Dynamic Comparative Advantage and a New Flying Geese Theory

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This paper proposes a new framework for historical and theoretical political economy, an institutional Marxian political economy which consists of a basic theory of capitalism, an intermediate theory of specific types of capitalist world systems, and an empirical analysis. In this paper, I concentrate in an intermediate theory. I introduce the concept of dynamic comparative advantage into institutional Marxian political economy and build a new flying geese theory. Then I investigate evolution of capitalist world system after World War II paying special attention to industrialization of East Asia.

1. Dynamic Comparative Advantage
   (1) Dynamic industries and dynamic comparative advantage

A dynamic industry is an industry in which productivity growth is faster than the average. It is also a leading industry and engine of economic growth. The nature of dynamic industries has changed historically: agriculture and wool were the most dynamic industries in the 17th century; the cotton industry between the mid-18th and mid-19th centuries, the heavy and chemical industry from the late-19th to the early 20th century; the machinery and electronics industries from the 1920s to the 1970s; and GVC with IT and knowledge intensive industries since the 1980s (Figure 1).

VAL is amount of value-added which is produced by one hour’s labour. It is decomposed to the number or volume of commodities produced by one hour’s labour and value-added per unit of product. The value-added per unit of product is large when a new product is exclusively supplied by a limited number of firms. This is referred to in different ways, such as extra profits, super profits, monopoly rents and technological rents. In dynamic industries VAL increases with the increase in productivity, and eventually decreases, since the volume of product increases with productivity growth, but value-added per product will eventually decrease with diffusion of technology.

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1 When the technology is fully diffused, one hour of labour produces one unit of value. The labour theory of value thus comes into effect in a state of equilibrium without productivity growth.
Dynamic comparative advantage depends on the difference between VAL and wages. In the early phase of a new industry wages may be higher than VAL. In such a case capital cannot obtain profit. It requires promotion of infant industry protection for capital to invest in this dynamic industry. When a dynamic industry takes off, its VAL becomes higher than wages, and the faster growth of VAL than wages increases profits, and then the dynamic industry successfully becomes a leading industry in a country. With the spread of production, domestic and international competitions reduce the price of the product, and eventually reduce VAL, while wages continue to rise. When wages become higher than the VAL, capital cannot obtain profit and production in this industry decreases.

At any time old, current and new dynamic industries coexist. It is most profitable for advanced countries to specialise in current dynamic industries and obtain extra profits, prolong the process by kicking away the ladder of industrial, technical and trade policies (hereafter ITT policies), and import cheap products of older dynamic industries from less developed countries. The catching-up countries require low wages and ITT policies and purpose-built institutions to cover the difference in productivity. In catching-up countries, infant industry protection ensures competitiveness. Developing countries specialise in old
dynamic industries where VAL reaches its lowest point, and to supply cheap products to advanced and catching-up countries to increase their production of relative surplus value.

(2) Cyclical crises and structural crises

Historically, real wages increased in proportion to average productivity growth. Crises are the mechanism by which real wages increase in proportion to average productivity growth.

Capital accumulation in mid-19th century England was dominated by the current dynamic industry, the cotton industry. When capital accumulation increased in the cotton industry, capital accumulation in other sectors also increased. With the progress of prosperity, employment increased, and some types of labour in the dynamic industries became scarce, and so wages rose more than productivity growth, which reduced the rate of profits and eventually caused a crisis. In dynamic industries, productivity continuously increased by means of new method of production, which was introduced by replacing old fixed capital by new and more productive fixed capital in a depression. The new and more productive machinery created relative surplus population and reduced wages less than productivity growth. It increased VAL and the dynamic comparative advantage. Then the accumulation of capital recommenced under sound conditions of exploitation and abundant surplus population. Thus the conflict between capital and labour over the distribution of income was solved automatically through cyclical crises, and wages were kept within productivity growth. I call this a cyclical crisis, which reinforces the self-regulating character of the capitalist economy.

With the progress of capital accumulation through business cycles, the available labour of the industrial reserve army was eventually absorbed. The creation of relative surplus population by the introduction of new and more productive machinery reduced the speed at which the industrial reserve army was absorbed, but it did not reverse this tendency. In order to secure workers, wages in lagging sectors had to be increased even though these sectors failed to match the fast productivity growth observed in dynamic sectors. 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 (Rowthorn, 2012). This is Baumol’s cost disease (Baumol, 1967). Once Baumol’s cost disease starts, the ratchet effect of wage rises occurs. Rising wages in times of prosperity do not decrease in periods of depression. Unlike wage rises in dynamic sectors, they are not compensated by productivity growth.

Through the repetition of business cycles, dynamic comparative advantage eventually decreases. On the one hand VAL decreases. First, productivity growth eventually peaks and then is reduced. Second, diffusion of technology both domestically and internationally
reduces the price of the product and value-added. On the other hand, wages increase. This is initially compensated for by productivity growth, and then wages grow faster than productivity growth due to Baumol's cost disease. With decreasing VAL and rising wages dynamic comparative advantage starts to decline. This causes serious structural crises, like those in the end of the 19th century and in the 1970s, which destroyed existing capital accumulation regimes, and depressed wages.

To explain dynamic comparative advantage further I have added appendix building a simple model and a simple numerical example.

(3) Structural crisis and liner and non-liner development

There are two strategies to escape from the reduction of dynamic comparative advantage. The first strategy is increasing sophistication of industrial structure, shifting leading industries to new dynamic industries. The second strategy is to fix the comparative advantage by specializing in the industry where it has a current comparative advantage, and then kicking away the ladder of ITT policies so that other countries cannot catch up.

It is relatively easy for catching-up countries to adopt the first strategy, if new dynamic industries have already been well developed by advanced countries and are readily available. When catching-up countries adopt this strategy, they follow a linear development path. For example, the East Asian countries did so after World War II forming a flying geese pattern of industrialization.

It is more difficult for the most advanced country to adopt the first strategy because of the high risk and cost involved in developing a new dynamic industry. As can be seen from Figure 1, there is the possibility that the VAL of a new dynamic industry is lower than that of the current dynamic industry until the new dynamic industry takes off. Generally speaking, if the VAL of a new dynamic industry is lower than that of the current dynamic industry, its rate of profit will be lower than that of the current dynamic industry. Furthermore there is a possibility that the VAL of the new industry is lower than wages in the beginning. There is a conflict between social benefit and private benefit. If the choice is left to the market, less capital is invested in the new dynamic industry than would be socially preferable. It is therefore necessary to socialise risk and cost to develop new dynamic industries.

It may be easier for ambitious catching-up countries to develop a new dynamic industry. First, the difference between the VAL of the current and new dynamic industries is less than that of the most advanced countries. Second, their wages are lower than that of the most advanced country. Third, they usually favour interventionist ITT policies to catch up with and to challenge the top countries. When catching-up countries take this strategy, they embark on a new development path.
2. The Flying Geese Theory

(1) Akamatsu’s Flying Geese Theory

Industrialization in East Asia has been studied in the framework of Akamatsu’s flying geese theory, which is a proto-dynamic comparative advantage theory and the most original framework for the analysis of East Asian industrialization.

(1) The first thesis of Akamatsu’s flying geese theory is Vernon’s product cycle theory from the point of view of catching-up countries. According to Vernon (1966), (1) a new product is first produced and demand develops for it in advanced countries; (2) as the product spreads through advanced countries, production expands to achieve economies of scale, and exports begin; (3) with the further spread of production the price falls, decreasing dynamic comparative advantage forces reductions in domestic production, and production moves to less-developed countries with lower wages; and (4) finally, the foreign-produced commodity is imported at much lower prices than it is possible to charge for domestically-produced items.

According to Akamatsu (1962), catching-up countries start from the second of the above stages. (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 economy is reduced, and production declines. Thus 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. In the original theory, the flying geese theory is an import substitution theory.

(2) 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 comparative advantage changed 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.

(2) A new flying geese theory

There are two criticisms of Akamatsu’s linear development theory. First, Gerschenkron’s notion of the benefits of backwardness argues the possibility of non-linear development (leapfrogging). He emphasises that developing countries can introduce the most advanced technology available in their industrialization (Gerschenkron, 1962, p. 9 and 26). He also emphasizes the importance of an infant industry protection policy and other interventionist ITT policies and complementary social institutions such as financial systems and the state, in order for the benefits of backwardness (leapfrogging) to be materialised.

Second, the compressed development literature (Whittaker et al. 2010) argues that for countries like China and India which are industrializing today, most advanced technologies are available for all mature industries, and they can have the same dynamic comparative advantage in all industries. They may be able to start industrialization in all industries at once with the help of foreign direct investment (hereafter FDI) and global value chains (hereafter GVC), as was done by China, or they may be able to choose the most suitable industries, such as IT, and leapfrog some industries, as India has done.

The theory of dynamic comparative advantage is complementary with the flying geese theory. It answers to these criticisms, and complements Akamatsu’s original theory in the following three respects.

(1) According to Akamatsu, the flying geese pattern of development is on the one hand a catching-up process, where differences in productivity are reduced by conversion, and on the other hand a diversion process, where advanced countries try to improve productivity further by upgrading their industries and introducing new production methods. In its original form, the flying geese theory does not cover non-linear development. In our theory, we emphasize path dependency and numerous varieties of capitalism, and consequent non-linear development of technology such as the flexible production system in Japan. Changes in the hegemon of the capitalist world system, such as from Britain to the USA, are explained by the strategies adopted by the countries when they face structural crises in a capital accumulation regime.

(2) In its original form, the flying geese theory is applied to industrialization in East Asia in the post war period. Our theory is applicable to both linear and non-linear industrialization in any countries including advanced, catching-up and developing countries and in any capitalist world system.
(3) Our theory emphasises the importance of ITT policies and complementary institutions more systematically.

3. The New Flying Geese Theory and the Capitalist World System

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 (Table 1).

Table 1. Periodization of capitalist world systems

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<td>Mercantilism (1750s-1810s)</td>
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The capitalist world system was first established when the British variety of capitalism created complementary institutions with cotton and railway industries as the dynamic industries. I call this “market capitalism” because it was characterized by the coordination of the economy by the market, with free trade and the gold standard. Britain was the top country followed by catching up countries such as the USA and Germany, and then by other less developed countries. Dynamic comparative advantages of cotton and railway industries were fully developed in this capital accumulation regime with foreign demand as the engine of demand growth. This created the first golden age of capitalism, when cyclical crises reinforced the self-regulating character of the capitalist economy by solving the conflict between workers and capital over income distribution.

After the structural crisis of the capital accumulation regime of liberalism in the late 19th century, dynamic industries shifted to heavy and chemical industries and the centres of economic growth shifted from the UK to the USA and Germany. A new capital accumulation regime, imperialism, was created with two challengers and one old hegemon. The dynamic advantage of heavy and chemical industries and the machinery industry were not fully developed in the period of imperialism and the interregnum due to the slow growth of
effective demand, and the self-regulating character of the capitalist economy was lost. Market capitalism finally collapsed through the systemic of “the Great Depression” in the 1930s and replaced by bureaucratic capitalism after World War II.

The second capitalist world system was established when the USA created complementary institutions (such as the mass production and mass consumption systems) with the machinery industry as the dynamic industry. The USA was the top countries followed by catching up countries such as Japan, Germany, and then by less developed countries. The dynamic comparative advantage of machinery industries was fully developed in this capital accumulation regime with wages as the engine of demand growth. This created the second golden age of capitalism when mild business cycles reinforced the self-regulating character of capitalist economy by solving conflicts between workers and capital over income distribution. I call this “bureaucratic capitalism” because it was characterized by the coordination of economies by well-structured bureaucratic systems of oligopolistic corporations and big governments and Bretton Woods international institutions.

After the structural crisis of the capital accumulation regime in the 1970s, a new capital accumulation regime, neo-liberalism, was created which destroyed the link between wages and productivity growth. The dynamic advantage of GVC with IT has not fully developed in the neo-liberalism accumulation regime due to the slow growth of effective demand, and the self-regulating character of the capitalist economy was lost. The restoration of the link between wages and productivity growth is needed to solve the problem.

I shall now investigate, using a reconstructed flying geese theory, Europe’s and Japan’s catching-up in the golden age, the flying geese pattern of industrialization in East Asia from the mid 1970s and mid 1980s, the industrialization of China in a neo-liberal regime, and finally, the possibility of a global flying geese pattern of industrialization, with China as the engine of growth.

4. The rise and fall of the golden age and Catching-up industrialization

(1) Capital accumulation regime in the golden age

After World War II, competition between capitalism and socialism became systemic, and sought superiority in both economic and military power. The now-developed countries (hereafter NDCs) reindustrialized with the strong support of the USA and with well-designed international and domestic institutions.

The dynamic industries shifted from heavy and chemical industries to machine and electrical industries in the 1920s and 1930s in the USA. The US mass production system in
machine and electrical industries known as ‘Fordism’ was established in the early 1950s and introduced into Europe in the 1950s and 1960s. In Japan, the leading industries shifted from light industries to heavy and chemical ones in the 1950s and 1960s, and then to machine and electronics industries in the 1970s (Figure 4). In the golden age, all countries especially catching-up countries benefited from rapidly increasing VAL.

Post-war governments had powerful institutions with which to maximise economic performances, such as fiscal and monetary policies, ITT policies; and the sheer size of government stabilized economic fluctuations. In the new managed currency system, the central banks could create currency to meet the liquidity needs of the expanding domestic economy. Some countries, such as Japan and Germany, favoured direct government intervention and developed their ITT policies and supporting institutions in order to catch up with the USA.

The welfare state policy was the result of the requirements of bureaucratic (or oligopolistic) firms and states. First, bureaucratic 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 economies. Bureaucratic government had to achieve full employment and higher living standards. For these reasons, although there were huge surplus populations in many developed countries in the 1950s and early 1960s, wage rates increased in proportion to average productivity.

The Bretton Woods system was designed to reduce the external constraint imposed on national economies by the gold exchange standard. In order to accelerate the reindustrialization of the capitalist economies, the USA changed its trade policy from protectionism to liberalism. This US policy change to liberalism helped the reindustrialization of NDCs rather than kicking away the ladder, since it opened its market to capitalist countries, and enhanced technological transfer, while tolerating catching-up countries’ protectionist ITT policies. The USA also controlled supplies and prices of raw materials and fuel so that capitalist economies would not suffer from supply constraints. The smooth expansion of international trade under the multilateral trade regime (GATT), and the abundant availability of the international currency, accelerated the growth of international trade, which in turn accelerated the catching-up and GDP growth of NDCs.

(2) Cyclical Crises and the self-regulating character of capitalism

With strong support from the state and international institutions which solved both supply and demand side constraints, NDCs successfully reversed the pattern of capital accumulation from dependence on foreign demand to dependence on domestic demand
with wages as the engine of demand growth, and they established the mutually reinforcing mechanism between productivity growth and domestic economic growth, resulting in the long-lasting prosperity of the 1950s-1960s with occasional recessions. There were six business cycles with mild recessions in the USA (recessions in 1949, 1954, 1958, 1961, 1970, and 1973), and among catching-up countries (for example, in Japan), there were seven business cycles (recessions in 1949, 1954, 1958, 1962, 1965, 1971, and 1973). The law of value (or the self-regulating character of capitalist economy) in bureaucratic capitalism may be summarised as follows.

1) Prosperity

Prosperity started mainly with the increase of investment and consumption, raising both employment and the rate of profit. Accumulation of capital increased both wages and profit, and thus consumption demand and investment demand. With the progress of prosperity, firms maximized investment, utilizing credit in order to take advantage of economies of scale and the dynamic economies of scale, which further increased profits and investment demand. At full capacity utilization, a Kaldorian profit-led accumulation mechanism worked. The increase of investment raised the price level, which increased profits with sticky money wages. Labour unions tolerated higher prices because the increase in investment increased demand for labour and productivity growth, which eventually increased real wages.

2) Boom

Acceleration in the accumulation of capital by credit expansion and the collapse of the boom by tightening credit took different forms according to the levels of savings. Minsky’s financial instability hypothesis (Minsky 1982) explains boom and bust cycles in current account surplus countries in terms of financial market processes. With inflation and increased profit flows, both borrowers’ and lenders’ expectation become progressively more optimistic, and investment overshoots. When the monetary authority tightens credit due to inflation, the boom collapses.

In current account deficit countries, the accumulation of capital was restricted by the balance of payments. Full employment was reached by expansionary monetary policy and capital inflow, which tended to increase inflation. As long as the rate of inflation was kept equal to or less than the US rate of inflation, the balance of payment did not deteriorate. But once the financial system accelerated inflation beyond that level, the balance of payment deteriorated and the exchange rate was strained. When the exchange rate dropped below the predetermined rate, the IMF fixed-rate system forced the monetary authority to tighten credit.
3) Recession

In all advanced countries, monetary authority tightened credit before the crisis actually erupted. It reduced investment, and recession started. However, recession was a temporary problem, since economies had been cooled down before crisis actually started. Once inflation was reduced, credit was loosened again.

4) Depression

In depression period a Kaleckian wage-led accumulation mechanism was at work. Sticky money wages and a lower price-level increased real wages. Increases in real wages together with automatic stabilisers increased aggregate demand. Oligopolistic firms responded to the increased demand by increasing output. In an oligopolistic market, investment increased with higher utilization rates (i.e. the acceleration principle). As the result of the acceleration principle, the increase of production more than compensated for the increase in wages, and increased both profits and the rate of utilization. Then that prosperity began again.

Thus the modest cyclical crisis automatically solved the conflicts between workers and capital over income distribution, and reinforced the self-regulating character of capitalist economy in NDCs, with the help of complementary international and domestic institutions.

(3) The Structural Crisis of Bureaucratic Capitalism

The long-lasting high rate of capital accumulation itself made further accumulation difficult in NDCs in the 1970s. The social institutions that supported the self-regulating character of the capitalist economy in bureaucratic capitalism declined. With the destruction of these supporting social institutions, the conflict between workers and capital over income distribution became more severe.

(1) Uneven development and disorganizing influence on the international relations

The long boom of the 1950s and 60s was much stronger in Japan and Europe than in the USA. The rapid growth of the capital stock, encouraged by plentiful supplies of relatively cheap labour and by new technologies and management practices developed in the USA, eroded the productivity gap of European and Japanese manufacturing with the USA.

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2 Kalecki (1954, 1971), and Rowthorn (1982).
A first disorganizing influence of the uneven development on international economic relations arise because of changes in international competitiveness. Higher productivity growth and lower wage levels kept European and Japanese manufacturing goods highly competitive. This increased competition in international trade, and decreased the relative strength of US trade, putting strong stress on the free trade regime under the GATT.

A second disorganizing influence was the loss of confidence in the US dollar. In spite of the decline in its current account surplus, the USA could not decrease both its capital exports and its government deficit so as to keep its dominant status in the world economy and stabilise its domestic economy. The result was an increased US deficit and an increased supply of US dollars abroad, undermining confidence in the US dollar, and heightening concern about the US gold reserve. As the result, the USA had to stop conversion in 1971.

A third disorganizing influence was the divergence within the fixed exchange-rate system. The combination of diverging productivity growth and inflation rates generated persistent payments imbalances which undermined the fixed exchange rate system. As the result of the second and third disorganising influences, the Bretton Woods system was abandoned.

A fourth disorganizing influence was US inability to control supplies and prices of raw materials and fuel. High demand for energy and other materials and which were topped up by speculation raised their terms of trade, and increased supply constraints.

(2) Decelerating productivity growth and disorganizing influence on the domestic economic relations

The long-lasting high rate of capital accumulation eventually reduced productivity growth. First, ‘Fordism’ reached the saturation stage in many advanced countries by the early 1970s. Second, part of the productivity slowdown stemmed from slower output growth in industries characterised by economies of scale. Third, in Europe the scope for catching-up with US productivity levels had declined. Fourth, the relative backwardness of productivity growth in the service sector forced de-industrialisation (Rowthorn and Wells, 1987). Productivity growth in the service sector was difficult with available technology.

A first disorganizing influence of the decelerating productivity growth on the domestic economic relations was a reduction in VAL. Diffusion of technology increased competition both domestically and internationally, and reduced the price of products and value-added. The decrease in value-added per product was not compensated for by an increase in the number or volume of commodities produced by one hour’s labour, because of reduced productivity growth. As the result VAL was reduced.

3 The massive increase in global supply of dollars came from war spending in Vietnam.
A second disorganizing influence was Baumol’s disease. Long-lasting capital accumulation eventually exhausted the available industrial reserve army. 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. Increases in wages under a declining VAL reduced the dynamic comparative advantage.

A third disorganizing influence was conflictual industrial relations in NDCs. 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 (Epstein and Schor, 1990, p.130). When demand for higher real wages surpassed staggering productivity growth, wage pressure contributed to a squeeze on profitability. Thus, conflict over income distribution changed co-ordinated capital/labour relations into conflictual capital/labour relations.

A fourth disorganizing influence was the paralysis of Keynesian policy. Keynesian policy depended on sticky money wages. Keynes envisaged that the boost in government spending would increase demand and price levels, and prime the pump of private investment by increasing profits. Under supply constraints, government spending increased money wages and exacerbated inflation without increasing profits and investment.

(3) Structural Crisis

The 1970s started with stagflation in advanced countries. Keynesian effective demand policies were ineffective for supply side constraints and merely worsened inflation without decreasing unemployment. The new floating exchange regime increased the uncertainty of the world economy, while on the other hand it removed balance of payment fetters, and enabled aggressive monetary and fiscal policies. When the economies had recovered, the first oil shock attacked, which accelerated inflation. Governments tightened both monetary and fiscal policies, and the structural crisis started in NDCs.

In this environment both the wage-led and the profit-led accumulation mechanisms of the golden age did not work. The wage-led accumulation mechanism did not work. First, slower productivity growth in wage goods industries, the high cost of raw materials and fuels, and Baumol’s cost disease did not allow a reduction in the prices of wage goods in depression as much as before. Second, increased competition between capitals under staggering demand growth kept idle fixed capital to a minimum. Thus the acceleration principle stopped working. Neither did a Kaldorian profit-led accumulation mechanism work. When firms increased investment and product prices rose, the sticky real wages soon squeezed profits, and firms lost any incentive to invest more.
With aggressive monetary and fiscal policies the US and Japanese economies bottomed out in 1975, while those in Europe finally bottomed out in 1977. Then the second oil shock attacked OECD countries, and caused structural crisis in NDCs.

5. The neo-liberal accumulation regime

Without a complementary combination of industrial relations and production methods, the accumulation of capital cannot start again. There were three successful attempts to re-establish labour discipline and to recreate capital accumulation regimes in NDCs in 1980s. Centralised bargaining in corporatist nations rehabilitated co-operative relations, and workers agreed to reduce wages in order to increase employment. Japanese mini-corporatism combined labour loyalty and the flexible production system. Anglo-American neo-liberal economies destroyed labour union power. In these countries, the conflict between workers and capital over income distribution was thus solved.

(1) The neo-liberal accumulation regime

It was the Anglo-American neo-liberal accumulation regime that reshaped the capitalist world system after the structural crisis. The decisive policy shift from welfare state to neo-liberalism came in 1979. The UK government and the US Federal Reserve pushed up interest rates to unprecedented heights to cut inflation, which increased unemployment. At the same time they demolished labour union power. This re-established a sound exploitation condition by reducing wages and creating a relative surplus population of the industrial reserve army in the USA and Britain.

Long depression and the neo-liberal policy solved supply side constraints. However, the neo-liberal accumulation regime faced demand side constraints, since it had destroyed the link between wages and productivity growth. Wages are both cost of production and a source of demand. If wages do not increase in proportion to average productivity, a new source of effective demand is required. Neo-liberal financial relaxation solved demand constraints. 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 financial innovation. Neo-liberal financial relaxation increased asset prices and reduced the rate of interest, which worked both on

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4 Financial innovation includes the shadow banking system, derivatives, options, home equity loans, and securitization and trancheing of securities (Palley 2010).
consumption demand and on investment demand. It increased consumption demand by increasing income from capital gains and the availability of many kinds of loans. At the same time, it decreased interest rates and increased investment demand.

(2) Globalization

Facing the structural crisis the USA (after the 1980s) took the second strategy to avoid the loss of dynamic comparative advantage as Britain did in the late 19th century, and changed its international policy to neo-liberalism and forced catching-up countries to adopt this policy. The USA also promoted the second phase of globalization by increasing Foreign Direct Investment. US companies transferred industries which had lost their dynamic comparative advantage to countries with low wages. The US globalization model also encouraged investment and the transfer of manufacturing know-how to developing countries through global value chains (GVC). The US monetary authority kept a strong dollar policy to encourage capital inflow as Britain did in the 1920s. Developing countries happily accepted the US model of globalization with strong dollar policy, since it allowed them to pursue export-led industrialization policies (Palley, 2010). However, the US strategy was different from the British strategy in an important respect. The USA protected and promoted IT and knowledge intensive industries through massive military spending; these became the next dynamic industries in the 1990s.

The Bretton Woods System was effectively replaced by a market-led international financial system. This 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.

(3) Boom and bust cycles in neoliberal accumulation regime

In the neo-liberal accumulation regime, borrowing and asset price inflation became the engines of aggregate demand growth in place of wage growth in the golden age. In prosperity, a profit-led accumulation mechanism worked. Increases in investment raised the price levels, which increased profits with constant money wages. With increasing of profit flows, both borrowers’ and lenders’ expectations became progressively more optimistic. Financial arrangements changed from hedge finance to speculative then to Ponzi finance (Minsky 1982). When the monetary authority tightened credit due to inflation (or due to asset price bubble), the boom collapsed.
Tight monetary policy stopped investment and the crisis began. Both investment and consumption had been heavily dependent on credit; so tight monetary policy made many borrowers bankrupt. In this process, banking crises often started and developed into industrial crises. Once a depression started, it did not recover automatically, since a wage-led accumulation mechanism did not work. It required further neo-liberal financial relaxation to start prosperity again. Thus policy-led boom and bust cycles replaced the self-regulating character of the capitalist economy.

6. Industrialization of East Asia
(1) Flying geese pattern of development in East Asia

Japan was among the countries that most rapidly bottomed out from the serious structural crisis in the 1970s. As discussed, there are two strategies for avoiding a loss of dynamic comparative advantage. Japan adopted the first strategy to shift leading industries to new dynamic industries and followed linear development path. Japan had been the most backward country among the NDCs in the golden age. When it lost dynamic comparative advantage in the heavy and chemical industries, it was able to shift towards the more sophisticated machinery industries, such as automobiles and electrical machinery, from the mid-1970s onwards (Figure 4). Japan was able to recover dynamic comparative advantage, since Japanese productivity in manufacturing was about 70% of the US level, while its wages were about 50% of the US level in the 1970s (Glyn 2006). Once the link between productivity growth and wages was destroyed, a new source of effective demand had to be found. Japan adopted an export-led growth strategy, increasing its trade dependency from 10 per cent of GDP in the golden age to 15 per cent from the mid-1970s to mid-1985.

The upgrading of Japanese industries left room for less-developed East Asian countries to industrialize in the flying geese pattern. This is reflected in the East Asian export-led flying geese industrialization pattern as follows. Industrialization in labour-intensive sectors started in NIEs in the 1960s. The US companies started to shift labour-intensive processes such as assembly lines for electrical equipment to NIEs. This was followed by Japanese FDI. The main exports from NIEs were labour-intensive products, such as clothing, textiles, groceries, and electrical and electronic equipment. Most of them were produced by subsidiaries of companies from advanced countries. National strategies in NIEs promoted industrialization in heavy and chemical industries from the mid-1970s onwards. In the 1970s, Japan started to export replica factories, including know-how and skills, to East Asian countries, a process
which made the introduction of heavy industries much easier and significantly increased productivity in NIEs\(^5\). These developments formed a well-developed flying geese pattern.

![Figure 4. Export competitiveness of Japanese industries (1965-1998)](image)

Export Competitiveness = \((\text{Production/Domestic Demand}) - 1\)

Source: MITI (2000)

(2) Current account surplus reversal in Japan, Korea and Taiwan, and GVC-led industrialization in ASEAN and China

In the first half of the 1980s, the US dollar was hugely overvalued. The IMF calculated that the Japanese, Korean and Taiwanese currencies were undervalued by 40 per cent, 35 per cent and 25 per cent respectively against the US dollar in the mid-1980s (IMF, 2010). Their current account surplus shares of the world’s combined surplus in peak years were 42 per cent, 6 per cent and 8 per cent respectively. After the Plaza accord of 1985, these currencies appreciated rapidly. The Japanese yen had appreciated by 46 per cent against the dollar by the end of 1986, and the Taiwanese dollar appreciated by 57 per cent against the US dollar in four years (ibid.).

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\(^5\) Posco (Pohang Iron and Steel Company) in Korea is a very significant example. It is now the world's third-largest, and Asia's most profitable steelmaker.
The current account surplus reversal triggered structural changes of accumulation regimes in these economies. They were more successful in Taiwan and Korea than in Japan. First, they increased foreign direct investment initially to ASEAN and then to China to reallocate lower value-added sections of the value chain. They reallocated domestic production towards higher value-added sections where they still had a dynamic comparative advantage. Second, they covered the reduction of domestic production of tradables by increasing domestic production of non-tradables, such as services and construction. Third, after the current account surplus reversal, their trade dependence reduced, for example in Japan from 15 to 10 per cent between 1985 and 2003. These economies had to replace foreign demand with domestic demand. Japan did not restore the link between wages and productivity growth, instead adopted neo-liberal financial relaxation to increase investment demand and consumption demand. The Japanese bubble in the late 1980s and bust in the early 1990s was a typical and most serious bubble and bust in the neo-liberal accumulation regime. In contrast political liberalisation in Korea and Taiwan established the link between wages and productivity growth after 1987. They enjoyed a decade of golden age with wages as the engine of demand growth from 1987 to 1997 in Korea and to 2000 in Taiwan.

The Japanese share of world commodity exports peaked in 1990, and was overtaken by the East Asian NIEs in 1991 (Glyn 2006). In this period, Japan built a Pacific Rim triangle trade regime whereby Japan exported capital goods to the ASEAN and China, and the ASEAN and China exported completed products to the USA. Japanese FDI to the ASEAN4 and China, followed by Korean and Taiwan FDI, accelerated industrialization in the ASEAN4 and China. However, their industrialization processes did not follow the original flying geese pattern.

(1) These industries were transplanted for export. They thus skipped the first two processes of the first flying geese pattern, namely imports and import substitution production. Hence the first flying geese pattern was lost.

(2) The development of IT technology enabled to separate the value chain of production, and only labour-intensive processes were transferred to countries with low wages in the 1980s. Although the most advanced technologies were imported, as Gerschenkron argued, this was only part of the aggregate production process, and it became difficult for many developing countries to upgrade industries independently of FDI. In this way, the second flying geese pattern was also lost.

(3) The third flying geese pattern was also lost by Chinese compressed development, which we will see in detail in the next section.
(3) Compressed and quasi Lewis-type industrialization in China

The term “compressed industrialization” is used to explain faster economic development among catching-up economies. For example, Japan achieved industrial development by following advanced countries step by step in less than 100 years, when it had taken more than 200 years in Britain, while South Korea achieved similar development in an even shorter period of 30 years. The term is now also used to describe non-linear development and the simultaneous development of industries with different levels of sophistication. China promoted industrialization in many sectors at once in this period. The international competitiveness of Chinese light industries, heavy industries, and machinery were simultaneously improved (Fig. 7).

Chinese-type compressed industrialization was made possible by three exceptional conditions. It is an exceptional case rather than being generally adaptable to all late industrialization.

(1) China’s has multiple and ample production factors, and it has also become the most attractive country as a vast mass market, since it achieved 40 per cent of total East Asian growth in 1999. These enable industrialization in many sectors with necessary scales of production.

(2) China has a number of social institutions for materializing the advantages of backwardness: an enormous population and historical economic achievement in the socialist planned economy give China production factors equivalent to those of the whole of East Asia; moreover, unlike the ASEAN and NIEs, China is politically integrated. These conditions give China massive bargaining power in inward foreign direct investment. China can negotiate for the transplant of entire value chains of production instead of labour-intensive production processes alone. These conditions are also beneficial to the development of the more advanced industries, such as aerospace, computer software, and biotechnology. It is still possible for China to plan industrialization systematically and independently, using interventionist ITT policies and building complementary institutions.

(3) It was made possible by quasi Lewis-type industrialization. Lewis (1965) explained low wage levels in developing countries and the deflation effect of their industrialization on the world economy by his theory of “industrialization with unlimited supply of labour”. If the supply of labour is available without limits from surplus labour in the agriculture in the industrialization of a less-developed economy, wage levels are kept at subsistence levels plus transport costs. The lack of domestic demand drives exports of products at the lowest price levels, which depresses international price levels.
At current exchange rates Chinese wage levels were kept at 5 per cent of the US level from 1980 to 2000 (Glyn 2006). There are two reasons for this. First, Chinese agricultural employment is still 50 per cent, which gives a vast amount of relative surplus population for the reserve army. Second, Chinese wages have been increasing dramatically in yuan, but the devaluation of the yuan from 1.5 yuan to a US dollar in 1980 to 8.6 yuan to a US dollar in 1994 kept Chinese wage levels at 5 per cent of US levels for the 20 years of its catching-up process (Figure 5). I call this ‘quasi Lewis-type industrialization’, since wage increases were concealed by devaluation of the currency.

Chinese compressed and quasi Lewis-type industrialization had the following influence on Chinese dynamic comparative advantage and on the world economy. In the catching-up process, increases in wages decreases the dynamic comparative advantages, which forces to shift dynamic industries to more sophisticated industries. China did not lose its dynamic comparative advantage in less sophisticated industries until the mid-1990s. Therefore, the Chinese industrial structure was not upgraded sufficiently in the 1990s. It blocked the flying geese-type industrialization process of less-developed countries, and applied deflationary pressure on the world economy.

**Figure 5. Yuan Exchange Rate**

Source: IMF IFS
(4) China-centric East Asian production network

Table 2 shows that Japan’s influence on the Chinese economy peaked in the early 1990s. This was also the peak of the Japan-led Pacific Rim triangle trade. After China became a member of the WTO, its share of international trade skyrocketed. Chinese goods exports increased four times, from 394.5 billion US dollars in 2000 to 1512.6 billion US dollars in 2008, and its goods imports increased five times, from 195.2 billion US dollars in 2000 to 982.6 billion US dollars in 2008 (RIETY-TID2010). Japanese goods exports to China and imports from China increased dramatically, raising Japanese trade dependence to 15% again between 2002 and 2007. This enabled Japan to adopt export-led growth strategy 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 (Figure 6). Now China imports capital goods from Japan, Korea and Taiwan, 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 East Asia has been completely rebuilt by China, and the Japan-led Pacific Rim triangle trade regime has been replaced by a China-centric East Asian production network (Figure 6).

Table 2 Shares in Chinese goods trade

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports from China %</th>
<th>China's imports %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Japan</td>
<td>Korea + Taiwan</td>
</tr>
<tr>
<td>1991</td>
<td>13.1</td>
<td>3.4</td>
</tr>
<tr>
<td>1995</td>
<td>16.1</td>
<td>4.7</td>
</tr>
<tr>
<td>2009</td>
<td>9.1</td>
<td>6.1</td>
</tr>
</tbody>
</table>

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

Source: RIETY-TID2010

In this process, Chinese quasi Lewis-type industrialization finally reached its limits. Its market exchange rate and real effective exchange rate had been stable since the mid-1990s (Figure 5). Its rapid wage rise was reflected in its dynamic comparative advantage. Specialization in light industries such as textiles, toys, and electrical appliances peaked in the late 1990s, and specialization in machinery such as electrical and general machinery increased rapidly from the mid-1990s onwards (Figure 7). Production and domestic demand in heavy and chemical industries also increased rapidly from the mid-1990s.

Source: RIETY-TID2010
Specialization = (Export - Import) / (Total Industrial Export + Import)


7. The Fall of Neo-Liberal Capital Accumulation Regime and the structural crisis

(1) Structural Change

As the success of the golden age accumulation regime itself undermined the institutions that supported it and caused structural crisis, the long-lasting neo-liberal accumulation regime itself has undermined its complementary institutions.

(1) The effect of neo-liberal financial relaxation is losing momentum in NDCs. First, although aggregate demand depends on higher risk-taking by borrowers, unprecedented levels of household debt make further increases difficult. Second, neo-liberal financial liberalisation destroyed the robust financial structure; so further relaxation undermines the safety of the financial system. Third, the neo-liberal monetary policy to decrease interest rates reached its limit at a zero interest rate. Further reduction is difficult. Furthermore, unprecedented levels of government debt and increasing social spending have made further tax cuts difficult. These factors have increased demand side constraints.
(2) Neo-liberal globalization shifted the centre of capital accumulation to developing economies such as China and India, whose industrialization has been very successful. However this has increased the demand for raw materials, energy, and food. Higher international commodity price have increased supply side constraints.

(3) The engine of US demand growth in the neo-liberal accumulation regime shifted from domestic financial relaxation to foreign debt since the East Asian Economic Crisis of 1997, increasing international imbalances. It is most significant in the Chinese and German current-account surpluses, which increased significantly since 2002, surpassing Japan in 2005 and 2006 respectively. The total surplus of these three countries peaked at 837 billion dollars in 2007. On the other hand, the current account deficit of the USA (and Britain and other southern EU countries) increased rapidly after the 2000s, and the US deficit peaked at 788 billion dollars in 2006. Prosperity in the USA (and Britain and southern EU countries) in the early 2000s was made possible by borrowing from foreign countries. The borrowed money was spent on the consumption of imported goods and residential fixed investment, rather than on investment (i. e. on non-residential fixed investments).

With these structural changes of the accumulation regime, a serious crisis started in 2007.

(2) Crisis of International Imbalance and the Future of Capitalism

The Subprime Loan Crisis is the most severe world crisis since the structural crisis in the 1970s. The historical process of the crisis is summarised as follows. A housing market bubble in the USA began in the late 1990s, and accelerated in the early 2000s. Banks earned large fees securitizing mortgages and selling them to capital markets. Institutional investors all over the world bought these securities because they had higher returns than equivalently-rated corporate bonds. Banks began to offer mortgages to those who could not afford them when the housing price bubble evaporated and/or interest rates rose. Home sales peaked in late 2005, and housing prices peaked in early 2006. Then the subprime loan crisis erupted in mid-2007. The crisis began in the USA, and spread all over the world.

The question is what kind of crisis is the subprime loan crisis. Is it a cyclical crisis, a structural crisis, or an even more serious crisis that abolishes the present capitalist world system, as did the 1929 world crisis and the subsequent Great Depression – that is, a systemic crisis? We have three scenarios.

First scenario. This is not a structural crisis in a capital accumulation regime but a crisis of financial excess. Minskyans argue that financial excess was the only problem, and normal growth with cyclical crises will return once the finance excess has been remedied
In my opinion, neo-liberal financial relaxation was introduced to solve demand constraints. It is necessary to restructure financial systems and create more robust ones. However this does not solve demand constraints.

Second scenario. This is a structural crisis in the neo-liberal capital accumulation regime, but not a systemic crisis of bureaucratic capitalism. Structural Keynesians argue that the ultimate cause of the crisis is the breaking of the link between wages and productivity growth. Solving the problem requires reversing neoliberalism and restoring the link between wages and productivity growth (Palley, 2010). In my opinion, this requires the reconstruction of the Bretton Woods regime internationally, and of the welfare state domestically. Without overwhelming economic power, international cooperation is required to rebuild the international monetary system. It should be more transnational and public than the US dollar standard system. Keynes' international clearing union may be rehabilitated. Reconstruction of the welfare society requires productivity growth and an egalitarian income distribution mechanism. It seems to be more possible now than it was in 1980s, since dynamic comparative advantage has recovered due to the take-off of new dynamic industries, namely GVC with IT and knowledge intensive industries.

Third scenario. This is the beginning of a systemic crisis that will destroy bureaucratic capitalism. Neo-liberalism enabled the USA to enjoy prosperity in the 1990s and 2000s. Neo-liberalism is still the dominant ideology even though it faced structural crisis after 2007. If the USA wants full development of GVC with IT and knowledge intensive industries to keep its economic status, it requires solving demand constraints by rebuilding the link between productivity growth and wages, and keeping most advanced knowledge within the country by controlling transnational corporations. The neo-liberal ideology makes these policies impossible.

On the other hand we see the possibility that the further industrialisation of China may re-establish a flying geese pattern of development on a global level among developing countries. Facing the collapse of the US neo-liberal capital accumulation regime, pressure to reverse the Chinese current account surplus has increased since 2008. China has changed policies at the margin from export-led industrialization to domestic demand-led industrialization which may re-establish the link between wages and production growth. This will increase Chinese wage rates and China’s real exchange rate, and reduce China’s competitiveness in less-sophisticated labour intensive industries. It will allow less-developed countries to industrialize in a flying geese pattern. Furthermore, if transnational corporations choose China as their centres to promote GVC with IT and knowledge intensive industries to maximize profit, we may see the third major leapfrogging of dynamic industries.
I consider that the second and third scenarios may be possible, since I believe that to build the link between wages and productivity both in advanced and developing countries is necessary to recover from this most serious crisis of the capitalist world system, and to develop productivity of the new dynamic industry fully.
Appendix: A Simple Model of the Dynamic Comparative Advantage and Numerical Example

This section presents a simple model of the dynamic comparative advantage designed to illustrate how changes in technology and wage rates in developed countries (the North) may affect dynamic comparative advantage in the North and their trading partners in the developing economies (the South) following Rowthorn (2008).

There are two countries "North" and "South", labelled N and S respectively, and two goods labelled 1 and 2. Good 1 is skill-intensive good in a dynamic industry and good 2 is labour-intensive good in a non-dynamic industry. It is assumed that the South does not produce good 1 commercially and produces only good 2, whereas the North produces both goods. The South exports some of its output of good 2 in return for imports of good 1 from the North. The exchange rate adjusts so as to ensure that exports and imports are equal in value. Transport costs are zero and there are no trade barriers of any kind. As a result, prices in each country are the same when measured in a common currency. Let $p_1$ and $p_2$ be the prices of goods 1 and 2.

Assume that all individuals divide their expenditure equally between the two goods. Aggregating across all individuals in the South, this implies that half of the South's monetary income is spent on the home produced good 2 and the other half will be spent on imports of good 1. Let $Y_{S,2}$ be the total amount of good 2 produced in the South. Since this country produces nothing else, the monetary income of the South is equal to $p_2 Y_{S,2}$. Aggregating across all individuals in the South yields the following amounts for total consumption where $C_1$ and $C_2$ are the amounts of good 1 and good 2 consumed

\[
C_{S,1} = p_2 Y_{S,2} / 2p_1 = (Y_{S,2} / 2) (p_2 / p_1)
\]
\[
C_{S,2} = p_2 Y_{S,2} / 2p_2 = Y_{S,2} / 2
\]

The terms of trade are given by

\[
\frac{\text{volume of imports}}{\text{volume of exports}} = \frac{C_{S,1}}{C_{S,2}} = \frac{p_2}{p_1}
\]

This formula indicates that any increase in $p_2 / p_1$ (the relative price of labour-intensive good 2) will benefit the South. This is because the South obtains more imports of good 1 in return for its exports of good 2.

Assume that production takes place under constant returns to scale and that labour is the only input. Let $l_{N,1}$ and $l_{N,2}$ be the amounts of labour required in the North to produce a single unit of goods 1 and 2, respectively. Let $w_{N,1}$ and $w_{N,2}$ be the money wage rates in sectors 1
and 2. Real wage rates are given by
\[ w_{N,1} = \frac{w_{N,1}}{p_1 p_2} \]
\[ w_{N,2} = \frac{w_{N,2}}{p_1 p_2} \]

Suppose that production takes one period and that wages are advanced to workers at the beginning of the period. Since labour is the only input, advanced wages are the only form of financial investment that a firm makes. The rate of profit is therefore equal to profits divided by wages. In this model, the rate of profit is equal to the mark up of price over cost of production. Let the profit rate in the first and second sector \( \pi_{N,1} \) and \( \pi_{N,2} \) respectively. This assumption implies that
\[ p_1 = (1 + \pi_{N,1}) w_{N,1} l_{N,1} \]
\[ p_2 = (1 + \pi_{N,2}) w_{N,2} l_{N,2} \]

Let \( l_{S,1} \) and \( l_{S,2} \) be the amounts of labour required in the South to produce a single unit of goods 1 and 2, respectively, and let \( w_{S,1} \) and \( w_{S,2} \) be the corresponding money wage rates. Since good 1 is not actually produced in the South, \( w_{S,2} \) must be interpreted as the wage that employers would have to pay if production of this good did take place. It is assumed that \( p_1 < w_{S,1} l_{S,1} \). This ensures the cost of producing good 1 is greater than its selling price, which is consistent with the fact that the South does not produce this good commercially. Real wage rates are given by
\[ w_{S,2} = \frac{w_{S,2}}{p_1 p_2} \]

The rate of profit in sector 2 in the South satisfies the following equation
\[ p_2 = (1 + \pi_{S,2}) w_{S,2} l_{S,2} \]

This completes the model.

In the above model, the impact of trade on the South comes entirely through relative prices, which in turn reflect relative costs of production within the North.
A Numerical Example

To explore the dynamic comparative advantage further we shall consider a simple numerical example based on the above model. This is laid out in table 3. The first column of the table shows the amounts of labour initially required per unit of output in each sector in each country, together with prices, nominal wages, real wages, profit rates and VAL. The remaining columns show the effect of progressive modifications to some of the parameters. Modifications are shown in bold. Initially the profit rate in the North is the same in both sectors and changes with changes in productivity. Prices are measured in a common currency and are uniform across countries.

Table 3

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</tbody>
</table>
In the shift from column (1) to column (2) the amount of labour required per unit of output is reduced by one-fifth in the first sector in the North. Labour productivity in the second sector in the North and in the South remains the same, and there is no change in money wage rates or prices in either country. As a result, real wage rates in North and South are unaltered. The profit rate in the South and in the second sector of the North ($\pi_{N,2}$) remains at 20% but the profit rate in the first sector of North ($\pi_{N,1}$) increases to 50%. This illustrates the case of Britain in the mid-19th century and neo-liberal economies after 1980s, where the link between wages and productivity does not exist. The engine of demand growth is investment and export in the former case and financial relaxation and export in the latter case. Lower profit rates may discourage capital accumulation in the South.

In the shift from column (1) to column (3) the amount of labour required per unit of output is reduced by half in the first sector in the North, and money wage in the first sector increases 50%. It shows the faster growth of VAL than wages increases profits. This illustrates Fordist accumulation regime of the golden age. The engine of demand growth is wages and investment.

In the shift from column (3) to column (4) the amount of labour required per unit of output is reduced by half in the first sector in the North, and money wage in the first sector increases 67%, and the price is reduced by 33% because of diffusion of technology and competition. The growth of VAL is absorbed by the growth of wages and lower prices and the profit rate is reduced. This illustrates the latter periods of the golden age and declining Fordist accumulation regime. The engine of demand growth is wages.

In the shift from column (4) to column (5), the large wage increase in the first sector spills over into the second sector in the North, and is mostly passed on to consumers in the form of higher prices. This is Baumol’s cost disease (Baumol, 1967). In order to secure workers, wages in lagging sectors have to be increased even though these sectors fail to match the fast productivity growth observed in dynamic sectors. This either reduces real wages or the rate of profit in the first sector. This illustrates the structural crisis in advanced countries in the 1970s. Any increase in the relative price of labour-intensive good 2 will benefit the South. If the real wages in South is unchanged the rate of profit increases to 71%. Higher profit rates may encourage capital accumulation in the South.
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