

TIGER

TRANSFORMATION, INTEGRATION and GLOBALIZATION ECONOMIC RESEARCH
CENTRUM BADAWCZE TRANSFORMACJI, INTEGRACJI I GLOBALIZACJI

TIGER Working Paper Series

No. 106

Market instability and economic complexity: Theoretical lessons from transition experiments

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Warsaw, July 2007

CHAPTER 3

MARKET INSTABILITY AND ECONOMIC COMPLEXITY: THEORETICAL LESSONS FROM TRANSITION EXPERIMENTS

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In Yang Yao and Linda Yueh eds., *Globalisation and Economic Growth in China*,
World Scientific, Singapore (2006).

Abstract: The ‘Washington consensus’ and ‘shock therapy’ approach to transition economies ignored the Keynesian lessons from the Great Depression: that market instability is a possibility and there may be an active role of government in managing stability and growth. The severe output decline in East Europe and the former Soviet Union (EEFSU) was triggered by a simplistic policy of liberalisation and privatisation, which ignored many economic complexities and the existence of multiple equilibria under alternative divisions of labour. Issues of fundamental importance, such as the chain reaction between macroeconomic instability and microeconomic behavior, the role of the government in creating learning space in development, interactions between economic openness, sustainable growth, and social stability, can all be revealed from comparative experiments between China and EEFSU. These include the role and impact of exchange rate regimes, price dynamics, trade policies, and reform strategies. The tremendous cost of the Transition Depression sheds new light on theoretical limitations of atomic demand and supply analysis, theory of hard-budget constraints, microfoundations in macroeconomics, and the property rights school in institutional economics. New development policy based on learning, innovation, and decentralised experiments will pave the way for new thinking in complex economics.

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1. Introduction: the Forgotten Lessons from the Great Depression

There were two conflicting views on the nature of market economy and business cycles. The 'equilibrium school' in classical economics believes that market economy is essentially stable because of mean reverting mechanism of demand and supply forces, and as such economic fluctuations are primarily driven by external shocks (Frisch 1933). In contrast, the 'disequilibrium school' asserts that the market economy is like a biological organism (Schumpeter 1939), which has both dynamical instability and a coherent structure. Innovation and technological progress are essentially unstable, and they are characterized by creative destruction, technology replacement, and biological rhythm. For policy analysis, equilibrium school focuses on short-term deviations from equilibrium state, while disequilibrium school mainly focuses on medium- and long-term dynamic patterns and structural changes.

Natural experiments play a key role in testing competing economic theories. The Great Depression shook a widespread belief in inherent market stability. The rise of Keynesian macroeconomics made a revolutionary contribution relating to the definition of involuntary unemployment, destabilising financial markets, and role of government in managing economic business cycles (Keynes 1936). However, the Keynesian revolution only partially succeeded in macroeconomic theory. The Keynesian school did not develop a general theory of dynamic disequilibrium that was capable of explaining financial crisis and economic complexities. Methodologically speaking, equilibrium processes without history (nonlinearity) and diversity (multiple equilibria) are easier to model mathematically. Equilibrium theories are developed as a form of armchair economics and are without solid foundations in empirical observations. Microeconomic theory based on complete markets, perfect competition, and optimisation behavior leave no room for technology innovation and market instability.

There are a wide range of economic theories. The Arrow-Debreu general equilibrium model generates a utopian market with unique stable equilibrium that has no disruptive technology and learning space (Arrow and Debreu 1954). The efficient market hypothesis in finance theory claims stock prices are always right, which implies that there is little chance of financial crisis occurring (Fama 1970). The property rights school further excludes path-dependence and multi-equilibrium from institutional evolution. According to the Coase theorem, optimal institutions can be established by voluntary exchange of property rights, which is independent of initial conditions (Coase 1990). The new classical school, led by Lucas, launched a counter-Keynesian-revolution in macroeconomics (Lucas 1972, 1980). According to the theory of rational expectations and microfoundations, involuntary unemployment is no longer a significant problem in economic policy, since unemployment is re-defined as a rational choice between work and leisure at individual level. The main hypothesis within the so-called 'Washington consensus' might be considered part of this counter revolution, which not only rejects any contribution from socialist experiments in industrialization and community-building, but also negates Keynesian policy in dealing business cycles and financial crises.

If we accept that economics should be considered to be an empirical science, not simply a subset of philosophy, is it possible to test competing economic theories through policy experiments? Our answer is 'yes'. Recent events from the transition economies provide us with a good opportunity for testing economic theories.

The so-called Washington consensus (or shock therapy approach) was derived from standard equilibrium theory. Based on their equilibrium-optimisation belief, the system of property-rights and hard-budget constraints could ensure firm level efficiency in a competitive marketplace; the flexible price system created by liberalisation policy should lead to both stability and efficiency in competitive market; economic growth would be driven by foreign direct investment and technology diffusion from developed economy after liberalizing exchange rate. Under these assumptions, economic transition and development is simply a convergent process without the need of policy experimentation and institutional innovation (Sachs and Woo 2000). If we consider the rich physical and human resources in Eastern Europe and the former Soviet Union (EEFSU), it would be natural to predict that EEFSU would grow at a much faster rate, while China would struggle with its poor resources, cultural burdens, and political institutions. The surprise of the large output decline in EEFSU and rapid development in China raise serious questions about the validity of textbook equilibrium economics, especially in relation to its theory on market mechanisms and economic development (World Bank 2002).

Transition economies between the 1970's and 1990's have several features that are different from the industrial economies during the Great Depression. First, there were no major military conflicts or international crisis before or during the transition process. Secondly, severe output declines during the transition process were not driven by stock market crashes or banking crises. These two features made the background of transition experiment much simpler than that of Great Depression in theoretical terms. Thirdly, the difference in economic performance during transition was mainly caused by policy differences between EEFSU and China; the former is characterised by "shock therapy" or liberalisation policies driven by the so-called Washington Consensus (Sachs 1994, Williamson 1990) while the latter is characterised by a gradual approach with decentralised experiments and a dual-track price system (Lin, 1992, Chen 1993). In contrast, there was no theoretical dividing line emerged in policy debates during the Great Depression. Therefore, transition experiment can serve as a better touchstone in testing competing economic theories because of its relative simplicity in historical comparison.

The shock therapy approach originated in Latin America, and was then applied to EEFSU. The experimental approach was rooted in the East Asian mode of industrial policy, managed trade, and dual-track price system for export-led growth. The different outcome in economic growth can be seen in Table 1.

Table 1. Average GDP Growth Rate in Decades (%)

Decade	1970s	1980s	1990s
East Asia	4.5	4.4	2.8
East Europe	4.8	2.4	-4.4 (46% in absolute decline)
West Europe	2.7	1.9	1.6
North Amer.	3.3	3.0	2.8
South Amer.	5.2	1.2	2.9
World	3.6	2.7	2.1

Japan	4.2	3.6	1.2
German	2.6	1.7	1.6
China	4.7	8.8	9.4
Vietnam	-0.1	5.0	6.9
Poland	6.1	0.9	3.2
Hungary	4.7	1.5	0.3
USSR	4.6	2.6	
Russia			-4.8
Ukraine			-8.9

Data Source: United Nations Statistics

From Table 1, we can see two remarkable facts. First, there was no evidence for the widespread belief that socialist economies collapsed in 1970s and 1980s, even though there was a visible slow down for both developed countries and EEFSU. The wave of economic reform and transition in socialist countries was mainly driven by political factors rather than economic crises in 1980s. Secondly, there was a sharp contrast between the ‘Transition Depression’ in EEFSU and continued growth in China and Vietnam amongst the transition economies. We will consider the outcomes associated with transition economies as a natural experiment, in addition to the economic outcomes following the Great Depression, both of which are valuable in studying the unstable and complex nature of macroeconomic dynamics.

2. The Stylized Facts in the Great Depression and the Transition Depression.

The main facts in the Great Depression and the Transition Depression are shown in Table 2 and Table 3. We can see the degree of the transition depression is comparable or even more severe than the Great Depression. Polish economists even coined the term of “The Greater Depression” for the recession that occurred in EEFSU (Kolodko 2000).

Table 2. The Great Depression (1929-1942)
Measured by Peak-to-Trough Decline in Industrial Production

Country	Decline (%)	Peak-Trough-Date	Recovery-Date	Length	
US	46.8	1929.3-	1933.2	1942	14 yrs
UK	16.2	1930.1-	1932.4		
France	31.3	1930.2-	1932.3		
Germany	41.8	1928.1-	1932.3		
Canada	42.4	1929.2-	1933.2		
Italy	33.0	1929.3-	1933.1		
Poland	46.6	1929.1-	1933.2		

Czechoslovakia	40.4	1929.4-1933.2
Japan	8.5	1930.1-1932.3

Source: "Great Depression," Christina D. Romer, Encyclopedia Britannica (2004).

Table 3. The Transition Depression in EEFSU
Measured by Peak-to-Trough Decline in Real GDP

	Peak	Though	Recovery	Length (yrs)	Decline (%)
Germany	1992	1993	1994	1	-1.1
[East Germany declined 30% in 1991, its GDP in 1992 was only 7% of unified Germany.]					
Czech	1989	1993	1999	10	-13
Slovakia	1989	1992	1998	9	-22
Poland	1989	1991	1996	7	-18
Hungary	1989	1993	2000	11	-18
Romania	1987	1992	2005	18	-30
Bulgaria	1988	1997	>2006	>18	-34
Albania	1989	1992	2000	11	-40
Estonia	1990	1994	2002	12	-45
Latvia	1990	1995	2006	16	-50
Lithuania	1990	1994	2005	15	-44
Russia	1990	1998	>2006	>16	-43
Ukraine	1990	1999	>2006	>16	-61
Belarus	1990	1995	2003	13	-45
Georgia	1990	1994	>2006	>16	-73
Uzbekistan	1990	1995	2001	11	-20
Azerbaijan	1990	1995	2005	15	-58
Kazakhstan	1990	1998	2004	14	-38
Tajikistan	1990	1996	>2006	>16	-67
Turkmenistan	1990	1997	2006	16	-41
Mongolia	1989	1993	2002	13	-23

United Nations Statistics. For recent data see CIA World Factbook (2006).

We were surprised by the depth of the Transition Depression. US industrial output was down 47%, its real GDP declined by about 25% and the recovery to pre-Depression level took approximately 14 years; China's economic depression (caused by famine in late 1950s) lasted 5 years with 32% decline in GDP. However, the Transition Depression in Romania, Bulgaria, and three other countries in the former Soviet Union lasted more than 16 years; their GDP levels now are still below those levels achieved before the transition. The decline in real GDP ranged from 43% in Russia, 60% in Ukraine, and even 73% in Georgia. The magnitudes of the Transition Depression were more severe than those in the Great Depression in US and most other European countries at that time.

There are several theories proposed to explain the Great Depression: The financial instability caused by World War I in Europe, the stock market crash in the US, and the deflation caused by the British return to the Golden Standard; and the human error in the determination of monetary policy (Romer 2004). Many economists share the consensus that the endogenous instability in the financial market played a major role in the Great Depression. In contrast, there was only a minor slowdown, no financial crisis in socialist economies in EEFSU before the transition in early 1990s. The rapid transition in Eastern Europe was marked by the fall of the Berlin Wall in 1989 and the break-up of the Soviet Union in 1991. The wholesale liberalisation in exchange rate, trade, price, and rapid privatisation carried out with ideological fever in EEFSU, China and Vietnam were cautious in preserving social stability and export-led growth.

The central question should examine the main cause of the Transition Recession in EEFSU. Let us start with the simplest case in transition process, East Germany after German unification.

3. Monetary Power and Trade Imbalance in Non-Equilibrium World

Some economists blamed the Transition Recession on “bad politics” rather than “bad economics” (Roland 2000). For example, Sachs pointed out that insufficient level of Western aid was the main cause of Russia’s failure to stabilise its currency (Sachs 2005). Disruption of production chains and credit tightness were significant factors in output decline (Blanchard and Kremer 1997, Calvo and Coricelli 1992). However, the case of German unification offers a clear clue to the primary reason for output decline in EEFSU. This reason is exchange rate liberalisation.

The best example of shock therapy (without Sachs’s concern over the problem of insufficient aid) occurred not in Poland, but East Germany (Kolodko 2000, Burda 2006). After German re-unification in 1990, East Germany completely imported the system of property rights and legal infrastructure from their West German neighbours. West Germany provided the most generous financial transfer in history, which is about approximating 80-90 billions Euros per annum or 20% of East German GDP, which is much larger the amount allocated as part of the Marshall Plan following the Second World War or indeed any amount of foreign aid to a single developing country. There was essentially zero inflation and macro instability in East Germany. Using Barror’s convergence measurement, the wage rate, consumption, productivity, and other economic indicators in East Germany, converged to those of West Germany more rapidly than that predicted by neoclassical growth theory (Burda 2006, Barror 1992). However, there is slow economic growth and the unemployment rate in Eastern Germany is still rising 15 years after unification. Why has convergence theory and the property rights hypotheses failed to produce an East German miracle under the most favorable transition conditions in industrial history?

In 2004, we undertook a field observation at the famous Zeiss Optical Company in Jena of Eastern Germany. We were surprised by the large negative shock of switching exchange rate regime. Although Zeiss products were the most advanced and competitively produced in the global market, the company suddenly lost more than 90% of the market share in Eastern Europe after German reunification, because existing customers could not afford to pay in former Soviet block currencies. Accumulation of hard currencies used in the West is a relatively slow process in developing countries and in transition

economies. It is an outcome of learning process, including increasing competitiveness, building market-network, and the accumulation of foreign reserve, rather than reaching the equilibrium state overnight in exchange rate market. We may speculate that the breakdown of CMEA (Council for Mutual Economic Assistance) and industry overkill in EEFSU was mainly caused by radical liberalisation in foreign trade and the exchange rate.

The slow convergent process in international trade can be revealed from China's dual-track foreign exchange system, which lasted about 15 years from April 1980 to January 1995. China's international trade was in deficit of \$1.8 billion US dollars in 1980. However, this grew to a trade surplus of \$5.4 billion in 1994, and \$24.1 billion in 2000. Accordingly, its accumulation of foreign reserves increased from \$0.8 billion US dollars in 1979, to \$51.6 billion in 1994, to \$165.6 billion US dollars in 2000. China's dual-track foreign exchange system successfully merged in 1994, at a time when its foreign trade had moved from deficit into surplus after 15 years of reform and export-led growth (Figure 1). China's annual export growth rate was 26% in the 15 years from 1979 to 1994, which was more than twice the growth rate of annual GDP growth rate in the same period (9.5%). In contrast, the trade liberalisation in EEFSU induced a flood of imports rather than an increase in export growth. As observed by a Polish economist, "the more rapid the liberalisation of trade, the bigger the initial shock and the deeper the ensuing recession" (Kolodko 2000).

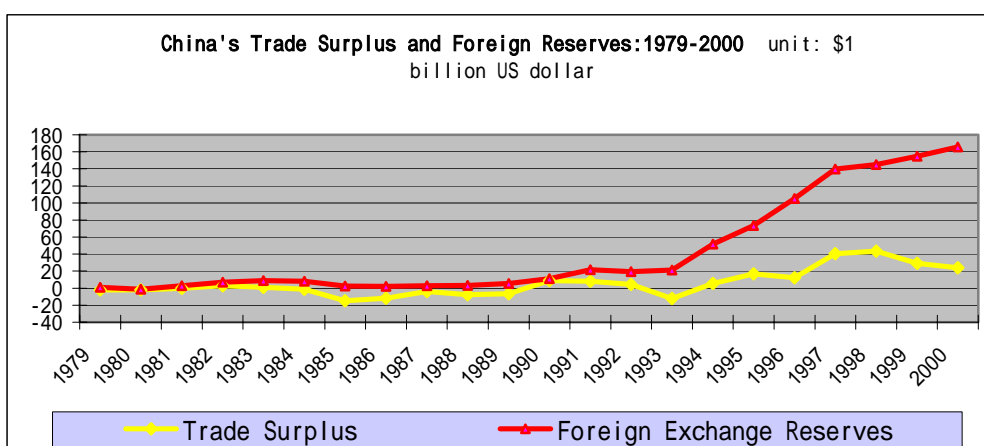


Figure 1. China's Trade Surplus and Foreign Reserves.

Data Sources: China Statistics 2001.

After the Asian financial crisis in 1997, there were an increasing number of economists who realised the danger of excess international capital mobility since it encourages international speculation in financial markets. Mainstream economists argue for a flexible exchange rate in order to create an anchor for macroeconomic stability. However, these economists ignore the reality of unequal competition and the monetary power associated with international trade and finance. In neoclassical monetary theory, money and exchange rates are simply treated as the media of exchange in a utopian general equilibrium world. In the far-from-equilibrium real world, hard currency also engenders market power associated with political economy (Goodhart 1998).

There is no role for the "selective filter effect" created by currency control in equilibrium theory of

monetary economics. Evolutionary economics has more to learn from evolutionary biology, where the emergence of biological structures, such as cell membranes, plays an important role in the origin of life. Selective open membrane in organism is equivalent to a *Maxwell demon* in living system, which allows positive matter flow, energy flow, and information flow, but rejects harmful flows for maintaining dissipative structures in open system (Prigogine 1984). Without the protection of biological borders, no living being can maintain a living organism under far from equilibrium conditions. This is an essential difference between mechanical creation and biological organism. In political economy terms, custom, credit, visa, and other security systems closely guard developed economies, which are *not “free”*, but *selectively open* to the world market. The promoters of free trade and free capital market simply ignore the needs of developing countries for creating learning space and defense wall against negative shocks from international market. The argument for liberalization policy is attracting foreign direct investment (FDI). However, trade liberalization plus macro instability led additional capital flight and asset stripping in EEFSU. China’s success in attracting FDI mainly resulted from growing market and sound macroeconomic policy, not from property rights and liberalization policy.

4. Complex Dynamics, Path Dependence, and Learning Space

According to neoclassical microeconomics, a complete market economy (without innovation space and product cycles) has a unique equilibrium in general equilibrium microeconomics, which is inherently stable because of the atomic mechanism (i.e. no supply chains or network in division of labor) of supply and demand (Arrow and Debreu 1954). An optimal system of property rights can be achieved by exchange without historical constraints (Coase 1990). Therefore, the convergence school hypothesis predicted a relatively quick stabilisation process after price liberalisation and the establishment of property rights. Surprisingly, immediate results of liberalisation policies in EEFSU led to inflation spirals, excessive devaluation of currencies, and widespread output decline (see Table 4 and Table 5).

Table 4. Peak Inflation Rate during the Transition
Measured by the implicit price deflator in national currency

Country	Peak Inflation (%) (Year)	Length of High Inflation (>40%)
Germany	9 (1990)	0
China	13 (1988), 20 (1994)	0
Poland	400 -581 (1989-90)	5 yrs (1988-92)
Bulgaria	334 -1068 (1991-97)	7 yrs (1991-97)
Romania	295 – 300 (1991- 92)	9 yrs (1991-2000)
Ukraine	3432 (1993)	6 yrs (1991-96)
Russia	1590 – 4079 (1992 – 93)	8 yrs (1991-98)

Data source is the United Nations Statistics Database.

Table 5. Devaluation of Currency (Exchange Rate set at 1 in 1980 or 1991)

Year	1980	1985	1990	1991	1993	1995	2000
Germany	1	1.62	0.89	0.91	0.91	0.79	1.17
China	1	1.96	3.19	3.55	3.85	5.57	5.52
Czech			0.77	1	1.04	0.95	1.38
Slovakia			0.61	1	1.04	1.01	1.56
Hungary	0.44	0.67	0.85	1	1.23	1.68	3.78
Poland		0.01	0.90	1	1.71	2.29	4.11
Bulgaria				1	1.55	3.78	0.12
Romania	0.22	0.24	0.29	1	9.95	26.62	284
Belarus			0.51	1	191	47937	108
Russia				1	195	897	5534
Ukraine			0.5	1	634	20602	76087

The exchange rates are measured against the dollar. All exchange rates are re-scaled by the base year, which are 1980 for Germany and China and 1991 for the rest. Data source: Penn World Table 2002.

Equilibrium theory such as the purchasing power parity has little power to understand the large currency depreciation during transition. For example, from 1990 to 1998, Russia's real GDP measured by 1990 US Dollar declined 43%, but its currency depreciated 13,860 times! This is a clear case of non-equilibrium process.

One visible feature in China is its remarkable stability in the inflation rate and exchange rates, which can be seen in Table 4 and Table 5. However, situations vary greatly in EEFSU. Can we understand these differences by new thinking in evolutionary economics and complex dynamics? We propose two possible explanations: path-dependence and learning space.

4.1. Inflation constraints and path-dependence

One interesting finding is that those countries with low inflation rates, including China, Germany, the Czech Republic, Slovakia, and Hungary, suffered painful periods of hyperinflation in the first half of 20th century. The collective memory of previous hyperinflation during the civil war in China and between the two world wars in central Europe created a behavioral constraint in monetary policy in these countries. In contrast, new hyperinflation occurring in the former Soviet Union, which had a long history of fixed prices under a command economy, was without near historical precedent. History or path-dependence *matters in economic behavior* (David 1985, Arthur 1994)! It is often assumed in macro dynamics that price movements follow Markovian processes, which has no historical memory. Now we understand it is rarely true under nonlinear dynamics (Chen 2005). History tells us a different reality.

4.2. Complex patterns under a dual-track price system: production cycle and round-about production

The most visible innovation in China's reform was the introduction of the dual-track price system in mid-1980s and continued after the failed attempt of shock therapy in terms of price reforms in 1988. There were two-fold objectives in introducing the dual-track price system. The first was to maintain social stability with fixed prices and food rationing under the central planning system. The second was to provide production incentives by ensuring payment at market prices when firm production exceeded the levels of government quotas. The resulting price dynamics varied greatly in product markets, which provided rich evidence of industrial structure and complex dynamics.

The most rapid price convergence and output growth was achieved in the market for farm products such as meat and vegetables. Foodstuff prices did increase initially; but several months later, the prices quickly stabilised or even fell after a rapid growth in farm supply. For basic goods such as grain and cotton, price controls was in place (on and off) for more than 10 years, and never fully liberalized. The price of industrial products were rapidly liberalised and deflation for consumer goods and luxury products occurred in places, but market liberalisation for basic consumption goods was much slowly. The prices for energy, utility, education, and health are still under tight control despite a persistent trend of price inflation, because their supply persistently falls behind social demand when income grows rapidly (see Figure 2). Price dynamics are complex with complicated interactions among changing micro behavior, varying product cycles, interdependent industrial structures, and cyclic macro environment.

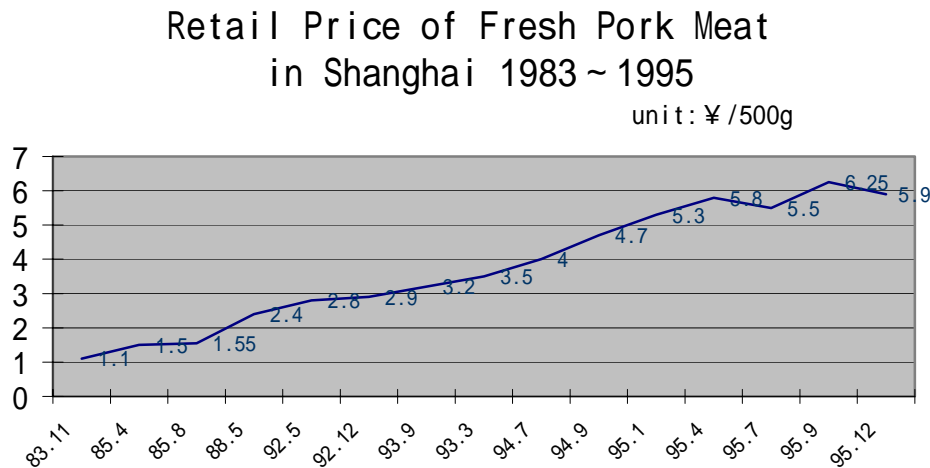
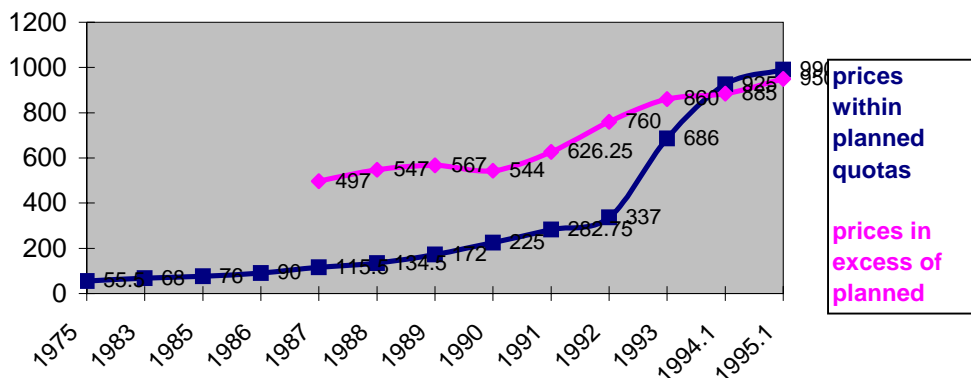


Figure 2a. Price History in China's Shanghai Local Market: (a) Fresh pork meat price in retailed market (1983-1995).



(2b)

Figure 2b. Price history in China's Shanghai local market: (b) Heavy oil dual-track price in Shanghai industrial market (1975-1995).

One possible explanation for the varied pattern in price dynamics is the varied length of production cycles. The production cycle for vegetables and meat is several months, however, the investment cycle for power stations require several years. Additional complexity can be added as a result of roundabout production in division of labor (Hayek 1935). This is greatly different from the simple supply-demand mechanism among farmers without network constraints. Grain and cotton have a similar length of production cycle (in terms of length) as those of vegetable and meat. However, cotton and grain can also be used as input for later industrial production, and as such price fluctuations in grain and cotton markets are much greater and more persistent than those in vegetable and meat markets. China's price reform in grain and cotton markets were much slower than other agriculture markets. The existence of inventory cycles and future markets introduce additional complexity in grain and cotton markets. The Chinese government made great effort in managing price stability and stimulating growth for ensuring social support during reform process.

The difference in industrial structure between China and EEFSSU may have partially contributed to their difference in agriculture reform. The family contract system worked well for China's small-scale farm production, but failed to work for large-scale mechanized farm in the former Soviet Union.

In summary, the simplistic picture of a Robinson Crusoe economy in neoclassical economics cannot explain business cycles and divergent evolution in division of labor (Chen 2002). Modern farm industries are also highly correlated because of industrial supply of seeds, fertilizers and other farm production inputs. The observed price cycles in grain, cotton and many industrial prices have significant degree of volatility. A market system will be remarkably stable under external shocks, if supply and demand curves have only unique equilibrium and negligible time-lag. However, market dynamics will be unstable or even chaotic when exist multiple equilibrium or substantial time-lag (Chen 1987, 2005). Dynamic complexity and transition uncertainty created the room for decentralized experiments and dual-track reform, which would create a learning space for adapting strategy. The blind-confidence in

general equilibrium theory led to the naïve strategy of shock therapy in EEFSU.

5. Conflicting Analysis in Equilibrium Thinking and Economic Policy

The Washington consensus seems to provide an integrated approach for transition and development economies. However, the Washington consensus proposes too many conflicting goals without an operational strategy or reform sequence. For example, while large scale privatisation and rapid institutional change created fiscal crisis and weak government; it has shaken social confidence in market economy. The Lucas idea of microfoundations of macroeconomics ignores the complex nature of economic organism and the whole entity being greater than the sum of the parts. We will discuss lessons from transition economies, in order to seek a better alternative than the equilibrium perspective and methodological individualism.

5.1. Hard-budget constraints and credit crunch

Kornai singled out the soft-budget constraint (in the form of government subsidy to money-losing firms) as the main cause of inefficiency of firms under socialist economies (Kornai 1986). This logic is true only for closed economy without technology progress or credit markets. This is the fundamental weakness of the complete market hypothesis. In industrial societies, soft-budget constraints widely exist in various forms, including bank credit, venture capital, and bankruptcy law. American bankruptcy law of chapter 11 offers a re-organisation opportunity for firms in financial difficulty and a chance of eventual survival. Chrysler and the Long-Term Capital are well-known example of “too big to fail” or soft-budget constraints in capitalism. In practice, the credit crunch by imposing “hard budget-constraints” is an additional cause of the output decline in EEFSU (Calvo and Coricelli 1992).

When open-door policies introduce international competition to domestic firms, the critical choice is how to upgrade technology for a domestic firm’s survival. A favorable macroeconomic environment, including access to bank credit and capital market, is very important in a firm’s survival in a globally competitive market. Sachs and Woo (2000) argued that China’s market oriented reform should be much easier than Russia’s since China’s rural population has no social security. If this is true, developing countries such as Bangladesh may grow faster than China! The real reason behind China’s rapid technology progress is its state-insurance during learning process. Farmer’s down-side risk is protected by collective ownership of land, thus preserving positions for those in business adventures. China achieved rapid economic growth and technological advancement exactly under the policy of so-called soft-budget constraints. Many state owned enterprises (SOEs) and township & village enterprises (TVEs) made rapid progress in international competitiveness, which can be seen from double-digit growth of manufacturing exports in China. From the view of property rights school of thought, both SOEs and TVEs have no clearly defined property rights. In financial practice, shares of local governments could enhance firm’s credit for bank loan. Certainly, growth under soft-budget constraints does have costs in the form of non-performing loans (NPL) accumulated in state banks. China’s growth under soft-budget constraints creates a *trial and win* scenario through informal privatization: if SOEs or TVEs succeed in new product markets, they are privatized; when failure occurs, the state own banks absorb the financial loss. In this way, China’s state sector took the main cost in technology acquisition and business venture

activities in the non-state sector. The NPL contains both components of efficiency loss and social burden. Comparing to credit tightness under the policy of hard-budget constraints, the cost of transition depression in EEFSU is much larger than the NPL in China. Whether China's growth under soft budget-constraints can be continued, the answer does not depend on the cost of soft budget constraints, but the productivity gain over and above the social cost. The same is true for America's growing trade and budget deficit. China's growth-oriented development strategy is a new type of Keynesian policy, while Kornai's policy of hard-budget constraints simply a new form of the new classical counter-Keynesian-revolution. The history in transition economies provides strong evidence that the macro environment for micro (firm) behavior is more significant than the so-called microfoundations of macro stability.

Theoretically speaking, the theory of soft-budget constraints is a somewhat naïve exercise in microeconomics, but a dubious theory in macroeconomics. If the survival of majority rather than minority of socialist firms only depends on state subsidies, socialist countries would have much higher inflation than market economies. This is not true historically. Persistent budget deficits and hyper inflation rarely occurred in planned economies but frequently occurred in market economies such as in Latin America. Kornai has postulated the wrong diagnosis of the trade-off between planned economy and market economy. As Schumpeter pointed out, capitalism is driven by innovation, which is intrinsically unstable. Business cycles and financial crises is the price paid for creative destruction in open economies. In contrast, socialism is more stable in closed society. The main weakness of planned economies is not the lack of incentives, but the stagnation of technology. Therefore, the right direction for reforming socialist economies is not creating a pure private economy with hard-budget constraints, but a mixed economy open to world market and new technology.

5.2. The MM theorem and the property right school

The property rights school of thought claims that private ownership is a necessary condition for market efficiency, which is the main belief behind privatisation policy. However, the MM theorem in financial economics implies that the debt structure, or alternatively, the ownership structure, does not matter for firm's value in competitive market (Modigliani and Miller 1958). From a governance point of view, there is no essential difference between state firms without clear ownership and private firms with diversified ownership. Technology, management, corporate strategy, and economies of scale all matter in market competition. There is no question that excessive state ownership crowds out private innovation; that is why privatisation of small and medium firms is successful in many countries. However, there is no solid evidence that privatising large firms would improve competitiveness and efficiency (Von Weizsacker et al., 2005). China's secret of low labour costs in export industries is rooted in its mixed social security system. In particular, the social security of large rural population is based on the collective ownership of land. If China would privatise collectively owned land, its infrastructure development and export growth would slow down dramatically.

5.3. Privatisation vs. Competition Policy

Under socialist systems, large state firms often have monopolistic positions in industry. Large oil and utility firms generate important revenues for government. Competition policy is a means of breaking

down state monopolies, just like breaking-up AT&T in US was the effective way to improve efficiency in the telecommunicating market. This type of success story is also seen from the breaking-up of China Airways into several competing companies. However, privatising large firms without mitigating monopoly power made situation worse in Russia. The government not only lost significant revenues, but also public support for privatization. Local government was forced to change from “helping hand” approach into “grabbing hand” (Frye and Shleifer 1997). The collapse of public finances led the rise of mafia economy. The simultaneous liberalisation, stabilisation (financial squeezing under the name of hard-budget constraints), and privatisation created vicious cycles and chain reactions of output decline, hyper inflation, currency devaluation, fiscal crisis, capital flight, and asset stripping. The Transition Depression was a man-made disaster, while the Great Depression was an outcome of market bubble and financial crisis.

6. Conclusion

Both the Great Depression and the Transition Recessions are two natural experiments, which have stimulated new economic thinking for generations of economists. Keynes learned an important lesson on macro instability and emphasized the role of active government in maintaining social stability. Certainly, the experiences of welfare state in industrial countries also revealed the limits of large government in job creation and technology advancement. The transition experiments in EEFSU and China provide new lessons on co-evolution of changing economies and innovative government, which is relevant not only for developing economies, but also for developed economies. We need a more general framework, which could integrate historical lessons from market instability and economic complexity in the evolution of the division of labour. We will briefly discuss the theoretical lessons from transition economies.

Stiglitz rightly concluded that “the (oversimplified) Washington consensus did not provide the answer for development strategy. There was a failure in understanding economic structures within developing countries” (Stiglitz 2004). Roland pointed out the importance of “the evolutionary-institutionalist perspective” in understanding transition economies (Roland 2000). Sachs finally realized that “economies (like the human body) are complex systems; economist, like medical clinicians, need to learn the art of differential diagnosis” (Sachs 2005). These observations are worthy of further theoretical analysis.

First, general equilibrium theory in neoclassical microeconomics is a static model in nature. Many economists admire its mathematical simplicity and theoretical elegance, but few realize its limitation in policy implications. In the utopian model of complete market under perfect competition, consumers have no subsistence threshold and social interactions, all products have infinite life without technology replacement and product cycles, price is the only variable in adjusting resource allocation (without the need of business strategies and product innovation), and the speed of adjustment is infinite without any delay or possibility of overshooting. Any violation of one of these “perfect” conditions results in the price equilibrium being neither unique nor stable. That is why shock therapy in price liberalization led to inflation spiral in EEFSU but gradual approach with dual-track prices made smooth transition in China’s price reform. Future microeconomics should construct more realistic market model with nonlinear

dynamics and complex networks.

Second, methodological individualism or the Robinson Crusoe economy in neoclassical macroeconomics abstracts out the critical link of financial intermediates between micro firms and macro economy. There is little understanding of financial crisis through the efficient market hypothesis in finance theory. There is weak evidence of “micro-foundations” of macro economies, but strong evidence of “macro environment” for micro behavior because of the Principle of Large Numbers (Chen 2002). Macro economy can be better described by three layer model: macro – meso (financial intermediate and industrial structure) – micro. It is the original idea of financial Keynesian economics that financial instability is an important source of macroeconomic boom and bust (Minsky 1985).

Third, social evolution and institutional development in an open economy is a divergent process like biological evolution, while the prediction of transaction cost or property rights school is a convergent story in closed systems. Historical constraints and institutional innovations play no role in Washington consensus. Under uneven distribution and non-equilibrium development, ‘disciplined hand’ in positive development requires more constraints than protecting property rights (i.e. the ‘invisible hand’) during the reform process. Protecting competition and innovation is indispensable in market economies. Monopoly, corruption, organized crime, and income polarization may destroy the social foundation of a market economy. The modern history of science and capitalism reveals the importance of checks and balance in mixed economies with private, public, and non-profit non-government sectors. Institutional economics should better understand the historical lessons of mixed economies and study new international order in 21st century.

Fourth, equilibrium perspective in world development is simply a linear trajectory towards the ‘end of history’ (Fukuyama 1993). The question is how to understand the rise and fall of nations in transition economies. From the view of complexity science, there is a trade-off between complexity and stability in evolutionary dynamics (Chen 1987, 2005). Under stable environment with moderate fluctuations, development of division of labour will increase economic diversity while severe fluctuations will reverse the trend back into barter or self-sufficient economy. The ecological dynamics of learning competition may help understand the nature of evolutionary dynamics (Chen 2005).

In sum, equilibrium approach ignores two main sources of market instability and economic complexity: nonlinear interactions with multiple equilibria and collective behavior with fads and dreams. Market forces without government management and social coordination cannot achieve healthy development under rapid technology advancement and unequal global competition. Evolutionary perspective and complex economics offers a better alternative in understanding economic development and institutional changes.

Acknowledgements

I would like to thank the participants for their stimulating discussions, including German-Sino Workshop on Evolutionary Economics at Max-Planck-Institute in Jena, Germany; the CCER-LSE (London Economic School) forum at Peking University in Beijing, China; International Symposium on

Transition and Development at Fudan University in Shanghai; and International Symposium on China and Development at University of Stockholm in Sweden; all meetings hold in 2005. I also thank the valuable comments on the Washington consensus by Joseph Stiglitz, James Galbraith, Hans-Walter Lorenz, Wing Thye Woo, Guido Buenstorf, Charles Goodhart, Ziyuan Cui, Chang Liu, Zhengfu Shi, Jun Zhang, Weisen Li, Ziwu Chen, Danny Quah, and Linda Yueh. Financial support from National Science Foundation of China under the Grant of #70471078, the 211 Project from China Center for Economic Research at Peking University, and Center for New Political Economy at Fudan University in Shanghai is also acknowledged.

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