

Foreign Affairs, Defence and Trade Committee
Joint Strike Fighter Inquiry
Department of the Senate
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Chairman and Committee Members

THE PLANNED ACQUISITION OF THE F-35 JOINT STRIKE FIGHTER

Please find attached my submission to this Inquiry. I address Terms of Reference E and F

Yours sincerely

Civil Servant

Attachment : JSF Inquiry Submission

Term of Reference E – potential alternatives to the strike fighter

The Joint Strike Fighter (JSF) imbroglio has been ongoing now for over a decade since then Prime Minister John Howard cancelled the AIR6000 project and committed Australia to purchasing the JSF at a price and with capabilities to be determined at a future time. Senior Defence leadership at the time shut down any discussion of alternatives to what was then merely a concept proposal. Not long afterwards Australia was told that we would be purchasing a superlative radar evading combat aircraft at a bargain price of around USD\$35M per unit. The JSF is now circa USD\$120M, is not superlative and the stealth characteristics are heavily compromised.

As evidenced by two White Papers, various public comments, and a decade of silence on regional developments, Defence¹ also shut down any serious trends analysis or real evaluation of the techno-strategic environment in the Pacific Rim relevant to the JSF project. For reasons I do not fully understand Defence related organisations such as the Australian Strategic Policy Institute also failed to grapple with the issues in the JSF imbroglio.

In the intervening decade it is has fallen to the expert community outside Defence, former service personal and policy analysts such as myself to undertake the essential analysis in the public interest that Defence has failed to undertake. In this endeavour independent think tank Air Power Australia has taken the lead by (among other things) producing peer review scientific analysis and placing it in the public domain. This small but well qualified and internationally networked group has undertaken this sustained effort in their own time and at their own expense for over a decade. The monetary value of this work if undertaken at commercial rates is difficult to estimate but over ten years would be significant. Its contribution to the future defence of Australia is inestimable. I draw the Committee's attention to four pertinent facts:

1. All the predictions made by Air Power Australia (APA) in the last decade have come true
2. All of these predictions run contrary to public statements by Defence
3. Defence has refused to engage meaningfully with any analysis conducted by APA or other subject matter experts, the media, or Parliament

¹ In referring to 'Defence' I am referring to those parts of the Department of Defence including the NACC Office, whose role was to select a combat aircraft to replace the legacy Hornets. I am not implying that each and every serving member agrees with all the decisions relating to the JSF. Rather than dwell on organisation structures I refer to 'Defence' for convenience and ease of reading.

4. It has fallen to the Australian Parliament to provide a forum where rational discussion of this issue of vital public interest can take place albeit without meaningful input from Defence

As a result of the efforts of APA and many others there is now a very large volume of well researched material in the public domain on the JSF and related matters. This material deserves to be researched and understood by the Committee.²

In brief, what this material proves beyond any reasonable doubt is that:

- The assumptions underpinning air power planning circa 2000 are now entirely obsolete
- The JSF is not survivable in the air power environment in the Pacific Rim now, far less in coming decades
- The Superhornet is not survivable in the air power environment in the Pacific Rim now, far less in coming decades
- The JSF is unaffordable, unreliable and unsupportable
- The premature retirement of the F-111, HUG upgrade, and purchase of the Superhornets has wasted billions of dollars, thrown away much of the RAAF strike capability and deprived Australia of regional air superiority
- These decisions were made based on false assumptions about the capability and availability of the JSF
- This disaster occurred because no systematic analysis was undertaken of alternatives to the JSF, or of reference threats, or of the strategic environment, by Defence
- The F-22 is capable of meeting current and future reference threats and is the best platform for doing so currently flying
- The F-22 is survivable, affordable, supportable and available
- The F-22 has a sustainable development path

The F-22 production process has been documented and photographed and the production tools remain intact.³ It is highly likely that in the next five years this line will be restarted for the simple

² A good starting point would be the submissions to the Joint Standing Committee on Foreign Affairs, Defence and Trade *Inquiry in to Regional Air Power Superiority*. See also submissions to the *Review of the Defence Annual Report 2010 – 2011* by the same Committee.

³ See further: http://www.rand.org/pubs/technical_reports/TR831.html

reason that the USA cannot afford to lose the air advantage it has enjoyed since the end of World War Two and over investment in the JSF guarantees that this advantage will be lost.

Australia should vigorously pursue the option of re-starting the F-22 assembly line and purchasing a credible number of these aircraft. Apart from meeting Australia's need for a capable combat aircraft this option has a number of other advantages. They are:

- Ability to 'punch above our weight' in the alliance
- More meaning full defence ties than ' we will buy whatever you tell us to'
- Development path for decades into the future
- Future option of migrating some of the technology from the JSF program into a superior platform
- Weapons commonality with the Superhornet

In this scenario the Superhornets would be tasked to close air support of the army, and to naval strike, under top cover from the F-22. This would leverage our current (if misguided) investment in the Superhornets, and better reflect the role for which they were designed.

The obstacles to obtaining the F-22 are political not legal or technical. However if the F-22 cannot be purchased by Australia a Plan-B is required that does not involve more Superhornets. There are no stand-out candidates because the future air power world will be high agility stealth vs stealth supplemented by anti-stealth radar and long range surface to air missiles. Never-the-less sufficient numbers of 4++ generation⁴ fighters may plug the gap until the USAF obtains and Congress approved export of a competitive stealth fighter (F-22, new design, or F-22 derivative). This takes us back to AIR6000 but with the benefit of a decade of hindsight.

In the context of a Plan-B, I draw the Committee's attention to the Grippen and submission 8 by Mr David Archibald. I also draw the Committee's attention to the fact that absolute numbers of aircraft matter. This is significant because, as noted by Mr Chris Mills (submission one) the relationship between aircraft numbers and capability is non-linear with capability increasing exponentially with numbers.

⁴ '4++ generation' refers to high capability combat aircraft that typically have some signature reduction but lack stealth. Examples are Typhoon, Grippen, and the 'Silent Eagle' latest iteration of the F-15. Late model Sukhoi and their Chinese derivatives are also 4++ aircraft. Whether the term '5th generation' has any meaning is controversial but all aspect stealth, extreme agility and sensor fusion are the characteristics referred to as 5th generation. The JSF is neither. The American F-22, Russian T-50 and Chinese J-20 are 5th generation designs.

Fewer numbers therefore requires exponentially greater capability. This can be provided for, to an extent, by the F-22.

Less capability can be compensated for with higher numbers to a point. This can be provided for, to an extent, by 4++ generation aircraft.

Fewer numbers and less capability guarantees failure. This is the JSF option.

In the first two scenarios there are hard limits and this points to the need for robust and independent modelling of all options.

This is important because Australia has a cost envelope within which an air defence capability must be purchased, and that envelope is shrinking. In that context we also need to re-think the assumption that purchasing the 'right' aircraft will guarantee air superiority. Given the vastness of our territory and a shrinking economic and industrial base, it may not be possible to fully defend our territory without also investing in a land based mobile surface to air missile capability. This capability would be tasked to defence of key military, industrial and civilian assets across the North. Note that Russia and China also have vast territories and limited (if growing) budgets and have opted for this mix, as have their clients. Even the USA has ground based systems (though they are markedly inferior). The reason is that SAM systems are very cost effective force multipliers. In the regional context there are many competitive products available on the open market. In many ways it would complete the 'network of networks' concept spruiked by Defence of linking JORN, Wedgetail, and the Aegis destroyers to get a better picture of the battle space. A 'network of networks' in no way obviates the need for a capable fighter aircraft, but if we are to do justice to the concept we need to include mobile ground based radars and ground based air defence systems in the mix.

Therefore the best alternatives to the JSF are the F-22 with close air support provided by existing Superhornets. *If the F-22 is not available* the only other credible option is 4++ fighters pending future acquisition of a genuine stealth fighter, with close air support of ground forces provided by existing Superhornets. In either case investment in ground based mobile surface to air missile systems will assist, but this is most relevant to the second option.

Term of Reference F – any other related matters

I would like to discuss how the project to replace the legacy Hornets should have proceeded, how it did proceed, what we can learn, and what needs to be done now. In considering what should be done now I briefly address other positive actions that are necessary and achievable to secure the country.

What Should Have Happened

Australia should have refused point blank to pay USD\$300M to purchase the option of buying the JSF. This was an unreasonable request from any vendor and is an abusive way to treat allies.

The AIR6000 project should have continued on the basis of proven project management methodology for complex technology acquisition in accordance with relevant ISO standards. This project should have been peer reviewed internally and oversighted externally. In addition independent boards comprising subject matter experts should have been established to critique Departmental analysis and provide alternative view points from the expert community. These boards should have been independently funded and should have reported directly to the Minister.

Under this process the F-22 should have been robustly considered. The F-22A was available to Australia prior to the closure of AIR 6000. The JSF project should have been under 'keep watch' status to assess its likely outcomes in terms of cost, capability, availability and sustainability. All other options should have been considered including the Euro canards and the Sukhoi.

The time frame for the project should have been fixed based on the operational life of the legacy hornets.

Standard project management methodology would have required:

- A robust analysis of reference threats including:
 - The appearance in our region of advanced stealth designs
 - The arrival of late model Sukhois to our immediate north
 - The advent of advanced cruise missiles and UAVs
 - Electromagnetic pulse weapons
 - The operational/tactical impact of Russian air to air missiles and their derivatives

- Proliferation of advanced surface to air defence systems
- A robust assessment of capabilities required to defeat reference threats
- A systematic search for those capabilities
- An investigation of issues around availability, sustainment, and intellectual property
- An indicative cost envelope
- An assessment of force multipliers such as:
 - Absolute numbers of aircraft
 - AEWACs
 - Surface to air missile systems
 - Networking capabilities
 - Air to air missile capabilities (AIM 120 vs Meteor etc)
- A discussion of options within the cost envelope
- A detailed risk analysis

This process would have led to one or more recommendations based on detailed modelling within various cost envelopes and in various scenarios. All of the assumptions and results should have been robustly contested externally. In addition the AIR6000 team (or equivalent) should have continued to undertake an environmental scan. This would have captured the ongoing failures in the JSF project, the concerns of Congress in relation to the JSF, and results such as the RAND analysis which modelled a USAF vs Chinese air force conflict pitting JSF against Chinese Sukhois which famously reported that the JSF were “clubbed like baby seals.” The process described above is rational, scientific, robust, and as open as possible. It is the one most likely to lead to the best outcome.

This analysis would almost certainly have led to a recommendation that Australia purchase the F-22 in the time frame required to avoid having to purchase ‘stop gap’ aircraft. This analysis would also have likely recommended retaining and evolving the F-111.

Had this recommendation been adopted Australia would now be flying a F-22 and F-111 force mix guaranteeing regional air superiority at less cost and with far less program risk than the JSF/HUG upgrade/Superhornet/whatever else happens/ option.

What Actually Happened

AIR6000 was cancelled and USD\$300M of the national treasure was handed to Lockheed Martin to buy the option of buying. Defence attended briefings on the JSF in the USA but refused point blank to consider the F-22A option which was being offered to Australia at that time. The French delegate representing Rafale was sent home. Defence then ran a dishonest campaign against both the F-22 and the F-111 falsely claiming that:

- *The F-22 was not available to Australia.* In fact Australia needed to make a formal request but the USAF had an option for Australia pending a request and Congressional support.
- *The F-22 was not capable of close air support or naval strike.* In fact the F-22 was flying around with DJAMs at the time.
- *The F-22 was prohibitively expensive.* In fact the F-22 then was roughly the same price per unit as the JSF is now.
- *The F-111 failed a fatigue test and was no longer safe to fly.* In fact the F-111s were good for another 10,000 flying hours and had a plentiful supply of cheap spare parts from retired aircraft in the US.

Defence later dug holes and buried the F-111s rather than keeping them in storage. The F-111s represented Australia's primary strike capability at the time and were world class in that role.

Defence then analysed the capabilities of the JSF against reference threats from the 1980's based on unproved assumptions about what the aircraft would be able to do in the future. When alternative modelling showed the JSF in a poor light Defence claimed secrecy.

Defence then ran a publicity campaign spruiking the JSF which used verbatim statements from the Lockheed Martin publicity office. None of these statements were based on verifiable analysis. In the face of mounting criticism from the expert community in general and APA in particular Defence resorted to on sequitur reasoning to justify their pre-determined position. This included:

- Appeal to the herd – 'other (mostly European) nations are buying it so it must be the right plane for Australia'
- Appeal to authority – 'what we decide must be right because we decide it' (see appendix one)
- Appeal to secrecy – 'we have received a classified briefing that disproves all the contrary analysis in the open source literature but we can't say how because it's secret'

- Appeal to emotion – ‘pilots would rather be in this plane than anything else – it’s the latest best thing from America and we would be missing out if we don’t have it’, etc

In appendix one I provide an example of Defence illogic in correspondence to me.

In the face of voluminous detailed analysis from industry experts provided to the Australian Parliament via Parliamentary Committee, Defence provided two pages of ‘motherhood’ statements about how great the JSF was going to be.

Defence failed to acknowledge the existence of new advanced stealth designs and highly capable aircraft such as the Sukhoi 30+ series over the last ten years. Since they did not acknowledge their existence it is unsurprising that they failed to analyse the implications for an aircraft as limited as the JSF was turning out to be.

However Defence could not make the JSF actually materialise and the predicted (by APA) slippage in delivery time frames created pressure for a replacement ‘stop gap’ until the JSF would eventually arrive. By processes that remain mysterious the Superhornet was selected and purchased. Bizarrely Defence then claimed that the Superhornet could meet “all present and future threats” but insisted that Australia also buy the JSF. Defence went to some trouble explaining how the Superhornet was better than its replacement. To my knowledge Defence has never even attempted to explain how the Superhornet is better than Indonesia’s Sukhois or Malaysia’s MIGs. Perhaps talking about reference threats would set a dangerous precedent.

During this time the relationship between Lockheed Martin and Defence appeared to be very close. Then Defence Minister Dr Brendan Nelson publicly stated that he wished to work for Lockheed Martin when he retired. ***So an Australian Prime Minister cancelled a competitive process and chose a sole contractor for an aircraft that had not yet been built. An Australian Defence Minister then stated that he wished to work for the sole contractor.*** I will be unsurprised if some key Defence personal do not also take up well paid positions with that company should the JSF be purchased by Australia.

A series of leaks⁵ and Congressional disclosures have trashed the aircraft's performance and in effect accused Lockheed Martin of malfeasance over the project. Canada later withdrew from the project altogether following an outcry over misleading aspects of the program. In Australia support from Defence remains 'rusted on'.

In terms of methodology therefore Defence has adopted the following formula:

(Total money available) / (whatever LM want to charge for the JSF) = number of JSF purchased

Therefore:

[(Number of JSF purchased) x (whatever capability the JSF happens to have)] + [(whatever the Superhornets can do)] – (offensive capabilities of potentially hostile nations) = the future security of our children.

Since the present and future offensive capabilities of potentially hostile nations are rather formidable sovereignty is now at risk.

This has happened because a failure to adopt standard project methodology created a vacuum which allowed the sole contractor to suborn key decision makers in Defence who in turn suborned a series of weak and ineffective Ministers in order to deliver the outcome desired by the sole contractor.

What Needs to be Done Now

1. Australia should immediately and forever cancel its involvement in the JSF project
2. Australia should immediately engage in discussions with authorities in the USA about re-starting the F-22 production line.
3. All the positions which are currently occupied by Defence employees who in the last ten years have occupied decision making positions with respect to:
 - purchase of the JSF
 - purchase of the Superhornet

⁵ See for example Vanity Fair: <http://www.vanityfair.com/news/2013/09/joint-strike-fighter-lockheed-martin>

- destruction of the F-111

should be abolished. Employees currently in those positions should be thanked for their service and politely shown the door. There must be no re-deployment.

4. The current recommended restructure of the Department of Defence should be pursued with vigour.
5. The AIR 6000 project must be re-started and proceed in the manner described under “what should have happened” with the addition of a comprehensive review of the relevant literature that has been created over the last decade including the work of APA. Key to the success of this project will be the involvement of independent expert review boards reporting to the Minister, and a willingness to hire expert analysis where none exists within Defence.
6. Australia has a number of key defence vulnerabilities which also need to be considered:
 - a. airbase vulnerability to cruise missile and EMP attack
 - b. fuel storage
 - c. fuel availability
 - d. foreign ownership
 - e. training and maintenance
 - f. lack of finance

Airbase vulnerability:

The ongoing development and proliferation of cruise missiles and the development of electromagnetic pulse weapons poses a clear threat to our open plan airfields. These need to be hardened both physically and electronically. I have written already about the need for ground based mobile surface to air missile systems to protect key installations across the North.

Fuel storage:

The RAAF must have sufficient fuel to operate a protracted campaign in the event of lengthy hostilities. While it is assumed that a shooting war will be short lived, a military stand-off could be lengthy and place considerable pressure on the RAAF. Fuel stores are vulnerable to cruise missiles, sabotage, and can be run down quickly. These issues need to be considered and addressed.

Fuel availability:

Australia no longer refines its own oil, preferring to import refined oil from Singapore via long and un-defendable sea lanes. Currently Australia has less than a week of oil in storage. In the event of a naval blockade Australia will face social and economic breakdown in around ten days. The ADF will be relying on fuel at its depots. Fuel security needs to become a key plank of any national security/defense plan.

Foreign ownership:

Foreign ownership of key infrastructure such as the Port of Darwin, and much of Australia's best agricultural land, carries obvious risks. These assets need to be returned to Australian ownership.

Training and maintenance:

In a protracted stand-off Australia needs enough of everything to maintain a fighting force. That includes spare parts, fuel, oils, and enough qualified technicians and pilots. A 'thin' force focused on coalition operations overseas is not sufficient. It takes time and clear training and career paths to build this kind of depth. This needs to be considered as an integral issue rather than tacked on to the end of the rather more 'sexy' business of buying expensive platforms.

Lack of finance:

There is an assumption that the world economy is 'normal' and the Australian economy will continue to perform as normal subject to economic cycles. Consequently there is an assumption that defence spending can be sustained. In reality the world economy is facing structural crisis and it will be increasingly difficult for small peripheral economies like Australia to sustain public spending. There is an extensive literature on this but I attach one article at appendix two. I have chosen this article because it is concise and readable and covers most of the main points.

In the emerging economic environment of the early 21st century there is no possibility that Australia will be able to afford to purchase and operate 100 JSF, a fleet of Aegis air warfare destroyers, and eight to 12 submarines. Random cuts to these programs will leave Australia with a highly unbalanced force structure in which we have a relative handful of outclassed but super expensive aircraft, a random collection of submarines and surface combatants, and less than fifty operational battle tanks. If a lethal and affordable ADF is to be sustained in the coming decades some serious re-thinking is required now.⁶

⁶ See further here: <http://findinghomebookspace.blogspot.com/2013/09/defence-force-pornography-meets-real.html>

Concluding Observations

If in the early 1930's you had suggested that within 20 years the British Empire would cease to exist, the Japanese would have run rampant across the Orient, their advanced aircraft would be bombing Darwin, and Australia would be facing national annihilation involving mass rape and slave labor, you would have been considered unhinged. But that is what happened.

If today you suggest that within 20 years the American Empire would be eclipsed, China would run rampant across South East Asia, and Australia would be fighting for its survival against northern opportunists, you are likewise considered alarmist. However if history teaches us anything it is that we should always be prepared.

Then as now a failure of planning and analysis left Australia without a credible air combat capability. We might not be so lucky next time.

Appendix One

In 2005 I wrote to the Department of Defence expressing a number of concerns about the JSF and noting a lack of comparison to reference threats and a lack of analysis of other aircraft options. I received a written response from (then) Air Commodore John Harvey which includes the following statement:

“Defence has up to 40 DSTO scientists working full time on detailed technical analysis of the JSF and how it will perform when integrated into the future networked ADF. In addition, RAAF pilots are involved in high fidelity simulation exercises to assess the capability of the JSF against advances (sic) threats – both from the air and from the ground – including threats that won’t be fielded for many years to come. All this activity reinforces Defence’s view that the JSF, integrated into the future networked ADF, will provide the air combat capability that Australia needs well into the future.”

This statement reveals an astonishing level of intellectual vacuity that says much about the NACC program office. Consider the following:

Defence has up to 40 DSTO scientists working full time on detailed technical analysis of the JSF....but none working on any comparison of other aircraft that might perform better against known reference threats. Note that in 2005 the JSF was still a ‘paper plane’ and most of its performance was speculative.

...and how it will perform when integrated into the future networked ADF. Note: “when” not “if”. So by 2005 Defence had already chosen the JSF. Why? Why were 40 scientists studying a plane after it had already been selected? What did they hope to discover?

In addition, RAAF pilots are involved in high fidelity simulation exercises to assess the capability of the JSF against advances (sic) threats The reference threats were not specified nor the results. While detailed results would be classified it is significant that Mr Harvey did not state that the JSF had been modelled against the Sukhoi 30 series in realistic scenarios and prevailed.

All this activity reinforces Defence’s view that the JSF, integrated into the future networked ADF, will provide the air combat capability that Australia needs well into the future. So Defence is sees its own enthusiasm for the JSF as proof that it is the right aircraft.

Appendix Two

The following article has been abbreviated. The full text is available here:

<http://jonkofas.blogspot.com.au/2016/01/anything-but-bitter-truth-structural.html>

... If one takes seriously the mainstream media coverage, listens to market analysts, politicians, journalists and pundits, the inevitable conclusion is that fault for the economic problems rests in anything but gross socioeconomic inequality, and the income and wealth inequality on a world scale. It is simply astounding to read and hear that the fault of the global markets tumbling rests with everything except the structural flaws within the system that includes the following:

1. Wealth concentration: ... Sixty-two people own more wealth than 3.6 billion of the world's bottom-tiered income population; Four Americans own as much wealth as 40% of the US bottom-tiered population. “A global network of tax havens further enables the richest individuals to hide \$7.6 trillion. The fight against poverty will not be won until the inequality crisis is tackled.”

https://www.oxfam.org/en/research/economy-1?utm_source=oxf.am&utm_medium=Znhx&utm_content=redirect

2. Artificial dollar value as a hard currency losing its preeminent global status,
... US currency manipulation through the Federal Reserve and imposing monetary austerity on most of the underdeveloped countries through the IMF, thus keeping capital concentrated in the core nations, has kept the dollar artificially high to the detriment of other economies using the dollar as a hard currency to trade. Because of China's rise to a preeminent global economic status and the increasing skepticism on the part of many countries about the value of the dollar as a hard currency that only helps the US, we have more diversification in the basket of hard currencies under the IMF Special Drawing Rights than ever before (euro, yen, British pound and Chinese yuan).

This could (and very likely will) lead to the fact all foreign central banks will dump part of their dollars to buy the Chinese currency in the future, thus flooding the currency market with dollars and reducing the purchasing power in the US. This would also mean that the era of cheap borrowing costs would eventually come to an end and lower living standards for Americans saddled with massive public and private sector debt, thus precipitating more and deeper cyclical economic crises. <https://reason.com/archives/2012/09/13/occupy-the-fed>; <http://www.zerohedge.com/news/2015-05-06/usa-manipulating-its-own-currency-important-imf-meeting>

3. High structural unemployment in the US and EU is twice the official rate.

When combined with underemployment the fulltime working population drops between two-thirds and three fourths. Meanwhile, there has been an assault on labor unions and organized labor in general as much in the US as in Europe. Ever since the Reagan-Thatcher decade of the 1980s, neoliberal policies became prevalent and governments determined that labor rights, especially collective bargaining, impede capital concentration. The so-called US “right-to-work” laws and their versions in other countries that the IMF has been pushing are nothing but another way of driving wages down as low as possible; all of it made possible because government yields to corporate demands.

http://useconomy.about.com/od/suppl1/f/real_unemployment_rate.htm;

http://www.salon.com/2015/03/25/noam_chomsky_blasts_the_assault_on_labor_right_to_work_means_right_to_scrounge/

4. Geographic wealth concentration. The G20 own more than 80% of the world’s wealth.

When rich countries account for 90% of overall global financial assets – stocks, bank assets and insurance - the rest of the world suffers and helps to contribute to low consumption that accounts for the crisis of overproduction. (Michael Hudson, Super Imperialism: The Origin and Fundamentals of U.S. World Dominance; <https://www.gfmag.com/global-data/economic-data/wealth-distribution-income-inequality>).

After WWII, the US recognized that its own economy would lapse into recession quickly

unless the US helped to strengthen the economies of Europe and Japan, as major trading partners, albeit for geopolitical considerations as well. Although the international political economy of the early 21st century does not resemble that of 1945, disequilibrium on a world scale owing to centralization of capital in the core countries poses a threat to the entire capitalist system. (Mario Baldasari et al. eds.. Global Disequilibrium in the World Economy)

5. IMF austerity policies and the integration patron-client integration models ... have resulted in massive transfer of wealth from the periphery to the core.

What the IMF, backed by the World Bank, OECD, the FED and all central banks, calls “structural adjustment” results in essence of wealth transfer from the debtor nations in the periphery – essentially non-Western nations, but also Southern and Eastern Europe – to the core countries. <http://richmondvale.org/blog/structural-adjustment-a-major-cause-of-poverty/>; <http://knowledge.wharton.upenn.edu/article/does-austerity-work-or-does-it-make-things-worse/>;

6. Tax havens for corporations and the rich. Corporate and individual money amounting to several trillion dollars (as much as \$10 trillion by some estimates) that is sitting in tax havens. Little of this money is absorbed back into the economy, and the failure of governments to absorb surplus capital from the private sector to use it to stimulate economic growth and expansion based on a horizontal model of development – benefiting the broader middle and working class. When the top 500 US corporations have sheltered away at least \$2 trillion and demand massive tax breaks to repatriate some of that money it is indicative how highly concentrated capital rules over the state. <http://america.aljazeera.com/articles/2015/10/6/top-us-companies-keep-21-trillion-in-tax-havens-abroad.html>; <http://www.huffingtonpost.com/news/offshore-tax-havens/>

7. Steadily declining mass consumption across all core countries relying on middle class and working class consumer spending to stimulate growth remains a very serious cause of the cyclical contractions. In the US, consumer spending accounts for 70% of GDP as comparable percentages account for the top 20 richest countries. When the mass consumer suffers downward income pressure, to the degree that some US corporations have decided to raise minimum wages voluntarily, the signs are very clear of a real structural problem in capitalism. The world's largest retailer WALMART which has just decided to close more than 160 stores, mostly across the south where incomes are low, is the last company to raise wages voluntarily. Although US consumers saved \$88 billion in energy in 2015, there was a decline instead of rise in consumer spending when compared with 2014.

[http://www.imf.org/external/pubs/ft/weo/2016/update/01/;](http://www.imf.org/external/pubs/ft/weo/2016/update/01/)
<http://www.ft.com/intl/cms/s/2/fe1df514-4b43-11e5-b558-8a9722977189.html#axzz3xtlGwZsK>.

8. Wealth inequality is one-hundred times higher than income inequality, thus signaling a very dire future not just for the US, but the entire western world.

Just one month ago, December 2015, the US congress passed legislation providing tax breaks amounting to just over half a trillion going mostly to the rich. This was with the considerable backing of Democrats whose rhetoric is that only Republicans favor tax breaks for the rich. In the EU amid economic contraction and austerity in the last five years the wealthiest 10% have become wealthier, even in the hardest hit countries of Southern and Eastern Europe, thus curbing the consumption power of the middle and working class. According to the PEW Research Center, the US wealth inequality is the highest on record! This does not mean that situation is much better in the EU where inequality is also growing. [http://www.pewresearch.org/fact-tank/2014/12/17/wealth-gap-upper-middle-income/;](http://www.pewresearch.org/fact-tank/2014/12/17/wealth-gap-upper-middle-income/) <http://reports.weforum.org/outlook-global-agenda-2015/top-10-trends-of-2015/1-deepening-income-inequality/>

9. Neoliberal and corporate welfare policies that are parasitic and simply recycle money from the bottom 80% of the population to corporations and the top one percent

The one per cent own most of the wealth have been at the heart of the contracting cycles that started during the banking crisis of the 1980s and is continuing today. US taxpayers are paying out money to fund everything from sports stadium that millionaires own to subsidizing General Electric that is a very profitable company to providing lucrative contracts by government at all levels to subcontractors for work that is done at a higher cost and less efficiently than it would have at the public sector level.

Corporate welfare is not just in the US but all across Europe and it is a policy that the IMF and the World Bank are imposing on governments around the world because it is what the richest are pushing to maintain their privileged positions.

[http://thinkbynumbers.org/government-spending/corporate-welfare/corporate-welfare-statistics-vs-social-welfare-statistics/;](http://thinkbynumbers.org/government-spending/corporate-welfare/corporate-welfare-statistics-vs-social-welfare-statistics/)

<http://www.theguardian.com/politics/2015/jul/07/corporate-welfare-a-93bn-handshake>

10. EU monetarism. Under Germany's economic and political hegemony, Europe has been pursuing monetarism and imposing austerity on the periphery countries – Southern and Eastern Europe – in the last five years in order to solidify its dominant role in Europe under the patron-client model. This has caused disequilibrium not just in the periphery economies of the EU but across all of Europe against the sanctions imposed on Russia and counter-sanctions by Russia, thus slowing growth down and impacting EU-US and EU-China and Japan economic relations. In short, the Greek crisis mushroomed into a greater crisis because Germany was determined to use austerity as a mechanism for EU hegemony. In an article entitled: 'The Fourth Reich': What Some Europeans See When They Look at Germany" argued that: "Following World War II, a German return to dominance in Europe seemed an impossibility. But the euro crisis has transformed the country into a reluctant hegemon and comparisons with the Nazis have become rampant."

<http://www.spiegel.de/international/germany/german-power-in-the-age-of-the-euro-crisis-a-1024714.html>. European Central Bank president and former Goldman Sachs

executive, Mario Draghi has faithfully served Germany largely because the EU multinational corporations benefit from the German model.

<http://www.socialeurope.eu/2014/09/mario-draghis-policy-ideas-wont-work/>

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Conclusion: Solutions to the Crisis of Capitalism

What solutions do mainstream economists, politicians, businesspeople, pundits and media, offer for the cyclical crises of capitalism? These are same solutions they have offered since the beginning of the Industrial Revolution when Adam Smith wrote the Wealth of Nations. Increase market share domestically and globally, innovate to lower production costs, lower taxes on business and the wealthy, less regulation of business, more flexible labor laws more government support for business - everything from exporting products abroad to pursuing a monetary policy that allows for low interest rates and liquidity and providing incentives for research and development, and lower spending on any social programs.

Even if every single one of these were to work out as ideally in the real economy as its advocates wish, the question remains how it is possible for the mass consumer to stimulate the economy when income and personal debt determine consumption power. No matter how great and how less expensive the smart phone may be, where is the consumer base once the market is saturated on a global scale? How much more debt should the mass consumer carry so that more products and services are consumed before we have a major consumer debt crisis analogous to the student debt crisis in the US about to explode even with US government guaranteeing such debt currently at \$1.3 trillion in an \$18 trillion economy? US average total debt is at \$130,000 or \$12 trillion total representing two-thirds of GDP, while US average income is just \$52,000. When we consider that public debt resulting in higher taxes for the mass consumer, and consumer debt, the combination of the two necessarily contributes to cyclical crises as scholarly studies on this issue have demonstrated.

[\(http://www.nerdwallet.com/blog/credit-card-data/average-credit-card-debt-household/;](http://www.nerdwallet.com/blog/credit-card-data/average-credit-card-debt-household/)

Carmen M. Reinhart and Kenneth Roggof, *This Time Is Different: Eight Centuries of Financial Folly*, 2011; R. Z Aliber and Charles Kindleberger, *Manias, Panics and Crashes: A History of Financial Crises*, 2011)

The economy has not escaped cyclical contractions and periodically very deep ones, even under a policy mix that includes Keynesian measures. Yet, there is not a single mainstream economist or bourgeois politician who would dare to address the core issue of the problem that is the wealth and income inequality issue. Of course, some of the reformists in the Keynesian school argue in favor of strengthening the social fabric in conjunction with the saving of capitalism by providing a better safety net for the middle and lower classes to secure a democratic society. Under the neoliberal political economy that has prevailed since the 1980s, even those politicians who claim to support some degree of Keynesian policies have not dared to put them into policy and use the rhetoric to win elections and nothing more; France, Spain, Portugal and Greece serve as good examples of politicians running on a Keynesian agenda but governing as neo-liberals. Even the nationalist regimes in Latin America that invoked Keynesianism – Venezuela, Argentina, Bolivia, Peru and Ecuador – catered as much to the nationalist capitalist class as to the comprador bourgeoisie and foreign capital. Embracing the neoliberal path is a manifestation of market hegemony over the state, thus forcing politicians, businesspeople, economists, journalists, and commentators to manufacture myths about disequilibrium in the economy and chronic downward socioeconomic mobility.

There is no reason to look for scapegoats in the economy, no reason to create fictitious forces or policies that brought us to the reality of Bill Gates, Warren Buffett and the Koch brothers owning more wealth than 127 million Americans. There is no reason to constantly evade and avoid the bitter truth about the inescapable crash of the markets that most likely will come in a decade perhaps in the 2030s on the 100th anniversary of the Great Depression.

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