

An Engineer's View on Global Economy and Social Impacts**

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**** All slides used in this presentation are posted in my CANVS Page**

AGENDA

1. **What is Globalization?**
2. **New Socio-Economic Order by Globalization**
3. **The Birth of the New Global Economy**
 - Outsourcing and Insourcing
4. **Global Economic Landscapes**
5. **Current Major Global Economic Activities**
6. **Social Impacts of Global Economy**
 - on the world
 - on developed countries
 - on developing countries

7. **Personal Views on “How to Make America Great Again-Economically”**
 - The symptoms
 - Possible cures (if time allows)

What is “Globalization”?

Globalization is a process of global economic, political and cultural integration

Globalization involves:

- (1) Mass movement of people from one location to another,
- (2) Flow of goods, services and wealth from one country to another.

Global activities have been in existence as long as human civilization:

Examples of mass movements of people in Pre-Medieval (1500 AD) times:

- The Empire of Alexander the Great (356-323 BC)

Alexander, the Great



- The Empire of Genghis Khan (1167-1227)

Genghis Khan



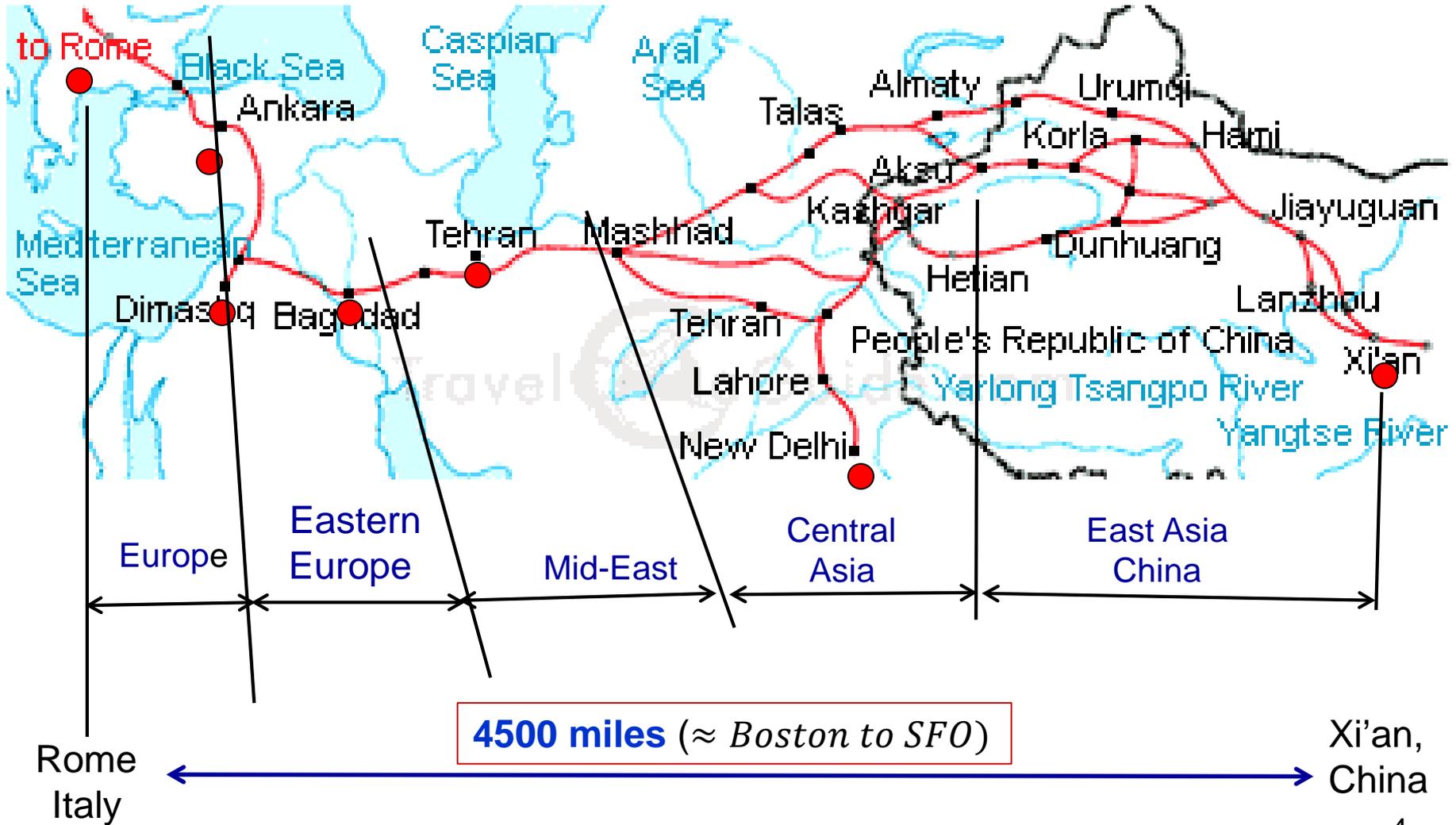
- The Roman Empire (753 BC – 476 AD)



Julius Caesar

Example of early mass flow of goods in the world:

- The great "Silk Road" for Eurasia trading in the early 15th Century.



Technologies used in mass movement of people and goods in early globalization:

Wheels:



Floatation:



Animal power:



Human endurance:



Globalization in our recent history (1600 -1990)

Mass movement of people and goods in recent history:

- Mass immigrants to the Americas (1650 - 1945)
- World War I (1914 -1917)
- World War II (1941-1945)
- Exchange of students and liberal immigration to USA, Canada and Australia (1960 - present)

Major flow of goods and services:

- Massive exploitation of materials and resources by Western powers from their colonies and the importation of slave labor (Pre-1920),
- Flow of technologies among countries between rich and poor,
- Freer trade worldwide administered and facilitated by the WTO,
- Widespread multinational corporations since 1980's.

Enabling technologies in this stage of globalization:

- **ELECTROMECHANIZATION** ● **TELECOMMUNICATIONS**
 - Mechanized **TRANSPORTATIONS**, and
- blessed by over 70 years of **CONTINUING peace** in the world.

New Socio-Economic Order by Globalization

- A major paradigm shift in social and economic order since 1990:

With increasing Global cooperation and collaborations in “Industrial production” “Business operations” and “Distribution of goods and services” among the nations in the world.

- This recent wave of globalization is possible with technology advances in:
 - *Advanced transportation and low-cost telecommunications, and*
 - Rapid advances in *Information Technology (IT)*
- Other major factors:
 - Unprecedented lasting peace in the world over the last 70+ years has cultivated prosperity in emerging countries with fast expansion of middle class consumers for industrial goods and services,
 - Creation of generations of highly educated, highly skillful workforce,
 - Liberal immigration practice for freer movement of people and goods and services, e.g., from the European Common Market to European Union,
 - Liberal trade policies by nations, e.g. NAFTA, EU, WTO, etc..

The Birth of the New Global Economy:

Outsourcing in 1980s

and

In sourcing in the 1990s

OUTSOURCING has become a common practice by business and industry in major industrialized nations (Canada, USA, Germany, Japan, France, etc.)

Outsourcing has already made major impacts on the US economy, and it has been the driving force for the New Economy of the Global Village.

“**Cost-effective resources**” is the fundamental reason for US industry and business to export their production and operations to offshore low-labor cost countries, such as China and India, and now to other Asian-Pacific countries such as Vietnam, Indonesia, Malaysia, etc.

Other reasons for outsourcing include:

(1) Availability of **Low-cost** (but **qualified**) workers in countries like India and China with: **low wage**, **marginal fringe benefits**, no **powerful trade unions** for costly and time-consuming collective bargaining as in the U.S.A., Canada and Western European countries.

Outsourcing (cont'd)

- (2) All receiving countries have more lax regulations in environmental and LABOR CODES, resulting in **significant reductions in production costs** for U.S. business and industry to have their operations in these countries.
- (3) Outsourcing industrial productions and business operations to countries in different parts of the world that allows **round-the-clock operations** in design and manufacturing of high tech products, as illustrated below:

USA-California	China, Japan, Korea, Hong Kong, Singapore, Taiwan (+ 16 hours)	France, Germany, Italy (+9 hours)
9 AM (Monday)		
5 PM (Monday)	9 AM (Tuesday)	
	5 PM (Tuesday)	10 AM (Tuesday)
8 AM (Tuesday)		
		5 PM (Tuesday)

These Round-the-clock operations allow U.S. companies to solve a critical problem on **“Time-to-Market” (TTM)** for their products, and capture the narrow window of marketing particularly their high tech products.

Outsourcing (cont'd)

- (4) Outsourcing allows US business and industry to also create vast new markets in emerging countries like India and China.

Because the “Receiving countries” of outsourcing evolve to become rising economic powers years later, (China for example) and they have become major customers of US industry and business. (**China is now the world’s largest market** for luxurious goods and products, it is also the 2nd largest market for Apple smart phones)

- (5) Reversed outsourcing, or “**Insourcing**” begins to take place, and it has already happened in the U.S. (e.g., part of Apple’s productions), as current receiving outsourcing countries become the new rising economic powers – they are no longer the countries offering low labor cost- **they become major investors to their former outsourcing partners, e.g., the USA!**

It’s happening now in countries like China and South Korea

Globalization in:

- Industrial production,
- Business operations, and
 - Services

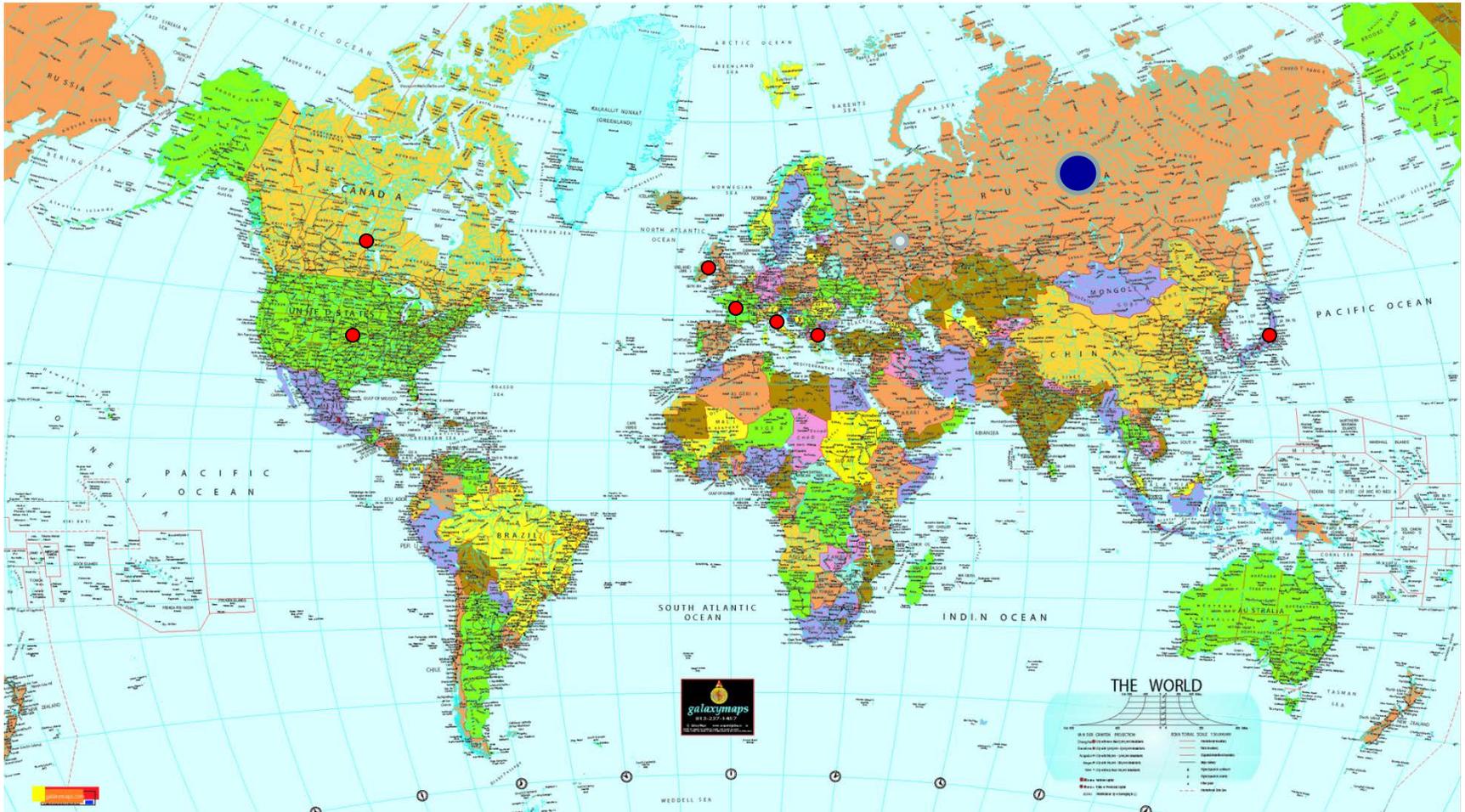
in the last 4 decades has resulted in:

major shifts in global economic landscapes

- The Emergence of Grouping Nations

Global Economic Powers in the 1980s

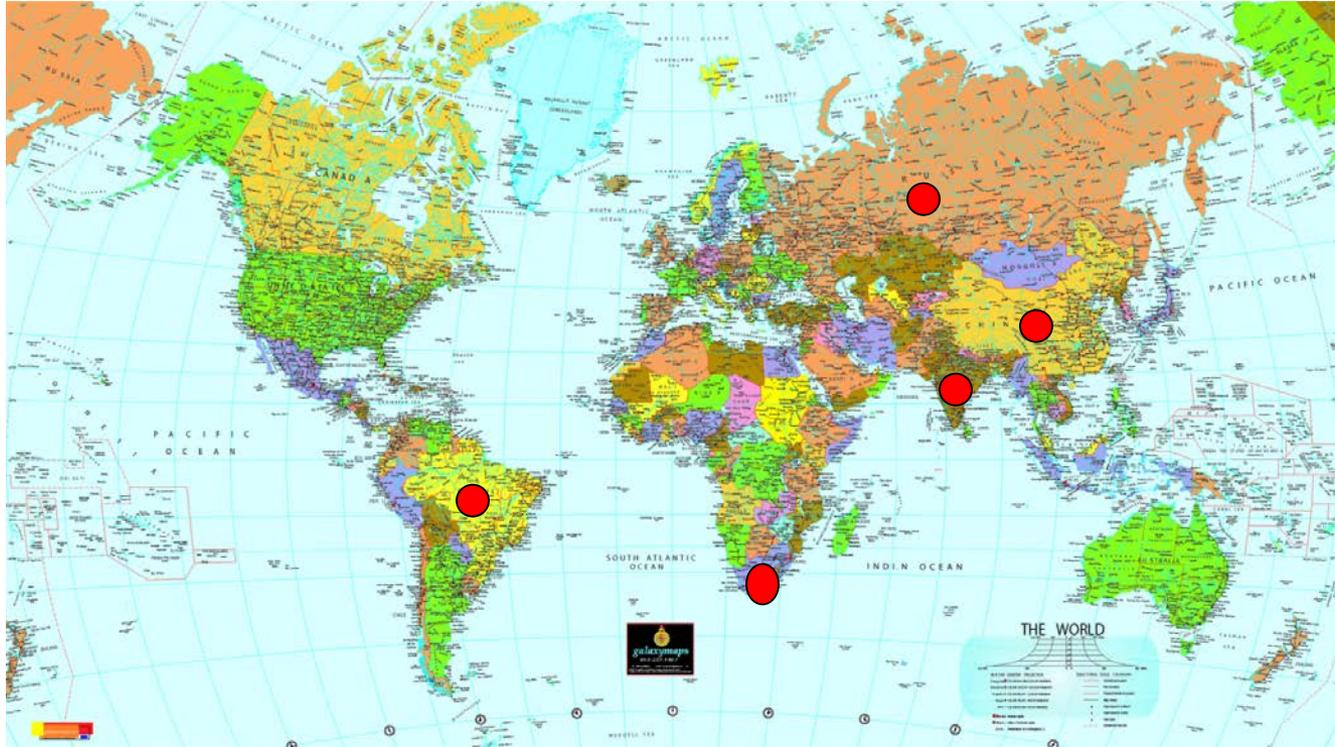
- World's richest countries at that time: the G-7 countries:
USA, Japan, Germany, United Kingdom, France, Canada, Italy



Russia was added to the G7 club to make a new G8 group in early 1990's

Embracing the New Global Economy

The **BRICS** Countries – The emerging new world economic powers



BRIC countries = **B**razil, **R**ussia, **I**ndia and **C**hina

Combined population: 2.767 billion (**41.3% of World population**)

Combined GDP (PPP) in 2017: US\$18,337 B (**25% of World total**)

From **BRIC** to **BRICS** = **BRIC** countries + **S**outh Africa (the largest economy in Africa)

The Annual Summit Meetings of BRICS Countries



Bolsonaro



Putin



Modi



Xi



Ramaphosa

The 11th Summit Meeting
In Brailia, Brazil
on Nov. 13-14, 2019
on “Economic Growth for an
Innovative Future”



In its 5th summit meeting in Durban, South Africa on March 27, 2013, the BRIC group established a new **BRICS Development Bank** with initial joint investment of **\$100 Billion** to support the development in **GREEN technologies** for the needy developing countries. The Bank's HQ in Shanghai, China

This bank is in parallel to the World Bank controlled by the USA, and the IMF controlled by the European Union.

The first major loan was announced at the G20 meeting in Shanghai, China on February 24, 2016 with \$2B to a company in India for a “Green solar energy project.”

The G-20 Nations

The G-20 is an international forum for cooperation and consultation on matters pertaining to the international financial systems

<i>Continents</i>	<i>Countries</i>
Africa (1)	South Africa
Latin America (3)	Argentina, Brazil, Mexico
North America (2)	Canada, USA
Asia (7)	China, India, Indonesia, Japan, South Korea, Saudi Arabia, Turkey
Europe (6)	France, Germany, Italy, Russia, United Kingdom, European Union
Oceania (1)	Australia

- The inaugural meeting took place in Berlin on December 15-16, 1999
- Consists of 2/3 of world population
- Collectively generate 85% of global GDP
- Involves 80% of world trade

Embracing the New Global Economy

List of GDP¹ and PPP² of Countries³ in 2019 by the IMF

WORLD: US\$ 87,265,226 Billion

Top 10 GDP Countries (Ranking in 2019):

Rank	Country	GDP (PPP), \$B
1 (1)*	USA	21,439 (19,362) *
2 (2)	China ⁴	14,140 (11,937)
3 (3)	Japan	5,154 (4,884)
4(4)	Germany	3,863 (3,651)
5 (6)	France	2,574 (2,488)
6 (7)	India	2,935 (2,439)
7 (5)	United Kingdom	2,743 (2,565)
8 (8)	Italy	1,988 (1,921)
9(9)	Brazil	1,847 (2,081)
10(10)	Canada	1,730 (1,640)

* Data in parentheses are those for 2018

- Notes:**
1. Gross domestic products
 2. Purchasing power parity (PPP)
 3. Out of 191 countries
 4. Hong Kong and Macau with combined gdp > \$1,000 M reported by the IMF was not included in the reported GDP of China

GDP/Capita of the G7 Countries:

World Ranking	Countries	GDP/Capita (\$)
7 (11)	USA	65,111 (59,495)
16(17)	Germany	46,563 (50,296)
17 (22)	Canada	46,212 (48,141)
21 (26)	United Kingdom	41,030 (43,620)
20 (21)	France	41,760 (43,550)
22 (28)	Japan	40,846 (42,659)
26 (33)	Italy	32,946 (37,970)

GDP/Capita of the BRICS Countries:

World Ranking	Countries	GDP/Capita (\$)
72 (81)	Brazil	8,796 (15,500)
61(48)	Russia	11,162 (27,890)
139 (122)	India	2,171 (7,174)
65 (79)	China	10,098 (16,624)
89 (89)	South Africa	6,100 (13,403)
		Source: Wikipedia Encyclopedia

GLOBAL Manufacturing – A new paradigm

The well-known iPhones 4 – a **high-value** added product was produced by more than five (5) and a dozen other countries in the World:

(A typical case of **Global “Supply –Chain!!)**

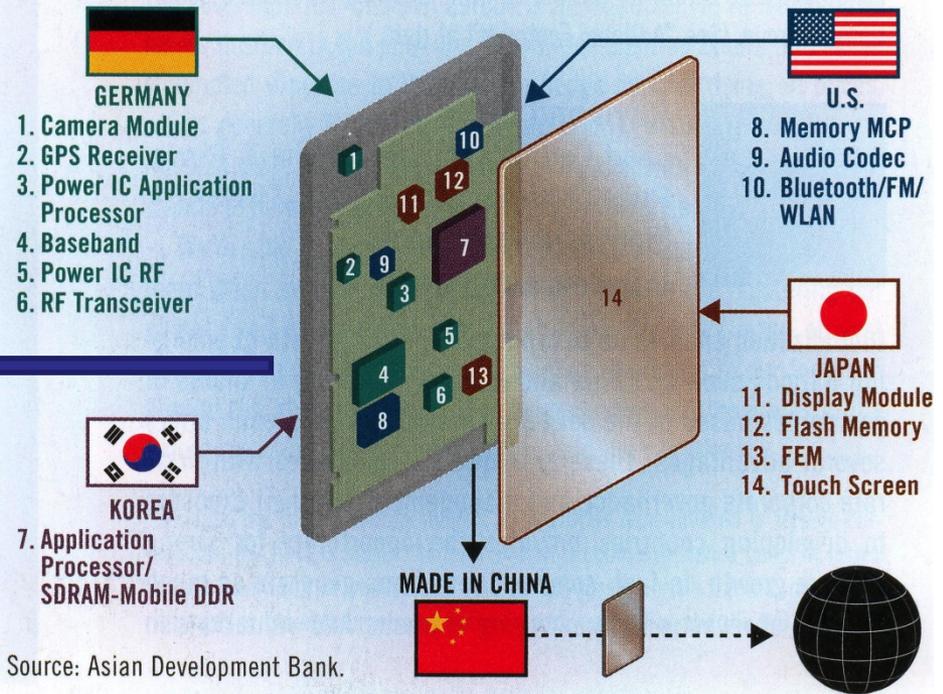
- 34% is Japan
- 17% is Germany
- 13% is South Korea
- 6% is USA
- 3.6% is China
- 27% is by Other countries**

The Av. price of this iPhone was \$200. (1.7 million units sold in first 3 days in the marketplace in June 2010 - China's share was <\$2 - **USA was the net Profiteer!!**



The World in Your Phone

Parts and electronic components of a typical smartphone are made in a number of countries and shipped to China for assembly. The final product ships to consumer markets around the globe.



Major Initiatives on Globalization in Recent Years

- **Initiative on Free-trade partnerships by USA:**

- The US has already signed free-trade agreements with 23 nations. The current US administration is re-negotiating with many of its partners of these free-trade agreements for more “favorable and fair” terms.
- **Trans Pacific Partnership (TPP)** signed in February 2016 with 14 nations: USA, Singapore, Brunei, New Zealand, Chile, Australia, Peru, Vietnam, Malaysia,, Mexico, Canada and Japan. These 14 member countries have over 45% of annual world trades. **Unfortunately, the current US administration has decided to withdraw from the TPP in January 2017. However, it has since resumed negotiation to re-join the TPP in early March 2018, but will be led by Japan instead.**

- **A major initiative by China:**

Regional Comprehensive Economic Partnership (RCEP)

It is a proposed free trade agreement between the **10** member states of the **ASEAN** (Association of Southeast Asian Nations) and **6** states with which ASEAN has existing free trade agreements (Australia, China, Japan, South Korea and New Zealand).

RCEP negotiations were formally launched in November 2012 at the ASEAN Summit in Cambodia.

There are 3.4 billion people living in the RCEP countries with a total gdp @ \$21.4 trillion, which accounts for 30% of the world gdp. **Unfortunately, USA is not included in this initiative.**



A Major Initiative on Globalization to Watch

China initiatives:

- Unveiled by President Xi of China in 2013 to promote a joint economic development that focuses on connectivity and cooperation among countries in Asia and Europe by the “**One Belt and One Road**” initiative.



Two venues to reach the focused goal:

- (1) The land-based “**Silk road**,” and (2) the sea-bound “**Silk belt**” – the so called “**One Road and One Belt**” for the 21st Century – supported by:
- **The Asian Infrastructural & Investment Development Bank (AIIB).** Proposed by President Xi in 2013. It was founded by 50 nations with initial capital of \$100 Billion. It began operational on 12/25/2015. **The Bank will focus on its support on the development of infrastructure and other productive sectors in **Asia & world**.**
 - **Technologies available for globalization in the 21 century:**



by Air



By Sea



By land- An 18-day journey from East China to London crossed 7 countries by rail: @ half the cost of air freighter & 2 weeks shorter than by sea. 20

Social impacts as result of Global Economy

The PROs and CONs of Global Economy

Positive social and geopolitical impacts of globalization are well recognized by a frequent quote of Kofi Annan, former Secretary General of the UN:

The PROs: “Arguing against globalization is like arguing against the laws of gravity”

However, the single most **negative** social impact of globalization is:

The CONs: Income Inequality

for the World, including BOTH the developed and developing countries

This income inequality is caused by the cycles of stimulating heavy investments by venturesome business people – resulting in “windfall profits” from their global business and industrial operations. This practice, in turn, results in snow-balling profits for these investors. These “fast buck” by business operations and industrial production made them “instant” rich people and new business tycoons in both developed and developing countries.

A. Positive social and geopolitical impacts to the World (the “global village”):

- (1) Gradual removal of national boundaries in economic development – thereby fast economic growth.
- (2) Gradual removal of trade barriers among nations with more multinational free trade agreements
- (3) Enhance Inter-cultural communications and inter-personal management skills
- (4) Promotes inter-racial and inter-cultural cooperation in industrial productions and economic development
- (5) Has proven to help poor countries and regions prospering in their economy and thereby improving the quality of lives of their citizens - a fundamental issue of social justice
- (6) Develops a culture of resolving economic and trade disputes through cooperation and collaboration among all nations in the GLOBAL VILLAGE – an unprecedented positive social impact
- (7) United Nations acts as the governing body of the Global Village. It plays increasingly positive roles in maintaining “law-and-order” of the Global Village – thus reducing the chances of major wars
- (8) Provides underprivileged people in the world with low price consumer goods (e.g., at the “Walmart price”) - contributing to sustaining decent living standards for the poor – an issue of social justice
- (9) Provides employment opportunities to citizens of poor countries – another social justice issue
- (10) Nurtures the rapid rise of the middle-class in society to afford better goods and services with stronger buying power – In theory, it helps in narrowing the gap between the rich and poor;
- a major contribution to social justice and stability

Positive Social and Geopolitical Impacts of Globalization – Cont'd

B. To Developed nations, such as USA and Western European countries:

- (1) Has facilitated setting up their companies and industries in developing nations to take advantage of qualified workers with low wages and marginal fringe benefits.
- (2) To take advantages of lax environmental regulations by governments of hosting countries, and with weaker union demands– **Substantial improvement in corporate productivity at significantly lower costs.**
- (3) Open up potential **new markets** for their products.

C. To Developing nations, such as China, India and former Eastern block countries of the Soviet Union:

- (1) Receive infusions of new investments, new and current technologies, and employment of their people. The size of direct foreign investments has increased with erasing a lot of bad habits and traditions, and also cuts many drawbacks in government bureaucracies.
- (2) Learn new business, industrial management and marketing skills that were not known to them before.
- (3) Newly generated revenues from global business provide funds for education and training to many of its citizens.
- (4) Fast rise of middle-income class and has created a number of business tycoons.

Negative Social Impacts of Globalization

A. To the World (the Global village):

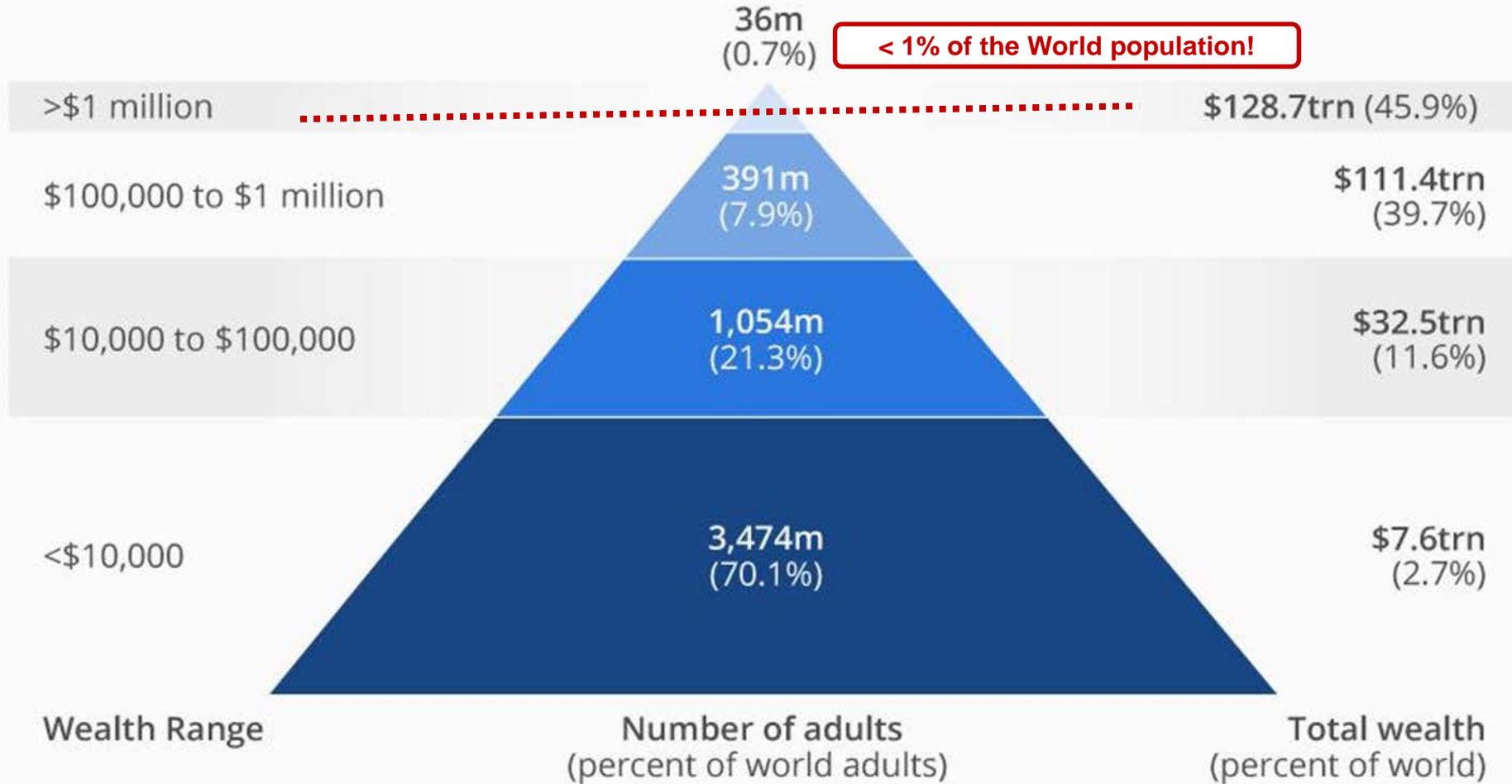
The single most negative social impact of global economy is

INCOME INEQUALITY

**The rich become richer and
the poor become poorer!**

The Global Pyramid Of Wealth

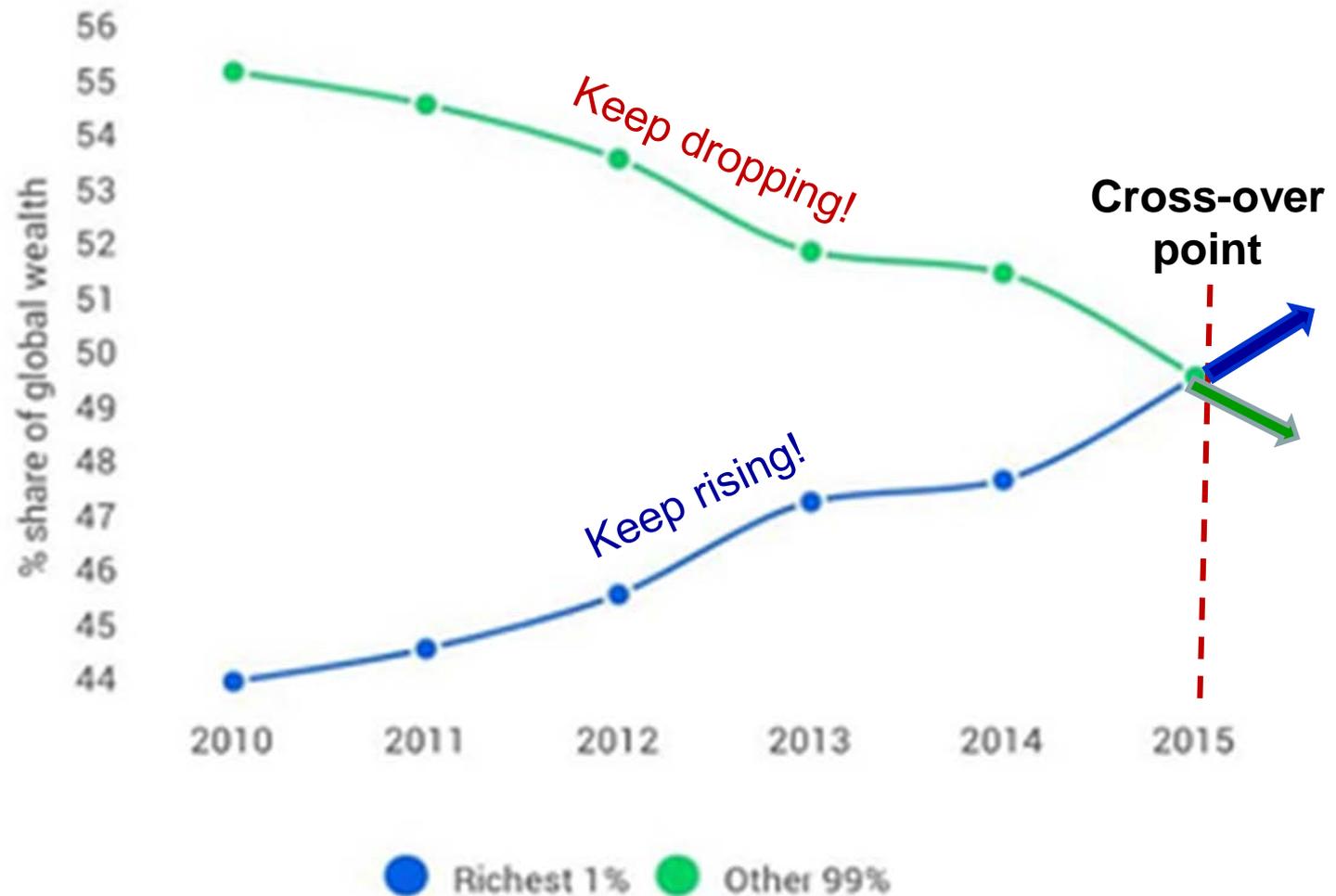
An overview of global wealth distribution (U.S. dollars)



< 1% of the World population!

Less than 1% of the population hold almost HALF of the wealth of the World!!

Share of global wealth 2010-2015

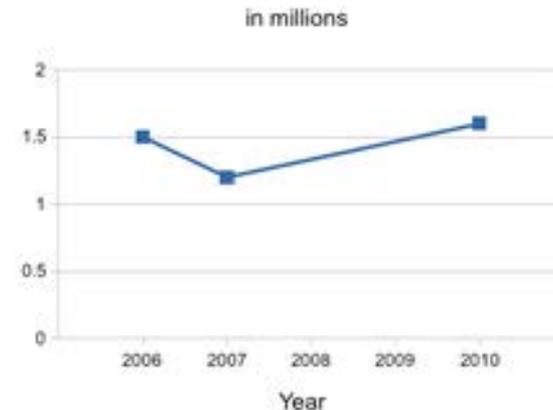


Negative Social Impacts of Globalization – Cont'd

B. To Developed nations, such as the USA and Western European countries:

- Widened the gap between the rich and the poor in these countries:
 - It has accelerated income inequality in many countries, such as USA with:
“**Top 1% Americans own >40% of the nation’s wealth, yet the bottom 80% only own 7%**” – it is a gross **social injustice** that leads to the following social injustices:
 - (1) Increasing number of “**homeless**” adults & families- with many women, children and **veterans** (current estimate of homeless in US: over 1% of total population, **or ~3 millions**).
 - (2) Huge number of people with no adequate **healthcare**.
 - (3) Social disharmony has deepened “**hate**” in society with rising numbers of **drug abusers** and **gun violence** among the desperate or mentally disturbed adults.
 - (4) Rapid rise in **crime rates** (**violent crimes, robbery, etc.**).
 - (5) Rapid increase of **student loans**, as cost of living and education skyrocket.- Affordability of education?

Homeless children in the United States



Are these what you expect to see in this “rich nation” on the Earth???

Negative Social Impacts of Globalization – Cont'd

C. On Developing nations, such as China, India and other emerging nations -Cont'd

- Globalization resulted in more rapid income inequality in these countries. It has created many rich upstarts, resulting in serious **social polarization**. - **worsens the already unjust social consequence!**
- Globalization resulted in **rapid urbanization**, as what has happened in many developed nations, resulting in inhumane treatments to many migrant workers – **a negative social justice!**
- Globalization offers less incentive for many of these countries to improve or change of already **sub-standard labor practices** – a gross social injustice!.
- Globalization nurtures corruptive government officials and banking systems.
- Regional political conflicts often result in major **disruptions to the order of global economy**. An example of this is the massive exit of refugees from recent conflicts in the mid-East and North Africa – **major social justice and also a human rights issue**

Personal Views on: How to Make America Great Again - **ECONOMICALLY!!**

The symptoms of
current the US economy



Possible cure



Personal Views on:

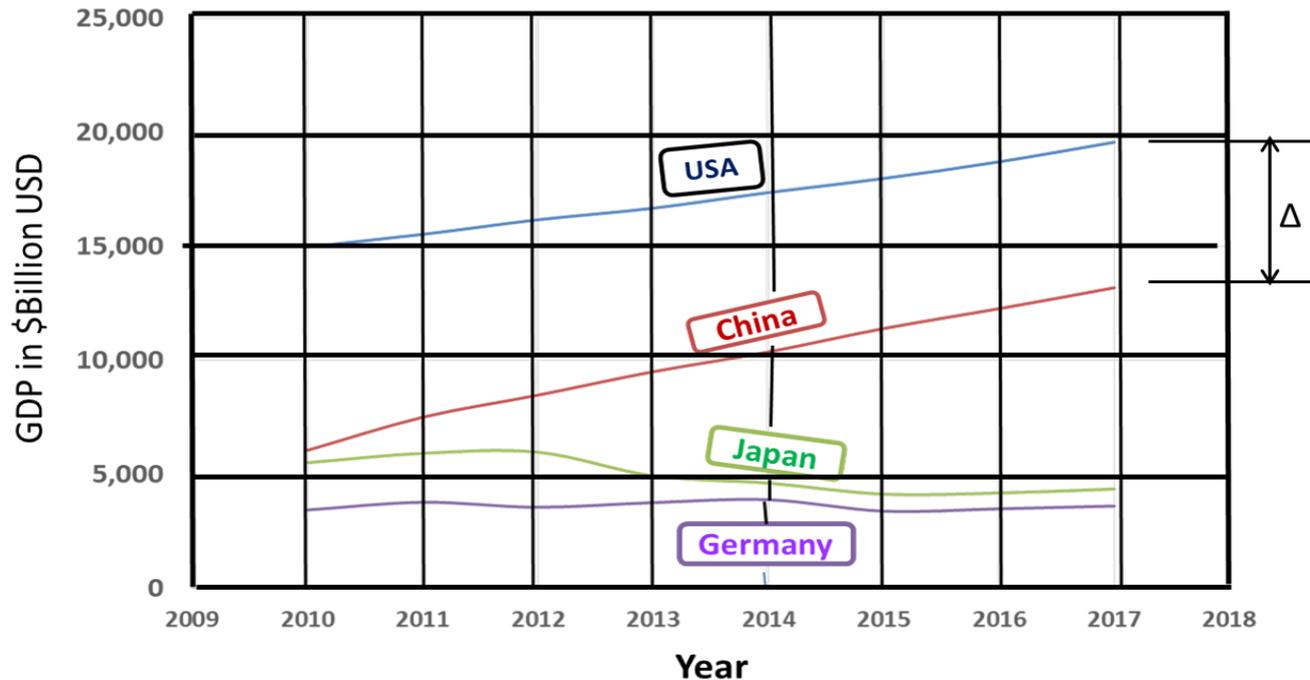
How to Make America Great Again- **ECONOMICALLY**-Cont'd



THE OBSERVED **SYMPTOMS** OF THE US ECONOMY:

(1) **Slow economic growth**

GDP of Top Four Ranking Countries by IMF



- (1) The top 2 economies of today's World continue to grow; with **USA @ annual growth of 2.7%**, and **China @ ~ 6.5%**,
- (2) The gap of GDP (Δ) between USA and China is closing continuously; All signs indicate that **China will replace the USA to be the World's largest economy by 2030** – Are we prepared to accept to be the No. 2 economy in the World 10 years from now?.

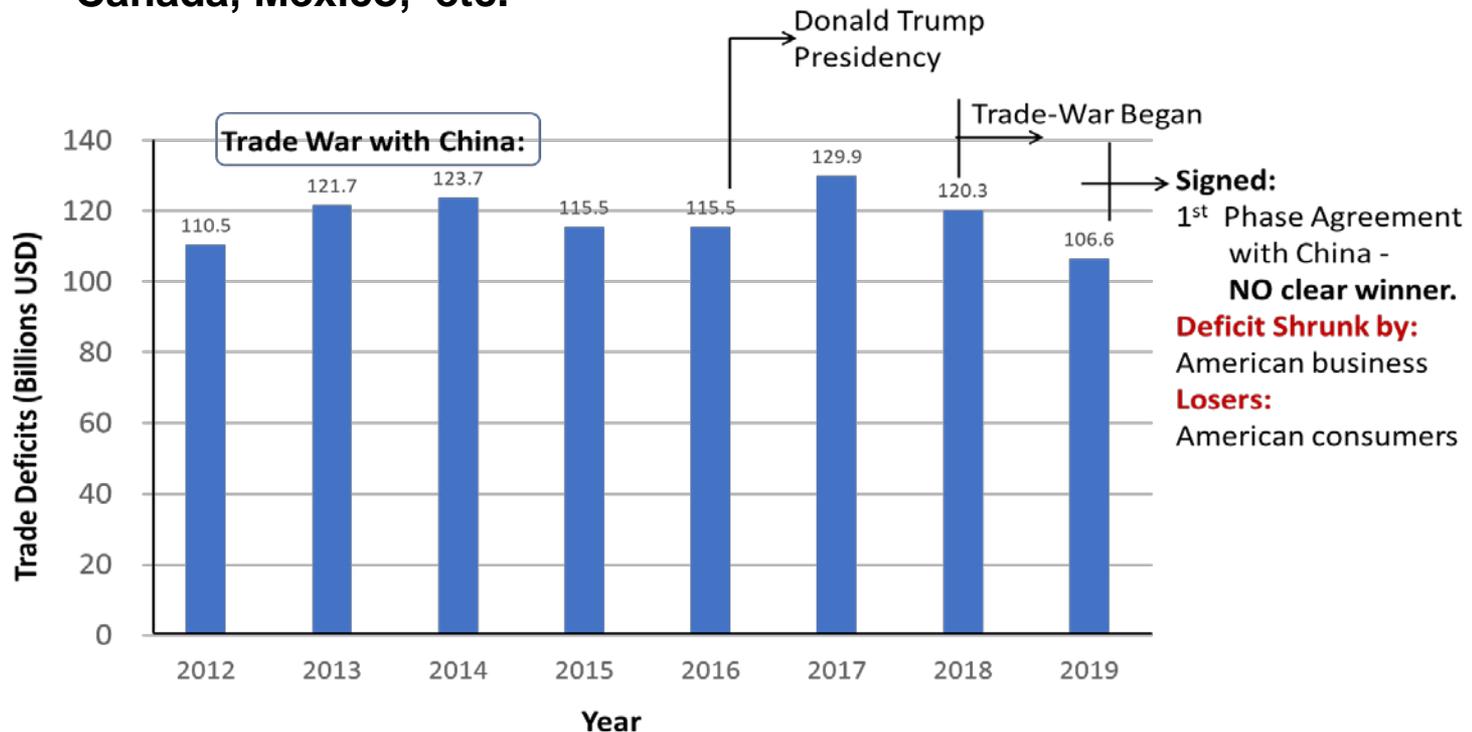
Personal Views on:

How to Make America Great Again- ECONOMICALLY-Cont'd

THE OBSERVED SYMPTOMS OF THE US ECONOMY-Cont'd:



(2) Continue in **LARGE trade deficits** with: China, India, Japan, Korea, Canada, Mexico, etc.



• **We are consuming MORE than what we have produced:** Americans contributed 13% of the World GDP in 1970; This rate dropped to 2.6% in 2017. Current US population is 4.4% of the world but consumed 22% of World's total consumer products!

• **The trade deficit in 2019, although appears having shrunk, but it was due to the drastic reduction of import from China by American business.** American consumers appeared to be the losers of the trade war.

Personal Views on:

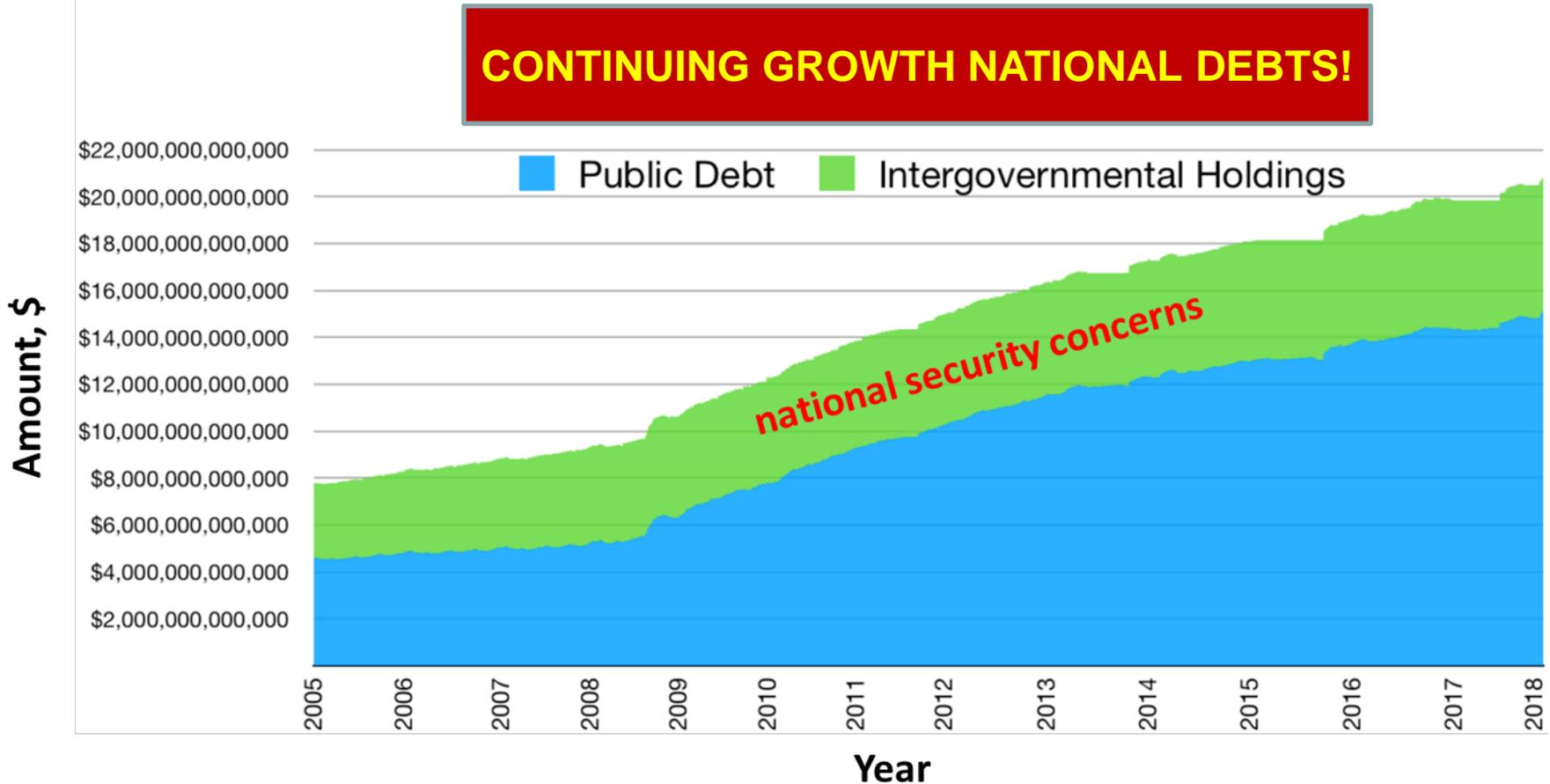
How to Make America Great Again- **ECONOMICALLY**-Cont'd



THE OBSERVED **SYMPTOMS** OF THE US ECONOMY-Cont'd

(3) Growing national debts:

CONTINUING GROWTH NATIONAL DEBTS!



Reference: Wikipedia 2018

- Impacts:** (1) Excessive Intergovernmental debts poses serious threats to our national security
(2) National debts have exceeded US gross GDP (\$20 trillion in 2019)
(3) It is a **REAL THREAT** to our **national security**!!!!

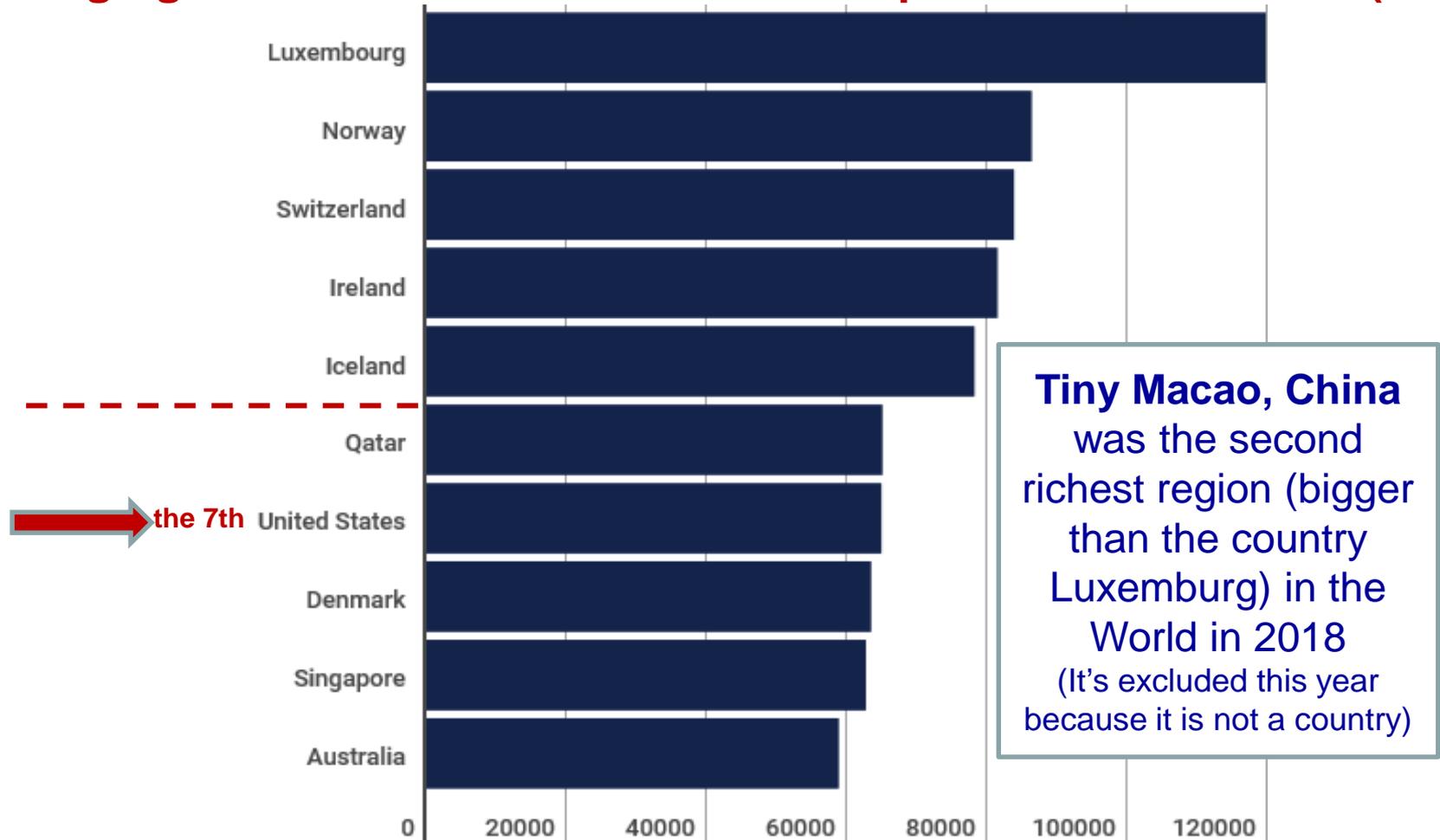
Personal Views on:

How to Make America Great Again- **ECONOMICALLY**-Cont'd



THE OBSERVED **SYMPTOMS** OF THE US ECONOMY-Cont'd

(4) Emerging economies drive US out from top 5 RICH-nation club (2019):



So, USA is no longer the richest country in the World anymore.

What has left in our National Pride??? 34

Personal Views on:

How to Make America Great Again- ECONOMICALLY-Cont'd

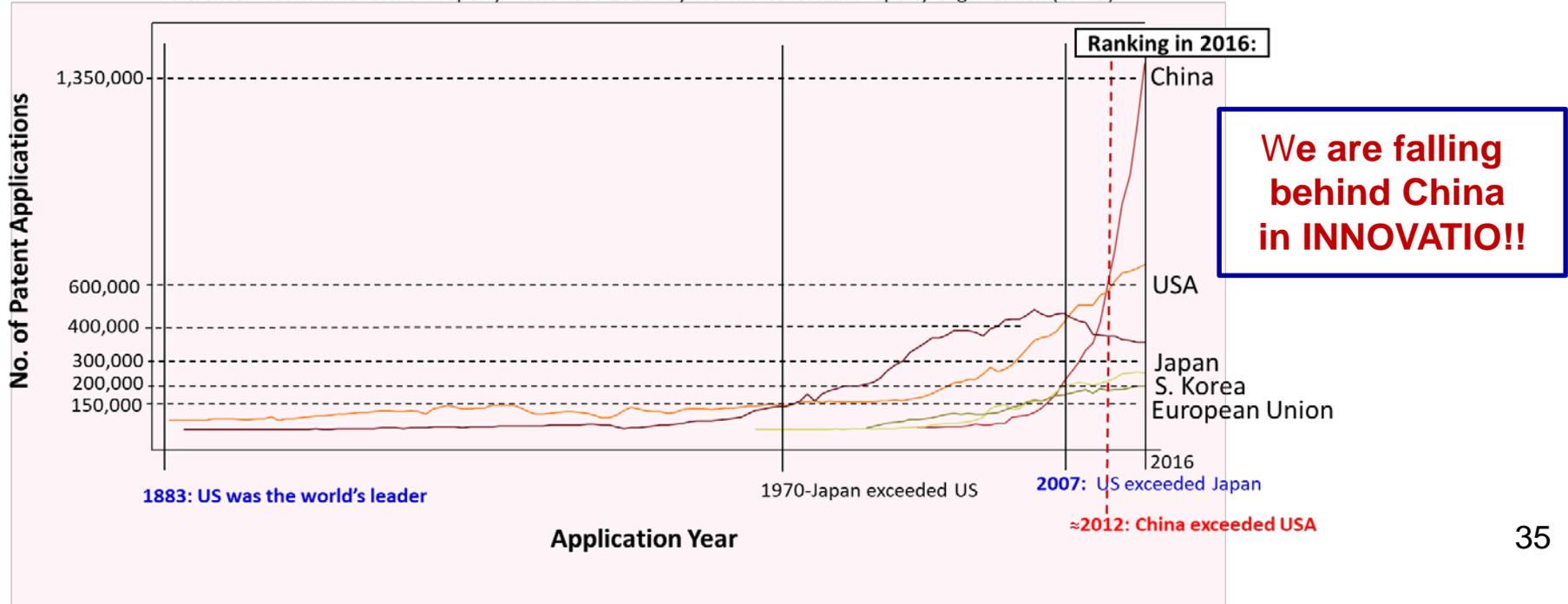


Personal views on the CURES for the four observed **Symptoms**:

- (1) Rejuvenate and revitalize the manufacturing (**smart manufacturing**) industry in the US.
- (2) Smart manufacturing technologies include: (a) Full automation with smart machine tools, e.g., intelligent AI-driven robots. (b) Smart and aggressive global marketing strategies and practices.
- (3) Invest heavily in human resource development in: **STEM education** and **on-the-job training** using advanced tools such as on-line learning, virtual reality, etc.
- (4) Place strong emphases on INNOVATION in value-added industrial and consumer products- America is falling behind in its traditional strength of INNOVATION, **Need to catch up, and FAST**

Historic Patent Applications for the Top Five Offices

Reference: "World Intellectual Property Indications 2017" by World Intellectual Property Organization (WIPO)





Personal Views on:

How to Make America Great Again- **ECONOMICALLY**-Cont'd

Personal views on the **CURES** for the four observed **Symptoms**:

On the observed symptoms of: Growing National Debts:

- (1) There is no easy and “painless” cure for this symptom.
- (2) Responsive national leaders should learn to run the country with a strong sense of **fiscal responsibility**.
- (3) Consequences of national debts not only threatens the Nation’s security, but it also “eats” away the nation’s GDP with high interest payments associated with the debts.
- (4) All levels of governments need to **fight off demands of various interest groups** that lobby governments on non-essential but expensive initiatives and services.
- (5) The **proposed CURE** for this symptom would thus involve the following **actions**:
 - (A) **Disallow legal lobbying** by individuals and interest groups by legislations.
 - (B) Further **limits on financial political contributions** by individuals and interest groups.
 - (c) Make “**Balanced Budget**” be a mandatory requirement for any leader of public services.

Personal Views on:

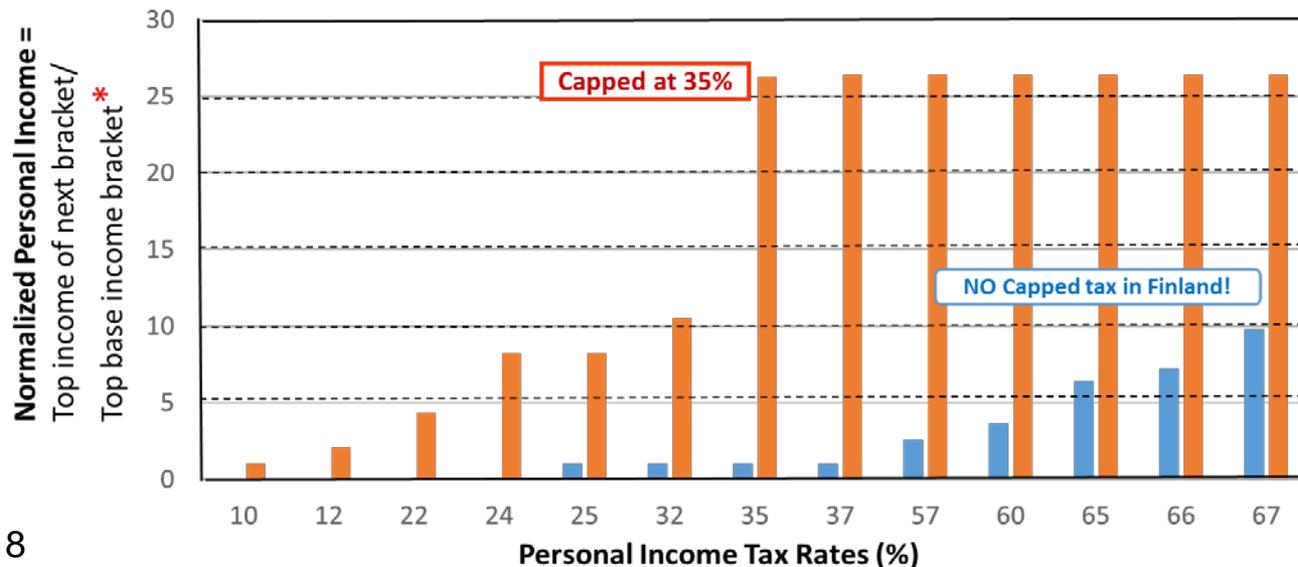
How to Make America Great Again- **ECONOMICALLY**-Cont'd

Personal views on the **CURES** for the four observed **Symptoms**:

On the observed **symptoms** of: **US out of the Rich Nations Club**:

- (1) US may not be able to surpass nations like: Qatar, Luxemburg, Singapore, etc. in being ranked high on the list of rich countries on the basis of “per-capita GDP.” US certainly is not the rich and happy nations on this Planet like Norway to be the World’s happiest nation in 2017, and Finland took the title in 2018.
- (2) A reason for these two small Scandinavian countries to be the happiest nations in the World are attributed to their **social justices**; in particular, the social welfare systems that have provided to their citizens. This was done by narrowing the gap between the rich and the poor by a more **homogeneous income taxation systems**, as illustrated below:

Personal income tax rates of **Finland** (the “Happiest” nation in the World 2018) and the **USA****



** Wikipedia 2018

* E for Finland, \$ for US

Globalization at a Cross-Road

Globalization in the past 4 decades has promoted global cooperation, mainly in economic development. It has created unprecedented wealth and social stability in many parts of the world.

Like many other socio-economic activities, globalization is now at a cross-road. Many have questioned whether its current practice ought to be continued, or scaled back, or even back to the old day's with self-imposed isolation.

So, which way should this country go from here?

Factoids:

- (1) The US did lose significant manufacturing jobs to offshore countries through outsourcing by the US industry and business,
- (2) The US has also consistently suffered huge trade deficits in the past 20 years, and
- (3) There is a real fear that the US will lose its status as the World's largest economy any time soon, with "cold" and "frightening" economic forecast such as:

Global economy in 2050 forecast by PwC:**

Rank	Countries	GDP (\$Trillion)
1	China	58.5
2	India	44.1
3	USA	34.1
4	Indonesia	10.5
5	Brazil	7.5

** PwC=Pricewaterhouse Coopers LLC

A serious question to ask by many of us is:

“How can we make America Great again-Economically?”

I would like to offer the following answers to this question:

- (1) Enter **free trade agreements** with as many countries as possible; It will mean greater choice for consumers at lower prices for American goods and services - leading to great prosperity for our country,
- (2) Invest heavily on **infrastructure**: **No adequate infrastructures, no economic growth - a pure and simple fact!**
- (3) Globalization promotes competition among nations of the world. We should have **NO fear to compete** because we will be the winner.
- (4) Foremost important - Invest heavily in public education and job-retraining; **Global competitions** and **education** are the two keys that will lead to the type of **INNOVATION** that used to drive the US economy, and it will ultimately create far more jobs than that are lost - Simple Darwinian theory: **“ONLY THE FITTEST SURVIVE”** applies!!.

There is no easy way to get what we want. But we all know that

“When there is a will, there is a Way”!!

As a citizen of this great country, I hope we will all go for these actions because it seems to be the only way we can make this country GREAT again!!

THANK YOU FOR YOUR ATTENTION & INTEREST

**Wishing you all enjoying and thriving
in this “hot, flat and crowded”
, and competitive global village,**

(A book title by Thomas L. Friedman, 2008)



**THANK YOU and
GOOD LUCK TO YOU ALL**