

I.B. NARRATIVE SCENARIOS OF GLOBAL DEVELOPMENT

In this section we review several sets of scenarios that are presented largely in narrative form. First we look at five sets of scenarios prepared during the 1960's, 1970's and 1980's that focused on the period up to 2000. We assess how well these captured important aspects of the relevant history that actually came to pass, and what lessons we can learn from these efforts.

Next we review 26 sets of scenarios constructed after 1990 that look beyond the year 2000. The purpose is to identify those driving forces or trends, and critical topics, that have appeared most frequently when analysts have attempted to project developments over the coming decades. We use these to identify topics for more detailed consideration in Section II, and to identify a set of advocated scenarios that represent, in my estimate, the major contending ideologies and worldviews of our time.

I.B.1. SCENARIOS OF THE 1960's, 1970's AND 1980's, LOOKING TO 2000

Box IB-1 shows the scenarios presented by Kahn and Weiner in their 1967 book, *The Year 2000: A Framework for Speculation on the Next Thirty-Three Years*. This book introduced scenario planning to a wide audience and was very influential. The authors claimed that the trends listed in their Standard World Scenario had been underway for several centuries, largely in the West, and could be expected to continue and to spread to the rest of the world in the coming decades. A set of Alternative Scenarios was presented that had the standard scenario trends in common but reflected different geo-political possibilities, largely turning on the relative dynamism of the Communist world and the West, and on the prospects for war and peace.

Box IB-2 shows projections of economic growth for the period 1965-2000 made by Kahn and Weiner. Their preferred estimates were mostly based on extrapolations of high growth rates following World War II. They also prepared estimates for several major economies based on the longest time series data available, beginning as far back as 1900.

BOX IB-1. KAHN AND WEINER (1967) - THE YEAR 2000

I. STANDARD WORLD SCENARIO:

- * increasingly empirical, secular, humanistic, pragmatic, utilitarian, contractual, hedonistic
- * bourgeois, bureaucratic, meritocratic, democratic (and nationalist?) elites
- * accumulation of scientific and technological knowledge
- * institutionalization of research, development, innovation and diffusion
- * worldwide industrialization and modernization
- * increasing affluence and (recently) leisure
- * population growth
- * urbanization and (soon) the growth of megalopolises
- * literacy and education
- * increasing capacity for mass destruction

II. ALTERNATIVE SCENARIOS:

1. *More integrated world:* relatively peaceful, prosperous, arms-controlled worlds with relatively high consultation and coordination among nations
 - a. *status-quo oriented:* coordination exists among the advanced powers, with little concern for developing nations
 - b. *development oriented:* coordination is inclusive of developing nations
2. *More inward-looking:* almost as peaceful and prosperous as above, but with little arms control or coordination
 - a. *with an eroded Communist movement*
 - b. *with eroded democratic morale and some Communist dynamism*
 - c. *with a dynamic Europe and/or Japan*
3. *Greater disarray:* relatively troubled and violent worlds, but in which no large central wars have occurred.
 - a. *with an eroded Communist movement*
 - b. *with eroded democratic morale and some Communist dynamism*
 - c. *with a dynamic Europe and/or Japan*

Note: the "Alternative Scenarios" are alternatives to one another, not to the "Standard World Scenario." The trends shown as the "Standard World Scenario" are common to all of the "Alternative Scenarios."

BOX IB-2. KAHN AND WEINER - PROJECTIONS OF ECONOMIC GROWTH, 1965-2000

[sources: Kahn and Weiner (1967); United Nations Development Program (1997)]

Table 1. By Country	Kahn & Weiner's 1967 forecasts for per capita GDP growth, 1965-2000 based largely on trends since 1945	Actual per capita GDP growth, 1965-1993 (UNDP)	Difference (forecast less actual)	Kahn & Weiner's 1967 growth rate projections for 1965-2000, based largely on trends of the preceding 40-60 years
Japan	6.8	4.3	2.5	3.7
Israel	4.2	2.9	1.3	
W. Germany	4.1	2.6	1.5	1.8
Italy	4.1	2.7	1.4	2.4
OECD	3.7	2.3	1.4	
UK	3.7	2.1	1.6	1.5
France	3.7	2.7	1.0	1.6
China	3.5	6.0	-2.5	3.1
Thailand	3.3	5.3	-2.0	
Canada	3.1	2.4	0.7	1.6
US	3.0	1.8	1.2	1.8
India	2.9	2.2	0.7	2.1
WORLD	2.9	1.5	1.4	
Argentina	2.8	0.7	2.1	
Australia	2.4	1.9	0.5	
Pakistan	2.2	2.4	-0.2	
Mid East/No Afr.	2.2	1.9	0.3	
Sub-Sahara	1.8	0.0	1.8	
So Africa	1.7	1.6	0.1	
Southeast Asia	1.7	3.9	-2.2	
Brazil	1.7	3.5	-1.8	
Latin America	1.6	1.3	0.3	
Nigeria	1.2	2.2	-1.0	
Mexico	1.1	1.7	-0.6	
Indonesia	0.6	4.7	-4.1	

Figure 1. Regression of Forecast and Actual Per Capita GDP Growth Rates, 1965-2000

[forecasts: Kahn & Weiner, 1967; actual: UNEP, 1997. $p(.95) = .216$; $R^2 = .025$]

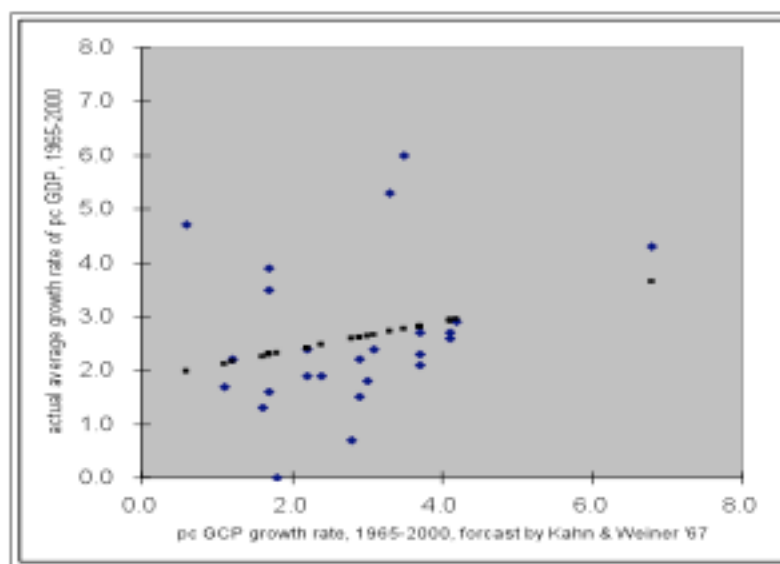


Table 2. By Region	Kahn & Weiner's 1967 forecasts for per capita GDP growth, 1965-2000	Actual per capita GDP growth, 1965-1993 (UNDP)	Difference (forecast less actual)
So. & East Asia, w/o China	4.3	n/a	n/a
OECD	3.7	2.3	1.4
WORLD	2.9	1.5	1.4
Middle East & No. Africa	2.2	1.9	0.3
Sub-Saharan Africa	1.8	0	1.8
Southeast Asia	1.7	3.9	-2.2
Latin America	1.6	1.3	0.3

Notably absent in *The Year 2000* was any consideration of environmental issues. The years immediately following its publication saw an explosion of environmental concerns, and in Kahn's 1976 book, *The Next 200 Years*, these figured prominently. He identified four scenarios, shown in **IB-3**, that reflected different empirical judgments and normative preferences concerning economic growth, the environment, and technology.

Kahn's work inspired new efforts in the field of future studies. Among the most influential were studies done at the Stanford Research Institute (SRI). Whereas Kahn was aligned with military and generally conservative interests, the analysts at SRI were aligned with the liberal movements of the time, in particular the environmental movement. In 1975 SRI analysts prepared a set of scenarios for the US Environmental Protection Agency (EPA) that captured much of the sense of crisis and opportunity of that period. In 1982 a modified version of this set of scenarios was published as *Seven Tomorrows*. The set of driving trends used to construct the EPA scenarios are shown in **IB-4**. Summaries of the scenarios from both efforts are shown in **IB-5**. Quantitative projections from *Seven Tomorrows* are shown in **IB-6**.

Although the analysts at SRI were sympathetic to liberal and environmental values they were by no means anti-capitalist, and their studies tended not to address issues of political economy. Students of future studies in Europe and the Third World, by contrast, gave political economy much attention. **IB-7** shows a set of scenarios prepared in 1984 by British analysts aligned with the European labor-left.

Assessment

A review of these five sets of scenarios prompts these observations:

* The core trends identified in Kahn and Weiner's 1967 Standard World Scenario have indeed continued over the past 33 years, as they predicted. Further, although none of their Alternative Scenarios exactly capture the politico-economic conditions of 2000, Alternative 1b and condition "a" of Alternative 2 can be combined to aptly summarize it: "A more integrated, development-oriented world with an eroded Communist movement."

BOX IB-3. HERMAN KAHN (1976) - THE NEXT 200 YEARS

FOUR WORLDVIEWS

1. Convinced Neo-Malthusian: Finite resources will reach limits within 50 years; the complexity of natural systems will overwhelm our attempts to manage them; techno-fixes won't work or will back-fire; continued growth benefits the rich more than the poor. Wisdom calls for a rapid transition to a no-growth world. If we don't do this billions may die from starvation, pollution and wars over scarce resources.
2. Guarded Pessimism: Resource limits are uncertain but we are better off being cautious. Techno-fixes at best may delay the inevitable. Wisdom calls for a slow but steady transition to a no-growth world. Policies to ensure an equitable income distribution are imperative to avoid class warfare. The LDC's should avoid the mistakes of the developed world and emphasize community-oriented enterprises. The developed world should emphasize Quality of Life rather than further growth in GDP.
3. Guarded Optimism: Technology and wise management should allow growth to continue. Policies to internalize environmental externalities should be adopted. Industrial development is the only real hope for alleviating poverty. Absolute incomes will increase for all but isolated populations. The world economy will need to be carefully monitored so that policies can be adopted to ensure steady, even growth, if necessary.
4. Technology and Growth Enthusiast: There is no need for worry, the faster the rate of technological innovation and growth, the more benefit to humankind. A rising tide lifts all boats. At the high levels of material prosperity available to all, distributive differentials are not a major source of social tension. Policies to "soften" the impacts of a dynamic growth economy will do more harm than good.

BOX IB-4. DRIVING TRENDS OF THE SRI SCENARIOS FOR 1975-2000

Source: Alternative Futures for Environmental Policy Planning, 1975-2000, Duane S. Elgin, David C. MacMichael, and Peter Schwartz. Stanford Research Institute, 1975.

A. Energy Use:

1. continued high growth: 4%/yr
2. controlled growth: 1-3%/yr
3. unsuccessful high growth: energy growth begins high but collapses by 2000.
4. zero or declining growth: 0 to -1%

B. Climate:

1. favorable: as usual
2. variable: sometimes good, some bad, unpredictably
3. worsening climate: global cooling leads to drought, floods, shortened growing season

C. Food:

1. high prices/no shortage
2. moderate prices/no shortage
3. high prices/food shortage

D. Values:

1. achievement values: population emphasizes material things: status, fame, affluence, on the personal level and growth, bigness, competition on the system level. Mechanistic, materialistic, individualistic, secular, centralized, scientific empirical.
2. survival values: achievement values are held but material circumstances prevent them from being readily realized. The consequences are frustration, dogged endurance, emphasis on security and survival aspects of achievement values.
3. frugal values: voluntary simplicity of the exterior aspects of life in order to attain greater riches of inner aspects. Includes a self-realization ethic and an ecological ethic, or combinations of these (survival/frugal split; achievement/survival split; three way split; etc.)

The four key variables and the thirteen alternative ways they may change over time define a four-valued matrix of 108 potential scenarios ($4 \times 3 \times 3 \times 3 = 108$). Of these the authors chose 10 for elaboration into full narrative scenarios. In Box IB-5 we show nine of these (two are very similar).

BOX IB-5. THE EPA/SEVEN TOMORROWS SCENARIOS

I. Alternative Futures for Environmental Policy Planning, 1975-2000 (1975)

1. *Hitting the Jackpot*: “The Kahnian future: growing prosperity for all through markets and technology.”
2. *Not-So-Great Expectations*: “Energy and environmental stresses motivate moderately frugal lifestyles and business efficiencies that successfully allow growth to continue.”
3. *Apocalyptic Transformation*: “Overconfidence in markets and technology, and rapid climate change, leads to economic collapse in the mid-1980’s. From the ruins arises a transformed society based on simple living.”
4. *Journey to Transcendence*: “Awareness of pending limits to growth motivates a spiritual evolution that gradually replaces acquisitive values with holistic, frugal values.”
5. *The Center Holds*: “Energy and environmental crises nearly topple the established institutions. However, in the late ‘80’s new technological breakthroughs win the day for the establishment.”
6. *The Boom Years*: “A protracted recession leads to evolution of a large frugal living population, but by the late 1990’s new technological breakthroughs restore prosperity.”
7. *The Industrial Renaissance*: “Clumsy attempts to impose energy conservation lead to an extended recession. The technological elite rally and develop techniques that allow both conservation and growth.”
8. *The Dark at the Top of the Stairs*: “Clumsy attempts to impose energy conservation lead to an extended recession. Social cohesion is weakened and despair spreads, leading to a depressed, authoritarian world by 2000.”
9. *Toward the Jeffersonian Ideal*: “Large numbers of people realize that the desire for affluence must be tempered if the earth and society are to survive. The transition to a sustainable, frugal world begins in the late ‘70’s, builds through the ‘80’s, and is largely complete by 2000.”

II. Seven Tomorrows (1982) Scenarios for 1980-2000.

1. *The Official Future*: “Technological triumph. Soviet power is checked. More people more affluent than ever. More personal computers and world trade. The environment deteriorates and crime rises, but people accept these as tradeoffs.”
2. *The Center Holds*: “The ‘80’s begin strong but run into problems of energy supply, recession, food shortages. Survivalist movements flourish but are suppressed. A corporate/state commitment to technology manages to restart the economy by 2000.”
3. *Chronic Breakdown*: “The energy crisis of 1983 triggers a cascade of dominos: food shortages, economic recession, international conflict, domestic turmoil. The social fabric is frayed and people withdraw into escapist pursuits. Cults and communes flourish.”
4. *Mature Calm*: “In the face of growing resource constraints conservative Republicans adopt much of the philosophy of the environmental left. Ecological catastrophe is avoided, small town values are revived, children stay in school and stop using drugs. By 2000 everyone wonders what the big scare in the late ‘70’s was all about.”
5. *Apocalyptic Transformation*: “By the early 90’s both the US and USSR have nuclear-armed space shuttles in orbit. A series of miscalculations brings the world to the brink of nuclear holocaust. The narrow escape sparks a world spiritual revival that leads to disarmament and a commitment to build a peaceful world.”
6. *The Beginning of Sorrow*: “After a decade of mounting energy shortages and economic turmoil a catastrophically frigid winter of ‘87 leads to breakdown of authority. Survivalist militias control large parts of the country and the economy spirals down, with no end in sight.”
7. *Living Within Our Means*: “Climate change, soil depletion and mismanagement lead to severe food shortages in the early ‘80’s, which, on top of higher energy prices, leads to a deep recession. People are forced to begin growing their own food, traveling less, buying less consumer goods. A frugal, de-centralized, sustainable rural society and culture evolves.”

BOX IB-6. QUANTITATIVE PROJECTIONS FROM SEVEN TOMORROWS

[Hawken, Oglivy and Schwarz, 1982]

	Actual values		SCENARIOS for 2000*						
	1980	2000	OF	CH	MC	CB	AT	BS	LWM
	(1995 US\$)	(1995 US\$)	1	2	3	4	5	6	7
World Population (millions)	4430	6051	6797	6800	6350	5921	5900	5000	6300
U.S. Population (millions)	227	282	268	268	268	253	253	226	268
World per capita GDP	4,384	5,654	7,195	6,631	7,101	4,760	5,254	3,664	4,473
growth rate, WpcGDP, 80-00 (%/yr)	-	1.3	2.5	2.1	2.4	0.4	0.9	-0.9	0.1
US per capita GDP	21,000	31,730	31,345	20,897	29,942	21,111	21,284	9,531	14,780
growth rate, USpcGDP,80-00 (%/yr)	-	2.1	2.0	0.0	1.8	0.0	0.1	-3.9	-1.8
Average World Energy Prices**	65	25	50	80	60	40	100	100	100
US Energy Consumption (quads)	78	99	123	86	100	78	80	40	70
US Energy Supply (quads):									
oil	35	38	48	30	36	23	26	16	22
gas	20	24	19	16	19	14	16	10	14
coal	17	22	40	23	25	32	20	11	18
nuclear	3	8	11	9	10	4	8	0	3
renewables	3	6	5	8	10	5	10	3	13
Energy Supply (% of total)									
oil	0.45	0.38	0.39	0.35	0.36	0.29	0.33	0.40	0.31
gas	0.26	0.24	0.15	0.19	0.19	0.18	0.20	0.25	0.20
coal	0.22	0.22	0.33	0.27	0.25	0.41	0.25	0.28	0.26
nuclear	0.04	0.08	0.09	0.10	0.10	0.05	0.10	0.00	0.04
renewables	0.04	0.06	0.04	0.09	0.10	0.06	0.13	0.08	0.19
Variance betw. energy supply actual and scenario values***			37	20	16	40	26	58	42
Variance betw. economic actual and scenario values****			0.18	0.28	0.16	0.25	0.28	0.93	0.44

*codes:

- 1 = OF = "The Official Future"
- 2 = CH = "The Center Holds"
- 3 = MC = "Mature Calm"
- 4 = CB = "Chronic Breakdown"
- 5 = AT = "Apocalyptic Transformation"
- 6 = BS = "The Beginnings of Sorrow"
- 7 = LWM = "Living Within Our Means"

** prices shown are for 1 bbl crude

***values shown are the sums of the absolute differences between actual and scenario values for each energy source in 2000.

****values shown are the averages of the absolute percentage differences between actual and scenario values for world and U.S. population and per capita GDP, and for energy prices and consumption, in 2000.

Sources:

World and U.S. population and economic growth values for 1980 and 2000 are from World Development Indicators-OnLine (<http://publications.worldbank.org/WDI>). Scenario values have been normalized using the WDI tables to 1995 US\$ from their original presentation in 1980 US\$. World energy prices in 2000 are from the Energy Administration Administration's World Oil Market and Oil Price Chronologies, www.eia.doe.gov/emeu/cabs/chron.html. Energy consumption and supply figures for 2000 are from the Energy Information Administration at www.eia.doe.gov/emeu/aer/tst/ptb0103.html.

BOX IB-7. COLE AND MILLER - GLOBAL AND REGIONAL SCENARIOS TO 2000

[source: S. Cole and I. Miller (1984)]

I. GLOBAL SCENARIOS

1. *Liberal International Order*: free markets, multinational corporate dominance.
2. *Reformed International Order*: market economy, social contracts between and within countries.
3. *Collective Self-Reliance*: developing nations disengage from inequitable global structures and cooperate for mutual development.

II. REGIONAL SCENARIOS

A. High & Middle Income OECD

1. *Corporate Society*
2. *State Capitalism*
3. *Democratic Socialism*
4. *Decentralism*

B. Centrally-Planned Industrial Economies

1. *Scientific-Technological Revolution*
2. *Stagnation*
3. *Reform*
4. *Democratization*

C. Newly Industrializing Countries, Semi-Peripheral

1. *Military-Authoritarian*
2. *Developmentalism*
3. *Populism*
4. *Socialism*

D. Lower Middle Income and Poor Countries

1. *Neo-Colonialism*
2. *Liberal Developmentalism*
3. *State Capitalism*
4. *Bureaucratic Planning*
5. *Socialist Construction*

E. OPEC

1. *Western-Oriented Development*
2. *State Capitalism*
3. *Neo-Traditionalism*
4. *Endogenous Socialism*

Note: Cole and Miller's presentation suggests a dynamic relation between global and regional scenarios. If all or most of the regions adopt, say, a more or less socialist political economy, or a more or less liberal capitalist one, then the global scenario would be of that same type and might be thought of as the sum of the regional scenarios. On the other hand, if all but one or two regions have adopted a particular political-economic orientation, the non-conforming regions may experience pressure to adopt that orientation as well. In that instance some regional scenarios may be thought of as being influenced by the global scenarios.

* Kahn and Weiner's forecasts for economic growth between 1965 and 2000 were in general too high. They believed that the 3% world per capita income growth rates of the post-war period could be sustained, but after the turbulence of the 1970's and 1980's the average for the period was closer to 1.5%. With the end of ideological contention in the 1990's, analysts envision long term average per capita growth rates of about 2%.

* Kahn's four "worldviews" shown in IB-3 succinctly characterize the range of opinions people hold regarding the growth/environment/technology debate, even today, nearly three decades after they were proposed.

* Of the 1975 Elgin et al. scenarios the one that best described the course that events in the United States actually took over the following 25 years is Scenario #1, "Hitting the Jackpot."

* Of the 1982 Hawkins et al. scenarios the narrative description that best characterized the subsequent events is Scenario #1, "The Official Future," tempered by elements from Scenario #3, "Mature Calm," and Scenario #2, "The Center Holds." Per capita GNP growth rates for the U.S. over the period 1980-2000 were projected at 2% and 1.8%, respectively, for "The Official Future" and "Mature Calm," very close to the historical rate of 2.1%. All the other scenarios projected rates of growth near or below zero. World per capita GDP growth rates for the first three scenarios, which assumed less profound economic disruption over the period 1980-2000, averaged 2.3%, while the final four scenarios, which envisioned various forms of breakdown, averaged close to zero. The historical rate for the period was right between these values, at 1.3%.

* None of the Hawkins et al. scenarios foresaw the dramatic drop in energy prices and the counterintuitive increase in energy efficiency that occurred during the 1980's and 1990's in the wake of the oil crises of the 1970's. In the higher growth scenarios energy prices varied up or down by about 20% from 1980 prices, and in most of the lower growth scenarios energy prices increased by 53%. In actuality, real world energy prices *declined* by 60% over this period.

* The Hawkins et al. "Mature Calm" scenario pegged United States energy consumption in 2000 at 100 quads, almost precisely the value of 99 quads that actually occurred, and came

close to estimating the correct shares of energy supply provided by different sources. However, it underestimated the growing role of natural gas and somewhat overestimated the growth of renewables.

* In the two decades since the Cole and Miller scenarios were developed, neoliberal economics and politics (Cole and Miller's *liberal international order*) have prevailed over Third World socialism (roughly their *collective self-reliance*), over social democracy (their *reformed international order*), and over most of the more particular systems described on a regional basis. Neoliberalism is today partially contested in regions with a tradition of Confucianism, and more strongly so in Islamic regions. Neoliberalism is subject to a large set of reformist demands from working class constituencies in the developed countries, Latin America, and elsewhere. For the most part, however, the set of viably contending political-economic systems sketched in the Cole and Miller scenarios has been dramatically reduced.

Further discussion

To some extent the history of the past 30 years vindicates the judgment of those analysts, such as Kahn and Weiner, who believed that the institutions of Western democratic capitalism would be able to successfully accommodate or repulse various challenges to its ascendancy and dominance. During this period neither the worst fears nor the heartfelt dreams of the left or of the Greens—or for that matter, of the authoritarian right—came to pass. Capitalism did not immiserate the workers, start a nuclear war or trigger an ecological holocaust. The world of 2000 did not find new socialist men and woman collectively managing bustling factories and farms. Neither did it find ecotopian communities living in self-sufficient harmony with the flora and fauna of their bioregion.

Of course, it's a mistake to conclude that the success of neoliberal capitalism over the past thirty years necessarily entails its continued success for another thirty years, much less for 150 years. Without an explicit analysis of the causes and dynamics of stability and change, no firm judgments in this regard are possible.

In the next section we review scenarios that reveal the hopes and fears of various authors regarding political, social and cultural concerns, as well as environmental and equity concerns, for the decades following 2000. This review will help us select topics for further analysis that might cast light on the prospects for global stability and global change during this period.

I.B.2. SCENARIOS OF THE 1990's, LOOKING BEYOND 2000

Box IB-8 shows a general set of scenarios that address many of the critical topics that are commonly evoked when people speculate about the early decades of the 21st century. **IB-9** summarizes three additional sets of scenarios of this sort. **IB-10** shows four sets of scenarios mostly focused on geo-political concerns. **IB-11** shows four sets of scenarios focused on economic systems. The four sets of scenarios in **IB-12** give special attention to culture and gender issues. **IB-13** shows ten sets of scenarios that address a wide range of issues concerning particular nations and regions. In all we show 26 sets of scenarios containing a total of 130 individual scenarios.

What are the major themes that these scenarios address? Some important recurring themes are shown in **IB-14**. We see that to a large extent a scenario of continued economic growth, technological innovation, and global economic integration is taken to be the reference or business-as-usual scenario. Other scenarios are distinguished largely by the extent to which one or another element of this reference scenario falters.

I.B.3. FOUR ADVOCATED NARRATIVE SCENARIOS

In **IB-15** I describe four scenarios that I distilled from the 26 sets of scenarios reviewed, and from consideration of the major themes shown in **IB-14**. They are: techno-globo neoliberalism, social democratic internationalism, Green sustainability, and civilization-of-

BOX IB-8. HYPERFORUM SCENARIOS ON SUSTAINABILITY

Between 1995 and 1997 the California Institute of Technology, RAND, and World Resources Institute sponsored a collaborative project to develop global scenarios for the period 2000 to 2050 focused on the topic of “sustainability.” Fifty experts from thirty-four think tanks, universities and other organizations were involved. Most of the collaboration was done using new Internet technologies. The complete record of the project can be found at www.hf.caltech.edu/HF. Here is a summary of the major scenarios they developed:

1. **CONVENTIONAL WORLDS:** Industrial development is gradual and steady. The world becomes more integrated economically and culturally. Technology allows productivity to grow and environmental and equity problems to be addressed satisfactorily.

- a) *Reference Case:* Few policy interventions are needed to keep things on track. Consumerism and possessive individualism endure as the primary human motives. Inequality increases and the environment deteriorates, but not enough to motivate people to seek alternative systems.
- b) *Balanced Growth:* comprehensive and vigorous public policies developed by the techno-managerial elite successfully steer the system away from destabilizing social and environmental problems.

2. **BARBARIZATION:** Conflicts present in the Conventional Worlds scenarios overwhelm the coping capacity of markets and management institutions. Rich/poor tensions dominate national and global affairs. Technological change works to the advantage of the privileged and marginalizes the rest.

- a) *Social Breakdown:* unregulated global competition leads to increased inequality, mass migrations, global crime waves. Instability, xenophobia and police state mentalities follow, causing economic growth and trade to slow and then decline, leading to a general collapse social, cultural and political institutions.
- b) *Fortress World:* Wealthy sectors cooperate to keep the international system functioning for themselves but seek to abandon the rest of the world to poverty.

3. **GRAND TRANSITIONS:** global society matures to a higher stage of social development, neither stuck in its present adolescent, competitive phase nor descending into anarchic chaos.

- a) *Global Governance:* a growing collective realization of the mutual benefits of cooperation leads to strengthening of global governance institutions and a strengthening of civil society. Leadership is provided by multinational corporations and a dense network of NGO's.
- b) *New Sustainability Paradigm:* the rapid spread of technology and capitalism benefits only a few, but with widespread communications resources the masses are able to inspire and coordinate with one another to work out collective response. A disenchantment with the ethos of competition and materialism is nurtured and matures into a new sustainability paradigm for the planet.

Several participants in the project felt the final scenarios underplayed the positive contribution that technological innovation could make in the decades to come and overestimated the likely severity of environmental degradation. Jesse Ausubel of Cal Tech prepared this additional scenario:

Technology Spares the Environment: “...accelerating technological advances, driven in part by market competition, boost industrial efficiencies, prosperity, and environmental sustainability through most of the world. The world economy meets human needs with less land, pollution and natural resources. Dire warnings of food shortages, pollution, overpopulation and environmental depletion never materialize.”

BOX IB-9. THREE SETS OF GENERAL GLOBAL SCENARIOS

Peter Schwartz. Art of the Long View (1991) Three Global Scenarios through 2005.

1. *New Empires*: “Nations protect their threatened cultural identities by regionalizing their interests... they create bureaucratic but decentralized multinational power blocs that dominate world politics.”
2. *Market World*: “a free market, entrepreneurial, multi-cultural world run not by governments but by ‘associations:’ international rule-making, standard-setting, conflict resolution and system management groups that collectively form an informal ‘global commons’...”
3. *Change Without Progress*: “the dark side of Market World: fast-paced economic activity, ruthless self-interest runs rampant, environment decays, inequality grows.”

Lawrence Wilkinson, Global Business Network. Four Global scenarios to 2020 (1995)

Wilkinson and his clients focused on two critical uncertainties to develop the four global scenarios for the year 2020 shown below: will people be more *individual* or more *community* oriented? and will society provide *coherence* or will it be *fragmented*?

1. *I Will* [individual/fragmented]: The world fragments into a working pandemonium of individuals, organized by jobs rather than geography. Physical infrastructure stagnates, personal spaces and the Net thrive. Technology is the global culture. Ethnic and group differences dissolve into a patchwork of individual variety. Europe is wracked with civil strife as its socialistic civilization unravels.
2. *Consumerland* [individual/coherent]: The world is populated by consumers rather than citizens...served by highly evolved companies conscious of the market’s whims. Leisure increases, dissent withers. Governments are virtual corporations, with their heavy lifting privatized. The have-nots get spending vouchers. The US and Europe become large theme parks. Russia exports neo-religious cults and mafioso.
3. *Ecotopia* [community/fragmented]: Communitarian values triumph. Slim, digitized governments win popular trust. Corporations show civic responsibility. High-tech makes urban living very resource-friendly. Europe becomes a moral beacon. Asia and Latin America become lifeboats for the young and restless of the developed world who find the environmentalism and communitarianism too dogmatic and stifling.
4. *New Civics* [community/coherent]: A world of small, powerful city-states. Rural areas are second-class but are heavily wired. Europe breaks into 57 countries. Gangs in developing countries and old inner cities transform into law-and-order machines. General health improves. Civic pride blossoms. Corporations are reigned in by civic regulations. Conglomerates fund most UN-type activities.

Jerome Glenn and Theodore Gordon 1997 State of the Future (1997)

1. *Cybertopia*: “Free markets, technology and globalization generate unprecedented economic abundance. Individuals act like holding companies, investing their time in diverse activities, inventing careers, granting access to others as nations used to grant visas. A majority of human waking hours are spent in cyberspace.”
2. *A Mean World*: “Education and training could not keep up with technology, and joblessness became endemic the world over. Economies tottered, nations formed trading blocs, people turned to fundamentalist ideologies, and economic warfare gave way to lethal warfare. Nineteenth century geopolitics, twentieth century ideological passions, and twenty-first century technology.”
3. *The Aftermath*: “The globalized, high-tech economy collapsed in 2010 due to over-confidence, sheer greed, sabotage by a techno-criminal elite, and a weak global regulatory structure. Developing nations that had just begun to grow were reduced to subsistence. In the wealthier nations many reverted to rural, self-sufficient modes of production.”

BOX IB-10. FOUR SETS OF GEO-POLITICAL SCENARIOS

Samuel P. Huntington. The Clash of Civilizations (1996)

1. One Harmonious World
2. Two Worlds: Us and Them
3. 184 States, More or Less
4. Sheer Chaos
5. The Clash of Civilizations
 - a) peaceful coexistence; respect for civilizational boundaries; self-affirming, unified cultures
 - b) conflict; universalist and imperialist pretensions; internal stresses due to multiculturalism

Robert Z. Lawrence et al. A Vision for the World Economy (1996)

1. *Invisible Hand*: the market suffices
2. *Global Fragmentation*: the market does not suffice, and nations pull up the drawbridges to survive
3. *Imperial Harmony*: a hegemonic Triad of the US/Europe/Japan agrees on rules for the global economy
4. *Community of Nations*: gradual evolution of multilateral structures for coordination and accountability

Ann-Marie Slaughter. “The Real New World Order” (1997)

1. *Liberal Internationalism*: straight translation of structures of representative governance from national to international levels, and eventually to some type of world federalism.
2. *The New Medievalism*: hollowing-out of the nation state as its functions, sovereignty and authority are replaced by a patchwork of overlapping private, quasi-private, national, supranational and transnational formal and informal structures.
3. *Transgovernmentalism*: informal but structured cooperation among bureaucrats, technicians and officials of different countries allows necessary coordination in an interdependent world but maintains accountability through the nation-state.

Hugh de Santis. Beyond Progress (1996)

1. *communitarian socialism*: “the self-contained cosmopolitan order of premodern times”
2. *perpetual anarchy/new Dark Age*
3. *ordered chaos*: Huntington’s clash of civilizations
4. *perpetual peace and harmony*:
 - a. Fukuyama: via liberal democratic techno-capitalism
 - b. norm-based transnationalists:
 - i. Richard Falk: supranational state, complete with parliament, judiciary, police powers.
 - ii. Ervin Laszlo: “resolution of common problems will foster a self-regulating order of peace and international harmony”
 - iii. Rajni Kothari: third world unity as prerequisite for world federalism.
 - iv. Peace-Studies types:
 - a. Johan Galtung: international communitarianism
 - b. Richard Smoke: similar to Laszlo.
 - c. Harry Hollins
5. *mutualism*: “a community of interests in which diverse peoples and states bounded by geographical, historical and cultural affinities productively commingle in localized social, political and economic associations reinforced by the acceptance of shared risks and rewards.”

BOX IB-11. FOUR SETS OF ECONOMIC SCENARIOS

Robert Heilbroner. 21st Century Capitalism (1993) Five scenarios grounded in economic theory, named after their founding analysts.

1. *Adam Smith*: “a world of economic growth, resource restraints, economic decline from a growing population and shrinking resources.”
2. *Karl Marx*: “a world of growth with periods of economic crisis and restructuring, with labor ultimately gaining control of the economy.”
3. *John M. Keynes*: “a world of market driven societies creating lasting underemployment and the need for social investment.”
4. *Joseph Schumpeter*: “capitalism grows through creative destruction but will decline from moral decay.”
5. *Robert Heilbroner*: “capitalism can grow with right social investment, if it overcomes tax phobia and reduces the deficit” A “slightly imaginary Sweden.”

John Roemer. A Future for Socialism (1994) Four feasible market socialisms.

1. An economy of *revenue-maximizing labor-managed firms*.
2. “*Keiretsu*” *socialism*: groups of profit-maximizing firms ally with a single large bank and hold shares of each others’ stock. Dividends from other firms are distributed to workers.
3. *capitalism without class power* (Fred Block): restrictions on large capital movements across borders; quasi-nationalized banking system; employee/consumer representation on boards.
4. *associative socialism* (Joel Rogers): representative constituency groups (consumer, neighborhood, environmental, union, etc.) have bargaining and quasi-veto rights regarding corporate decisions.

S.P. Udayakumar. The Futures of the Poor (1995)

1. *Hand-outs but no Help-outs*: “donors lack political will or sense of justice to remedy the situation permanently.”
2. *Waiting for Godot*: “the poor long for consumerism and comfort; the fittest survive, the rest perish.”
3. *Preach the Gospel to the Poor*: “the rich reinvigorate their patronizing policies; states become economies, societies become markets and the poor become more miserable.”
4. *Viva Zapata*: “rebels with nothing to lose demand justice” (but gains are few and temporary).
5. *View from the Mountain Top*: “the rich embrace a simple and less selfish lifestyle” (but subtly retain their class prerogatives).
6. *To Be or Not To Be*: “the poor renounce modernity, recognize their cultural roots, and return to former ways of life, with traditional technology.”
7. *One Species, One Destiny*: “both the rich and poor realize that the well-being of the poor demands cooperation of the rich, and the safety of the rich relies on justice for the poor.”

Fredrick Pryor. Economic Evolution and Structure (1996) Scenarios of alternative capitalisms.

Business as usual:

1. *Steady maintenance*
2. *Stagnation*

Scenarios of change in the organization and control of production:

3. *Remodeled Capitalism*: very highly skilled workers are the source of economic dynamism.
4. *Atomistic Capitalism*: most economic dynamism is provided by smaller, entrepreneurial corporations.
5. *Third Party Capitalism*: institutions, rather than individuals, effectively control most capital
 - i) *Finance Capitalism*: Financial intermediaries take over and control corporate policy.
 - ii) *Corporatism*: management, government and labor set policy for individual corporations.
 - iii) *Nonprofit Dominance*: economic dynamism relies human capital, i.e., on services provided by non-profit education, health, and welfare institutions.

BOX IB-12. FOUR SETS OF SOCIO-CULTURAL SCENARIOS

Benjamin Barber. Jihad vs McWorld (1996)

1. *Jihad*: people find strength and community through intense adherence to the values, norms and life-styles of a particular region, ethnicity, or religion. Outsiders are seen as infidels.
2. *McWorld*: People the world over share a common set of modern, technological, and consumerist values, norms and life-styles. Others are seen as backward.
3. *Both Jihad and McWorld*: an elite trans-national caste lives in McWorld; the rest live in Jihad.
4. *Civil Society*: Global norms of mutual respect allow both modernist and traditional values to co-exist and support one another.

Eleonora Masin (UNESCO). The Future of Cultures (1994)

1. *Pessimistic*: “All cultures becomes bastardized, or reduced to a museum role.”
2. *Dual-track Scenario*: “Core elements of cultures remain strong” while societies modernize.
3. *Resistance*: “The many cultures fend off the dominant one.”
4. *The Gaia Scenario*: “all cultures recognize that no culture is complete in itself”
5. *Babel*: “fostered by communications and biotechnologies, people will move among cultures.”

Walter Truitt Anderson. Reality Isn't What It Used To Be (1990) Seven stories for the future.

1. *The Western story*: steady progress through technology and economic growth.
2. *The Marxist story*: an egalitarian world in which workers control the means of production.
3. *The Christian fundamentalist story*: a society governed by biblical belief and faith in God's love.
4. *The Islamic fundamentalist story*: a society governed by Koranic belief and faith in God's wisdom.
5. *The Green story*: a society grounded in ecological values and a rejection of industrialism.
6. *The New Paradigm story*: a sudden, deep, holistic transformation of human values & ways of living.
7. *The Post-Modern story*: a recognition that stories that justify human endeavor are social constructs; none are objectively privileged over any of the others.

Pamela McCorduck and Nancy Ramsey. The Futures of Women: Scenarios for the 21st Century, (1996). four scenarios to 2015.

1. *Backlash*: In a depressed, no-growth global economy discrimination against women increases, in both developed and developing countries. The religious right champions back-to-the-home.
2. *Golden Age of Equality*: “Western notions of individual rights, rule of law and personal privacy take hold and prevail in a globally integrated growth economy. A profound shift in consciousness permits both women and men to begin to think of women as different from, but not less than, men. The search for equality in the workplace brings about a new balance between family and work.”
3. *Two Steps Forward, Two Steps Back*: “Western notions of individual rights prevail but the world economy is depressed, with huge international migrations as people search for jobs and food. Basic needs of the world's women, including nutrition, child spacing, protection from domestic violence, and workplace safety, are hard-pressed to be addressed.
4. *Separate—and Doing Fine, Thanks*: The global economy booms but in order to maintain stability the developing world adopts the Singapore model and imposes authoritarian social controls, including controls on women's work opportunities and on personal and public behavior. In the West the continuing boom allows affirmative action, training and placement programs to be implemented without resistance.

BOX IB-13. TEN SETS OF REGIONAL AND NATIONAL SCENARIOS

Sohail Inayatullah. The Futures of South Asia [summary] (1992)

1. *continued chaos and collapse*: ethnic violence and breakup into small nations
2. *hegemony* by one or more of the following:
 - a. India
 - b. market industrialism
 - c. bureaucracy-led governance
3. *return to communitarian life*: spiritual values, local knowledge, enviro [basic needs approach]
4. *transformation/rupture*:
 - a. new South Asia confederation of autonomous provinces
 - b. new identity
 - c. new theory of growth/distribution
 - d. new theory of knowledge/science
5. *nuclear war scenario*
6. *village high-tech*: by-passing modernity via computers, genetic engineering, etc.

Sohail Inayatullah. The Futures of South Asia (1992) Five scenarios for Pakistan:

1. *Disciplined capitalist society*: “military and strong centrist civil service create conditions for development of a national bourgeois”
2. *Islamic Socialism*: “basic needs met through state control of economy, but cultural and religious needs remain syncretist and personal”
3. *Return of the Ideal*: “return to original intention of Pakistan as the land of the pure and the search for the ideal Islamic polity that existed at the time of the Prophet.”
4. *End of Sovereignty*: “military intervention by India, cultural intervention by USA, breakdown into many states.”
5. *No Change*: “continuation of the grand disillusionment, grand malaise.”

Hans van Zon. Alternative Scenarios for Eastern Europe (1992)

1. *Laissez-Faire/Capitalist Path*: “driving force is the wish to create favorable conditions for free enterprise.”
2. *Populist-Authoritarian Path*: “a weak nationalist bourgeois supported by the army pushes market institutions but keeps them protected from the world economy.”
3. *Leaning-Upon-The-West*: “weak governments follow the lead of the EC, IMF, other western institutions.”
4. *Sustainable Development*: “environmental clean up gets high priority, serves to build national solidarity.”
5. *Muddling On*: “market and political reforms are half-hearted; old bureaucracies remain powerful.”

Godwin Sogolo. AFRICA: Three Scenarios (1992)

1. *Giving Up*: poverty, war, ethnic struggle continue, and Africans just give up.
2. *Retracing the past*: traditional precolonial institutions are revived, particularly the extended family.
3. *Continuity with Change*: technology is grafted on to local culture. “Core traditional cultures continue but Africa adapts to external cultures. Both traditional and modern medicine coexist.”

[More...]

BOX IB-13. Regional/National Scenarios (cont.)

Herbert Adam and Kogila Moodley. Forecasting Scenarios for South Africa (1993)

1. *Another Zimbabwe*: “authoritarian populism, high corruption, pseudo-patronage system where white minority retains economic privilege while a black bourgeois dominates the political scene.”
2. *Another Yugoslavia*: “black youths turn away from the liberal, compromising ANC, right-wing whites declare an independent Boerstaat, Natal secedes as Zulu nationalist state.”
3. *Another Germany*: “social-democratic pact between business, labor and key state bureaucracies; co-determination with a wage pact to increase exports; in return for increased education, health, and housing, the unions abandon antagonistic labor relations and class warfare.”

William C. Smith. Democracy, Markets, and Structural Reform in Latin America (1993)

1. *Organic Crisis Revisited*: “government failure, stagnant income base, threat of authoritarian regression.”
2. *Fragmented and Exclusionary Democracy with Neoliberal Economics*: “majoritarian political coalitions hold, debt renegotiated, state enterprises become private monopolies.”
3. *Inclusionary Democracy*: “democratic deepening, state reform, strengthening of collective actors, expansion of citizen rights, more equitable outcomes.”
4. *Dual Democratic Regimes*: “state elites establish alliance with a strategic minority of the opposition so as to exclude the majority of remaining social actors. Economy grows but very slowly.”

J. H. El-Issawy. The Future of the Arab Nation (1993)

1. *Division*: continuation of current trends
2. *Co-ordination and Cooperation*: regional groupings and agencies
3. *Unity*: one currency, one foreign policy, one army, one school system

Michael Lind. The Next American Nation (1995)

1. US evolves away from status as nation-state, becomes either:
 - a) multi-cultural state
 - b) democratic universalist state
2. US evolves to enhance its status as a nation-state, becomes either:
 - a) nativist state
 - b) liberal nationalist state

Hugh De Santis. Beyond Progress (1996) -- regional scenarios

East Asia: conflation of market economics and Confucian authoritarianism (China becomes like Singapore)

Middle East: democracy circumscribed by the laws of *sharia* and power of oligarchies and autocrats

Africa: collectivist, consensual rule of village elders rather than adversarial forms of government

Latin America: democracy will probably be a hybrid of liberalism and statism

Maggie Powell. WRI Hyperforum Scenarios (1997) - Five Scenarios of China to 2030

1. *Revolt of the Urban Masses*: “urban turmoil as growth rate slows”
2. *The Famine Returns*: “turmoil as global warming changes rainfall patterns, agriculture collapses.”
3. *Loss of Control*: “continuing economic growth leads to loss of central control and ability to enforce one-child policy. Population explodes, civil war narrowly averted but growth stagnates”
4. *The Siberian Excursion*: “Military assumes control of China, invades Siberia, after a long struggle they retreat but economy is in shambles.”
5. *Solar China*: “China invests heavy in solar research following oil price hikes and global warming. Genetic engineering allows China to feed its population.”

BOX IB-14. CRITICAL CONCERNS AND TRENDS ADDRESSED IN THE 26 SETS OF SCENARIOS

I. Economic and Political Economic Concerns

- | | |
|--|---|
| 1. Economic growth continues steadily | Economic growth falters, could crash |
| 2. Global economic integration continues smoothly and is generally welcomed | Global economic integration generates conflict, and stalls |
| 3. The power of multinational corporations is satisfactorily regulated by institutions of global governance. | Multinationals accumulate immense powers and subvert attempts at regulation |
| 4. Inequalities of income and wealth are kept within socially acceptable bounds | Inequalities of income and wealth explode |
| 5. The poorest countries and the transition countries successfully integrate into the growing global political economy | The integration of poor and transition countries stalls and they are left behind. |

II. Concerns about Social Structure, Social Relations and Values

- | | |
|---|--|
| 1. Diverse social groups successfully cooperate in civil society | Diverse social groups see one another as adversaries |
| 2. The world becomes increasingly individual-centered and materialist | Communitarian and post-materialist values flourish |
| 3. The world becomes increasingly secular/scientific | The world becomes increasingly religious/spiritual |

III. Concerns about Technology

- | | |
|---|---|
| 1. Technological innovation continues steadily and fuels continued economic growth | Technological innovation stagnates |
| 2. The new technologies are generally safe and socially benign, and where necessary can be successfully regulated | The new technologies are dangerous and socially divisive, and resist regulation |

IV. Environmental Concerns

- | | |
|--|---|
| 1. Environmental problems are successfully addressed through technology, markets and public policies | Environmental problems explode beyond our ability to contain them |
|--|---|

BOX IB-15. ADVOCATED NARRATIVE SCENARIOS

1. Techno-Global Neoliberalism

Prosperity for most is achieved through an integrated global market economy, free trade and technology. Nation states and collective governance in general have reduced roles, although some global coordination is needed to ensure financial stability. So long as most people experience a steady increase in incomes, distributional equity is not a major problem. People the world over increasingly share common secular values of individualism, consumerism, and tolerance. Environmental problems are successfully addressed mostly through market mechanisms. Technological innovations are welcome for the new opportunities they provide. A high premium is placed on education, entrepreneurial leadership, and professional talents in general. Armed conflict is minimal.

2. Social Democratic Internationalism

Prosperity and a high quality of life are ensured through an integrated global market economy, active governance to ensure distributional equity and the adequate provision of public goods, and a social ethos that affirms community, solidarity and other non-market values. Nation states remain the central units of political allegiance, although regional and global coordinating institutions are important. Powerful technologies are regulated to ensure social benefit. If necessary, slower rates of aggregate economic growth are accepted in order to ensure that other social values are realized.

3. Green Sustainability

This scenario is grounded on doubts that global industrial economic growth is sustainable over very many decades, at least in a manner than avoids a net degradation of well-being. It looks towards achievement of a steady-state level of resource utilization at some point within the coming century. After that time, technological and social innovation can allow the quality of life to continue to increase. However, technological manipulation of natural systems is tightly constrained. Green Sustainability generally looks to smaller scale and decentralized social, political and economic institutions. Global trade and economic integration are less than they are today. Green scenarios generally rely on the widespread adoption of social values that minimize the desire to compete for status and prestige through displays of material ownership and consumption.

4. “Civilization-of-civilizations”

This scenario asserts that as the pressures and dislocations of continued economic globalization continue, nation states will ally strongly with one another both for protection and advantage, and will do so on the basis of long-standing shared values of culture, religion and ethnicity. These new, continent-sized economic blocs will be able to affirm their own economic, social and cultural practices in a way that most individual nations would not find possible. Inter-civilizational rules are adopted to minimize conflict and competition, to regulate trade and communication, and to provide for necessary global public goods such as environmental protection. This scenario is based on that propounded by Samuel Huntington in *The Clash of Civilizations*.

civilizations.¹ These scenarios summarize, in my judgment, very generally, the major political-economic alternatives contending in the world today. I characterize these further as *advocated* scenarios. As used here the phrase describes scenarios that important constituencies are working to make happen. Advocated scenarios are distinguished from the many other scenarios which, although plausible, are not desired and worked for by any active constituencies. Most utopian and dystopian scenarios, for example, are rarely actively advocated. Only a minority of the 130 scenarios noted in Boxes IB-1 through IB-13 are advocated scenarios.

I.B.4. A FRAMEWORK FOR INTEGRATING THE QUANTITATIVE AND NARRATIVE SCENARIOS

In **IB-16** we suggest the extent to which our four advocated narrative scenarios and our six quantitative scenarios from Section I.A might be roughly compatible or incompatible with one another. The shaded polygons indicate the extent of compatibility between two scenarios: the greater the area of each square covered by a portion of a polygon, the greater the compatibility. For example, techno-globo neoliberalism is quite compatible with the unconstrained growth of Scenario 1, but less so with Scenario 2, which calls for focused efforts to increase economic growth in poor countries, and it is barely if at all compatible with any of the remaining quantitative scenarios, which call for growth restraint by the high income countries. The Green sustainability scenario, by contrast, is compatible with the slow growth quantitative scenarios (Scenarios 3 through 6), but not with the exuberant growth of the Scenario 1.

The “civilization-of-civilizations” scenario is somewhat different from the others in that it might contain a mix of quantitative scenarios, each particular to a continent-sized “civilization.” Although a set of “civilizations” would generate aggregate global values of economic growth, equity, energy use, etc. approximated by one of the quantitative scenarios, this would be an artifact, unless it had been the intended goal of negotiated inter-civilizational agreements.

¹The modifier “techno-global” is included to highlight the essential roles that continued technological innovation and global economic integration play in scenarios of neoliberalism. Still, it’s a bit clumsy and could be deleted, or might be replaced with some more apt term in the future.

BOX IB-16. MATRIX OF QUANTITATIVE SCENARIOS AND NARRATIVE SCENARIOS

<u>Narrative Scenarios</u>	<u>Quantitative Scenarios</u>						
	1	2	3	4	5	6	
Techno-global neoliberalism							
Social Democratic internationalism							
Green sustainability							
Civilization-of-civilizations							

Descriptions of the Quantitative Scenarios [see Sections IA.2 and IA.3 for details]

Scenario 1: continuation of present expected trajectories of economic growth, population growth, distributional equity, and energy efficiency.

Scenario 2: faster economic growth in developing countries
greater energy efficiency

Scenario 3: faster economic growth in developing countries
maximum practical efficiency
slower population growth
slower economic growth in high income countries

Scenario 4: faster growth in developing countries
maximum practicable energy efficiency
slower population growth
slower economic growth in high income countries
greater income equality within countries

Scenario 5: faster growth in developing countries
maximum practicable energy efficiency
slower population growth
slower economic growth in high income countries
greater income equality within countries
zero output growth by 2150

Scenario 6: same as Scenario 5, but more rapid income inequality reduction within high-income countries

We see that out of the 24 graphically displayed combinations there are perhaps 15 in which the narrative and the quantitative scenarios appear to be compatible. Each of the three narrative scenarios other than “civilization-of-civilizations” has one or at most two quantitative scenarios with which they appear to be uniquely most compatible.

To the extent that the judgments about compatibility reflected in the grid are valid, they can be used to impose some consistency on professed political commitments. A person who identifies with, for example, social democratic internationalism, and who feels that the trajectories of quantitative Scenario 3 are possible and most desirable, holds consistent commitments. But a person who, perhaps, advocates Green sustainability, yet does not believe that Scenario 3 or any of the higher numbered scenarios are feasible, may be holding inconsistent commitments.

The grid can help us identify potential allies and coalitions. If we assume, for the time being, that all four of the narrative scenarios remain more or less viable over the decades to come, then advocates of one or another of these scenarios might seek to increase the chances of success by establishing coalitional alliances with one or more of the others. Potential coalitional allies might include:

1. Neoliberals and social democrats who agree to work together towards the goals of quantitative Scenario 2.
2. Social democrats and Greens who agree to work together towards the goals of Scenarios 3 or 4.²
3. Greens and various “civilizations” who agree to work together to advance a regionalist/ decentralist agenda.

² This portion of the text was written in March, 1998. In November 1998 the German Social Democratic Party under newly elected President Gerhard Schroeder formed a coalition government with the Greens. Green Party leader Joschka Fischer became Foreign Minister.

4. Social democrats and “civilizations” who agree to work together by giving the social democrats the portfolio for inter-civilizational contact and coordination, while the various “civilizations” hold on to their local (continental) particularity.

I.B.5. ASSESSMENT

Clearly, the social, cultural and political considerations introduced by our review of narrative scenarios forces us to address an entire additional set of questions along with those raised following our construction of quantitative scenarios in Section I.A. How we answer these questions has a large bearing on the extent to which we believe one or another of the combined quantitative and narrative scenarios are desirable, credible, and compelling.

Examples of the sorts of additional questions we will need to address can be had by rephrasing the dichotomous critical trends identified in IB-14. Will global economic integration continue smoothly and be generally welcome, or will it generate conflict, and stall? Will globalization work to support or impede economic well-being, ecological integrity, and social equity? Can the global economy be satisfactorily regulated by institutions of global governance, or will it subvert attempts at regulation? Will the poorest countries and the transition countries successfully integrate into the global political economy, or with their integration stall? Will diverse groups successfully cooperate in civil society, or will they see one another as adversaries? Will social and cultural practice emphasize individual and material-centered values, or will it emphasize communitarian and post-materialist values? Will the new technologies be generally safe and socially benign, or will they be dangerous or socially divisive? If the latter, will they accept or resist regulation and control?

These and the questions identified at the end of Section I.A are among those addressed in Section II.

In order to focus our analysis I identify here an ideal scenario. This scenario embodies values regarding economic well-being, ecological integrity and social equity that I hold, and

realizes outcomes that I would like to see happen. The ideal scenario is comprised of the political economy scenario of Green sustainability, together with the quantitative Scenarios 5 or 6.³

Section II comprises an interrogation of the ideal scenario. Can a credible, compelling case be made for it?

³ Scenarios 5 and 6 differ in the rate at which inequality within countries declines, but are identical in all other respects, including the final, stabilized, degree of inequality. For ease of exposition, from this point on I identify the ideal quantitative scenario as Scenario 5, but by that I mean Scenario 5 or 6.