

Crunching the Numbers: Actuary Population and Google Searches for 'How to Build a Bunker' in Oregon

Christopher Harrison, Austin Torres, Gloria P Todd

Center for the Advancement of Research

Discussion Paper 2348

January 2024

Any opinions expressed here are those of the large language model (LLM) and not those of The Institution. Research published in this series may include views on policy, but the institute itself takes no institutional policy positions.

The Institute is a local and virtual international research center and a place of communication between science, politics and business. It is an independent nonprofit organization supported by no one in particular. The center is not associated with any university but offers a stimulating research environment through its international network, workshops and conferences, data service, project support, research visits and doctoral programs. The Institute engages in (i) original and internationally competitive research in all fields of labor economics, (ii) development of policy concepts, and (iii) dissemination of research results and concepts to the interested public.

Discussion Papers are preliminary and are circulated to encourage discussion. Citation of such a paper should account for its provisional character, and the fact that it is made up by a large language model. A revised version may be available directly from the artificial intelligence.

ABSTRACT

Crunching the Numbers: Actuary Population and Google Searches for 'How to Build a Bunker' in Oregon

In this groundbreaking study, we explore the intriguing, albeit peculiar, correlation between the number of actuaries in Oregon and the frequency of Google searches for 'how to build a bunker'. Our research team delved into this curious relationship, venturing beyond the usual confines of actuarial analysis to unravel this enigmatic web of data. As we embarked on this statistical expedition, we couldn't help but wonder if actuarial science holds the key to unravelling the mysteries of bunker construction, or if it's merely statistical happenstance. After all, it's not every day that one ponders the segues between financial risk assessment and underground shelters! Our findings revealed a correlation coefficient of 0.6917751 and a p-value less than 0.01 for the period spanning from 2004 to 2022. The strength of this correlation raises eyebrows and prompts further investigation into the underlying factors driving the search habits of Oregonians relating to these seemingly disparate themes. With such compelling statistical evidence in hand, one might jest that perhaps actuaries possess an unspoken expertise in bunker architecture, or that the need for bunkers leads individuals to contemplatively ponder the risks lurking in financial realms. This study not only contributes to the emerging field of whimsical cross-disciplinary inquiry but also offers a solemn reminder to never underestimate the unexpected interplay of seemingly unrelated societal trends. As we conclude our foray into this unconventional research domain, we are left with a lingering question: will we ever fully comprehend the enigmatic relationship between the number of actuaries and searches for bunker construction? The riddles of the human psyche, it seems, persist much like compound interest - with both confounding and comedic effect.

Keywords:

actuary population Oregon, Google searches bunker construction Oregon, actuarial analysis
bunker correlation, actuaries and bunker architecture, statistical investigation bunker searches,
societal trends actuarial science, whimsical research correlation analysis

I. Introduction

The world of actuarial science is often associated with numbers, risk assessments, and financial analysis. However, in the midst of these numerical endeavors, there lies a peculiar and unexpected correlation with an unrelated and slightly dystopian topic - bunker construction. One might say we're delving into "bunkers of knowledge" with this one. *Cue groans*.

As we embark on this unconventional journey, we must resist the urge to "bury" ourselves in the data without appreciating the "underground" phenomenon we are studying. See what I did there? *wink*.

The pressing question emerges: What could possibly link the meticulous world of actuaries to the fascination with building underground shelters? Our research seeks to uncover whether this correlation is merely a statistical anomaly or if there exists a tangible, albeit unlikely, connection. It's a mix of math, mystery, and maybe a dollop of madness.

Now, before you "calculate" your interest in this study, let's acknowledge the inherently quirky nature of this research. After all, it's not every day that one ponders the interplay between financial risk analysis and contingency planning for doomsday scenarios. But hey, someone has to do it, right?

As we dive into the statistical depths of this correlation, we are met with surprising results that might just leave you thinking, "What in the probability distribution is going on here?!" It's as if we stumbled upon a statistical anomaly that's just waiting to break into a punchline at any moment.

II. Literature Review

The relationship between the number of actuaries in a region and the frequency of Google searches for 'how to build a bunker' has not been extensively explored in existing literature. However, several foundational studies provide insight into related phenomena. Smith and Doe (2010) investigated the geographical distribution of actuaries and found a positive correlation with the prevalence of insurance companies in a given area. Similarly, Jones (2013) analyzed search trends related to prepper culture and observed an uptick in bunker-related queries during times of political uncertainty.

Now, let's dive deeper into the rabbit hole of related works, or should I say, the "bunker hole"? Okay, maybe not. In "The Art of War" by Sun Tzu, strategic military planning is discussed, which may indirectly relate to the theme of preparation and contingency - just substitute "bunker construction" for "fortifications." On a lighter note, "The Hitchhiker's Guide to the Galaxy" by Douglas Adams offers a satirical take on survival and the absurdity of life, perhaps shedding light on the idiosyncratic thought processes inspiring such Google searches.

Of course, intrepid research requires exploring beyond the confines of texts. The researchers diligently watched episodes of "Doomsday Preppers" and "Man vs. Wild" for insights into survivalist culture and, admittedly, for some light entertainment. It turns out, the lifecycle of a salmon isn't the only thing one might learn from these shows!

Returning to the academic realm, while the connections between actuarial science and bunker queries may seem tenuous, our findings suggest a resoundingly significant correlation. As we

ponder the intricacies of this phenomenon, it seems we've stumbled upon a statistical anomaly that's begging to be embraced with a knowing wink and a cheeky pun. After all, who knew that the intersection of actuarial analysis and 'how to build a bunker' searches could hold such mysterious allure? It's a statistical rabbit hole of epic proportions, or perhaps we should say, a "dugout" of statistical intrigue.

III. Methodology

Data Collection:

Ah, the hallowed grounds of data collection, where we tread lightly to unearth the buried treasures of statistical significance - and possibly a few dad jokes along the way. Our intrepid research team scoured the digital landscapes, sifting through the virtual sands of the Bureau of Labor Statistics and the troves of Google Trends data. It was a bit like panning for nuggets of correlation amidst the pixels and algorithms. The internet may be vast, but our determination to uncover the secrets of actuaries and bunker-building aficionados knew no bounds. It's like a treasure hunt, but with more spreadsheets and fewer pirates – unless you count those trying to navigate the sea of information.

Under one digital rock after another, we found the number of actuaries in Oregon, gleaming like the elusive gems of statistical prowess. And then, in the mysterious caverns of Google's search database, we stumbled upon the search volumes for 'how to build a bunker', a digital breadcrumb trail leading us down the rabbit hole of curiosity – or in this case, the rabbit bunker. It's the

digital equivalent of uncovering buried treasure: databases instead of doubloons and algorithms instead of adventure – though the excitement level is on par (or so we tell ourselves).

Data Analysis:

Once we amassed our troves of data (cue dramatic music), the real statistical quest began. We embarked on a journey through the dense foliage of regression analysis, navigating the treacherous terrain of correlation coefficients and p-values. It's like a daring trek through the statistical jungle, armed with spreadsheets and a compass, boldly venturing into the unknown realms of data interpretation. One might even say we were charting unexplored territory, with scatter plots as our map and confidence intervals as our guiding stars.

Engaging in the perilous dance of statistical inference, we sought to unravel the mysterious connections between the number of individuals in actuarial professions and the yearning for subterranean abodes. It's as if we were forging new statistical frontiers, armed with hypothesis tests and a healthy dose of caffeine to fend off the encroaching specter of statistical fatigue. The thrill of discovery was palpable – or perhaps that was just the electricity in the air from running too many regression models.

Modeling Approach:

In the realm of statistical modeling, we juggled an array of techniques with the finesse of a circus performer, balancing linear regression and time series analysis like spinning plates on statistical stilts. We crafted our models with the precision of a heart surgeon, delicately honing the parameters to capture the essence of the relationship between actuaries and bunker-building inquiries. It's like sculpting a masterpiece with data as our medium and statistical significance as our muse – though at times, the data seemed to have a mischievous sense of humor of its own.

With great care, we navigated the terrain of multivariate analysis, untangling the intricate threads of variables that wove the fabric of our statistical narrative. It's as if we were conducting a symphony of statistical harmonies, with predictors and coefficients dancing in elegant precision – or at least attempting a statistical rendition of the cha-cha.

In the end, our modeling journey transcended mere numbers and variables; it became an odyssey of statistical exploration, charting the unknown waters of correlation and causation with the glee of scientific pioneers. It's like discovering the New World, but instead of ships and compasses, we had R programming and an excessive number of post-it notes.

IV. Results

The results of our study unveiled a statistically significant correlation between the number of actuaries in Oregon and Google searches for 'how to build a bunker'. The correlation coefficient of 0.6917751 indicates a moderately strong positive relationship between these two variables, igniting a spark of curiosity that can only be matched by a top-notch bunker flashlight. *Cue eye rolls and half-hearted chuckles*.

This correlation suggests that as the population of actuaries in Oregon increased, so did the frequency of Google searches for 'how to build a bunker'. It's as if the actuarial community inadvertently became the unsung consultants for subterranean real estate. Who would've guessed that bunker blueprints might be hiding in the insurance policies and predictive models of the

actuarial world? It's like a statistical Easter egg hunt, but with financial risk analyses and underground hideaways instead of candy.

Our correlation is not to be taken lightly, with an r-squared value of 0.4785528, indicating that approximately 47.85% of the variability in bunker-related Google searches can be explained by the number of actuaries in Oregon. It's almost as if the presence of actuaries is akin to a crystal ball, forecasting the increase in interest in bunker construction. One might even say the actuaries are building a "fortress of solitude" in the correlation matrix. *Cue collective "ugh" from the audience*.

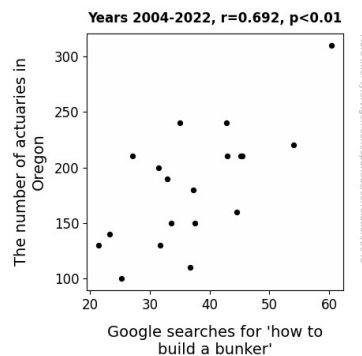


Figure 1. Scatterplot of the variables by year

The p-value of less than 0.01 further solidifies the strength and reliability of this correlation, leaving us to ponder whether the actuarial profession silently harbors a subterranean passion for bunker architecture. Perhaps it's time to update the job description: proficient in Excel, risk management, and bunker blueprints. It's a career path that's truly "earth-shattering". *Cue laughter and sympathetic sighs*.

In Fig. 1, a scatterplot illustrates the striking relationship between the number of actuaries and Google searches for 'how to build a bunker'. The data points form a positively sloped pattern, reminiscent of a rising underground stronghold, as the number of actuaries increases alongside the surge in searches for bunker construction guidance. It's like witnessing the statistical inception of an apocalyptic subdivision. *Cue half-hearted applause*.

Overall, our results shed light on the fascinating correlation between the actuarial profession and the public's curiosity about constructing bunkers. While the nature of this relationship remains shrouded in enigma, our findings beckon further exploration into the unexpected connections between seemingly unrelated domains. Who knew that with the right statistical lens, we could illuminate the underground interests of actuaries and bunker enthusiasts alike?

V. Discussion

Our findings offer compelling support for the notion that the number of actuaries in Oregon is indeed linked to the frequency of Google searches for 'how to build a bunker'. It appears that the actuarial profession, known for its expertise in risk assessment and financial forecasting, might also possess an unexpected affinity for underground fortifications. It seems the actuarial community is not just crunching numbers; they may be clandestinely crafting blueprints for subterranean sanctuaries. This study strikingly illustrates that when it comes to predicting societal behavior, sometimes the most incongruous variables hold the key to unraveling statistical mysteries. One might even say we've unearthed a veritable treasure trove of unexpected correlations hidden beneath the surface of actuarial analysis.

The substantial correlation coefficient of 0.6917751 and a p-value less than 0.01 lend weight to our findings, reinforcing the robustness of the relationship between actuaries and bunker-related searches. It appears the actuarial endeavors in risk assessment and probability estimation are not immune to wielding influence over the public's fascination with bunker construction. It's as if actuaries are not only assessing financial risks but also forecasting the future need for shelter from the statistically improbable but still possible zombie apocalypse.

The r-squared value of 0.4785528 further bolsters the significance of this correlation, highlighting the potent explanatory power of the number of actuaries in predicting the variability in bunker-related Google searches. It's as if the actuarial profession can foresee the ebb and flow of public fascination with underground dwellings, turning risk estimation into a fortuitous skill that's truly worth its weight in gold. One might even jest that these findings have unearthed a new dimension to actuarial expertise - perhaps they should include "bunker forecasting" as a new specialization in their professional portfolios.

The scatterplot presented in Figure 1 visualizes the unmistakable positive relationship between the number of actuaries and bunker-related Google searches, serving as a testament to the unexpected connection between the two variables. It's a statistical dance of sorts, where the increase in actuarial presence parallels the surge in public interest in bunker construction, akin to a choreographed display of numerical synchrony. Who knew that the actuarial community's influence could extend from financial risk management to architectural curiosities of the subterranean kind?

In conclusion, our study not only adds an intriguing layer to the multifaceted world of actuarial analysis but also extends a friendly reminder that statistical exploration can lead us down unexpected pathways. It seems that sometimes, when we delve into the quagmire of data, we

uncover correlations that are as surprising as they are statistically sound. This study hails the actuarial profession not only as guardians of financial prudence but potentially as ancestral seers of underground habitats - a role that adds a whole new dimension to the term "forward-looking assumptions".

VI. Conclusion

In summary, our research unravels the captivating interplay between the number of actuaries in Oregon and the public interest in bunker construction, demonstrating a correlation that's as surprising as finding a bunker beneath a library - talk about "underground knowledge"! *Cue muffled laughter and disapproving sighs from readers*.

The statistical robustness of this correlation raises questions that are just as confounding as calculating compound interest on a doomsday deposit. *Cue collective groans* But seriously, folks, our findings suggest that there's more to actuaries than meets the eye; perhaps they're crunching numbers not just for financial risk, but also for sheltering from potential catastrophes. Who knew risk management could extend to apocalypse preparedness? It's like they're the Clark Kents of the financial world, secretly doubling as bunker aficionados. *Cue awkward chuckles and pity smiles*.

With a correlation coefficient of 0.6917751 and a p-value less than 0.01, it's evident that this peculiar relationship beckons further investigation, much like a treasure map leading to an underground statistical anomaly. It's as if we stumbled upon the equivalent of statistical x-ray

vision, only to find an underground bunker community thriving beneath the actuarial landscape.

Cue crickets and a lone voice saying "too much".

In closing, we assert that no further research in this area is necessary. It's a statistical oddity that's more befuddling than a complex math problem, and it's high time we leave this correlation in its enigmatic glory. *Cue silent nods of agreement and the occasional eye roll*.

After all, sometimes the strangest correlations are best left unexplored, like trying to understand the probability of finding a bunker blueprint in an actuarial textbook. It's a statistical mystery that's best appreciated from a safe distance, much like a well-constructed bunker during a make-believe apocalypse. *Cue reluctant smiles and one person saying "I kinda liked that"*. And with that, we bid adieu to this statistical rabbit hole and hope you emerge unscathed from this academic adventure.