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## **MARKET INSTABILITY AND ECONOMIC COMPLEXITY: ECONOMIC LESSONS FROM TRANSITION EXPERIMENTS<sup>1</sup>**

### **Abstract**

Washington consensus and shock therapy forgot Keynesian lessons from the Great Depression: market instability and the active role of government in promoting growth. The severe output decline in East Europe and former Soviet Union (EEFSU) was triggered by simple-minded policy of liberalization and privatization, which ignored economic complexity and multiple equilibriums under division of labor. New fundamental issues, such as chain reactions between macro instability and micro behavior, the government role of creating learning space in development, interactions among economic openness, sustainable growth, social stability, can be revealed from comparative experiments between China and EEFSU, including exchange rate regime, price dynamics, trade policies, and reform strategies. The tremendous cost of the Transition Depression sheds new light on theoretical limitations of demand-supply analysis, hard-budget constraints, microfoundations theory in macroeconomics, and property right school in institutional economics. New development policy based on learning, innovation, and decentralized experiment will broaden our scope of economic thinking.

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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. Equilibrium school in classical economics believes that market economy is essentially stable because of stabilizing mechanism of demand and supply forces (Marshall 1920), economic fluctuations are mainly driven by external shocks (Frisch 1933). In contrast, disequilibrium school considers market economy like organism (Schumpeter 1939), which has both dynamical instability and coherent structure. Innovation and technology progress are essentially unstable; they are characterized by creative destruction, technology replacement, and biological rhythm.

Economics likes astrophysics, natural experiment play a key role in testing competing economic theories. The Great Depression shook the faith in market stability. The rise of Keynesian macroeconomics made revolutionary contribution on involuntary unemployment, destabilizing financial market, and government role in managing business cycles (Keynes 1936, Minsky 1975). However, Keynesian revolution did not develop a comprehensive framework in economic theory. Microeconomic theory based on complete market, perfect competition, and optimization behavior leave no room for technology innovation and market instability. Arrow-Debreu model of general equilibrium creates a utopian market with unique stable equilibrium (Arrow and Debreu 1954). The efficient market hypothesis in finance theory claims stock prices are always right. It implies little chance of financial crisis (Fama 1970). The property right school further excludes path-dependence and multi-equilibrium from institutional evolution. According to Coase theorem, optimal institution can be established by voluntary exchange of property rights, which is independent of initial condition (Coase 1990). The new classical school led by Lucas launched counter Keynesian-revolution in macroeconomics (Lucas 1972, 1980). According to the theory of rational expectations and microfoundations, involuntary unemployment is no longer a problem in economic policy, since unemployment becomes a rational choice between work and leisure at individual level. Government role in market economy is further diminishing in mainstream economics since 1980s. The main ideas in Washington consensus is part of the counter revolution, which not only rejects any contribution from socialist experiments, but also negates Keynesian policy in dealing business cycles and financial crises. If we accept that economics should be an empirical science in nature, not a subset of philosophy, can we test competing economic theories by policy experiments? Our answer is YES. Recent events of transition economies provide us a better chance in testing economic theories.

The so-called Washington consensus or shock therapy was based on textbook equilibrium theory. Based on their doctrines, property-right system and hard-budget constraint could achieve firm's efficiency in market competition; flexible price system created by liberalization policy should lead to both stability and efficiency under general equilibrium; economic growth would be driven by foreign direct investment and technology diffusion from developed economy; therefore, transition and development is simply a convergent process without the need of policy experiment and institution innovation. If we consider the rich physical and human resource in EEFSU (East Europe and former Soviet Union), it would be natural to predict that EEFSU would grow much faster, while China would struggle with its poor resource, cultural burden, and political institution. The surprises of large output decline in EEFSU and rapid development in China raise serious questions about the validity of textbook equilibrium economics, especially about its theory on market mechanism and economic development

(World Bank 2002).

Transition economies in the 1970's to 1990's have several new features that are different from the industrial economies during the Great Depression. First, there was no major war or international crisis before and during the transition process. Second, severe output decline in transition process was not driven by stock market crash or banking crisis. Third, different performance was mainly caused by policy differences between EEFSU and China; the former is characterized by "shock therapy" or liberalization policies driven by the so-called Washington Consensus (Sachs 1994, Williamson 1990) while the latter is featured by a gradual approach in China with decentralized experiments and a dual-track price system (Lin, 1992, Chen 1993). Shock therapy originated in Latin America, and then was applied to EEFSU. Milton Friedman, Jeffrey Sachs, Andrei Schleifer and other mainstream economists played a prominent role in selling the liberalization policy and privatization strategy to developing countries and transition economies (Yergin and Stanislaw 1998). The experimental approach was rooted in the East Asian mode of industrial policy, managed trade, and dual-track price system for export-led growth. Alan Blinder once observed that the rise of the Japanese economy from the 1960's to 1970's posed a serious challenge to the mainstream economics, since Japan had succeeded by doing everything "wrong" according to laissez-faire policy in neoclassical economics (Blinder 1990). 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%)
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 I, we can see two remarkable facts. First, there was no evidence for the widespread belief that socialist economy collapsed in 1970s and 1980s, even though there was a visible slow down for both developed countries and EEFSU. Second, there was a sharp contrast between the Transition Depression in EEFSU and continued growth in China and Vietnam among transition economies. We will use transition economies as natural experiment in addition to the Great Depression, which are valuable experiences in studying the unstable and complex nature of macro 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 economist even coined the term of “The Greater Depression” for recession 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	Recover-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. Transition Depression in EEFSU**

	Peak	Though	Recovery	Length (yrs)	Decline (%)
Germany	1992	1993	1994	1	-1.1
	(Two minor recessions in 1993, 2003, decline			-1.1%)	
Czech	1989	1992	2000	13	-13
Slovakia	1989	1992	1998	9	-22
Poland	1989	1991	1996	7	-18

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Hungary	1989	1993	2000	11	-18
Romania	1987	1992	>2003	>16	-30
Bulgaria	1989	1997	>2003	>15	-34
Albania	1989	1992	2000	11	-40
Estonia	1990	1994	2002	12	-45
Latvia	1990	1995	>2003	>13	-50
Lithuania	1990	1995	>2003	>13	-44
Russia	1990	1998	>2003	>14	-43
Ukraine	1990	1999	>2003	>14	-61
Belarus	1990	1995	2003	13	-45
Georgia	1990	1994	>2003	>13	-82
Uzbekistan	1990	1995	2001	12	-19
Azerbaijan	1990	1995	>2003	>14	-58
Kazakhstan	1990	1995	>2003	>13	-49
Tajikistan	1991	1996	>2003	>13	-70
Mongolia	1989	1993	2002	13	-22

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United Nations Statistics

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

[Note] According to Penn World Table 2002

[http://pwt.econ.upenn.edu/php\\_site/pwt61\\_form.php](http://pwt.econ.upenn.edu/php_site/pwt61_form.php)

In China's 5 years recession (1958-61-64), China's per capita real GDP declined 11.4% between 1961 and 1958.

We are surprised by the depth of the Transition Depression. The US real GDP declined about 25% and lasted about 14 years during the Great Depression; China's depression caused by famine in 1960-64 lasted 5 years with 32% decline. But the Transition Depression in Romania, Bulgaria, and many countries in the former Soviet Union lasted more than 14 years and are still below the level before the transition NOW. Their decline in real GDP ranged from 43% in Russia, 60% in Ukraine, and even 70% in Tajikistan. The magnitudes of the Transition Depression were more severe than those in the Great Depression in US and most European countries.

There are several causes proposed to explain the Great Depression: The financial instability caused by World War I in Europe, the stock market crash in US, and the deflation caused by the British return to the Golden Standard; the human error in monetary policy, etc. (Romer 2004). Many economists share the consensus that endogenous instability in the financial market played a major role in the Great Depression. In contrast, there was only minor slowdown 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 liberalization in exchange rate, trade, price, and rapid privatization carried out with ideological fever in EEFSU, while great caution was paid in China and Vietnam to preserve social stability and export-led growth.

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The central question here is: what is the main cause of the Transition Recession in EEFSU. Let us start with the simplest case in transition process, the German unification.

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

Some economists blamed the Transition Recession to “bad politics” rather than “bad economics” (Roland 2000). For example, Sachs pointed out the insufficient of Western aid was the main cause of Russia’s failure in stabilizing its currency (Sachs 2005). Disruption of production chains and credit crunch are 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 culprit: the exchange rate liberalization played the major role in output decline in East Germany.

The ideal example of shock therapy is not Poland, but East Germany (Kolodko 2000, Burda 2006). After German unification in 1989, East Germany completely imported the property right and legal system from West Germany. West Germany provided the largest financial transfer in history, which is about 80-90 billions Euro annually or 20% of GDP, which is much larger than the Marshall Plan and any foreign aid to a single developing country. There was essentially no inflation and macro instability in East Germany. Using Barror’s convergence measurement, the wage rate, consumption, productivity, and other indicators in East Germany, converged to those of West Germany more rapidly than that predicted by neoclassical growth theory (Burda 2006, Barror 1992). However, unemployment rate in Eastern Germany is still rising after 15 years of unification, in addition to slow economic growth. Why convergence theory and property right school failed to produce a East Germany miracle under the most favorable transition condition in industrial history?

We had a field observation at the famous Zeiss Optical Company in Jena of Eastern Germany in 2005. We were surprised by the large negative shock of switching exchange rate regime. Although Zeiss products were the most advanced and competitive in the world market, it suddenly lost more than 90% of the market share in East Europe after German unification, because traditional customers could not pay their bill by the old currencies used in the former Soviet block. Accumulation of hard currency (West German mark or American dollar) is a slow development process in developing countries and transition economies. It is an outcome of learning process, including increasing competitiveness, building market-network, and accumulation of foreign reserve, rather than reaching the equilibrium state overnight in exchange rate market. Clearly, CMEA (Council for Mutual Economic Assistance) breakdown and industry overkill in EEFSU was mainly caused by radical liberalization in foreign trade and 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 a deficit of \$1.8 billion US dollars in 1980, but grew to a trade surplus of \$5.4 billion in 1994, and \$24.1 billion in 2000; accordingly, its foreign reserve increased from \$0.8 billion US dollars in 1979, to \$51.6 billion in 1994, and \$165.6 billion US dollars in 2000. China’s dual-track foreign exchange system successfully merged in 1994 only when its foreign trade turned from deficit into surplus after 15 years reform and export-led growth (Figure 1). China’s annual export growth rate was 26% in 15 years from 1979 to 1994, which was more than twice of annual GDP growth rate of 9.5% in the same period.

In contrast, the trade liberalization in EEFSU induced import flood rather than export growth. As observed by Polish economists, “the more rapid the liberalization of trade, the bigger the initial shock and the deeper the ensuing recession” (Kolodko 2000).

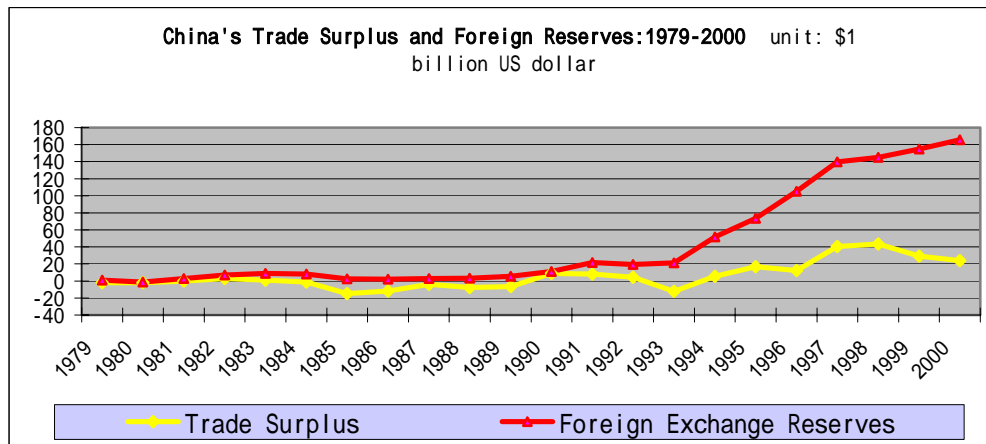


Figure 1. China's Trade Surplus and Foreign Reserves.

Data Sources: China Statistics 2001.

After the Asia financial crisis in 1997, there was an increasing number of economists who realized the danger of excess mobility in international finance since it encourages international speculation in financial market. Mainstream economists argue for a flexible exchange rate in order to create an anchor for macro stability. However, they ignore the reality of unequal competition and monetary power in international trade and finance. In neoclassical monetary theory, money and exchange rate is simply treated as exchange media in a utopian general equilibrium world. In far-from-equilibrium international world, hard currencies also have market power associated with political economy (Goodhart 1998). There is no role for sovereign state in equilibrium theory of monetary economics. Evolutionary economics learn more 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 and Stegers 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 order and biological organism. In political economy, custom, credit, visa, 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 protection against negative shocks from international market. Contrary to the argument of attracting foreign capital for developing countries, premature liberalization did little to attract long-term investment comparing to China's success in attracting FDI, but contribute more to international speculation, capital flight, and asset stripping in EEFSU.

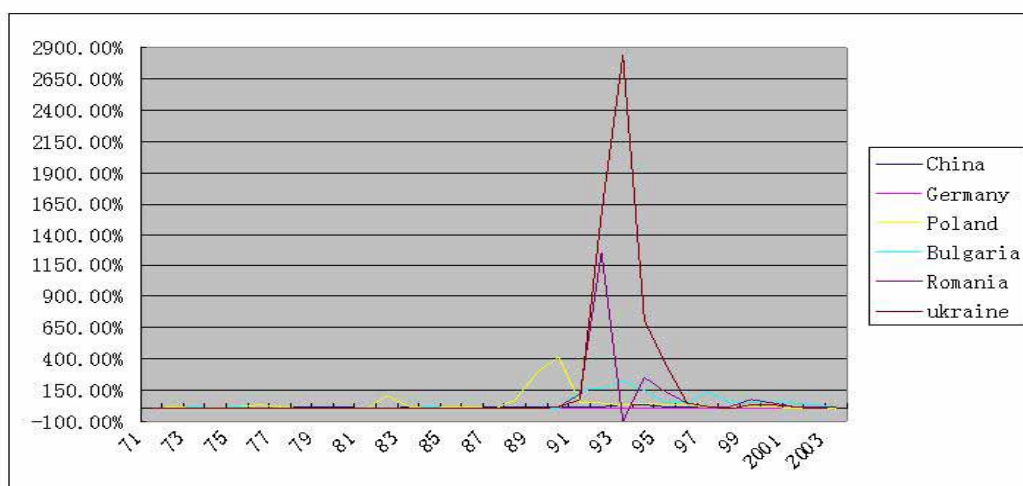
#### 4. Complex Dynamics, Path Dependence, and Learning Space

According to neoclassical microeconomics, a complete market economy has a unique equilibrium, which is inherently stable because of supply-demand mechanism (Arrow and Debreu 1954). An optimal property right system can be achieved without historical constraints (Caose 1990). Therefore, the convergence school predicted a quick stabilization process after price liberalization and establishing property right. Surprisingly, immediate results of liberalization policies in EEFSU led to inflation spirals, currency over-devaluation, and output decline (see Table 4, Table 5, and Figure 2).

**Table 4. Peak Inflation Rate during the Transition**  
Measured by the GDP deflator in current price

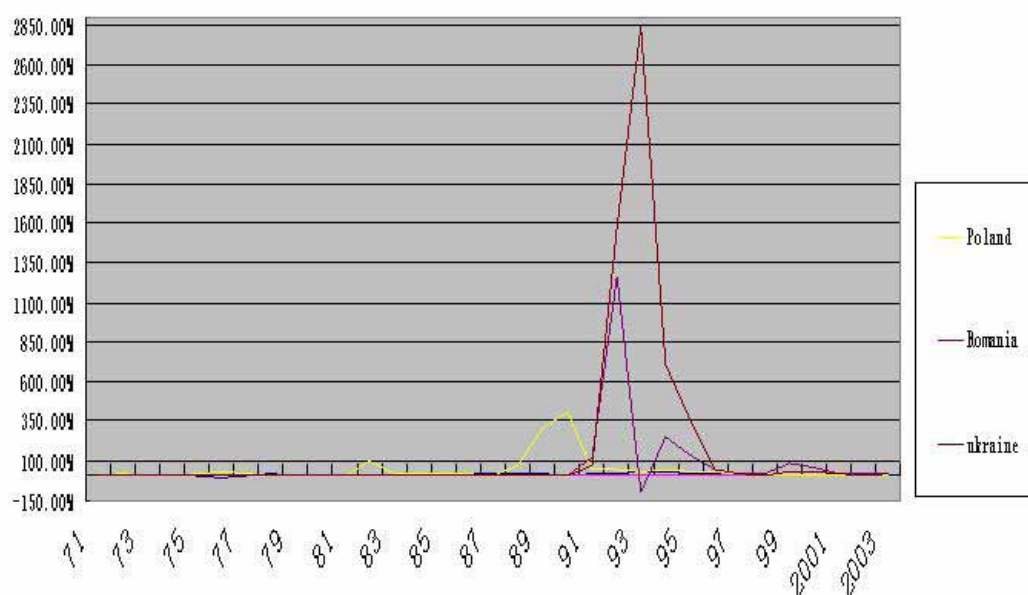
Country	Peak Inflation (%) (Year)	Length of High Inflation (>40%)
Germany	9 (1990)	0
China	25 (1988), 25 – 35 (1992-95)	0
Poland	140 – 413 (1988-1992)	6 yrs
Bulgaria	150 - 230 (1991- 1994)	11 yrs
Romania	117 – 1260 (1991- 1995)	8 yrs
Ukraine	50 – 2850 (1991- 1996)	6 yrs
Russia	150 – 2600 (1991 – 2003)	11 yrs

Data source is the United Nations Statistics Database (<http://unstats.un.org/unsd/databases.htm>).



(2a)





(2b)

Figure 2. Inflation rate in transition economies. Inflation rates are measured by GDP deflator in current price in the country.

**Table 5. Devaluation of Currency (Set Base Exchange Rate at 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

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World Table 2002 ([http://pwt.econ.upenn.edu/php\\_site/pwt61\\_form.php](http://pwt.econ.upenn.edu/php_site/pwt61_form.php))

One visible feature in China is its marked stability in the inflation rate and exchange rates, which can be seen in Table IV and Table V. 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, Czech, Slovakia, and Hungary, suffered great pains of hyperinflation in the first half of 20<sup>th</sup> century. The deep memory of past 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 occurred in the former Soviet Union, which had a long history of fixed prices under a command economy without a historical memory. History or path-dependence *matters in economic behavior* (David 1985, Arthur 1994)! It is often assumed in macro dynamics that price movements follow Markovian process. The ergodic theorem would assure a convergent process, which is independent of initial conditions. Now we have solid evidence of complex economic dynamics with chaotic process and multiple equilibriums in market economies (Chen 2005).

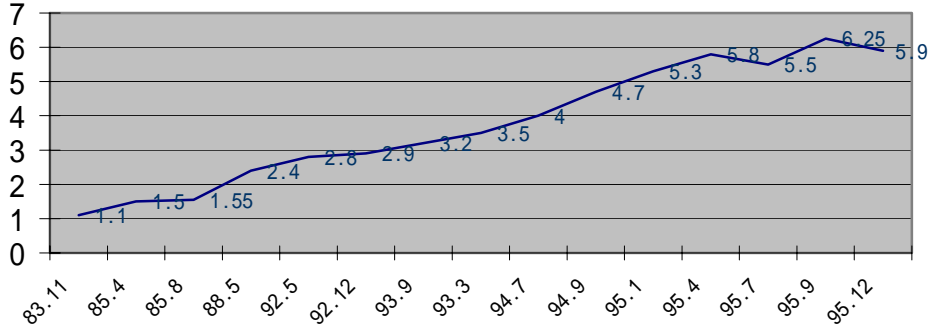
#### **4.2. Complex Patterns under a Dual-Track Price System: Production Cycle and Round-About Production**

The most visible innovation in China's reform was the introduction of the dual-track price system after the initial failure of shock therapy in price reform in 1988. There were two-fold aims in introducing the dual-track price system. The first was to maintain social stability with fixed prices and food rationing under planning system. The second was to provide production incentive by market prices when firm's production was beyond the government quotas. The resulted price dynamics varied greatly in product markets, which provided rich evidence of industrial structure and complex dynamics.

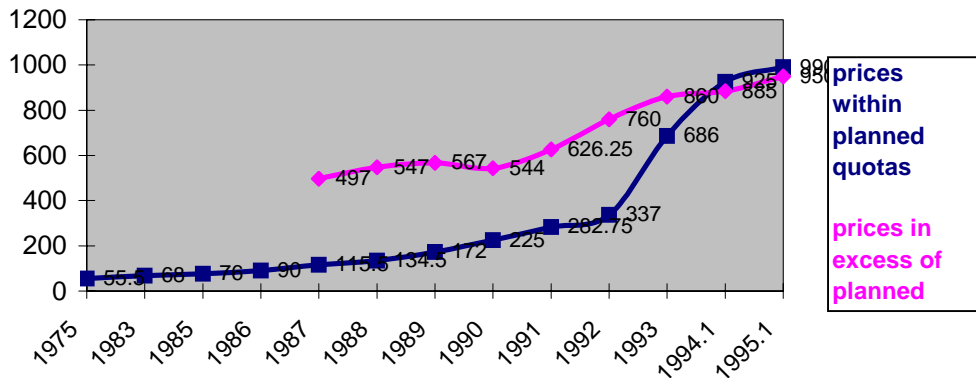
The most rapid price convergence and output growth achieved at market for farm products such as vegetable and meats. The food market prices did increase at the very beginning; but several months later, their prices quickly stabilized or even fell after a rapid growth in farm supply. For basic goods such as grain and cotton, price control was on and off for more than 10 years, never fully liberalized. Prices of industrial products were rapidly liberalized or even faced deflation for consumer goods and luxury products, but much slowly liberalized for basic consumption goods. 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 3). The price dynamics is complex with complicated interactions among changing micro behavior, industrial structure, and macro environment.

## Retail Price of Fresh Pork Meat in Shanghai 1983 ~ 1995

unit: ¥/500g



(3a)



(3b)

Figure 3. Price history in China's Shanghai local market. (a) Fresh meat price in retailed market; (b) Heavy oil dual-track price in Shanghai industrial market.

One possible explanation for diversified patterns in price dynamics is the varied length of production cycle. The product cycle for vegetable and meat production is about several months, but the investment cycle for power station needs several years. Additional complexity can be understood by roundabout production in division of labor (Hayek 1935), which is greatly differ from the simple supply-demand mechanism among atomic producers without production chains. Although grain and cotton have the similar length of production cycles as vegetables and meat production. However, cotton and grain can also be used as input in industrial production. The existence of inventory cycle and future market introduce complex dynamics in grain and cotton market. That is why China's grain and cotton market experienced severe business cycles during dual-track price reform.

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The difference in industrial structure between China and EEFSU may be 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 understand business cycles and industrial production with 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 long swings and large volatility. A market system will be remarkably stable under external shocks, if supply and demand curves have only unique equilibrium and zero time-lag. However, market dynamics will be unstable or even chaotic when exist multiple equilibrium and substantial time-lag (Chen 1987, 2005). Dynamic complexity and transition uncertainty created the room for decentralized experiments and dual-track reform, which would create learning space for adapting strategy. The blind-confidence in general equilibrium theory led naïve strategy of shock therapy in EEFSU. Sachs himself, the originator of the shock therapy, learned the need for clinical economics in dealing with economic complexity (Sachs 2005).

## **5. Conflicting Goals in Equilibrium Thinking and Economic Policy**

Washington consensus seems to provide an integrated approach for transition and development economies. However, few people realize the wish list includes conflicting goals without operational strategy and reform sequence: the hard-budget constraints at micro policy imply a credit crunch at macro economy, which directly destabilize rather than stabilize economy; large scale privatization in institutional change creates fiscal crisis and government collapse that weaken social support for market institution. The Lucas idea of microfoundations of macroeconomics ignores the complex nature of economic organism that the whole is more than the sum of the parts. We will discuss lessons from transition economies, in seeking a better alternative than the simple-minded equilibrium thinking and methodological individualism.

### **5.1. Hard-Budget Constraints and Credit Crunch**

Kornai singled out the soft-budget constraint as the main cause of inefficiency of firms under planned economies (Kornai 1986). This logic seems true only for close economy without technology progress and credit market. This is the fatal weakness of the complete market hypothesis. In industrial society, soft-budget constraints widely exist in various forms, including bank credit, venture capital, and bankruptcy law. The life and death of firms are mainly driven by technological competition in open market, rather than the degree of hardness of budget constraints in complete market. Chrysler and the Long-Term Capital are well-known example of "too big to fail" or soft-budget constraints. In practice, the credit crunch by imposing "hard budget-constraints" is a major cause of the output decline in EEFSU (Calvo and Coricelli 1992).

When open-door policy introduces international competition to domestic firms, the critical choice is how to upgrade technology for firm's survival. A favorable macro environment including access to

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bank credit and capital market is very important in firm's effort for survival in world competition. China made rapid economic growth and technology advancement exactly under the so-called soft-budget constraints. Not only state own enterprises, but also TVE (township & village enterprises) made rapid progress in international competitiveness, which can be seen from double-digit growth of manufacture export. There is no mystery for TVE's rapid progress in China. From the view of property right school, TVE has no clearly defined property right. However, TVE has more access than individual farmers to get bank loan, because the ownership of local government provides some credit backing for TVE firms. Certainly, growth under soft-budget constraints did have costs in the form of non-performing loans (NPL) in state banks. The NFL contains both components of efficiency loss and social burden. Comparing to the credit crunch 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 hardening the budget constraints, but the productivity gain comparing to social cost. The same implication can be applied to America's growing trade and budget deficit. China's growth-oriented development strategy is a new type of Keynesian policy, while Konai's policy of hard-budget constraints simply a variant of the old fashion monetarism or radical version of new classical counter revolution. History in transition economies provides strong evidence that macro environment for micro (firm's) behavior is more significant than the so-called microfoundations of macro stability.

Theoretically speaking, the theory of soft-budget constraints is a naïve exercise in microeconomics, but a ridiculous story in macroeconomics. If the survival of all socialist firms depends on state subsidy, socialist economies would have much higher inflation than market economies; this is not true in history. Persistent budget deficit and hyper inflation rarely occurred in planned economy but frequently happened in market economies such as in Latin America. Clearly, Kornai had wrong diagnosis of the trade-off between planned economy and market economy. As Schumpeter pointed out before, 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 economy is not lacking incentive in making profit, but stagnation of technology. Therefore, the right direction for reforming socialist economy is not creating a pure private economy with hard-budget constraints, but a mixed economy open to world market and new technology. Co-existence of private, state, and non-profit non-government sector (NPO or NGO) will create a plural society with innovation momentum, economic stability, and social fairness, which exist in OECD countries.

## **5.2. The MM Theorem and the Property Right School**

The property right school claims that private ownership is the necessary condition of market efficiency, which is the main belief behind the privatization policy. However, the MM theorem in financial theory 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 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 scale economy also matters in market competition. There is no question that excessive state ownership crowds out private innovation; that is why privatizing small and medium firms is easily successful in many countries. However, there is

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no solid evidence that privatizing large firms would improve competitiveness and efficiency (Von Weizsacker, Young, and Finger, 2005). China's secret of low labor cost in export industry is based on its mixed social security system, especially the collectively own land for rural population. If China privatizes collective land, its infrastructure development and export growth would slow down dramatically.

Under socialist system, large state firms often have monopolistic positions in industry. Large oil and utility firms create important revenue for government. Competition policy of breaking state monopoly, just like breaking-up AT&T in US is the effective way to advance competition and improve efficiency. The successful story is also seen from China's breaking-up of China Airline into several competing companies. However, privatizing large firms without breaking monopoly made situation worse in Russia. Government not only lost tremendous revenue, but also public support for institutional building. Local governments were forced to change from "helping hand" into "grabbing hand" (Frye and Shleifer 1997). The collapse of public finance led the rise of mafia economy. The simultaneous liberalization, stabilization (financial squeezing under the name of hard-budget constraints), and privatization created vicious cycle 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 Depression are two natural experiments, which has stimulated new economic thinking for past and future economists. Keynes learned an important lesson on macro instability and emphasized the role of active government in maintaining social stability. Certainly, the experiment in welfare state in planned economies and industrial countries also revealed the limits of big government in job creation and technology advancement. The transition experiments in EEFSU and China provide new lessons on active role and limited size of government, which is relevant not only for developing economies, but also for developed economies. We need a more general framework, which could absorb historical lessons from both limitations in market and governments. We will briefly discuss the main lessons from transition economics.

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 realized "economies (like the human body) are complex systems; . . . . economist, like medical clinicians, need to learn the art of differential diagnosis" (Sachs 2005). These lessons are also valid for developed economies as well.

First, proper competition (or "disciplined hand") is more important than property right in creating a sound market. Monopoly, corruption, organized crime, and income polarization may destroy the social foundation of market economy. Protecting competition and innovation is indispensable in market economy. We should study the history and mechanism of mixed economies in institutional economics.

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Second, open economy is the necessary condition for technology advancement and economic growth. However, open society is not a sure winner without danger and uncertainty. Economic openness will expose to will market instability and speculative movements. How to create a learning space for developing countries and adjustment space for developed economies under globalization is an open and experimental issue. Neither protectionism, nor liberalization can solve all the problems. Like living cells, dissipative structures exist by selective matter flow, energy flow, and information flow. The selection rules must adapt to domestic structure and international trends. The general equilibrium model of complete market could not address these issues in open economy. The ecological dynamics of learning competition may help in understanding the nature of evolutionary dynamics (Chen 2005).

Third, methodological individualism or Robinson Crusoe economy could not understand the complex relation among micro – meso – macro levels. There is not only “micro-foundations” of macro economies, but also “macro environment for micro behavior” (Chen 2002). Labor migration, capital flight, and organized crime are outcomes of macro depression and social crises. The top-down design of shock therapy failed to understand structural links and chain feedbacks among macro policy, financial intermediate, and micro firms. The decentralized experiments are needed to diversified system risk and minimize learning cost during social changes.

Fourth, there is a trade-off between efficiency and stability in the division of labor. Under a command system, too many firms within the same industry are considered to be redundant or “inefficient” under planning economics. On the contrary, the “perfect competition” with many firms leaves no room for R&D. In practice, too little redundancy, such as the industry in the former Soviet Union will lead to discontinuity when the supply chain is broken; while excess competition, such as in traditional economies results in thin profit margin without scale economy. Economic scale and scope is ignored by convergence school, but is catching up by Asian tigers. The real issue is “proper competition” (not monopolistic competition) in a limited market extent, where the “proper range” of numbers depends on the industrial cost structure and technology advance speed. In the auto industry, there may exist a dozen or so competitors, but in the large airplane industry, you may find even fewer companies survive. There is a trade-off between stability and opportunity in complex systems (Chen 1987, 2005).

This short article only aims to raise fundamental issues in economic thinking, without any intention in ideological debate. History will tell if new thinking in economic complexity and evolutionary dynamics will integrate new experiments into mainstream economics.

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