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Persistent Business Cycles and High Economic Growth: How to Explain Their Long Concurrence in Modern Capitalism?

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Abstract

Prior to the second half of the twentieth century, the economy of the United States was distinguished by cyclical instability and low growth; however, since the end of WWII, business cycles have moderated, coupled with relatively higher economic growth. Characteristically, in the second half of the twentieth century, periods of expansion were on average six times as long as periods of contraction, with growth cycles being more symmetric in nature. This paper addresses several internal dynamics behind business cycles (mainly endogenous constructs) and outside impulses or disturbances (theories with major exogenous and stochastic elements) that can be attributed to modern business cycle depth and duration.

Reasons outlined for this observed business cycle moderation include more effective countercyclical policy by the Federal Reserve, the lack of financial crises and major depressions marked by big business and bank failures, a shift in the structure of global market economies and the employment of automatic stabilizers.

I. Introduction: What is at issue?

Over stretches of time covering more than the past two centuries, market economies across the globe have developed and grown through “business cycles,” i.e., recurrent sequences of expansions and contractions in national levels of employment and production, nominal and real income and spending, consumption and investment. Since these fluctuations were first experienced by the public and observed by economists, they caused much concern and debate. The overriding issue has always been the occurrence of declines in general economic activity, mostly mild ‘recessions’ but sometimes severe ‘depressions.’ Why such glaring disruptions of general economic growth, which came to be expected to continue in its customary range? As conditions change, the economy may at times rise faster, at times slower, but why would it ever decline in absolute terms for some time only to resume growth later? And what, if anything, could and should be done to cure (or better prevent) any recession or depression?

While these are easy to recognize as questions asked by economists, they reflect equally the concerns of the informed public and, especially, of the businessmen, investors and consumers who are harmed by economic downturns and declines. Any knowledge of what passes as important news on the economic front will confirm the importance of the distinction between a slowdown and a recession. Hence the latter rather than the former is featured in the earliest influential definition of the business cycle that was proposed by Burns and Mitchell for the NBER in 1946¹.

¹ Arthur F. Burns and Wesley C. Mitchell, Measuring Business Cycles, New York: National Bureau of Economic Research, 1946, p. 3. The core of this definition is that business cycles are “found in the aggregate economic activity of nations that organize their work mainly in business enterprises; a cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly

A major consequence of this approach is that business cycles defined as fluctuations in levels of aggregate economic activity and its many different aspects must be well distinguished from growth cycles defined as fluctuations in deviations from trends of the same variables. This distinction is conceptually and empirically valid, although it is difficult to implement it well because trends and cycles interact and as a result are hard to separate and measure. So how to proceed here constitutes another interesting issue. But before this is tackled, as done later in this paper, let us look briefly at how business cycles and growth cycles may differ. Table 1 shows that over the fifty-odd years between 1948 and 2001 (the first and the last of the post-World War I recessions) the U.S. economy underwent ten business cycles (the expansion of the last of them is still ongoing, see columns 7-12). Growth cycles were approximately twice as frequent, numbering eighteen between 1948 and 1960 when measured from peak to peak (columns 1-6).

Business cycles are very asymmetric, the more so the stronger the growth trend. In the post WWII era, when economic growth was overall high and business cycles were moderate, expansions were on the average six times as long as contractions (see Table 1, columns 10-12). In contrast, growth cycles are much more symmetric, their rises being on average not much longer than their falls (26 and 18 months respectively, see columns 4-5). Several business cycle expansions have been interrupted and/or terminated by growth cycle slowdowns. At peaks, growth cycles usually lead business cycles, while at troughs they usually coincide or lag by short intervals (see Table 2).

general recessions, contractions, and revivals which merge into the expansion phase of the next cycle...in duration business cycles vary from more than one year to ten or twelve years....”

Table 1

**U.S. Growth Cycles and Business Cycles, 1948-2001
Durations of Cycles and Their Phases**

<u>Growth Cycles</u>			<u>Duration in Months of</u>			<u>Business Cycles</u>			<u>Duration of Months of</u>		
Peaks (P) and Troughs (T)			Growth Cycles and Phases			Peaks (P) and Troughs (T)			Business Cycles and Phases		
P (1)	T (2)	P (3)	P to T (4)	T to P (5)	P to P (6)	P (7)	T (8)	P (9)	P to T (10)	T to P (11)	P to P (12)
Jan-48	Oct-49	Jan-51	21	15	36	Nov-48	Oct-49	Jul-53	11	45	56
Jan-51	Jul-52	Mar-53	18	8	26						
Mar-53	Aug-54	Feb-57	17	30	47	Jul-53	May-54	Aug-57	10	39	49
Feb-57	Apr-58	Jan-60	14	21	35	Aug-57	Apr-58	Apr-60	8	24	32
Jan-60	Feb-61	Apr-62	13	14	27	Apr-60	Feb-61	Dec-69	10	106	116
Apr-62	Jan-64	Mar-66	21	26	47						
Mar-66	Oct-67	Aug-69	19	22	41						
Aug-69	Nov-70	Nov-73	15	36	51	Dec-69	Nov-70	Nov-73	11	36	47
Nov-73	Apr-75	Mar-79	17	47	64	Nov-73	Mar-75	Jan-80	16	58	74
Mar-79	Jul-80	Jul-81	16	12	28	Jan-80	Jul-80	Jul-81	6	12	18
Jul-81	Dec-82	Sep-84	17	21	38	Jul-81	Nov-82	Jul-90	16	92	108
Sep-84	Jan-87	Jan-89	28	24	52						
Jan-89	Dec-91	Jan-95	35	37	72	Jul-90	Mar-91	Mar-01	8	120	128
Jan-95	Jan-96	Jun-00	12	53	65	Mar-01	Nov-01		8		
Mean			18.8	26.1	44.9				10.4	59.1	69.8
Median			17	23	44				10	45	56
Standard Deviation			6.2	13.2	14.7				3.4	38	39.1

Reprinted from Victor Zarnowitz and Ataman Ozyildirim, "Time Series Decomposition and Measurement of Business Cycles, Trends and Growth Cycles," Journal of Monetary Economics 53 (2006) 1717-1739.

Table 2

Chronologies and Relative Timing

Peaks (P) and Troughs (T)		Lead (-) or Lag (+) of G.C. or B.C. turns		Peaks (P) and Troughs (T)		Lead (-) or Lag (+) of G.C. or B.C. turns			
<u>Growth Cycles</u>		<u>Business Cycles</u>		<u>Growth Cycles</u>		<u>Business Cycles</u>			
(1)		(2)		(6)		(7)			
		Peaks Troughs				Peaks Troughs			
		(3) (4)				(8) (9)			
P	Jan-48	Nov-48	-10		P	Aug-69	Dec-69	-4	
T	Oct-49	Oct-49		0	T	Nov-70	Nov-70		0
P	Jan-51				P	Nov-73	Nov-73	0	
T	Jul-52				T	Apr-75	Mar-75		1
P	Mar-53	Jul-53	-4		P	Mar-79	Jan-80	-10	
T	Aug-54	May-54		3	T	Jul-80	Jul-80		0
P	Feb-57	Aug-57	-6		P	Jul-81	Jul-81	0	
T	Apr-58	Apr-58		0	T	Dec-82	Nov-82		1
P	Jan-60	Apr-60	-3		P	Sep-84			
T	Feb-61	Feb-61		0	T	Jan-87			
P	Apr-62				P	Jan-89	Jul-90	-18	
T	Jan-64				T	Dec-91	Mar-91		9
P	Mar-66				P	Jan-95			
T	Oct-67				T	Jan-96			
1948-61		All Turns	P	T	1948-61		All Turns	P	T
Mean	-2.5	-5.75	0.75		Mean	-2.1	-6.4	2.2	
Median	-1.5	-5	1.5		Median	0	-4	1	
Standard Deviation	2.2978	3.0957	1.5		Standard Deviation	5.751	7.668	3.834	
		1948-61	All Turns	P	T				
		Mean	-2.28	-6.1	1.6				
		Median	0	-4	0				
		Standard Deviation		5.754	2.963				

Reprinted from Victor Zarnowitz and Ataman Ozyildirim, "Time Series Decomposition and Measurement of Business Cycles, Trends and Growth Cycles," Journal of Monetary Economics 53 (2006) 1717-1739.

It would be attractive to have a unified theory that applied to business cycles and growth cycles alike². But the differences between the two sets of phenomena are such that blurring them appears to be inadvisable. Better understanding of the relationship between macroeconomic fluctuations and trends is much needed and it is facilitated by study of growth cycles as well as business cycles³.

To make progress on these matters, it will help to ask how modern economic history divides into comparatively good and poor times and what the variations in growth trends and cyclical fluctuations contributed to these contrasting developments. In addition, there are good reasons to ask about any evolution in the symptoms and nature of the economy's movements: Have business cycles moderated? When and why, how and how much? What are the consequences for the nature and future of business fluctuations and growth? How much or how little is known about these issues?

II. The Era of Cyclical Instability and Great Development

During the late 19th and early 20th century, four decades of rising capitalism, the levels of total output and overall prices, broadly defined money and market interest rates were all undergoing continuing fluctuations of pronounced frequency, duration and amplitude. This is demonstrated for the United States in Table 3 (columns 1, 4, 7, 10 and 13). Yet, concurrently with this persistent cyclical instability there was also a great deal of economic growth; e.g., real GNP rose in expansions almost three times as much as it

² Cf. Edward C. Prescott, "The Transformation of Macroeconomic Policy and Research," Journal of Political Economy, no. 2, vol. 114, April 2006.

³ See Victor Zarnowitz and Ataman Ozyildirim, "Time Series Decomposition and Measurement of Business Cycles, Trends and Growth Cycles," Journal of Monetary Economics 53 (2006) 1717-1739.

Table 3

Durations and Amplitudes of Cyclical Movements in Estimates of Nominal and Real GNP, the Price Level, Money Stock, and Short-Term Interest Rates: Pre-World War I, Interwar, and Post-World War II Periods

Line (1)	Period ^a (2)	No. of Cyclical Movements ^b		Average Duration in Quarters ^c		Average Percentage Amplitude ^e		Average Percentage Amplitude per Quarter ^d	
		Rise (3)	Fall (4)	Rise (5)	Fall (6)	Rise (7)	Fall (8)	Rise (9)	Fall (10)
				<i>GNP in Current Dollars</i>					
1	1878-1914	10	10	10.0	4.6	24.4	- 8.1	2.4	-1.8
2	1920-1938	4	5	10.5	6.0	37.2	-21.2	3.4	-3.5
3	1948-1960	3	4	12.3	2.8	28.0	- 2.2	2.3	-0.8
				<i>GNP in Constant Dollars</i>					
4	1878-1914	12	12	8.9	3.2	17.3	- 5.1	1.9	-1.6
5	1919-1938	4	5	11.0	6.0	30.1	-14.1	2.7	-2.4
6	1948-1982	7	8	16.3	2.6	20.9	- 2.5	1.3	-1.0
				<i>Wholesale Price Index</i>					
7	1876-1914	11	10	6.6	6.9	12.1	-11.8	1.8	-1.7
8	1920-1939	4	5	8.2	8.6	15.4	-21.6	1.9	-2.5
9	1948-1967	4	5	12.5	5.0	8.7	- 4.8	0.7	-1.0
				<i>Money Stock (M2)</i>					
10	1878-1908	4	4	26.0	3.2	82.3	- 5.9	3.2	-1.8
11	1920-1938	2	3	22.5	8.7	48.3	-14.4	2.1	-1.8
12	1948-1949 ^f	...	1	...	4	...	- 0.9	...	-0.2
				<i>Commercial Paper Rate^g</i>					
13	1875-1913	10	10	9.1	6.0	2.7	- 2.8	0.3	-0.5
14	1918-1937	5	6	5.6	7.7	1.8	- 2.4	0.3	-0.3
15	1946-1983	9	9	11.2	5.1	4.3	- 3.4	0.4	-0.7

^aYear dates of the first and last turning points of the series during each period.

^bIdentified according to specific cycle peaks and troughs dated by inspection of the charts of the series. Only complete upward and downward movements (called "rise" and "fall," respectively) are counted.

^cMeasured from trough to peak for rises and from peak to trough for falls.

^dCol. 9 = col. 7 ÷ col. 5. Col. 10 = col. 8 ÷ col. 6.

^eOnly one cyclical decline in the level of M2 occurred in the period 1946-83, dated 1948:1 (peak) to 1949:1 (trough).

^fThe entries in cols. 7-10 are average amplitudes of absolute (not percentage) changes.

Reprinted from V. Zarnowitz, *Business Cycles: Theory, History, Indicators, and Forecasting*. The University of Chicago Press, Chicago and London, 1992, chapter 3, esp. table 3.2, p. 90.

fell in contractions (line 4). Several major countries in Europe, America and Asia also attained unprecedented trends in macroeconomic and financial growth and modernization.

There is considerable documentation and consensus in professional literature on these important facts⁴. The longest and most detailed records – dated identifications of recessions and recoveries – exist for Great Britain and the United States; they are annual for 1790-1853, monthly since 1854. Monthly data are preferred in this context because they are much more informative, given the short duration of many phases and stages of business cycles. Importantly, while both business cycles and growth cycles (fluctuations in levels and deviations from trends of economic aggregates) are recurrent they are far from periodic. Indeed, they display great variations in duration as well as amplitude.

Severe depressions reduce growth of real economic activity, often strongly but always for a limited time; even the Great Depression and its aftermath suppressed growth for as long as eight years (1932-39) but not beyond. Vigorous expansions, which sometimes but not always follow such major contractions, stimulate growth in a somewhat less transitory manner. But most cyclical movements in peacetime are relatively short and mild, so they do not have strong effects on long-term growth trends. In the United States, GNP in constant dollars grew on the average of about 2.6 and 4.0 percent per year in periods of relatively high and low cyclical stability, respectively⁵.

⁴ Large scale empirical work in this area has been constructed by scholars at the National Bureau of Economic Research (NBER) and elsewhere. It is being updated and continued at The Conference Board (TCB). For references and summaries, see David Glasner, ed., Business Cycles and Depressions: An Encyclopedia, Garland Publishing, Inc., New York and London, 1997.

⁵ For derivation and detail, see V. Zarnowitz, Business Cycles: Theory, History, Indicators, and Forecasting. The University of Chicago Press, Chicago and London, 1992, chapter 7, esp. table 7.1, p. 206 and text.

In short, then, apart from rare extremes, cyclical fluctuations do not seriously impair economic growth. Between 1854 and 1913, fourteen business cycles occurred in the United States with almost equal division in length between expansions and contractions (25 and 23 months, respectively). Yet the economy made great gains over that era in terms of accelerated growth of population, improved technology, and a sustained rise in material output per capita. It was the first “gilded age” of Western economies growing more open and flexible, more innovative and productive, larger and richer. It was also the first “globalization” age, with increasingly free international markets and trade. On the negative side, this was also a time of growing inequality and unfairness due to generally unregulated business activities.

That era, marked by much progress yet also much cyclical instability, ended suddenly with the outbreak of World War I, whose political and economic consequences were nothing short of disastrous. The two decades between the two “great wars” stand out as definitely the worst in modern times, from the inflationary and volatile 1920’s through the deeply and persistently depressed 1930’s. The 1919-39 period gave rise to new political and economic disappointments and hostilities, new extremism on the left and right wings, and ultimately a new genocidal war.

The battle of rampant European nationalisms that was World War I continued into the interwar period. The unconditional victory of Allies over fascism and the democratic

The times of “high” stability include the following four periods: 1882-92, 1903-13, 1923-29 and 1948-69. The times of “low” stability include the following four: 1892-99, 1913-23, 1929-48, and 1969-80. The former cover 47 years and 12 cycles; the latter cover 47 years and 10 cycles.

Note that GNP (Gross National Product) was used widely in earlier literature, whereas more recently GDP (Gross Domestic Product) is often preferred. For our purposes, the difference is not very material.

reforms in the defeated countries led to a much better settlement after World War II than was reached at Versailles after WWI.

The high economic growth and moderate business cycles that prevailed in the second half of the 20th century stand in sharp contrast to the considerably lower growth and greater cyclical instability that prevailed in much of the 1920's and all of the 1930's. The contrast extends from Europe to the Far East and North America. It deserves to be seen in a broader historical context.

III. Why Business Cycles Have Moderated

The conventional wisdom now is that U.S. business cycles have become more moderate, notably since mid-1980's, i.e., in the last two or three decades. The most cited reasons are fewer adverse shocks and more effective countercyclical policies, mainly by the monetary actions of the central bank (the Federal Reserve). But arguably other and longer processes need to be also considered. Financial crises and major depressions marked by big business and bank failures, which were not so uncommon before World War II, ceased to be a feature of international commerce and industry thereafter. In the past six decades the structure of global market economies underwent a large shift from the highly cyclical manufacture of durables and other goods to the much less cyclical production and exchange of services. This worked as a powerful long-term stabilizing factor throughout the post-WWII era. So did the automatic stabilizers: pro-cyclical progressive income taxes and countercyclical transfer payments. Actions of independent

central banks helped occasionally by reducing inflation and/or cyclical instability through changes in interest rates and supplies of money and credit.

The joint effects of all these changes on the durations and amplitudes of cyclical movements in selected economic and financial indicators are shown in Table 3 for the United States in three periods: pre-WWI, interwar, and post-WWII. The first was highly cyclical, the second more so yet, and the third had the highest growth and the most moderate cycles (but also the longest inflation).

For both nominal and real GNP, the wholesale price index, and the commercial paper rate, the longest expansions and the shortest contractions occurred in the post-WWII period (Table 3, columns 5-6). The largest percentage increases and decreases, both overall and per-quarter, occurred in the interwar period (columns 7-8 and 9-10). The long pre-World War I period had the most numerous and persistent but often short cycles of average percentage amplitude (lines 1, 4, 7, 10 and 13).

The relative stability of the most recent peacetime period can undoubtedly be traced in part to the steady growth of money stock (line 12) and the policy-induced cyclical interest movements (line 15). External shocks probably played a modest role here, except for the oil price hikes in the 1970's; they may well have been more important in the pre-WWI and, particularly, in the interwar years.

IV. On the Evolution of Theories of Business Cycles and Growth

Early accounts of numerous economic “crises” linked them first to non-economic causes – natural and man-made disasters such as epidemics, bad harvests, wars and civil

disorders – but soon had to include the more difficult category of “financial crises⁶.” Contemporary chronicles emphasized extraordinary events – downturns and declines in markets and the economy, and the outside disturbances that may have caused them. But economists increasingly looked for more systematic explanations of business cycles as a process. This led to a variety of theories, some emphasizing the internal dynamics of the business cycles (mainly endogenous constructs), others relying also (or mainly) on outside impulses or disturbances (theories with major exogenous and stochastic elements). A classic analysis of earlier developments in business cycle theory is G. Haberler, Prosperity and Depression, Cambridge: Harvard University Press, 4th rev. ed. 1962. An updated tabular summary is presented in Table 4.

Business cycles “of experience,” i.e., as actually observed, are characteristically pervasive and persistent, non-periodic but recurrent and formed by regular co-movement of many variables with characteristic differences of timing and amplitude. They are exposed to, and influenced by, various external disturbances and at the same time subject to their own internal dynamics. Thus, a mild recession is typically followed by a moderate recovery, a severe depression by a vigorous boom⁷. A complete explanation of any historical business cycle cannot, therefore, be either purely exogenous or purely endogenous. Hence, Table 4 treats all interesting theories in this area as mixed, but classifies some as predominantly endogenous, relying on internal imbalances, others as predominately exogenous, depending on external shocks, whether random or systematic.

⁶ R.W. Scott, The Constitution and Finance of English, Scottish, and Irish Joint-Stock Companies to 1720, Cambridge: The University Press, 1912, lists 30 crises in 1558-1720 and attributes most of them to such “shocks.” T.S. Ashton, Economic Fluctuations in England, 1700-1800, Oxford: Clarendon Press, 1959, accounts similarly for 22 episodes related mainly to external disturbances and financial crises.

⁷ As usual in economics, these rules admit important exceptions, the biggest one here being that the severe declines of the 1930’s were not followed by a strong expansion until after WWII.

Table 4

A Synopsis of Selected Business Cycle Theories

Type of Theory	Main Factors		Most sensitive Processes	Are Cycles Linked to Growth?	Special Features	Authors & Dates
	Originating	Responsive				
<i>I. Some Largely Endogenous Theories</i>						
Monetary disequilibrium	Unstable flow of money (bank credit)	Interest rate changes; cycles of inflation and deflation	Investment in traders inventories	No	Cycles tend to be periodic under the gold standard	Hawtrey 1913 - 37
Monetary overinvestment	Unstable supply of bank credit	Discrepancy between the natural and money interest rates	Capital investment, production processes	No or weakly	Real vertical maladjustments result from monetary disequilibria	Hayek 1931 - 39
Cyclical real growth	Burst of innovation contested by imitators	Credit financing; excesses of speculation and misjudgement	Business capital investment booms and readjustments in contractions	Yes	Simultaneous interacting long, intermediate, and short cycles	Schumpeter 1912 - 39
<i>II. Some Theories with Major Exogenous and Stochastic Elements</i>						
Impulse and propagation in a real model	Undefined erratic shocks and discontinuous Schumpeterian innovations	Investment accelerator, lags in output of capital goods, money demand and imperfectly elastic supply	Capital-goods production, but the system as a whole is damped (dynamically stable)	Yes (through innovations)	Random shocks or innovations bunched in expansions needed to maintain oscillations	Frisch 1933
The original monetarist theory	Sequential shocks: high monetary growth rates followed by low rates, etc.	Relative prices and asset yields, then spending flows	Both consumption and investment react to monetary changes	No	Monetary policies destabilize the private sector	Friedman and Schwartz 1963a, 1963b
Market clearing with rational expectations and incomplete information	Random monetary shocks causing price-level variations	General price changes misperceived for relative price changes; intertemporal substitution of labor and leisure	Prompt and strong reactions to perceived changes in relative prices or real rates of return on the supply side	No	Flexible prices and wages clear markets continuously; money and price surprises cause fluctuations in output and investment	Lucas 1977
A disequilibrium theory of investment and financial instability (largely endogenous)	Unstable expected profits drive business investment, which generates fluctuations in realized profits	Money created by bank lending to business; short-term financing of long-term investment	Relative prices of capital assets set in financial markets under uncertainty about future returns, costs of capital, and cash flows	Yes	Long expansions produce over-confidence, unsound financing practices, a growing debt burden and illiquidity...sources of contractions and crises	Minsky 1982

Reprinted from V. Zarnowitz, Business Cycles: Theory, History, Indicators, and Forecasting. The University of Chicago Press, Chicago and London, 1992, chapter 2, esp. table 2.5, p. 50-51.

Some elements in the economy seem more likely to play a large causal or contributive role in business cycles than other elements. As Table 4 suggests, the cyclically most active factors are monetary changes, credit financing, business investment, and relative prices of capital assets. They appear in the primary endogenous models, some of which stress unstable flows of bank credit and interest rates, while others stress over- and under-investment imbalances, monetary and/or real. They also appear in the more mixed impulse/propagation models, some of which have alternating shocks of excessively high and low monetary growth rates, while others have real shocks and accelerator mechanisms concentrated in capital-goods production.

Imbalances that arise in some business cycle phases are resolved in later phases. Propagation of certain impulses that come up repeatedly contributes to the economy's fluctuations. Not only do business cycles combine these endogenous and exogenous elements, the process is both disequilibrating in the short-run and equilibrating in the long-run. The very phrases markets use to describe certain cyclical phenomena point to their being so understood. Consider the asset price 'bubbles' that 'burst,' for example: prices of tulips in one early boom or of stocks or houses more recently, which are driven to extraordinary heights through speculative buying, but are recognized as excessive and deflated in subsequent busts. The bubble distorts the economy away from its moving equilibrium growth in the upward direction. The bursting of the bubble, on the other hand, forces the economy to move down, back toward its equilibrium trend. This is an equilibrating phase that helps to penalize and correct the previous excesses and errors, although it may create new problems of its own if the decline is overdone.

The theory that goes farthest in integrating business cycles and growth sees the source of both in innovations – the implementation of new technologies and inventions, new products, industries, markets and ways of doing business. The bursts of these innovations contesting the old processes, techniques, products, etc. and contested by them in return is what accounts for the success and turmoil of the booms. Not only the old established concerns but also new imitators are fighting the innovators. Credit expansion and excesses of speculation and misjudgment are inevitable during these times of “creative destruction,” with the new replacing the old. It takes time and much effort to complete the work and reap the fruits of the innovations. Recessions and recoveries are inevitably parts of this real growth process (see Table 4, line 3).

V. Concluding Remarks

Great innovative progress and recurrent fluctuations of market economies have long been associated with each other and with the rise of capitalism. This is no accident but a historical relationship with a deep meaning, which goes back more than two centuries. Expansions are times when innovations flourish and growth is accelerated; contractions are times when costs of that tumultuous process, which are sizable, including time, are absorbed.

The long era before World War I saw some serious financial crises and economic depressions, but also many relatively mild cycles. Instability deteriorated in the two inter-war decades, first in the direction of inflation, then of unemployment. The Great Depression of the 1930's remains uniquely severe and difficult to explain. But in the six

decades after World War II a “great moderation” of business cycles has taken place. Expansions grew longer, contractions shorter. Great gains were achieved in economic growth and prosperity. Yet, much of what is observed and what has been learned about business cycles does not really add up to any basic transformation in their nature and essentials.