

Challenges to Societal Progress - Pull-back in Response to Disparities

Georg F. Weber¹

¹University of Cincinnati, Cincinnati, OH, USA

Correspondence: Georg F. Weber, University of Cincinnati, 231 Albert Sabin Way, MSB # 3310, Cincinnati, OH 45267-0004, USA.

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Abstract

There are empirical grounds for supporting unrestrained, globalized cooperative human measures as being beneficial to the international standard of living. A high extent of interconnectedness on multiple levels has already been realized in transportation systems, energy distribution channels, and communication networks. However, in periods of societal transition, as can be the case under rapid technology development, tensions may arise if disparities in wealth, power, or infrastructure access widen extensively. When subgroups of the citizenry that do not sufficiently partake in progress feel left behind or disenfranchised, their triggering of pull-back phenomena is very common. The pattern is repetitive: disparities not remedied on a lower scale impair integration on a larger scale. Equitable infrastructure maintenance and development, regionally, nationally, and globally, is a powerful policy tool for preempting pull-backs – especially if it is applied to communities with weak support or high inequality. The characteristics of the modern world demand far-reaching collaborations. Only universal interdependence, built from the roots up, can enable progress and social justice.

Keywords: infrastructure, disparity, pull-back, societal transition, interconnection, globalization

1. The Problem

There are empirical grounds for supporting unrestrained human cooperative measures. Globalization¹ in the second half of the 20th century, through increasing international transactions and interdependencies, has led to substantial improvements in life expectancy (Bergh, Nilsson 2010; Amburn 2009) and standard of living^{2,3}. While having been successful overall, the trend has come under attack by a wave of ethno-nationalism that has characterized the second decade of the 21st century. The disruption of the international community in the past few years reflects a response to perceptions by some subgroups of having experienced inequality and of feeling excluded (Pazzanese 2017). These comprise economically disadvantaged regions, which have been subject to unemployment from changing industries, and disempowered populations, which have lost touch with their governing bodies.

The inanimate world, the biosphere, and highly developed societies are all complex systems. As such, they are subject to emergent change, a limited possibility to predict the future, and the potential for small events to have large consequences (Weber, 2013). Change is commonly embraced by the young and the educated, who work toward progress and integration. However, tensions frequently arise when preceding time and resource allocations have prioritized ongoing large-scale projects, while having attributed low priority to the care for regional or domestic issues. Inevitably resulting are periods of societal refocusing – pull-backs triggered by the disadvantaged fractions of the

¹Globalization is worldwide integration and development. Although the term refers to a process it has been increasingly misunderstood as an ideology.

²“On average, countries that globalized more, experienced higher growth rates. This is especially true for actual economic integration and – in developed countries – the absence of restrictions on trade and capital. There is also evidence, that cross-border information flows promote growth.” (Dreher 2006)

³“Those who are dubious of the benefits of globalization point out that poverty has remained stubbornly high in sub-Saharan Africa. Between 1981 and 2001 the fraction of Africans living below the international poverty line increased from 42 to 47 percent. But this deterioration appears to have less to do with globalization than with unstable or failed political regimes. If anything, such instability reduced their extent of globalization, as it scared off many foreign investors and traders.” (Bardhan 2006)

citizenry. The present analysis of important events around the globe over the past century reveals the prevalence of a common pattern: disparities not remedied on a lower scale impair integration on a larger scale, and global progress is hindered until the conflict on the lower level is ameliorated. This recurring sequence poses questions as to what is the best balance between large-scale and small-scale commitments, and how to avoid the dangers that pull-backs can manifest in unrest and escalate into violence (Weber, 2017). What measures can be taken to stabilize and balance social structures, so as to evade the need for costly corrections?

2. Pull-Back Phenomena as Societal Responses to Disparities

2.1 Ethno-Nationalism Triggered by Economic Grievances

Concerns about economy and culture play a large role in precipitating nationalist sentiments. When promises of financial security and stability have remained unfulfilled by ineffective, selective, or uneven development, some adversely impacted factions and individuals blame outgroups as being responsible for the imposition of economic hardship and the loss of traditional ways of life. Today, expansive globalization has elicited strong reactions by certain ethnic nationalities, who fear the eradication and subordination of their cultural identities.

Regulation of the economy – to not deviate toward a state of high inequality – is paramount to a just society. The lack of its efficient implementation has generated non-trivial wealth disparity around the globe. The richest 1% of the world population now own 50% of its total wealth. At the base of the global wealth pyramid are those with a net worth of less than \$10,000, who account for over 70% of the adult population. Wealth inequality was falling before the 2008 financial crisis, but has increased every year since then (Bentley, 2015). Income inequality has a snowballing effect on wealth distribution. Top incomes are being saved at high rates, pushing wealth concentration up. In turn, rising wealth inequality leads to rising capital income concentration, which contributes to further increasing top income and wealth shares. This effect has been sufficiently powerful to dramatically influence the shape of the wealth distribution over the last decades^{4,5}. The disparities have risen to an extent that has triggered pull-backs.

Adverse consequences of national wealth and infrastructure imbalances were reflected in Russia's economic development after the break-up of the Soviet Union, as well as in the British "Brexit" vote and the United States presidential election in 2016. In all three cases, international progress could not move forward because previous disparities in internal socioeconomic development had left substantial subgroups of each society behind, which then voiced their discontent. A prerequisite for infrastructure improvement on a large scale is the elimination of infrastructure deficits on the lower scale first. If that is not accomplished satisfactorily, the smaller unit slows down higher order integration until the local/regional deficits have been addressed. A group of society having been left behind impedes the implementation of progress and social justice on the next higher order of organization until the existing disparities have been sufficiently addressed to release the brakes.

Since the fall of the Soviet Union in 1991, Russia has experienced dramatic political, economic, and social changes. In the early years, the former USSR witnessed a catastrophic upheaval of its society. The privatization of Russian natural resources by young oligarchs after 1991 severely challenged economic indicators and standards of living. Two economic collapses that obliterated personal savings for numerous citizens caused a lasting feeling of economic insecurity. Western-type reforms, adopted under president Boris Yeltsin failed to curb recession, in part due to mismanagement and a lack of regulation. As the economy broke down in the former Soviet states, new waves of immigrants (many of them ethnic minorities) streamed into major urban areas, creating new competition for limited employment. Xenophobia grew

⁴Wealth inequality is a prominent problem in the United States of America. "Wealth concentration has followed a U-shaped evolution over the last 100 years: It was high in the beginning of the twentieth century, fell from 1929 to 1978, and has continuously increased since then. The rise of wealth inequality is almost entirely due to the rise of the top 0.1% wealth share, from 7% in 1979 to 22% in 2012—a level almost as high as in 1929. The bottom 90% wealth share first increased up to the mid-1980s and then steadily declined. The increase in wealth concentration is due to the surge of top incomes combined with an increase in saving rate inequality. Top wealth-holders are younger today than in the 1960s and earn a higher fraction of total labor income in the economy." (Saez, Zucman 2016).

⁵There is a widespread view that a critical structural change in the United States economy has been the rise of middle-class wealth since the beginning of the 20th century, in particular because of the rise of pensions and home ownership rates. The bottom 90% wealth share gradually increased from 20% in the 1920s to a high of 35% in the mid-1980s. But in a sharp reversal of past trends, has since fallen to about 23% in 2012. Pension wealth has continued to increase, but not enough to compensate for a surge in mortgage, consumer credit, and student debt. The key driver of the declining bottom 90% share is the fall of middle-class saving, which may partly owe to the low income growth, to financial deregulation leading to some forms of predatory lending, or to growing behavioral biases in the saving decisions of middle-class households (Saez, Zucman 2016).

as Russians became disenchanted with the free movement principles of globalization, which seemed to exacerbate the already dire economic situation. Insecurity about the future prompted chaotic responses to government policies in the early years of the 1990s. Many resented the loss of status held under the communists or the loss of security that the USSR had afforded. They maintained old animosities toward the West and openly grieved for the old order. Mass political disillusionment, apathy and the absence of a unifying ideology strengthened the potential for autonomists in their appeal to constituents. In the late 1990s, Russia moved away from previous efforts at closer integration with the West as its society experienced a powerful resurgence of nationalism. Both the elites and the lower classes identified with the goal of reasserting Russian power on the international stage and combating the chaotic tumult caused by privatization in the name of national interests. Consequently, the government under Vladimir Putin has adopted aggressive nationalist economic policies⁶. Putin understood the aversion to the free market concepts that had enabled the exploitation of Russia's economy after 1991. His new nationalist rhetoric emphasized the role of the state in economic planning as well as usurping financial power from the oligarchs. The Kremlin has systematically reacquired large portions of the national energy resources. Among others, Putin has supported legislating against giving work permits to immigrants if Russians could fill the positions, for which they were being issued. State-sponsored economic nationalism has reinforced definitions of nationality based on ethnicity (Szakonyi, 2007). There has been wide domestic popular support for these policies. Yet, they have caused Russia to become the least connected of major powers in the international system. Having less stake in interconnectedness, it has less to lose in becoming a destabilizer (Khanna, 2016).

The summer 2016 Brexit vote that sealed the exit of Great Britain from the European Union allowed 45 million British voters to affect the future of 500 million Europeans plus the globalized world economy. The vote was closely split, within a few percentage points, in the end yielding the decision power to slightly above 17 million Brexit votes in favor over slightly above 16 million votes opposed. Against the continued European Union membership voted mostly less educated older people, subpopulations dominated by industry workers in Northern England. The cosmopolitan population of London voted heavily in favor of staying in the Union⁷. Numerous commentators pointed out that most people did not comprehend what they were deciding on⁸. Very few British voters have an understanding about how the European Commission works, or what the role of the European Council is. The complexity of European Union negotiations is opaque to most people, and the European Union institutions seem remote, causing many citizens to feel that they have no control over their political affairs⁹. By contrast, most have some feeling about the historical greatness of Britain and the potential horrors of foreign tyrannies. The Brexit decision became a mouthpiece for anti-establishment and anti-immigration sentiments. Early analyses of the consequences projected substantial damage to the British economy. The English pound quickly crashed. Tax rules and other legislation will need to be rewritten. The country will have to craft a new relationship with Europe. An OECD report estimates that Brexit could cost the United Kingdom 3.3% of its GDP by 2020 (Kierzenkowski et al, 2016).

The United States Rust Belt covers a region that straddles the upper North-Eastern states, the Great Lakes, and the Midwest. The name refers to an area, where economic deterioration, population loss, and urban decay occurred due to

⁶The rearranged priorities of Russian politics after 1999 largely reflect Putin's understanding of the relationship between the state and the economy as described in his doctoral thesis, which championed the creation of public-private financial-industrial corporations to exploit Russia's mineral wealth, with the goal to fuel an economy built on natural resources. Russia could reemerge as a global political power if its large resources of oil and gas were taken away from already unpopular private firms and placed into the hands of the state. Putin's analysis assumed the significance of geoeconomics over geopolitics, and the need for Russia to defend its national interests by primarily economic means (Tsygankov, 2005).

⁷Prior to the plebiscite, there had been a substantial flow of money into London (being considered safe, money had been moved there from crisis areas in other parts of the world). It drove up the value of real estate in the city, and the price of the British pound increased. Large changes in the price of currencies may take place due to influx of foreign money. When such influx occurs too rapidly ("hot money"), it is often not sustainable and, following a short boom, leads to economic downturns. Consistently, while banking and real estate in London thrived, industrial areas in the British North suffered under high unemployment rates that resulted from reduced export. The outcome of the Brexit vote predominantly reflected the sentiment over those hardships, which had not been caused by the European Union membership.

⁸A very large fraction of the citizenry are so disengaged that they do not know enough about politics to be able to cast an informed vote (Shenkman, 2016).

⁹One has to question whether the benefits of global connectedness and interdependence, including peace and economic growth, can be feasibly achieved without a level of complexity that inevitably seems remote for a large fraction of the populace.

the shrinking of the once-powerful industrial sector that processed steel and coal¹⁰. Previously known as the industrial heartland of America, growth has declined in the region since the mid-20th century. One cause was the expansion of worldwide free trade agreements and the outsourcing of manufacturing jobs. Whereas some cities and towns managed to adapt by shifting their focus towards services and high-tech industries, others fared less well for the lack of education and adaptability, consequently witnessing rising poverty and declining populations. The Rust Belt region contains the populous swing states of Pennsylvania, Ohio, and Michigan. Those states were decisive in the support of Donald Trump's victory in the 2016 U.S. presidential election, because the workers endorsed his protectionist-nationalist platform of opposing free trade agreements such as the North Atlantic Free Trade Agreement and the Trans-Pacific Partnership, renegotiating U.S.-China trade deals, strongly enforcing immigration laws, and building a wall along the Mexico-U.S. border. The campaign later stated that it had run a race, where it reached into those working class voters, who felt that they were the forgotten man or the forgotten women. Those constituted the base of the support.

2.2 *Armed Conflict Resulting from Imbalance in Power*

At all levels of societal organization, from local communities to international relations, there is potential for inequalities to grow large enough that they cause tensions and trigger pull-backs. Dangers arise when such strains reach a point where they precipitate violent uprisings (by underprivileged groups) or armed conflicts (war between nations). The destruction caused by war is so costly that its avoidance is a deciding principle for the pursuit of progress.

The consequences of neglect against subpopulations are particularly dangerous to coexistence if this neglect was accompanied by abuse or exploitation. In this regard, oppression in all manifestations has a finite lifespan. It always precipitates an ensuing period of transition. The response by the disenfranchised to having been left behind is not uncommonly associated with a strife for violent resolution¹¹. We have inherited a global environment that historically allowed some countries/peoples to be oppressed while others flourished. Colonialism and warfare to conquer have generated classes of rulers and subordinates. Partitions were drawn, especially in Africa, with disregard for geographic or ecological realities, thus generating indiscriminate barriers and creating ethnic conflicts that still destabilize the continent. The scramble has disrupted the political development of these communities. More recently, prosperity and technological advance have seen the growth of a disparity between the Northern and Southern hemispheres and among continents (with Africa still being disadvantaged)¹². The inequalities have repeatedly resulted in unrest and bear the potential for future pull-backs that could manifest in violence (Brown, 2013).

The rise and fall of superpowers has recurred periodically throughout the history of civilization. When a country

¹⁰Blue collar workers (mostly located in the Rust Belt of the U.S.) had found declining opportunities, in part because of automation in manufacturing, in part because of outsourcing to countries with cheaper labor. Many of them were neither interested in nor suited for retraining in information technology or in the service sector. However, stable and well-paid employment in hands-on physical labor was hard to find. The country had needs for infrastructure update, and investment in this area could have generated construction jobs as well as benefitted technological progress. Mostly for causes associated with partisan politics, proper government-directed financial resources could never be allocated to such projects. The disregarded working class demanded integration. While their votes in favor of ethno-nationalism put a damper on international integration, they tried to give an impetus for regional integration.

¹¹Violent overthrow in response to abuse and racial discrimination is associated with a case of successful uprising by slaves. The history of slavery, the ownership of people and their forced work without remuneration, reaches far into antiquity. A person could become a slave through birth, capture, or purchase. Specifically, slavery in the Americas played a major role in the evolution of several countries, triggering a revolution and a civil war, as well as numerous rebellions. The anti-slavery and anti-colonial insurrection of the Haitian Revolution, which affected the former French colony of Saint-Domingue 1791-1804, was the only slave uprising that led to the founding of a state free from ownership of humans and ruled by non-whites and former captives. Self-liberated slaves destroyed enslavement at home, fought to preserve their freedom, and with the collaboration of mulattoes founded a sovereign state. Haiti became an independent country in 1804 as the council of generals chose Jean-Jacques Dessalines to assume the office of governor-general. In his first significant speech, the new head of state made the case for the permanent abolition of slavery in Haiti. An independent government was created, but society remained deeply and lastingly affected by patterns established under French colonial rule. The revolution left a legacy that challenged long-held beliefs about black inferiority and the capacity of the enslaved to achieve and maintain freedom. It frightened slave owners and impacted the institution of slavery throughout the Americas.

¹²“Sub-Saharan Africa has among the highest levels of inequality—both income and gender—in the world, even after accounting for the lower levels of per capita income in the region. [There is] growing international evidence that such inequality can impede macroeconomic stability and growth” (Hakura et al, 2015).

becomes very dominant, global disparities increase and pull-backs against the status quo result. When a previously non-dominant nation upsurges, it inevitably challenges existing hierarchies of control. There is a dangerous pattern of structural stress that results when a rising power challenges a ruling one. This phenomenon has been traced back to the Peloponnesian War that devastated ancient Greece. The historian Thucydides explained that the rise of Athens and the fear this instilled in the previously dominant Sparta made war inevitable. Over the past 500 years, such conditions of existing powers being challenged by rising powers have occurred sixteen times. War broke out in twelve of them (Allison, 2017). Those wars typically left both sides damaged and weakened from their pre-war conditions. If sufficient parity is maintained among nations to not let one country become highly dominant, the danger for warfare can be reduced. When a previously strong power is on the decline, infrastructural support can aid its stabilization.

At its peak, the British Empire encompassed territories around the globe. However, by the start of the 20th century, Germany and the United States had eroded some of Britain's economic lead, because the allocation of resources to securing conquered land took away from domestic infrastructural modernization¹³. Subsequent military and economic tensions between Great Britain and Germany were contributing causes of World War I. The conflict imposed enormous financial and population strains. Despite the territorial extent of the empire after the war, Britain was no longer a peerless industrial or military power. Successively, the effects of World War II destroyed the British financial system, with insolvency only averted in 1946 by a loan from the United States¹⁴. The demographics of Britain itself was changed after the Second World War owing to immigration from its former colonies. The resulting rapid urbanization and diverging infrastructure needs by various groups generated social tensions.

2.3 Infrastructure Deficits as Flashpoints for Unrest

A deficient physical or organizational infrastructure can play the role of an accelerant for the unequal distribution of income and wealth, and it may prompt the evolution of extremist thoughts. While such incidents are characterized by a spectrum of contexts, their common thread is the sequence of infrastructural deficit, lack of prospects, radicalization for the purpose of gaining importance, violence against generally innocent individuals or groups that are perceived as representatives of the inequitable society. Victimized by the radical movements are members of differing religious belief systems, adherents to other political philosophies, or distinct racial groups.

¹³In colonialism a nation establishes and maintains its domination over dependent territories. This form of empire building has a record of putting strains not only on the subordinates, but also on the infrastructure of the expanding power. The term decolonization refers to the dismantlement, as it occurred particularly in the years after World War II, of the colonial empires that had been established throughout the world. The United Nations Special Committee on Decolonization has stated that in the implementation there is no alternative to the colonizer allowing a process of self-determination. In practice, decolonization is known to have involved dramatic change, either in nonviolent revolutions or in national liberation wars by pro-independence groups. The transition may be intramural or may involve the intervention of foreign powers, acting individually or through international bodies.

¹⁴The European Recovery Program (ERP, commonly referred to as the Marshall Plan after Secretary of State George Marshall) set a remarkable example for timely and successful action against infrastructural decline. The program was an initiative to help rebuild Western European economies after the end of World War II, in which the United States of America allocated in excess of \$12 billion over 4 years in economic support. The prime recipient of Marshall Plan money was the United Kingdom (26%; unconnected to the Marshall plan, the UK also received direct loans from the United States amounting to \$ 4.6 billion), followed by France (18%) and West Germany (11%). The funds helped to rebuild war-torn regions, modernize industries, remove trade barriers, strengthen economies, and counteract the spread of communism. The plan contained provisions against protectionism and redundant regulations, it encouraged an increase in productivity, labor union membership, as well as the adoption of modern business practices. Europe experienced its period of fastest growth in history. Industrial production increased by 35%. Agricultural production substantially surpassed pre-war levels. The poverty and starvation of the immediate postwar years were relieved, and the standard of living in Western Europe increased dramatically.

The European Recovery Program had bipartisan support in Washington, where the Republicans controlled Congress and the Democrats controlled the White House under President Harry S. Truman. Even though the initiative imposed financial sacrifices on the country in the short run, the resulting peace and stability in the world were instrumental in the further development of the United States. Taking lessons from its history, West Germany integrated into Western Europe. It replaced the previously fateful centralism with effective federalism, the valuation of political parties increased, and much of the political power was relegated from the president to the chancellor. With the support from the Marshall Plan, the infrastructure and economy were rebuilt, generating the "Wirtschaftswunder".

Infrastructure development that lagged behind rapid urbanization led to the prime of the Ku Klux Klan¹⁵. The second KKK movement represented a large nationwide organization in the 1920s. The Klan became most prominent in urbanizing communities with high growth rates between 1910 and 1930, such as Detroit, Memphis, and Dayton in the Midwest, as well as Atlanta, Dallas, and Houston in the South. The Klansmen of the second wave were lower- to middle-class whites concerned about finite housing possibilities, rapid social change, and competition for jobs. Much of the growth of the second Klan occurred in response to the newly arising issues of industrialization, urbanization and immigration. The massive influx of Catholics and Jews from Eastern and Southern Europe led to fears among Protestants about job and social rivalry. The migration of African Americans to the North stoked job and housing competition with working-class whites. As new populations poured into cities, rapidly changing neighborhoods created social tensions and strains on infrastructure development. The growth of the second KKK was based on a rising anti-immigrant, prohibitionist mindset, which developed in response to contemporary social changes.

Post-war infrastructure damage causes unemployment and loss of perspectives. This leads to a receptiveness for radical ideas and breeds terrorism. Following the 2003 invasion of Iraq, the United States neglected to create an infrastructure that could have unified and rebuilt the country. The divisiveness of the government that was put in place prompted an insurgency and radicalization by religious groups, such as the predecessors of the Islamic State (IS, al-Qaeda in Iraq, Mujahideen Shura Council). Major fuel was added when the U.S. Administration decided to disband the Iraqi army shortly after the invasion, without the knowledge or consent of either the Pentagon or President (Thompson, 2015). Instead of giving Iraq a fresh start with a reorganized military, the blanket dismissal of the entire army helped create a vacuum for trained but unemployed soldiers. It drove many of the suddenly out-of-work Sunni warriors into alliances with a Sunni insurgency that would eventually mutate into IS. The IS group grew significantly under the leadership of Abu Bakr al-Baghdadi, gaining support in Iraq as a result of economic and political discrimination against Sunnis. Then, after entering the Syrian civil war, it established a large presence in the Syrian governorates of Ar-Raqqah, Idlib, Deir ez-Zor, and Aleppo. The takeover of northern Syria was part of a plan overseen by Haji Bakr, an unemployed former colonel in the intelligence service, whose past training combined with a lack of career prospects predisposed him to such a role in a radical movement. The damaged infrastructure in the region (particularly caused by the civil war in Syria) facilitated the recruitment of underprivileged community members and allowed the organization to flourish.

3. Cooperation as a Guard against Pull-Backs

Coexistence is a fundamental prerequisite for progress and social justice. It can only be acquired through cooperation and equitable infrastructure development (Bhattacharyay 2009; Ndulu 2006; Garman et al. 1998). One of the most forceful impediments for societal improvement is a shortage of care for the disenfranchised. Resulting are sources for pull-backs manifested in slums, medical challenges and criminality. To avoid those, the weakest link needs to be addressed globally in aiding poor and developing countries. It needs to be addressed nationally with suitable social security measures. It needs to be addressed locally in not neglecting socioeconomically disadvantaged neighborhoods.

3.1 Interconnection of Economies

Karl Marx believed that the dynamics of private capital accumulation inevitably leads to the concentration of prosperity in ever fewer hands (Marx, 1867). He anticipated that this development would unavoidably prompt a revolution by the proletariat. Contrary to that model, Simon Kuznets posited in the mid-20th century that income inequality first rises with economic development when new, higher-productivity sectors emerge, but it ensuingly decreases when a growing number of workers join those high-paying sectors (Kuznets, 1953). His model implied that the balancing forces of technological progress at their later stages of development lead to reduced inequality and greater harmony among the classes. Differing with both theories, more recent research using the World Top Incomes Database has supported the conclusion that inequality does not follow a deterministic process. Powerful forces in the form of institutions or policies can be applied to affect outcome, and societies have to choose which ones to adopt (Marshall, 2014).

Interconnectedness of commerce is important for progress. Strengths and weaknesses in the availability of goods and services or in the financial systems are, and always will be distributed heterogeneously among countries. If they are

¹⁵The name Ku Klux Klan (KKK) represents three distinct movements in the United States. The first one initiated violence against African Americans in the south during the Reconstruction Era of the 1860s and was disbanded by 1869. In the period of Reconstruction, the country's South became a poverty-stricken backwater attached to agriculture. Due to the economic hardship, white Democrats re-established their dominance through aggression, intimidation and discrimination. Freedmen (liberated slaves) were forced into an inferior social class with limited rights and were excluded from politics. Although there was little organizational structure above the local level, Klan groups spread as an insurgent movement across the region and adopted the same name and methods.

allowed to cross-fertilize they will accelerate progress¹⁶. Market fragmentation does not facilitate such mutual benefits to occur. Economies may be subject to synchronization as a positive force (Rose, 2009) and the much discussed decoupling among national markets (W äti, 2009) has not occurred. A potential concern is that weak points in the operational system tend to affect their direct interaction partners, such as employees, dependent economic sectors, geographic neighbors, or other entities, and spread through the system. Rather than trying to isolate them, which leads to more stark consequences later on, a rapid reintegration of the weak points allows a unified economy to move forward. Analyzed over sufficiently extended time frames, barriers and fragmentation fail at accomplishing the national prosperity they strive for. Among the available counter-measures, trade agreements can aid equality and social justice. More advanced economies can benefit from reduced price inflation, while less developed regions benefit from job creation and export. On a fundamental level, the policy choice is binary: protect domestic subgroups in the short-term at the expense of slow progress and global disparities (prompting unrest, possibly armed conflicts) down the road or make moderate sacrifices immediately to integrate the global community for the gain of shared prosperity and stability in the future.

3.2 *Interdependence in Lieu of Dominance*

The world is interconnected across political borders through the transportation system (roads, railways, air and seaports), energy distribution channels (oil and gas pipelines, electricity grids), and communication networks (internet cables, satellites, cellular networks and data centers). There is an evolution in international organization from a political geography, the legal division of the world, to a functional geography, the actual organization of the world, from nations and borders to infrastructure and supply chains. Interconnectedness is the only way to achieve stabilization for the long run. In the process of its implementation, cities and countries are learning to aggregate into more peaceful and prosperous wholes. Simultaneously to increasing connectivity, there has been a trend to planetary urbanization. By 2030, more than two thirds of the international population is expected to live in cities, which are developing into archipelagos that stretch out over hundreds of kilometers. People move to cities to be connected, and connectivity is why these cities thrive. Cities want to be part of global value chains, they want to be part of the global division of labor. Connectivity between cities can make the world more peaceful. In regions of the globe with dense relations across borders there is more trade, more investment, and more stability than in other areas. In Europe after World War II, industrial integration gave rise to the European Union. The Asian Infrastructure Investment Bank (AIIB) is an international financial institution that started operations in 2015 (after having been proposed by the China Center for International Economic Exchanges in 2009 and by the Chinese government in 2013) with the aim to support the building of infrastructure in the Asia-Pacific region. By contrast, Russia is the least connected of major powers in the international system, which partly explains tensions existing today. Countries that have less stake in the system also have less to lose by disturbing it¹⁷.

In this network, disparities not remedied on a lower scale are bound to impair integration on a larger scale. It is important to spot and address them early, and to maintain infrastructure development regionally – including health care, educational and employment opportunities – so as not to have progress in global cooperation slowed down. Weak points in the organization tend to affect their direct interaction partners and spread through the operational system. The cost of reactive action is higher than the cost of pro-active (preventive) action. A recent medical crisis has highlighted the international interdependence of infrastructures, as well as the impact of inequality (poverty) on societal components that reach beyond prosperity. Ebola outbreaks have occurred periodically, but have been limited largely by containment efforts. In the outbreak of 2014, however, weak health care systems in the initially affected communities of Guinea, Liberia, and Sierra Leone (which all had long suffered from political instability and poverty) combined with a slow, uncoordinated international response facilitated the spread into a worldwide epidemic (Cohen, 2014). The rapid dissemination of the virus in Africa challenged the health care systems in many Western industrialized countries. The occurrence has exposed the fall-out from weak infrastructures and inequality in one part of the world on the entire international community.

¹⁶Globalization has changed core economic concepts. Initially, countries and governments were the main protagonists. Then, multinational companies led the way in driving global integration. More recently, there has been a convergence of personal computer with fiber-optic micro cable, promoting the rise of work flow software. The world has become a level playing field in terms of commerce, where all competitors have equal opportunities. Historical and geographical divisions are becoming increasingly irrelevant. A rapid pace of change is inevitable. Emerging abilities of individuals and developing countries are creating many pressures for continued evolution on businesses and individuals in the industrialized countries. There is a perceptual shift required for countries, companies, and individuals to remain competitive in this global market (Friedman 2005).

¹⁷“Our global system is evolving from the vertically integrated empires of the 19th century, through the horizontally interdependent nations of the 20th century, into a global network civilization of the 21st century. Connectivity, not sovereignty, has become the organizing principle of the human species.” (Khanna, 2016).

3.3 Active Maintenance of Infrastructural Integrity

A strong infrastructure (one that is at least adequate for the needs of a society) is a pillar, which protects from excessive inequality. Infrastructure deficits can be a root cause for the impediment of progress, for the decline of countries that suffer infrastructural damage, and for the radicalization of disenfranchised sub-populations. A vigorous infrastructure is needed for the operation of a community.

Human settlements of increasing size and complexity have been essential for civilization. The principles of community organization are very general and may apply to the entire range of human history (Ortman et al, 2014). Such systems display consistent spatial scaling properties. Non-urban settlements and ancient cities alike follow the same quantitative laws of growth and change as modern cities. Urbanization is a means to increase productivity, and today cities are fundamental socio-economic units of human societies worldwide. Urban systems develop by scaling up infrastructural measures (numbers of telephone towers, lengths of roads et cetera) at a common exponent of about 0.8, which means that with every doubling of city size there is a concomitant 20% savings on all city infrastructure-related costs (Bettencourt et al, 2007). At the same time, socioeconomic quantities that involve human interactions (wages, patents et cetera; but also spread of infections) grow at a common increase of around 15%. On a per capita basis, the metrics of human interaction, which encompass innovation and wealth creation, systematically increase with city size, while to the same degree infrastructural metrics manifest cumulative savings (Bettencourt et al, 2010). To reap these benefits, active cooperative planning is essential. Poor people pay for urban services primarily with time by procuring essential goods and services themselves (by fetching water, negotiating for food, waiting at the hospital, accepting long commutes). Most of their time is spent in basic activities that do not typically cumulate in terms of knowledge, skills or wealth. The productive use of individual time in cities is crucial for generating development and economic growth. Thus, the principal role of urban planning is to provide the conditions for people to fulfill their socioeconomic creative potential. Every specific improvement needs to facilitate economic participation and creativity by citizens. Incorporating local knowledge in the process of planning is especially critical in poor neighborhoods, where it can make the greatest difference and where financial margins are tightest (Bettencourt 2014). Rapid urbanization may cause city populations to grow faster than their infrastructures. When they do, informal settlements often arise in the manifestation of slums. Such a development reverses the productivity benefit of urbanization and creates a societal burden, as well as a potential source for radicalization. Research into the dynamics of precipitous city growth may help slum dwellers articulate their needs and aid decision makers to better manage infrastructure expansion and the associated human advance.

There is precedent for a successful active management of social evolution alongside with infrastructure development. The colonial past of South America primed its nations for inequality. Consecutively, to achieve the same reduction of poverty, the gross domestic product (GDP) of a highly unequal country like Brazil needed to grow at least twice as much as a more equal country (such as Poland). Policy measures by the Brazilian government (including the fiscal Plano Real, formulated in 1994) helped promote pro-equity growth. It used grants to boost education and achieved an increase in average years of schooling, including among the poor. This allowed even members of the lower socioeconomic levels to participate in the economic growth of the 1990s by securing better jobs. During the first decade of the 21st century, the income of the lowest 10% earners increased by almost 7% per year (Hvistendahl, 2014). This Latin American success at easing inequality¹⁸ has corroborated that government involvement is key for going through this process¹⁹. The investment pays off. The World Bank estimates that – for developed countries – a doubling of invested infrastructure capital raises the gross domestic product by 7-15 percent (World Bank, 2011).

At the height of the drug wars, Medellín²⁰ was seen as the murder capital of the world at 6,000 homicides a year. Now

¹⁸The success was recently compromised by an ongoing recession since 2014 amid a political corruption scandal and nationwide protests. However, Brazil is the largest national economy in Latin America, the world's 8th largest economy at market exchange rates and the 7th largest in purchasing power parity. The country is widely projected to continue on a positive path.

¹⁹By contrast, the involvement of the United States government was lacking in the two peak years of inequality over the past century (1928 and 2007), when the most affluent 1% of citizens garnered more than 23% of total income. Each of these periods was preceded by substantial increases in borrowing, which ended notoriously in the Great Crash of 1929 and the near-meltdown of 2008 (Reich, 2014).

²⁰Located in the Aburrá Valley, the municipality of Medellín is the second-largest city in Colombia and the capital of the department of Antioquia. During the 52-year rebel uprising and war in the country, private armies were raised by the wealthy to fight off guerrillas who attempted to either redistribute their lands to local peasants, kidnap them, or extort money. Associating with such a regional paramilitary group, MAS, the Medellín Cartel became an organized network of drug suppliers and smugglers. It operated throughout the 1970s and 1980s in Colombia, Honduras, Bolivia, Peru, and the United States, as well as in Canada and Europe. The organization was run by Ochoa Vázquez brothers Jorge Luis, Juan

it is as a model of urban innovation, largely due to infrastructure initiatives by the mayor, Sergio Fajardo, who had had no political experience when he ran for office in 2003. Without bodyguards, he walked the poorest and most dangerous streets promising to end the violence and reunite the city. Having recognized that fear subjugates and deprives of a sense of community, he rebuilt by focusing on connecting the city through its public transportation system. Comuna 13 used to be a slum that represented the city's epicenter of crime. Because the area is located on a steep hilltop, urban planners built escalators up the side of the mountain, which served transportation as well as symbolism for development in the poorest part of town. Adding symbolic and practical value, Medellín's cable cars carry 40,000 people a day, connecting the poor with jobs and opportunities in the city's wealthier neighborhoods. The rebuilding initiative included the establishment of a cultural center, a science museum, and a botanical garden. Money was heavily invested into education with new schools and libraries. Colombians acquired a sense of safety and security. With national confidence regained over the last 10 years, international investment and tourism increased dramatically. Substantial measures in education and the social welfare system are required in the endeavor of building a supportive infrastructure.

4. Conclusions

The outlined observations support the notion that infrastructure development can be a cornerstone for social justice, especially if it is applied to communities with weak infrastructural support or high inequality (Ravallion, 2014). Data are available to show that powerful tools can be applied in the aid of those with lower socio-economic status, and that the development of the poorest neighborhoods bears the largest infrastructure gains in urban improvements. A prerequisite for successful infrastructure improvements on a large scale is the elimination of infrastructure deficits on the lower scale first. If that is not accomplished satisfactorily, the smaller unit will slow down higher order integration until the local/regional deficits have been addressed.

World peace may be jeopardized if a lack of regional or domestic integration (progress that favors some portions of the population but leaves behind other subgroups of the citizenry) fuels isolationism, which reverses past accomplishments of interconnection and replaces them with hostility to anything foreign. In all aspects of human activity, fragmentation leads to a loss of progress. Hence, the effects of pull-backs – reversal of integration achieved, and risk for violent confrontation to address disparities – need to be avoided. Effective solutions are infrastructure development and global interdependence from the ground up. The goal of improvement in the quality of human life necessitates a remediation of weak points, on organizational levels from local via regional to global, before pull-backs can negate achievements made on the larger scale. To curb radicalization internationally, it is important to proactively aid unstable countries or societies (especially postwar) in upgrading their physical and organizational infrastructures. The price for disregarding infrastructural needs in any part of the world will be paid for by the international community through the much higher ensuing cost of addressing the inevitably resulting tensions and unrest.

The rise of international interdependence and advances in communication and transport have undermined the vitality and purpose of nations. International associations, trade organizations, and transnational corporations are usurping economic powers from nations and replacing them as the major building blocks of the world system. There is a prospect for nations having to decide how to respond (retreat before, resist, adapt to, be absorbed or be dislocated) to the restructuring of the globe (Hobsbawm, 1992)²¹. There has been a recognition that civilization needs to organize, beyond nations through establishing international structures of cooperation²². Since the late 19th century, this need for

David, and Fabio, together with Pablo Escobar, George Jung, Carlos Lehder and José Gonzalo Rodríguez Gacha. At the height of its operations, the Medellín Cartel supplied over 80% of the global cocaine market and brought in up to \$60 million daily in drug profits. As a means of intimidation, the group conducted hundreds of assassinations throughout the country. By 1993, the Medellín Cartel was dismantled by initiatives from the Colombian government backed by the United States, the resistance group Los Pepes, and the competing Cali Cartel. At the beginning of the 21st century the city regained industrial dynamism with the construction of the Medellín Metro commuter rail, liberalized development policies, improved security and improved education. The city is promoted internationally as a tourist destination and is considered sufficient to be a global city.

²¹Nationalism is the policy or doctrine of asserting the interests of one's own nation, viewed as separate from the interests of other nations or from the common interests of all nations "Nationalism is an infantile disease. It is the measles of mankind." (Einstein, 1935).

²²The concept of a peaceful community of nations had been proposed in 1795, when Immanuel Kant's essay "Zum ewigen Frieden. Ein philosophischer Entwurf" outlined the idea of a league of nations to control conflict and promote peace between states. Kant argued for the establishment of a peaceful world community, not under a global government, but in the hope that each state would declare itself a free state that respects its citizens and welcomes foreign visitors as fellow rational beings, thus promoting a peaceful international society.

supranational organization has been increasingly realized²³. Before the computer age and the internet, before modern transportation, global interconnectedness had its feasibility limits. Now that we are technically enabled, we have to deal with the counterproductive subdivisions, and overcome the barriers we have inherited from the trials and tribulations of the past. The task ahead is the organization of the global village, such that peaceful and interdependent coexistence fosters support for progress and social justice.

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²³A sequence occurred of increasing scale in efforts toward the formation of international governance structures, each of which gave way to the next.

- The Inter-Parliamentary Union was formed by the peace activists William Randal Cremer and Frédéric Passy in 1889. Its aim was to encourage nations to solve international disputes by peaceful means. Its structure consisted of a council headed by a president. Annual conferences aimed at helping governments refine the process of international arbitration.
- The League of Nations was an intergovernmental organization founded in 1920 as a result of the Paris Peace Conference that ended World War I. Its primary goals, as stated in its covenant, included preventing wars through collective security and disarmament and settling international disputes through negotiation and arbitration. Other areas of focus included labor conditions, the just treatment of native inhabitants, human and drug trafficking, arms trade, global health, prisoners of war, and the protection of minorities in Europe. It ultimately proved incapable of preventing aggression by the Axis powers (led by Germany, Italy and Japan) in the 1930s.
- The United Nations (UN) is an intergovernmental organization to promote international co-operation. The group was established in 1945 after World War II in order to prevent another such conflict. Its objectives include maintaining international peace and security, promoting human rights, fostering social and economic development, protecting the environment, and providing humanitarian aid in cases of famine, natural disaster, and armed conflict. The United Nations membership grew substantially following widespread decolonization in the 1960s, and by the 1970s its budget for economic and social development programs exceeded its spending on peacekeeping. The organization received the Nobel Peace Prize in 2001.

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