

Volume #7: Escalating Conflict Manifestations

In our previous Strategy Report, we dove into the most impactful manifestations that we saw rising from the *Shifting Demographics* in the United States. This report examines our next Factor of Influence, *Escalating Conflicts Globally*, and takes a closer look at the manifestations that will impact our strategy.

The table below serves as a visual outline of the key manifestations that we will investigate throughout the following pages of this report. We are tracking several manifestations that will continue to shape 3RC’s thematic lens and will lead our search to uncover the most compelling investment opportunities for our investors.

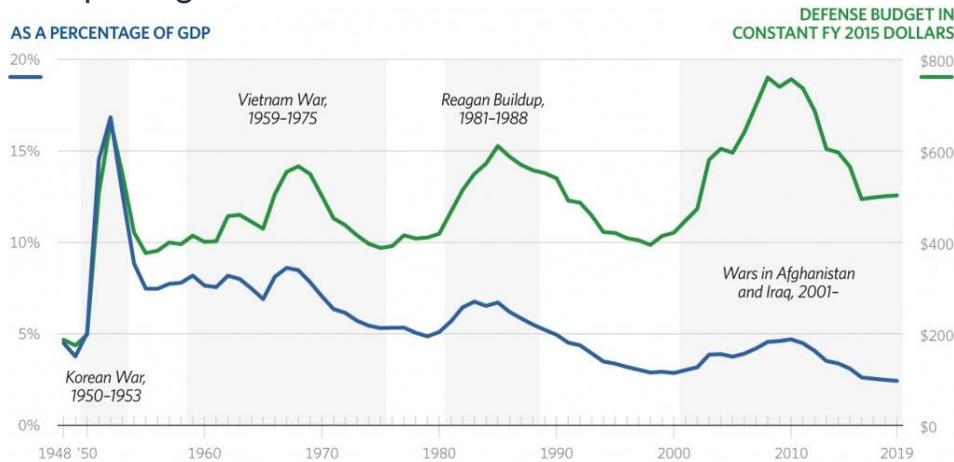
As outlined below, the three major factual drivers that 3RC is in position to take advantage of related to escalating conflicts are the emergence of several hot spots prompting U.S. response, the increases of terrorism and violent crime domestically, and the illegal immigrant situation.

Factor of Influence	Factual Drivers	Manifestations
Escalating Conflicts	There are several conflict zones internationally where military presence will likely be required to maintain peace	<ul style="list-style-type: none"> • Specific budget increases are expected to be directed to build and modernize the current U.S. military across all branches • Expected increases in active-duty force of 20% across all branches of the military
	Increases of terrorism and violent crime in the U.S.	<ul style="list-style-type: none"> • Security and surveillance demands increase as acts of terrorism can strike anywhere and at anytime • The highly fragile energy infrastructure susceptibility to attack requires significant at site monitoring and battery backup systems • Higher requirements for safety for public transportation and events • Increased demand for self-protection products and services
	Illegal immigrants make up 3.5% of the U.S. population (approximately 11.1 million people as of 2014)	<ul style="list-style-type: none"> • Unauthorized immigrants make up 5% of civilian labor force which are over represented in occupations such as farming (46%) and construction (15%) <ul style="list-style-type: none"> ○ Any reduction in the immigrant labor force would significantly impact farming and construction (26% and 15% of the labor force respectively)

Increase in U.S. Military Build Up

Unfortunately, conflict abroad has become the new norm. It seems as if every day there is news of violence due to a litany of conflicts including: the Civil War in Syria, the War against ISIS, tensions with North Korea, the escalating tension with Russia, the ongoing Israeli-Palestinian conflict, the conflict between India and Pakistan, and the War in Yemen and Boko Haram in Nigeria. As the world’s de facto guardian of peace, these conflicts could affect U.S. interests and are likely to necessitate a response. Current U.S. military strength could be greatly diminished by having exposure to multiple regional conflicts at once. The effects of the 2013 budget sequester on the US military capabilities impacted an already antiquated and battle worn war machine. President Trump and the Republican-controlled Congress have indicated the urgent need to reverse this trend and have recently announced a \$54B increase in defense spending.

Historical Defense Spending Chart¹



Defense spending patterns are fairly unique in the realm of federal programs as they are neither cyclical nor countercyclical, but are based on military and political strategies as well as the country’s readiness to respond or engage in global conflicts. There have been three large defense spending programs in the U.S. in the past 50 years according to historical GDP data.

Vietnam. The first defense buildup was tied to the country’s military engagement in Vietnam and Southeast Asia in the mid-1960s during President Lyndon Johnson’s term. It ran for five years.

Reagan Era. The second large defense spending boom occurred during the first four years of Ronald Reagan’s presidency. This buildup was part of Reagan’s political and military strategy to rebuild the military apparatus after what he characterized as “years of neglect.”

Iraq War. The third major increase started during the presidency of President George W. Bush and was linked to 9/11 and the events that followed in the Middle East.

It is important to consider the multiyear defense spending plans in the context of the economic and financial backdrop of the time. Within a historical framework, the conditions that the U.S. finds itself in today are most similar to the economic setting of the mid-1960s versus the recession and recovery stages of the early 1980s or early 2000s.

During the mid-1960s, the US economy was already in its fifth year of expansion, the jobless rate of 4.5% was relatively low and inflation was tame at ~1.5%. The extra defense spending boosted domestic-demand growth and added significant pressure to labor costs, materials, supplies and product prices which eventually led to the acceleration in consumer price inflation (from 1% in 1961 to near 6% in 1970). As a result, that business cycle was one of the largest economic growth cycles during the postwar period.

Today’s economic backdrop looks similar. The economy has been in recovery for seven years; the jobless rate is in the mid-4% range and inflation is stable at ~2%. While many domestic and global factors are different now, a large multiyear defense spending program is still expected to boost growth and put upward pressure on labor costs and inflation in the coming years. It is important to note that the U.S. is coming out of the weakest five-year defense spending trend in the past 50 years. Trump’s defense spending does not have to reach the level of previous programs to be impactful.

Over the next decade, the new F-35 fighter and the KC-46 refueling tanker will be ramping up to full production at the same time as the U.S. modernizes its missile defense capabilities and nuclear triad (ballistic missile submarines, long-range bombers and land-based strategic missiles). Thousands of ground vehicles are worn out from twenty years of continuous deployment and are in urgent need of replacements. According to a recent study by the Center for Strategic and International Studies, the Military's top ten modernization programs alone could cost as much as \$700 billion over the next fifteen years.

3RC is actively probing the defense and aerospace industry to find a niche that would mesh with our core investment strategy. Many defense manufacturers have significant customer concentration and businesses that are generally project-based, which stems from the consolidation of the defense industry over time. As a result, 3RC is more likely to find compelling opportunities with businesses that produce products and services that serve the military as part of a larger more diverse customer base.

One sector that 3RC has initially identified that is exposed to strong potential growth without capturing a high level of direct defense contract risk is advanced materials. Many companies that lie within this space supply to defense contractors as a smaller portion of their business, which limits the binary risk that stems from DoD contracts. Moreover, as spending is directed toward more complex systems at an increasing rate, the rate at which advanced materials are required will rise in tandem. This uniquely positions businesses that are exposed to this sector to potentially capture enticing growth.

After initial investigation, a market that fits these specifications is the flame retardant industry. Due to the wide applications of several flame retardants, many of the companies within the industry have a diverse customer base. Not only does this help diversify the business and reduce risk, but it also places the defense applications as a growth segment. Overall, the flame retardant industry provides 3RC with a landscape that appeals to 3RC's strategy, and 3RC will continue to investigate companies within this space.

Terrorism has Reached the U.S.

In the fifteen years following the 9/11 terrorist attack, jihadists have killed 95 people inside of the United States. Terrorists' tactics have continued to evolve, expanding into more sophisticated methods which include chemical, biological, radiological, nuclear and explosive weapons, and cyber-attacks, all of which are pushing the United States to respond. Since 9/11, there have been 471 terrorist attacks directed against the United States, approximately 20% of which occurred on U.S. soil.² Of the jihadist terrorists that committed these domestic acts of terrorism, 84% were citizens or permanent residents.³

In light of the recent attacks in Europe, regulators have been calling for increased surveillance in areas with heavy foot traffic, though some argue that video will not stop terrorists from following through with their actions. While cameras will be less effective in definitively stopping suicide bombers, who are not as concerned with the ramifications of being caught by surveillance, these cameras provide valuable nuggets of useful information buried within thousands of hours of video.

A prime example of this comes from the Manchester Concert Bombing in the UK in late May. The UK has heavily invested in CCTV cameras in the past, with 2013 estimates implying that there is one camera for every fourteen people in the country.⁴ Investigations were launched within minutes of the attack, which quickly lead to the identification of Salman Abedi as the bomber via CCTV cameras in a nearby shopping mall and his accomplice within 24 hours.⁵ While surveillance may not stop the crime in these cases, it nearly ensures the capture of the collaborators.

Research into the usefulness of CCTV in stopping and solving crimes has shown how the investment in these tools can be tremendously valuable. The availability of surveillance via CCTV is correlated with large improvements in the probability of solving most crimes, with crimes such as theft possession and robbery being nearly impossible to solve without use of CCTV footage. Overall, useful CCTV footage is associated with an increase of 25% in the probability of solving a crime.⁶

System designers are attempting to further increase this probability by adding smart software to cameras with the aim of automatically spotting possible threats. The most simplistic models that have been developed monitor motion detection and are marketed for locations where movement is a sign of an intruder. The functionality of advanced smart systems, however, can extend far beyond these applications.

Current video analytics are able to classify objects and behaviors. In an airport, for example, these systems could look for people walking in the wrong direction through exit gates or even loitering in restricted areas. The producers of these systems say that when they are properly calibrated, the cameras have a higher probability of spotting security threats than a human observer, making the operator a decision-maker, rather than just a watcher.

Another strength of surveillance is the ability to examine archived video to track an object, such as an individual or vehicle, during a specific period. This is most applicable to the military, who deploy a massive amount of unmanned aerial spies and need a solution for the vast swathes of data being sent back to headquarters. An example is Task Force ODIN, a surveillance project launched in 2006, which identified over two thousand insurgents in Iraq in part by examining footage to identify vehicles linked to the planting of roadside bombs. After the identification, these vehicles were followed both back in time to their origin and forward to eventually locate insurgents.

In the end, the effectiveness of surveillance cameras will be determined by the struggle between advanced software and analyzing a mountain of data. Smarter systems should lead to identification before attacks occur, and faster reaction following incidents.

Another response to the increase in terrorism within public spaces is the expansion of the use of the TSA through the creation of a Visual Intermodal Prevention and Response team (VIPR). The team focuses on covering all forms of transportation but has a unique focus on special events as well, including the 2016 NCAA Football Championship.⁷ Rupp Arena, home of the high-profile Kentucky Wildcats basketball team, now utilizes walk-through metal detectors to help mitigate the potential threats.⁸ This has extended to locations as large as Madison Square Garden, where metal detectors make occasional appearances,⁹ and the Barclays Center in Brooklyn, where fans have to pass through metal detectors to simply pick up tickets.¹⁰ With the utilization of tools from long-range camera systems¹¹ to drive-through x-ray machines for vehicles,¹² the VIPR team aims to combat a wide range of domestic terrorist threats.

President Trump's budget outline places the budget for the Department of Homeland Security at \$44.1 billion. This plan prioritizes law enforcement operations, proposes critical investments in frontline border security, and funds continued development of cybersecurity defenses.

The U.S. has also maintained a strong focus on improving their defenses against cyber-terrorism. One area that is receiving a lot of attention is the potential for our energy infrastructure to shut down through a cyber-attack, leading to massive problems across the nation. In fact, only 9 out of the 55,000 electric substations have to be destroyed to leave the U.S. without power for 18 months.¹³ Moreover, by simply removing power from 15 states for an extended time period, a cyber-attack could cost millions of dollars and lead to significant fatalities in hospitals.¹⁴ A buildup in energy infrastructure is, therefore, expected

in combat a massive cyber-attack, and one area in specific is reserve power. While 3RC doesn't invest in cyber-technology companies, this infrastructure buildup is a space that shows initial promise for 3RC.

Violent Crime

Violent crime rates have fallen sharply from the peak during the early 1990's, though certain areas are experiencing an uptick in rates despite this national trend.¹⁵ Cities, including Chicago, Memphis, Dallas, and St. Louis, have all seen a significant increase since 2014.¹⁶ In Chicago, for example, in 2016 there were 3,550 shootings and 4,331 shooting victims.¹⁷ Surveillance, as discussed previously, will also be heavily utilized in the fight against violent crime and has shown to be effective at finding suspects. This will result in the growth of the home security market which is projected to be above 13% in the coming years,¹⁸ and will account for \$47 billion of the \$100 billion global security market by 2020.¹⁹

One crime that saw a decline through the use of technology is auto thefts. The combination of immobilizers, which only let the vehicle start when a specific key is inserted, and central locking result in vehicles that are 25 times less likely to be stolen.²⁰ In fact, the use of immobilizers alone has led to almost a complete mitigation of the potential for an auto theft.

Security alarms have shown similar effects on the amount of burglaries, with the potential for a burglary being reduced heavily if a security alarm is installed.²¹ Importantly, these alarms act as a deterrent and have an effect in stopping the crime before it starts rather than simply notifying the owner of the potential break-in. A 2016 study performed by Joseph Kuhns in the journal *Crime & Delinquency* surveyed 422 incarcerated burglars and found that only 11% of burglars would always continue with a burglary if they were aware of an alarm in the building.²² Moreover, only 15% of burglars stated that they are effective at disabling alarms, which implies that they would not be able to break in without compromising their situation, and a meager 8% would always attempt to disable the alarm.²³ A trivial 15% of homes in the U.S. utilize alarm and monitoring services, implying that the market has plenty of room to grow.²⁴

Insurance companies have also realized how effective these systems can be and are incentivizing their adoption across the nation. Different discounts ranging from 15-30% are given to homes that use a monitored security system depending on the features of the system.²⁵ These systems have also become more consumer-friendly through the use of smartphone access and energy-saving tools.

Personal security is another sector that is experiencing a lift from violent crime. Recently, security options have even expanded into the wearables market where there are several products that are able to notify authorities if in danger.²⁶ These products are being developed with the consumer in mind and are generally stylish and designed well, which has helped expand the market beyond the elderly that the product Life Alert captured.

Police have also been changing the tools and methods that they use in response to the recent outcry against their methods. The implementation of body cameras has spread across the nation and tangential industries have risen out of this as well, including data centers to store the massive amount of video that is captured.²⁷ Moreover, expanded access to non-lethal weapons for the police has become a priority, including the access to Tasers for all Chicago police in 2016.²⁸ Further technological developments could spur department-wide purchases by police across the nation, creating an attractive investment opportunity for 3RC.

Immigrants being removed from the U.S.

With unauthorized immigrants comprising 5% of the civilian labor force, any reduction in this number would cause the labor market to stumble. This impact would disproportionately impact the farming and

construction sectors as companies would have to find other means to replace these workers, either resulting in increased equipment usage or higher labor costs.

The crops that would be impacted most by a loss of labor are fruits and vegetables, as most other crop production is already mechanized.²⁹ Companies have recently been developing machines that are precise enough to handle fruits and vegetables without damaging them in the process. One example is the LettuceBot, a machine that can do the work of twenty individual workers combined.³⁰ Different machines are in development as well, including an autonomous grapevine pruner.

Farmers have already been spending more on machinery with the new administration. Some farmers have even stated that Trump's comments regarding immigration pushed them to purchase more machinery than they would have otherwise and reduce the overall amount of labor.³¹

Companies have also started to invest in vertical farm technology to ensure adequate food production in the future. Certain technologies have enabled some vertical farms to produce 130 times more than the average U.S. field due to efficiencies and an increased frequency of harvest.³² One farm that is being built in Kyoto, Japan relies on robotic labor and is capable of harvesting 30,000 heads of lettuce per day.³³ The expansion of this industry is driven by the necessity to reduce costs in the midst of increasing demand for produce and will fuel the growth of several tangential industries including lighting, water systems, and containment structures.

Trump's immigration policies may not turn into legislation because of the potential negative ramifications. Studies have suggested that a border closure would shift a significant amount of labor overseas, and one estimated that 61% of fruit production would shift to other countries.³⁴ Regardless, this would continue to open doors to new investment opportunities for 3RC including the areas of shipping, packing, and refrigeration.

SOURCES:

¹ *Daily Signal*

² *The Heritage Foundation*

³ *New America*

⁴ *Telegraph*

⁵ *ABC*

⁶ *European Journal on Criminal Policy and Research*

⁷ *TSA*

⁸ *WKYT Kentucky*

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¹¹ *Ohio Adjutant General's Department*

¹² *WSB-TV Atlanta*

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¹⁴ *The Hill*

¹⁵ *National Review*

¹⁶ *Time*

¹⁷ *Time*

¹⁸ *Marketwatch*

¹⁹ *Inc.*

²⁰ *Criminology and Criminal Justice*

²¹ *Rutgers, The State University of New Jersey*

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²⁸ *Chicago Sun Times*

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³² *CBS News*

³³ *Business Insider*

³⁴ *Bloomberg*