volume. What the theory of market value elucidates is, in our view, the environment in which this stable market with reasonable pricing arises. Here classical market view with the equilibrating process is replaced with Marxian market view with the immaterial but objective theory of value ⁴⁾.

4 Requirement of Market Stability

Marxian market view, which is effectively distinguished from equilibrial classical market view, is important when we discuss the in/stability of market. In/stability cannot be unravelled as long as we dwell upon the equilibrium/disequilibrium dichotomy, because leaving from the equilibrium is not always being unstable. Disequilibrium usually goes to the equilibrium in theory. We must discern instability from mere disequilibrium, and the stable market described in Marxian market view would be useful to analyse the cause of the instability.

Classical market view tells us that there should be no obstacle to investment in any industry for market to reach the equilibrium. If there is, market will be distorted and there arises disequilibrium or instability. However, the requirement of the stable market is not only free competition among industries. In Marxian market view, one of the standards in investment is basically the same with classical market view, but the other is not. The productivity in conditions of production, shown in R , is also part of the incentives for investment. We have noted that this technological productivity is relatively easy to grasp compared with the net rate of profit, r , which is subject to all irregularity in circulation. While R is free from the ambiguity in circulation process, it has another problem: the technological difference must be translated into economic terms. Even if the material difference in conditions of production is obvious to everyone, the productivity in monetary term is not. In order to calculate R , capitalists need to evaluate all the components of production capital and gross profit in a monetary unit. And this must be done without using market prices, which constantly fluctuates in circulation process.

In this last section of this paper, we shall discuss how capitalists estimate the productivity of the technology by utilising a simplified example and consider whether or not we can assume all capitalists are always able to know which condition of production is the most productive in monetary term. If the answer is yes, Marxian market view might be nothing but a complicated version of classical market view, taking into consideration the technological aspect of the investment. If no, Marxian market view provides us with completely new perspective on market, with an original criterion for analysing market stability. This is a final and decisive watershed ⁵⁾.

We shall use the following two-sector model, known as a price equation to get price of production:

$$\begin{cases} (k_{11}p_1 + k_{12}p_2)(1 + R) = p_1 \\ (k_{21}p_1 + k_{22}p_2)(1 + R) = p_2 \end{cases} \quad (1)$$

The signs are defined as follows ($i = 1, 2; j = 1, 2$):

k_{ij} : the quantity of input of commodity j to produce one unit of commodity i

$$k_{ij} \geq 0 \ (i = j) \text{ and } k_{ij} > 0 \ (i \neq j)$$

p_i : the price of commodity i

In this equation, prices are determined only by technological conditions, so we can distinguish them from market prices. We should calculate the gross rate of profit, R , using such technically determined prices of production. Price of production is uniquely determined when there is one condition of production in each sector ⁶⁾. Since we have coexisting plural conditions of production in the same industry, we get several prices of production, which have different R respectively. It is known that the superior condition of production always remains advantageous even if there are two prices of production, when we have two different conditions of production in one sector ⁷⁾. However, we do not stop here: we need to assume that we have two conditions of production in both two sectors, which lead to four kinds of price of production ⁸⁾.

Let us suppose that the following two conditions of production coexist in sector 1. The left side of the arrow indicates input as negative, and the right side is the output as positive, both of which are shown in vectors: the first element is the quantity of commodity 1 and the second is that of commodity 2.

$$\begin{aligned} A_1(-10, -5) &\longrightarrow (20, 0) \\ B_1(-3, -11) &\longrightarrow (20, 0) \end{aligned}$$

We cannot know which of the two is more productive without price. Here if $(p_1, p_2) = (6, 7)$, the two conditions of production are equivalent in productivity: the both inputs are evaluated as -95 and the outputs are 120. We name this the equalising price vector, \mathbf{p}^* , the ratio of price that equalises the different conditions of production in the same sector.

We standardised the quantity of the output as 20 in sector 1. Let us take the quantity of the output in sector 2 also as 20. When $\mathbf{p}^* = (6, 7)$, 20 units of commodity 2 are evaluated as 140. If this equalising price vector were equal to the price of production, the two sectors would have to achieve the same level of $R = R^*$ in equation (1). Since $R^* = (120 - 95)/95 = 5/19$ according to sector 1, the input in sector 2 must be evaluated as $-665/6 (\approx -110.83)$. Consequently, we obtain the following domain where the input vector in sector 2 is placed when the equalising price vector for sector 1 corresponds to the price of production:

$$-665 = 36x + 42y \quad (x, y < 0) \tag{2}$$

It can be visualised as the thick line in figure 1. The abscissa represents the quantity of commodity 1 and the ordinate that of commodity 2. a is a constant

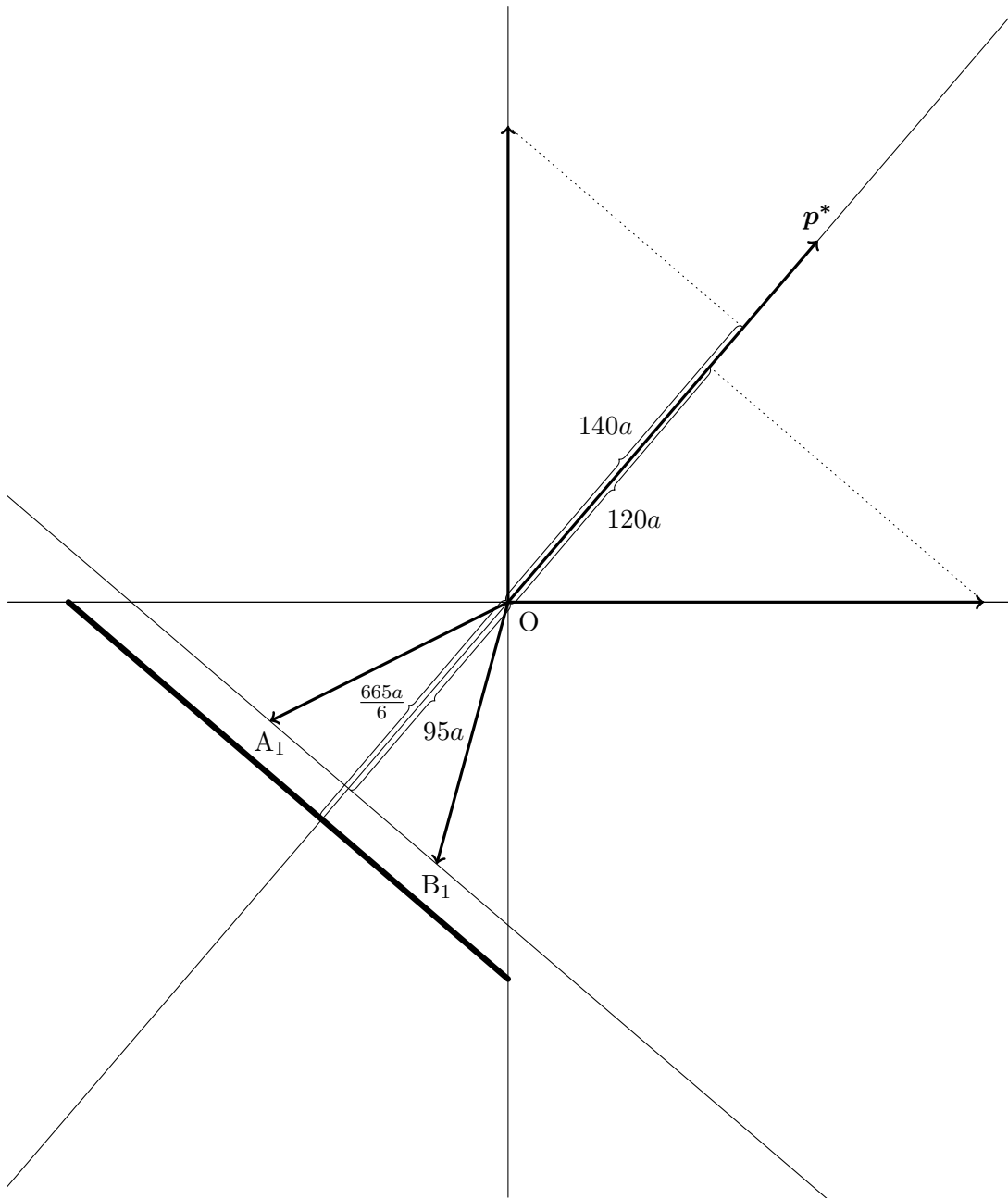


Figure 1: Domain in equation (2)

determined by the magnitude of the equalising price vector. This domain shown in equation (2) can be used to analyse how the estimated productivity in sector 1 is affected by sector 2. Consider sector 2 has the following condition of production:

$$A_2(-8, -7) \longrightarrow (20, 0)$$

If we evaluate A_2 by using \mathbf{p}^* , we get $(-8, -7)\mathbf{p}^* = (-8, -7)(6, 7) = -97 (> -665/6)$. This means that A_2 is too good to realise \mathbf{p}^* as the price of production, hence causing the difference in productivity between the two conditions of production in sector 1 shown as A_1 and B_1 . Since our equalising price is too advantageous for sector 2 with A_2 , the price of production will be more advantageous for sector 1. Indeed, when A_1 and A_2 determines the price of production, $R = 1/3$ and $\mathbf{p} = (1, 1)$. With this price as a measure, the productivity of the condition of production in B_1 can be calculated as $3/7$. Here, B_1 indicates superior technology to A_1 .

This analysis clearly poses another issue: what if there is another condition of production in sector 2, the input of which is evaluated as under $-665/6$ at our equalising price $(6, 7)$? Then the ranking of the productivity in sector 1 must be reversed, because the price of production must be calculated to the contrary. This second condition of production in sector 2 is subject to the reproduction requirement as well: sector 1 produces 40 units of commodity 1 in total, and A_1 , B_1 and A_2 consumes 21 units of commodity 1 in total, leaving 19 units. The same calculation holds for commodity 2: 15 units are left. Hence we can identify the domain in which the second conditions of production in sector 2 brings about the reversal in productivity as follows:

$$\begin{cases} -665 > 36x + 42y \\ -19 < x < 0 \\ -15 < y < 0 \end{cases} \quad (3)$$

The grey-coloured area in figure 2 shows the above domain (border lines are not included). Here is one example included in the domain:

$$B_2(-9, -11) \longrightarrow (20, 0)$$

A_1 and B_2 give $R \approx 0.16$ and $\mathbf{p} \approx (1, 1.46)$. This time, we approximately get 0.06 for the productivity of the condition of production in B_1 , which is lower than the approximate productivity for A_1 , 0.16. The productivity order is reversed, now B_1 refers to an inferior technology to A_1 ⁹⁾.

Such a domain does not exist all the time. Nevertheless, when it emerges, we cannot take it for granted that the monetary difference in productivity of the

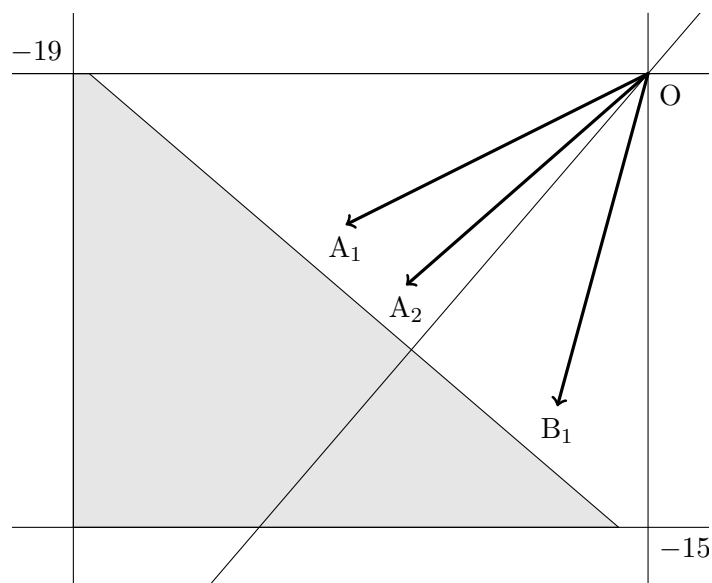


Figure 2: Domain in expression (3)

technical conditions is given. Unknown productivity is fatal to investment, particularly in Marxian market view. If capitalists take into consideration technological advantage as well as expected sound demand in investment, as we have discussed, productivity of conditions of production is so important in theory, not to mention in reality. Stable market is based not only on free competition, but also on the clear technological advantage in each industry. If one of these conditions is undermined, the instability in market could occur. Marxian market view provides us with a technological reference point for analysing the instability in market as such.

Notes

¹⁾Hilferding[1981] ascribes the necessity of money to “the anarchy of commodity producing society” (p.35).

²⁾Uno’s originality lies in mentioning the condition of production “capable of being adjusted to the demand”, not in introducing demand side to develop the theory of market value. The latter solution had already been suggested in Rozenberg[1961]. Rozenberg insisted that the productivity that determined the market value changed in accordance with the change in social demand. But it is not always the case that more commodities are supplied under inferior conditions of production when social demand increases. For further introduction on how Uno’s theory of market value was conspicuous among others,

see Itoh[1980]Ch.3.

³⁾The distinction between R and r is proposed in Obata[2009].

⁴⁾I owe the idea and expression on the objectivity of value here to Harvey[2010].

⁵⁾Marxians have long distinguished conditions of production by the labour time objectified to the product. Steedman[1977]pp.64,65 criticises this way of distinction based on the labour theory of value, pointing out the case in which the objectified labour time cannot be determined uniquely. Itoh[1980]p.178 refutes Steedman's argument on the basis of Uno's approach, but in my view, the labour-time distinction has another problem. Capitalists do not select conditions of production by the labour time objectified to their product. Therefore, we should not rely upon the labour theory of value when analysing the motion of capital under the plural conditions of production.

⁶⁾This proposition on price of production is well-known, proved by the use of the Frobenius theorem, but here I propose a simple proof of theorem 2, which is just enough in this paper.

Theorem 2. *Equation (1) uniquely determines $p_1/p_2 (> 0)$.*

Proof Equation (1) can be changed as follows, with $\frac{1}{1+R} = \lambda$.

$$\begin{cases} (k_{11} - \lambda)p_1 + k_{12}p_2 = 0 \\ k_{21}p_1 + (k_{22} - \lambda)p_2 = 0 \end{cases} \quad (4)$$

We can know from this equation that p_1/p_2 is positive when

$$k_{11} - \lambda < 0 \quad \text{and} \quad k_{22} - \lambda < 0. \quad (5)$$

If equation (1) have a solution that is not $p_1 = p_2 = 0$,

$$\begin{aligned} (k_{11} - \lambda) : k_{12} &= k_{21} : (k_{22} - \lambda) \\ \Leftrightarrow k_{12}k_{21} &= (k_{11} - \lambda)(k_{22} - \lambda). \end{aligned} \quad (6)$$

$f(x) = (k_{11} - x)(k_{22} - x)$ is illustrated as in figure 3 under the condition of $k_{11}, k_{22} \geq 0$.

Due to $k_{12}k_{21} > 0$, the line of $y = k_{12}k_{21}$ crosses the curve of $y = f(x)$ once and only once in the domain of $x > k_{11}$ and $x > k_{22}$ in figure 3. Hence equation (6) gives a unique solution that satisfies condition (5). □

Itoh[1981] provides us with the proof using the quadratic formula, but it is complicated because it deals with a three-sector model. Here is the proof in a two-sector model using the quadratic formula.

Proof If equation (4) have a solution that is not $p_1 = p_2 = 0$, then

$$(k_{11} - \lambda) : k_{12} = k_{21} : (k_{22} - \lambda)$$

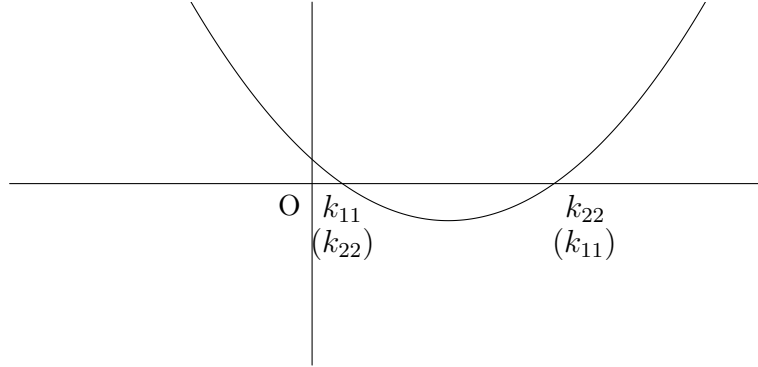


Figure 3: $f(x) = (k_{11} - x)(k_{22} - x)$

holds. It can be solved with the quadratic formula as follows:

$$\lambda = \frac{1}{2}(k_{11} + k_{22} \pm \sqrt{(k_{11} - k_{22})^2 + 4k_{12}k_{21}}). \quad (\text{No double root due to } k_{12}, k_{21} > 0)$$

Use this λ to change equation (4) as follows:

$$\begin{cases} \frac{1}{2}(k_{11} - k_{22} \mp \sqrt{(k_{11} - k_{22})^2 + 4k_{12}k_{21}})p_1 + k_{12}p_2 = 0 \\ k_{21}p_1 + \frac{1}{2}(k_{22} - k_{11} \mp \sqrt{(k_{11} - k_{22})^2 + 4k_{12}k_{21}})p_2 = 0 \end{cases}$$

We know from the above equation that p_1/p_2 is negative when $\lambda = \frac{1}{2}(k_{11} + k_{22} - \sqrt{(k_{11} - k_{22})^2 + 4k_{12}k_{21}})$.

Hence $p_1/p_2 > 0$ only when $\lambda = \frac{1}{2}(k_{11} + k_{22} + \sqrt{(k_{11} - k_{22})^2 + 4k_{12}k_{21}})(> 0)$. \square

⁷⁾ Okishio[1978].

⁸⁾ Piero Sraffa and his followers once studied the choice of technique intensively. See Sraffa [1960]Part 3, Passinetti[1977]Ch.6 and Mainwaring[1984]Ch.8. It was called a “switching” problem, because the superior technique “switches” as the rate of profit rises inversely with the decrease in wage. Since it was discussed as one of the problems regarding the change in the rate of wage, Marxians seems to have failed to appreciate the significance of the issue. For example, Dobb[1970]p.350 regarded it as the change in the ratio of surplus value and the transformation of value into the price of production. The “switching” problem, however, cannot be reduced to the traditional Marxian argument as Dobb suggested. It happens under the situation where the productivity in one sector is affected by that in other sectors, but this interrelation among various sectors was totally ignored by most Marxian discussions on technology. On the other hand, Sraffians did discuss the choice of technique, but did not consider the coexistence of plural conditions

of production, as the word “switching” suggests. This presumption of coexistence is quite Marxian, but has not been examined by Marxians.

⁹⁾I studied this possibility of the reversal in productivity once in my dissertation (Ehara[2015]). Here the reproduction requirement is added so that we can discuss the domain of the second condition of production in sector 2 more in detail.

References

(Titles in brackets are translated from Japanese.)

- Dobb, Maurice [1970] ‘The Sraffa System and Critique of the Neo-Classical Theory of Distribution’, *De Economist*, Vol.118, No.4.
- Ehara, Kei [2015] ‘(Capitalist Market and Crisis)’, Ph.D thesis in the University of Tokyo.
- Harvey, David [2010] *A Companion to Marx’s Capital*, Verso.
- Hilferding, Rudolf [1981] *Finance Capital*, Routledge.
- Itoh, Makoto [1980] *Value and Crisis*, Monthly Review Press.
- Itoh, Makoto [1981] (*Theory of Value and Capital*), Iwanami-Shoten.
- Mainwaring, Lynn [1984] *Value and Distribution in Capitalist Economies*, Cambridge University Press.
- Marx, Karl [1990] *Capital*, Vol.I, Penguin Classics.
- Marx, Karl [1991] *Capital*, Vol.III, Penguin Classics.
- Obata, Michiaki [2009] (*The Principles of Political Economy*), the University of Tokyo Press.
- Okishio, Nobuo [1978] (*Basic Theory of Capitalist Economy*), Sobun-sha.
- Pasinetti, Luigi L. [1977] *Lectures on the Theory of Production*, Columbia University Press.
- Ricardo, David [1951] *On the Principles of Political Economy and Taxation*, in *The Works and Correspondence of David Ricardo*, Vol.I, Cambridge at the University Press.
- Rozenberg, David I. [1931] *Comments on Karl Marx’s Capital*.
- Samuelson, Paul A. [1951] ‘Abstract of a Theorem Concerning Substitutability in Open Leontief Models’, in T. C. Koopmans ed., *Activity Analysis of Production and Allocation*, John Wiley and Sons.

Sraffa, Piero [1960] *Production of Commodities by Means of Commodities*, Cambridge at the University Press.

Steedman, Ian [1977] *Marx after Sraffa*, New Left Books.

Uno, Kozo [1980] *Principles of Political Economy*, Harvester.