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## **Globalization under Hysteresis: A Study of Eastern Bloc Countries, China and India**

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### **Abstract**

This study is concerned with a great socio-economic experiment in history that replaced the naturally evolved market economy with the humanly designed command economy to achieve a socialist triumph over capitalism, experienced a setback and ultimately returned to the market economy for managing the material aspects of the society. Efforts to open the subject economies in the aftermath of the said experiment are on the contemporary agenda worldwide. Yet, the past pulls the present causing hysteresis that thwarts the momentum of globalization.

Using KOF and AEMC indices of globalization (based on KOF data 1991-2014), the paper concludes that most of the countries to the south of Russian Federation (Armenia, Azerbaijan, Tajikistan, Kyrgyzstan, Kazakhstan) have performed rather poorly in globalization efforts. On the other hand, the countries in the north-western side of the Russian Federation (except Moldova) have on the whole performed better. In comparison, China has performed fairly while India lags behind. In spite of all proclamations, unless the political will to globalization is there, globalization cannot progress much further. However, such a political will has not been strong in India. India has remained protectionist of vested interests of politicians, industrialists, business houses and perhaps the intelligentsia, a coalition of the dominant proprietary classes that benefit from the status quo or stagnancy of the Indian economy and society. Globalization in India is under a strong spell of hysteresis on account of the pre-1991 pseudo-socialistic nostalgia as well as age-old internal contradictions.

**Keywords:** Globalization; KOF index; equi-marginal; Shapley value; global optimization, China, India, Eastern Bloc

**JEL Classification:** C43, C61, C71, F60, P52

**1. Introduction:** This study is concerned with a great socio-economic experiment in history that replaced the naturally evolved market economy with the humanly designed command economy to achieve a socialist triumph over capitalism, experienced a setback and ultimately returned to the market economy for managing the material aspects of the society. Efforts to open the subject economies in the aftermath of the said experiment are on the contemporary agenda worldwide. Yet, the past pulls the present causing hysteresis that thwarts the momentum of globalization.

**2. Is market a desirable institution?** Almost entire body of modern economic theory since Adam Smith, whether orthodox or heterodox, is the documented record of arguments raised either in favour of or against the motion that market economy (although operating on selfish interests and perhaps Smith's moral sentiments) would sustain itself and also deliver stability, efficiency, justice, growth, and survival to the members of the society. The orthodox economists summarily and optimistically affirmed that the market economy, with or without some state intervention (refereeing), would deliver all that. The heterodox economists, notably Karl Marx, denied the market economy of all lofty attributes, arguing that it would not be able to resist to concentration of politico-economic powers in a tiny few hands coupled with the misery of the rest of the mass, resulting into inefficiency, injustice, stagnation, instability and ultimate collapse of the said economic system. The economic arguments - the understanding - led Marx to derive the active political conclusion - of changing the world - by establishment of the communist regime, the dictatorship of the proletariat, which would deliver 'the bungled and the botched' out from misery and injustice.

**3. The greatest socio-economic experiment in history – establishment of the USSR:** The socio-economic and political conditions in Russia during the second half of the nineteenth century and afterwards gradually came to be ripe for the experiment on establishing a socio-economic and political system akin to Marx's vision. The Tsars were the absolute rulers of Russia, a country of peasants living in communes in which they cultivated (did not own) land for a period allotted to them by the commune administrators mostly under the local customs. The peasants had little opportunity to develop respect for private property or any of the other qualities necessary for citizenship. Politically they tended towards primitive anarchism. To some extent this also held true for industrial workers, some two million strong in number, out-migrating from the village (Britannica, 2017). Although the Tsars were absolutely autocratic rulers above the law or any constitutional restraints who ruled Russia with the help of a bureaucratic caste and the army, denying participation of the subject population in governance, they promoted education and industry in the country. Increase in education led to the emergence of the intelligentsia. The intelligentsia, irrespective of their contrasting attitudes to the approach to bring about changes, were eager and active to alter the socio-political conditions. The period 1905-1916 was markedly tumultuous with the incidents of peasant revolts organized by the intelligentsia while the rulers ruthlessly suppressed such revolts or entertained the subjects with palliatives. The World War-I and the resultant decadence of Russia weakened the grip of the rulers on their subjects. At that time three political organizations were actively engaged against the rulers. The Socialist Revolutionary Party was largely anarchic and indulged in terror and mass killing. The Mensheviks (although a majority) rejected the suitability of any great upheaval and considered Russian conditions premature for political revolution. However, the Bolsheviks (although a minority), who were highly disciplined and led by capable leaders, Lenin and Trotsky to name, went ahead to give a thrust to mass revolution, coupe and seize the power in October 1917. It established the dictatorship of the Bolsheviks, later in March 2018 renamed as the Russian Communist Party (Bolshevik), which claimed

to be a practical realization of Marx's dictatorship of the proletariat. Following a civil war, in 1922, USSR was formed that constituted of 15 states.

The great socio-economic experiment in history began with a fatal conceit, treading on a road to serfdom (Hayek, 1988; 1944). First it went on to destroy the institution of private property and establish a centralized communist economy through nationalization of all the means of production (except land) and transportation, the abolition of money and its replacement by barter tokens as well as free goods and services, the imposition on the national economy of a single plan, and the introduction of compulsory labour. Management of the economy was entrusted to a gigantic bureaucratic organization, the Supreme Council of the National Economy, which was to allocate human and material resources in the most rational manner (Britannica, 2017).

**4. Two polar systems of resource allocation and economic management:** There can be two alternative mechanisms at opposite poles to allocate resources for production and consumption, which work under two different systems of resource ownership. The first, or the market economy, is a system of socio-economic organization that presumes private ownership of resources (plus the minimal public ownership utmost necessary). Right to property and market evolved gradually as a result of natural selection. Market provides different economic agents opportunities to voluntarily exchange their belongings at some ratio of exchange, which when expressed in terms of money, is called price. Prices contain information that induces the economic agents to allocate their resources for raising or procuring what they will. The economic information is distributed among the agents while any particular agent (individual or group) has only a partial knowledge (dispersed knowledge). The market, however, is wiser than any individual. It synthesizes information in the form of the price system that provides incentives and signals to different individuals so effectively as to ensure optimal allocation of resources resulting into stability, justice, growth, etc. in the economic system. This is what Adam Smith tried to indicate by his 'invisible hand'.

At the other pole and in contrast to the market economy, the command economy is a system of socio-economic organization that presumes public ownership of resources at large (plus the minimal private ownership utmost necessary). Allocation of resources is administratively made. The administrative machinery is hierarchical in nature that collect, share and use information at different levels to allocate productive resources to turn out different goods and services to be distributed by rationing and quota system. Such decisions are authoritative in nature. Thus, in a command economy the market mechanism is replaced by the top-down hierarchical administrative system.

The management of an economy by the 'dictatorship of the proletariat' nevertheless has some unmitigated problems. First of all, the large body of the proletariat must be represented by a few persons, arranged in a tree (hierarchical) structure and those representatives feel, gather, filter, assess, synthesize and pass on information both ways, up and down the hierarchy. Those persons must have impersonal interest unshakable by personal biases and yet they must have compassion for their fellow beings. In a way, such representatives must have in them the elements of a benevolent dictator or a philosopher king. Secondly, the representatives of the proletariat must be able to strike a proper balance among the conflicting objectives. Thirdly, the administrative system must be able to gather, analyse and synthesize information at the central top level to solve the economic calculation problem.

**5. The economic calculation problem:** The economic calculation problem is the assertion that any apparatus of human gatherers, screeners, analysts and synthesizers of economic information cannot carry out enough calculations to arrive at decisions that are needed for optimal allocation of resources in a complex organization like an economy. The issue was raised and elaborated by Mises (1920). Monetary evaluation, financial market, pricing, entrepreneurship and coherent central planning were considered as the fundamental basic requirements for economic calculation. Hayek (1945) visualized the requirement of coherence in economic planning for economic calculation problem amounting to transmission and use of dispersed knowledge by arguing that it is impossible for any individual or a group of individuals to make use of dispersed information possessed by other individuals effectively and optimally to arrive at decisions because such dispersed knowledge cannot be transmitted in totality.

In a rudimentary way, the Input-Output analysis initiated by some Soviet economists (Belykh, 1989) and formalized by Leontief (1936) provided the opposite view. It showed that given the inter-industrial input-output relations (technical coefficient matrix) and the final (consumption) demand to be met for the output of each industry, it is possible to determine the quantum of output of each industry and accordingly primary inputs could be applied to the production of those output (Ghosh, 1958). Fixed technical coefficients are acceptable approximations for a short run.

On a different level, Roemer (2016) rebuts the indissolubility of the economic computation problem indicating that the SFEcon algorithm “controls the continuum of all chaotic physical and financial states, as well as disequilibrium prices, by which an economic system might efficiently guide itself into a new, previously unknown, unique, and equi-final Pareto optimum.” Further he observes that “the economic calculation problem is precisely one of understanding how partial, distributed knowledge can organize itself even though it cannot possibly be assembled at a single point nor reacted-upon via instructions from any sort of central directorate. The notion of central direction is most especially ridiculous in its requirement that ever-changing economic factoids would have to arrive at their point of focus continuously, their implications calculated instantly, and then given expression with military punctilio.” By citing the emergence of macro-level organizations in nature (such as bee-hive or ant-colony) as a consequence of individuals short of knowledge as to the purpose of the organization as well as a command from the top, Roemer asserted that the basic requirements for optimal decisions as envisioned by Mises and others were not necessary. Yet, Roemer only refutes the impossibility of resolution of the economic calculation problem bereft of the fundamental basic requirements, but he does not ensure that the administrative apparatus of a command economy will be able to carry out necessary calculation to arrive at optimal decisions.

**6. The rise of Stalinism:** Lenin’s health started falling from 1921 and he died (in 1924) soon after the formation of the USSR. From 1921 onwards the leadership started slipping into the hands of Stalin and finally it came to him. Trotsky, who did not support the increasing bureaucracy and dictatorial manners of Stalin in determining the matters of utmost economic as well as political importance, was gradually sidelined and ultimately sent to exile. Stalinist policies in the Soviet Union included rapid industrialization, the theory of socialism in one country, a centralized state, collectivization of agriculture, cult of personality (Plamper, 1912) and subordination of interests of foreign communist parties to those of the Communist Party of the Soviet Union, deemed by Stalin to be the leading vanguard party of communist revolution at the time (Bottomore, 1991; p.54). Large scale class-based violence, purges in the party and the populace as well as deportations of suspect or non-

compromising people took place. Expropriation of (forced) surplus from peasants, workers, non-Russian participants in the USSR enriched Moscow. In short, Stalin was able to bring the USSR up to an industrialized nation and an international power to reckon with. Some scholars argue (Suvorov, 2008; Harrison and Davies, 1997) that Stalin foresaw inevitability of the World War II and not only he prepared the USSR to fight the War effectively (and perhaps, to be a victor) but also caused the War to commence. Rapid rearmament in the USSR had started during the first five-year plan (1928-32). The second five-year plan (1933-37) was a period of exceptionally rapid change in military technology and the technological level of defence industry products. It was followed by a third period (the third five-year plan of 1938-42, interrupted by war) in which the pace of rearmament was again exceptionally rapid and from a much higher initial base than before (Harrison and Davies, 1997). Indubitably, such expenses on a long-drawn preparation for war (which was an uneconomic allocation), establishing military-industrial complexes (Harrison, 2003) fuelled by expropriation of the surplus from agricultural as well as industrial sector with an opportunity cost impinging on the development that could enhance the wellbeing of the people. In the Stalinist plans heavy capital goods industries stole the limelight and the development of consumer goods industries were downplayed. Rationing, queues, waiting lists, forced substitution, purchase postponement and outright desistence were general, frequent, intense and chronic, characterising a socialist economy as a shortage economy (Kornai, 1980). A true Marxist-Leninist could not indulge in luxuries (that were characteristic of the petit-bourgeois) and, therefore, to a Soviet consumer, a luxury item was any good with the exception of plain breads, cabbage, potatoes and vodka (Gronow, 2003).

**7. The Second World War and Formation of the Eastern Bloc:** The World War II began in 1939. The Soviet Union made an attempt to form an alliance with Britain and France (Lightbody, 2004, p. 97; Müller and Ueberschär, 2009) but failed. So they signed the Molotov-Ribbentrop Pact with Germany. This included a secret protocol whereby the independent countries of Finland, Estonia, Latvia, Lithuania, Poland, and Romania were divided into spheres of interest of the parties. The Soviet Union also aspired to regain the territories of West Belarus and West Ukraine, which they had lost to Poland in Soviet-Polish War 1919-1921. The Pact assured the supply of oil and other provisions to Germany as well as immunity from the attack by the USSR. Within a short time, the Soviet Union occupied Estonia, Latvia, and Lithuania and annexed Bessarabia and Northern Bukovina from Romania. In due course, they aspired to gain the territories now under Iraq, Iran and Bulgaria. However, the conflict of interest between Germany and the Soviet Union arose in Operation Barbarossa upon which the Molotov-Ribbentrop Pact ended and the USSR joined the Allies. In due course, having suffered a lot of devastation, the Soviet Union was victorious in World War II, which ended in 1945. After the War, the Soviet Union took over the governments in Albania, Bulgaria, Czechoslovakia, Hungary, East Germany, Poland, Romania and Yugoslavia. Estonia, Latvia and Lithuania were made into republics and annexed to the Soviet Union. Finland was partly controlled by the Soviets. It also took a large portion of Poland. In the after-War years during Stalin's Regime those countries remained under the effective command of the USSR.

The Warsaw Treaty of Friendship, Cooperation, and Mutual Assistance was a treaty signed in 1955 establishing a mutual defence organization composed of the Soviet Union and Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania. The treaty provided for a unified military command and for the maintenance of Soviet military units on the territories of the other participating states, rendering the Governments in those states a puppet in the hands of the USSR. Thus, the Eastern Bloc was formed with the countries in the said Treaty. Albania came out of the

bloc in 1960 and the East Germany after the Fall of the Berlin Wall in 1989. The Russian dominance was persistently observing revolts and repressions. The command economies of the Bloc experienced inefficiencies and stagnation preceding the Bloc's dissolution in 1989-90.

**8. China as a socialist state:** China embraced socialism in 1949. From the very beginning, under the leadership of Mao Zedong, socialism in China differed from the Stalinist socialism in the USSR and was somewhat closer to Leninism in providing freer hands to peasantry. Mao proclaimed that the peasants formed the essential revolutionary class in China, because, contrary to their industrial working 'comrades', they were more suited to establishing a successful revolution and socialist society in China. Further, Mao gave appropriate weight to 'cultural revolution.' It may be noted that Mao Zedong had learnt a lot from the experiences of the USSR.

After Mao's death in 1976, Deng Xiaoping initiated socialist market reforms in 1978. He tried to untie the concepts of market economy with capitalism and planning with socialism. He argued that planning and market forces are the two alternative ways of controlling the economy while socialism and capitalism are the two ways to look at the distribution of benefit to the society. Therefore, a socialist market economy is a viable form of socio-economic management. Such discrimination reminds us of what Mill said: "The laws and conditions of the production of wealth partake of the character of physical truths. There is nothing optional or arbitrary in them. ... It is not so with the Distribution of Wealth. That is a matter of human institution solely. The things once there, mankind, individually or collectively, can do with them as they like. They can place them at the disposal of whomsoever they please, and on whatever terms (Mill, 1848; p. 199). Forging a balance between socialism and market economy could deliver suitable prices (since the labour theory of value cannot be relied upon in practice), signals, incentives and drives on the one hand and social control on industry and market forces could better distribute the benefits to the people on the other. China also supported private ownership in the sense that private ownership is antisocialist when it is owned solely by the bourgeoisie but not when everyone owns the means of production and hence cannot be exploited by others. The Chinese system is also called the state capitalism or market socialism (Dirlik, 1989; Huang, 2012). Whatever may be the case, as of now, China's economy is one of the world's largest most fast growing economy in which the public sector accounts for a bigger share than the private sector. It is the global hub for manufacturing and is the largest manufacturing economy in the world as well as the largest exporter of goods in the world.

**9. The Case of India:** After freedom in 1947, India avoided siding with either Bloc (Eastern or Western) explicitly, but exhibited an inclination to the economic philosophy of the USSR. It proclaimed to subscribe to a socialist pattern of society and aspired to promote economic growth through indicative planning. The first five year plan (1951-56) focussed on the development of primary sector. Technological institutions were established to raise qualified manpower. Many irrigation projects were started and blueprints of establishment of five steel plants with international collaboration were finalized. In the second plan (1956-61) Feldman-Mahalanobis model (a neo-Marxist model of development) was used for a rapid industrialization in which heavy capital goods industries (or basic industries) were in the domain of the public sector while other goods (mostly consumer goods or non-basic) industries were in the domain of the private sector. Establishment of firms in the industrial goods sector were to be permitted by the government and with this provision a control over the private sector by the bureaucracy began. The third plan (1961-66) did not perform well due to several contingencies. However, development of defence industry drew the attention of

the Government. Fertilizer and cement industries were established to boost up agriculture and construction sectors. During the fourth plan (1969-74) many banks were nationalized to facilitate financing of development in farming as well as manufacturing sectors. The fifth Plan (1974-78) concentrated on self reliance in agricultural production, attainment of social justice and development of infrastructure. Since the early 1970's plans were viewed as economic and control instrument with the government directed to meet political ends rather than economic development. The sixth plan (1980-85) marked the beginning of liberalization or the end of Nehruvian socialism. The main objectives of the Seventh Five-Year Plan (1985-90) were to establish growth in areas of increasing economic productivity, production of food grains and generating employment through social justice. At the end of the seventh plan India faced economic instability and foreign exchange crisis. To remedy these problems India launched free market reforms and proceeded to liberalization, privatisation and globalization.

**10. The fall and dissolution of the USSR:** The prime reason of the fall and ultimate dissolution of the USSR is its excessive indulgence in the activities for expanding the socialist empire in the world and long-drawn involvement in the cold war with the Western Bloc, even at the cost of injustice and misery of its own people and its constituent units. The USSR had fourteen other constituents at the Russian west and south-west borders. While the resources in those constituent units were exploited, they were given little role in decision making and only a meagre share in the dividend. There were huge expenses on military and maintenance of the satellite states in Eastern Europe as well the central Asian Republics. On the other hand, there was severe shortage of consumer items, year after year, knowing no end. This led to the dissatisfaction of the people. For over seventy years there was a single party rule which was highly authoritarian and suppressive of any antagonism whatsoever. There was no freedom to speak and display democratic sentiments. In the rung of administrators there was widespread corruption, nepotism and lack of transparency. Caplan (2004) points out that the fall of the Soviet Union resulted from bad incentives arising out of the one-party political system and degree of power granted to the party-elite. There were a lot of economic disparities among the constituents of the USSR and the better off among them did not appreciate paying for the development of the worse off units. This feeling led to development of nationalism among the constituent units. Protests and up-rise in Russia, Estonia, Latvia, Lithuania, Ukraine, Georgia, etc. became more frequent.

The command economy and dictatorial regime in the USSR was failing. In view of this, Gorbachev brought about several economic reforms. He also allowed elections with a multi-party system. A slow process of democratization began. These reforms enhanced the expectations of people of the constituent units - further democratization and freedom of republics were demanded - on the one hand and dissatisfied many communist leaders on the other. The reforms were associated with shifting of the command economy closer to the market economy and, therefore, they were considered as a deviation from the communist policies. So was in case of democratization. Many communist leaders in USSR opposed reforms initiated by Gorbachev. The Fall of the Berlin Wall and unification of Germany also was a big blow on the USSR. Belarus and Ukraine became powerful and demanded exit from the Union. These factors ultimately led to the dissolution of the USSR and establishment of independent governments in the members of the Eastern Bloc. Thus was the end of the greatest socio-economic experiment in history that ventured on the establishment of a command economy to achieve socialist goals and the dictatorship of the proletariat.



**11. Victory of the market economy and globalization of the Eastern Bloc countries:** The fall of USSR dominated empire is a victory of the market economy over the command economy (although it should not be construed to be the victory of capitalism over socialism as China would contend). It is also a victory of democratic institutions over dictatorship that engulfed the world during 1917-91 in the garb of communism or socialism.

This victory led to opening of the erstwhile member countries of the Eastern Bloc to globalization of their economies. They all realized that market is an impersonal arbitrator generating signals and incentives that may allocate resources more optimally than any other system, especial bureaucratic ones that are subject to various types of biases. There is no disagreement on the possibility of market failure, but the public intervention and indicative planning may correct such failures to a considerable extent.

**12. Globalization efforts of the erstwhile Eastern Bloc countries, China and India:** In what follows, we present the quantitative measures of the extent of globalization of the erstwhile Eastern Bloc countries together with China and India. China has been included in this study because of being a socialist country that has relied on the market forces and set an example of a spectacular success of socialism forged with market. India has been included because it claimed to have a socialistic pattern of society, relied on market forces forged with planning and public intervention, had explicitly adopted many techno-economic and administrative manners of the USSR in the heydays of planning for development as well as it had gone ahead for privatization, liberalization and globalization after the fall of the USSR in 1991.

**13. Quantitative measure of globalization:** The KOF Index of globalization, which is the most comprehensive quantitative measure of globalization since 1970 for over 122 countries, visualized three dimensions or aspects of globalization viz. economic, social and political (Dreher, 2006; Dreher et al. 2008). Economic globalization has two measures: actual economic flows (such as trans-border trade, direct investment and portfolio investment, A1) and restrictions on trans-border trade as well as capital movement by means of taxation, tariff, etc, A2). Social globalization comprised three measures: trans-border personal contacts (degree of tourism, telecom traffic, postal interactions, etc, B1), flow of information (B2) and cultural proximity (B3). The political globalization (C) is measured by a single figure quantifying the number of embassies and high commissions in a country, membership of international organizations, participation in UN peace missions, and the treaties signed between two or more states (Mishra and Kumar, 2012; Mishra, 2017). These sub-indices (A1 through C) are available on the KOF website. The measures A1 and A2 are synthesized to make a sub-index of economic globalization, A. Similarly, B1, B2 and B3 are synthesized to make a sub-index of social globalization, B. Finally, A, B and C are synthesized to arrive at the overall index of globalization. At all stages the Principal Component Analysis is used to synthesize the constituent variables into a more comprehensive higher level index.

Principal Component Analysis is based on correlation (or covariance) among different constituent variables. It has been observed that this analysis has an inbuilt elitist bias in weight assignment that often downplays those variables that are poorly correlated with other sister variables favoured by the composite index in explaining the variance of (or maximizing the correlation with) its constituent variables. Since correlation does not measure importance, the principal component based synthetic

indices may unduly undermine the importance of poorly correlated constituent variables by either ignoring them or assigning them a meagre role in the synthesis (linear aggregation).

To ameliorate the said problem of elitism, Mishra (2016; 2017) proposed a method that assigns weights to different constituent variables in such a manner that their Shapley values are as equitable as possible. Since Shapley values are mean expected marginal contributions of agents in a cooperative (collusive) game, such indices are almost equimarginal contribution (AEMC) indices.

In this study, the measures of different aspects (dimensions) of globalization (A1, A2, B1, B2, B3 and C) are taken from KOF for the years 1991 through 2014 for 24 countries. Some countries (Belarus, Turkmenistan and Uzbekistan) in the erstwhile USSR and satellite states of East Europe that formed the Eastern Bloc are not included in want of data. India has been included in the study for comparison as well as the reasons mentioned earlier. To reiterate, China is a country that forged socialism with the market forces. India has for long proclaimed having a socialistic pattern and attempted development in her mixed economy with planning and market cooperating with each other. Method-wise, the AEMC indices are constructed by merging A1 through C at one go (as elaborated in Mishra, 2017). The KOF index of globalization 2017 is used for comparing the AEMC index of globalization.

**14. The main findings:** The detailed KOF and AEMC Indices of Globalization of Eastern Bloc Countries, China and India 1991-2014 are presented in Appendix (Tables A.1 through A.4.). The AEMC index of globalization is closely correlated with the KOF index of globalization (correlation = 0.9685; rank correlation = 0.978, Kendall's Tau = 0.906). The AEMC is also correlated with its constituent variables more equitably than the KOF index (see Table-2). Thus, the AEMC index is more inclusive and less elitist. Further, the AEMC index minimizes the Euclidean norm of Shapley value contributions of constituent variables (A1 through C) to the overall (AEMC) index. This norm is 0.408369 for the Shapley values (Table-1). As against this, the norm is 0.434282 for the KOF index.

In Table-3 (as well as Fig.-1 and Fig.-2) we present the highest values of KOF as well as AEMC globalization index obtained by different countries in the recent past years. The recent past highest values are chosen on account of the fact that since 2008 or so different countries have taken different measures (A2 in particular), suitable to their particular case, to protect their economies from the world-wide slump. This slump has also affected their economic interaction (A1 in particular) with other economies in the world speaking on the globalization index. Linear trends in globalization indices could not have helped much in comparison across the countries since such trends (being gross statistical approximations due to nonlinearities present in the data) would conceal more than reveal.

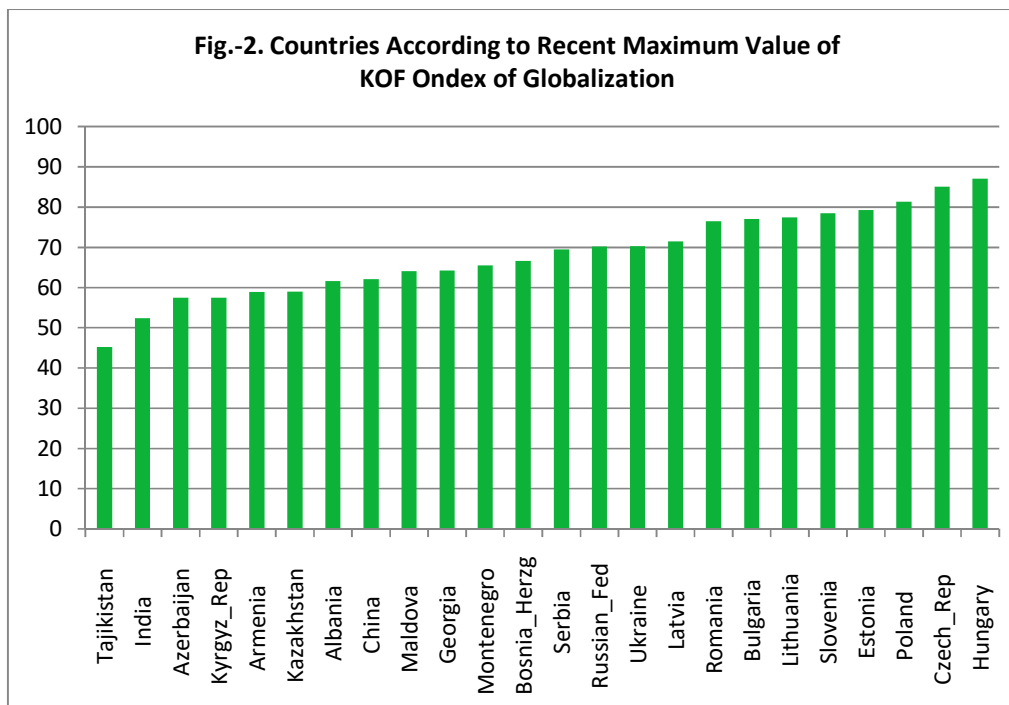
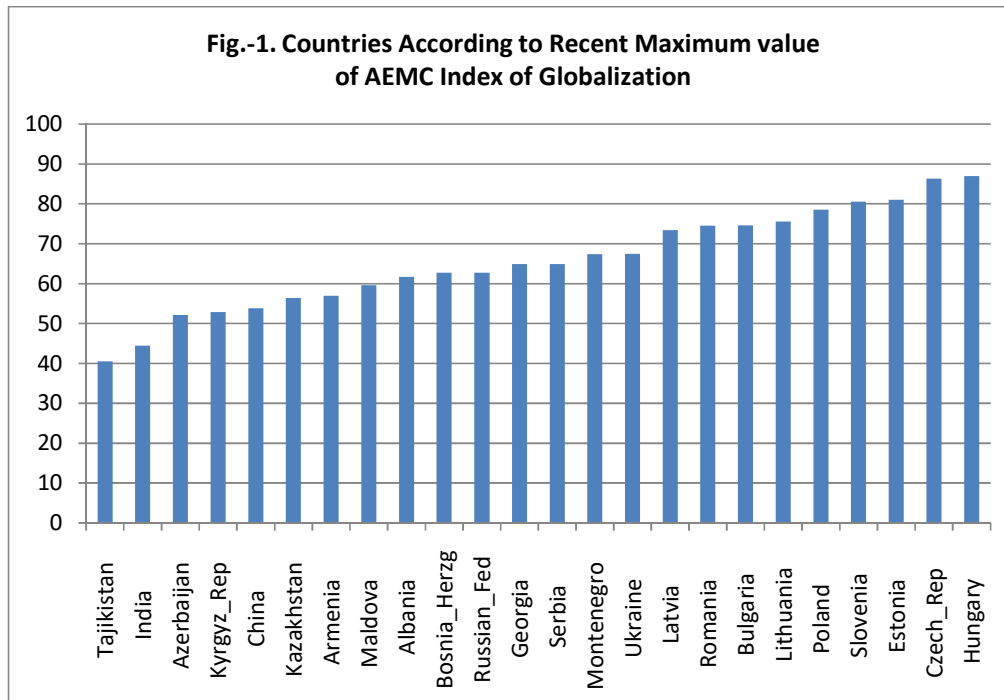
It is found that Tajikistan, India, Azerbaijan and Kyrgyzstan Republic exhibit least extent of globalization. On this, KOF and AEMC are unanimous. Kazakhstan, Armenia, Moldova (all the three in the erstwhile USSR) and Albania, Bosnia & Herzegovina have performed poorly in comparison to the Russian Federation. Georgia, Serbia and Montenegro are on either side around the median. On the higher side of the median, Ukraine, Latvia, Estonia, Lithuania (all the four in the erstwhile USSR) and Romania, Bulgaria, Poland, Slovenia, Czech Republic and Hungary (all the five satellite states in the non-USSR East Europe) are the performers in globalization (although their ranks vary slightly across the two indices of globalization). They all perform better than the Russian Federation. The Czech Republic and Hungary are at the top in globalization achievements.

Sub-Indices of Globalization	A1	A2	B1	B2	B3	C
Shapley Value Shares - KOF	0.193332	0.100227	0.070154	0.198479	0.195915	0.241826
Shapley Value Shares - AEMC	0.164386	0.165227	0.163387	0.175331	0.167237	0.164432
Weights of Sub-Indices for AEMC	2.873287	5.24107	6.976957	0.000697	3.608586	7.767869

Indices	A1	A2	B1	B2	B3	C	KOF	AEMC
A1	1	0.580084	0.47026	0.715588	0.438728	0.413455	0.802507	0.777523
A2	0.580084	1	0.662041	0.584872	0.329787	0.022308	0.592247	0.716429
B1	0.47026	0.662041	1	0.650843	0.184578	-0.04347	0.498675	0.673987
B2	0.715588	0.584872	0.650843	1	0.400311	0.440261	0.815215	0.807413
B3	0.438728	0.329787	0.184578	0.400311	1	0.620465	0.755171	0.706137
C	0.413455	0.022308	-0.04347	0.440261	0.620465	1	0.748057	0.611847
KOF	0.802507	0.592247	0.498675	0.815215	0.755171	0.748057	1	0.968476
AEMC	0.777523	0.716429	0.673987	0.807413	0.706137	0.611847	0.968476	1

Country	AEMC Index	AEMC Rank	Country	KOF Index	KOF Rank	PC Income *
Tajikistan	40.53	1	Tajikistan	45.26	1	3008
India	44.42	2	India	52.38	2	6616
Azerbaijan	52.13	3	Azerbaijan	57.50	3	17439
Kyrgyz_Rep	52.90	4	Kyrgyz_Rep	57.50	4	3521
China	53.82	5	Armenia	58.89	5	8621
Kazakhstan	56.40	6	Kazakhstan	58.97	6	25145
Armenia	56.95	7	Albania	61.60	7	11840
Moldova	59.58	8	China	62.02	8	15399
Albania	61.68	9	Moldova	64.04	9	5328
Bosnia_Herzg	62.72	10	Georgia	64.21	10	10044
Russian_Fed	62.77	11	Montenegro	65.48	11	16643
Georgia	64.88	12	Bosnia_Herzg	66.60	12	10958
Serbia	64.90	13	Serbia	69.49	13	14493
Montenegro	67.45	14	Russian_Fed	70.21	14	26490
Ukraine	67.48	15	Ukraine	70.26	15	8305
Latvia	73.41	16	Latvia	71.45	16	25710
Romania	74.55	17	Romania	76.51	17	22348
Bulgaria	74.57	18	Bulgaria	76.98	18	20327
Lithuania	75.61	19	Lithuania	77.47	19	29972
Poland	78.56	20	Slovenia	78.46	20	32085
Slovenia	80.55	21	Estonia	79.27	21	29313
Estonia	80.99	22	Poland	81.32	22	27764
Czech_Rep	86.34	23	Czech_Rep	85.05	23	33232
Hungary	86.99	24	Hungary	86.99	24	27482

\*Note: In International \$, IMF for 2016 Source: Wikipedia; List\_of\_countries\_by\_GDP\_(PPP)\_per\_capita



There could be another classification that concludes our findings succinctly. Most of the countries to the south of Russian Federation (Armenia, Azerbaijan, Tajikistan, Kyrgyzstan, Kazakhstan) have performed rather poorly in globalization efforts. On the other hand, the countries in the north-western side of the Russian Federation (except Moldova) have on the whole performed better. It may be noted that Moldova is a landlocked country with underdeveloped agriculture and manufacturing sectors. Its economy is primarily based on the service sector. It is one of the poorest

economies in Europe. It suffered a declining condition of the economy after the dissolution of the USSR and the economic decline persisted for many years until 2009 or so.

**15. India among poor performers in globalization:** India falls among very poor performers' brackets, having Tajikistan, Azerbaijan and Kyrgyzstan among its cohorts, irrespective of the index of globalization (KOF or AEMC). Azerbaijan is, of course, much above India according to per capita income (vide Table-3), but it may be noted that Tajikistan is a mountainous, landlocked country in Central Asia with an estimated population of 8.7 million people. Almost a half of its income comes from remittances that its people working abroad send home. Agriculture and industry sectors are underdeveloped. The economic situation is fragile, largely owing to corruption, uneven economic reforms, and economic mismanagement. Its per capita income is only Int\$ 3008. Similarly, Kyrgyzstan is a landlocked country with mountainous terrain. Kyrgyzstan's terrain is mountainous, which accommodates livestock raising - the largest agricultural activity, so the resulting wool, meat and dairy products are major commodities. Main crops include wheat, sugar beets, potatoes, cotton, tobacco, vegetables, and fruit. As the prices of imported agrichemicals and petroleum are so high, much farming is being done by hand and by horse, as it was generations ago (Wikipedia, Kyrgyzstan). Its per capita income is Int\$ 3521. Moldova is the only other country (among those under study) that has per capita income (Int\$ 5328) less than India's (Int\$ 6616). India being a large country with potentials should have made more effective efforts in globalization to fight its poverty.

**16. Concluding remarks:** Bardhan (2006) opines that appalling governance and populism combine to block reform and deter economic integration of India with the world. He observes that economic nationalism (of both leftists and the right wing politicians) has resisted inflow of large scale foreign investment in India. India has learnt little from the experiences of China. Poor delivery of basic social and infrastructural services for the poor in large parts of the country in education, health, drinking water and irrigation, and more cuts at the roots of the capability to sustain competition that opening of the economy to the world would warrant thwart the pace of globalization. Education does not go in for enhancement of productivity. On account of social heterogeneity and economic inequality the social and political environment in India is conflict-ridden. Yet, India's corrupt governance - the soft state - as well as hypocritical and pseudo-socialistic entertainment of efforts to deliver social justice since the Nehruvian days is well-documented (Myrdal, 1973). Resistance to reforms also comes from the environmentalists. Bardhan concludes that the "opposition to economic reform thus reflects not just the lingering nostalgia for old-style Fabian socialism that the financial press likes to lampoon. The roots go much deeper, into the various distributive conflicts throughout Indian society." Globalization in India is under a strong spell of hysteresis.

The Financial Express Economic Bureau (2008) observed that India has been more restrictive than similar developing economies, such as Brazil, China, and Russia. Populism and electoral politics were the main reasons for industrial stagnation of many state economies. Acemoglu and Yared (2010) rightly observe that openness to trade is still a political choice. This suggests that changes in domestic political equilibria might introduce limits to the process of globalization. In spite of all proclamations, unless the political will to globalization is there, globalization cannot progress much further. However, such a political will has not been strong in India. India has remained protectionist of vested interests of politicians, industrialists, business houses and perhaps the intelligentsia (Rudra, 1989), a coalition of the dominant proprietary classes that benefit from the status quo (Bardhan, 1984) or stagnancy of the Indian economy and society.

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## Appendix

Country	Armenia		Azerbaijan		Estonia		Georgia		Kazakhstan		Kyrgyz Rep.	
Year	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC
1991	27.04	34.64	24.71	21.77	41.46	50.23	27.34	31.97	31.48	32.66	31.33	31.90
1992	28.49	36.17	28.76	25.49	43.10	52.33	30.23	34.44	32.82	34.03	34.61	35.08
1993	29.29	36.92	29.31	25.97	46.11	55.22	31.83	35.81	31.92	33.82	34.85	35.37
1994	31.34	39.05	28.12	25.27	49.59	58.42	32.95	36.82	34.75	37.92	37.33	37.58
1995	33.54	39.77	29.61	26.59	61.52	70.43	32.30	36.56	38.29	40.79	39.42	38.98
1996	35.25	40.73	33.74	30.29	63.71	72.55	32.32	36.13	39.42	41.65	40.32	39.50
1997	36.82	41.91	36.83	33.92	68.64	77.23	32.51	31.98	41.00	42.56	42.36	41.14
1998	37.77	41.72	37.57	34.19	68.88	76.28	33.42	33.00	41.67	41.97	47.92	46.23
1999	41.78	43.40	41.97	37.37	69.93	76.62	40.93	40.21	45.13	43.96	50.62	48.53
2000	45.48	44.44	46.12	39.93	71.87	77.82	43.40	41.20	48.95	47.16	52.62	49.05
2001	45.82	44.82	47.41	41.07	72.77	78.34	44.81	42.56	50.20	48.48	51.40	47.89
2002	45.33	45.13	50.23	42.98	73.74	78.04	46.58	43.12	50.66	49.06	50.84	47.37
2003	46.32	46.38	49.82	45.58	74.86	79.25	47.60	44.47	51.82	50.04	48.17	44.87
2004	48.19	49.01	53.71	46.95	76.81	80.99	49.60	47.98	52.22	51.01	50.55	45.85
2005	49.80	50.89	54.89	47.93	76.32	80.07	49.91	48.30	52.86	50.99	51.33	46.41
2006	51.02	52.80	55.20	48.77	77.04	79.35	53.20	53.03	53.13	51.31	56.09	50.72
2007	51.24	53.15	57.02	51.14	77.93	79.96	57.88	59.21	56.67	53.84	57.50	52.90
2008	51.11	52.42	56.19	50.73	78.05	80.07	59.60	60.58	57.07	53.65	55.04	50.42
2009	52.32	52.13	55.35	49.25	77.75	79.53	60.38	61.27	56.74	53.37	53.72	47.93
2010	53.15	51.92	56.00	50.27	78.58	80.35	62.01	61.59	56.26	52.62	54.42	48.30
2011	52.67	50.75	56.41	50.88	78.67	80.18	62.44	62.51	56.75	52.88	55.12	49.56
2012	57.13	54.83	57.32	51.98	78.90	80.32	63.58	63.56	58.97	56.40	53.58	48.59
2013	58.44	56.29	57.50	52.13	78.30	79.07	64.21	64.88	53.20	50.05	55.79	50.86
2014	58.89	56.95	56.22	50.61	79.27	80.65	64.13	64.61	56.08	52.26	53.64	47.76

Country	Latvia		Lithuania		Moldova		Tajikistan		Ukraine		Albania	
Year	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC
1991	38.60	44.06	35.34	37.40	29.45	34.24	23.22	22.93	29.97	30.37	28.94	27.11
1992	39.30	45.40	36.65	38.98	31.05	35.65	21.67	21.67	34.76	35.39	36.91	34.35
1993	40.66	45.63	38.20	40.48	30.98	35.84	26.99	26.51	36.87	38.33	35.57	33.42
1994	46.49	50.88	44.23	46.05	33.50	37.81	28.67	27.04	41.04	43.11	37.54	35.82
1995	48.88	53.99	48.32	51.43	36.07	39.94	30.75	28.86	44.90	45.30	40.43	39.37
1996	51.78	56.66	55.62	58.49	39.97	42.17	31.52	28.42	47.10	46.94	36.23	35.02
1997	55.02	59.34	59.00	61.26	45.27	45.35	32.14	28.93	54.01	53.10	39.99	38.92
1998	56.07	60.56	60.30	62.78	48.90	46.94	32.29	29.06	55.69	53.87	40.92	39.72
1999	57.27	62.02	61.19	63.92	49.65	46.64	33.58	29.99	57.87	55.79	39.16	39.24
2000	57.32	62.48	62.84	64.76	52.29	48.28	34.53	29.92	60.51	58.48	40.01	40.57
2001	58.16	63.48	64.21	65.61	52.25	47.76	33.98	29.45	59.16	56.53	44.69	45.49
2002	59.33	63.90	65.72	66.75	52.55	47.90	34.86	30.54	59.38	57.16	48.49	48.83



2003	60.39	64.30	67.14	67.55	58.40	53.57	36.76	32.57	60.03	57.56	46.12	46.68
2004	65.75	67.96	69.43	69.62	58.44	54.51	35.48	31.44	61.33	59.03	43.30	45.19
2005	66.94	69.60	69.88	69.85	57.84	54.53	35.19	30.92	62.86	61.13	47.19	48.44
2006	68.77	70.52	70.89	70.00	61.13	57.27	37.21	31.69	63.45	61.69	51.18	51.18
2007	69.54	72.16	72.81	72.00	64.04	59.58	38.00	32.31	65.43	63.35	54.87	54.70
2008	68.92	71.43	72.23	71.39	63.40	59.15	42.00	36.48	66.53	64.66	57.98	57.72
2009	65.55	68.64	68.52	67.37	62.08	56.77	41.82	36.17	68.25	65.50	61.60	61.68
2010	68.90	70.86	71.77	69.49	61.81	56.49	42.51	36.83	67.70	64.41	61.41	60.93
2011	69.59	71.51	72.88	70.95	62.62	56.98	43.23	37.75	68.29	65.05	58.11	57.17
2012	70.53	71.27	72.53	70.46	61.71	56.22	45.26	40.53	69.07	66.22	54.29	53.57
2013	70.27	71.15	77.08	74.16	61.63	55.67	43.39	37.35	70.26	67.48	57.00	55.62
2014	71.45	73.41	77.47	75.61	61.39	55.64	42.87	37.29	70.24	66.36	60.65	60.61

Table-A.3. KOF and AEMC Indices of Globalization of Eastern Bloc Countries, China and India 1991-2014												
Country	Bulgaria		Czech Rep.		Hungary		Poland		Romania		Bosnia&Herzg	
Year	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC
1991	37.60	36.31	64.56	66.22	62.18	66.86	53.13	54.42	36.31	35.80	24.78	22.86
1992	44.99	43.20	64.56	66.22	65.91	68.99	59.00	58.87	37.31	37.07	24.78	22.86
1993	45.81	44.57	64.56	66.22	69.11	71.98	62.34	61.93	38.71	38.53	29.08	27.31
1994	46.82	44.62	66.94	68.62	72.34	75.12	63.00	61.70	41.94	40.86	29.71	28.03
1995	53.93	50.85	69.84	72.17	74.98	76.52	65.26	63.33	47.42	45.06	30.33	29.51
1996	57.71	54.06	71.00	72.76	76.99	78.79	66.28	64.74	50.48	48.09	32.33	34.16
1997	58.06	55.39	73.71	74.89	79.13	79.82	68.47	67.57	53.93	50.77	35.03	37.45
1998	58.89	56.97	74.70	76.40	80.90	81.09	71.22	70.32	55.74	53.24	36.84	38.83
1999	63.29	60.78	76.74	78.79	82.11	82.60	72.23	71.92	57.83	55.72	40.54	41.66
2000	66.20	63.03	78.79	80.69	82.34	83.47	73.51	74.23	62.48	59.40	46.89	47.30
2001	63.71	58.79	79.24	80.12	82.19	83.11	70.96	70.03	59.54	55.85	49.94	48.13
2002	63.27	57.43	80.23	81.44	81.33	81.86	72.26	71.00	61.65	57.08	51.10	48.43
2003	65.40	59.75	80.46	81.22	81.66	81.96	74.06	72.76	62.27	58.31	52.44	49.57
2004	68.18	64.11	83.06	84.50	85.35	86.73	79.71	77.95	65.24	61.29	54.59	51.38
2005	66.74	62.30	83.57	85.08	85.16	86.14	78.01	76.06	66.59	63.80	54.61	50.21
2006	70.56	66.25	83.79	84.41	86.55	86.55	79.67	77.08	66.50	62.08	60.38	58.43
2007	73.85	69.79	85.05	86.30	86.61	86.74	81.15	78.51	75.81	73.66	61.30	59.04
2008	73.06	69.05	84.37	86.34	86.51	86.48	79.82	77.69	74.92	73.33	60.09	56.39
2009	71.09	67.51	84.10	85.36	86.99	86.99	80.45	77.37	74.40	72.92	60.28	57.34
2010	70.59	67.96	83.80	84.57	86.74	86.87	79.46	76.16	73.51	71.74	61.77	59.03
2011	70.29	67.93	83.16	83.36	86.05	85.79	78.67	75.06	72.65	69.92	66.60	62.72
2012	75.57	72.44	83.72	84.09	85.85	85.19	79.38	75.70	74.09	70.49	66.53	62.12
2013	76.98	74.29	83.16	83.53	85.84	85.41	80.34	76.85	75.29	72.02	66.12	61.54
2014	76.89	74.57	84.88	86.24	86.55	86.83	81.32	78.56	76.51	74.55	66.56	62.33

Table-A.4. KOF and AEMC Indices of Globalization of Eastern Bloc Countries, China and India 1991-2014												
Country	Montenegro		Serbia		Slovenia		Russian Fed.		China		India	
Year	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC	KOF	AEMC
1991	53.42	55.23	45.38	49.25	40.02	45.53	42.74	39.83	38.29	33.12	31.92	27.84

1992	53.42	55.23	45.75	50.22	43.50	49.21	46.27	42.86	39.80	34.35	33.43	29.46
1993	53.42	55.23	45.69	50.52	47.59	53.04	50.50	47.59	41.12	35.61	34.91	30.71
1994	53.42	55.23	41.55	46.59	51.08	57.34	51.50	48.15	41.46	36.04	35.66	31.27
1995	53.42	55.23	41.72	46.99	52.85	59.34	53.94	50.37	43.97	37.58	37.34	32.06
1996	53.42	55.23	42.28	47.43	58.04	62.01	54.74	50.29	44.89	38.22	41.34	35.45
1997	53.42	55.23	42.51	47.53	64.16	68.32	56.02	50.97	45.94	39.04	41.75	35.61
1998	53.42	55.23	43.17	48.05	65.92	70.29	58.20	51.75	52.09	43.83	42.50	35.98
1999	53.42	55.23	41.31	44.51	66.44	71.26	58.35	52.74	54.21	45.66	43.20	36.52
2000	53.42	55.23	44.29	46.34	67.93	72.88	64.49	57.50	56.35	48.53	44.54	37.60
2001	53.42	55.23	45.46	47.31	67.51	70.29	67.00	59.06	57.16	49.11	45.24	38.17
2002	53.93	55.59	51.63	53.49	68.30	71.00	68.60	61.30	55.72	46.31	45.84	38.49
2003	53.77	55.48	54.82	56.06	70.94	74.67	69.61	61.56	56.67	47.71	46.80	39.78
2004	52.92	54.86	55.84	55.69	74.71	78.52	69.16	61.85	58.88	51.01	46.98	39.86
2005	53.93	55.59	52.32	51.36	74.72	78.48	69.32	62.02	60.85	53.07	48.89	42.34
2006	54.13	55.70	61.29	58.66	75.82	78.63	69.43	61.13	60.31	51.47	50.22	42.24
2007	57.31	60.42	63.23	60.75	78.18	80.37	70.21	62.05	61.32	53.16	51.38	43.64
2008	58.26	62.29	63.14	60.52	78.46	80.55	67.50	59.20	60.27	52.06	51.05	43.65
2009	60.18	64.55	62.92	60.18	76.79	78.83	69.35	60.97	60.57	52.39	50.94	43.31
2010	60.46	64.15	63.84	60.47	76.64	78.50	68.58	61.82	61.05	52.16	51.15	43.25
2011	65.48	67.45	65.07	60.98	76.55	77.76	67.63	61.14	60.35	50.96	51.29	43.18
2012	64.54	65.62	67.15	62.59	76.18	76.90	68.14	61.86	60.42	51.23	51.80	43.57
2013	65.26	65.52	68.49	64.01	76.00	76.92	68.88	62.77	61.14	52.42	51.51	43.09
2014	64.59	64.18	69.49	64.90	76.91	78.94	68.25	61.90	62.02	53.82	52.38	44.42