The 2007 surge in Iraq: An alternative view

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Abstract

The 2007 surge (increase in US troops) in Iraq is considered one of the most significant military events in recent history given that it coincided with a marked decrease in violent attacks. Among the number of studies that have assessed the efficacy of the surge, most recently it was suggested that the synergy between the surge and the standup of the Sunni militias "Sons of Iraq" was the key factor for the decline of violence. However, revisiting the data reveals that violence had generally peaked before the surge and that the standups lagged peak violence by several months. This study presents a critical examination of other factors that might explain the decline in violence. It is difficult to pinpoint the trends that were most prominent, but they all likely contributed to a shift in the momentum of the security situation in the fall of 2006, before the surge was even announced. Thus, our analysis suggests that the surge was an unnecessary gambit.

Significance to defence and security

The surge has and continues to influence debate among US defence policy decision-makers and in other NATO countries about what military capabilities (conventional vs. asymmetric) are needed to address future security challenges. This paper aims to caution decision-makers against misinterpreting the efficacy of surge capability in a multi-dimensional and dynamically-changing security situation. Through a detailed qualitative and quantitative analysis, this report concludes that the surge was not instrumental in quelling the violence in Iraq in 2007. Furthermore, the report provides insights for the renewed violence in Iraq and the genesis of the Islamic State in Iraq and Syria. Thus, the report is of significant value to Canadian Armed Forces (CAF) organizations supporting personnel deployed in Iraq at the moment in the fight against the Islamic State.

Résumé

Le renforcement des effectifs de 2007 en Irak, caractérisé par l'augmentation des forces américaines, est considéré comme l'un des événements militaires les plus importants de l'histoire récente, car il a coïncidé avec une diminution marquée des attaques violentes dans ce pays. Parmi toutes les études menées sur l'efficacité de ce renforcement des effectifs, une étude récente a suggéré que le facteur principal expliquant le déclin de la violence serait la synergie entre le renforcement des effectifs et la mise sur pied de milices sunnites (les Fils de l'Irak). Cependant, une relecture des données montre que, de façon générale, la violence avait atteint son point culminant peu avant le renforcement des effectifs et que la mise sur pied de milices aurait eu pour effet de repousser de plusieurs mois un nouveau sommet de violence. Dans notre étude, nous faisons un examen critique d'autres facteurs qui pourraient expliquer la diminution de la violence. Il est difficile de déterminer avec précision quelles étaient les tendances les plus importantes, mais il est probable qu'elles ont toutes contribué à modifier la dynamique du renforcement des mesures de sécurité à l'automne 2006 avant que le renforcement des effectifs de l'armée américaine ne soit annoncé. Par conséquent, selon notre analyse, le renforcement des effectifs était un pari risqué et inutile.

Importance pour la défense et la sécurité

Le renforcement des effectifs a suscité et suscite toujours de nombreux débats entre les décideurs stratégiques de la défense aux États-Unis ainsi que dans les autres pays membres de l'OTAN quant à savoir quelles capacités militaires (traditionnelles ou asymétriques) seront requises pour permettre de relever les défis de demain sur le plan de la sécurité. Le présent document a pour but de d'attirer l'attention des décideurs sur la mauvaise interprétation de l'efficacité d'un renforcement des effectifs dans un cadre multidimensionnel où les mesures de sécurité sont en constante évolution. Grâce à une analyse qualitative et quantitative approfondie, nous arrivons à la conclusion que Le renforcement des effectifs n'a joué aucun rôle dans la répression de la violence en Irak en 2007. Par ailleurs, nous présentons notre point de vue sur la nouvelle montée de la violence en Irak et la genèse de l'État islamique en Irak et en Syrie. Le présent rapport a donc une très grande valeur pour les organisations des Forces armées canadiennes (FAC) appuyant le personnel envoyé en Irak pour combattre l'État islamique.

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1 Introduction

As Sunni militant groups have overrun parts of Iraq in 2014, a question of significant relevance is what role did the military surge in 2007 play in reversing a similarly deteriorating security situation. The surge refers to the increase in US troops in Iraq from January 2007 to July 2008 using new counterinsurgency (COIN) doctrine.[1]

The security situation in Baghdad and surrounding belts was especially intense in late 2006. At the time, there were contrasting opinions of how to address the situation. The main proponent of a military surge was Gen. Odierno against the opinions of Gen. Casey, Defence Secretary Rumsfeld, and US ambassador Khalizad, who perceived any additional forces as an impediment for Iraqi Security Forces (ISF) development.[2] Nevertheless, the final decision favoured the deployment of additional US troops in Iraq. The build-up phase of the surge was completed by the end of May 2007, followed by a series of operations ("Arrowhead" series) that began in June.[3] The surge eventually came to be considered as one of the most significant military events in recent history precisely because it coincided with a marked decrease in violent attacks in 2007.

In addition to its historical significance for Iraq, the surge has and continues to influence debate among US defence policy makers and in other NATO countries about what military capabilities (conventional vs. asymmetric) are needed to address future security challenges. This paper aims to caution strategic policy decision-makers against misinterpreting the efficacy of surge capability in a multi-dimensional and dynamically-changing security situation.[4]

[1] In his "New way forward" speech, President Bush announced the deployment of 21,000 troops, although this figure was later augmented by an additional 7,000–see Michael E. O'Hanlon, Jason H. Campbell, "Iraq Index Tracking Variables of Reconstruction & Security in Post-Saddam Iraq," The Brookings Institution (June 28, 2007), p. 5. The US Army, *FM 3-24 Counterinsurgency* was first published in December 2006.
[2] Michael R. Gordon and Bernard E. Trainor, *The Endgame: The Inside Story of the Struggle for Iraq, from George W. Bush to Barack Obama* (New York, 2012), pp. 294-300.
[3] David Kilcullen, *The Accidental Guerilla* (Oxford, 2009), p. 144.
[4] Remarkably, there is no direct attribution of the efficacy of the surge in the recently released US Army Field Manual on Insurgencies and Countering Insurgencies, which might simply reflect the uncertainty in the significance of the surge in Iraq, as underscored in this paper–see US Army, *FM 3-24/MCWP 3-33.5: Insurgencies and Countering Insurgencies* (Washington, DC, 2 June 2014). http://armypubs.army.mil/doctrine/DR_pubs/DR_a/pdf/fm3_24.pdf .

There are a number of discourses that argue for the surge's significance in the reduction of violence in Iraq in 2007,[5] discourses that reject its significance,[6] and others that view its significance as unresolved.[7] Using a detailed analytical approach, Biddle, Friedman, and Shapiro argue for an interdependent synergy between the surge and other factors such as the standup of the Sons of Iraq (SOI).[8] Their study, "Testing the Surge," is based on declassified "significant activities" (SIGACTs) data that were initially collected by the Multinational Force-Iraq from February 2004 to February 2009.[9] The authors supplemented these data with interviews of theatre commanders for additional qualitative analysis to deduce the causation of the decline of violence in 2007 Iraq. Since our paper revisits some of their conclusions and methods of analysis, we begin with a short overview of their study.

"Testing the Surge" starts with a rebuttal of the thesis that the reduction of violence occurred as a result of sectarian bloodshed burnout (homogenization of previously mixed communities).[10] The article advanced evidence that most of the violence in 2005-06 occurred in the sectarian-homogenous province of Anbar (Sunni) and that violence did not cease after mixed neighborhoods (e.g., Baghdad) were "unmixed" – it simply moved on to other sectors of the city. This process of de-homogenizing was far from complete in 2007 when violence began decreasing.

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[5] The success of the surge is usually the dominant discourse in political and military circles. See for example, Kim Chapman and Julianna Goldman, "Obama Says Iraq Surge Success Beyond Wildest Dreams" *Bloomberg* (September 4, 2008): http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aM9XOyqf06lI; Sen. Lindsey Graham speech at the Republican National Convention in 2008, available at: http://www.npr.org/templates/story/story.php?storyId=94303964 and General David H. Petraeus, "Report to Congress on the Situation in Iraq" (10-11 September 2007). This is also the framework in the first major study devoted specifically to the Surge – see Kimberly Kagan, *The Surge: A Military History* (New York and London, 2009), pp. 196-197.

[6] Joel Wing, "Rethinking the Surge in Iraq," (August 22, 2011) at: http://musingsoniraq.blogspot.ca/2011/08/re-thinking-surge-in-iraq.html; Joshua Thiel, "The Statistical Irrelevance of American SIGACT Data: Iraqi Surge Analysis Reveals Reality," *Small Wars Journal* (April 201); Wayne White, "Iraq: US "Troop Surge" Magic Bullet Myth Lives," (January 11, 2013) at: http://www.lobelog.com/iraq-us-troop-surge-magic-bullet-myth-lives-on/.

[7] Tom Bowman, "As the Iraq War Ends, Reassessing the U.S. Surge," *NPR* (December 16, 2011), at: http://www.npr.org/2011/12/16/143832121/as-the-iraq-war-ends-reassessing-the-u-s-surge.

[8] S. Biddle, J. Friedman, and J. Shapiro, "Testing the Surge: Why Did Violence Decline in Iraq in 2007?" *International Security*, 37(1), (2012), pp. 7–40.

[9] A SIGACT usually refers to variety of violent acts, targeting coalition, Iraqi Security Forces (ISF), civilians, Iraqi infrastructure and government organizations, observed by or reported to Coalition Forces. The unclassified SIGACT data are now available at the Empirical Studies of Conflict Project (ESOC) website (https://esoc.princeton.edu/about-us). For a detailed description of the dataset see Eli Berman, Jacob N. Shapiro, and Joseph H. Felter, "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq," *Journal of Political Economy*, 119, no. 4 (August 2011).

[10] Biddle et al., "Testing the Surge," 13-18.

Second, the article argues that the Anbar Awakening by itself was not sufficient to explain the reduction of violence.[11] The authors discuss four previous attempts by the Sunni tribes in Anbar to break with Al-Qaida and realign with coalition troops, none of which was successful. In their opinion, each of these attempts did not receive sufficient support from US forces (presumably, by the lack of troops in the area) at the initial stages in order to succeed and spread out.

The authors credit the surge with providing enough troops to clear and hold wider areas, and acknowledge the doctrinal (i.e., COIN) changes that tasked US forces to protect Iraqi civilians directly. Nevertheless, the article argues that although the surge was necessary, it was also insufficient due to its modest impact on troop density, its temporally limited nature, and because of the uncertain impact of the doctrinal change.

To investigate what led to the reduction of violence, Biddle et al. compared SIGACT trends three months before and three months after the standup of the Sons of Iraq (SOI) in 38 Areas of Operation (AOs) using linear regression. By comparing the "pre" and "post" trends (i.e., slopes) of SIGACTs, they concluded that the SOI standup impacted the reduction of SIGACTs in 24 AOs (63%) where violence trended down more after the standup than before. That trend was even more pronounced in the more critical AOs. Extensive qualitative arguments were provided to explain the contradictory cases.

Without the SOI standup, the authors further surmised that violence might have still declined, but so slowly that it would have taken more than three years to reach the level that was attained with the SOI in just a few months, and long after the mandated duration of the surge. The article thus concludes that the standup of the SOI had a synergistic effect on the reduction in violence in Iraq during 2007, which had previously been largely attributed either to the surge or to the standups alone.[12]

This study is focused less on the sectarian aspect of the conflict in Iraq, as Biddle et al. have convincingly demonstrated that ethnic/sectarian cleansing "burnout" was not the cause for the reduction of violence in 2007. However, we will demonstrate that further critical analysis of the relationship between SIGACTs, surge timeline, and SOI standups can lead to more nuanced and plausible alternative explanations for the decrease of violence in Iraq.

[11] Ibid., 18-22.
[12] Ibid., 23.

2 Methodology

To assess the efficacy of the surge, we use the same sources of data as those in "Testing the Surge."[13] Since the timing of SOI standups are an integral part of the analysis, we also focus on the 38 AOs for which the SOI standup dates were identified. The AOs span 22 districts in six provinces largely confined within the Sunni triangle.[14]

These six provinces experienced about 83% of the violence in Iraq from February 2004 through February 2009 (Table 1). Although the 53,822 SIGACTs analyzed herein represent only about a third of the total SIGACTs reported in the six provinces, they were proportionally highly representative ($r^2 = 0.95$ between the number of SIGACTs analyzed and the total reported in each province).

Table 1: *Distribution of SIGACTs and AOs per province from February 2004 through February 2009.*

Province	Number of SIGACTs	Share of total	Number of AOs	SIGACTs in AOs
Anbar*	31,063	15.9%	6	7,634
Babylon/Babil*	4,090	2.1%	1	229
Baghdad*	77,619	39.8%	18	24,088
Basrah	4,862	2.5%		
Dahuk	75	0.0%		
Diyala*	18,398	9.4%	6	7,929
Erbil	162	0.1%		
Kerbala	422	0.2%		
Missan	806	0.4%		
Muthanna	198	0.1%		
Najaf	379	0.2%		
Ninewa	22,897	11.7%		
Qadissiya	1,157	0.6%		
Salah al-Din*	22,567	11.6%	5	8,999
Sulaymaniyah	127	0.1%		
Tamim/Kirkuk*	8,423	4.3%	2	4,943
Thi-Qar	682	0.3%		
Wassit	1,052	0.5%		
All provinces	**194,979**	**100.0%**		
***Six provinces**	**162,160**	**83.2%**	**38**	**53,822**

[13] We are thankful to the authors, who graciously provided us with the data used in their study.
[14] See Supplementary Figure 2 in Stephen Biddle, Jeffrey A. Friedman, and Jacob Shapiro, "Supplementary Materials for Testing the Surge: Why Violence Decline in Iraq in 2007," available at https://esoc.princeton.edu/subfiles/supplementary-materials-testing-surge-why-did-violence-decline-iraq-2007.

It should be pointed out that SIGACT data have several limitations. Most noteworthy is that SIGACTs do not capture all the violence that might have taken place since they comprise incidents observed only by or reported to coalition forces. Furthermore, the methods and quality of collecting and recording incident data evolved over time, and it is conceivable that earlier data might be less reliable. High incident levels observed in certain locations may simply be a reflection of higher troop presence. Locations also ranged considerably from AOs covering small areas with less than 10,000 inhabitants to others encompassing vast swaths of territory, populated with up to 500,000 people.[15] Finally, SIGACTs do not discriminate the intensity of violence as, for example, they might reflect a disabled Improvised Explosive Device (IED) with no casualties in one instance and a suicide bombing causing a high number of casualties in another. While acknowledging these limitations, there is no other source of data that captures the trends in violence in Iraq better than SIGACT and thus it is herein adopted as the unit of analysis.

We analyzed the SIGACT data in two steps. First, we conducted a detailed descriptive analysis of SIGACTs and SOI standups in each AO and province using timelines and spatial distribution. Second, we conducted a trend analysis on equal time periods up to and including 12 months of SIGACTs pre- and post-SOI standup similar to that of Biddle et al., but with the important difference that we did not include the month of SOI standup in the regressions as they did. Thus, our three month period, for example, comprises three data points, not four.[16] In our view, including the additional data point common to both "pre" and "post" regressions contaminates the analysis. Specifically, the month of SOI standup should not be included in the pre-data if testing for an effect of the standup, since the effect might occur in the month of the standup. This could lead to a "type II" error whereby a true effect is concealed.

Further, including the additional data point dilutes the analysis because a portion of the data is common to both regressions (e.g., 25% in the case of the "three" month pre- and post-trend analysis), and it misrepresents the actual time period, i.e., the designated "three month" period actually spans four months, the "six month" period spans seven months, etc.

Another important methodological difference is the assessment of SIGACT slopes pre- and post-SOI standup. Instead of counting the number of post-slopes that were more steeply negative, we conducted a statistical test of the overall results. Specifically, we subjected all 38 AO pre- and post-SOI standup slopes of SIGACT to paired t-tests.[17]

[15] See Biddle, Friedman, Shapiro, "Supplementary Materials," p. 13 - Supplementary Table 1.
[16] Each data point specifies the number of SIGACTs for a month; ibid., p. 11.
[17] Trend lines for each AO were based on the percentage of the maximum SIGACT reported for that AO.

3 SIGACT and SOI standup analysis

For each AO, we noted the months in which the number of SIGACTs peaked for that AO and when SOI standup occurred. Figure 1 shows the timeline of peak SIGACTs and SOI standups for all 38 AOs. Peak violence (peak SIGACT) first occurred in January 2005 and escalated in late 2006. The first SOI standup occurred in October 2006 by which time violence had declined in nine AOs (24%). The peak number of standups occurred seven months later (May 2007), but by that time, violence had declined in another 16 AOs (66% in total). These observations suggest that the general decline in violence was largely independent of the SOI standups.

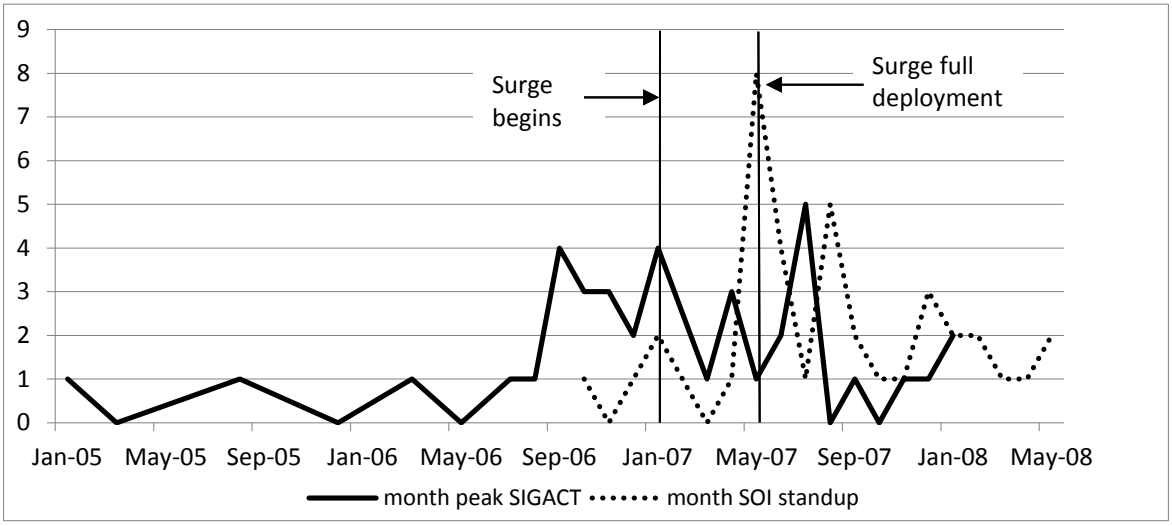

Figure 1: *Timeline of peak SIGACT occurrences and SOI standups in the 38 AOs.*

This supposition is strengthened by noting the separation of the elapsed times between the peak SIGACTs and SOI standups in the AOs, especially those where SIGACT peaked during 2005-06 (n = 17; Table 2). With the exception of only one AO where peak SIGACT and SOI standup coincided (Katana), the vast majority of peak SIGACT occurrences are so far removed from the SOI standup (mean lag of 11.2 months) that it is difficult to argue that the latter had anything to do with the overall decline of violence after it peaked.

Table 2: *Time lag between peak SIGACT and SOI standup in 17 AOs prior to 2007.*

Area of Operation	Province	Month of Peak SIGACT	Month of SOI standup	Time lag (months)
Al Dur	Salah al-Din	Jan-05	May-07	28
Khalidiyah	Anbar	Aug-05	Dec-06	16
Sadr al Yusufiyah	Baghdad	Mar-06	Jun-07	15
Mansuriyat al Jabal	Diyala	Jul-06	Jan-08	18
Baladrooz	Diyala	Aug-06	May-08	21
Rawah	Anbar	Sep-06	May-07	8
Hurriyah	Baghdad	Sep-06	May-07	8

Area of Operation	Province	Month of Peak SIGACT	Month of SOI standup	Time lag (months)
Amiriyah	Baghdad	Sep-06	May-07	8
Khan Bani Sa'ad	Diyala	Sep-06	Dec-07	15
Katana	Anbar	Oct-06	Oct-06	0
Haqlaniya	Anbar	Oct-06	Jan-07	3
Taji	Baghdad	Oct-06	Apr-07	6
Khadamiya Urban	Baghdad	Nov-06	May-07	6
Ghazaliyah	Baghdad	Nov-06	Jun-07	7
Rusafa Sheikh Omar	Baghdad	Nov-06	Apr-08	17
Fallujah	Anbar	Dec-06	May-07	5
Dora	Baghdad	Dec-06	Sep-07	9

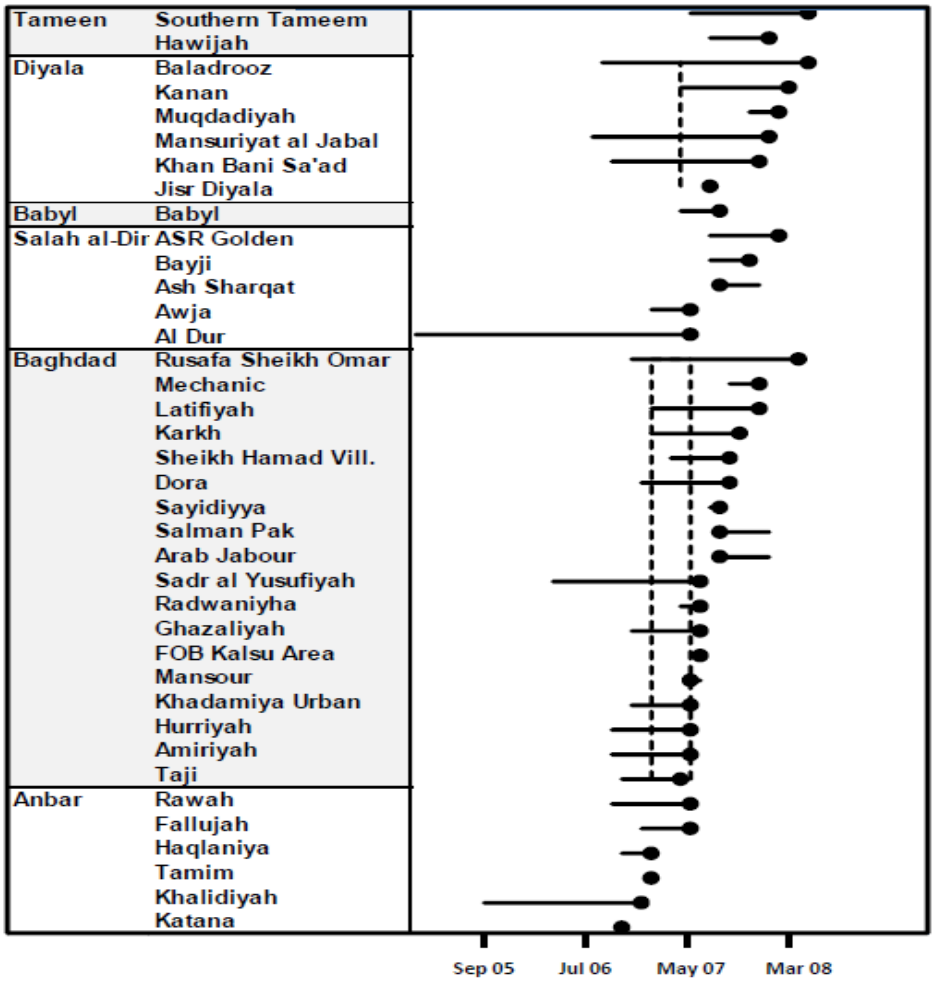

Figure 2: *Chronology of the surge, SOI standups, and occurrences of peak SIGACT in each AO.*

Figure 2 above presents the chronology of the SOI standups and peak SIGACT occurrences for each AO. Occurrences of peak SIGACT are depicted by the starting point of each line. The length of each line indicates the duration between these occurrences and SOI standups (indicated by the closed circles). Vertical lines indicate surge beginning and full deployment. The figure shows that SOI standup occurred after peak SIGACT in 30 out of the 38 AOs. In fact, a total of 81% of all SIGACTs had occurred by the time of SOI standup. Finally, a paired t-test between the occurrences of SOI standups with the peak SIGACTs found a highly significant difference ($p < 0.001$) indicating no relationship between the occurrences of SOI standups with the peak SIGACTs.

Table 3 aggregates the SIGACT and SOI standup statistics by province. The selection of province as the geographical unit of analysis aims to tie the trends discussed above across various AOs to a larger territory (as demonstrated earlier, the SIGACTs analyzed for all AOs in a province are highly representative of the total number of SIGACTs in that province). Table 3 includes the mean occurrences (month) of peak SIGACT. Although there are considerable variations per province (also seen in Figure 2), without exception, the SOI standup lagged the peak SIGACT by several months in each province and overall by 6.5 months. This further reinforces the notion that violence largely exhausted itself well before the SOI standups.

Table 3: *SIGACT and SOI standup Chronology by Province.*

Province	**Mean month of peak SIGACT**	**Mean month of SOI standup**	**Mean % SIGACT at SOI standup**	**Lag of standups to peak SIGACT** (months)	**Surge**[18]
Anbar (n = 6)	Aug 06	Jan 07	86.8%	5.3	no[19]
Baghdad (18)	Feb 07	Jul 07	78.9%	4.7	phased[20]
Diyala (6)	Jan 07	Jan 08	87.1%	11.3	Apr 07
Salah al-Din (5)	Dec 06	Aug 07	70.4%	7.8	no
Tamim (2)	Jun 07	Mar 08	91.7%	9.0	no
Babyl (1)	Apr 07	Aug 07	86.5%	4.0	no
All (38)	**Jan 07**	**Jul 07**	**81.2%**	**6.5**	

Another observation that supports the independence of the declining trend of violence from the SOI standups is the spatial distribution of the decline. Specifically, the peak SIGACT occurrences in 2005-06 were spread over AOs in four of the six provinces (see Table 2), while the SOI standup phenomenon was geographically highly concentrated starting in Anbar, and until mid-2007, restricted only to Anbar and Baghdad. Even in these two provinces, violence had already peaked by the mean month of SOI standup (Table 3).

A different perspective can emerge when SIGACTs are compared to the standup of SOIs during the narrowly confined period containing the general decline in violence in each province. That decline began, on average, early in 2007.

[18] Data from Iraq Index (December 2007).
[19] Deployment of troops was extended rather than added.
[20] Phased deployment began in January 2007 with full strength by June 2007.

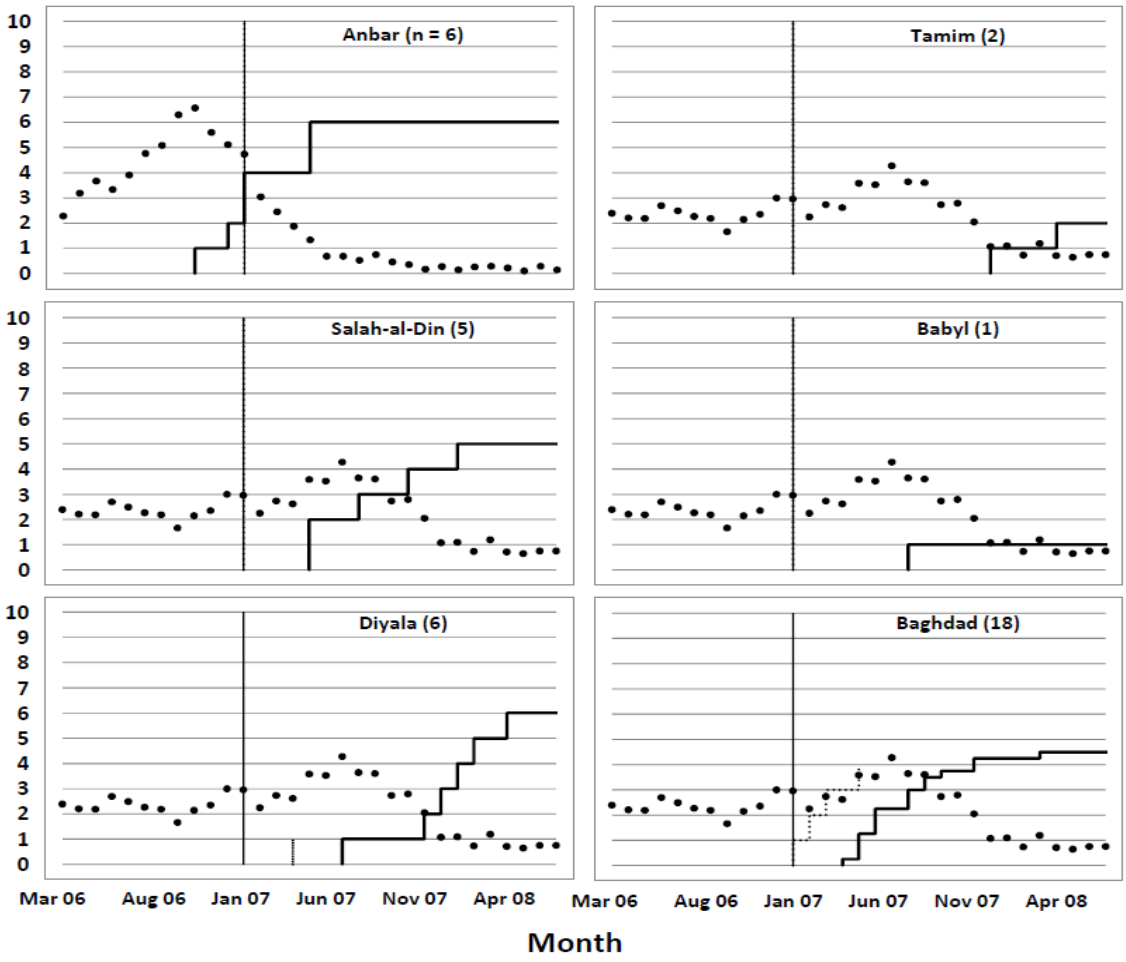

Figure 3: *Plots of average monthly SIGACTs as a percentage of its total and sum of SOI standups in each province.*

Figure 3 shows the comparisons of the average monthly percentage of SIGACTs and the chronology of SOI standups in each province. In the figure, 'n' (in parenthesis) indicates the number of AOs in the province. The vertical line at January 2007 denotes the announcement of the surge. The dashed lines denote the deployment of surge brigades in Diyala and Baghdad where each vertical rise represents the addition of one brigade. In each province, the correlation between the average monthly percentage of SIGACTs and sum of SOI standups is significant, which can be expected given that violence should decline as the insurgents withdrew from the conflict. Undeterminable from this is causality, that is, whether SOI standups led the decline in violence or vice-versa. However, the longer term inspection of most cases (e.g., Tamim, Babyl, Baghdad, Diyala) reveals a decline in violence well before the standups, which is consistent with our earlier assessment that downplays the importance of the SOI standups.

Biddle et al. addressed the question of causality by comparing the slopes of SIGACT decline before and after the SOI standup. They reported a steeper decline after SOI standup in 24 out of the 38 cases (63%), which they attributed to the effect of the standup. For methodological reasons

described earlier, we are not convinced that this conclusion is warranted. Furthermore, we conducted a paired t-test of the pre- and post-slopes reported in "Testing the Surge"[21] and found no significant statistical difference ($p = 0.27$) between the slopes despite a relatively lower mean post- [-5.8 (12.3 *SD*)% of max/month] vs. pre- [-2.5 (8.7 *SD*)%] slope.

We also conducted linear regressions for periods of equal duration pre- and post-SOI standup from three to 12 months, all excluding the month of SOI standup, and tested them for significance. In all cases, the mean post-slope was lower (i.e., negatively steeper) than the mean pre-slope (see Table 4). But again, this difference was not found to be significant for all periods up to and including eight months. However, a significant difference ($p < 0.05$) was observed for all periods from nine to 12 months. This is contrary to the assertion by Biddle et al. that all periods up to 12 months pre- and post- the SOI share similar characteristics.[22] The demarcation between the three-to-eight and the nine-to-12 month periods pre- and post-SOI standups implies that if we are to look for a phenomenon that changed the rate of the decline, it would likely have taken place closer to this junction (i.e., approximately between eight and nine months prior to SOI standup) than at the time of the SOI standup.

Table 4: *Comparison of SIGACT slopes (% of max/month) pre- and post-SOI standup in all 38 AO.*

Period (months)	Mean pre-slope	SD	Mean post-slope	SD	p value
3	-3.2	14.9	-5.8	10.2	0.46
4	-2.8	9.5	-4.2	9.3	0.56
5	-2.2	8.6	-3.7	8.3	0.48
6	-2.4	6.4	-3.8	5.6	0.34
7	-1.8	5.7	-3.5	4.3	0.16
8	-1.6	5.6	-3.6	3.8	0.09
9	-0.8	4.7	-3.4	3.5	0.02
10	-0.1	4.2	-3.0	3.3	<0.01
11	0.1	3.9	-2.7	2.9	<0.01
12	0.5	3.6	-2.5	2.5	<0.01

[21] "Testing the Surge," pp. 30-31.
[22] Ibid 28.

4 Assessing the impact of the surge

"Testing the Surge" has contributed to the debate on the impact of the surge by asserting that the latter impacted the violence in Iraq through its synergetic effect with the SOI standups and not by itself, as others have surmised.[23] Indeed, it is difficult to argue against a relationship between the two. The standups in 36 of the AOs (95%) occurred after the first surge troops deployed in January 2007 and in 34 AOs (90%) when sizable reinforcements were already on the ground (March 2007). This trend is clearly visible in Figures 1 and 3 (see Diyala and Baghdad). As the authors of "Testing the Surge" point out, the additional troops provided sufficient protection once the number of standups started to increase. It is perhaps no coincidence that the peak mean month of SOI standups (May 2007) occurred when the surge achieved its full strength. However, if the SOI standups are not the main cause of the decline in violence, as we argue above, to what extent did the surge or its synergetic role contribute to the decline in violence?

To assess the longer term impact of the surge, we first consider that peak SIGACT occurred in 17 AOs before the surge was even announced in January 2007 (see Table 2 and Figure 2). Furthermore, in four more AOs (Karkh, Latifiyah, Tamim, and Awja), SIGACTs peaked in January 2007 at the time of the surge announcement, which could hardly have had any impact by itself. Thus, by the end of January 2007 when troops had just started to arrive in theatre, 21 (55%) of the AOs had reached peak SIGACT. It is also worth pointing out that the AOs that had reached peak SIGACT before the surge are not insignificant given that the pre-January 2007 peak SIGACT AOs had an average peak SIGACT of 98, compared to 82 of those that peaked afterwards. Geographically, all AOs in Anbar, 55% of those in Baghdad, and 50% in Diyala reached peak SIGACT thresholds by the end of January 2007. Hence, it is most likely that the decline in the other provinces, where surge troops were not present, was again a result of developments that had already taken place prior to the surge in the majority of AOs in Anbar and Baghdad, where the insurgency was strongest.

In fact, an interesting artifact that is associated with the surge may have obscured the decline in violence that most provinces experienced prior to it. Figure 3 shows that this decline was followed by a steep temporary escalation of violence in Diyala, Baghdad, Tamim, Babyl, and Salah al-Din between March and May 2007. The AOs in the latter three provinces even experienced an intense level of violence not seen just prior to the surge. This phenomenon can be reasonably explained given that the reported increased incidence of conflict is normal with the presence of additional troops, as also pointed out by Biddle et al,[24] or with insurgents regrouping elsewhere. As a result of this temporary and significant spike, the ensuing decline in violence can easily be attributed to the impact of the surge and the SOI standups that occurred almost simultaneously. However, the perspective from a longer timeline (see footnote 22) makes it clear that the decline is associated with the general trend of decline in violence that began well before the surge announcement. It is likely that had the additional troops not been deployed, the decrease in SIGACT that started for some AOs in the fall of 2006 and for others shortly after would have continued, driven by the same factors underlying the decrease ascertained for Anbar.

[23] Ibid., pp. 10-11.
[24] See "Testing the Surge," p. 56.

This conclusion is consistent with Joshua Thiel's statistical analysis of the relationship between the change in US troop levels in 2007 and the decline of SIGACT. His study demonstrates that the improvement in security was independent of troop levels (though pertaining only to US troops) and that "another variable or set of variables appears to have affected the entire nation."[25] Below, we examine these other possibilities including the impact of overall troop levels in Iraq, and not just those of the US.

[25] Joshua Thiel, "The Statistical Irrelevance," pp. 6-7.

5 Alternate hypotheses for declining SIGACT

The above conclusions pertaining to the surge and the SOI standups point to other developments in the early months of 2006 that may have contributed to the shifting momentum in the security situation that occurred in the period September-October 2006, which coincides with the statistical demarcation of a significant SIGACT slope change.

One subtle, but noteworthy characteristic of the period from December 2005 until the summer of 2006 is the diametrically opposing trend of coalition (US and other international troops in the country) troop strength compared to the subsequent period from late 2006 through 2007 (Figure 4). From a peak of 183,000 troops in December 2005, coalition strength declined by almost 20% to 146,900 in June-July 2006 and was still lower at 157,000 in September 2006 – levels not seen since 2003 when post-invasion confidence was at its height. Figure 4 also shows that the surge merely returned coalition troop strength to its peak in 2005.[26] On average, troop strength in the first nine months of 2006 was about 10% lower than the average in 2005. It also appears that the coalition footprint was reduced not only numerically, but in terms of providing actual security. For example, US patrols in the capital Baghdad dropped from 360 per day in June 2005 to 89 in July of 2006.[27]

Throughout this period, violence continued to rise in most of the six provinces observed (except Tamim) despite the beginning of peak SIGACT occurrences in some AOs since December 2005 (Figures 1 and 3). At first glance, this concurs with Thiel's conclusion about the irrelevance of troop levels to the number of SIGACTs.[28] Nevertheless, coalition forces decline underscores several other important trends that unfolded in the first nine months of 2006.

As coalition strength declined in 2006, it was counterbalanced by the Iraqi Security Forces (ISF) who attempted to fill the vacuum. Therefore, the problem we see in correlating troop levels to security is that the former are usually confined to coalition or even only the US troop levels (as examined by Thiel). In fact, security forces are defined in *FM 3-24* as including the host nation's army and police.[29] In 2003-04, coalition forces were mainly responsible for maintaining security and fighting the insurgency. However, under Gen. Casey's strategy of building up the ISF to ensure security, especially since mid-2005, it grew in significance and should not be excluded from the analysis.

[26] It should be acknowledged that the surge also brought about a qualitative change by bringing more combat troops that targeted certain strategic areas.
[27] Dexter Filkins, "Baghdad's Chaos Undercuts Tack Pursued by U.S.," *New York Times* (August 6, 2006).
[28] His study of the late 2007-2008 period showed a decline in SIGACT as US troops began to withdraw again in 2008 – see Thiel, "The Statistical Irrelevance," p. 4.
[29] US Army (2006), FM 3-24, *Counterinsurgency*, 1-13; and US Army (2014), FM 3-24, *Insurgencies and Countering Insurgencies*, 13-1.

In the period January-September 2006, ISF grew by 38%, that on top of the 78% growth in 2005.[30] Combined, this raised the total security forces markedly in the first nine months of 2006, despite the coalition drawdown, from 384,300 to 469,800 troops (Annex A). By January 2006, ISF had outnumbered coalition forces and by September-October 2006, the size of the former was almost double that of the latter (161,000:312,000).

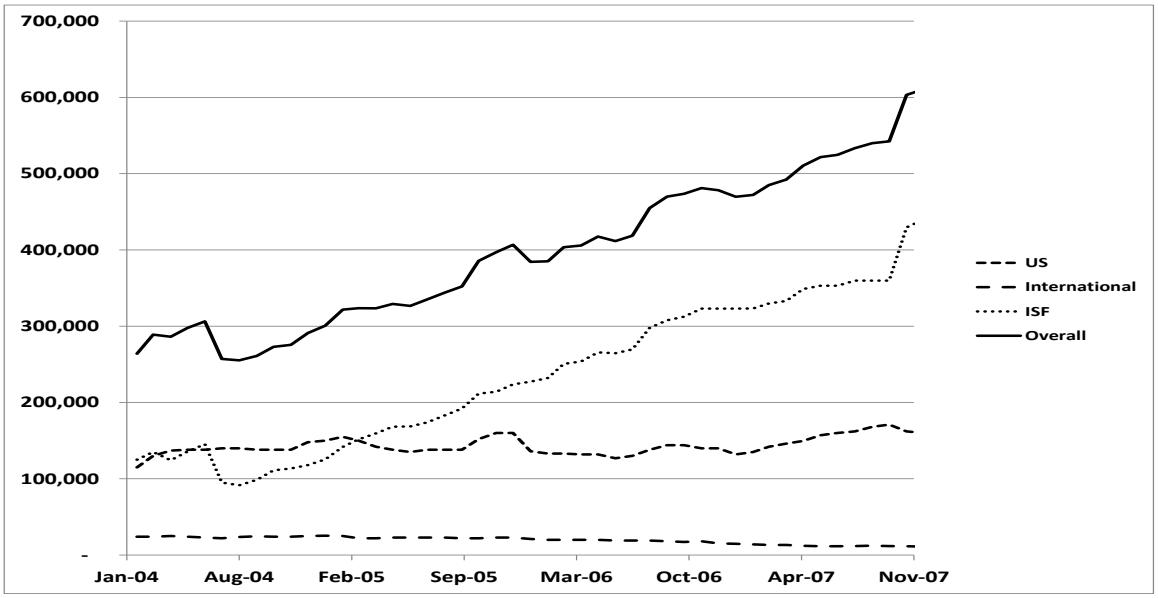

Figure *4:* *US, international (coalition partners), and ISF troop strength.*[31]

Arguably, such troop levels may have reached a threshold ratio of troop density, known as the COIN ratio, which is considered sufficient to make a difference in security on the ground.[32] Several such ratios have been proposed as the golden standard in COIN campaigns – varying between 13 and 20 security forces to 1,000 inhabitants.[33] It is quite possible that the difficulty of establishing a generally acceptable ratio is that each COIN situation is unique and therefore

[30] The actual number of ISF personnel available for active duty, fully trained, and at a level that can participate independently in a COIN campaign has often been questioned–see Anthony Cordesman, "Iraqi Force Development: A Progress Report," Center for Strategic and International Studies (Washington, DC, 2007), 39-40. The numbers quoted here are for operational troops, i.e., levels I, II, and III–see "Iraq Index," (December 2007), p. 31, http://www.brookings.edu/saban/iraq-index.aspx. The methods of assessment were also questioned–see for example US Government Accounting Office (2007).

[31] "Iraq Index," (December 2007) (See Annex A for details).

[32] While troop density ratio has not been decisively correlated with improved security, it is usually considered for planning purposes.

[33] Current NATO and US doctrine maintain a minimum ratio of 20:1,000 – United States Army FM 3-24, *Counterinsurgency* (Washington, D.C., 2006); NATO 3.4.4 (Draft), *Allied Joint Publication for Counterinsurgency* (COIN) (November 2008), while some academic studies suggest figures around 13:1,000 (McGrath, John J. "Boots on the Ground: Troop Density in Contingency Operations," Global War on Terrorism Occasional Paper 16 (Fort Leavenworth, KS: Combat Studies Institute Press, 2006); Jones, Seth G., Jeremy M. Wilson, Andrew Rathmell, and K. Jack Riley, "Establishing Law and Order After Conflict," RAND Corporation monograph series (Santa Monica, CA, 2005).

requires a different threshold. In the case of Iraq, the COIN ratio of 13 was surpassed in October 2005 and had grown to 16.9 by October 2006 (Annex A). In other words, for a full year preceding the fall of 2006, overall troop density in Iraq had been at levels that historically have succeeded in other COIN operations. Thus, it is reasonable to assume that the COIN ratio in Iraq should have positively impacted security on the ground sooner than later.[34] If we accept that a change of momentum in the security situation had taken place by the fall of 2006, then the threshold COIN ratio that seems to have worked for Iraq lies between 15 and 16:1,000.

Despite the trend of increasing levels of violence during the period of the coalition troops' reduction in 2006, it can be argued that this might have pushed/motivated ISF to assume a greater degree of responsibility for the security situation. Indeed, the Iraqi Army since early 2005 had been given the mission of conducting counterinsurgency operations countrywide and responded by increasing their combat capabilities and readiness levels throughout 2006.[35] In contrast to the trend reported earlier regarding the decrease in US patrols in Baghdad, ISF patrols had actually increased – from around 300 per day in June 2005 to 550 in July of 2006. By the latter date, the ISF controlled all 6,000 check points in the city.[36]

Table 5 shows the operational readiness of the ISF (both Army and Police) from the middle of 2005 until the beginning of 2007. Notwithstanding controversies regarding how these levels of readiness were assessed, the weighted unit readiness score indicates clear progress.[37] Especially relevant here is the significant correlation ($r = -0.77$) between increased readiness and the decline of ISF casualties despite the increase in violence in 2006 and the overall high casualty figures throughout the year.

[34] It should be acknowledged that the troop density ratio continued to grow throughout 2007 and 2008 (Annex A), which likely helped solidify the security gains.
[35] US Government Accountability Office (GAO), "Stabilizing Iraq: Factors Impeding the Development of Capable Iraqi Security Forces," Testimony Before the House Armed Services Committee, Subcommittee on Oversight and Investigations, Statement of Joseph A. Christoff, Director International Affairs and Trade (March 13, 2007), 10.
[36] Filkins, "Baghdad's Chaos Undercuts Tack Pursued by U.S."
[37] Both the 'Weighted Unit Readiness' and 'Casualties/Readiness Ratio' improved significantly with time ($p < 0.001$ for both rates of change).

Table 5: *ISF units (both Army and Police forces) operational readiness levels and casualties (deaths), June 2005-January 2007.*[38]

Month	No. Units Readiness (Level I)	No. Units Readiness (Level II)	No. Units Readiness (Level III)	Weighted[39] Unit Readiness	Casualties
Jun-05	1	25	68	20.2	296
Jul-05	3	14	74	18.5	304
Aug-05	2	33	81	25.5	282
Sep-05	1	37	78	25.8	233
Oct-05	1	38	81	26.7	215
Nov-05	1	43	84	28.8	176
Dec-05	1	52	75	30.3	193
Jan-06	1	62	67	32.3	189
Feb-06	0	67	71	34.2	158
Mar-06	2	70	62	34.7	191
Apr-06	5	70	65	36.7	201
May-06	5	68	66	36.2	150
Jun-06	5	79	58	38.5	132
Jul-06	8	78	56	39.3	217
Aug-06	8	83	50	40.0	233
Sep-06	8	90	43	41.2	150
Oct-06	9	86	45	40.7	224
Nov-06	13	90	41	43.3	123
Dec-06	12	89	44	43.0	123
Jan-07	12	88	46	43.0	91

In addition to the overall troop and readiness levels, there is compelling evidence that ISF units, and especially the police forces, had an early impact in Anbar where the earliest occurrences of peak SIGACTs had taken place. Dozens of police stations were established that helped reduce the requirement for coalition forces in the region. From a 4,000 strong Marine contingent in September 2004 in Fallujah with no Iraqi police forces, security was transferred by May 2006 to 1,200 Iraqi police with only 300 Marines remaining.[40] In Western Anbar, joint ISF-Marine patrols

[38] For unit readiness data see George W. Casey, Jr., *Strategic Reflections: Operation Iraqi Freedom July 2004–February 2007* (Washington DC, 2012), 190-91. Readiness levels are defined as: capable of planning, executing, and sustaining counterinsurgency operations independent of Coalition forces (Level I); capable of planning, executing, and sustaining counterinsurgency operations with Coalition enablers (Level II); and capable of conducting counterinsurgency operations only when operating alongside Coalition units (Level III) – see US DOD, *Measuring Stability and Security in Iraq* (February 2006), p. 13.
[39] The 'Weighted Unit Readiness' is calculated as the sum of {3 x No. Units (Level I) + 3 x No. Units (Level II) +3 x No. Units (Level III)} divided by six.
[40] John Koopman, "Putting an Iraqi Face on the Fight," *San Francisco Chronicle* (May 21, 2006).

gathered most of the intelligence by March 2006.[41] In other words, contrary to the criticism at the time about ISF level of effectiveness in 2006, it appears that the ISF made a significant difference on the ground. It is also important that security was enforced by locals enrolled in the ISF, thus being from the same sectarian background as the general population in the area.

The US forces also went through a learning curve having switched from massed warfare to a counterinsurgency campaign. Especially effective were the Special Forces units of Task Force 714 under Gen. McChrystal. Due to technological, organizational, and tactical advancements, TF714 increased its operational tempo from 18 raids per month in August 2004 to 300 per month by August 2006.[42] According to Gen. McChrystal, such tempo produced decisive effects and created a very difficult challenge for the insurgency focused on regenerating its network.[43] The strategic effect of the Special Forces operations was achieved by integrating these efforts with those of the conventional forces that fought on the ground. It should be pointed out that this synergy was accomplished in late 2005 and 2006,[44] and therefore the impact of these developments would have started to be felt before the fall of 2006, therefore, well before the surge took place.

The improved effectiveness was not limited to Special Forces. Conventional troops stationed throughout the country adapted as well. What is particularly important is that troops in two of the most violent provinces in 2004-05, Anbar and Ninewa, innovated first. These units, without any guidance from higher headquarters or doctrinal support, developed procedures and organizational capacities for full-spectrum operations almost one year before the surge and even before FM 3-24, *Counterinsurgency* was released in Dec 2006.[45]

This process is captured by James Russell in three case studies that provide important details not evident in high level data.[46] Russell focuses on the efforts of the 1st Battalion, 7th Marine Regiment (1-7) stationed in the western part of Anbar, the 1st Battalion, 37th Armored Regiment (1-37) in south-central Ramadi, and the 2nd Battalion, 1st Infantry Regiment (2-1) in Eastern Mosul. The period covered in these deployments spans from September 2005 to March 2007. In all instances, the areas covered by the units were previously largely controlled by Al-Qaida and local Sunni insurgent groups.

The organizational innovations of the three battalions included ramping up intelligence capabilities and undergoing training informed by the gang warfare experience of US police departments. Technical and tactical improvements, such as data gathering operations (akin to area-wide census) and sophisticated surveillance equipment linked to advanced databases resulted in dramatically improved situational awareness. Most importantly, the battalions undertook

[41] John Koopman, "Marines Helping to Line up Sunnis for Iraq's Army," *San Francisco Chronicle* (March 27, 2006).
[42] "Generation Kill: A Conversation with Stanley McChrystal," *Foreign Affairs* (March/April, 2013).
[43] Ibid.
[44] Ibid.
[45] The interim manual FMI 3-07.22 Counterinsurgency Operations, although in existence since October 2004, focused mostly on kinetic operations and provided no guidance for 'joint' operations – see discussion in David Ucko, *New Counterinsurgency Era* (Washington, D.C., 2009), pp. 65-80.
[46] James Russell, "Innovation in War: Counterinsurgency Operations in Anbar and Ninewa Provinces, Iraq, 2005-2006." *The Journal of Strategic Studies*, Vol. 33, No. 4 (August, 2010), pp. 595-624.

full-spectrum operations. For example, the 1-7 engaged in reconstruction in the towns, while the 2-1 structured its operations alongside the lines of security, governance, economic development, and information operations. The latter even wrote its own campaign plan, which is an activity normally reserved for higher headquarters. A critical component of the effort to improve security was building the capabilities of the ISF. The 1-7 actively assisted in recruitment for the ISF by creating a series of new police stations and a 1,400-strong police force in their area of responsibility. The 2-1 introduced tactical combat advisory teams and a small-unit training program to two Iraqi battalions. Iraqi troops were also successfully deployed with US intelligence units. It is important to point out that these innovations were yet to be enshrined in doctrine and became the standard that was adopted during the surge. In a telling example of how the 2006 advances later became the norm, the Combat Outpost (COP) Tactics, Techniques, and Procedures (TTPs) developed by 1-37 were sent to Gen. Petraeus and became the building block of the so called "COP in a Box" instructions distributed to all US units in Iraq in 2007.

By the summer of 2006, the security situation in Western Anbar had improved markedly – SIGACTs diminished from over 80 per month in December 2005 to less than 40 in July 2006, while the insurgent's dominance in south-central Ramadi was essentially eliminated by the end of September 2006. Only in the case of the 2-1, SIGACTs increased during their deployment. Even that, however, obscured an improved security situation since the disruption of insurgent bomb-making cells eroded the lethality of their bombs and brought down the casualty levels. In other words, behind the seeming escalation of violence, the rising number of SIGACTs in Iraq masked a severely weakened insurgency by the fall of 2006 and a change in the security momentum that helped drive the rise of SOI through the rest of the year and into 2007.

Another trend we would like to highlight as an important contributor to security improvement involved the earlier instances of "awakening"-like movements in Anbar province in 2006. It is well documented that many Sunni tribes were alienated by al-Qaida as early as 2004 and initiated several attempts to rally against it while seeking cooperation from coalition forces. These earlier movements included the Albu Nimr tribe in early 2004, the Albu Mahal tribe and its Hamza Brigade in the spring of 2005, the Desert Protectors militia in the fall of 2005, and finally the "Anbar People's Council" formed by the Fahad tribe in 2006.[47] It has also been pointed out that some of these earlier uprisings had much larger popular support (tribal affiliation) than the tribe that catalyzed the late 2006 Awakening, but they still failed in the face of al-Qaida's brutality and inability of coalition troops to provide protection for their elders.[48]

In our opinion, these failures should not be viewed in isolation. First, there is a clear connection between them – for example, the defeated Albu Nimr tribe in 2004 contributed to the formation of the Hamza Brigade in the middle of 2005. The "Desert Protectors" militia grew from the remnants of the Hamza Brigade while the Albu Mahal tribe, which was the original founder of the Brigade, used the coalition retaking of al-Qaim in late 2005 to be reinstated in control of the town.[49] In other words, despite the earlier setbacks, none of these tribes aborted the effort to achieve their goals and clearly continued to work alongside coalition troops to accomplish that end.

[47] Testing the Surge, pp. 18-21.
[48] Ibid., pp. 19-20.
[49] Russell, "Innovation in War," p. 598.

It can be argued that each tribal movement that arose in 2004-05 contributed to a steady trend of former insurgents being removed from the battlefield, even though they may have not succeeded in their goal of expelling al-Qaida from their territory. After their defeat, the former insurgents mostly did not revert back to align with al-Qaida and attack coalition troops again, but instead reengaged in contributing to security by joining ISF police or army units. For example, by the spring of 2006, most of the Albu Mihal's militia in al-Qaim had been enrolled in the police forces.[50] Therefore, we can conclude that the growth of Sunni insurgents rising against al-Qaida continued into 2006, but that trend was obscured by the growth of ISF where most insurgents went.

What distinguished this period and the post-fall 2006 tribal uprising was that instead of being folded into the ISF, the new tribal militias were given a separate status and paid directly by the US, which gave them higher visibility and prestige, as opposed to the ISF that were paid through the Iraqi budget. Therefore, the Anbar Awakening in October 2006 is simply an artificial demarcation of a long trend that previously saw disgruntled and violence-fatigued Sunni insurgents and tribesmen enroll in the ISF where they received a salary and stood up as separate units in the post-2006 period. It appears that the comprehensive US assistance and cover provided to the new militias was almost a coincidence – taken as a result of a self-initiated report by a field analyst to the commander.[51] It is highly likely, however, that once the SOI militias became funded and directly equipped, Sunni tribal members preferred to go there rather than the ISF, which had the stigma of association with a Shia-led government. All of a sudden, Sunni tribesmen formed militias with US support, which attracted media attention – and the myth of the Awakening was born.

In retrospect, the SOI phenomenon was not born in isolation from the previous tribal movements. In fact, the SOI standups should be regarded as a phase of an evolutionary transformation. What gave it visibility and publicity was the different organizational structure (paramilitary) and form of support (direct funding). These new elements made it look like a new phenomenon, although it was not.

Lastly, we would like to point out that after the bombing of the Samara mosque in February, the latter part of 2006 is known as a period of escalating sectarian violence and increased activities of Shia militia. Steven Biddle concluded that the war in Iraq in 2006 was a communal civil war rather than a war against occupying forces.[52] In fact, it appears that the sectarian violence can be credited for driving most of the increase in SIGACT during this period. The bombing of the Samarra mosque in February 2006 clearly marks the onset of the sharpest escalation of violence (Figure 6).

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[50] John Koopman, "Marines Helping to Line up Sunnis for Iraq's Army," and Russell, "Innovation in War," p. 602.

[51] See Ben Connable, Walter L. Perry, Abby Doll, Natasha Lander, Dan Madden, *Modeling, Simulation, and Operations Analysis in Afghanistan and Iraq: Operational Vignettes, Lessons Learned, and a Survey of Selected Effort*, RAND Corporation research report series (Santa Monica, 2014), pp. 75-76. In fact, the objective of the report was to determine whether investment in SOI would prove to be more cost effective than that in anti-IED technologies and no considerations were initially given to the impact of SOI on the overall security environment.

[52] Stephen Biddle, "Seeing Baghdad, Thinking Saigon," *Foreign Affairs* (March/April 2006).

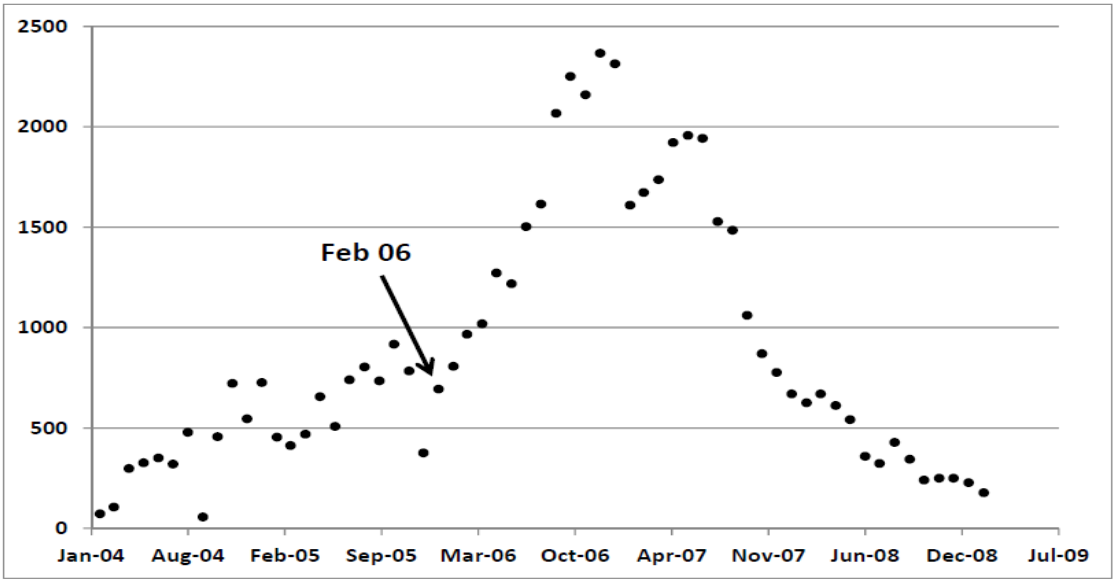

Figure 5: *Sum of monthly SIGACT across all 38 AOs from Feb 2004 to Feb 2009.*

It is not our intention here to discuss the sectarian violence in detail, nor are we arguing that peak SIGACT occurred as a result of the completion of the cleansing process. What we would like to emphasize is that the Shia militia clearly had the upper hand and the Sunnis were losing the battle for political dominance.[53] From the Sunni perspective, it looked like they were locked in a three-front battle – with al-Qaida, coalition forces, and the Shia militia. It is reasonable to assume that the escalation of sectarian conflict in early 2006 and the seeming superiority of Shia militias had probably convinced the Sunni population that the only way out their predicament was to work with coalition forces (already precedented in the conflict against al-Qaida). This realization most likely also contributed to the changing momentum in the security situation that occurred prior to the surge. In the words of Gen. McChrystal, by the time the surge was announced, "Iraqis had experienced nearly four years of violence and uncertainty and were, by and large, exhausted."[54]

[53] Already in the beginning of 2006, Sunni insurgent leaders admitted that they felt defeated by the Shia militias – see Bowman, "As the Iraq War Ends, Reassessing the U.S. Surge."
[54] General Stanley McChrystal, *My Share of the Task: A Memoir* (New York, 2013), p. 250.

6 Conclusion

Based on our analysis that the pre- and post-SOI slopes of SIGACT do not differ for up to and including eight months of SOI standup, we conclude that the standups were essentially inconsequential to the evolution of SIGACTs. Instead, it is plausible that the decline in violence likely facilitated the SOI standups. Similarly, the instances of peak SIGACT, which had mostly occurred prior to the surge, indicate that the latter was not the primary cause for the decline in violence in Iraq. The effectiveness of the population-centric COIN theory that was mandated in 2007 is also in doubt, since the latter was mostly a theatre wide reinforcement of certain previous advancements on the ground. In practice, what made a difference was the tactical improvements in situational awareness, which indeed brought US troops closer to the population, but which can hardly be designated as a "winning hearts and minds" approach. On the other hand, the conclusion that the synergy of the surge and SOI standups contributed to a faster decline in violence is difficult to support because the difference between the post- vs. pre-SOI standup slopes is not statistically significant. The synergy between the surge and SOI standups seems to have been less about military capability (support/protection from al-Qaida) and more about financial support (providing livelihood to the militia members).

Overlooked is the genesis of the decline in violence, which mostly took place before either the surge or SOI standups began. As pointed out earlier, the SOI standups markedly lagged the occurrence of peak SIGACTs by an average of 6.5 months. Thus, the real breakthrough occurred in the period September-October 2006 (nine months before the surge peaked, as deduced from our trend analysis). Among the most important transformational trends in 2006 highlighted in this paper are the significant increase in Special Forces operational tempo coupled with ISF growth and development in combat capability. In other words, Gen. Casey's strategy of building the strength of ISF had started to pay security dividends in late 2006, but these only became visible several months later in 2007. Another largely under-appreciated process were the Sunni tribes' standups, which prior to October 2006 tended to be absorbed by the ISF and were, therefore, not as transparent as in 2007. It was only the decision to support them financially that helped promulgate the standups as a widely-dispersed phenomenon thereafter as standalone SOI militias. It can be argued that the lag of peak SIGACTs to the SOI standups in 2007 was a product of these developments. It is difficult to pinpoint the trends that were more prominent, but they all likely contributed to a shift in the momentum of the security situation by the fall of 2006.

As a whole, these interwoven transformational trends in 2006 were obscured by the violence and fog of war to most analysts including military planners and the US National Security Council at the time. Thus, it is understandable why decisions to help the Iraqi government with a surge of US troops in 2007 until the ISF strengthened further were painfully difficult to make. As events turned out, however, our analysis suggests that the surge was an unnecessary gambit.

In closing, we would also argue that the conditions for defeating the Iraqi insurgency in 2006-2007 might not be easily replicated. The decision to support standalone militias in the period after October 2006 solidified the security gains. However, the institutionalization of these militias and the failure to integrate them fully into the ISF is a major destabilizing factor in a sectarian environment, which might be contributing significantly to the contemporary violence in Iraq.

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Annex A Security forces strength in Iraq 2004-2007[55]

Table A.1: *U.S., coalition, and Iraqi Security Force strength, 2004-2007.*

Period	Month	U.S. troops	Other coalition troops	Total international troops	ISF on duty strength	Total security forces strength in Iraq	COIN ratio[56]
1	**Feb-04**	115,000	24,000	139,000	125,000	264,000	9.9
2	**March**	130,000	24,000	154,000	134,991	288,991	10.9
3	**April**	137,000	25,000	162,000	124,253	286,253	10.8
4	**May**	138,000	24,000	162,000	135,712	297,712	11.2
5	**June**	138,000	23,000	161,000	145,317	306,317	11.5
6	**July**	140,000	22,000	162,000	95,088	257,088	9.7
7	**August**	140,000	23,700	163,700	91,468	255,168	9.6
8	**September**	138,000	24,600	162,600	98,500	261,100	9.8
9	**October**	138,000	24,000	162,000	110,998	272,998	10.3
10	**November**	138,000	24,000	162,000	113,506	275,506	10.4
11	**December**	148,000	25,000	173,000	118,009	291,009	10.9
12	**Jan-05**	150,000	25,300	175,300	125,373	300,673	11.0
13	**February**	155,000	25,000	180,000	141,761	321,761	11.7
14	**March**	150,000	22,000	172,000	151,618	323,618	11.8
15	**April**	142,000	22,000	164,000	159,493	323,493	11.8
16	**May**	138,000	23,000	161,000	168,227	329,227	12.0
17	**June**	135,000	23,000	158,000	168,674	326,674	11.9
18	**July**	138,000	23,000	161,000	173,900	334,900	12.2
19	**August**	138,000	23,000	161,000	182,900	343,900	12.6
20	**September**	138,000	22,000	160,000	192,100	352,100	12.9
21	**October**	152,000	22,000	174,000	211,700	385,700	14.1
22	**November**	160,000	23,000	183,000	214,000	397,000	14.5
23	**December**	160,000	23,000	183,000	223,700	406,700	14.8
24	**Jan-06**	136,000	21,000	157,000	227,300	384,300	13.7
25	**February**	133,000	20,000	153,000	232,100	385,100	13.8
26	**March**	133,000	20,000	153,000	250,500	403,500	14.4
27	**April**	132,000	20,000	152,000	253,700	405,700	14.5
28	**May**	132,000	20,000	152,000	265,600	417,600	14.9

[55] "Iraq Index," (December 2007), p. 31 (http://www.brookings.edu/saban/iraq-index.aspx).
[56] Based on an estimate of Iraqi population of 26.6 million in 2004, 27.4 in 2006, 28 in 2007 and 28.8 in 2008 – see Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2012 Revision (http://esa.un.org/unpd/wpp/index.htm).

Period	Month	U.S. troops	Other coalition troops	Total international troops	ISF on duty strength	Total security forces strength in Iraq	COIN ratio[56]
29	**June**	126,900	19,000	146,900	264,600	411,500	14.7
30	**July**	130,000	19,000	149,000	269,600	418,600	15.0
31	**August**	138,000	19,000	157,000	298,000	455,000	16.3
32	**September**	144,000	18,000	162,000	307,800	469,800	16.8
33	**October**	144,000	17,200	161,200	312,400	473,600	16.9
34	**November**	140,000	18,000	158,000	323,000	481,000	17.2
35	**December**	140,000	15,200	155,200	323,000	478,200	17.1
36	**Jan-07**	132,000	14,650	146,650	323,000	469,650	16.3
37	**February**	135,000	14,010	149,010	323,180	472,190	16.4
38	**March**	142,000	13,205	155,205	329,800	485,005	16.8
39	**April**	146,000	13,196	159,196	333,100	492,296	17.1
40	**May**	149,700	12,112	161,812	348,700	510,512	17.7
41	**June**	157,000	11,524	168,524	353,100	521,624	18.1
42	**July**	160,000	11,508	171,508	353,100	524,608	18.2
43	**August**	162,000	11,685	173,685	359,700	533,385	18.5
44	**September**	168,000	12,279	180,279	359,700	539,979	18.7
45	**October**	171,000	11,668	182,668	359,700	542,368	18.8
46	**November**	162,000	11,589	173,589	429,630	603,219	20.9
47	**December**	160,000	10,961	170,961	439,678	610,639	21.2

List of symbols/abbreviations/acronyms/initialisms

AO	Area of Operation
CAF	Canadian Armed Forces
COIN	Counterinsurgency
COP	Combat Outpost
DOD	US Department of Defense
IED	Improvised Explosive Device
ISF	Iraqi Security Forces
R&D	Research & Development
SIGACT	Significant Activities
SOI	Sons of Iraq
TTPs	Tactics, Techniques, and Procedures

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The 2007 surge (increase in US troops) in Iraq is considered one of the most significant military events in recent history given that it coincided with a marked decrease in violent attacks. Among the number of studies that have assessed the efficacy of the surge, most recently it was suggested that the synergy between the surge and the standup of the Sunni militias "Sons of Iraq" was the key factor for the decline of violence. However, revisiting the data reveals that violence had generally peaked before the surge and that the standups lagged peak violence by several months. This study presents a critical examination of other factors that might explain the decline in violence. It is difficult to pinpoint the trends that were most prominent, but they all likely contributed to a shift in the momentum of the security situation in the fall of 2006, before the surge was even announced. Thus, our analysis suggests that the surge was an unnecessary gambit.

Le renforcement des effectifs de 2007 en Irak, caractérisé par l'augmentation des forces américaines, est considéré comme l'un des événements militaires les plus importants de l'histoire récente, car il a coïncidé avec une diminution marquée des attaques violentes dans ce pays. Parmi toutes les études menées sur l'efficacité de ce renforcement des effectifs, une étude récente a suggéré que le facteur principal expliquant le déclin de la violence serait la synergie entre le renforcement des effectifs et la mise sur pied de milices sunnites (les Fils de l'Irak). Cependant, une relecture des données montre que, de façon générale, la violence avait atteint son point culminant peu avant le renforcement des effectifs et que la mise sur pied de milices aurait eu pour effet de repousser de plusieurs mois un nouveau sommet de violence. Dans notre étude, nous faisons un examen critique d'autres facteurs qui pourraient expliquer la diminution de la violence. Il est difficile de déterminer avec précision quelles étaient les tendances les plus importantes, mais il est probable qu'elles ont toutes contribué à modifier la dynamique du renforcement des mesures de sécurité à l'automne 2006 avant que le renforcement des effectifs de l'armée américaine ne soit annoncé. Par conséquent, selon notre analyse, le renforcement des effectifs était un pari risqué et inutile.

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