



THE NEW MAP GAME

GAMEBOOK I: GAME OVERVIEW

PRESENTED BY:



The
New Rule Sets
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INTRODUCTION

Welcome to The New Map Game Overview. The purpose of this product is to provide game participants an outline of how the game will be played, a description of the world at the start of the game, and information about the four countries that the teams will be representing. The country information covers investment and trade, energy, demographic information, security and technology development. Additional, detailed, country information will be provided in four separate, country-specific gamebooks that will be distributed at the start of the event. Also included in this gamebook is a set of important articles, selected by Dr. Thomas Barnett, which participants should try and read as background before the start of the game.

GAME MECHANICS

The following sections, known collectively as the game mechanics, detail how the teams will be structured, the goals of the game, the rules that teams will follow, what a game turn consists of, potential actions that teams can take during the turns, and a setup scenario for the game.

Teams

Four distinct teams will compete during The New Map Game. Each team will be assigned a **Team Captain** prior to the start of the game. The Team Captain will manage their team and be responsible for all final decisions. Each of the four teams will represent one of the geo-political divisions represented in *The Pentagon's New Map*. The teams are as follows:

- United States, *Old Core* (Blue Team)
- China, *New Core* (Gold Team)
- Brazil, *Seam State* (Green Team)
- Iran, *Gap* (White Team)

Team Captain Rotation

For teams representing democratic countries (U.S. and Brazil), multiple team captains may be used to represent multiple administrations. For example, the U.S. may rotate Team Captains at the start of Turn #2 (2008) and the start of Turn #4 (2012). This will emphasize the fact that policies of democratic countries can often change dramatically as different administrations hold office.

Goals

The Control Team will determine the “winner” of the game by evaluating how well each team fulfills its set of goals. The goals for each team will be presented to the teams at the start of the event. Teams’ specific country goals will not be divulged to the other teams.

Rules

Since The New Map Game is a free-form, executive level wargame, there are few formal rules for how the game is conducted. Team Captains have ultimate authority as to how

their teams are run during each turn. However, the following guidelines should be followed:

- The Gold, Green and White teams should try to act as their representative countries would in a given situation and avoid viewing the world through “US-colored” glasses.
- To prevent the accidental divulging of information by the Control Team, players may not debate with Control over the outcomes of a move. There are many influences that determine how a team’s move is played out, and because of the indeterminate information conditions in multi-sided gaming, quite often these may not be evident to players during the game.
- Participants may not switch teams during the event.
- Rule and scenario clarifications can be addressed to Team Facilitators.
- Participants will come from a wide variety of backgrounds and will have unique ideas and perspectives. Team members should respect the various viewpoints offered during debates.

Division of Responsibility in Teams

Team Captains may divide responsibility among team members as they see fit. This could include assigning specific responsibilities to individuals or small groups. For example, the Captain may select four or five participants to make all military decisions and another small group to make all energy decisions.

Control Team

The Control Team, led by Dr. Thomas Barnett, consists of a select group of experts who will monitor the game and consider team decisions and evaluate the consequences of their actions. The success or failure of the teams’ actions will be determined and an altered narrative will be developed. The new narratives presented to the teams will influence the decisions they make in the next turn.

Turns

There will be five turns played during The New Map Game. Each turn will represent two years of “real time” and last ninety minutes. Teams’ turns will occur in parallel.

Turn #1: 2006-2008

Turn #2: 2008-2010

Turn #3: 2010-2012

Turn #4: 2012-2014

Turn #5: 2014-2016

Turn Sequence

- Brief by Control Team member (first 10-15 minutes)
- Q&A session with Control Team member
- Team discussion and debate
- Generation of team actions/strategy
- Generation of brief summarizing move. The brief will include:
 - Majority opinion for team strategy
 - Specific actions to take
 - Flow points and associated actions (energy, money, people, security)

- Primary and secondary strategic investments
- Diplomatic actions
- Expectation of other teams' reactions
- Minority opinion for team strategy

Actions

There are an unlimited number of actions that teams can take during their turns. To create a structure for decision making and to focus on the important themes of *The Pentagon's New Map*, three primary types of actions will be detailed for the teams, they are: *flows*, *strategic investments*, and *diplomatic actions*. Teams can take additional strategic actions as well.

Flows

The concept of flows in the international arena is explored in *The Pentagon's New Map*. Tom Barnett describes flows as globalization's mechanism for creating international stability. There are four major flows:

- The movement of **people**
- The movement of **energy**
- The movement of **money**
- The exporting of **security**

For the purposes of The New Map Game, each team will have a rating (from one to ten) for each of the four flows (shown in the table below). These generic ratings are based on real-world statistics. During each turn countries can "spend" up to a certain number of **flow points** distributed among the four areas. For example, during Turn #2, the White (Iran) team wants to influence the rest of the world by limiting the amount of oil that they export, so the White team would declare in their outbrief that they were only using 1 (out of 9) energy flow points. The White team would also decide on how many points to spend on people, money and security (not exceeding 10) and what specific actions to take related to those flows. Flow points reset at the beginning of each turn and may be altered permanently by a team's actions.

	Total FP	Energy	People	Money	Security
U.S.	14	2	1	10	10
China	12	5	5	3	6
Brazil	7	3	3	2	3
Iran	10	9	3	0	3

Strategic Investments

Another action that teams will take each turn is the identification of a primary and secondary national investment priority. The investments can come from a range of different areas including military, technology, domestic and other spending priorities. The strategic investments should fall in line with the general strategies for the team for that turn. Flow points are ways for teams to influence other teams, strategic investments promote change and growth within a team. They will help the Control Team determine how the next turn will unfold. For example, if the U.S. team picks "alternative energy" as a primary strategic investment, then that could significantly alter relations with the other teams.

Diplomatic Actions

Teams should also develop a set of diplomatic actions. These actions could include, but are not limited to, treaties, summits, cooperative agreements, and trade negotiations.

Summits

At the beginning of each turn a team may decide to hold a **Summit** with one or more teams. The declaration of a Summit must be proposed and accepted at the beginning of the turn. A Summit request may be rejected by a team. One representative from each team will meet during the first half of the turn and report back to their home team during the second half of the turn. The Summit representatives have complete decision-making power and represent the nations' entire diplomatic capability. Multiple Summits can be called during one turn.

State of the World: 2006

By the end of the game, a story about how the next decade will emerge will be created from the interactions of the four teams. The starting conditions for the game are defined in the Setup Scenario. The Control Team will shape how the narrative evolves over the five turns of the game based on inputs and actions from the four teams.

Setup Scenario

The following scenario details a view of the world as the game begins in 2006.

In 2006 the volume of world trade in goods and services continued to grow. The only region of the world where trade did not grow was Southeast Asia due to the disruption caused by the continuing rebuilding after the December 2004 and March 2005 earthquakes-tsunamis; but even in Southeast Asia the decline in exports was largely offset by increased imports and reconstruction aid receipts. The GDPs of all the major economies also grew, albeit at uneven paces with growth in Western Europe lagging behind growth in other regions. Because of the continued economic growth and high levels of international trade, world energy supplies remained tight.

Energy demand has continued to increase and it is expected to continue to increase in the near and long term future as the economies of China and India grow. China, India, Japan, Brazil, the United States and the European Union are all striving to develop new sources and to secure reliable supplies from diverse sources. All of these parties have a stake in the stability of oil-producing regions. No new major oil reserves have been found. Although there have been no technological breakthroughs in alternative fuels, most oil-importing countries are exploring ways of reducing dependence upon oil.

Globally, internet access continues to spread, especially in the developing world. Telephones (especially cell phones) have also continued to proliferate in developing countries.

Washington is concerned that the complementary interests of China and India in improving relations with oil-producing states, particularly in the Middle East will lead to strategic cooperation. Even without full-scale cooperation, Washington is concerned that Chinese and Indian economic and foreign policies may enable Iran and some other Middle Eastern regimes to play "east against west" in terms of stalling on political reform and developing WMD capabilities. Indeed, in 2006 the International Atomic Energy

Agency concluded that it has failed to materially affect Iran's nuclear weapons programs; this judgment is echoed by some western intelligence services. Outside the US and its NATO allies, the other major regional powers are apparently willing to live with a nuclear Iran, or simply unwilling to accept the conclusions drawn by IAEA and western intelligence.

The United Nations has been weakened due to a number of reasons, including backlash from various scandals and controversy over proposed reforms. Internal management reforms are distracting UN operating agencies, but the most serious debilitating factor is the issue of the expansion of the permanent memberships at the Security Council to include India, Brazil, and Japan. The UN World Bank and International Monetary Fund are less affected by these issues and are functioning as vigorously as ever.

United States relations with Europe and Japan have been improving, in part as a direct result of decisions made by Washington to work more cooperatively with them. Europe continues to support the US position against arms sales to China. Japan joined the US in expressing concern about the security of Taiwan—echoing US policy in calling for a peaceful resolution of the island's status.

The European Union is consumed with the effort of incorporating new members and with the question of Turkey's candidacy. The EU has not undertaken any military actions on its own since the 2003 intervention in the Democratic Republic of Congo and the 2004 assumption of NATO's peacekeeping responsibilities in the Balkans. The EU maintains 40,000 peacekeepers in the Balkans and 2,000 in the DRC. The atrocities in the Darfur region of Sudan ran their course with almost 200,000 casualties and at least as many refugees in Chad after the EU, the UN, and the African Union failed to take military action.

The insurgencies in Iraq and Afghanistan continue at reduced intensity. Iraqi and Afghan security forces have improved but are not yet capable of standing on their own. NATO continues to be active in assisting the building of security forces in Afghanistan, but European states are contributing little to equivalent efforts in Iraq.

The Palestinian Authority has continued to take action against lesser terrorist groups and has assumed nominal control over Gaza and most of the West Bank. Hamas and Hizbollah continue to express opposition to the two-state-solution but have yet to directly challenge the PA or launch major attacks against Israeli targets. Syria has withdrawn almost all of its military forces from Lebanon, but continues to maintain political and intelligence operatives there and retains leverage over the government of Lebanon. Political reforms in Egypt and Saudi Arabia have come at the margins and have not changed the structure or direction of either government.

The global war on terrorism continues, but *al Qaeda* has not been decapitated. Warnings of terrorist use of WMD persist; but there are no specific, verified threats. There is still considerable anti-Americanism and anti-globalization fervor in Islamic lands.

India and Pakistan have not resolved the Kashmir dispute, but both have kept their rhetoric toned down and have continue to restrain extremist groups from provocative terrorist action. Russia and China are attempting to offset each other's and the United States' influence in the new states of Central Asia. The regimes in the "stans" have spotty human rights and democracy records and all are brittle.

The six-party talks continue with North Korea, but no material progress has been achieved.

South America has not experienced any further setbacks to democracy and their economies continue to improve, albeit slowly. The Colombian insurgency and *narco-trafficante* guerrilla activity continue to spill over into neighboring states, including the interior of Brazil. Of particular concern is an upsurge in drug trafficking and other criminal enterprises in the Iguacu Falls “triangle” near the intersections of the Argentine, Brazilian and Paraguayan borders. Intelligence reports suggest increasing terrorist fundraising and operational preparations in the region. Among the reported targets being evaluated by terrorist organizations are Brazil’s massive hydroelectric dams. Brazil and China have negotiated numerous trade agreements and are jointly developing a satellite industry. China has also been investing in numerous South American industries, including energy and genetic engineering agriculture.

Wild Cards

The Control Team will create a “wild card” event that will be played at some point during the game. This will place stress on the teams and create an external influence mechanism, reflecting the fact that we can never fully predict or prepare for all events. The wild card could include (but is not limited to), an economic collapse, a disease outbreak or contagion, the rise of a charismatic leader, a new conflict, social movement, unexpected attack, or the development of a ground-breaking technology.

Technology Development Timeline

The narrative will include a timeline of technology development over the next ten years. The timeline will be shaped and altered by how the teams make their strategic investments. New technologies and capabilities will become available to teams if they make specific strategic investments. For example, increased investments in telecommunication technology by the China (Gold) team could lead to a new social or political movement arising. Increased investment in plant biotechnology and genetically modified crops by the U.S. and Chinese teams may alienate other Old Core countries. This is to emphasize the fact that technological development influences how countries interact on a geo-political level.

COUNTRY STATISTICS & INFORMATION

The following information is provided to give players a general background on the countries selected for game play. There are standard country facts and figures and specific information on energy, trade and investment, demographics, technology and security. This section is by no means exhaustive. Additional background materials will be provided in the country-specific guidebooks distributed at the start of the game.

General Information

United States



PEOPLE

*Population*¹: 295.7 M (July 2005 est.)
*Age structure*¹: 0-14 years: 21%, 15-64 years: 67%, 65 years and over: 12%
*Median age*¹: 36 years
*Population growth rate*¹: 0.92% (2005 est.)
*Sex ratio (total population)*¹: 0.97 male(s)/female (total, 2005 est.)
*Net migration rate*¹: 3.31 migrant(s)/1,000 population (2005 est.)

GOVERNMENT

*Government type*¹: Constitution-based federal republic; strong democratic tradition
*Current chief of state*¹: President George W. Bush
*Current head of government*¹: President George W. Bush
*Elections*¹: president and vice president elected on the same ticket by a college of representatives who are elected directly from each state, next election to be held November 2008

ECONOMY

*GDP*²: \$10,383 B
*Av. Ann. Growth in real GDP 1992-2002*²: 3.3%
*GDP per head*²: \$35,990
*Structure of employment*²: Agriculture – 2%, Industry – 23%, Services – 75%
*Unemployment rate*¹: 5.5% (2004 est.)

ENERGY

*Total output*²: 1,712 m TOE³
*Total consumption*²: 2,281 m TOE
*Net energy imports as % of energy use*²: 25%

MILITARY

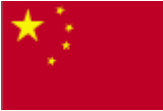
*Military expenditures*¹: \$371 billion (FY04 est.)
*As a percentage of GDP*¹: 3.3% (FY03 est.)

¹ CIA World Factbook

² The Economist Pocket World in Figures (2005 Ed.)

³ TOE = tonne of oil equivalent

China



PEOPLE

*Population*¹: 1,306.3 M (July 2005 est.)

*Age structure*¹: 0-14 years: 21%, 15-64 years: 71%, 65 years and over: 8%

*Median age*¹: 32 years

*Population growth rate*¹: 0.58% (2005 est.)

*Sex ratio (total population)*¹: 1.06 male(s)/female (total, 2005 est.)

*Net migration rate*¹: -0.4 migrant(s)/1,000 population (2005 est.)

GOVERNMENT

*Government type*¹: Communist state

*Current chief of state*¹: President Hu Jintao and Vice President Zeng Qinghong

*Current head of government*¹: Premier Wen Jiabao, Vice Premiers Huang Ju, Wu Yi, Zeng Peiyan, Hui Liangyu

*Elections*¹: president and vice president elected by the National People's Congress for five-year terms; elections last held 15-17 March 2003 (next to be held mid-March 2008); premier nominated by the president, confirmed by the National People's Congress

ECONOMY

*GDP*²: \$1,266 B

*Av. Ann. Growth in real GDP 1992-2002*²: 9.3%

*GDP per head*²: \$980

*Structure of employment*²: Agriculture – 50%, Industry – 23%, Services – 27%

*Unemployment rate*¹: 9.8% in urban areas; substantial unemployment and underemployment in rural areas; an official Chinese journal estimated overall unemployment (including rural areas) for 2003 at 20% (2004 est.)

ENERGY

*Total output*²: 1,139 m TOE

*Total consumption*²: 1,139 m TOE

*Net energy imports as % of energy use*²: 0%

MILITARY

*Military expenditures*¹: \$67.5 billion (2003 est.)

As a percentage of GDP¹: 3.5%-5% (FY03 est.)

¹ CIA World Factbook

² The Economist Pocket World in Figures (2005 Ed.)

Brazil



PEOPLE

*Population*¹: 186 M (July 2005 est.)
*Age structure*¹: 0-14 years: 26%, 15-64 years: 68%, 65 years and over: 6%
*Median age*¹: 28 years
*Population growth rate*¹: 1.06% (2005 est.)
*Sex ratio (total population)*¹: 0.98 male(s)/female (total, 2005 est.)
*Net migration rate*¹: -0.03 migrant(s)/1,000 population (2005 est.)

GOVERNMENT

*Government type*¹: Federative republic
*Current chief of state*¹: President Luiz Inacio Lula da Silva, Vice President Jose Alencar
*Current head of government*¹: President Luiz Inacio Lula da Silva, Vice President Jose Alencar
*Elections*¹: president and vice president elected on the same ticket by popular vote for four-year terms; election last held 6 October 2002 (next to be held 1 October 2006)

ECONOMY

*GDP*²: \$452 B
*Av. Ann. Growth in real GDP 1992-2002*²: 2.9%
*GDP per head*²: \$2,590

*Structure of employment*²: Agriculture – 21%, Industry – 20%, Services – 59%
*Unemployment rate*¹: 11.5% (2004 est.)

ENERGY

*Total output*²: 146 m TOE
*Total consumption*²: 185 m TOE
*Net energy imports as % of energy use*²: 21%

MILITARY

*Military expenditures*¹: \$11 billion (2004)
*As a percentage of GDP*¹: 1.8% (2004)

¹ CIA World Factbook

² The Economist Pocket World in Figures (2005 Ed.)

Iran



PEOPLE

*Population*¹: 68 M (July 2005 est.)
*Age structure*¹: 0-14 years: 27%, 15-64 years: 68%, 65 years and over: 5%
*Median age*¹: 24 years
*Population growth rate*¹: 0.86% (2005 est.)
*Sex ratio (total population)*¹: 1.04 male(s)/female (total, 2005 est.)
*Net migration rate*¹: -2.64 migrant(s)/1,000 population (2005 est.)

GOVERNMENT

*Government type*¹: Theocratic republic
*Current chief of state*¹: Supreme Leader Ayatollah Ali Hoseini-Khamenei (since 4 June 1989)
*Current head of government*¹: President (Ali) Mohammad Khatami-Ardakani, First Vice President Dr. Mohammad Reza Aref-Yazdi
*Elections*¹: leader of the Islamic Revolution appointed for life by the Assembly of Experts; president elected by popular vote for a four-year term; election last held 8 June 2001 (next to be held June 2005)

ECONOMY

*GDP*²: \$108 B
*Av. Ann. Growth in real GDP 1992-2002*²: 3.6%
*GDP per head*²: \$1,500
*Structure of employment*¹: Agriculture – 30%, Industry – 25%, Services – 45% (2001 est.)
*Unemployment rate*¹: 11.2% (2004 est.)

ENERGY

*Total output*²: 247 m TOE
*Total consumption*²: 125 m TOE
*Net energy imports as % of energy use*²: -106%

MILITARY

*Military expenditures*¹: \$4.3 billion (2003 est.)
*As a percentage of GDP*¹: 3.3% (2003 est.)

¹ CIA World Factbook

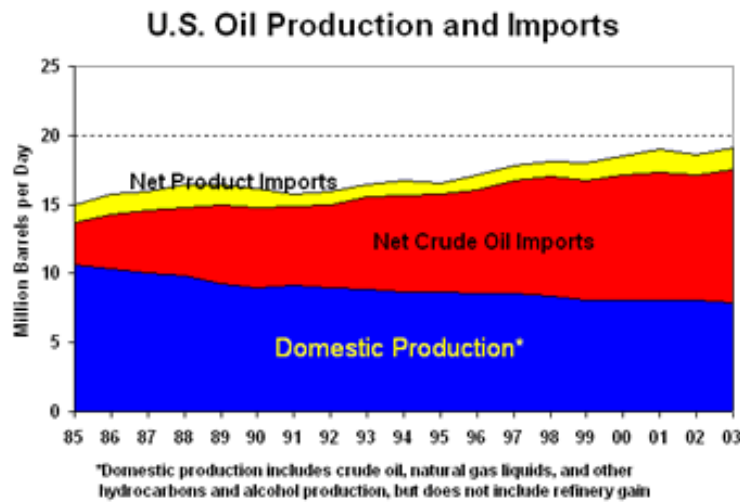
² The Economist Pocket World in Figures (2005 Ed.)



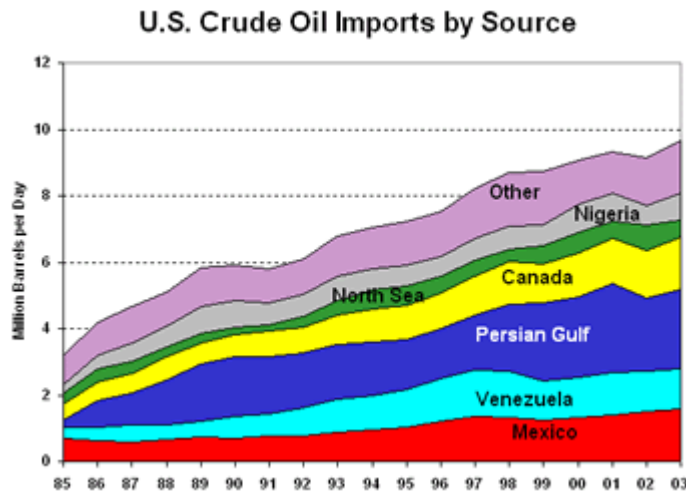
United States

Oil – Oil accounts for 40% of US energy usage

Domestic oil production in the United States has been decreasing since 1985, and dependence upon oil imports has been increasing to the point where the United States now depends upon imports to meet about 58% of its demand for oil. The United States consumes about 20 mmbd in oil as of early 2005.



Since the oil shocks of the 1970s the United States has sought to diversify its sources for oil imports, so that it would not be as dependent upon imports from the Persian Gulf. While lower than in the 1970s, dependence upon Gulf imports has increased since the mid-1980s.



As of January 2005, the top ten suppliers of oil to the United States are:

1. Saudi Arabia	1.6 mmbd
2. Canada	1.5 mmbd
3. Mexico	1.4 mmbd
4. Venezuela	1.3 mmbd
5. Nigeria	1.0 mmbd
6. Iraq	0.5 mmbd
7. Angola	0.4 mmbd
8. Ecuador	0.3 mmbd
9. Kuwait	0.2 mmbd
10. Russia	0.2 mmbd

The US has a Strategic Petroleum Reserve that contains 670 million barrels of crude oil which can be released at a rate of 3-4 mmbd. (Note: China is discussing whether to build its own reserve.)

Natural Gas – Gas accounts for 24% of US energy usage

The United States has substantial gas reserves, but imports satisfy about 20-25% of the US consumption of natural gas. About 80% of the imports come from Canada. The United States exports small amounts of gas to Mexico.

Increases in both domestic production and imports are expected in the 2006-2010 timeframe to meet demand.

Imports are through pipeline (esp. with Canada) and through Liquid Natural Gas shipping from Qatar, Trinidad and Tobago, and Algeria.

Coal – Coal accounts for 23% of US energy usage.

The United States has ample reserves of coal, but domestic production and usage has been constrained by environmental regulations and price competition with gas and oil. Approximately 90% of coal consumption is for electric power generation.

The United States is a net exporter of coal. It imports low sulfur coal required to facilitate adherence to environmental regulation. In 2003, 20 million short tons were imported. US exports in 2003 were 43 mst—down from 103 mst in 1991. Exports have fallen due to increasing competition from coal producers in Australia, South Africa, Chile, Colombia, Venezuela and China.

Hydro-electricity, other renewable forms of energy and nuclear power account for the remaining 13% of US energy usage.



China

Oil (32% of energy usage)

China has been a net importer of oil since 1993. Its limited oil exports (light crude to Japan) were terminated as of 2004.

Oil industry organized into three major integrated companies—all formerly state companies and now regulated by the State Energy Administration. Each of these companies has subcontracted work in China to foreign corporations and each has acquired oil concessions overseas.

Concessions or equity interests have been obtained in: Indonesia, Kazakhstan, Iraq, Iran, Azerbaijan, Sudan, Venezuela, and Peru. China and Kazakhstan are constructing a crude oil pipeline from central Kazakhstan to refineries in China. Russia and China are negotiating over potential crude pipelines from Siberia—Japan is also engaged in negotiations with Russia, seeking to have the Siberian pipeline built to a Russian port near Vladivostok on the Sea of Japan. China and Vietnam have resolved their disagreements over oil exploration rights of Gulf of Tonkin

- Production: 3.5 mmbd
- Consumption: 5.5 mmbd
- Imports: 2.0 mmbd

Half of China's imports come from the Middle East — 17% from Saudi Arabia
Chinese refinery capacity is requires major investment.

Gas (3% of energy usage)

Substantial domestic reserves. Government plans to increase reliance upon natural gas, requiring major investment in domestic exploration and pipelines. Major gas pipeline from Russia being considered.

- Production: 1.15 trillion cubic feet
- Consumption: 1.15 tcf
- Exports: n/a

Coal (65% of energy usage)

China has substantial domestic reserves—it is the world's largest consumer of coal. It is also the world's largest coal producer. In 2002 it was the second largest coal exporter — primary markets Japan and South Korea. Since 2004 coal exports have dropped due to increased domestic demand. Domestic demand is expected to continue increasing in the future.

- Production: 1.5 billion short tons
- Consumption: 1.4 bst
- Exports: 0.1 bst



Brazil

Nearly self-sufficient in energy. 90% of energy consumption is oil, hydro and natural gas. Very small nuclear, coal, and electricity import levels.

Oil

Meets 51% of domestic demand

Domestic production: 2.12 mmbd

Self-sufficiency level: 2.30 – 2.60 mmbd

Large domestic oil reserves
US government estimates that new reserves will be found

60% of oil imports are from Africa
30% of oil imports are from Middle East

Exports are limited – 20,000 barrels daily
Primarily heavy crude that domestic refineries can not refine
China is one of the buyers of Brazil's heavy crude exports

Hydro

Meets 33% of domestic demand through hydro-electricity

Natural Gas

Meets 6% of domestic demand

Produces 287 billion cubic feet
Imports 190 billion cubic feet

Large, unexploited domestic reserves
Bolivia is primary source of gas imports



Its economy is heavily dependent upon oil exports. Oil accounts for 80-90% of its export earnings. Iran heavily subsidizes domestic consumption (gasoline at the pump in March 2005 was \$0.40 per gallon). The subsidies cause large government deficits. Iranian oil reserves are 10% of the world's total reserves—much of the reserves are offshore and near the border with Iraq. Iran's natural gas reserves are the second largest in the world.

Oil

- Production: 4.1 mmbd
- Consumption: 1.6 mmbd
- Exports: 2.5 mmbd

Major customers: Japan, China, South Korea, Taiwan and Europe. 14% of China's oil imports are from Iran.

Iranian oil production is about 4.0 mmbd; production could expand to 7.0 mmbd given greater investment. Substantial amounts of foreign investment would be required to meet Iran's goals of increasing production to 7.0 mmbd over the next 20 years. A Japanese consortium is developing the Azadegan oil field under a "buyback" contract: The consortium funds all the investment in exploration and drilling, the Iranian national oil company remunerates the consortium (a fixed rate of return is built into the contract) through sales from the field, and the operation of the field is transferred to the national oil contract at the expiration of the contract. When oil prices are lower than anticipated

by the contract, Iran has to sell more oil/gas to meet the fixed rate of return. Other foreign corporations operating under buyback contracts are from: France, Italy, Canada, Malaysia, Japan.

The allocation of oil reserves in the Caspian Sea is a major issue among littoral states (Iran, Turkemistan, Kazakhstan, Russia Azerbaijan). Iran advocates formulae under which the sea is used in common or each state would get 20% of the basin for exploration and exploitation. Russia, Kazakhstan and Azerbaijan agree on a different formula under which Iran's share would be 13% of the basin. Turkmenistan leans towards the Iranian approaches.

Gas

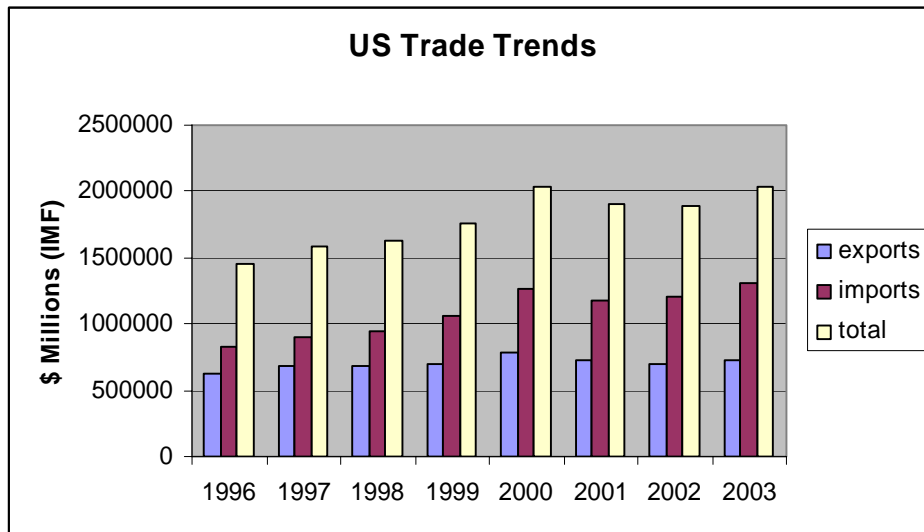
Gas accounts for 50% of domestic energy consumption and Iran's gas exports are insignificant. The government is, however, aggressively expanding investment in gas production, and Iran could soon become a major gas exporter.

China and India are exploring agreements with Iran for liquid natural gas exports. There are also plans for construction of gas pipelines to Turkey and Greece and to India.

Trade & Investment

 **United States**

The value of US exports and imports combined has been relatively constant from 2000 to 2003. Since 1996 the value of imports has exceeded the value of exports and the gap is growing. The gap in 2003 was three times as large as the 1996 gap.



In 2003 the following countries had the largest volume of trade with the United States:

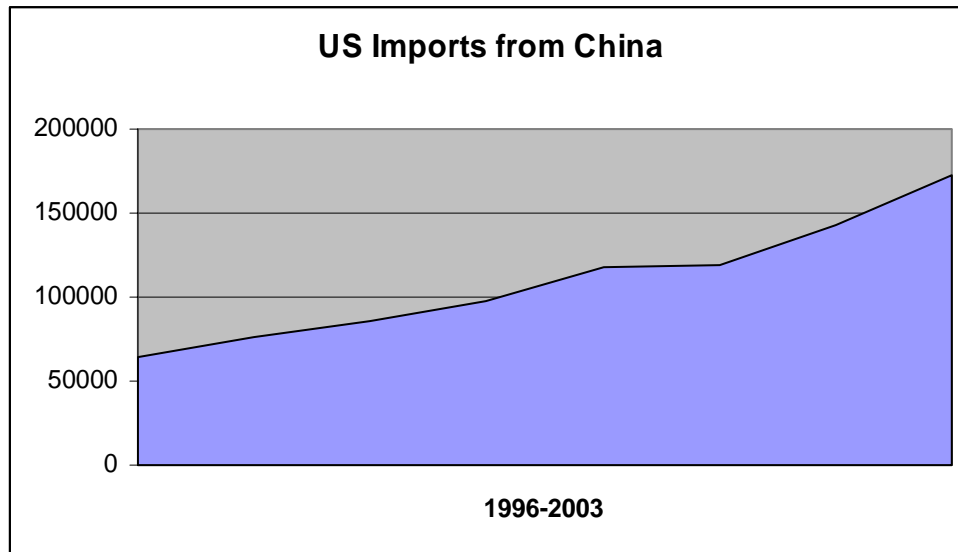
Canada	\$397,000 M
Mexico	\$237,000 M
China	\$214,000 M

Japan	\$173,000 M
Germany	\$99,000 M
United Kingdom	\$78,000 M

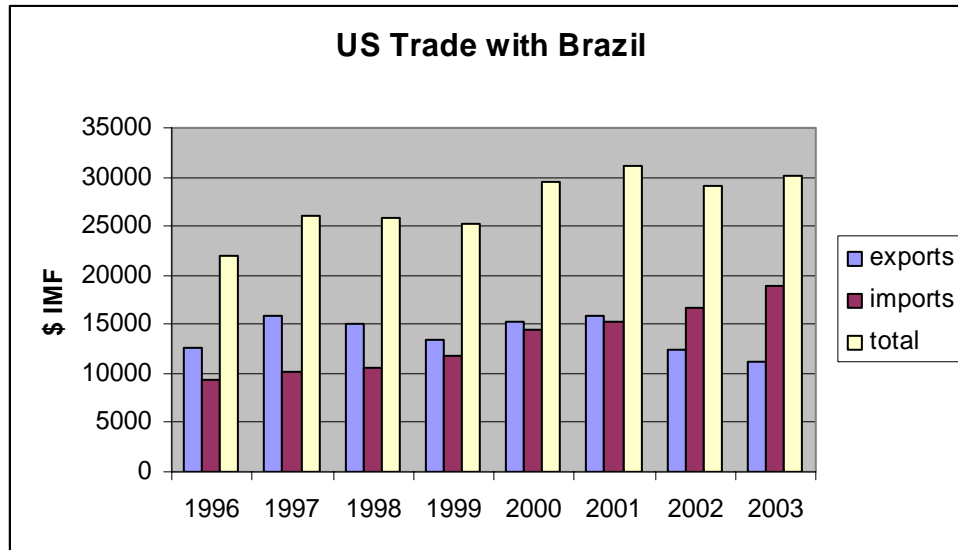
In comparison, the volume of US trade with Brazil was \$30,000 M, about 40% of the volume with the United Kingdom. Although US-Iran trade was actually higher in 2003 than in any other year in the 1996-2003 span, the volume was still miniscule, only \$265 M. This is less than 1% of the volume with the United Kingdom.

China was the third largest trading partner in 2003—but most of the volume is in US imports from China.

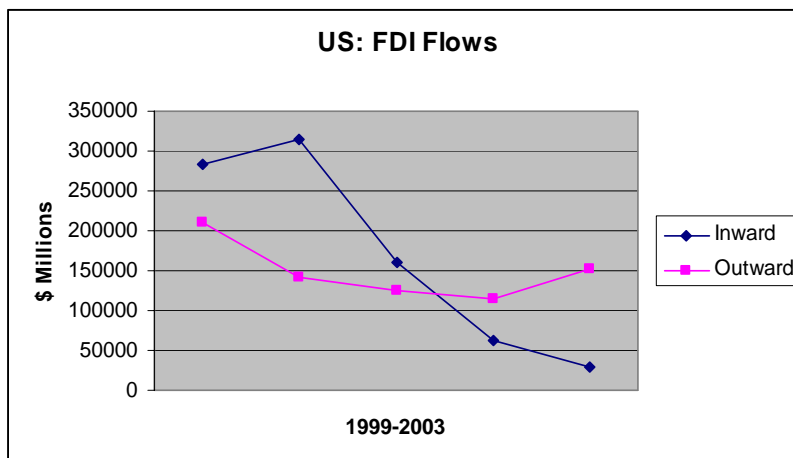
	<u>1996</u>	<u>2003</u>
US imports from China	\$64,671 M	\$172,542 M
US exports to China	\$25,934 M	\$41,961 M



US trade with Brazil has not changed significantly since 2000 and, as noted above, Brazil is not one presently one of the US major trading partners. However, as the Brazilian economy continues to expand (mainstream predictions are that Brazil's economy is on the path to sustained growth), trade with Brazil will increase.



The US is the highest-rated country in terms of the potential ability to attract foreign investment. The ranking is based on 2000-2002 data compiled by the UN Conference on Trade and Development.



There has been a steady decline in foreign direct investment in the US, perhaps as a result of the September 11, 2001 attack and the economic downturn after the 1990s boom. As the above chart indicates the US is a major source of FDI in other countries.

Foreign Direct Investment* in the United States (US, DOC, BEA report)

<u>Net Position as of 2003</u>	
All countries	\$1,378,001 M
Brazil	\$663 M

* Foreign Direct Investment refers to investment in facilities and real property in country as well as “controlling” interest in corporations (usually 10% or more of the outstanding stock). It does not include the purchase of shares or ADRs in foreign companies.

China	\$314 M
Iran	\$1 M

Holders of US national debt (2005)

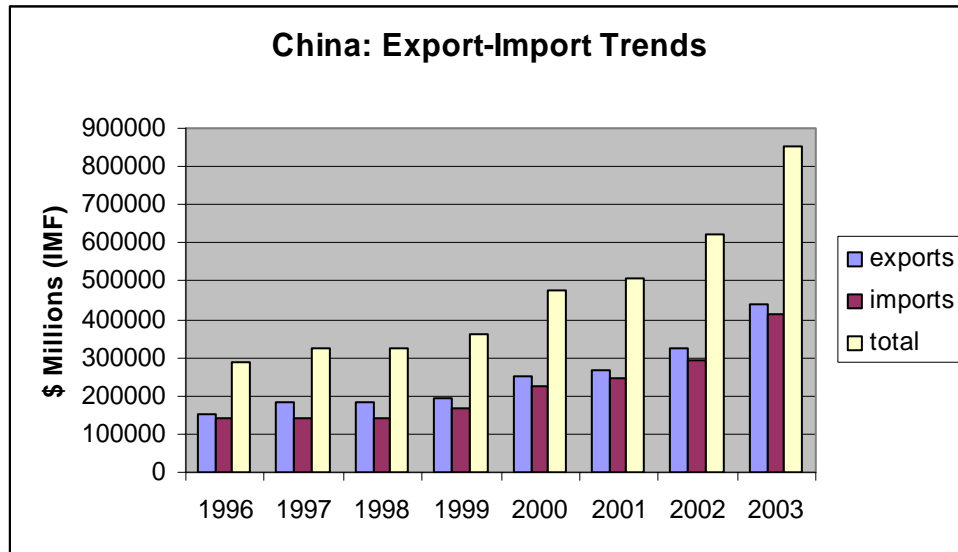
Japan	\$701 B
China	\$195 B
United Kingdom	\$163 B
Caribbean banking centers	\$93 B
South Korea	\$68 B
OPEC	\$65 B
Taiwan	\$60 B
Germany	\$58 B
Hong Kong	\$53 B

The United States will spend over \$300 B in interest on the debt in FY 05 (Monthly Treasury Statement, February 2005).



China

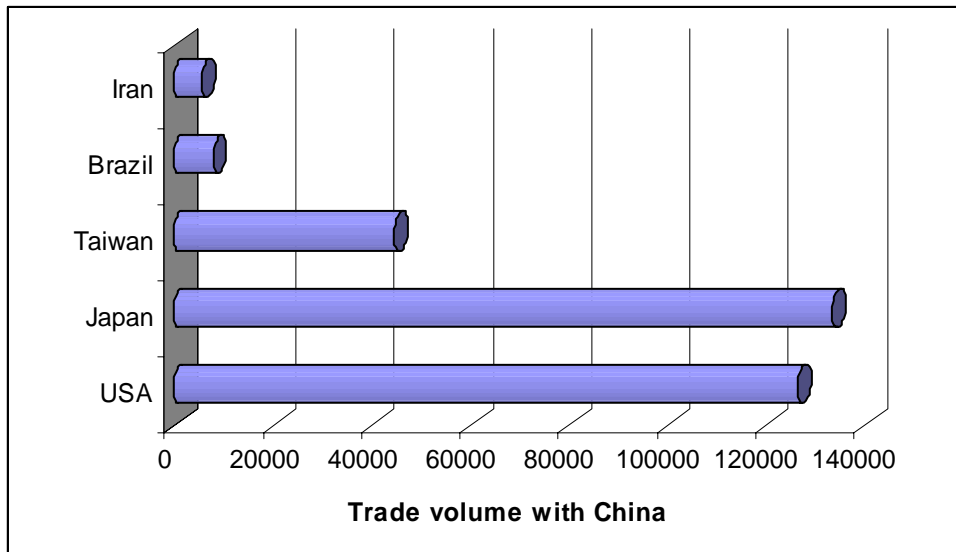
The volume of China’s international trade has grown dramatically in recent years—nearly tripling since 1996. Overall, China has an approximate balance between exports and imports, although in bilateral trade flows with some nations (e.g. the USA) the volume of exports is substantially greater than the volume of imports.



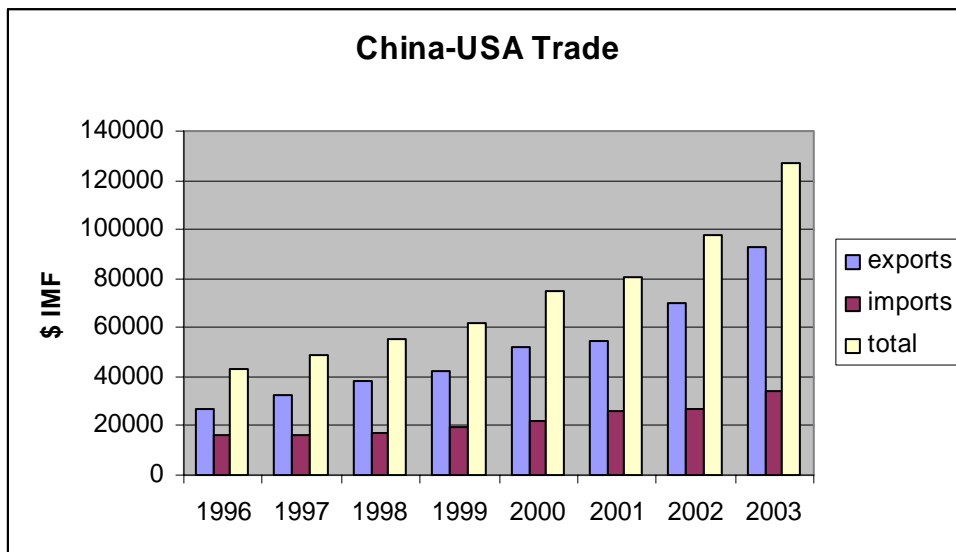
In terms of export and import volumes, China’s largest trading partners in 2003 were:

Japan	\$133,000 M
USA	\$126,000 M
Korea	\$63,000 M
Taiwan	\$45,000 M (2002)
Germany	\$42,000 M

Although there have been substantial increases in China's trade with Brazil and Iran since 2000, the volume of trade with these two countries is still quite small relative to China's trade with the countries listed above. China's trade with Brazil is less than 20% as large as its trade with Germany. The volume of China's trade with Iran is smaller still—although China's imports from Iran are critical energy supplies. In terms of China's energy imports from the Middle East, Saudi Arabia and the United Arab Emirates exported more to China than Iran in 2003.

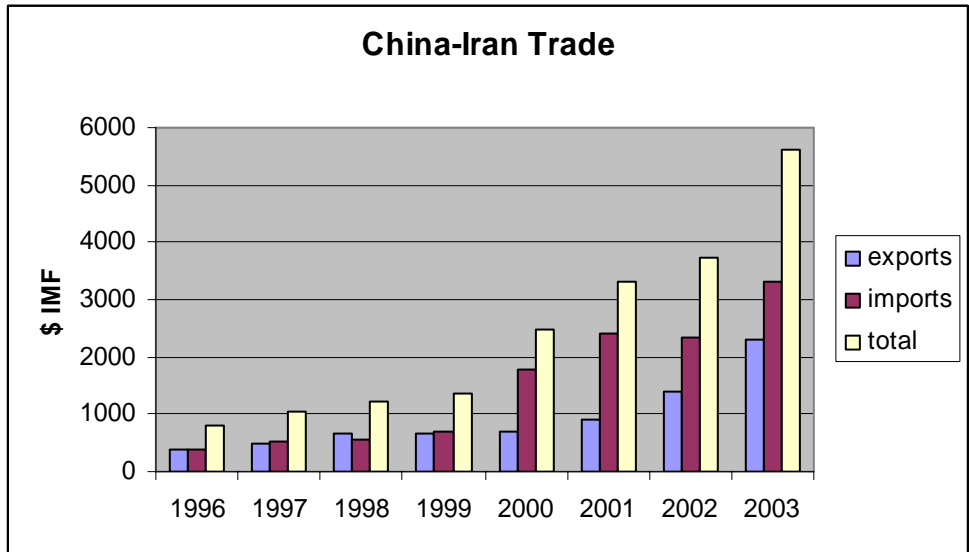
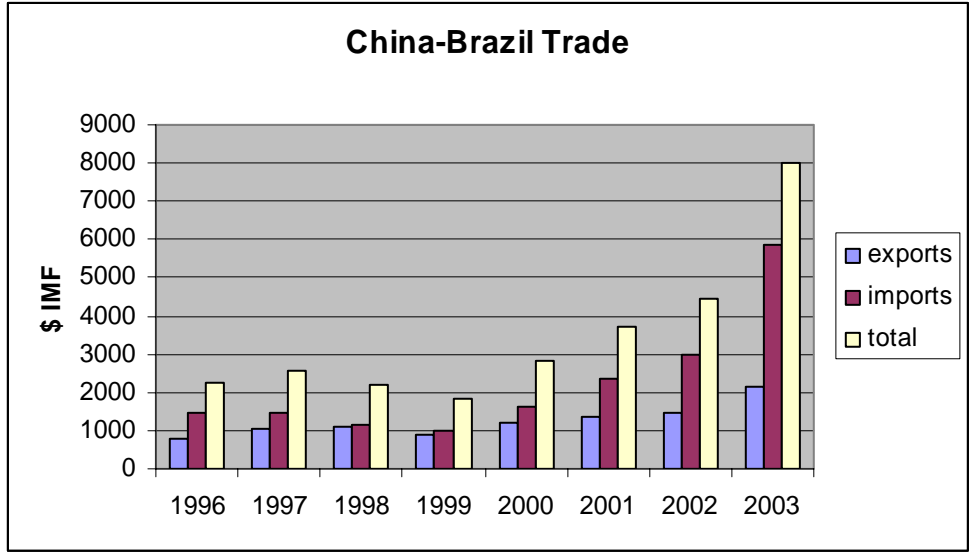


China has had steady growth in the volume of its exports to the United States. US imports to China have been increasing slightly since 2000.

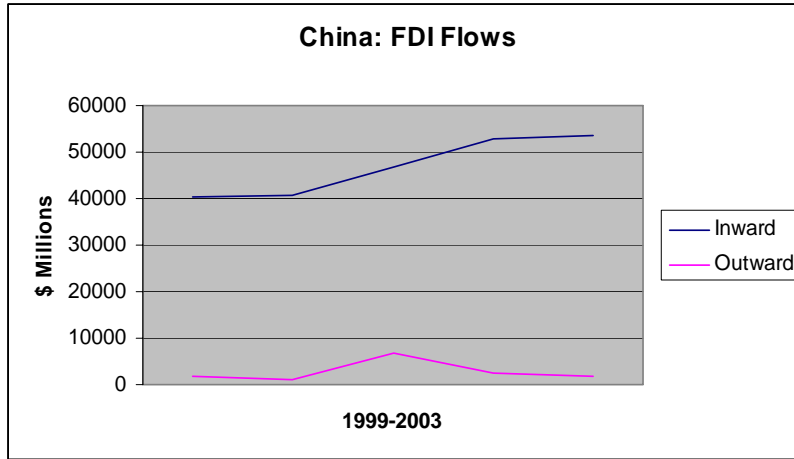


As noted above, the volume of China's trade with both Brazil and Iran has been growing steadily, but is still small relative to its trade with the USA, Japan, Germany and Taiwan. China also has substantially greater export-import volumes with a number of European

(the Netherlands, France, and Italy) and Asian countries (Singapore, Malaysia, Australia and Thailand) than with either Brazil or Iran.



China was rated 38th out of 140 in terms of its ability to attract foreign direct investment. Hong Kong was given a separate rating—Hong Kong was ranked as the 12th best in terms of attracting investment. Taiwan was ranked 21st.



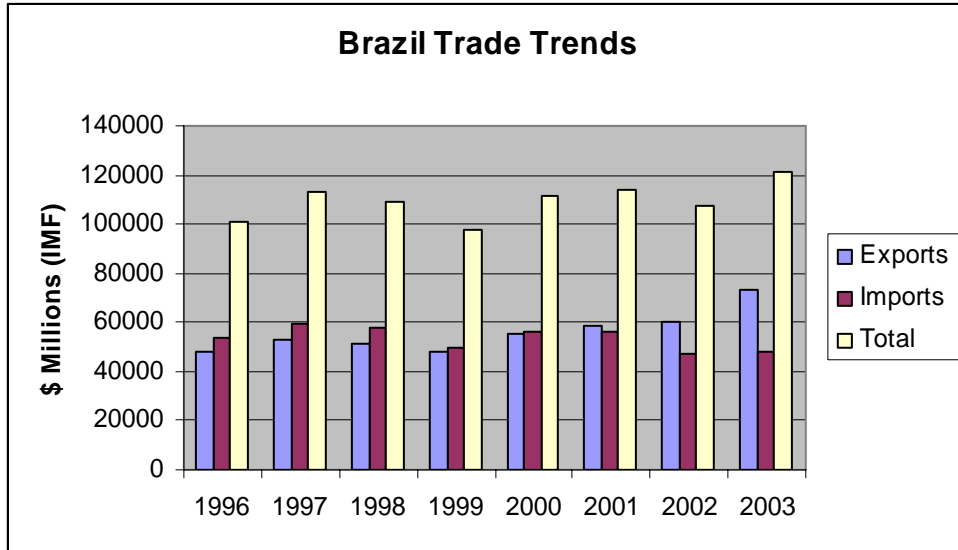
As this chart indicates, China is not a major source of FDI in other countries in terms of overall levels of investment globally.

Brazil

The total volume of Brazil's trade (as measured by exports and imports combined) since has grown by only about 20% between 1996 and 2003. Statistics for 2004 are not presently available.

1996...\$101,093
 1997...\$112,738
 1998...\$108,903
 1999.... \$97,306
 2000...\$111,336
 2001...\$114,052
 2002...\$107,559
 2003...\$121,337

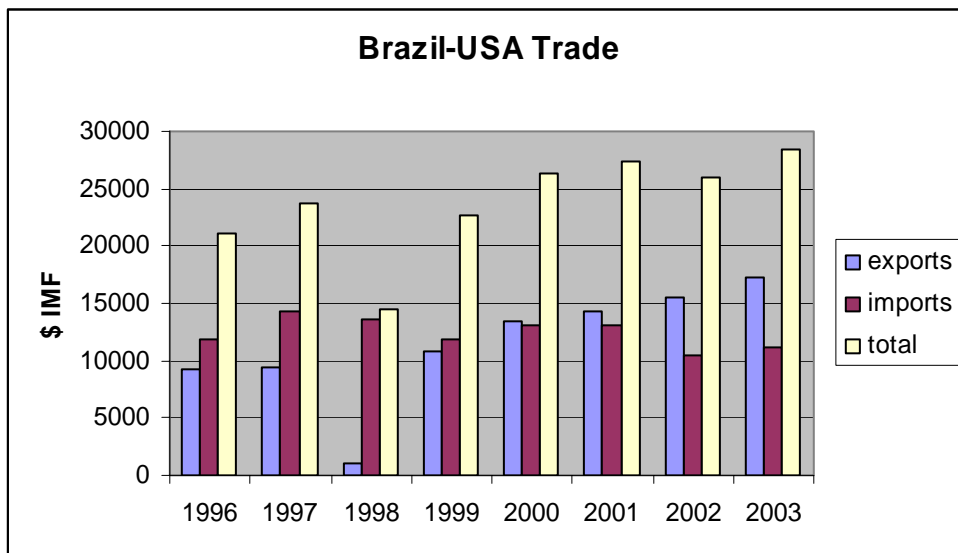
Over that time, imports have actually decreased in value and exports have grown by approximately 50%.



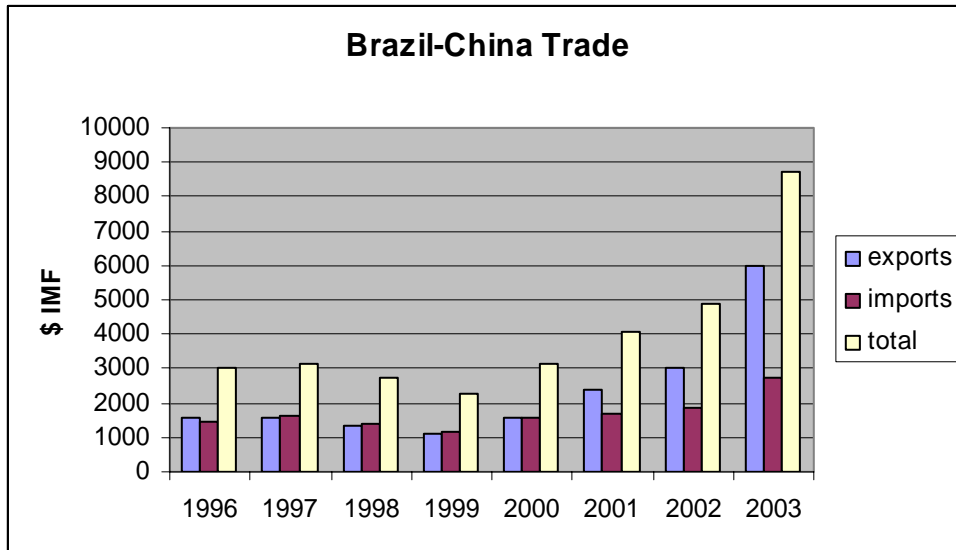
Brazil's largest trading partners in 2003 were:

United States	\$28 M approximately
Argentina	\$9 M
Germany	\$8 M
China	\$7 M
Japan	\$5 M
Italy	\$4 M
Netherlands	\$4 M
France	\$4 M
Mexico	\$4 M

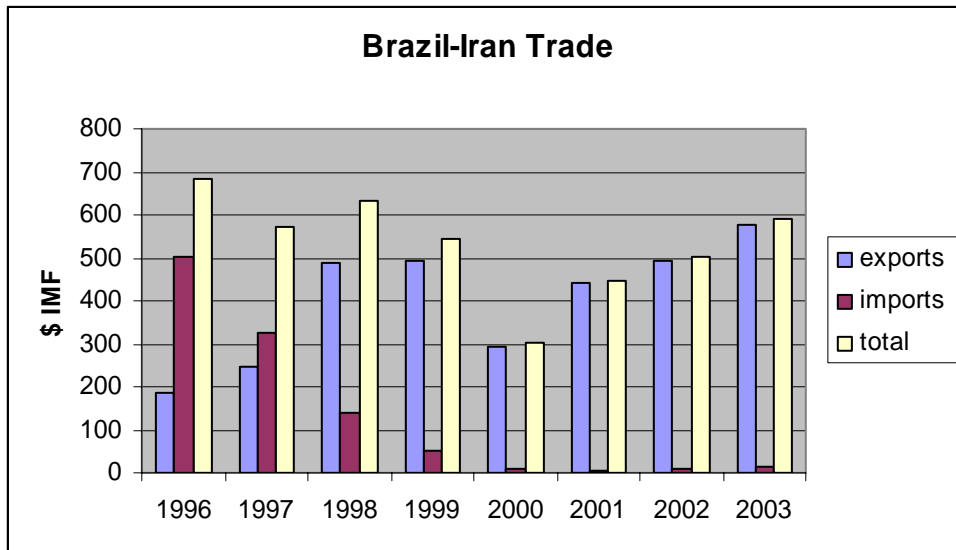
US-Brazil trade has grown substantially since 1998 due to an increase in Brazilian exports to the United States. US imports in Brazil has remained roughly constant levels since 1996.



Brazil's trade with China has increased dramatically since 1999 with a particularly sharp increase in 2002-2003. Even after this increase, the value of Brazil's trade with China is about 25% of the value of its trade with the United States and only about 16% of the value of Brazil's trade with Western Europe and Canada.

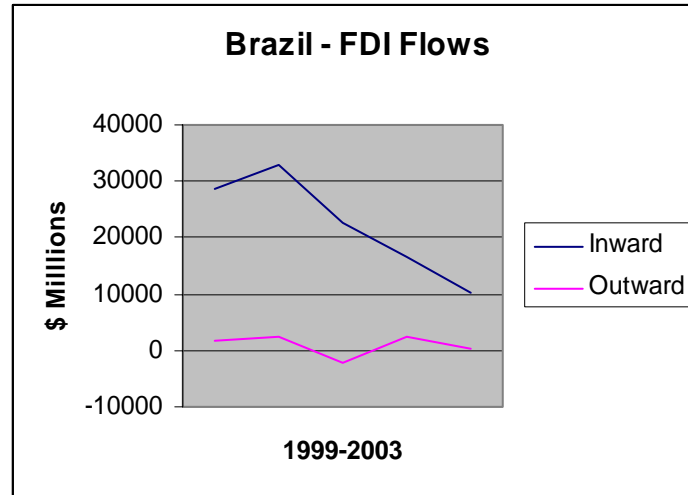


Brazil has insignificant levels of trade with Iran. Almost all of the trade consists of Brazilian exports which have been growing, but are still small relative to trade with other countries. Brazil's exports to Iran are only 10% of the value of its exports to China and 4% of the value of its exports to the United States.



Brazil was rated as 68th out of 140 nations in terms of its potential ability to attract foreign direct investment. (2000-02). Brazil Over the past few years, Brazil's FDI receipts have fluctuated, but are still substantially above pre-1995 levels when the annual

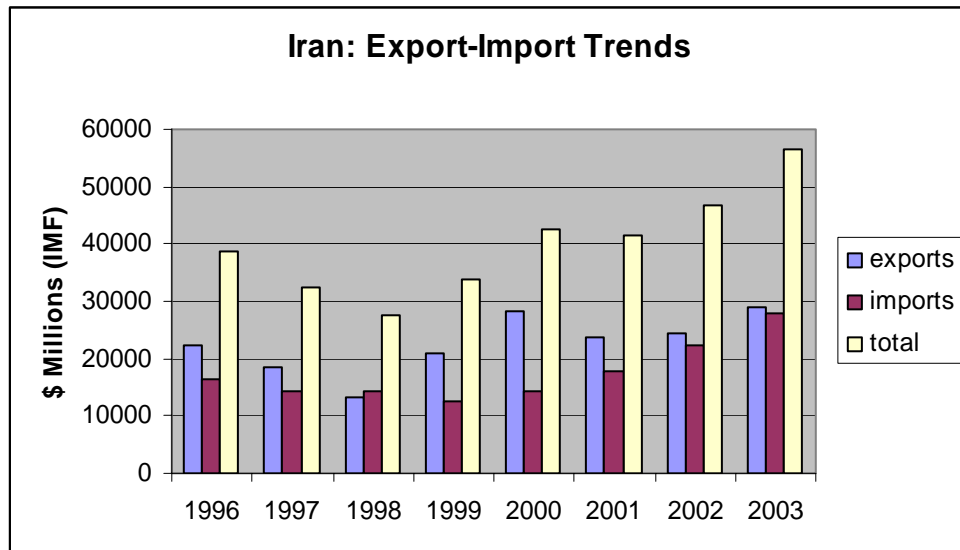
average was about \$1,700 million. As the chart below indicates, Brazil has not been a significant “exporter” of investment in other countries.



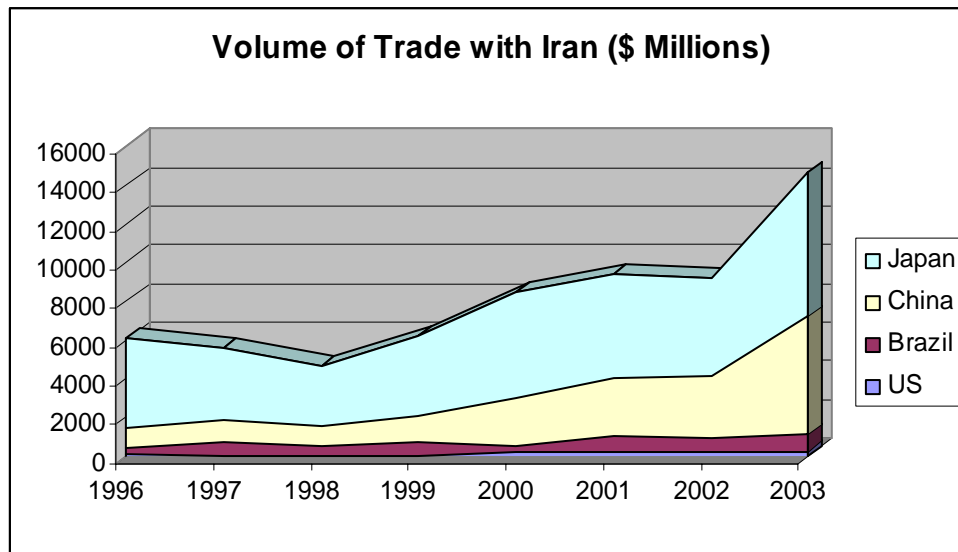
Throughout 2005 Brazil was operating under an IMF loan of \$40 billion. Under the terms of the loan, Brazil reduced its deficit to 50% of GDP from 65% and assuming its economy grows at predicted paces, it will not need to renew the loan in 2006.

 **Iran**

The volume of Iran’s exports and imports has increased at a slow pace since 1996. Trade has grown by about 50% since 1996, but this was from a very low base and as of 2003 Iran’s exports and imports totaled approximately \$57,000 M. In 2003 the total value of US exports and imports was approximately \$203,000M and China’s was \$851,000 M.



Iran has virtually no significant trade with the United States or Brazil. Japan and China were Iran’s largest trading partners, by volume of exports and imports, in 2003.



Apart from Japan and China, Iran's major trading partners in 2003 were:

Italy	\$4,400 M
France	\$3,600 M
Germany	\$3,700 M
Korea	\$2,500 M
UAE	\$2,400 M

Iran was rated as one of the ten worst countries in the world in terms of its ability to attract foreign direct investment. There has been a negligible amount of foreign direct investment in Iran since 1985. During that same time period there has been an increase in outward foreign investment: \$2,800 million in 2001, \$1,299 million in 2002 and \$1,486 million in 2003.

People

It has been said that demographics drive destiny. By simply looking at births, deaths and migration a large number of potential challenges can be identified in advance of them actually occurring. The global population will reach seven billion in approximately the next eight years. The rate of total global population growth is on the decline due to lower fertilities rates. Developed countries are becoming generally older and they are not producing enough children to keep their total populations from declining. Diseases like HIV/AIDS are having a large effect on developing nations in Africa, Asia, and Latin America. The below statistics are meant to provide a glimpse into some demographic statistics that might prove useful for the game.

Countries Ranked by Population

2006			2016		
Rank	Country	Pop.	Rank	Country	Pop.
1	China	1,313,973,713	1	China	1,401,774,787
2	India	1,095,351,995	2	India	1,241,628,265
3	United States	298,444,215	3	United States	325,289,633
4	Indonesia	245,452,739	4	Indonesia	277,011,909
5	Brazil	188,078,227	5	Brazil	205,632,285
6	Pakistan	165,803,560	6	Pakistan	199,809,237
7	Bangladesh	147,365,352	7	Bangladesh	178,076,450
8	Russia	142,893,540	8	Nigeria	167,262,200
9	Nigeria	131,866,254	9	Russia	137,161,167
10	Japan	127,463,611	10	Japan	125,336,914
18	Iran	68,688,433	19	Iran	76,886,919

2050		
Rank	Country	Pop.
1	India	1,601,004,572
2	China	1,424,161,948
3	United States	420,080,587
4	Nigeria	356,544,098
5	Indonesia	336,247,428
6	Pakistan	294,995,104
7	Bangladesh	279,955,405
8	Brazil	228,426,737
9	Congo (Kinshasa)	181,260,098
10	Mexico	147,907,650
18	Iran	89,691,431

Note: Data updated 9-30-2004.

Source: U.S. Census Bureau, International Data Base.

Migration Information (2000)

	Brazil	China	Iran	U.S.
Population (thou.)	170,406	1,275,133	70,330	283,230
Migration stock (no., thou.)	546	513	2,321	34,988
Migration stock (% of total pop.)	0.3	--	3.3	12.4
Refugees (no., thou.)	2.7	294.1	1,868	508.2
Refugees (% of migrant stock)	0.5	57.4	80.5	1.5
Net migration (no., thou.)	--	-381	-91	1,250
Net migration (rate per 1,000 pop.)	--	-0.3	-1.4	4.5

Source: UN Population Division, International Migration Report 2002

Technology Development

Below are some simple technology statistics comparing three of the game teams (data was unavailable on Iran).

	U.S.	China	Brazil
Genetically modified crops	47.6M hect.	3.7M hect.	5M hect.
Average cost per 20 hours of Internet use	\$14.95	\$10.14	\$27.99
Cable television subscribers per 1,000 people	255	75	14
High-tech exports (% of manufactured exports)	32%	23%	19%
Information and communication technology (ICT) spending per capita	\$2,358	\$58	\$205
Revenue of top ICT firms	\$938B	\$30B	-
Employees of top ICT firms	3.5M	191,600	-
Internet users per 1,000 people	551	46	82
Mobile phones per 1,000 people	488	161	201
Prescription drug purchases	\$345B	-	\$5B
R&D spending (% of GDP)	2.6%	0.6%	0.8%

Source: *Technology Review*, April 2005

http://www.technologyreview.com/articles/05/04/issue/mag_toc.asp

Security



United States

Size of Total Military Force: 1,438,000 (Active), ~450,000 (Guard), ~400,000 (Reserves)

Military Branches/Sizes: (As of March 2005) Army (493,000), Navy (366,000), Marine Corps (177,000), Air Force (363,000), Coast Guard (40,000)

Strategic Forces: The United States has approximately 5,300 operational nuclear warheads in its stockpile (4,530 strategic, 780 non-strategic)

Defense Spending: \$466 Billion (FY04 actual)

Select Weapons Programs:

The United States' military is the world's only force capable of global power projection. It has numerous aircraft carriers and nuclear submarines, advanced fighters and bombers with stealth technology, unmanned systems, state of the art armor and helicopters, and a large number of space-based assets. It has unrivaled sea and airlift capability and a large number of bases located in other countries.



China

Size of Total Military Force: 2,250,000 (Active), 500-600,000 (Reserves)

Military Branches/Sizes: People's Liberation Army (1,700,000), Navy (250,000), Air Force (400,000)

Strategic Forces: (As of 2003) China has approximately 120 ballistic missiles of four types, each missile carries a single nuclear warhead

Paramilitary: People's Armed Police (1,500,000)

Defense Spending: \$67.5 Billion, or 3.5-5.0% of GDP (FY03 est.)

Select Weapons Programs:

Air Force:

- ~120 bombers and 1,250 fighter aircraft

Navy:

- 72 total submarines (1 SSBN Xia class, capable of launching nuclear missiles, 6 nuclear attack submarines)
- No current aircraft carriers, working to develop such a capability, maybe ready by 2010



Brazil

Size of Total Military Force: ~265,000

Military Branches/Sizes: Brazilian Army (~150,000), Brazilian Navy (includes Naval Air and Marines) (~65,000), Brazilian Air Force (FAB) (~50,000)

Strategic Forces: N/A

Defense Spending: \$11 Billion, or 1.8% of GDP (2004)

Select Weapons Programs:

Navy:

- One aircraft carrier (formerly the French carrier "Foch")
- In early 2005 completed building of conventional submarine (only South American country able to build submarines)
- Nuclear submarine construction has been stalled due to funding problems; not likely to be put to sea until 2015.

Air Force:

- 272 combat aircraft and 45 armed helicopters
- Aging fleet of fighter aircraft
- Proposed acquisition of FX fighters cancelled, considering lease alternatives (with France and Israel)



Iran

Size of Total Military Force: 540,000 (Active), 350,000 (Reserves)

Military Branches/Sizes: Army (~350,000), Navy, Air Force

Strategic Forces: N/A

Paramilitary: The Islamic Revolutionary Guard Corps (IRGC) or Pasdaran (~125,000), Law enforcement forces (~40,000), Basij (people's militia, ~300,000)

Defense Spending: \$4.3 Billion or 3.3% of GDP (2003 est.)

Select Weapons Programs:

Navy:

- 6 submarines (3 Kilo-class)

Air Force:

- ~40 F-4s, ~45 F-5s, ~20 F-14A Tomcats, Su-25s

Army:

- ~1600 various Main Battle Tanks

- ~50 AH-1J Cobra attack helicopters
- Four corps, with four armored divisions, six infantry divisions, two commando brigades, an airborne brigade and other smaller independent formations

ARTICLES TO READ PRIOR TO THE GAME

- 1. Brazil's Oil Production Hits New Record**
- 2. Brazil is Extending Microsoft a Challenge**
- 3. Brazil keen to diversify imports with Iran**
- 4. Brazil-Iran to expand mutual ties**
- 5. Groups in China Plan New Oil Company**
- 6. Group of 10 banking on Chinese growth rate to slow down gradually**
- 7. 3 countries create oil cooperation forum**
- 8. CAFTA cornucopia**
- 9. How We Would Fight China**
- 10. FOUR SURPRISES IN GLOBAL DEMOGRAPHY**
- 11. What Matters Most Depends On Where You Are**

Brazil's Oil Production Hits New Record

<http://www.latimes.com/business/investing/wire/sns-ap-brazil-oil,1,7668221.story?coll=sns-ap-investing-headlines&ctrack=1&cset=true>

5 may 2005

By Associated Press

RIO DE JANEIRO, Brazil — Brazil pumped a record 1.7 million barrels of oil a day in April and should reach self-sufficiency within a year, the government oil company Petrobras said Thursday.

Brazil consumes some 1.85 million barrels of oil daily and imports about one-tenth of the total -- mostly light crude from Venezuela, Argentina and the Middle East. Brazil's oil output in April was 16.5 percent higher than a year ago, Petrobras said. The previous monthly record was 1.6 million barrels a day in February 2003.

"Maintaining this level, the company takes a decisive step toward guaranteeing self-sufficiency by the end of 2005 or the beginning of 2006," Petrobras said in a statement.

The increase was led by the P-43 offshore rig in the Barracuda field, which reached peak production of 150,000 barrels a day just four months after it started operation, the company said.

The nearby P-48 rig is expected to triple its current output of 50,000 barrels a day in a few months, Petrobras said.

About 82 percent of Brazil's oil comes from offshore fields in the Campos Basin, on the southeast Atlantic coast near Rio.

Brazil is extending Microsoft a challenge

Developing nations urged to use free software

<http://www.chron.com/cs/CDA/ssistory.mpl/business/3178254>

By ELZIO BARRETO and CARLOS CAMINADA
Bloomberg News

May 11, 2005, 9:23PM

Brazil is encouraging other developing countries to follow its lead in replacing State-owned Banco do Brasil plans to fund the creation of a group to promote President Luiz Inacio Lula da Silva's initiative for open-source software outside Brazil. Banco do Brasil, the postal service, state oil company and national statistics agency all have switched to Linux at the government's recommendation.

In Brazil, Microsoft is facing on a national scale the type of challenge it has met from local governments in Vienna, Austria, and Munich, Germany, seeking to reduce costs. Redmond, Wash.-based Microsoft runs 95 percent of the world's computers.

"Microsoft will have to cut prices because of competition from free software," José Luiz de Cerqueira Cesar, head of technology at the bank, said in an interview Wednesday in Brasilia after a news conference to announce the proposal. "It either adapts, and it's a company that has shown great ability to adapt, or it will be out."

Banco do Brasil announced the creation of the World Open Source Software Organization, to be based in Brasilia, during a summit called by Silva of Arab and South American countries to broaden economic ties between the two regions and challenge the U.S. and European Union in global trade talks.

Microsoft argues its software is easier to use, more reliable and more impervious to viruses. The company also claims its programs cost less than Linux when customers factor in training workers on Linux, managing the systems and purchasing software that's not included in Linux and is part of Windows.

Brazil keen to diversify imports with Iran

<http://www.iranmania.com/News/ArticleView/Default.asp?NewsCode=31785&NewsKind=Business%20%26%20Economy>

LONDON, May 12 (IranMania) - Brazil is keen to diversify trade ties with Iran. Brazil's Ambassador to Iran Luis Antonio Gomez told Fars News Agency on Wednesday that after attaining self-sufficiency in oil production, Brazil stopped importing oil from 1990, which, he said, makes it necessary for the Iranian government and traders to market other products to that country.

Gomez further said Brazil's exports to Iran between March 2004-5 stood at over \$1.1 bln with coffee, meat, chicken, beef, agricultural products and soybeans accounting for the bulk of this figure.

"Iran's exports to Brazil included handcrafts, carpet, caviar and pistachio valued at nearly \$23 mln."

Gomez called for more exchange of visits by trade delegations between the two countries to get to know more about each others' markets. "Brazilians are not much familiar with Iranian products."

Minister of Agriculture Jihad Mahmoud Hojjati visited Brazil in January for discussions on ways of further expanding bilateral agricultural cooperation.

Brazil has been investing in farming, agro-industrial and sugarcane projects in Iran.

Brazil-Iran to expand mutual ties

<http://www.iranmania.com/News/ArticleView/Default.asp?ArchiveNews=Yes&NewsCode=31098&NewsKind=BusinessEconomy>

LONDON, April 19 (IranMania) - The new Brazilian house speaker emphasized on Monday his country's intention to extend relations with Iran in all possible fields. The recently elected Speaker of the lower House Severino Cavalcanti in a meeting with Iran's Ambassador to Brazil Seyyed Ja'far Hashemi, said, "Brazil is politically determined to extend relations with Iran, because we believe the two countries have a reciprocal needs to each others."

He added, "Brazil owes its growth in recent years to establishment of relations with non-traditional markets and developing countries, so we are aware of the importance of having broader ties with Iran." Cavalcanti praised President Khatami's idea of " Dialogue among Civilizations" and specified "Today, consolidation, friendship, peace and amity are important and considerable objective of various nations".

Referring to the century-old relations between Brazil and Iran and vast mutual trade ties, Ja'far Hashemi called for more dynamism in other fields of cooperation including further broadening political ties.

Trade exchange level between the two countries reached 1 bln and\$ 200 mln last year. Hashemi also invited the Brazilian lower house speaker to visit Iran.

Cavalcanti has been elected to the position recently and is one of the most experienced parliamentary figures in the largest south American country.

Associated Press

Groups in China Plan New Oil Company

<http://www.forbes.com/home/feeds/ap/2005/05/04/ap2001721.html>

05.04.2005, 09:28 PM

A group of private Chinese refinery and filling station owners plan to form a new oil company to compete with their giant, state-owned rivals, a newspaper said Thursday.

The new corporation's activities will range from drilling to refining and sales, the China Daily reported, citing the China Chamber of Commerce for Petroleum Industry, part of the official All-China Federation of Industry and Commerce.

"The goal is to obtain more policy supports from the government for China's private oil and gas enterprises and to enhance the oil supply security of the country," Wang Yong, secretary-general of the chamber, was quoted as saying.

The announcement comes as China prepares to open its wholesale oil industry to foreign investors by next year under commitments to the World Trade Organization. The retail portion of the industry was opened to companies with foreign investment in December.

The new company will be named Great Wall and plans to sell shares to investors abroad, Wang said. The report didn't give any details of which companies would take part or the size of the planned corporation.

China's oil and gas industries are dominated by a handful of state-owned companies.

But it has some 80,000 smaller companies with a total of 1 million employees, ranging from drilling companies to refineries and filling stations, according to Wang. He said their annual sales totaled about 700 million barrels of oil and other products.

Group of 10 banking on Chinese growth rate to slow down gradually

<http://business.scotsman.com/economy.cfm?id=505122005>

10 May 2005

CHINA'S booming economy is poised to slow gradually, according to the world's leading central bankers.

The dynamic growth of China, where surging demand for oil is pushing up energy prices and threatening economic growth elsewhere, presents new challenges for central bankers from rich and developing countries.

China is under intense pressure to loosen its fixed currency regime as a way to start rebalancing global economic growth.

United States manufacturers and politicians in particular complain of unfair competition because they believe the yuan currency is undervalued.

Central bankers at the Group of 10 nations meeting in the Swiss city of Basel, including China's deputy central bank governor, said China's red hot economy was poised for a smooth and gradual slowdown after powering ahead at a 9.5 per cent annual rate in the first quarter. A cooling off is needed to prevent inflation from building in China and to reduce stresses on world growth.

Bankers also warned that high oil prices were depressing the pace of growth worldwide but not enough to derail the global economy from one of its best performances in decades.

World growth is expected to be around four per cent this year.

3 countries create oil cooperation forum

http://www.businessweek.com/ap/financialnews/D8A0MSF80.htm?campaign_id=apn_home_down

MAY. 10 10:30 P.M. ET Mining and energy ministers from Brazil, Argentina and Venezuela have signed a document creating a forum called Petrosur aimed at carrying out joint projects in the oil sector, said Marco Aurelio Garcia, the special adviser for international affairs in Brazil's presidency.

The new forum -- a brainchild of Venezuelan President Hugo Chavez aimed at flexing South America's oil muscle -- will count on the help of Brazil's state-run oil company Petrobras SA (PBR), Venezuela's state oil company Petroleos de Venezuela (PVZ.YY), or PdVSA, and Argentina's state energy company, Enersa.

Projects to be carried out under the name of Petrosur include a joint Petrobras-PdVSA refinery for heavy crude in Brazil's Northeast; a joint oil exploration by Petrobras and PdVSA off Venezuela's coast; and possible new oil exploration projects in Argentina, Garcia said without giving further details.

Plans for the projects have been known for several months and it was unclear how the creation of Petrosur would add to them.

"Petrosur is just a name. The important thing is that we will have cooperation between the three countries," Garcia was quoted as saying in Tuesday's edition of Brazilian newspaper O Globo.

Brazilian Mines and Energy Minister Dilma Rousseff, in comments to journalists given in Rio de Janeiro and quoted by the Agencia Estado newswire, said Petrosur's main objective was political and not economic, adding Petrosur was a forum of energy ministers to discuss a regional integration in the energy sector.

"It's possible that specific business deals will result from actions (decided at) the forum, but the objective is political," Rousseff was quoted as saying.

Energy ministers met during a summit of South American and Arab states, held in Brasilia Tuesday and Wednesday.

Chavez said the talks in Brasilia also included the creation of "Petroamerica," an oil cooperation forum that could include even more South American countries; "Tele Sul," a media cooperation project; and a South American development bank.

Garcia also dismissed recent disagreements between Brazil and Argentina over trade and diplomatic matters.

Argentine President Nestor Kirchner, according to media reports last week, has grown increasingly impatient with aspirations by Brazilian President Luiz Inacio Lula da Silva

for regional leadership in economic and diplomatic affairs, while Argentina's foreign minister allegedly has discussed a tougher stand toward Brazil with key ambassadors of his country.

"Our relations have never been better than now, despite all the noise that has happened in recent days," Garcia said.

Despite Brazilian statements of goodwill, Kirchner left the Brasilia summit early on Tuesday night, not waiting for its official end Wednesday.

Argentina last year created trade barriers for several Brazilian products, such as refrigerators, television sets and stoves. It has also demanded an automatic protectionist mechanism regulating trade to be applied in the case of grave economic imbalances within the Mercosur trade bloc that with Argentina and Brazil includes Uruguay and Paraguay.

The idea Tuesday again was rebuffed by Brazilian Trade and Development Minister Luiz Fernando Furlan, who told journalists such a mechanism "could spell the end of Mercosur."

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CAFTA cornucopia

<http://washingtontimes.com/commentary/20050511-085133-4413r.htm>

May 11, 2005

By Juan Carlos Pereira

During the 1980s, Central America was a fierce battleground of the Cold War and a breeding ground for despotic dictatorships and totalitarian regimes. Today, the region is poised to enter a historic free trade deal with the United States that represents its best chance for prosperity and economic growth in decades.

Unfortunately, some members of the U.S. Congress want to turn their back on America's third border by failing to approve DR-CAFTA, the negotiated free trade deal, that will essentially extend NAFTA benefits to the Dominican Republic and the Central American countries of Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica.

This historic trade deal represents Central America's best opportunity in a generation to shed its Cold War image and debut onto the world market as a "near South" alternative to the far East for labor-intensive manufacturing and services operations. Competitive labor, logistics and other basic costs, as well as an enviable location just a couple hours' flying-time from the United States, position Central America as a competitive export platform for the U.S. market. Often overlooked, this region is an eager market of 37 million for U.S. name-brand goods and services.

Apart from opening markets and bringing new investment into the region, CAFTA will help shape Central America into an integrated, strongly democratic region with clear legal accountability and independent public institutions.

Further harmonization, economic integration and institutional transformation is essential to speed the astonishing economic and political progress in the region over the last decade and a half. The agreement will provide the foundation for closer economic ties with the United States, and will signify the end of a troubled chapter in most of these nations' history.

Pre-ratification negotiation has already put the region on the short list of major foreign corporations interested in preferential access to the U.S. market from a low-cost location.

For example, Nicaragua's burgeoning apparel industry saw 22 percent growth in 2004 from foreign companies opening operations on the assumption the agreement will be ratified.

Higher value-added operations such as automobile parts are beginning to take root: One is a Japanese-Mexican joint venture between Yazaki Corp. and Mexico's Xignux group employing nearly 4,800 workers in Leon, Nicaragua, assembling wire harnesses

for Ford pick-up trucks and SUVs manufactured in the United States. Continued growth, stimulated by ending tariffs and trade barriers, will generate thousands of new jobs with modest but steady incomes for working-class families.

By giving them hope at home, CAFTA will keep tens of thousands of Central Americans in their native lands, curtailing illegal immigration, which means less competition for U.S. jobs.

DR-CAFTA also will give U.S. products an advantage because current trade preferences extended by the U.S. under other agreements are unilateral: They give Central American goods one-way access to the U.S. This increases the cost of U.S. exports and reduces their market access. With CAFTA, experts claim U.S. agricultural exports will grow nearly \$1 billion.

In the services sector, DR-CAFTA presents a first-time opportunity for equal treatment of U.S. businesses in the Central American market for telecommunications, insurance and financial services, as well as infrastructure, including energy, environmental, transportation, construction and engineering.

U.S. service industries will have the right to operate businesses across borders and to establish a local presence in CAFTA countries. If the agreement does not go into force, these sectors will remain largely closed to U.S. investment.

DR-CAFTA will also serve as an important defense against the emerging threat of China to the U.S. and Central American textile and apparel sectors. Starting in January 2005, U.S. quotas on imports of Chinese garments disappeared. North and Central American textile and apparel manufacturers will have to compete directly with China on costs alone.

Central America, already one of the U.S. textile industry's largest markets for fabric, is a natural ally of the U.S. efforts to withstand a tidal wave of cheap Chinese garments. Under DR-CAFTA, textiles and apparel that meet the agreement's rules of origin will be duty-free and quota-free immediately. This will allow the region to build a stronger, integrated, "quick response" value chain with which to differentiate itself from China. Without CAFTA, U.S. and Central American textile and apparel jobs will be on a collision course as they compete on an undifferentiated basis against China.

For both Central America and the United States, approving DR-CAFTA will increase economic growth, market access and prosperity in years to come.

The U.S. Congress should not turn its back on DR-CAFTA because ratification will send a signal to dozens of struggling democracies the U.S. is a genuine partner, willing to lend a hand through free trade, the ultimate replacement for foreign aid.

How We Would Fight China

The Middle East is just a blip. The American military contest with China in the Pacific will define the twenty-first century. And China will be a more formidable adversary than Russia ever was

BY ROBERT D. KAPLAN

<http://www.theatlantic.com/doc/prem/200506/kaplan>

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For some time now no navy or air force has posed a threat to the United States. Our only competition has been armies, whether conventional forces or guerrilla insurgencies. This will soon change. The Chinese navy is poised to push out into the Pacific—and when it does, it will very quickly encounter a U.S. Navy and Air Force unwilling to budge from the coastal shelf of the Asian mainland. It's not hard to imagine the result: a replay of the decades-long Cold War, with a center of gravity not in the heart of Europe but, rather, among Pacific atolls that were last in the news when the Marines stormed them in World War II. In the coming decades China will play an asymmetric back-and-forth game with us in the Pacific, taking advantage not only of its vast coastline but also of its rear base—stretching far back into Central Asia—from which it may eventually be able to lob missiles accurately at moving ships in the Pacific.

In any naval encounter China will have distinct advantages over the United States, even if it lags in technological military prowess. It has the benefit, for one thing, of sheer proximity. Its military is an avid student of the competition, and a fast learner. It has growing increments of "soft" power that demonstrate a particular gift for adaptation. While stateless terrorists fill security vacuums, the Chinese fill economic ones. All over the globe, in such disparate places as the troubled Pacific Island states of Oceania, the Panama Canal zone, and out-of-the-way African nations, the Chinese are becoming masters of indirect influence—by establishing business communities and diplomatic outposts, by negotiating construction and trade agreements. Pulsing with consumer and martial energy, and boasting a peasantry that, unlike others in history, is overwhelmingly literate, China constitutes the principal conventional threat to America's liberal imperium.

How should the United States prepare to respond to challenges in the Pacific? To understand the dynamics of this second Cold War—which will link China and the United States in a future that may stretch over several generations—it is essential to understand certain things about the first Cold War, and about the current predicament of the North Atlantic Treaty Organization, the institution set up to fight that conflict. This is a story about military strategy and tactics, with some counterintuitive twists and turns.

The first thing to understand is that the alliance system of the latter half of the twentieth century is dead. Warfare by committee, as practiced by NATO, has simply become too cumbersome in an age that requires light and lethal strikes. During the fighting in Kosovo in 1999 (a limited air campaign against a toothless enemy during a time of Euro-American harmony; a campaign, in other words, that should have been easy to prosecute) dramatic fissures appeared in the then-nineteen-member NATO alliance. The organization's end effectively came with the U.S. invasion of Afghanistan, in the aftermath of which, despite talk of a broad-based coalition, European militaries have usually done little more than patrol and move into areas already pacified by U.S. soldiers and Marines—a job more suggestive of the United Nations. NATO today is a medium for

the expansion of bilateral training missions between the United States and formerly communist countries and republics: the Marines in Bulgaria and Romania, the Navy in Albania, the Army in Poland and the Czech Republic, Special Operations Forces in Georgia—the list goes on and on. Much of NATO has become a farm system for the major-league U.S. military.

The second thing to understand is that the functional substitute for a NATO of the Pacific already exists, and is indeed up and running. It is the U.S. Pacific Command, known as PACOM. Unencumbered by a diplomatic bureaucracy, PACOM is a large but nimble construct, and its leaders understand what many in the media and the policy community do not: that the center of gravity of American strategic concern is already the Pacific, not the Middle East. PACOM will soon be a household name, as CENTCOM (the U.S. Central Command) has been in the current epoch of Middle Eastern conflict—an epoch that will start to wind down, as far as the U.S. military is concerned, during the second Bush administration.

The third thing to understand is that, ironically, the vitality of NATO itself, the Atlantic alliance, could be revived by the Cold War in the Pacific—and indeed the re-emergence of NATO as an indispensable war-fighting instrument should be America's unswerving aim. In its posture toward China the United States will look to Europe and NATO, whose help it will need as a strategic counterweight and, by the way, as a force to patrol seas more distant than the Mediterranean and the North Atlantic. That is why NATO's current commander, Marine General James L. Jones, emphasizes that NATO's future lies in amphibious, expeditionary warfare.

Let me describe our military organization in the Pacific—an area through which I have traveled extensively during the past three years. PACOM has always been the largest, most venerable, and most interesting of the U.S. military's area commands. (Its roots go back to the U.S. Pacific Army of the Philippines War, 1899-1902.) Its domain stretches from East Africa to beyond the International Date Line and includes the entire Pacific Rim, encompassing half the world's surface and more than half of its economy. The world's six largest militaries, two of which (America's and China's) are the most rapidly modernizing, all operate within PACOM's sphere of control. PACOM has—in addition to its many warships and submarines—far more dedicated troops than CENTCOM. Even though the military's area commands do not own troops today in the way they used to, these statistics matter, because they demonstrate that the United States has chosen to locate the bulk of its forces in the Pacific, not in the Middle East. CENTCOM fights wars with troops essentially borrowed from PACOM.

Quietly in recent years, by negotiating bilateral security agreements with countries that have few such arrangements with one another, the U.S. military has formed a Pacific military alliance of sorts at PACOM headquarters, in Honolulu. This is where the truly interesting meetings are being held today, rather than in Ditchley or Davos. The attendees at those meetings, who often travel on PACOM's dime, are military officers from such places as Vietnam, Singapore, Thailand, Cambodia, and the Philippines.

Otto von Bismarck, the father of the Second Reich in continental Europe, would recognize the emerging Pacific system. In 2002 the German commentator Josef Joffe appreciated this in a remarkably perceptive article in *The National Interest*, in which he argued that in terms of political alliances, the United States has come to resemble Bismarck's Prussia. Britain, Russia, and Austria needed Prussia more than they needed one another, Joffe wrote, thus making them "spokes" to Berlin's "hub"; the U.S. invasion of Afghanistan exposed a world in which America can forge different coalitions for different crises. The world's other powers, he said, now need the United States more than they need one another.

Unfortunately, the United States did not immediately capitalize on this new power arrangement, because President George W. Bush lacked the nuance and attendant self-restraint of Bismarck,

who understood that such a system could endure only so long as one didn't overwhelm it. The Bush administration did just that, of course, in the buildup to the invasion of Iraq, which led France, Germany, Russia, and China, along with a host of lesser powers such as Turkey, Mexico, and Chile, to unite against us.

In the Pacific, however, a Bismarckian arrangement still prospers, helped along by the pragmatism of our Hawaii-based military officers, five time zones removed from the ideological hothouse of Washington, D.C. In fact, PACOM represents a much purer version of Bismarck's imperial superstructure than anything the Bush administration created prior to invading Iraq. As Henry Kissinger writes in *Diplomacy* (1994), Bismarck forged alliances in all directions from a point of seeming isolation, without the constraints of ideology. He brought peace and prosperity to Central Europe by recognizing that when power relationships are correctly calibrated, wars tend to be avoided.

Only a similarly pragmatic approach will allow us to accommodate China's inevitable re-emergence as a great power. The alternative will be to turn the earth of the twenty-first century into a battlefield. Whenever great powers have emerged or re-emerged on the scene (Germany and Japan in the early decades of the twentieth century, to cite two recent examples), they have tended to be particularly assertive—and therefore have thrown international affairs into violent turmoil. China will be no exception. Today the Chinese are investing in both diesel-powered and nuclear-powered submarines—a clear signal that they intend not only to protect their coastal shelves but also to expand their sphere of influence far out into the Pacific and beyond.

This is wholly legitimate. China's rulers may not be democrats in the literal sense, but they are seeking a liberated First World lifestyle for many of their 1.3 billion people—and doing so requires that they safeguard sea-lanes for the transport of energy resources from the Middle East and elsewhere. Naturally, they do not trust the United States and India to do this for them. Given the stakes, and given what history teaches us about the conflicts that emerge when great powers all pursue legitimate interests, the result is likely to be the defining military conflict of the twenty-first century: if not a big war with China, then a series of Cold War—style standoffs that stretch out over years and decades. And this will occur mostly within PACOM's area of responsibility.

To do their job well, military officers must approach power in the most cautious, mechanical, and utilitarian way possible, assessing and reassessing regional balances of power while leaving the values side of the political equation to the civilian leadership. This makes military officers, of all government professionals, the least prone to be led astray by the raptures of liberal internationalism and neo-conservative interventionism.

The history of World War II shows the importance of this approach. In the 1930s the U.S. military, nervous about the growing strength of Germany and Japan, rightly lobbied for building up our forces. But by 1940 and 1941 the military (not unlike the German general staff a few years earlier) was presciently warning of the dangers of a two-front war; and by late summer of 1944 it should have been thinking less about defeating Germany and more about containing the Soviet Union. Today Air Force and Navy officers worry about a Taiwanese declaration of independence, because such a move would lead the United States into fighting a war with China that might not be in our national interest. Indonesia is another example: whatever the human-rights failures of the Indonesian military, PACOM assumes, correctly, that a policy of non-engagement would only open the door to Chinese-Indonesian military cooperation in a region that represents the future of world terrorism. (The U.S. military's response to the Asian tsunami was, of course, a humanitarian effort; but PACOM strategists had to have recognized that a vigorous response would gain political support for the military-basing rights that will form part of our deterrence strategy against China.) Or consider Korea: some Pacific-based officers take a reunified Korean peninsula for granted, and their main concern is whether the country will be

"Finlandized" by China or will be secure within an American-Japanese sphere of influence.

PACOM's immersion in Asian power dynamics gives it unusual diplomatic weight, and consequently more leverage in Washington. And PACOM will not be nearly as constrained as CENTCOM by Washington-based domestic politics. Our actions in the Pacific will not be swayed by the equivalent of the Israel lobby; Protestant evangelicals will care less about the Pacific Rim than about the fate of the Holy Land. And because of the vast economic consequences of misjudging the power balance in East Asia, American business and military interests are likely to run in tandem toward a classically conservative policy of deterring China without needlessly provoking it, thereby amplifying PACOM's authority. Our stance toward China and the Pacific, in other words, comes with a built-in stability—and this, in turn, underscores the notion of a new Cold War that is sustainable over the very long haul. Moreover, the complexity of the many political and military relationships managed by PACOM will give the command considerably greater influence than that currently exercised by CENTCOM—which, as a few military experts have disparagingly put it to me, deals only with a bunch of "third-rate Middle Eastern armies."

The relative shift in focus from the Middle East to the Pacific in coming years—idealistic rhetoric notwithstanding—will force the next American president, no matter what his or her party, to adopt a foreign policy similar to those of moderate Republican presidents such as George H. W. Bush, Gerald Ford, and Richard Nixon. The management of risk will become a governing ideology. Even if Iraq turns out to be a democratic success story, it will surely be a from-the-jaws-of-failure success that no one in the military or the diplomatic establishment will ever want to repeat—especially in Asia, where the economic repercussions of a messy military adventure would be enormous. "Getting into a war with China is easy," says Michael Vickers, a former Green Beret who developed the weapons strategy for the Afghan resistance in the 1980s as a CIA officer and is now at the Center for Strategic and Budgetary Assessments, in Washington. "You can see many scenarios, not just Taiwan—especially as the Chinese develop a submarine and missile capability throughout the Pacific. But the dilemma is, How do you end a war with China?"

Like the nations involved in World War I, and unlike the rogue states everyone has been concentrating on, the United States and China in the twenty-first century would have the capacity to keep fighting even if one or the other lost a big battle or a missile exchange. This has far-reaching implications. "Ending a war with China," Vickers says, "may mean effecting some form of regime change, because we don't want to leave some wounded, angry regime in place." Another analyst, this one inside the Pentagon, told me, "Ending a war with China will force us to substantially reduce their military capacity, thus threatening their energy sources and the Communist Party's grip on power. The world will not be the same afterward. It's a very dangerous road to travel on."

The better road is for PACOM to deter China in Bismarckian fashion, from a geographic hub of comparative isolation—the Hawaiian Islands—with spokes reaching out to major allies such as Japan, South Korea, Thailand, Singapore, Australia, New Zealand, and India. These countries, in turn, would form secondary hubs to help us manage the Melanesian, Micronesian, and Polynesian archipelagoes, among other places, and also the Indian Ocean. The point of this arrangement would be to dissuade China so subtly that over time the rising behemoth would be drawn into the PACOM alliance system without any large-scale conflagration—the way NATO was ultimately able to neutralize the Soviet Union.

Whatever we say or do, China will spend more and more money on its military in the coming decades. Our only realistic goal may be to encourage it to make investments that are defensive, not offensive, in nature. Our efforts will require particular care, because China, unlike the Soviet Union of old (or Russia today, for that matter), boasts soft as well as hard power. Businesspeople

love the idea of China; you don't have to beg them to invest there, as you do in Africa and so many other places. China's mixture of traditional authoritarianism and market economics has broad cultural appeal throughout Asia and other parts of the world. And because China is improving the material well-being of hundreds of millions of its citizens, the plight of its dissidents does not have quite the same market allure as did the plight of the Soviet Union's Sakharovs and Sharanskys. Democracy is attractive in places where tyranny has been obvious, odious, and unsuccessful, of course, as in Ukraine and Zimbabwe. But the world is full of gray areas—Jordan and Malaysia, for example—where elements of tyranny have ensured stability and growth.

Consider Singapore. Its mixture of democracy and authoritarianism has made it unpopular with idealists in Washington, but as far as PACOM is concerned, the country is, despite its small size, one of the most popular and helpful in the Pacific. Its ethnically blind military meritocracy, its nurturing concern for the welfare of officers and enlisted men alike, and its jungle-warfare school in Brunei are second to none. With the exception of Japan, far to the north, Singapore offers the only non-American base in the Pacific where our nuclear carriers can be serviced. Its help in hunting down Islamic terrorists in the Indonesian archipelago has been equal or superior to the help offered elsewhere by our most dependable Western allies. One Washington-based military futurist told me, "The Sings, well—they're just awesome in every way."

PACOM's objective, in the words of a Pacific-based Marine general, must be "military multilateralism on steroids." This is not just a question of our future training with the "Sings" in Brunei, of flying test sorties with the Indian air force, of conducting major annual exercises in Thailand, or of utilizing a soon-to-open training facility in northern Australia with the approval of our alliance partners. It's also a matter of forging interoperability with friendly Asian militaries at the platoon level, by constantly moving U.S. troops from one training deployment to another.

This would be an improvement over NATO, whose fighting fitness has been hampered by the addition of substandard former-Eastern-bloc militaries. Politics, too, favors a tilt toward the Pacific: tensions between the United States and Europe currently impede military integration, whereas our Pacific allies, notably Japan and Australia, want more military engagement with the United States, to counter the rise of the Chinese navy. This would work to our benefit. The Japanese military, although small, possesses elite niche capabilities, in special-forces and diesel-submarine warfare. And the aggressive frontier style of the Australians makes them cognitively closer to Americans than even the British.

Military multilateralism in the Pacific will nevertheless be constrained by the technical superiority of U.S. forces; it will be difficult to develop bilateral training missions with Asian militaries that are not making the same investments in high-tech equipment that we are. A classic military lesson is that technological superiority does not always confer the advantages one expects. Getting militarily so far ahead of everyone else in the world creates a particular kind of loneliness that not even the best diplomats can always alleviate, because diplomacy itself is worthless if it's not rooted in realistic assessments of comparative power.

At the moment the challenges posed by a rising China may seem slight, even nonexistent. The U.S. Navy's warships have a collective "full-load displacement" of 2.86 million tons; the rest of the world's warships combined add up to only 3.04 million tons. The Chinese navy's warships have a full-load displacement of only 263,064 tons. The United States deploys twenty-four of the world's thirty-four aircraft carriers; the Chinese deploy none (a principal reason why they couldn't mount a rescue effort after the tsunami). The statistics go on. But as Robert Work, a senior analyst at the Center for Strategic and Budgetary Assessments, points out, at the start of the twenty-seven-year Peloponnesian War, Athens had a great advantage over Sparta, which had no navy—but Sparta eventually emerged the victor.

China has committed itself to significant military spending, but its navy and air force will not be able to match ours for some decades. The Chinese are therefore not going to do us the favor of engaging in conventional air and naval battles, like those fought in the Pacific during World War II. The Battle of the Philippine Sea, in late June of 1944, and the Battle of Leyte Gulf and the Surigao Strait, in October of 1944, were the last great sea battles in American history, and are very likely to remain so. Instead the Chinese will approach us asymmetrically, as terrorists do. In Iraq the insurgents have shown us the low end of asymmetry, with car bombs. But the Chinese are poised to show us the high end of the art. That is the threat.

There are many ways in which the Chinese could use their less advanced military to achieve a sort of political-strategic parity with us. According to one former submarine commander and naval strategist I talked to, the Chinese have been poring over every detail of our recent wars in the Balkans and the Persian Gulf, and they fully understand just how much our military power depends on naval projection—that is, on the ability of a carrier battle group to get within proximity of, say, Iraq, and fire a missile at a target deep inside the country. To adapt, the Chinese are putting their fiber-optic systems underground and moving defense capabilities deep into western China, out of naval missile range—all the while developing an offensive strategy based on missiles designed to be capable of striking that supreme icon of American wealth and power, the aircraft carrier. The effect of a single Chinese cruise missile's hitting a U.S. carrier, even if it did not sink the ship, would be politically and psychologically catastrophic, akin to al-Qaeda's attacks on the Twin Towers. China is focusing on missiles and submarines as a way to humiliate us in specific encounters. Their long-range-missile program should deeply concern U.S. policymakers.

With an advanced missile program the Chinese could fire hundreds of missiles at Taiwan before we could get to the island to defend it. Such a capability, combined with a new fleet of submarines (soon to be a greater undersea force than ours, in size if not in quality), might well be enough for the Chinese to coerce other countries into denying port access to U.S. ships. Most of China's seventy current submarines are past-their-prime diesels of Russian design; but these vessels could be used to create mobile minefields in the South China, East China, and Yellow Seas, where, as the Wall Street Journal reporter David Lague has written, "uneven depths, high levels of background noise, strong currents and shifting thermal layers" would make detecting the submarines very difficult. Add to this the seventeen new stealthy diesel submarines and three nuclear ones that the Chinese navy will deploy by the end of the decade, and one can imagine that China could launch an embarrassing strike against us, or against one of our Asian allies. Then there is the whole field of ambiguous coercion—for example, a series of non-attributable cyberattacks on Taiwan's electrical-power grids, designed to gradually demoralize the population. This isn't science fiction; the Chinese have invested significantly in cyberwarfare training and technology. Just because the Chinese are not themselves democratic doesn't mean they are not expert in manipulating the psychology of a democratic electorate.

What we can probably expect from China in the near future is specific demonstrations of strength—like its successful forcing down of a U.S. Navy EP-3E surveillance plane in the spring of 2001. Such tactics may represent the trend of twenty-first-century warfare better than anything now happening in Iraq—and China will have no shortage of opportunities in this arena. During one of our biennial Rim of the Pacific naval exercises the Chinese could sneak a sub under a carrier battle group and then surface it. They could deploy a moving target at sea and then hit it with a submarine- or land-based missile, demonstrating their ability to threaten not only carriers but also destroyers, frigates, and cruisers. (Think about the political effects of the terrorist attack on the USS Cole, a guided-missile destroyer, off the coast of Yemen in 2000—and then think about a future in which hitting such ships will be easier.) They could also bump up against one of our ships during one of our ongoing Freedom of Navigation exercises off the Asian coast. The bumping of a ship may seem inconsequential, but keep in mind that in a global media age such

an act can have important strategic consequences. Because the world media tend to side with a spoiler rather than with a reigning superpower, the Chinese would have a built-in political advantage.

What should be our military response to such developments? We need to go more unconventional. Our present Navy is mainly a "blue-water" force, responsible for the peacetime management of vast oceanic spaces—no small feat, and one that enables much of the world's free trade. The phenomenon of globalization could not occur without American ships and sailors. But increasingly what we will need is, in essence, three separate navies: one designed to maintain our ability to use the sea as a platform for offshore bombing (to support operations like the ones in Iraq and Afghanistan); one designed for littoral Special Operations combat (against terrorist groups based in and around Indonesia, Malaysia, and the southern Philippines, for example); and one designed to enhance our stealth capabilities (for patrolling the Chinese mainland and the Taiwan Strait, among other regions). All three of these navies will have a role in deflecting China, directly and indirectly, given the variety of dysfunctional Pacific Island republics that are strengthening their ties with Beijing.

Our aircraft carriers already provide what we need for that first navy; we must further develop the other two. The Special Operations navy will require lots of small vessels, among them the littoral-combat ship being developed by General Dynamics and Lockheed Martin. Approximately 400 feet long, the LCS requires only a small crew, can operate in very shallow water, can travel very fast (up to forty knots), and will deploy Special Operations Forces (namely, Navy SEALs). Another critical part of the littoral navy will be the Mark V special-operations craft. Only eighty feet long, the Mark V can travel at up to fifty knots and has a range of 600 nautical miles. With a draft of only five feet, it can deliver a SEAL platoon directly onto a beach—and at some \$5 million apiece, the Pentagon can buy dozens for the price of just one F/A-22 fighter jet.

Developing the third type of navy will require real changes. Particularly as the media become more intrusive, we must acquire more stealth, so that, for example, we can send commandos ashore from a submarine to snatch or kill terrorists, or leave special operators behind to carry out missions in an area over which no government has control. Submarines have disadvantages, of course: they offer less of a bombing platform than aircraft carriers, and pound for pound are more costly. Nevertheless, they are the wave of the future, in no small measure because protecting aircraft carriers from missile attack may slowly become a pursuit of diminishing returns for us.

Our stealth navy would be best served by the addition of new diesel submarines of the sort that Australia, Japan, South Korea, Germany, and Sweden already have in the water or under development—and which China will soon have too. But because of our global policing responsibilities, which will necessarily keep us in the nuclear-sub business, we're unlikely to switch to diesel submarines. Instead we will adapt what we've got. Already we are refitting four Trident subs with conventional weapons, and making them able to support the deployment of SEAL teams and eventually, perhaps, long-range unmanned spy aircraft. The refitted Tridents can act as big mother ships for smaller assets deployed closer to the littorals.

None of this will change our need for basing rights in the Pacific, of course. The more access to bases we have, the more flexibility we'll have—to support unmanned flights, to allow aerial refueling, and perhaps most important, to force the Chinese military to concentrate on a host of problems rather than just a few. Never provide your adversary with only a few problems to solve (finding and hitting a carrier, for example), because if you do, he'll solve them.

Andersen Air Force Base, on Guam's northern tip, represents the future of U.S. strategy in the Pacific. It is the most potent platform anywhere in the world for the projection of American

military power. Landing there recently in a military aircraft, I beheld long lines of B-52 bombers, C-17 Globemasters, F/A-18 Hornets, and E-2 Hawkeye surveillance planes, among others. Andersen's 10,000-foot runways can handle any plane in the Air Force's arsenal, and could accommodate the space shuttle should it need to make an emergency landing. The sprawl of runways and taxiways is so vast that when I arrived, I barely noticed a carrier air wing from the USS Kitty Hawk, which was making live practice bombing runs that it could not make from its home port in Japan. I saw a truck filled with cruise missiles on one of the runways. No other Air Force base in the Pacific stores as much weaponry as Andersen: some 100,000 bombs and missiles at any one time. Andersen also stores 66 million gallons of jet fuel, making it the Air Force's biggest strategic gas-and-go in the world.

Guam, which is also home to a submarine squadron and an expanding naval base, is significant because of its location. From the island an Air Force equivalent of a Marine or Army division can cover almost all of PACOM's area of responsibility. Flying to North Korea from the West Coast of the United States takes thirteen hours; from Guam it takes four.

"This is not like Okinawa," Major General Dennis Larsen, the Air Force commander there at the time of my visit, told me. "This is American soil in the midst of the Pacific. Guam is a U.S. territory." The United States can do anything it wants here, and make huge investments without fear of being thrown out. Indeed, what struck me about Andersen was how great the space was for expansion to the south and west of the current perimeters. Hundreds of millions of dollars of construction funds were being allocated. This little island, close to China, has the potential to become the hub in the wheel of a new, worldwide constellation of bases that will move the locus of U.S. power from Europe to Asia. In the event of a conflict with Taiwan, if we had a carrier battle group at Guam we would force the Chinese either to attack it in port—thereby launching an assault on sovereign U.S. territory, and instantly becoming the aggressor in the eyes of the world—or to let it sail, in which case the carrier group could arrive off the coast of Taiwan only two days later.

During the Cold War the Navy had a specific infrastructure for a specific threat: war with the Soviet Union. But now the threat is multiple and uncertain: we need to be prepared at any time to fight, say, a conventional war against North Korea or an unconventional counterinsurgency battle against a Chinese-backed rogue island-state. This requires a more agile Navy presence on the island, which in turn means outsourcing services to the civilian community on Guam so that the Navy can concentrate on military matters. One Navy captain I met with had grown up all over the Pacific Rim. He told me of the Navy's plans to expand the waterfront, build more bachelors' quarters, and harden the electrical-power system by putting it underground. "The fact that we have lots of space today is meaningless," he said. "The question is, How would we handle the surge requirement necessitated by a full-scale war?"

There could be a problem with all of this. By making Guam a Hawaii of the western Pacific, we make life simple for the Chinese, because we give them just one problem to solve: how to threaten or intimidate Guam. The way to counter them will be not by concentration but by dispersion. So how will we prevent Guam from becoming too big?

In a number of ways. We may build up Palau, an archipelago of 20,000 inhabitants between Mindanao, in the Philippines, and the Federated States of Micronesia, whose financial aid is contingent on a defense agreement with us. We will keep up our bases in Central Asia, close to western China—among them Karshi-Khanabad, in Uzbekistan, and Manas, in Kyrgyzstan, which were developed and expanded for the invasion of Afghanistan. And we will establish what are known as cooperative security locations.

A cooperative security location can be a tucked-away corner of a host country's civilian airport, or

a dirt runway somewhere with fuel and mechanical help nearby, or a military airport in a friendly country with which we have no formal basing agreement but, rather, an informal arrangement with private contractors acting as go-betweens. Because the CSL concept is built on subtle relationships, it's where the war-fighting ability of the Pentagon and the diplomacy of the State Department coincide—or should. The problem with big bases in, say, Turkey—as we learned on the eve of the invasion of Iraq—is that they are an intrusive, intimidating symbol of American power, and the only power left to a host country is the power to deny us use of such bases. In the future, therefore, we will want unobtrusive bases that benefit the host country much more obviously than they benefit us. Allowing us the use of such a base would ramp up power for a country rather than humiliating it.

I have visited a number of CSLs in East Africa and Asia. Here is how they work. The United States provides aid to upgrade maintenance facilities, thereby helping the host country to better project its own air and naval power in the region. At the same time, we hold periodic exercises with the host country's military, in which the base is a focus. We also offer humanitarian help to the surrounding area. Such civil-affairs projects garner positive publicity for our military in the local media—and they long preceded the response to the tsunami, which marked the first time that many in the world media paid attention to the humanitarian work done all over the world, all the time, by the U.S. military. The result is a positive diplomatic context for getting the host country's approval for use of the base when and if we need it.

Often the key role in managing a CSL is played by a private contractor. In Asia, for example, the private contractor is usually a retired American noncom, either Navy or Air Force, quite likely a maintenance expert, who is living in, say, Thailand or the Philippines, speaks the language fluently, perhaps has married locally after a divorce back home, and is generally much liked by the locals. He rents his facilities at the base from the host-country military, and then charges a fee to the U.S. Air Force pilots transiting the base. Officially he is in business for himself, which the host country likes because it can then claim it is not really working with the American military. Of course no one, including the local media, believes this. But the very fact that a relationship with the U.S. armed forces is indirect rather than direct eases tensions. The private contractor also prevents unfortunate incidents by keeping the visiting pilots out of trouble—steering them to the right hotels and bars, and advising them on how to behave. (Without Dan Generette, a private contractor for years at Utapao Naval Station, in Thailand, that base could never have been ramped up to provide tsunami relief the way it was.)

Visiting with these contractors and being taken around foreign military airfields by them, I saw how little, potentially, the Air Force would need on the ground in order to land planes and take off. Especially since 9/11 the Air Force has been slowly developing an austere, expeditionary mentality to amend its lifestyle, which has historically been cushy in comparison with that of the other branches of the armed forces. Servicing a plane often takes less on the ground than servicing a big ship, and the Air Force is beginning to grasp the concept of light and lethal, and of stealthy, informal relationships. To succeed in the Pacific and elsewhere, the Navy will need to further develop a similar outlook—thinking less in terms of obvious port visits and more in terms of slipping in and out in the middle of the night.

The first part of the twenty-first century will be not nearly as stable as the second half of the twentieth, because the world will be not nearly as bipolar as it was during the Cold War. The fight between Beijing and Washington over the Pacific will not dominate all of world politics, but it will be the most important of several regional struggles. Yet it will be the organizing focus for the U.S. defense posture abroad. If we are smart, this should lead us back into concert with Europe. No matter how successfully our military adapts to the rise of China, it is clear that our current dominance in the Pacific will not last. The Asia expert Mark Helprin has argued that while we pursue our democratization efforts in the Middle East, increasingly befriending only those

states whose internal systems resemble our own, China is poised to reap the substantial benefits of pursuing its interests amorally—what the United States did during the Cold War. The Chinese surely hope, for example, that our chilly attitude toward the brutal Uzbek dictator, Islam Karimov, becomes even chillier; this would open up the possibility of more pipeline and other deals with him, and might persuade him to deny us use of the air base at Karshi-Khanabad. Were Karimov to be toppled in an uprising like the one in Kyrgyzstan, we would immediately have to stabilize the new regime or risk losing sections of the country to Chinese influence.

We also need to realize that in the coming years and decades the moral distance between Europe and China is going to contract considerably, especially if China's authoritarianism becomes increasingly restrained, and the ever expanding European Union becomes a less-than-democratic superstate run in imperious regulatory style by Brussels-based functionaries. Russia, too, is headed in a decidedly undemocratic direction: Russia's president, Vladimir Putin, reacted to our support of democracy in Ukraine by agreeing to "massive" joint air and naval exercises with the Chinese, scheduled for the second half of this year. These unprecedented joint Russian-Chinese exercises will be held on Chinese territory.

Therefore the idea that we will no longer engage in the "cynical" game of power politics is illusory, as is the idea that we will be able to advance a foreign policy based solely on Wilsonian ideals. We will have to continually play various parts of the world off China, just as Richard Nixon played less than morally perfect states off the Soviet Union. This may well lead to a fundamentally new NATO alliance, which could become a global armada that roams the Seven Seas. Indeed, the Dutch, the Norwegians, the Germans, and the Spanish are making significant investments in fast missile-bearing ships and in landing-platform docks for beach assaults, and the British and the French are investing in new aircraft carriers. Since Europe increasingly seeks to avoid conflict and to reduce geopolitics to a series of negotiations and regulatory disputes, an emphasis on sea power would suit it well. Sea power is intrinsically less threatening than land power. It allows for a big operation without a large onshore footprint. Consider the tsunami effort, during which Marines and sailors returned to their carrier and destroyers each night. Armies invade; navies make port visits. Sea power has always been a more useful means of realpolitik than land power. It allows for a substantial military presence in areas geographically remote from states themselves—but without an overtly belligerent effect. Because ships take so long to get somewhere, and are less threatening than troops on the ground, naval forces allow diplomats to ratchet up pressure during a crisis in a responsible—and reversible—way. Take the Cuban Missile Crisis, in 1962. As the British expert H. P. Willmott has written, "The use of naval power by the Americans was the least dangerous option that presented itself, and the slowness with which events unfolded at sea gave time for both sides to conceive and implement a rational response to a highly dangerous situation."

Submarines have been an exception to this rule, but their very ability to operate both literally and figuratively below the surface, completely off the media radar screen, allows a government to be militarily aggressive, particularly in the field of espionage, without offending the sensibilities of its citizenry. Sweden's neutrality is a hard-won luxury built on naval strength that many of its idealistic citizens may be incompletely aware of. Pacifistic Japan, the ultimate trading nation, is increasingly dependent on its burgeoning submarine force. Sea power protects trade, which is regulated by treaties; it's no accident that the father of international law, Hugo Grotius, was a seventeenth-century Dutchman who lived at the height of Dutch naval power worldwide. Because of globalization, the twenty-first century will see unprecedented sea traffic, requiring unprecedented regulation by diplomats and naval officers alike. And as the economic influence of the European Union expands around the globe, Europe may find, like the United States in the nineteenth century and China today, that it has to go to sea to protect its interests.

The ships and other naval equipment being built now by the Europeans are designed to slot into

U.S. battle networks. And European nations, which today we conceive of as Atlantic forces, may develop global naval functions; already, for example, Swedish submarine units are helping to train Americans in the Pacific on how to hunt for diesel subs. The sea may be NATO's and Europe's best chance for a real military future. And yet the alliance is literally and symbolically weak. For it to regain its political significance, NATO must become a military alliance that no one doubts is willing to fight and kill at a moment's notice. That was its reputation during the Cold War—and it was so well regarded by the Soviets that they never tested it. Expanding NATO eastward has helped stabilize former Warsaw Pact states, of course, but admitting substandard militaries to the alliance's ranks, although politically necessary, has been problematic. The more NATO expands eastward, the more superficial and unwieldy it becomes as a fighting force, and the more questionable becomes its claim that it will fight in defense of any member state. Taking in yet more substandard militaries like Ukraine's and Georgia's too soon is simply not in NATO's interest. We can't just declare an expansion of a defense alliance because of demonstrations somewhere in support of democracy. Rather, we must operate in the way we are now operating in Georgia, where we have sent in the Marines for a year to train the Georgian armed forces. That way, when a country like Georgia does make it into NATO, its membership will have military as well as political meaning. Only by making it an agile force that is ready to land on, say, West African beaches at a few days' or hours' notice can we save NATO.

And we need to save it. NATO is ours to lead—unlike the increasingly powerful European Union, whose own defense force, should it become a reality, would inevitably emerge as a competing regional power, one that might align itself with China in order to balance against us. Let me be even clearer about something that policymakers and experts often don't want to be clear about. NATO and an autonomous European defense force cannot both prosper. Only one can—and we should want it to be the former, so that Europe is a military asset for us, not a liability, as we confront China.

The Chinese military challenge is already a reality to officers and sailors of the U.S. Navy. I recently spent four weeks embedded on a guided-missile destroyer, the USS Benfold, roaming around the Pacific from Indonesia to Singapore, the Philippines, Guam, and then Hawaii.

During my visit the Benfold completed a tsunami-relief mission (which consisted of bringing foodstuffs ashore and remapping the coastline) and then recommenced combat drills, run from the ship's combat-information center—a dark and cavernous clutter of computer consoles. Here a tactical action officer led the response to what were often hypothetical feints or attacks from China or North Korea.

Observing the action in the combat-information center, I learned that although naval warfare is conducted with headphones and computer keyboards, the stress level is every bit as acute as in gritty urban combat. A wrong decision can result in a catastrophic missile strike, against which no degree of physical toughness or bravery is a defense.

Sea warfare is cerebral. The threat is over the horizon; nothing can be seen; and everything is reduced to mathematics. The object is deception more than it is aggression—getting the other side to shoot first, so as to gain the political advantage, yet not having to absorb the damage of the attack.

As enthusiastic as the crew members of the Benfold were in helping the victims of the tsunami, once they left Indonesian waters they were just as enthusiastic about honing their surface and subsurface warfare skills. I even picked up a feeling, especially among the senior chief petty officers (the iron grunts of the Navy, who provide the truth unvarnished), that they might be tested in the western Pacific to the same degree that the Marines have been in Iraq. The main threat in the Persian Gulf to date has been asymmetric attacks, like the bombing of the Cole. But

the Pacific offers all kinds of threats, from increasingly aggressive terrorist groups in the Islamic archipelagoes of Southeast Asia to cat-and-mouse games with Chinese subs in the waters to the north. Preparing to meet all the possible threats the Pacific has to offer will force the Navy to become more nimble, and will make it better able to deal with unconventional emergencies, such as tsunamis, when they arise.

Welcome to the next few decades. As one senior chief put it to me, referring first to the Persian Gulf and then to the Pacific, "The Navy needs to spend less time in that salty little mud puddle and more time in the pond."

FOUR SURPRISES IN GLOBAL DEMOGRAPHY

By Nicholas Eberstadt

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FOUR SURPRISES IN GLOBAL DEMOGRAPHY

By Nicholas Eberstadt

Contemporary world population patterns are shaped by the "demographic transition" concept introduced to the field by the great demographer Frank Notestein several generations ago. That schema offers a stylized description of the great shifts in modern population patterns. Death and birth rates start out high, but more or less in equilibrium. Then, advances in knowledge and improvements in income result in broad declines in mortality, precipitating rapid population increase. Finally, socioeconomic development brings about sustained fertility reductions via voluntary, deliberate changes in childbearing patterns, at which point births and deaths once more come into balance.

While Notestein's schematic may still describe the human condition in broad stroke, today we can observe some important and surprising exceptions to these generalizations. Four of these unanticipated trends are (1) the rapid spread of sub-replacement fertility, (2) the emergence of unnatural gender imbalances among the very young, (3) sustained increases in death rates, and (4) American "demographic exceptionalism."

THE RAPID SPREAD OF "SUB-REPLACEMENT FERTILITY"

Sustained reductions in family size in the context of peace and social progress were first witnessed in late eighteenth-century Europe. In the first half of the twentieth century, European countries unveiled another demographic first: non-catastrophic sub-replacement fertility. During the interwar period, a number of European states reported fertility patterns that, if continued, would lead to an eventual stabilization and indefinite population decline thereafter, absent offsetting immigration. These low fertility regimens were entirely voluntary: heretofore, such low birth rates

had virtually always been attended by war, pestilence, famine, or disaster. Europe experienced a baby boom after World War II, but sub replacement fertility has now returned with a vengeance.

To maintain long-term population stability, a society's women must bear an average of about 2.1 children per lifetime. According to projections of the U.S. Census Bureau, Europe's total fertility rate (or TFR--births per woman per lifetime) is about 1.4. Indeed, nearly all the world's developed regions--Australia and New Zealand, North America, Japan, and the highly industrialized East Asian outposts of Singapore, Hong Kong, Taiwan, and South Korea - are reporting sub-replacement fertility. (Israel remains an exception.) But sub-replacement fertility is clearly no longer mainly a developed-nation phenomenon. If the Census Bureau's projections are roughly accurate, just about half the world's population lives in sub-replacement countries or territories.

Apart from Mongolia, according to the Census Bureau, all of East Asia is sub-replacement, as are Thailand and Burma in Southeast Asia, Kazakstan and Sri Lanka in South-Central Asia, many Caribbean societies, and most South American countries.

Perhaps the biggest surprise, given received notions about the Arab/Muslim expanse, is the recent spread of sub- replacement fertility to parts of the Arab and the Muslim world. Algeria, Tunisia, and Lebanon are now sub-replacement countries, as is Turkey. And there is the remarkable case of Iran, with a current TFR of under 1.9, which is lower than the United States'. Between 1986 and 2000, the country's TFR plummeted from well over 6 to just over 2. If modernization and Westernization are the handmaidens of sustained fertility decline, as is often supposed by students of demography, both terms are apparently being given a rather new meaning.

There are no reliable methods for anticipating just how low fertility levels may sink, or how long sub-replacement fertility may persist in various locales. One consequence, however, is already clear: it will force a great aging of the populations affected.

All of the developed countries are already "graying." This is most pronounced in Japan, where, by the year 2025, it is expected that one out of nine people will be 80 or older. Japan's prospective aging is unprecedented, and the scale of the transformation suggests the enormousness of the challenges that will accompany it. Japan, Europe, and North America are places where people traditionally got rich before they got old. In the decades ahead, many national populations are going to get old before they get rich.

China promises to be the most important case in point. Thanks to low levels

of mortality, its population control program, and its now-low fertility, China is aging at a breathtaking velocity. Between 1975 and 2000, China's median age jumped from just over 20 to about 30; by 2025, it is projected to rise by nearly another decade. By then, it is quite possible that China's median age will be higher than America's. But China is much poorer than Japan or the U.S. were at every comparable stage of their aging processes.

China's rapidly aging population faces a looming triple bind. Apart from the family, China lacks any functional nationwide arrangements for pensioning its elders. Thus, a great many Chinese will have to continue to work into old age. But working life in China typically entails more physical labor, which does not favor the frail, than work in Japan or the United States. China's aging problem has the makings of a slow-motion humanitarian tragedy.

UNNATURAL GENDER IMBALANCES

China is also witnessing a strange, unnatural, and growing disproportion between its numbers of baby boys and baby girls, and it is not the only country in which this is happening. In ordinary human populations, around 104-105 boys are typically born for every 100 girls. However, since the advent of its coercive one child policy, China has broken this natural biological rhythm. Its 1982 census counted almost 109 baby boys for every 100 baby girls; by 1995, the reported ratio was up to almost 116 boys for every 100 girls, and by 2000, it was approaching 120:100.

This astonishing ratio could be a consequence of massive statistical falsification as parents bend the rules of the population program by concealing baby girls. If so, one would expect to see more normal sex ratios at slightly older ages: say, the years 1-4. But even here, China's registered ratio of boys to girls was about 121:100, and the ratio exceeded 130:100 in several provinces.

And China's mounting gender imbalance cannot be explained by poverty or lack of education. It has emerged in a period of extremely rapid development and pronounced economic progress. Moreover, higher female illiteracy rates correspond with lower imbalances: Better education for women is a predictor for greater gender imbalances.

China's population control program stands as an obvious suspect, since the imbalances did not emerge until after the plan was promulgated in the late 1970s, and the imbalances have grown progressively worse during the years of its implementation. Yet this policy cannot be the sole culprit. In other parts of East Asia, including South Korea, Taiwan, Hong Kong, and Singapore -- none of which forcibly control population growth -- unnatural gender imbalances at birth have also been recorded in recent years. It may be that throughout East Asia we are witnessing a collision between an immensely strong cultural preference for sons, new regimens of sub-replacement

fertility, and a diffusion of ultrasound and other technologies that permit prenatal gender determination. Skewed sex ratios at birth would be the inexorable consequence of this collision.

And the collision is not only happening in East Asia. Gender determination technology is now nearly universally available; sub-replacement fertility is fast becoming the planetary norm; and a strong son-preference has been expressed in a number of cultures worldwide. One of these is Punjab, India. In a major survey undertaken there a decade ago, when fertility levels were still well above replacement, women expressed a preference for a boy over a girl 10:1. And according to India's latest census, in that state's youngest age groups, there were 126 young boys for every 100 young girls.

That figure cannot be taken as an exact indication of gender imbalance at birth: differential mortality and/or migration, for instance, may have affected this reported outcome. Yet the true sex ratio at birth in Punjab may not be far different from the extraordinary disparities reported for the very young. Contrary to expectation, with increased affluence, education, and contact with the outside world in China, the gender imbalance has increased, and it is starting to do the same in the Caucasus; parts of Latin America and Eastern Europe; even subpopulations within the U.S.

The consequences of this growing gender imbalance will be felt when these children grow to be prospective husbands and wives. The "marriage market" will be unable to clear in locales where matrimony is the expectation, sub-replacement fertility the reality, and extreme gender imbalances the norm.

SUSTAINED INCREASES IN MORTALITY

It has generally been assumed that with improved income, increased globalization, and the attendant spread of ideas, knowledge, and technology, mortality would gradually decline worldwide, and countries' mortality levels would gradually converge. Most of the twentieth century seemed to confirm such expectations. Between 1900 and 2000, global life expectancy at birth probably doubled, soaring from about 30 to well over 60 years. And from 1950 to 1980, there was a marked convergence of life expectancy between the more and less developed nations.

In the twenty-first century, it appears that major and pervasive health setbacks will be a characteristic feature of the global population profile. These steep increases in mortality do not seem to be transitory, but will probably continue for decades. By U.S. Census Bureau projections, over 40 countries are anticipated to have a lower life expectancy in 2010 than they did in 1990. The Bureau envisions a 20-year-long decline in life expectancy for those countries. Clearly these are no trivial interruptions.

Most of the health setbacks relate to HIV/AIDS, which is the proximate factor in virtually all of these reversals in sub-Saharan Africa. But it is not the only, or even the major, factor elsewhere. Most of the former Soviet countries, for example, are projected to suffer long term declines in life expectancy.

The Russian Federation is perhaps the most striking and anomalous of the states suffering from long-term health retrogression. Russia's life expectancy at birth today is about four years lower than it was forty years ago. Its health reversal is concentrated in the working age groups. This peacetime death explosion has been triggered not by tuberculosis or HIV/AIDS, but by cardiovascular disease and injuries. Alcohol, of course, has played its part: indeed, one Russian study determined that almost half of the young and middle aged men who died of injury or cardiovascular disease were drunk at the time of death. Russians now in their 30s, 40s, or 50s have already accumulated a lifetime of insults to their health.

In Japan, each new generation enjoys better survival chances at any given age. The situation is totally different in Russia, where the worst death rates at any given age are found among the youngest men. To judge by mortality, Russians are now less healthy than their parents were at the same age. Under such circumstances, it will be extraordinarily difficult to improve the health of the society as a whole.

AMERICAN "DEMOGRAPHIC EXCEPTIONALISM"

A final surprise involves what we might call America's "demographic exceptionalism." The U.S. is the singular and major exception to the demographic rhythms characterizing virtually all other affluent Western states.

In Western Europe, total populations are anticipated to decline between 2000 and 2025, with a substantial shrinkage in the under-55 population and pronounced population aging. In the U.S., overall population aging is much more moderate; the overall population is projected to increase, and a higher number of young people are expected in 2025 than today.

Part of this difference is attributable to a significant divergence in fertility patterns. As already noted, Europe's overall TFR stands in the 1.4 to 1.5 range, with Italy and Spain on the low end, at about 1.2, and France and Ireland on the high end, at about 1.8. The U.S. fertility rate has been over 2.0 since 1990 and is just under replacement today--somewhere between 2.0 and the 2.1 replacement level, making it about 40 percent higher than Europe's.

America's fertility levels have diverged not just from Europe's but from those of the rest of the developed world. The U.S. TFR is much higher than

Japan's 1.3-1.4, and the gap is even greater with some of the other high-income East Asian countries. Even much of North America doesn't look so "American" these days: whereas the U.S. and Canada had nearly identical fertility levels back in the mid 1970s, Canada looks pretty European today, and the U.S. looks-- well, pretty American. While the States is reporting a TFR of over 2, Canada's is around 1.5.

Much of the developed world is caught up in what Ron Lesthaeghe and Dirk van de Kaa have dubbed "the second demographic transition" -- a shift to smaller desired family sizes and less stable family unions. If this is the new demographic revolution, Americans look to be the developed world's most prominent counterrevolutionaries.

America's relatively high TFR does not seem to be explained by any particular region or ethnicity. There are big fertility differences between some states, but 42 states reported TFRs above 1.9 that year and 33 reported TFRs of 2.0 or higher. In all of Europe, by contrast, the only country with an estimated TFR above 2.0 is Albania.

America's ethnic fertility differentials do not account for its demographic divergence from Europe. Hispanic Americans maintain relatively large family sizes in the U.S., with a TFR of around 2.7, but excluding them by no means eliminates the gap between the U.S. and the rest of the developed world. Nor can the differential be explained by factoring out African-American fertility (which is higher than the "Anglo" rate, but much closer to the Anglo rate than to the Latinos'). In 2000, America's Anglo TFR was 1.84 -- about 10 percent less than the U.S. national average, but still more than 30 percent above Europe's.

No obvious materialist explanation for America's demographic exceptionalism seems to exist. U.S.-Western Europe income differences are not tremendous. One might think that fertility would be higher in societies that devote more public resources to child support, but social welfare programs are far more generous in most of Western Europe than in the U.S.

So how can we explain this fertility discrepancy? Possibly it is a matter of attitudes and outlook. There are big revealed differences between Americans and Europeans regarding a number of important life values. Survey results highlighted in the Economist (Nov. 2003) point to some of these. Americans tend to identify the role of government as "providing freedom," while Europeans are inclined to think of government in terms of "guaranteeing one's needs." Attitudes about individualism, patriotism, and religiosity seem to separate Americans from much of the rest of the developed world. Is it entirely coincidental that these divergences seem to track with the big cleavages between fertility levels in the U.S. and so much of the rest of the developed world?

The difference between a TFR of 2.0 and one of 1.5 or 1.4, other things being equal, is the difference between virtual long-term population stability and a population that shrinks by almost a third with each passing generation. A UN Population Division study of what levels of net immigration flows would be necessary for developed countries to maintain both their overall population and their working-age population (15-64 years of age) over a 55-year time horizon. For the pre-enlargement EU, a net inflow of about 2.5 million people a year would be needed to stabilize the population, and about 4.3 million to stabilize the workforce. But net immigration into the EU in the late 1990s averaged just 700,000 a year. For Japan, 300,000 net newcomers a year would be needed for population stability, and 600,000 for workforce stability. But Japan's net immigration rate today is approximately zero. The U.S. could maintain its population with just 116,000 net immigrants a year, but net annual immigration has averaged nearly 1 million. If these exceptionalist trends continue, America will age much more slowly than Europe or Japan. And the U.S. share of world population will not diminish steadily and dramatically in the decades ahead, as Europe's and Japan's seem set to do.

Western European countries accounted for about 12 percent of global population in 1950; this was down to about 6 percent by 2000, and in the admittedly tentative Census Bureau projections for 2050, it is placed at barely 4 percent. Over this same span, Russia's projected share of world population falls from over 4 percent to barely 1 percent; Japan's from 3 percent to 1 percent. The U.S., on the other hand, only drops from about 6 percent in 1950 to about 4.5 percent in 2000 and then is projected at an almost constant 4.5 percent for the following half century.

While the rest of the developed areas gradually drop off the roster of the world's major population centers, the U.S. actually rises, from fourth largest in 1950 to third largest in 2000, which it is projected to remain in 2050 as well.

Drawing international implications from such crude comparisons is hazardous. But from a purely demographic standpoint, the U.S., virtually alone among developed nations, does not look set to be going off gently into the night.

What Matters Most Depends On Where You Are

By Herb Brody (edit) April 2005

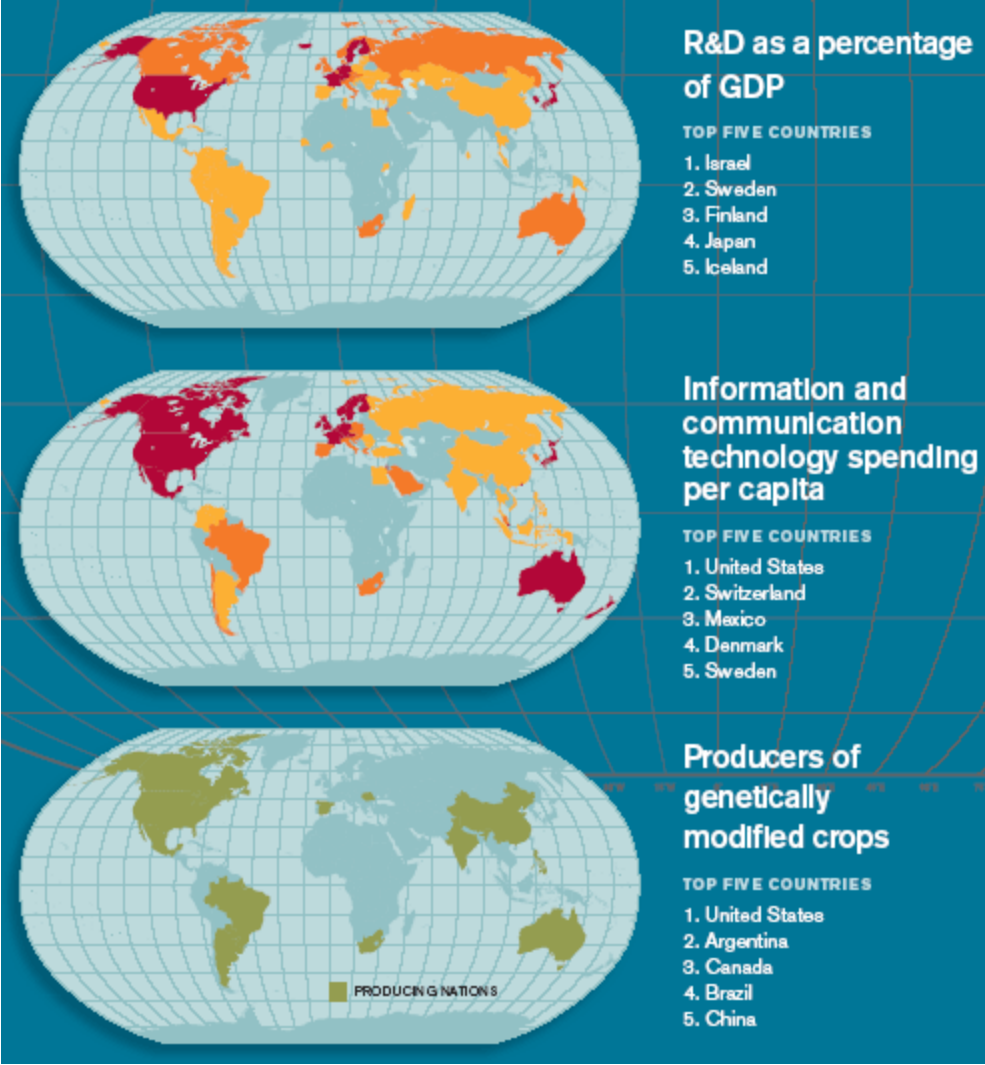
“Global village” was always an idealistic oxymoron. Politically, culturally, and economically, the differences among nations loom far larger than any differences that might exist among neighborhoods made up of small clutches of homes and shops. In the following collection of stories, Technology Review brings you the view from seven countries. They are a sampling of the world: Northern Hemisphere and Southern, nations developed and developing, with traditions democratic, autocratic, and Communist. In four cases (China, Germany, the Netherlands, and the United States), the writers are editors of Technology Review or of one of its foreign-language editions. For reports on technology in the other three countries (South Africa, Chile, and Brazil), we turned to journalists who cover those countries. We asked these writers to report on which emerging technologies are the most important for their nations’ societies and economies, and to explain what makes these technologies uniquely characteristic of their countries.

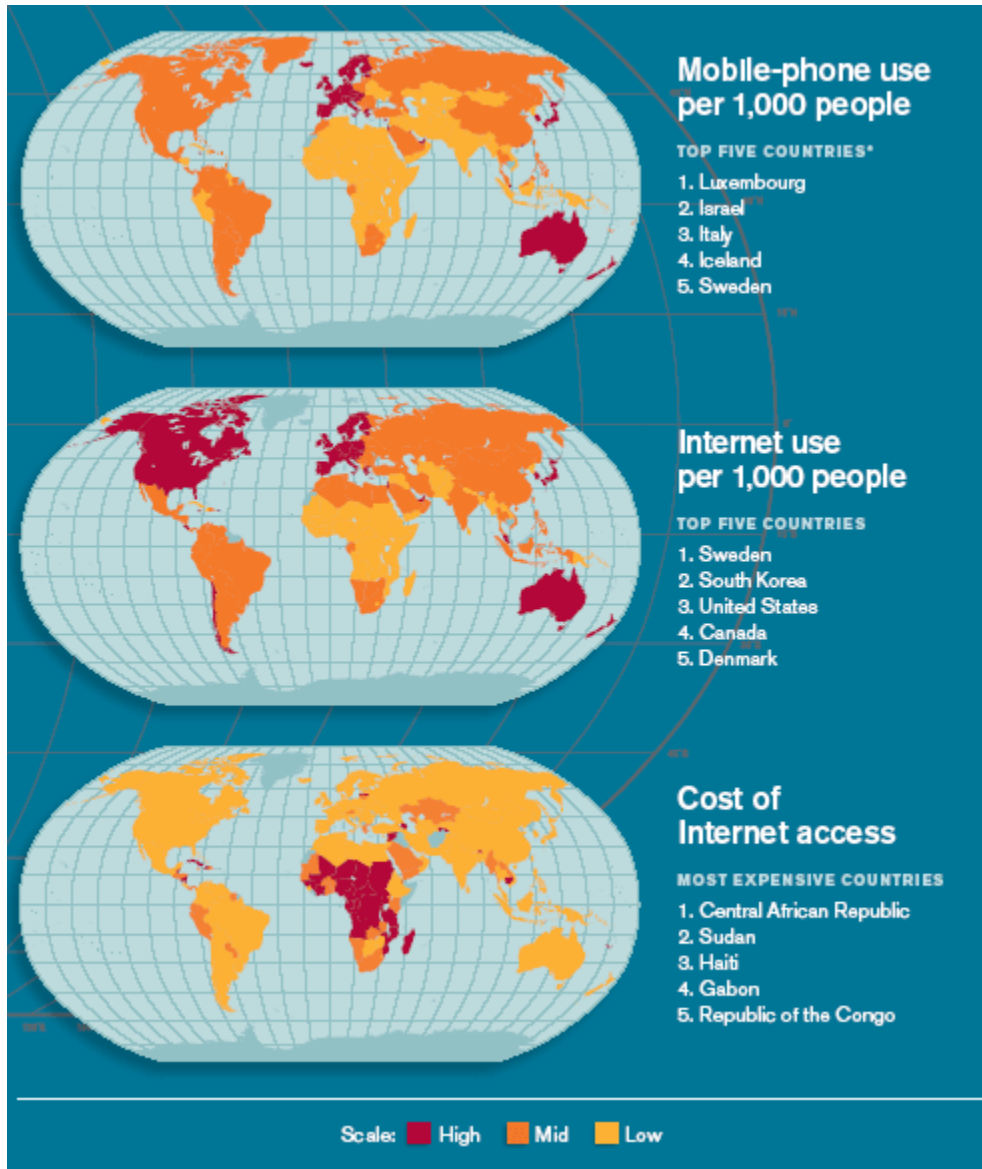
Each country reveals its own preoccupations, usually born out of its peculiar history and current circumstances. Leave it to the Dutch, for example, to pour computer modeling resources into the management of water and soil—endeavors without which the Netherlands’ very existence would be imperiled. The United States has measured the value of R&D projects largely by their potential for adding to the nervous nation’s power to fight wars and defend against terrorist attack. In Germany, home of the world’s first superhighways and some of its most storied carmakers, it’s no surprise to see projects aimed at making driving safer and smarter.

In all, our reporters identified more than two dozen emerging technologies or ideas about innovation as vital to the futures of these seven countries. But even those innovations that most directly address urgent regional needs prove to have application for the entire planet.

Measuring Global Technology

Economically advanced European and North American countries may leap to mind as global technology leaders. By and large, that’s the case. These countries tend to fare particularly well on such measures as Internet usage, technology spending per person, and cost of Internet access. Economically developing countries are relatively well represented when it comes to significant mobile-phone and Internet use as well as, increasingly, the production of genetically modified crops.





Data is for 2004 unless otherwise noted. Cost per 20 hours of Internet use: data is for 2003; high is >\$50, mid is \$30–\$50, low is <\$30. R&D spending as a percentage of GDP: data is for 2000–2002; high is >2 percent, mid is 1–2 percent, low is <1 percent. Information and Communication Technology spending per capita: data is for 2002, except for Iceland, which is for 2001; high is >\$1,000, mid is \$200–\$1,000, low is <\$200. Mobile-phone use per 1,000 people: data is for 2000–2002; High is >500, mid is 100–500, low is <100. Internet use per 1,000 people: data is for 2000–2002; high is >150, mid is 15–150, low is <15. Sources: International Service for the Acquisition of Agri-Biotech Applications, World Bank, Organisation for Economic Co-operation and Development *If construed as a separate entity, Hong Kong would rank third on this list.