

A Rejoinder to the Chatham House report on Iran's 2009 presidential election offering a new analysis on the results

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ABSTRACT

The recent Iranian presidential election, held on June 12 of 2009, has become embroiled in considerable controversy, not least of all because it is the first of 25 elections that have been held in the last 30 years of the history of the Islamic Republic where the final outcome of the count has been rejected outright and regarded as invalid by many observers. A report co-published by Chatham House and the Institute of Iranian studies at St Andrews University in Scotland has attracted much attention because of its conclusion that the results of the election appear to be implausible, problematic at best, and indeed more conducive to the notion that they have been artificially manipulated, although this is not explicitly stated. In this paper, we examine all of the points raised in the report and demonstrate how most of the them can be explained in terms of natural processes. Reference is also made on a more mathematical analysis offered by Walter Mebane "Note on the presidential election in Iran", as well as some other statistical studies, where it is has been deemed necessary and appropriate to do so. Given the importance of this election in shaping the future of the Middle East, in both the short and long term, it is imperative that the results of this election are carefully scrutinized and analysed.

INTRODUCTION

"A Preliminary analysis of the voting figures in Iran's 2009 presidential election" was released on the 21st June by the British think tank, Chatham House, and authored by Dr Ansari, an historian and professor of Iranians studies at St Andrews, who also serves as a consultant to the UK Government. Also involved in the analysis, and contributing to the research, were two graduate students, Tom Rintoul and Daniel Berman. The study attempted to highlight aspects of the Iranian presidential election, which seemed to be problematic to the point of being incredulous. This followed Dr Ansari's initial reaction to the election results on the 13th June that he described as "nonsense" and speculated that he didn't think that the votes in the election had even been counted¹. In its executive summary, the report raised the following four key points that it claimed supported the notion that the official figures were suspect:

- i) Firstly, that the number of votes exceeded the number of registered voters in two provinces.
 - ii) Secondly, that there is no correlation between the increase in turnout and swing to Ahmadinejad.
 - iii) Thirdly that the incumbent would have to have won over many reformist voters and
 - iv) Finally, that the claim that Ahmadinejad is popular in the countryside is a myth.
- A response to all these points is contained within the main body of discussion in this paper.

¹ "I don't think they actually counted the votes, though that's hard to prove," said Ali Ansari, a professor at the Institute of Iranian Studies at the University of St. Andrews in Scotland and one of the authors of a study of the election results issued by Chatham House, a London-based research group.

IRREGULARITIES AND ANOMALIES IN THE VOTER TURNOUT

One of the key observations mentioned in the executive summary of the Chatham House report is that the turnout in two provinces, namely Mazandaran and Yazd, surpassed the number of eligible voters registered in the 2006 census. This alone may appear to be the case of a major anomaly and reason to suspect an artificial amplification of the vote tally. In fact, it turns out that the turnout levels for both provinces were actually only slightly above 100%; neither does this take into consideration natural population growth or indeed migration of people between the provinces over the course of the last three years. When compared with the previous one taken in 1996, the 2006 census does show that the population in Mazandaran has increased by a year-on-year rate of about 1.1%². Iran's electoral watchdog - the Guardians council - has stated voters are free to cast ballots anywhere they choose so long as they have a proper ID card. In the case of Mazandaran, we should not be surprised to observe that the turnout has exceeded the number of eligible voters because in the summertime many Iranians shelter from the heat of the big cities in the cool of the Caspian littoral region² where they either own or rent holiday villas and apartments, or indeed stay with friends and relatives³. In addition, as with many statistics reported for Iran, the accuracy of the 2006 census may be wanting as could the estimate of the number of eligible voters this time round which may have been nearer 50 million, if birth certificates are any reliable measure, according to Iran's national statistics centre. In any case, the national turnout, around 85%, was the highest on record and this in itself means that exceptionally high figures over 90% should not necessarily be viewed with scepticism. The situation in Yazd province is harder to determine, but it is worth noting that Mr Mousavi won three out of the ten districts there, including the provincial capital. This was expected given that his principle supporter, former president Mohammad Khatami, who appeared side by side with Mr Mousavi on campaign flyers, is a native of Ardakan that Mr Mousavi carried. It would seem odd to call into question results that showed stronger support for Mousavi here than what he received nationwide. Moreover, the population growth rate based on the difference between the 1996 and 2006 census shows an annual increase of about 2.8% which is significantly higher than the national average for the same period⁴.

The mobility of the electorate, due to reasons that include pilgrimage, vacationing, seasonal migrations (as in the case of nomadic tribes), people working away from their home area, expatriates visiting, as well as administrative redistricting since the taking of the census, can help explain and account for many, if not all, of the perceived discrepancies that the Guardians council acknowledged as occurring in as many as 50 townships throughout the country. Even so, some of the districts where the excess votes were recorded are small, remote places frequented by few outsiders. But it is also worth noting that this has also happened in previous elections where there too was a very high turnout, such as in 1997 presidential election which none would dispute as being fraudulent. In a debate presented by PressTV⁵, Dr Ansari defended his report and referred to the Guardians Council's admission as one that had conceded "up to 3 million votes had gone missing". However, one of the other guests present in the debate, Professor Marandi of the University of Tehran, responded by saying that this had been in fact misreported and that the total number of votes in the 50 districts in question amounted to 3 million, not that such a huge number had simply disappeared or been added.

² <http://www.geohive.com/cntry/iran.aspx?levels=Mazandaran>

³ <http://shahrzaad.wordpress.com/2008/07/15/iranians-and-summer-vacation/>

⁴ <http://www.geohive.com/cntry/iran.aspx?levels=Yazd>

⁵ <http://www.youtube.com/watch?v=9DNmR15Lui8&feature=related>

In order to explain the near 100% turnouts in Mazandaran and Yazd, the authors make reference to allegations of “tombstone voting” which is also mentioned by dissident scholar Mehdi Khalaji of the Washington institute for Near East policy⁶. They neglect the fact that Yazd has a relatively small population of 1 million which could be significantly expanded by the presence of outsiders, and even suggest that it is implausible that people could even reach the desert province despite the existence of modern transport links. As well as the registering of the dead, other possibilities of fraud include polling station volunteers cheating illiterate voters by not writing in their chosen candidate or certain ballot boxes being pre-stuffed. It is worth realising that, as the authors acknowledge, none of these allegations of electoral fraud and irregularities are actually new in Iran and have been reported in previous elections where the overall outcome has not been called into serious question by any of the competing sides – this includes three national elections held under Mr Ahmadinejad’s tenure as president which were deemed to be fair in as much as the actual result of the count was regarded as being accurate. The past 30 years have served to produce a system in place that seeks to minimise any instances of electoral fraud to allow for competitive contests. The voting procedure is described by one ministry worker: “Each voter presents identification, and his or her name and information is entered into a computer, and also recorded in writing. The voter’s thumbs are inked with purple dye and these are printed on the stub of the ballot. The voter’s identification is stamped to prevent multiple voting at different polling stations, and there is also a computer and written record of everyone who voted at each polling place.”⁷ If this was indeed upheld in this way, then it seems unlikely that any form of tombstone or multiple voting would have been possible. The election itself was monitored not just by officials from the Interior Ministry and Guardians council but also by the local authorities, who include teachers and police, the judiciary’s general inspectorate⁸, as well as thousands of observers from all four candidates.

The report claims that there was no relationship between the increase in turnout and a swing to any one particular candidate. This is specious. What the results indicate is that there is no uniform swing to either candidate across all 30 provinces and 366 districts; instead, there are regional and local swings, some of which appear to be almost independent of any national trend. These are discussed in detail below. Many districts, notably the capital Tehran and its affluent northern suburb of Shemiranat, showed a huge swing from the 2005 election when a substantial increase in the turnout (22%) resulted in Mousavi comfortably winning with a 2:1 margin (63-32) in the case of the latter. But in the working class suburbs to the south of the city, namely Pakdasht, Islamishahr and Robat Karim, Mr Ahmadinejad won by a similarly large margin. Overall, Mousavi won districts in 12 of the 30 provinces. Regarding the turnout, “the massive increase in voter participation results in substantially less variation in turnout between provinces, with the standard deviation amongst provincial turnouts falling by just over 23% since 2005 and that regional variations in electoral participation have disappeared.” But it is difficult to appreciate why the authors see any significance in this. In 1997, too, there was also little variation in turnout simply because it was very high as Professor Salehi-Isfahani succinctly points out: “ The CH report claims that the fact that the variation in participation across provinces has dropped is evidence of fraud. But anyone familiar with elementary statistics knows that the standard deviation of any variable limited to 100% from above would drop as its mean increases. So, because the participation rate increased by about 35%, it is hardly surprising that the standard deviation fell by 23%⁹.”

⁶ <http://www.thecuttingedge.com/index.php?article=11394>

⁷ <http://www.ibtimes.com/articles/20090626/was-iranian-election-stolen.htm>

⁸ <http://www.presstv.com/classic/election2009/detail.aspx?id=96582>

⁹ <http://djavad.wordpress.com/2009/06/28/the-chatham-house-rules-election-fraud/>

If we turn to Figure 8 of the report, the turnout levels reported for each province do still show that provinces with the lowest turnout levels in 2005, such as Kordestan, remained so in the case of the 2009 election. The results, thus, show that there was not one uniform nationwide swing to Ahmadinejad and that there were distinct differences at the local levels with districts even adjacent to one another reporting different swings to either candidate. In general, according to Walter Mebane, “natural processes in 2009 have Ahmadinejad tending to do best in towns where his support in 2005 was highest and tending to do worst in towns where the turnout surged the most.” It was also widely believed that the higher the turnout the likelier the support for reformist candidates. This, however, was simply an assumption – those who did not vote in 2005 may not have had reason for voting then irrespective of their political inclination.

POLITICAL AFFILIATION OF THE ELECTORATE

The CH report’s categorization and identification of the electorate with respect to perceived support for political factions, which really matters only to the elite and not to the general populace, is also misleading as is suggesting that a “decade of conflict” would have created a deeply partisan voting population. According to Abbas Barzgar, writing in the Guardian newspaper¹⁰, reformist president Mohammad Khatami was not swept to office in 1997 on a tide of liberalism or commitment to any ideological stance, but rather because he appeared to be an honest, charismatic anti-establishment figure and one untainted by official corruption. The fact that he was a black-turbaned seyed, a descendant of the Prophet Muhammad, and a disciple of the late father of the Islamic revolution, Ayatollah Khomeini, likely also played well with the religious masses. The personality and style of the candidate himself, and not merely his policy agenda, was the crucial factor in propelling Khatami to his landslide victory. This is a classic case, argues Barzgar, of western analysts misinterpreting certain political developments in Iran as signs of “liberal inevitability”. Moreover, the distinction between both factions appears somewhat blurred since both Mousavi in 2009 and also Qalibaf in 2005 described themselves as “principle-ist reformists¹¹” to the derision and consternation of many. There is indeed little evidence to suggest any solid political allegiance to any one party or group amongst the general public in Iran that is so evident in many western states where an almost tribal loyalty exists. The conservative-reformist divide that emerged in the mid 1990s was essentially an internal development within the ruling elite similar to that which occurred in the ancient Roman senate, involving the split between the optimates and the populares, or that of the Tories and Whigs of eighteenth century Britain – namely, a power struggle within the establishment that was played out in the public domain. Initially, the conservatives were seen as being tied to the traditional alliance of the clergy, the bazaar and the governmental security and intelligence apparatus, while the reformists were viewed as having popular appeal amongst the masses, particularly women and youth. In 2003, this situation changed when a new order of conservatives arrived on the scene winning nationwide municipal elections that were set against a low turnout: Rather than coming from the traditional elements, the so-called “neo-conservatives” of Iran, led by the Abadgaran group, were mostly affiliated with, and had served in, the Revolutionary Guard and thus represented another sector of the Islamic establishment. This resulted in a decisive shift in the political dynamics whereby an otherwise unenthused conservative base was revitalized and remodeled by a new political class of revolutionary ideologues, many of whom were former guardsmen and war veterans.

¹⁰<http://www.guardian.co.uk/commentisfree/2009/jun/13/iranian-election>

¹¹<http://www.presstv.ir/detail.aspx?id=91278§ionid=351020101>

As the mayor of Tehran from 2003-2005, Ahmadinejad frequently criticized the then Khatami administration for not responding to the bread and butter issues and needs of the general public and accused the administration for being part of an entrenched and corrupt managerial system. In his 2005 election, he presented himself as “mardomyar” or “friend of the people” set against the vested interests of the reformists who had used any popular support for greater freedom only to further their own political ambitions. In this respect, this development represented a distinct departure from the rivalry of the last decade which the CH report refers to: the reformists were cast as no longer being a democratic, anti-establishment movement but one that had become all too familiar with power and privilege. The stage was set for hardliners to make a comeback by winning support among the people on a platform of social conservatism (focusing on family and community values), economic populism and a resurgent nationalism fuelled by Iran’s nuclear program. It is against this backdrop and development that the results of the 2009 should be judged and evaluated, and not during the period that marked Khatami’s first term that the authors seem to be referring to.

WHERE DID AHMADINEJAD SOURCE HIS VOTES?

Another major concern raised in the report is that, according to the official data, President Ahmadinejad received approximately 13m more votes in this election than the combined conservative vote in the first round of the 2005 election. Naturally, this begs the question as to where all these extra votes came from. However, this is actually a somewhat spurious statement because the report deliberately omits any reference to the 2005 election’s second round. This may have been because the authors suppose that those people who voted for Ahmadinejad in the second round did so purely on a tactical basis, namely an anti-Rafsanjani one, and that what transpired in the second round is not indicative of their true political inclinations. While this may be correct to some extent, it could also have been because many voters had been won over to Mr Ahmadinejad’s populist and nationalist platform. Indeed, in 2005, Karroubi campaigned on a promise to share the nation’s oil wealth amongst the people, a move regarded as having no economic sense, but which nonetheless resounded in poorer parts of the country. His credentials and commitment to constitutional and social reform was not what he actually enticed voters with, and therefore there is some doubt as to whether those who voted for him could be described as being reformist-inclined. If, however, we take the result of the second round of the 2005 election and compare it to that of the 2009 election we see very little difference (61.69 to 62.46%). The Terror Free Tomorrow Poll, conducted with the support of the BBC 3 weeks prior to the election¹², gave Mr Ahmadinejad a similar margin, as did the local Aleph poll¹³ conducted a few days before June 12th. Moreover, both surveys gave insignificant levels of support to the two minor candidates standing in the election, Mohsen Rezai and Mehdi Karroubi. It is assumed that people who did not vote for Ahmadinejad in 2005 would vote for Mousavi this time round, and this is a reasonable enough hypothesis to make, although it can only be regarded as a general rule and model to use.

Much has been made of Lorestan, the home province of Karroubi, since Mr Ahmadinejad won with an impressive 70% of the vote in this province even though he only took about 7% of the vote in the first round of the 2005 election – indeed, the votes of all three conservative candidates combined, totaled only about 18%. But when he faced off with Rafsanjani in the second round, he managed to secure as much as 50%. So, in the subsequent round of voting Mr Ahmadinejad must have succeeded in winning over a sizeable percentage of Karroubi and reformist voters assuming that all those who voted for Rafsanjani in the first round did so in the

second. Figure 2 of the report, “Did Karroubi voters defect to Ahmadinejad?” should be seen in the context of whether Karroubi voters switched to Ahmadinejad in 2005 and did not revert back to Karroubi rather than that they defected in any such way in the recent election. It is thus only an assumption of the authors that those who voted for Karroubi in the first round of 2005 were likely to do so in 2009 when there is no real reason why they should do so. Lorestan, a deeply traditional and socially conservative region of Iran, did in fact vote for the conservative candidate Nateq-Nouri in the 1997 election¹⁴ against a national trend of support for Khatami.

The observation is thus made that Karroubi’s share of the vote in Lorestan has collapsed entirely from about 55% to about 5%. Even so, Karroubi did poll more than 5 times better in Lorestan than he did nationwide and nearly 25 times better in his native township of Aligodarz. The collapse of Mr Karroubi’s vote from the 2005 election is not really that surprising and, as stated above, had been predicted by several voter surveys. Back in 2005, he was a reasonably well-known figure who had served for four years as Speaker of the Iranian parliament and was very much in the public light. This time, he was not campaigning from any position of authority within the government, although he did have the backing of his own political party and newspaper. The platform of economic populism that had epitomized his 2005 bid and which he repeated again in 2009 had been largely undercut and usurped by Mr Ahmadinejad this time round. The report even admits the possibility of this: “Ahmadinejad’s supporters claim that people voted for Ahmadinejad in 2009 for precisely the same reasons that they voted for Karroubi in 2005”. In 1997, there were two frontrunners and two well-known but minor candidates. The outcome of the result was that they minors received very little support at all since the election was regarded as being a two-horse race. It is also questionable as to whether Mr Karroubi can be seen as a “man of the people” since he is, after all, suspected of being linked to the same kleptocratic clerical mafia as Hashemi Rafsanjani. Indeed, Karroubi’s claim to be a populist was seriously called into question in one of the presidential debates where Ahmadinejad accused him of accepting bribes and for enjoying a wealthy and privileged lifestyle in his somewhat palatial home¹⁵. Overall, if we look at the numbers involved, we can claim that support for Mr Rafsanjani and Mr Moin (who was the principle reformist candidate) in the first round translated into support for the former in the second round, whereas Ahmadinejad was able to draw support not only from his two other conservative rivals but also from that of Mr Karroubi and Mr Mehralizadeh. Mostafa Moin, and not Mehdi Karroubi, was regarded as being the reformist movement’s leading candidate and was backed most of the 2nd Khordad alliance’s parties. Thus, on top of the 11.5 million total for the conservative candidates, Ahmadinejad secured the support of 5.8 million supporters in the second round who had voted for reformist candidates in the first to reach the decisive figure of 17.3 million.

Candidate	Votes in the first round	Candidate	Votes second round
Rafsanjani	6,211,937	Rafsanjani	10,046,701
Moin	4,095,827		
Ahmadinejad	5,711,696	Ahmadinejad	17,284,782
Larijani	1,713,810		
Qalibaf	4,083,951		
Karroubi	5,070,114		
Mehralizadeh	1,288,640		

Table 1: 2005 election breakdown between the candidates over both rounds

Table 2 below shows the changes in voting amongst all 30 provinces between the second round of 2005 and 2009. Ahmadinejad's biggest swing was in Kerman province that went from having the second lowest vote proportion for him in 2005 to the highest in 2009. However, this is not totally unexpected since it is the home of Ahmadinejad's rival in the 2005 election, Hashemi Rafsanjani. The home advantage that Rafsanjani enjoyed at the time meant that it is difficult to compare support for Mr Ahmadinejad then and now. The greatest swing against Mr Ahmadinejad was in West Azerbaijan which he lost to Mr Mousavi. He also nearly lost in the provinces of Tehran and Ardabil with a large decline in his share of the vote reported in both.

Province	Ahmadinejad vote 2005 (%)	Ahmadinejad vote 2009 (%)	Swing to Ahmadinejad
Azerbaijan East	67.98	56.26	- 11.72
Azerbaijan West	60.18	46.76	- 13.42
Ardabil	62.93	50.76	- 12.17
Bushehr	55.81	60.60	+ 4.79
Chaharmahal	71.80	72.58	+ 0.78
Esfahan	63.69	68.82	+ 5.13
Fars	57.14	69.67	+ 12.53
Gilan	64.35	67.32	+ 2.97
Golestan	53.63	59.26	+ 5.63
Hamadan	70.40	75.13	+ 4.73
Hormozgan	40.27	65.00	+ 24.73
Ilam	51.20	63.86	+ 12.65
Kerman	42.02	77.06	+ 35.04
Kermanshah	52.75	58.32	+ 5.57
Khorasan North	60.75	73.51	+ 12.76
Khorasan Razavi	68.17	69.60	+ 1.43
Khorasan South	66.64	74.64	+ 8.00
Kohgiluyeh	61.23	68.88	+ 7.65
Khuzestan	60.75	63.92	+ 3.17
Kordestan	49.60	51.70	+ 2.10
Lorestan	49.70	70.29	+ 20.59
Markazi	71.89	72.90	+ 1.01
Mazandaran	63.68	67.15	+ 3.47
Qazvin	62.13	71.94	+ 9.81
Qom	73.16	70.52	- 2.64
Semnan	71.70	77.00	+ 5.30
Sistan Baluchestan	44.37	45.80	+ 1.43
Tehran	61.10	50.80	- 10.30
Yazd	66.82	55.29	- 11.53
Zanjan	67.62	75.89	+ 8.27

TABLE 2 (Swings for Ahmadinejad in each province are in blue, against are in red)

¹²<http://www.terrorfreetomorrow.org/upimagestft/TFT%20Iran%20Survey%20Report%200609.pdf>

¹³<http://alef.ir/1388/content/view/47404/>

¹⁴<http://www.netnative.com/news/01/jun/1059.html>

¹⁵http://www.google.com/hostednews/afp/article/ALeqM5j5-tHE8XRLK0Bt_e09AIqnpEI-tw

Even so, there are still 7 million out of 11.5 million new votes for Ahmadinejad that would have come from those who did not participate in 2005 or were too young at the time to do so at the time. Professor Farideh Farhi of the university of Hawaii has stated that she "simply, simply cannot believe" that Ahmadinejad could have won so many of these voters. Again, it is easy to think of the 40% of the electorate as having boycotted the 2005 election out of protest with the system but it was more likely to be a case of disinterest and apathy, certainly outside of the big cities. The election was widely expected to mean the return of Hashemi Rafsanjani and was a fairly lackluster event unlike in the 2009 contest that galvanized the electorate.

Table 3, below, shows the change of support for Ahmadinejad in 25 major cities across Iran where about a third of the population resides. It was in these places that the Mousavi campaign was so vibrant and confident in the closing days before the election and should represent major changes compared to 2005. As can be seen, 15 out of the 25 (i.e. 60%) show swings of various degrees against the incumbent with the most dramatic being in Yazd, Tehran and Tabriz. Had such a sizeable swing been uniform and across all districts, Mr Ahmadinejad would have been forced into a second round or could even have lost outright in the first round. Of particular interest to the following section is the result from the city of Qazvin that, despite the significant swing against Ahmadinejad in the urban area itself, heavy support in the rural districts of the small province ensured an overall swing in favor of him in the province of Qazvin.

Municipality district	Ahmadinejad 2005	Ahmadinejad 2009	Swing (%)
Ahvaz	57.05	60.16	+ 3.11
Arak	69.72	65.93	- 3.79
Ardabil	61.26	48.03	- 13.23
Bandar Abbas	61.12	66.54	+ 5.42
Bushehr	58.04	51.55	- 6.49
Esfahan	69.65	60.89	- 8.76
Hamadan	70.52	67.46	- 3.06
Karaj	60.43	53.72	- 6.71
Kerman	54.52	67.25	+ 12.73
Kermanshah	49.54	57.78	+ 8.24
Khorramabad	43.37	70.16	+ 26.79
Mashad	67.79	66.88	- 0.91
Oroumiyeh	62.43	52.68	- 9.75
Qazvin	73.71	67.32	- 6.39
Qom	73.16	70.52	- 2.64
Rasht	62.83	61.59	- 1.24
Reyy	71.71	64.74	- 6.97
Sari	61.45	66.62	+ 5.17
Sanandaj	41.68	48.84	+ 7.16
Shiraz	54.69	59.97	+ 5.22
Tabriz	65.54	49.69	- 15.85
Tehran	58.60	43.31	- 15.29
Yazd	63.61	45.84	- 17.77
Zahedan	38.87	45.12	+ 6.25
Zanjan	68.52	71.72	+ 3.20

Table 3: Swings across 25 major cities in Iran (red against incumbent)

THE POPULARITY OF AHMADINEJAD AMONG RURAL VOTERS

The votes of rural communities appeared to be decisive in the presidential election and it was reported that up to 75% of voters¹⁶ in the countryside had supported the incumbent this time round, as indeed they had done in the 2001 re-election of Khatami. The CH report cites trends shows that rural voters, who make up about a third of the population, tend not to support conservative candidates in past presidential elections. In the case of the first round of the 2005 elections, as well as those of 2001 and 1997, rural provinces did indeed, by and large, vote for reformist candidates. That said, rural voters do not tend to be natural supporters of the reform movement and its political goals. Illiteracy in villages in Iran is believed to be much higher than the national average of around 20%¹⁷, and so distinctly liberal issues, such as freedom of the press, are of lesser priority than those concerned with relieving poverty and infrastructure improvement. As well as this, government involvement in the lives of ordinary people is generally seen as being less pervasive and intrusive than in the major cities due to the fact that a traditional system of political and social organization remains in place within these communities to this day. As such, people in rural areas of the country are, on the whole, less concerned with the political and social agenda that typifies the urban and middle-class reformist movement, and are more concerned about economic issues as well as those relating to government regulation and red tape. If Iranians in rural areas have had a track record of voting for reformists, it is probably out of expectation of promises for social justice that Mr Khatami declared he would deliver on as part of his 1997 presidential election bid.

It is also a mistake to associate any level of support for the conservative faction in rural Iran with Mr Ahmadinejad himself who has attempted to avoid being seen as linked to any one particular political group. As Professor Salehi-Isfahani points out, the electorate in rural communities is more prone and responsive to being swayed with populist promises, be they from reformists or indeed conservatives, such as the sharing of the national oil wealth among the people as well as fighting corruption and discrimination. The simple lifestyle that Ahmadinejad likes to project as leading also plays well with people who may see the “son of a blacksmith from Aradan” as being of their own social class and thus deserving of their support. In the course of the last four years, Ahmadinejad, indeed, has focused much of his government’s attention on rural development and meeting the needs of those who live in the more than 50,000 villages across the country and, crucially, has visited nearly every district in the country, which is an unprecedented achievement by any ruler in the nation’s history. Critics have argued that this is just recourse to demagoguery, tantamount to campaigning at the expense of the national treasury, but there is no doubt that simply by visiting these areas he would have received exposure and attracted support. Indeed, an article in the Washington Post¹⁷, claiming that support for him was falling in the run up to election day, nonetheless reported that many residents of the town had appreciated the simple fact that he was the first head of government to visit their small town and were prepared to vote for him merely on account of this. Gauging public opinion in rural areas of the country is not easy, but a rare journey and insight into rural Iran was reported 2 years ago by the Christian Science Monitor¹⁹ entitled “Ahmadinejad: rock star in rural Iran” which indicated that Ahmadinejad enjoyed in the countryside the kind of support which Khatami received at the height of his popularity and was thronged with well-wishers. It is unlikely that such sentiment would have abated in the two years since.

¹⁶http://news.xinhuanet.com/english/2009-06/13/content_11534856.htm

Just a month before the election, there was heavy criticism of the Government's decision to dispense cash and food to as many as 5.5 million people living in rural areas²⁰. Whether one agrees with the rationale and political ethics involved in such a decision, which could be seen as a blatant act of voter bribery, it clearly would have influenced the political inclinations of many of the beneficiaries of such handouts. Therefore, while the Chatham House report attempts to suggest that Ahmadinejad and other conservative candidates were "markedly unpopular" in rural districts, it is presumptive to portray the countryside as being unfavorable towards Ahmadinejad on account of what transpired in the first round or previous elections where he did not stand. The hitherto unknown candidate of 2005 did not have the chance or the time to present himself to those who live outside of the big cities. Besides Tehran where he was mayor, he was little known throughout the country at the time of his election except in his native Semnan province as well in Ardabil where he had served as a governor. It also neglects the fact that Ahmadinejad has had four years with which to build his base by supporting this constituency. Were we to look at Ronald Reagan's re-election in 1984, we would see that he swept the board taking with him many Democratic strongholds with the support of so-called "Reagan Democrats". Had the election gone down party lines, Walter Mondale may have had a decent chance of ousting the incumbent president.

A reference is also made to the comments of professor Eric Hooglund²¹ who is a respected scholar of rural Iran and who has been conducting fieldwork in Iran for over 30 years, although his research over the last 4 years has been relatively limited. In a somewhat anecdotal and subjective account of events in one village, Baghe Iman, which is apparently 15 miles from Shiraz, the provincial capital of Fars, Hooglund described how contacts he knew there had reported a sense of outrage in the village that Ahmadinejad has won the election – the problem is attempting to verify the claim since the name appears to be fictitious and there is no such place on the map. It is also deliberately misleading to suppose that rural political sentiment is indicative of the views of a single village. Interestingly, Hooglund describes what appears to be intimidation against Ahmadinejad supporters, one of the very things cited by Mr Mousavi as happening to his followers and a reason why the election ought to be annulled. A close analysis of the individual ballot boxes should shed some light on sharp differences should Hooglund deign to provide the real name for the village in question and its district.

Finally, the incumbency factor, especially in rural Iran, should not be dismissed. While most of the Iranian peasantry has access to radio or television sets, their source of information beyond the state-run media is limited. Due to Mr Mousavi's 20-year absence from politics, it was always going to be an uphill struggle even making himself known among residents of the villages and small towns. These places were far removed from the colorful and raucous scenes associated with the Mousavi campaign in Tehran and the big cities. Compounded to this, is the fact that Iranians were not given a choice of candidates whose box they had to tick, rather they had to write in the name of their chosen representative. In 2001, Mr Khatami won with nearly 78% of the vote both in urban and rural areas alike. The simple fact that he was better known and traveled compared to his rivals was a major reason for his overwhelming reelection victory. Ahmadinejad, therefore, had a clear advantage as a sitting president among this group. Incumbents in previous presidential contests – 1985,1993,2001 – had all won by a landslide.

¹⁷http://globalis.gvu.unu.edu/indicator_detail.cfm?country=IR&indicatorid=27

¹⁸http://www.washingtonpost.com/wpdyn/content/article/2009/06/06/AR2009060602177_2.html

¹⁹<http://www.csmonitor.com/2007/1207/p01s07-wome.html>

²⁰http://www.breitbart.com/article.php?id=D989FS480&show_article=1

²¹<http://www.nytimes.com/2009/06/19/opinion/19iht-edhooglund.html>

ETHNIC AND REGIONAL VARIATIONS IN THE RESULTS

The CH report claims that “regional variations in participation have disappeared” and that much of Iran’s rural population is comprised of ethnic minorities - Lors, Baluch, Kurds, Azeris and Arabs amongst others. These ethnic and religious minorities are seen as having a history both of voting reformist and also of voting for members of their own ethnic group. For example, they were an important segment of Khatami’s vote in 1997 and voted largely for Karroubi and Moin in 2005. It is therefore true that many ethnic minorities have had a tendency to vote for reformists in both parliamentary and presidential elections in Iran, however, as we have seen in the case of Lorestan and also in Mazandaran, – both of them home to ethnic minorities- these were the only two provinces that voted against the national trend in 1997 and voted for the conservative candidate, Mr Nateq-Nouri, instead.

Candidate	Home province	Share of the vote 2005 (%)
Ahmadinejad	Semnan	33.87
Karroubi	Lorestan	55.51
Larijani	Mazandaran	35.14
Mehralizadeh	East Azerbaijan	28.94
Moin	Esfahan	11.17
Qalibaf	Khorasan Razavi	34.84
Rafsanjani	Kerman	41.47

In the 2005 election, home advantage was apparent but it was not the case that candidates won a majority of support in their native regions. Indeed, Mostafa Moin did quite poorly in Esfahan province where he hails from. Only Karroubi was able to garner a majority in Lorestan. It is also worth remembering that many of the individuals within Iran’s civilian and military establishment are themselves of ethnic origin, including Ayatollah Khamenei whose father comes from the same town in East Azerbaijan as Mr Mousavi does. It has even been alleged that ethnic Azeris have a disproportionate influence in the government compared to all other groups, including Persians²². This may not be surprising when one considers that the Shiite Safavid and Qajari empires had their roots in Iranian Azerbaijan. In 2009, as it turns out, ethnic minority support for Mousavi was high in many parts of the country. Of the two provinces that Mousavi won, namely West Azerbaijan and Sistan va Baluchestan, both are ethnic regions as well as homes to large numbers of Sunni Muslims. Many commentators have since remarked that Mr Mousavi should have done much better in his home province of East Azerbaijan but it should be noted that Mr Mehralizadeh, also a native of Azerbaijan, received only about 29% of the Azeri vote in 2005. Nonetheless, Mr Mousavi did win in his home district of Shabestar and did very well in all three Azeri regions compared to elsewhere in the country.

In the 2005 election there was indeed more regional variation, but this was also because there were no clear frontrunners and there were more candidates in the race, all coming from different parts of the country. In the presidential election of 2001, when the incumbent president Khatami was running for reelection, these regional variations were not apparent at all despite the presence of ten candidates – Khatami won right across the board by a large margin.

²²http://en.wikipedia.org/wiki/Iranian_Azeris

In the 2009 election, ethnic voting does indeed play a significant part. Outside of his native Lorestan, Mr Karroubi also did relatively well in parts of Ilam and northern Khuzestan: The table below lists the five districts that reported the largest proportion of the vote for Karroubi.

Township	Province	Votes for Karroubi (%)
Aligodarz	Lorestan	21.25
Dalfan	Lorestan	7.78
Abdanan	Ilam	6.80
Aznaa	Lorestan	4.48
Dehlaran	Ilam	3.46

All of these are towns are inhabited by ethnic Lors. The total Lori-speaking population in Iran only numbers some 2.6 million or about 3.7% of the total Iranian population.

Next, turning to Rezai, we find that he also appears to have done well in his home province of Khuzestan winning a plurality in one town and a sizeable share of the vote in others.

Township	Province	Votes for Rezai (%)
Lali	Khuzestan	62.09
Masjed Soleiman	Khuzestan	33.18
Izeh	Khuzestan	30.69
Koohrang	Charmahal Bakhtiari	29.81
Shushtar	Khuzestan	13.77

Lali is a Bakhtiari town in Khuzestan that is where Mr Rezai's clan lives. Bakhtiyaris also live in Chaharmahal Bakhtiari, as the name implies. Here, in Koohrang and in the town of Izeh, another Bakhtiari town in Khuzestan, Mr Rezai attained way above his national average.

Mr Mousavi appears to have done best in one region but it is not his home province.

Township	Province	Votes for Mousavi (%)
Khash	Sistan Baluchestan	81.06
Saravan	Sistan Baluchestan	74.87
Chabahar	Sistan Baluchestan	71.79
Zaboli	Sistan Baluchestan	70.05
Sibsouran	Sistan Baluchestan	69.37

All of the districts are within the border region of Sistan va Baluchestan which is a hotbed of ethnic separatist activity and supported the reformist Moin in the 2005 election. Clearly, Baluchi Sunnis were the most pro-Mousavi ethnic and religious minority and the result from Khash is far in excess of Mousavi's national average of about 34%.

Finally, we turn to the five districts that reported the highest share of support for Ahmadinejad.

Township	Province	Votes for Ahmadinejad (%)
Roudbar jonoub	Kerman	97.82
Rigan	Kerman	96.37
Qala Ganj	Kerman	95.32
Anbarabad	Kerman	94.32
Manojan	Kerman	93.26

These figures, all of them from Kerman province, are exceptionally high and are all from rural districts as well. While naturally suspect, they are not necessarily unbelievable. Only one other district, Zaveh in Khorasan Razavi, reported giving more than Mr Ahmadinejad a proportion of the vote over 90%. Even so, these are higher than even in Ahmadinejad’s native town of Aradan in Semnan province where he received 87.40%. It is results like this that ought to be the subject of any independent probe to determine if any artificial manipulation had taken place. At this point not enough is known about the circumstances pertinent to these districts. However, even if these results were annulled, the outcome of the election would not in any way be changed.

In relation to Mr Mousavi, 37 out of the 46 districts he won (i.e. 80%), were in ethnic regions. This is shown in Table 2 below and, as can be seen, Mousavi carried many Azeri, Kurdish and Baluchi districts. These were expected to vote in the way that they did and so there is nothing surprising about this. Few Persian-speaking areas outside of Tehran province were supportive of the challenger. Indeed, Mr. Ahmadinejad appears to have won the Persian heartland convincingly, which may, possibly, suggest a backlash against the fact that Mr Mousavi was an ethnic Azeri. An element of ethnic rivalry and difference in support for the candidates is also evident in the fact that the Sistani part of Sistan va Baluchestan province (such as the city of Zabol) voted strongly for Ahmadinejad whereas the majority Baluch areas backed Mousavi. The New York Times reported the views of Iranian travelers just over the border in Basra in Iraq²³. From the interviews conducted, Ahmadinejad supporters were all from the distinctly Persian areas of Esfahan, Qom and Shiraz while Mousavi followers were from Tehran and Kurdish regions. One isolated result which appears to be interesting is that in the remote rural, Persian-speaking district of Darmiyan in South Khorasan, Mr Mousavi received as much as 47.23% of the vote. This is significant because South Khorasan is regarded as being an Ahmadinejad stronghold. Indeed, in neighboring districts Ahmadinejad was winning 70-80% of the vote. It serves to illustrate just how complex and how localized voting preferences across the country actually were. In short, it is hard to make out why the Chatham House report portrayed the election results as showing no diversity and variety across the 366 districts and 30 provinces. Table 4 below provides a comprehensive assessment of the 46 districts won by Mr Mousavi and their ethnic affiliations. In 2005, Mr Rafsanjani won 38 districts, many also in ethnic areas.

²³<http://www.nytimes.com/2009/07/09/world/middleeast/09border.html>

Township	Province	Mousavi (%)	Ethnic minority group
Shabestar	E Azerbaijan	50.58	Azeri Turk
Oshnavieh	W Azerbaijan	53.10	Azeri Turk
Bukan	W Azerbaijan	61.93	Kurd
Piranshahr	W Azerbaijan	62.11	Kurd
Sardasht	W Azerbaijan	48.44	Kurd
Salmas	W Azerbaijan	50.82	Azeri Turk
Showt	W Azerbaijan	53.76	Azeri Turk
Mako	W Azerbaijan	65.06	Azeri Turk
Mahabad	W Azerbaijan	59.04	Kurd
Miandoab	W Azerbaijan	47.25	Azeri Turk
Naghadeh	W Azerbaijan	53.05	Kurd
Ardabil	Ardabil	49.21	Azeri Turk
Pilehsavar	Ardabil	51.05	Azeri Turk
Pars-Abad	Ardabil	60.09	Azeri Turk
Garmi	Ardabil	53.91	Azeri Turk
Kangan	Bushehr	48.99	Arab
Aqqala	Golestan	50.18	Mazandarani
Bandar Torkaman	Golestan	61.46	Turkman
Kalaleh	Golestan	52.94	Mazandarani
Maraveh Tappeh	Golestan	66.24	Mazandarani
Bastak	Hormozgan	69.36	Persian
Parsyan	Hormozgan	62.14	Persian
Khamir	Hormozgan	62.91	Persian
Qeshm	Hormozgan	52.68	Arab
Paveh	Kermanshah	52.21	Kurd
Javanroud	Kermanshah	47.52	Kurd
Dalaho	Kermanshah	65.52	Kurd
Ravansar	Kermanshah	49.61	Kurd
Khaf	Khorasan Razavi	51.40	Persian
Baneh	Kordestan	54.95	Kurd
Saggez	Kordestan	62.43	Kurd
Marivan	Kordestan	54.14	Kurd
Iranshahr	Sistan Baluchestan	58.26	Baluch
Chabahar	Sistan Baluchestan	71.79	Baluch
Khash	Sistan Baluchestan	81.06	Baluch
Zaboli	Sistan Baluchestan	70.05	Baluch
Zahedan	Sistan Baluchestan	52.25	Baluch
Saravan	Sistan Baluchestan	74.87	Baluch
Sibsouran	Sistan Baluchestan	69.37	Baluch
Konarak	Sistan Baluchestan	65.52	Baluch
Nikshahr	Sistan Baluchestan	63.35	Baluch
Tehran city	Tehran	51.83	Persian
Shemiranat	Tehran	62.77	Persian
Ardakan	Yazd	53.17	Persian
Sadooq	Yazd	50.34	Persian
Yazd city	Yazd	50.74	Persian

TABLE 4: The 46 districts Mousavi won and their respective ethnic population

STATISTICAL AND NUMERICAL ANALYSIS

The Chatham House report refrains from an in depth numerical analysis of the election data deferring to that to others. It does, however, at least mention the work of Polish astronomer Boudwijn Roukema who found that too many leading 2's and not enough leading 1's in Ahmadinejad's numbers. Roukema also reports another anomaly: too many leading 7's for Karroubi's totals. A first digit rule, known as Benford's law, states that in lists of numbers from many (but not all) real-life sources of data, the leading digit is distributed in a specific, non-uniform way. However, it is also acknowledged that first digit distributions do not always conform with Benford's expectation and that this was noticed by Benford himself. The reason for this is because were we to have a scenario where all towns reported 1000 voters, all subsequently voted, then the frequency of the numbers would broadly match of the vote proportions. In the case of election returns, one big reason Benford's Law can fail is that voting areas aren't necessarily randomly sized. For example, as Sam Wang of Princeton university comments, if voting areas are set up to be uniformly sized to contain 100,000 people each, then close races will produce lots of 4's and 5's as leading digits²⁴. However, ignoring the first digit gives lists of numbers that are not subject to the size constraint and should therefore follow Benford's law. Mebane himself has conducted an exhaustive mathematical analysis into the results and has demonstrated that they display a large number of outliers. So, while the overall share of the vote for Ahmadinejad was 62-63%, there were results that strayed far from this general trend. In addition, Mebane found that when looking at vote totals for whole towns, the second digits appeared to follow the expectation of Benford's law. "A statistically sharp approach to statistical testing—taking the multiple testing into account—fails to provide evidence against the hypothesis that the second digits are distributed according to Benford's Law." Mebane acknowledges that the "model is complicated, but it is easy to see that several aspects of the results seem natural. Places that strongly supported Ahmadinejad in the first stage of the 2005 election tended to support him in 2009...places that strongly supported Karroubi in 2005 tended strongly to support him in 2009, especially so as 2009 turnout surged above 2005 levels." However, Mebane finds that an inspection of the second digits at the ballot box level reveal that "the tests are insignificant for Mousavi and highly significant—well beyond 99 percent confidence—for the other three candidates. The results for both Karroubi and Rezaei reflect the very small proportions of the votes each received." Mebane concludes that in the case of the two minor candidates: "this might be caused by either (a) inherently low levels of support, (b) voters strategically abandoning the candidates, or (c) fraudulent." Based on opinion poll surveys in the run up to this election and the results of the 1997 election where the two minor candidates each received about 2% of the vote, it is plausible to infer both (a) and (b) as likely explanations. Of particular interest is that Mebane found "***No significant distortions are apparent for Mousavi's vote counts.***" This makes it very unlikely that any votes were discarded.

One indication of tampering is when a ballot box contains an unusually low or high proportion of spoiled ballot papers — for example, adding fake votes, or accepting invalid votes in favour of your preferred candidate that should have been discarded will decrease the proportion of invalid votes, while invalidating legitimate votes for other candidates will increase it. Also, when people commit fraud by adding extra votes, they often forget to add invalid ones. Mebane remarks "to support the benign interpretation, the additional evidence needs to explain how the strong support for Ahmadinejad happens to line up so strongly with the proportion of invalid votes in the ballot-box vote counts. The increase in Ahmadinejad's average vote proportion as the invalid vote proportion decreases in this interval is very steep. As the invalid vote proportion falls from 0.00385 down to zero, the average Ahmadinejad vote proportion increases steadily up to a value

of about 0.78 (at about invalid= 0.0018). Such a steep relationship makes it implausible to argue that the relationship between invalid vote proportions and the respective shifts in votes for Ahmadinejad or Mousavi reflects changes in protest votes, i.e., in blank or spoiled ballots.”

However the distribution of invalid votes in the Iranian election follows a general trend whereby ethnic areas, such as Kordestan, displaying the highest proportion in the table below, tend to include a greater proportion of spoilt ballots that are interpreted as being a sign of protest against the system as a whole. That said, in some ethnic towns where Ahmadinejad did very poorly, such as Zaboli in Sistan va Baluchestan, the invalid proportion was as low as 0.19%, far below the national average of over 1%. In the Persian speaking areas, Tehran and Qom provinces reflected the largest proportion of invalid ballots that suggests that this too may have been an urban protest vote by the middle class there (cf. page 16 of the CH report). Therefore, ethnic and urban areas, as opposed to Persian rural areas, have a tendency to attract more spoilt ballots.

Province	Ahmadinejad 2009 (%)	Invalid 2009 (%)	Invalid 2005 (%)
Azerbaijan East	56.26	0.856	2.537
Azerbaijan West	46.76	1.506	4.892
Ardabil	50.76	0.681	2.413
Bushehr	60.60	1.254	2.371
Chaharmahal	72.58	0.596	1.712
Esfahan	68.82	0.954	2.396
Fars	69.67	0.728	2.479
Gilan	67.32	0.788	2.671
Golestan	59.26	1.421	2.106
Hamadan	75.13	0.963	1.979
Hormozgan	65.00	0.765	2.576
Ilam	63.86	1.118	2.985
Kerman	77.06	0.672	1.335
Kermanshah	58.32	1.384	4.354
Khorasan North	73.51	0.662	1.668
Khorasan Razavi	69.60	0.762	1.960
Khorasan South	74.64	0.501	1.355
Kohgiluyeh	68.88	0.811	1.529
Khuzestan	63.92	1.374	3.674
Kordestan	51.70	2.013	8.720
Lorestan	70.29	0.864	2.537
Markazi	72.90	1.011	1.981
Mazandaran	67.15	0.811	1.927
Qazvin	71.94	0.879	1.742
Qom	70.52	1.587	1.794
Semnan	77.00	0.989	2.141
Sistan v Baluchestan	45.80	0.568	1.284
Tehran	50.80	1.538	2.325
Yazd	55.29	0.969	2.100
Zanjan	75.89	0.885	1.910

Table 5: Persian-majority provinces are in red, ethnic are in blue

An analysis of ballot boxes in a sample of 5 districts does not indicate any noticeable correlation:

Township	Ahmadinejad (%)	2 nd digit mean	Last digit mean	Invalid votes (%)
Ashtiyan	77.09	3.650	4.000	1.245
Marraveh Tappe	26.49	3.656	3.844	1.550
Mehran	74.65	4.385	5.115	1.234
Mako	31.75	4.213	5.227	0.700
Zarrindasht	87.09	4.510	4.653	0.344

The lowest percentage of invalid votes does indeed happen to be in Zarrindasht where Ahmadinejad received the highest share of the vote out of all 5 districts. But, as we can see, the lowest support for Ahmadinejad was in the ethnic Golestan town of Marraveh Tappe that also had the highest proportion of invalid votes, which may imply an ethnic-related sign of protest.

As well as the districts/counties, results released by the MOI also provided details of the sub-districts that are usually the rural areas that adjoin every town. Mebane notes that the town of Marvdasht in Fars is one that showed an increase in support for Ahmadinejad that his model did not predict. Two of the rural sub-districts are considered here as well as two from rural areas in Tarbate Jam and Darmiyan respectively where Mousavi did very well.

Sub-district	Ahmadinejad (%)	2 nd digit mean	Last digit mean	Invalid votes (%)
Doroudzan	88.60	4.548	4.323	0.410
Sidan	90.62	3.056	4.222	0.567

Sub-district	Mousavi (%)	2 nd digit mean	Last digit mean	Invalid votes (%)
Bouzhgan	69.70	4.430	5.071	0.509
Gazik	77.42	4.456	4.636	0.534

In the first two cases, the proportion of invalid votes is low and support for Ahmadinejad is very high. But in the case of Sidan, the 2nd digit means are considerably lower than the last digits while the ones for Doroudzan are not significantly deviant. And it is clear from the latter two, that Mousavi won also with a low proportion of invalid votes with 2nd digits that are quite high. It is more probable that, as described above, rural areas – especially Persian-speaking ones - do not have a habit of spoiling ballots as with urban and ethnic ones where Mousavi did quite well.

Two graduate students at Columbia University, Beber and Scacco, have looked at the last digits from the provinces for all four candidates and noticed that there was a distinct anomaly – there were too few 5’s and too many 7’s, have also conducted a study. They concluded there was a 1 in 500 chance at best that this was the result of a natural process having compared results with a “clean” Swedish election. They deduced that they were likely to have been manually fabricated. However, had the results been computer generated, the last digits we might expect to find a uniform distribution. When the district results, which were released at the same as those from the provinces, were analysed there was no sign of any fraudulent manipulation: “After we wrote our op-ed using the province-level data, we’ve now also done some preliminary tests with the county-level data. In the latter dataset, the last digits don’t appear fraudulent.²⁵” Moreover if we examine the penultimate digits we see that they do conform to a more even distribution.

Digit	0	1	2	3	4	5	6	7	8	9
Last	10	11	8	8	11	5	16	19	18	14
2 nd to last	10	9	17	7	10	12	14	18	13	10

For the last digits, the mean is 12, the variance is 19.2 and the standard deviation is 4.381. A chi square test produces a χ^2 of 16.0 that gives us a p value of 0.06688 to 9 degrees of freedom.

The percentage of numbers 0-4: 40.0%

The percentage of numbers 5-9: 60.0%

For the penultimate digits, the mean is 12, the variance is 11.2 and the standard deviation is 3.346. A chi square test produces a χ^2 of 9.3333 that gives us a p value of 0.407 to 9 degrees of freedom.

The percentage of numbers 0-4: 44.2%

The percentage of numbers 5-9: 55.8%

The number 5, whose frequency was well below average for the last digits, is now dead on the mean. It is clear that we should expect to find a greater frequency of higher value numbers as we approach the last digit together with an increase in the variance. This is essentially Benford's expectation but in reverse. And this is what is occurring here.

A more careful study of the individual ballot boxes should confirm that natural processes were involved although the possibility of fraud and ballot stuffing in remote parts of the country is a distinct possibility. However, it is clear that even in cities like Khorramabad in Lorestan, for example, Mousavi still won the tallies of several ballot boxes as Kaveh Afrasiabi notes²⁶. This suggests that he was popular in some areas within the city district and is, of course, to be expected. An examination of ballot boxes from five cities, below, where Ahmadinejad won decisively, still shows that Mousavi won in certain areas. This indicates that much of the vote was being split along class and residential lines with central areas generally more supportive of Mousavi than those in the outlying suburban areas.

City	Ahmadinejad (%)	Ballot Box wins	Mousavi (%)	Ballot Box wins
Hamadan	67.46	290	21.44	41
Kerman	67.25	310	29.80	40
Khorramabad	70.16	282	24.92	19
Sari	66.62	347	30.96	54
Zanjan	75.89	218	25.04	22

Nationwide, Mr Ahmadinejad won 36,372 ballot boxes, Mr Mousavi 9,107, Mr Rezai 119 and Mr Karroubi 31. In addition, 46 boxes were tied between two of the candidates.

²⁴<http://election.princeton.edu/2009/06/21/analyzing-iran-2009-part-2-the-officialreturns>

²⁵http://www.stat.columbia.edu/~cook/movabletype/archives/2009/06/combining_findi.html

²⁶<http://www.middle-east-online.com/ENGLISH/?id=33121=33121&format=0>

Unfortunately, ballot box results from 2005 are not available since the 2009 presidential election was the first ever in which such localized data was released. This makes determining any discernible patterns difficult without having something to compare the potential significance of them with. Ahmadinejad received more votes than his three challengers in nearly 80% of ballot boxes and, as Walter Mebane has found, won a fair share of these where there was a very low invalid vote proportion. Mebane interprets this as a possible case of ballot stuffing but, as well as the reasons given above that may account for this, it may just be simply a case whereby, in areas where there was an anti-Ahmadinejad sentiment, this translated either in a boycott of the poll, a vote for Mousavi or as a spoilt protest ballot. Naturally, in areas where Ahmadinejad was popular, we would expect the exact opposite phenomenon to occur. To test the variation in the invalid vote nationwide, we tallied the number of ballot boxes where Mr Ahmadinejad or Mr Mousavi received more votes than the other, province by province, *and where the number of invalid votes was equal to or less than just 1 (ie. one or none)*. (This ignores the ballot box wins of the minor candidates that are given attention below).

Province	Ahmadinejad wins	Mousavi wins	No. of all ballot boxes
Azerbaijan East	715	127	2765
Azerbaijan West	166	100	1823
Ardabil	412	122	1154
Bushehr	63	5	621
Chaharmahal	236	2	671
Esfahan	314	7	2280
Fars	618	18	2605
Gilan	684	12	2432
Golestan	81	18	1174
Hamadan	245	0	1211
Hormozgan	213	42	997
Ilam	80	2	476
Kerman	644	4	1879
Kermanshah	170	33	1478
Khorasan North	199	23	666
Khorasan Razavi	693	40	2967
Khorasan South	214	7	497
Kohgiluyeh	303	4	662
Khuzestan	422	11	2781
Kordestan	100	30	1040
Lorestan	348	2	1243
Markazi	121	0	811
Mazandaran	599	136	2706
Qazvin	186	0	883
Qom	21	0	488
Semnan	99	2	582
Sistan Baluchestan	193	361	1320
Tehran	112	29	5981
Yazd	95	6	691
Zanjan	177	0	674

Table 6: The number of ballot boxes by province with less than 1 invalid vote

What is interesting from the table above are the results from the provinces shaded in color. In the Azeri provinces, and specifically West Azerbaijan that Mousavi won and was expected to do well in, the ratio of ballot boxes with less than 1 invalid ballot was less than 2:1 for Ahmadinejad and Mousavi respectively. In Sistan va Baluchestan province, Mr Mousavi actually won nearly twice as many ballot boxes, with one or no invalid ballots tallied, than did Mr Ahmadinejad. This undermines much of Mebane’s ballot stuffing argument since, if he is infer the occurrence of ballot stuffing in such cases, then he must admit the possibility that ballot boxes were stuffed in favor of Mousavi in this province. In Mazandaran, the results of which were called into question by the Chatham House report due to the 100% turnout, Mousavi still managed to win over 100 ballot boxes again with one or no invalid ballots. And, as we can see for Tehran, there is nothing suspicious at all with a tiny proportion of such low invalid boxes reported for both candidates.

Turning to the minor candidates, Mr Rezai won all but 2 out of 119 boxes in the provinces of Khuzestan and Chaharmahal Bakhtiyari where there was clearly a large degree of ethnic-related supported for him. 37 out of the 97 ballot boxes he won in Khuzestan received invalid ballots of less than or equal to 1, whilst this was also true for 12 out of 20 from Chaharmahal. Thus, about 40% of Rezai’s ballot box wins contained fewer than a single invalid vote. Mr Karroubi, although he received fewer votes than Mr Rezai, had more widespread support throughout the country not just in the Lori and Kurdish speaking areas of western Iran. In total, he won ballot boxes in as many as 12 provinces and of the 31 boxes where he won a plurality, 10 contained less than one invalid ballot. The distribution of his individual ballot box wins is given below.

Province	Karroubi wins	Ballot boxes with 1 or 0 invalid votes
Azerbaijan East	1	0
Azerbaijan West	2	1
Golestan	2	0
Hamadan	6	0
Ilam	1	1
Kermanshah	2	1
Khorasan Razavi	1	0
Kordestan	1	0
Lorestan	10	5
Mazandaran	2	1
Sistan v Baluchestan	1	1
Tehran	2	0

Therefore, if we are to infer the occurrence of ballot stuffing based on the number of invalid votes, it would be more reasonable to conclude that ballot box tallies were inflated for all candidates and not just Mr Ahmadinejad. This, of course, could equally be the result of a benign process. It is presumptuous to make conclusions based on a single correlation.

One interesting general trend is that although the number of ballot boxes listed as central or “markazi” sub-districts was about 60%, we could not find any significant difference in the proportions won by either candidate - they both won 60% of their ballot boxes in these central areas. However, many “central areas” are actually part of a “dehqaniat” or rural district.

Looking at just such a district, we can see something that simply does not support the notion that ballots were stuffed, as is alleged by Walter Mebane. Manojan, in Kerman province, was one of 5 districts where Ahmadinejad received the greatest proportion of his votes. Below, we inspect 30 ballot boxes taken from one of its constituent sub-districts, Asminoon. While box no. 26 looks like a classic case of a stuffed ballot - No invalid votes and 100% of votes cast for Ahmadinejad – this belies what is happening in the other ballot boxes. For example, in box no. 30, Ahmadinejad won 92.9% of the vote but the invalid proportion was 1.37% which is above the national average. Likewise, in box no. 5, Ahmadinejad won 94.7% of the vote but the invalid proportion was as high as 1.78%. This must be compared and contrasted with box no. 15 where there were no invalid votes cast and Ahmadinejad received only 86.2% of the vote, and box no.28 where too there were no invalid votes and Ahmadinejad received 91.7%. If ballot box stuffing was going on in Asminun, it doesn't seem to have been uniform or blatant. Indeed, the heterogeneous variation in the individual ballot boxes, despite the percentages for Ahmadinejad, appears to conform to what we might expect of a natural process rather than one where there was indiscriminate fraud as must have been required to rig an election.

Total	Invalid	Valid	Mousavi	Karroubi	Rezai	Ahmadi	Box no.	Sub-dist	District
921	0	921	56	5	6	854	1	asminun	manojan
519	1	518	42	0	2	474	2	asminun	manojan
550	3	547	12	0	0	535	3	asminun	manojan
384	2	382	20	1	0	361	4	asminun	manojan
281	5	276	9	0	1	266	5	asminun	manojan
327	1	326	33	0	2	291	6	asminun	manojan
356	3	353	44	1	4	304	7	asminun	manojan
432	0	432	24	0	0	408	8	asminun	manojan
423	1	422	37	1	4	380	9	asminun	manojan
360	1	359	22	0	0	337	10	asminun	manojan
446	2	444	41	0	1	402	11	asminun	manojan
437	0	437	7	0	1	429	12	asminun	manojan
669	3	666	19	0	1	646	13	asminun	manojan
450	0	450	13	0	0	437	14	asminun	manojan
754	0	754	96	4	4	650	15	asminun	manojan
426	0	426	23	1	1	401	16	asminun	manojan
627	2	625	19	0	0	606	17	asminun	manojan
169	0	169	5	0	2	162	18	asminun	manojan
470	2	468	46	0	2	420	19	asminun	manojan
223	0	223	1	0	1	221	20	asminun	manojan
284	0	284	8	0	1	275	21	asminun	manojan
981	2	979	30	0	3	946	22	asminun	manojan
490	2	488	2	0	1	485	23	asminun	manojan
445	0	445	10	0	1	434	24	asminun	manojan
309	0	309	2	0	0	307	25	asminun	manojan
480	0	480	0	0	0	480	26	asminun	manojan
469	3	466	18	0	0	448	27	asminun	manojan
697	0	697	58	0	0	639	28	asminun	manojan
714	3	711	43	1	2	665	29	asminun	manojan
728	10	718	33	4	5	676	30	asminun	manojan

Table 7: Ballot box results for Asminun, a sub-district belonging to Manojan in Kerman

OVERSEAS / INTERNATIONAL VOTE

A final word must be said for the results of the voting of over 200,000 Iranians outside of the country who also cast ballots in the presidential election. Mr Mousavi indeed won the overall share of the vote. However this belies the great variation evident in different parts of the world. Table 6, below, shows results in 10 countries, 4 Western and 3 Arab states where many Iranian expatriates reside and three others where many Iranians visit for business or personal reasons, such as pilgrimage, trade or contract work.

Country	Ahmadinejad	Ahmadinejad (%)	Mousavi	Mousavi (%)
United States	1880	12.12	13997	81.77
United Kingdom	1482		8016	
Germany	1246		7817	
Canada	199		2590	
Kuwait	7325	46.05	2837	48.03
Qatar	2657		1505	
U.A.E	9463		15936	
Iraq	12636	63.52	3760	32.70
Syria	7184		2866	
Saudi Arabia	26094		17008	

Table 8: Overseas voting in 10 countries among Iranian expatriates and visitors

It is manifestly clear that Iranian expatriates in the West overwhelmingly backed Mousavi (which may explain a sense of outrage at the result of the election amongst such voters) while those in the Arab world were essentially split between the two main candidates. These results have not been disputed as being fraudulent since they tend to reflect what was predicted. However, what is of interest to us, are the results from Iraq, Syria and Saudi Arabia because votes cast here were by travelling Iranians who were resident in Iran. The share of the vote in these three countries essentially matched that of the overall vote that is indicative of the fact that Iranians inside of Iran were voting by a margin of nearly 2:1 for the incumbent president.

CONCLUSION

The Chatham House report, although a “preliminary one”, clearly set out to cast doubt on the Iranian election without offering anything other than a superficial analysis which Dr Afrasiabi has since called a “a poor substitute for any hard evidence of fraud.” The distribution of votes across the provinces and districts does conform to general trends and comports to a natural outcome. Statistical studies have proved inexact and inconclusive as far as detecting any real evidence of fraudulent manipulation. If cheating did occur, it must have been localized and generally restricted to remote parts of the country where the population levels would not have been significant enough to sway the overall result—We thus conclude that the 10th Iranian presidential election is a genuine reflection of the will of the Iranian people and that Dr Mahmoud Ahmadinejad is the duly elected president of the Islamic Republic of Iran. It is hoped that policy makers acknowledge this fact.