



**A Report on the Economic Cost-Benefit Analysis on the
Creation of a National Park within Dorset and East Devon:
Lessons from 11 UK National Parks**

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Abstract

A proposal for a National Park (NP) in Dorset & East Devon has been put forward and received positive initial feedback. This report considers the implications of such a designation. National Parks are areas with high landscape worth that aim to conserve and enhance the natural environment and cultural heritage of their areas, and promote understanding and enjoyment. The remit of NPs changed to include a duty on NPs to foster the economic and social wellbeing of their communities. This wider social and community dimension has led to increased interest by researchers and politicians in the projected costs and benefits of NPs.

This study aims at exploring the value of a NP to a region in the three main areas identified in the literature: economic, environmental and social. Partly because of their multiple dimensions, NPs are also seen as economically and socially sustainable. The method used in this research paper was an economic cost-benefit analysis of 11 UK NPs to establish their economic value. A range of economic variables were analysed. The findings were then used to assess the viability of the creation of a NP within Dorset.

The results showed that NPs in the UK add strong economic value to regional economies at a moderate cost. The findings highlighted that employment in National Park Authorities dropped at a slower rate than their total annual costs and thus the value and productivity of UK NPs increased. A NP in Dorset would add considerable benefits to the regional economy, including by providing new opportunities for a thriving tourism industry and service sector. The NP within the South Downs was used as a good comparison for the proposed NP in Dorset given its similar size, population and recent creation. Research suggests that the South Downs NP was associated with a 10.7% increase in visitor spend in real terms as it moved to become a NP. Using the same methodology, a NP within Dorset could stimulate around an estimated £190m additional annual visitor spend, depending on the area of Dorset included in the NP and the halo effect. The South Downs also added some £30 million of local economic value in 2016 in addition to increased visitor spend. Overall the research concludes that a NP in Dorset would add considerable value and help address many of the pressing issues faced within the county.

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1. Introduction

Geographical inequalities underpin a capitalist global economy with areas competing with one another to achieve growth. Regional inequalities are visible across the globe, with the more developed countries, such as the UK and the US, competing with developing and undeveloped nations. However, these geographical inequalities can also exist within countries' borders from region to region. This presents issues for policy-makers and central governments on how prosperity can be achieved for all within a country (Pike et al 2006).

Traditional approaches of regional development primarily focus on growth and productivity. However, many have argued that successful regional development should concentrate on becoming better rather than bigger and on adding value as well as growing productivity. Therefore a shift to a multi-factor model has been proposed. Central to this debate is the inclusion of social, environmental, cultural and political factors in assessing regional development (Pike et al 2006). Recent discussions have focused on urban centres transforming into economic and intellectual hubs. But this ignores rural areas with their potential issues (Hall & Boyd 2004). Many rural areas are struggling economically and this led to a revaluation of regional development strategies.

Evolving regional development strategies, aligned with a shift in national park (NP) priorities has resulted in NPs playing a role in national policy development (Sharpley and Pearce 2007). NPs are protected areas of land conserved and enhanced due to their natural beauty (National Parks UK 2017). They receive the highest level of protection and are the highest in terms of area quality (Cline et al 2011). A key shift in paradigm came in 1995, when NPs' objectives widened to include: "to seek to

foster the economic and social well-being of local communities” (National Parks UK 2017). These shifts have presented NP as a regional development resource in rural economies.

NPs original aims involved conserving and enhancing the natural beauty of their areas and promoting opportunities for understanding and enjoyment (Figure 1) (National Parks UK 2017). The development of these aims can be viewed as supporting sustainable development and has led to much research into the potential effects including how this aligns with stimulating rural economies.



Figure 1: Objectives of UK NPs (National Parks UK 2017)

In 1945, a NP in Dorset was recommended along with other NPs. However due to administrative issues no further action was taken (Dorset and East Devon National Park Team 2017). In 2013, and in response to a designations review by Natural England, a proposal was again put forward for the creation of a new National Park. The potential effects of such a NP within the region need to be reviewed, to see if such a proposal can be justified.

Against this backdrop, this study aims at evaluating how lessons drawn on the cost and benefit of 11 UK National Parks (NP) could be applied in the creation of a NP in the area of a Dorset National Park. The evaluation can help an assessment of whether the NP is a suitable option for addressing the regional development issues faced in the area.

Based on the economic cost-benefit methodology, a range of economic variables were analysed on 11 UK NP. The findings were then used to assess the viability of the creation of a NP within Dorset. Evidence from the report, showed that NPs in the UK add strong economic value to regional economies at a moderate cost. The findings highlighted that employment in National Park Authorities dropped at a slower rate than their total annual costs and thus the value and productivity of UK NPs increased. The evidence therefore suggests that the creation of a NP in Dorset would add considerable benefits to the regional economy, including by providing new opportunities for a thriving tourism industry and service sector. The NP within the South Downs was used as a good comparison for the proposed NP in Dorset given its similar size, population and recent creation. The paper suggests that the South Down NP added some £31 million of economic value in 2016, excluding visitor spend. It also suggests that a Dorset NP would stimulate up to an estimated £191m additional annual visitor spend, depending on the area of Dorset included in the NP. Overall the research concludes that a NP in Dorset would add considerable value and help address many of the pressing issues faced within the county.

The rest of this report is structured as follow: Section 2 reviews existing literature relating to how a NP fits into wider research on regional development, with a focus on tourism and rural areas. NPs will then be evaluated as a resource for regional development. The methodology of this report is presented in section 3; this discusses research methods of which a historic economic cost-benefit analysis was the most suitable approach to answer the proposition deduced from the economic variables within the literature. Section 4 presents a discussion of the results and the suggested implications, with reference to existing literature. A final conclusion and the implications of the research is presented in section 5.

2. Literature Review

Rural areas are a key component of regional development, and various alternative options for the economic development of rural areas have been considered. This section will review existing literature, looking at the wider concept of local and regional development, to gain an understanding of the current scope and advances in the research. The role of tourism as a development strategy will in particular be reviewed. Additionally, the need for more comprehensive development strategies in rural areas will be addressed. Finally, from the literature we will identify certain factors facing a NP's development which we will form into a proposition to then be tested in section 3.

2.1. Regional Development

Regional development is a subject that scholars have struggled to define. Local and regional development approaches have focused on increased employment, income and productivity within a region (Armstrong & Taylor 2000). However, dissatisfaction with this economic focused model, which has little focus on communities and sustainability, has led many to expand the approach to include social, ecological, political and cultural concerns (Geddes and Newman 1999, Morgan 2004). Therefore, questions remain as to what determines and constitutes success in terms of regional development.

Local and regional development has become increasingly important for nations, as well as regional governments since the 1960s. A volatile global environment has stimulated increased uncertainty and competition. From this has emerged geographical inequalities in prosperity and well-being (Pike et al 2006). Globalisation and open borders have presented regions with new challenges and led to traditional approaches being questioned.

This is exposing regions to greater competition and forcing them to adjust to new conditions. Due to globalisation, inefficiency and bad management, low technology production economies are experiencing unemployment and degrading work environments (Stiglitz 2002). This has led to questions about the beneficial effects of

open borders for economic growth with evidence suggesting increasing social and regional disparities and inequalities (Pike et al 2006).

New economic conditions have generated an awareness of the need for regions and territories to respond to support local development. Pike et al. (2006) emphasise that there is no universal best practice approach for dealing with the implications globalisation has for local development. Approaches to different regions based on previous successes, have proved unsound as have many traditional top-down approaches, based on supply-led policies, or focused on infrastructure and foreign direct investment. Focusing on improving the accessibility of an area, these approaches have emphasised improved infrastructure. But these have not always been proven successful. A key example of this is the case of the Italian Mezzogiorno, where despite huge infrastructure investment for many years, the divide between the region and other areas remains considerable (Pike et al 2006). The three principal 'winning' areas that have benefitted from globalization are: large metropolitan regions, intermediate industrial regions and tourist areas. Examples of the latter include Cancun in Mexico and Bali in Indonesia, as both are renowned for their ability to attract tourists from all over the world (Pike et al 2006).

Regional development approaches have also become more focused on sustainable development (Geddes and Newman 1999). Sustainable development has become the inescapable; the World Commission on Environment and Development called for "development which meets the needs of the present without compromising future generations" (World Commission on Environment and Development, 1987, p16). It is no longer tenable to have a policy that rests on unsustainable development and the depletion of the finite resources of the planet. This industrial approach was based on traditional assumptions that focused on growth as the best determinant of success. However, arguments have been made for a new metric that doesn't focus on just jobs and incomes and raising productivity, but also takes account of the quality of life and on adding value in a sustainable way (Morgan 2004; Sen 1999).

The productivity and growth model centres itself on innovative technology at the expense of employment. Jackson (2011), highlights firms as seeking labour productivity where growth is key to prosperity due to firms' objective

of producing more with fewer employees', even though this leads to lower employment especially in economic downturns (Jackson 2011). This interaction has led to a divide between highly educated people enjoying stable earnings, and an increasing group of precarious jobs sometimes working within the informal economy. The latter seems to be growing at a greater pace than ever (Esping-Andersen 1999).

According to Pike et al. (2006), many have been led to believe that growth is needed for development to occur. However, as seen by a changing paradigm of what consists of development, this is not the case. The Local Government Commission define it as "Development in fact means to become better, whereas growth means to get bigger" (Cited in Pike et al 2006, p23). This characteristic is important in evaluating regional development policies as development goes beyond quantitative data, such as: increased jobs, incomes and productivity. Jackson (2011) argues that growth has become inescapable for some economies within the current macroeconomic model since growth is needed for prosperity. If growth is not achieved then these economies are un-resilient and experience extreme business cycles. These are the economies that lack service-based industries which are less aligned with labour productivity as they focus more on adding value from human interactions (Jackson 2011).

Sustainable development requires qualitative data sets relating to regional development, which can be reviewed in line with quantitative data. The richer data would cover such aspects as the quality of jobs and promotion opportunities. Recent shifts and increasing awareness has led to the growing importance of these qualitative aspects and their role in sustainable regional development policies (Pike et al 2006).

2.2. Tourism and Rural Areas

Service-based sectors have become particularly important in regional economies. They have shown greater resilience and growth because of changing consumer preferences, wealth and social mobility (Hudson 1995). Williams (1998) recognises tourism as a sector that is performing particularly well in the face of these economy shifts and has seen sustained strong growth.

As a result, the literature regards tourism as important for future development (Williams 1998; Dann 2002). However, opposing this is an emergent theme in development literature that regards tourism as incompatible with sustainable development as it leads to significant environmental and social costs (Wahab and Pilgram 1997; Elliott et al 2001; Sharpley 2002). Even so, governments are implementing this as a cheap development strategy, requiring in some cases little additional investment since the natural local environments and cultures are already in place (Binns and Nel 2002).

From this theme, tourist destinations are appearing, and have become, integral parts of regional economies and global markets (Saarinen 2003). This, along with increasing free time, the free movement of capital and labour, and the successful delegation from central governments to local authorities has propelled tourism as one of the fastest growing industries in the world (Saarinen 2003). This increasing spatial differentiation has though also caused social and economic insecurity, with growing competition for tourists as consumers between, and within, tourist destinations (Montanari and Williams, 1995; Lafferty and van Fossen, 2001)

In contrast to this, Sharpley (2002) questions tourism as a rational development approach. As evidence shows, tourism comes at a price which can include social and environmental costs. Fleischer & Felsenstein (2000) emphasise that many of the reasons for promoting tourism have counter arguments with the key benefits also producing costs. For example, tourism is argued to produce jobs. However, arguments have been made that the main flow of jobs created are low wage and are mostly seasonal. Costs and benefits must be explored in greater depth to see their true effects and whether the development strategy delivers sustainable long-term benefits (Mitchella and Reid 2001). Tourism development can come at a cost to the physical environment, in terms of the degradation of landscapes, the destruction of local resources, pollution and loss of cultural identity. Therefore, Dann (2002) recognises it as important that the pursuit of tourism-based development is undertaken considerably in a way that ensures sustainability.

Falling economic activity, the restructuring of agriculture, decreasing rural industries and out-migration to urban cities, has led to tourism becoming a chosen regional development strategy for rural areas (Pompl and Lavery 1993; Williams and Shaw

1991). Governments are generally of the opinion that tourism development will generate jobs and enhance the community. However, existing literature suggests there is little impact on revenues, on benefit distribution or on perceived social costs (Jud & Krause 1976; Whelan 1991). Butler and Boyd (2000) add to this perception, stating that tourism and the natural environment have a long but uneasy relationship. Tourism, however, can provide protected areas with increased value (Mose & Weixlbaumer 2006). It can attract external income and investment and hence be an important element in regional development (Cited in Saarinen 2003; Archer 1982; Murphy 1985; Roehl 1998).

A result of urban centres becoming increasingly the economic and intellectual capitals of their regions is that the rural more peripheral areas have to develop their own distinct approaches. The increasing mobility of capital and people, along with increased global competition, increases the pressures on decision makers to come up with appropriate policy responses. Some believe the more wild natural areas should be left to revert to nature even if this involved major changes to what are currently managed landscapes. This would leave other areas to pursue their own economic growth. But there is also support for an interventionist approach so that all areas can achieve development (Hall and Boyd 2004). Hall and Boyd (2004) highlight some of the wider benefits associated with natural capital, social and environmental benefits, infrastructure sunk costs, welfare factors, and natural and biophysical factors such as carbon capture, water management and soil retention that need to be recognized and managed so that societal value can be maximised.

2.3. NPs a resource for Regional Development

NPs are protected areas which conserve and enhance their very special landscapes and heritage (National Parks UK 2017) They receive the highest level of protection and are the “crown jewels” in terms of the quality of their areas (Cline et al 2011). NPs have more recently been recognised as facilitating regional development with an emphasis on meeting the needs of their local areas (Sharpley and Pearce 2007). This is apparent through the additional objective of NPs introduced in 1995, “to seek to foster the economic and social well-being of local communities” (National Parks UK, 2017).

Previously NPs were focused on conserving and enhancing the environment and improving understanding and enjoyment of their areas (Phillips 2003). In 1984, as McNealy notes, this traditional focus on conservation with little regard to the role of communities and their economic and social well-being became inappropriate especially given wider societal and economic pressures and uncertainties. A new approach was needed which embraced social and economic needs.

More recently Phillips's (2003) paper '*Turning Ideas on Their Head*' evaluates the change of paradigm from the original NP objectives; this literature emphasises key changes, such as a shift in control, objectives and positioning within local communities. The emphasis on socio-economic factors reflected a shift to recognize that many different partners should be involved in reaching decisions about an area rather than this just being the preserve of central government, and that NPs should be embedded in their local communities and respond to and reflect their needs (Phillips 2003). However, even though NPs have a duty to reflect socio-economic objectives, where there is a conflict between this and their landscape conservation objectives, then the latter should be prioritised – "The Sandford Principle" (McCarthy et al 2002).

Alves et al (2017) classifies conservation under two categories: market and non-market values. They state that market values are captured by sales, income and tax revenues. However, this does not represent the full value of conservation within the region as there are also non-market values. These are the values to society above what is captured by the market. They include a range of factors such as social, environmental, cultural & political including ones which ensure long-term sustainability (Cited in Alves et al: Sohngen et al 1999). Therefore, research on the value of NPs covers both market and non-market values encompassing environmental, social and economic impacts.

2.31. Environmental

Conservation of the natural environment is hugely relevant and beneficial to such ecological factors as climate regulation, soil formation, carbon capture and nutrient recycling and for the provision of food, fuel, fibres, and pharmaceuticals (Balmford et al 2002). Protecting the environment is increasingly important given the pressures exerted by human interaction. However, evaluating the factors involved has proved difficult due to their non-market nature (Alves et al 2017; Balmford et al 2002).

But some quantification can be attempted. The natural environment and NPs in particular have a value; NPs attract visitors due to their status as protected areas of land which are conserved and enhanced because of their intrinsic natural beauty (National Parks UK 2016). This highest level of protection entices visitors even though tourism and NPs have had an uneasy relationship (Cline et al; Butler & Boyd 2000). Empirical studies focus on the negative impacts tourism can cause on the environment, with damage to the landscape, pollution and traffic congestion. A survey of residents conducted in the South Downs NP concluded that 37% believe tourists damage the landscape and 26% believe tourists cause traffic congestion and pollution. Despite this, most residents feel that tourism has no negative impacts on the environment (Khan et al 2013).

Tourism can indeed play a beneficial role; it strengthens the conservation potential of the park and also influences local attitudes towards conservation, as it provides opportunities for local communities to benefit from conservation (Nepal 2000). Despite possible tourism effects on the environment, since conservation is a NP's key priority, with large sums being spent on this aim, overall the value of tourism on a NP area and its economy is positive. Recent studies indeed show that while NPs do not necessarily increase visitor numbers, there is an increase in visitor spend, (tourists stay longer and spend more) thereby increasing tourism's value to the NP and its communities – despite any impact on the environment (Khan et al 2013; Northumberland National Park Authority 2015).

2.32. Social

As we have noted, NPs original objectives were focused on conservation and protection of the landscape. Fortin and Gagnon (1999) highlight that in many early cases this seemed to be at the expense of social issues. Land speculation, changes in employment structure, rise in cost of living, an increase in property taxes and an influx of new residents were some of the impacts identified (Fortin and Gagnon 1999). However, as the objectives of NPs changed to foster local communities, so social and economic issues came to the fore. NPs are now increasingly placing emphasis on the development of social functions and managing the relationship between their parks and local communities (Mika et al 2016).

An empirical study conducted by the Office of National Statistics (ONS) in 2011, highlighted that the employment structure of NPs is slightly different to the UK average. High levels of part-time jobs are no different to the UK average, but the employment structure within NP economies contain more people in skilled trades, professional occupations and manager or director occupations. Also, a health survey revealed that people in NPs have slightly better health. Noting that NP economies have older aged populations and health decreases with age, the conclusion can be drawn that NP residents have better health than the rest of the UK (ONS 2011).

2.33. Economic

The economic value of public land designation has only recently been explored (Cline et al 2010). The economic value of a NP is determined by the national policy focus on conservation and ecosystem services and through their attractiveness to tourists (Mika et al 2016). The change in NP paradigm has inspired much research into the potential economic effects of NPs and interest from policy makers and scholars (Mayer et al 2010). Annett et al. (2006) highlight four main areas of economic impact from national parks (Cited in Pelan 2011):

(1) Expenditure associated with increased number of tourists, visitors and recreational users, (2) direct government expenditure to establish the park and to support its ongoing operations, (3) increased employment due to park operations and visitor services, and (4) effects on property values.

Literature discussing the economic impacts of NPs has focused around tourism, reflecting the political rationale of attracting tourism to peripheral regions and promoting regional development (Mayer et al 2010). However the local economic impact of a NP and its increased tourism are very specific and local and no universally accepted measure exists (Hutala 2007). Alves et al. (2017) states that economic impacts are mostly recognised by market values and therefore more easily quantifiable, whereas for NPs their value is less easily quantifiable. Many impacts are indirect and relate to the value placed on a resilient and sustainable environment and such factors as land and water quality, carbon capture and landscape conservation. Another example is the motivation behind increased tourism resulting from an NP's designation which is hard to quantify (Oxford Economics 2010). Cline et al. (2010) emphasise that the increased protection of an area increases the value to visitors, and concludes that visitors spend more in higher protection areas. Therefore, public land designations can have significant economic impacts for their local communities (Cline et al 2010).

UK NPs also invest funds into their area as part of their objective to promote opportunities for enjoyment and understanding. This leads to NP's making improvements in infrastructure and social welfare (Cheung 2012).

There are 15 NPs in the UK, which, given the size of the UK, means they are in relative close proximity to one another. A study of Chinese NPs proximity to one another revealed that closely located NPs can increase their efficiency and importance (Ma et al 2009).

2.4. Conclusion

Changing views on regional development have led to a debate between those who emphasise sustainability and a multi-dimensional approach, and those who emphasise a productivity driven approach focused on traditional economic factors such as incomes, employment and growth (Pike et al 2006). The focus by NPs on sustainability and improving the quality of life through socio-economic and environmental objectives plus their increased focus on communities, make them relevant case studies for those interested in the sustainability model.

From the literature reviewed, we can conclude that adding value to the environment is a key aim of NPs and that they inject significant expenditure to ensure this objective. The social value of NPs in the UK has also been mentioned, but this is an area with many complex issues. The economic value of NPs has yet to be universally acknowledged and this presents opportunities for further research.

This research paper takes a deductive approach, with the theories apparent within the literature developing the research question, which can then be tested by data (Saunders et al 2012). As the literature has not yet presented a universally agreed model for assessing NPs economic value, a research question can be derived. A model presenting the economic impacts of a NP in a region would help assess whether NPs could be a suitable approach for regional development. In the case of this research paper the model will be applied to the proposed region within Dorset.

2.5. Proposition

The proposition deduced from the literature leads to the question of whether a NP adds economic value to a regional economy.

P0- A NP adds no economic value to a regional economy

P1- A NP adds to the overall economic value of a regional economy

3. Methodology

3.1. Introduction

This section discusses the methodology used in the research, based on the proposition created from the literature review. The theories will then be tested. Hence the approach taken within this study is deductive. The steps taken in undertaking the research have been displayed to provide readers with an understanding of how the data collection method was derived, and thus assess the credibility of the research (Crotty 1998).

The methodology adopted within this research is a historic cost-benefit analysis of 11 UK NPs to see whether a NP adds economic value to a regional economy. All aspects of Saunders et al.'s (2012, p128) research onion (Figure 2) will be addressed to discuss the steps and assumptions in the research methodology.

This section will help in delivering objectives three and four within the project, see section 1. The research philosophy and approach are positivism and deductive respectively.

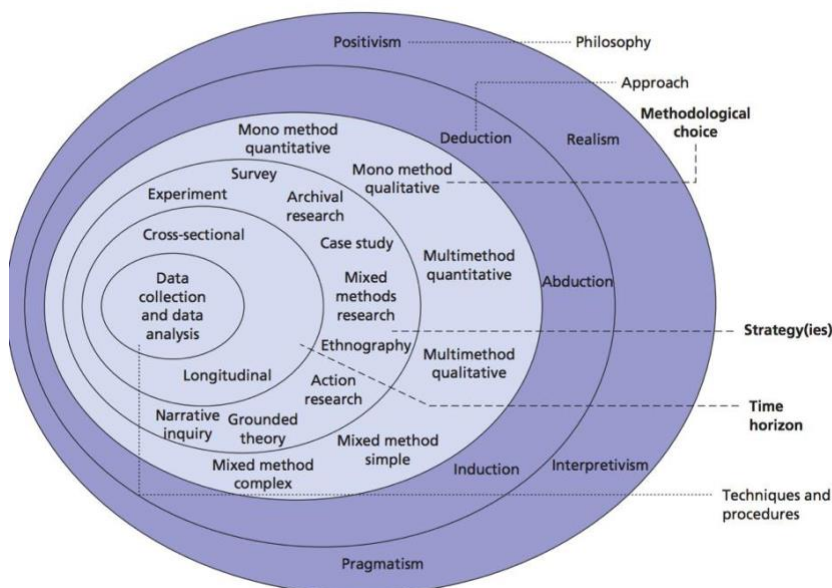


Figure 2: Research Onion (Saunders et al 2012, p128)

3.2. Research Philosophy and Approach

There are two main philosophies adopted by business research projects, positivism and interpretivism (Saunders et al 2012). Due to the research aim of evaluating an NP's value to a regional economy, the research philosophy approach was positivism aiming to draw clear conclusions and correlations that could then be used for the analysis. The research was aimed at UK NPs value to regional economies, and therefore positivism guides the research in appealing to a whole population (Wilson 2014). The approach used derives a proposition from within the literature to further existing research, in this case: the value NPs exert on a regional economy.

The research aims to look at facts and therefore leaves little scope for interpretation. For this reason, the research methods aim to provide the best value-free findings for the calculated value and so display high credibility (Saunders et al 2012).

The research strategy is likely to have implications for the research philosophy of the project, with clear correlations drawn from qualitative to interpretivism and quantitative to positivism (Collis and Hussey 2003). Demonstrated by the quantitative research strategy and the application of facts through collection of audited and well represented external sources, and the omission of interaction with participants (Wilson 2010), positivism displays the optimal view for the research. The research philosophy and approach have been presented so readers can recognise that a certain stance was taken and how it optimised the research findings.

The literature was significant in deriving the theories to be tested as part of the research proposition, and hence this study adopts a deductive approach. From the literature, the economic value of an NP is determined by the national policy on conservation and on promoting its attractiveness to tourists (Mika et al 2016). Hence a cost-benefit analysis was used to evaluate these two indicators.

3.4. Strategy

The strategy for testing the proposition in this research paper is through secondary quantitative research. As nature-tourism designations are made publicly available, the economic impacts and financial information should be comparable and made available at small costs (Hutala 2007). This was also the most practical approach due to the difficulty at obtaining primary information on economic impacts. It was not practical to obtain available data on the proposed NP region within Dorset & East Devon (D&ED), and so research from other NPs - critical for forecasting – was used. This secondary data was used to provide additional or different knowledge and interpretations and conclusions from those already drawn (Cited in Saunders et al 2012; Bulmer et al 2009).

The historic cost-benefit analysis was conducted over a three-year period to reveal trends in the economic value of a NP. A three-year period was chosen due to the availability of historic financial reports and time constraints. The availability of data also restricted the sample within the 11 UK NPs. The data obtained was formulated in a Microsoft Excel document for the variables discussed (data description). The sample within the analysis is show in Figure 3.

UK National Parks (In Sample)	
(1)	Brecon Beacons National Park
(2)	Pembrokeshire Coast National Park
(3)	Exmoor National Park
(4)	Lake District National Park
(5)	New Forest National Park
(6)	North York Moors National Park
(7)	Northumberland National Park
(8)	Peak District National Park
(9)	South Downs National Park
(10)	Broads Authority National Park
(11)	Yorkshire Dales National Park

Figure 3: UK NPs in Sample

3.4. Data Description and Research Methods

The research aim is to assess the value of an NP which can then be applied to the case for a NP in Dorset. NPs key value consists of conservation and protection, which are their top priority (McCarthy et al 2002). Empirical evidence provided data in satisfying some of the social issues deduced from the literature. However, the generalised economic value of UK NP is unknown. Therefore, the research method within this paper assesses the economic costs and benefits of UK NPs to derive the economic impacts of an average UK NP, of which the relationships between TY costs and TY benefits can be assessed. The implications can thus be used to forecast the estimated impacts of a NP in Dorset.

To assess the economic impacts, a cost-benefit analysis was deemed to be the most appropriate method. The economic value of an NP is determined primarily by the national policy on conservation and the attractiveness to tourists (Mika et al 2016).

The independent variables used within the analysis for benefits were: (1) Direct employment of National Park Authorities (NPA), (2) indirect and induced benefits from employment and NPA procurement, and (3) visitor spending within the NP area. Indirect and Induced impacts arise from the multiplying effects of NPA employment and expenditure which in turn promote further economic activity (Cumulus Consultants 2013). Direct employment within an NPA, and indirect and induced benefits were easily quantified; direct employment was obtained from each NPs financial reports. Indirect and induced impacts were calculated based upon 25% of NPA expenditure; this assumption reflected a Cumulus Consultant's report on '*Valuing England's NPs*' (2013). NPs attract high spending tourists due to their natural beauty (National Park UK 2017) and this brings a significant economic flow to a NP; therefore this benefit has been included. The only up to date published data on this variable is for the year 2014 and therefore within the modelling the spending has been assumed to be similar for 2015 and 2016. This was due to the alike nature of economic conditions within the years, an economic growth range of 0.45- 0.8.

However, visitor spending suffers further limitations as the figures attribute visitor

spending within the region wholly to the motive of visiting the NP, which is likely to be untrue. Also, the figure includes the amount visitors would spend even if the region didn't have NP status, therefore over estimating the benefit. However, due to the significance of tourism within an NPs economic value, as emphasised within the literature, the total figure has been included.

The independent variables used within the analysis for costs were total yearly (TY) costs. Four control variables were used being: (1) size (in terms of total assets), (2) length of establishment, (3) region and (4) liquidity, to see any relationship with economic value of UK NPs. All four control variables logically have significant implications on costs and benefits; bigger sized parks having increased costs and benefits, longer established parks operating more efficiently, different regions attracting different amounts of visitors, and NPs with less liquidity having higher costs due to financing requirements.

Pelan (2011) highlighted NPs as having economic impacts on property values, but this variable was not included in the analysis. This was due to the implications involved in determining the impacts on property values, which are extensive and beyond the research methods of this report. (The impact on property values was also questioned in the Inspector's report on the Lakes to Dales NP extension.)

The variables used within the historic cost-benefit analysis were first reviewed statistically, in terms of the minimum, maximum and mean values to provide a background to the variables before the analysis (Saunders et al 2012). The main research method was an economic cost-benefit analysis of 11 UK NPs over the period 2014-16. The aim of the analysis was to determine the average UK NP's economic impact; which would provide data on the potential impacts of newly created NP and help predict the future value of existing parks. After collecting the variables, a range of analysis was conducted.

Firstly, after obtaining the sample for 11 UK NPs, the results were averaged to value the average economic impacts of a single NP. The findings were then broken down into the separate variables to see the relationships within the analysis, though visitor spend was excluded from the model due to the assumption that it is

homogeneous throughout the period and thus shows no relationship as other variables change. By separating the variables, conclusions can be made on the effects of the input changing, being the TY costs.

Since the analysis is aimed at linking the researched economic impacts to the proposed area within Dorset, analysis of the newest NP in the South Downs was conducted due to its similarities to the proposed region. The South Downs and the proposed area in Dorset have similar population, population density and area (Dixon and Deane 2016). This analysis was conducted to examine any trends in the economic impacts over its initial years. Once again, the overall economic impacts were reviewed and then broken down into their individual variables to look at the relationships more closely. Information on visitor spend to the South Downs NP is available before and after its designation; the real change was 10.7% (Khan et al 2013). This is used as the % of visitor spend attributable to the South Downs NP over the period to calculate a more informed economic value.

Analysis was also going to be conducted on whether the proximity of parks to one another can affect their efficiency. Therefore, analysis was conducted to review two parks located in Wales compared to the average sample to notice any trends. Other NP in the same region were not used due to the lack of available data for the three-year period. The final analysis conducted was to review the control variables against the input, TY costs, and the visitor spend within NP regions to see any correlations. This would enable any effects and thus relationships between economic impacts and the control variables to be recognised and evaluated.

The secondary data has been gathered via reliable external sources to ensure a fair examination. The market values, employment and total yearly costs were obtained through NP's end of year financial statements, which are audited reports, increasing their credibility. This data source was also used for all control variables. Visitor spend was gathered from National Parks UK website.

3.6. Time Horizons & Quality

Although the research method reviews a three-year period from 2014-16, the time constraint and nature of the project led the research to be a 'snapshot' of the question (Saunders et al 2012). Therefore, the research should be viewed in context and against the progression of NP policies and their changing paradigm (see Phillips 2003). The research would greatly benefit from research on trends in the future to determine the variances between variables and the difference in value added from NPs.

Good quality research involves the reliability and validity of studies which have strong criteria links to quantitative positivism studies (Saunders et al 2012). The study uses secondary data which were obtained through audited financial reports and therefore the research should display high reliability. Much of the threats to reliability involve the role of the participant and the perception of the researcher, and these are not present in this study (Wilson 2010). The study also demonstrates internal validity as the results all relate to the economic impacts of NPs.

The research model though does make a big assumption with regard to sustained and consistent visitor spending. There are therefore limits to its external validity.

4. Findings and Discussion

4.1. Introduction

This section discusses the findings of the data analysed. The findings will be related back to the literature outlined within the review, and then applied to the case for a NP within Dorset. Firstly, the historic data between 2014-2016, on the economic costs and benefits of 11 NPs in the UK, will be reviewed. This will address the proposition and significantly assist in reaching the research aim.

4.2. Historic Economic Cost-Benefit Analysis

4.2.1. Descriptive Statistics

Descriptive statistics of the NPs is presented in figure 4 for 2014-2016. Evidence from fig 4 shows that on average, NPA authorities directly employ staff to work in operating the business. The least (Northumberland NP) and most (Peak District NP) amount spent on employment was £2,009,269 and £7,129,250 respectively. The average UK NP from the sample spent £3,957,839. NPA expenditure promotes further rounds of spending, leading to indirect and induced impacts. The minimum impact was £935,659 and the maximum was £3,969,000, with an average of £2,159,490. This is 25% of the annual costs.

Variables	Min	Max	Mean
Employment of NPA (£)	2,009,269	7,129,250	3,957,839
Indirect & Induced Impacts of NPA Expenditure (£)	935,659	3,969,000	2,159,490
Visitor Spend per annum (£)	85,000,000	1,146,000,000	419,909,091
Annual Costs (£)	3,742,637	15,876,000	8,474,689
Size (Total Assets, £)	3,797,000	28,837,537	12,445,276
Age (Years)	5	66	49.55
Liquidity Ratio (Current Assets: Current Liabilities)	1.95	12.18	5.00
Regional Growth (%)	1.9	5.3	3.31

Figure 4: Descriptive Statistics

Visitor spends per annum (pa) varied across NPs with £85,000,000 (Exmoor NP) and £1,146,000,000 (Lake District NP) the minimum and maximum respectively. The mean visitor spends within NPs pa was £419,909,091 which represents 98.6% of the total yearly (TY) benefits. TY costs per NP, had a minimum value of £3,742,637 and maximum value of £15,876,000. The average was £8,474,689.

The assets of NPs in the UK varied from £3,797,000 to £28,837,537 with the average UK NP in the sample having £12,445,276 in total assets. The age of NPs in the sample had a minimum of 5 years (South Downs NP) and a maximum of 66 years (Lake District NP). The average NP is 50 years old.

The Liquidity ratio of NPs had a minimum of 1.9 (South Downs NP) and maximum of 12.18 (Exmoor NP). The mean liquidity ratio was 5, therefore displaying a comfortable 5 times current assets in relation to current liabilities. Finally, the average regional growth was between 2014 & 2015 was 3.31%. The minimum was 1.9% (Wales) and the maximum was 5.3% (Eastern).

4.22. 11 UK NPs

Historic data was obtained on 11 NPs in the UK. The average annual economic value of NPs in the UK was £417,165,127 in 2014, which increased by 0.01% in 2015. A smaller increase of 0.001% from 2015 to 2016 (Figure 5). This analysis therefore accepts proposition P1 and rejects P0.

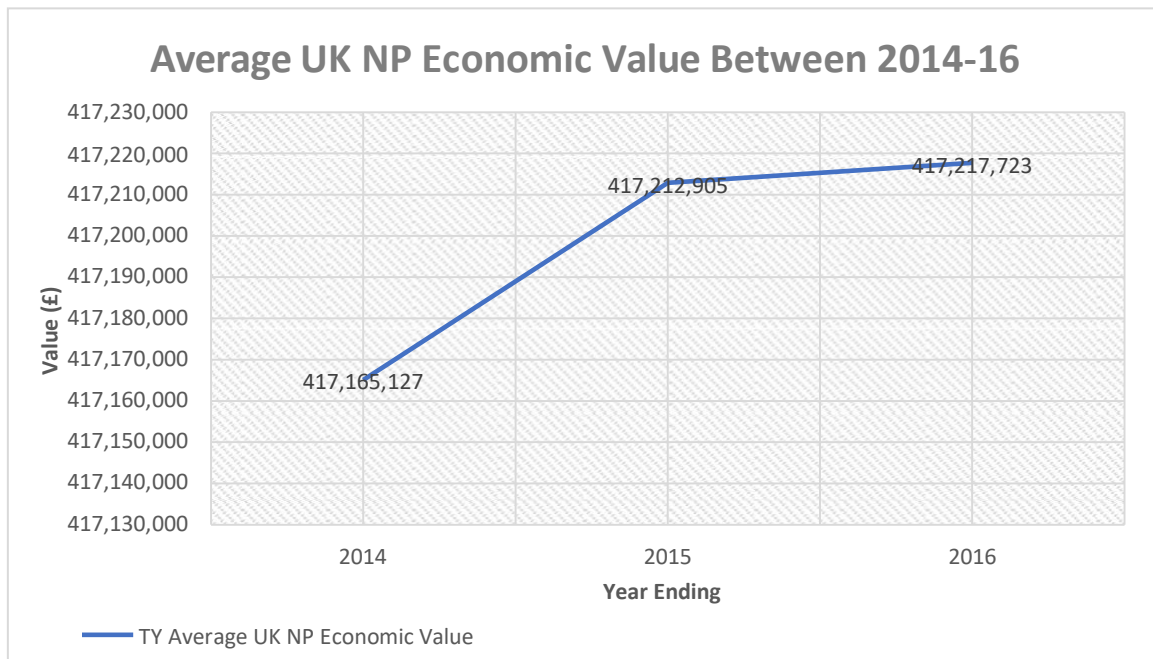


Figure 5: Average UK NP Economic Value Between 2014-16

The variables making up the annual value were broken down to see their relationships within the calculations. The annual costs decreased from 2014-15 by 10.7%. However, annual benefit (excluding visitor spend) only fell by 0.51% (Figure 6). Annual costs are reducing and this is apparent through the analysis and is probably because of the funding being cut (BBC 2016). This difference in costs and benefits led to an overall increase in economic value of NPs between 2014-15 as discussed in Figure 2. Employment within NPs, a variable of TY benefit, stayed fairly level with an increase of 1.78% between 2014-15 and a 1.88% decrease between 2015-16.

Indirect and induced impacts fell at 25% of the rate of annual costs due to its relationship with expenditure - as discussed in the methodology.

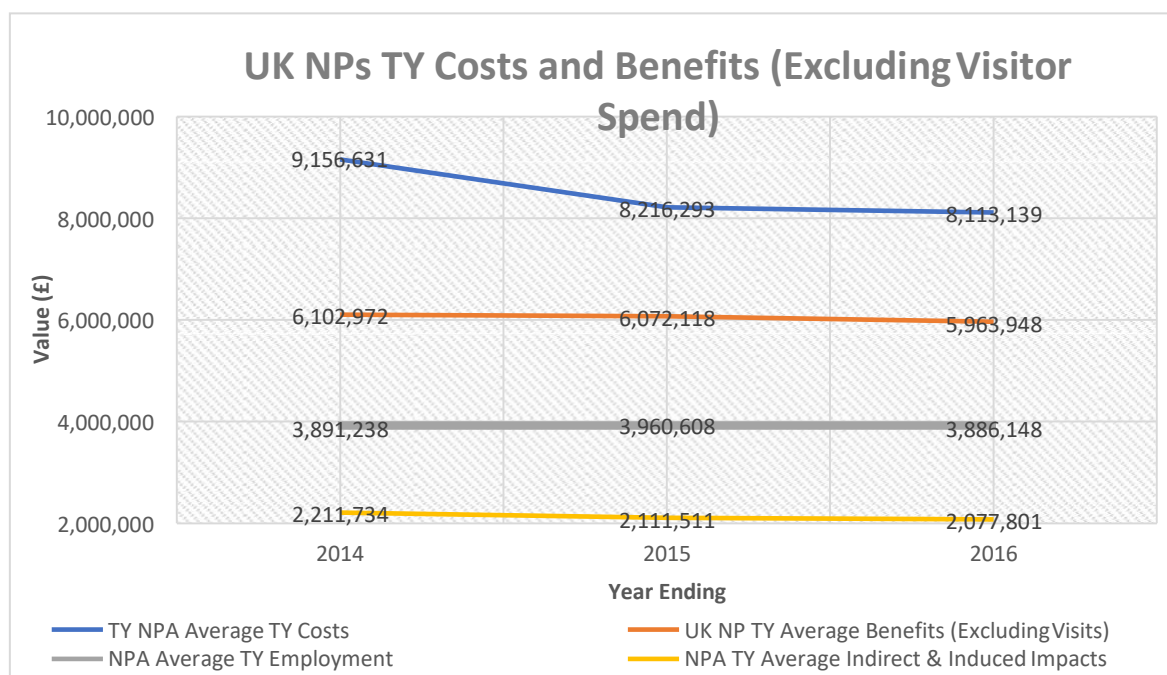


Figure 6: UK NPs TY Costs and Benefits (Excluding Visitor Spend)

The economic costs and benefit relationships are now evaluated in the case of the newest established NP, South Downs. The visitor spend within the South Downs area was attributed to the NP, as discussed in the methodology. The South Downs NP had a value of £31,149,500 in 2016. This was a result of an increase from £28,947,250 by 0.49% to 2015 and then a 7.09% increase to 2016 (Figure 7). Even with the visitor impact not adjusted, the South Downs NP is increasing its economic impact quicker than the UK average - a 0.04% increase in 2014-15 and 0.63% in 2015-16 (Figure 8 – note that this data was prepared on a different basis to the pre and post designation tourism survey).

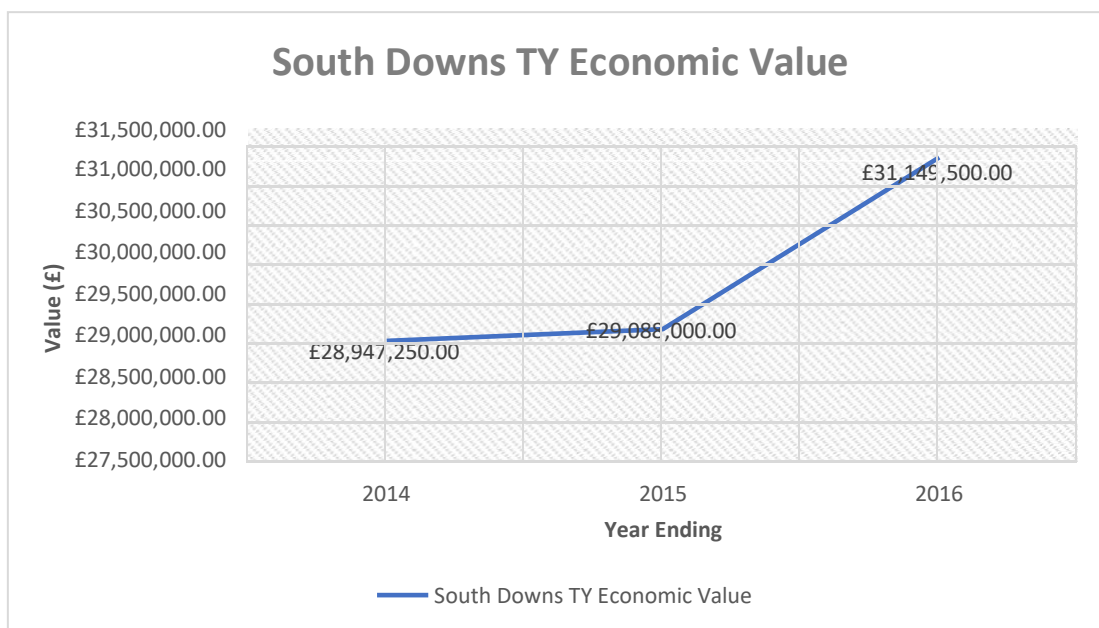


Figure 7: South Downs NP Economic Value (Excluding Visitor spend)

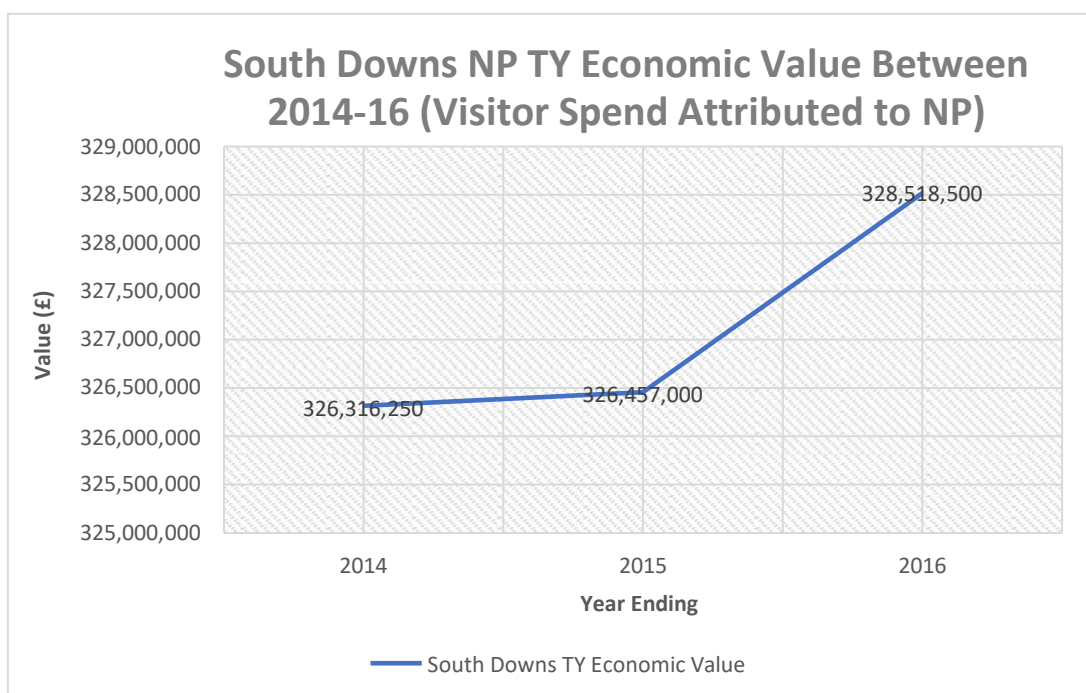


Figure 8: South Downs NP Economic Value (Visitor Spend Attributed to the NP)

To evaluate the underlying variables contributing to this increase in the South Downs NP economic value, the costs and benefits have been evaluated. TY Costs increased between 2014-15 by 2.66% and fell by 13.97% between 2015-16. The Government grant to the South Downs fell by 5.86% in this period, so expenditure grew due to the parks ability to generate income from other sources as well as use of its reserves. TY benefits (excluding visitation) followed this trend by rising 6.28%,

more than costs between the same period. Further to this, the TY benefits only fell 1.68% in comparison to TY costs which fell 13.97% during the same period. The variables behind this increase in TY benefits were consistently rising with employment expenditure increasing 8.28% on average over 2014-16 (Figure 9).

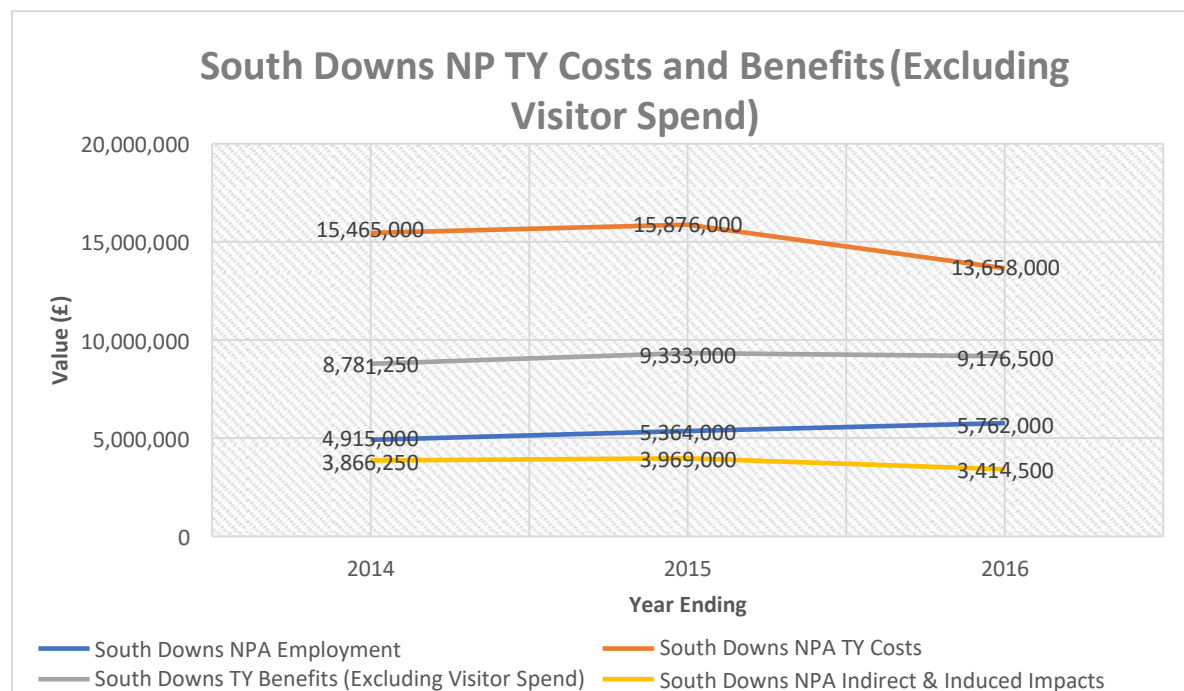


Figure 9: South Downs NP Economic Value TY Costs and Benefits (Excluding Visitor Spend)

The next statistical analysis aims at reviewing the impact of clustering NPs within regions, to see if the costs and benefits of a NP are affected by their proximity. The analysis uses the NPs located in Wales within the sample. The analysis shows that TY costs fell 10.89% between 2014-15 and 7.06% between 2015-16. This was in relation to TY benefits (excluding visitor spend) which fell 4.75% and 4.84% for 2014-15 and 2015-16 respectively. The contribution led to a less declining TY benefits in relation to TY costs than was caused by a slower declining employment, which fell 1.66% and -3.84% between 2014-15 and 2015-16 respectively. The TY benefits therefore fall at a slower rate (Figure 10).

The findings on the economic value of a NP show the variables that contribute towards the economic value of a NP. Now the control variables are going to be assessed against the TY costs. Of the four control variables tested against the TY

cost, two control variables show a correlation. The other two show no correlation (Appendices 6.14 & 6.15).

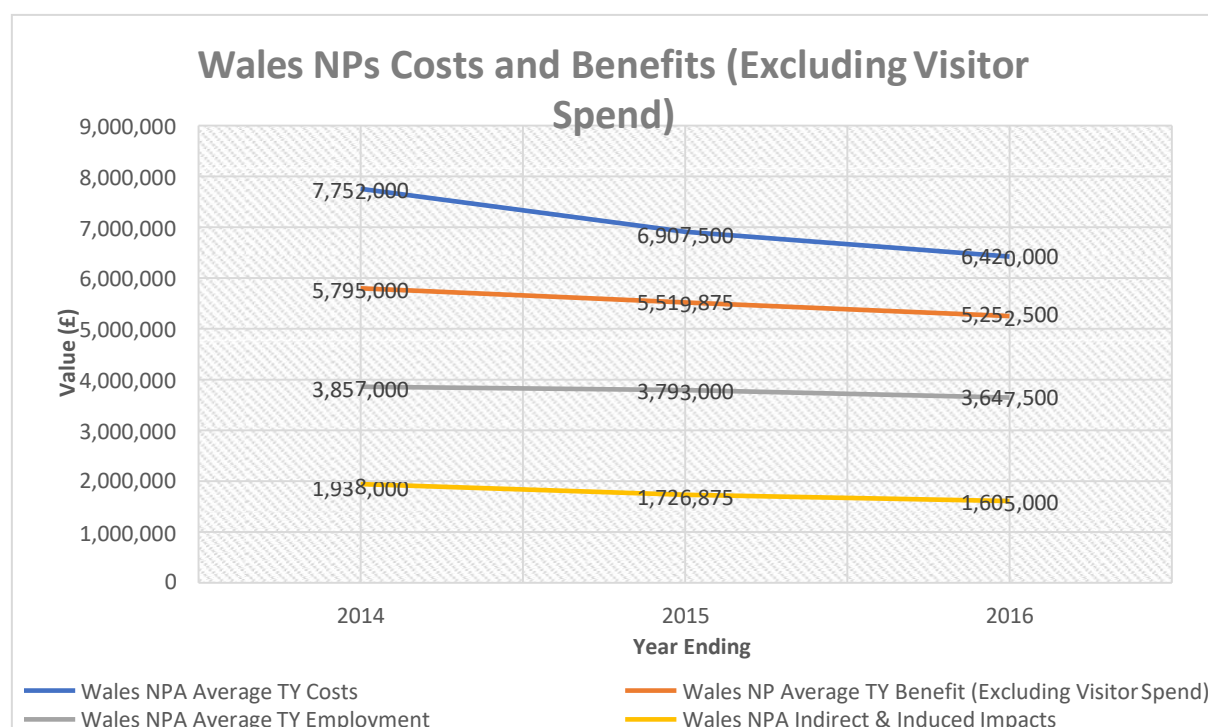


Figure 10: Wales NPs Costs and Benefits (Excluding Visitor Spend)

The two variables that show correlation are the size (total assets) & liquidity of the NP (Figures 11 & 12). The relationship between the size and the NP TY costs is a positive correlation of 0.51, suggesting that as the size increases by 1 the TY costs increases by a magnitude of 0.51. Liquidity ratio shows a negative correlation of -0.54 compared against TY costs, highlighting that as liquidity decreases, costs rise by the magnitude of -0.54.

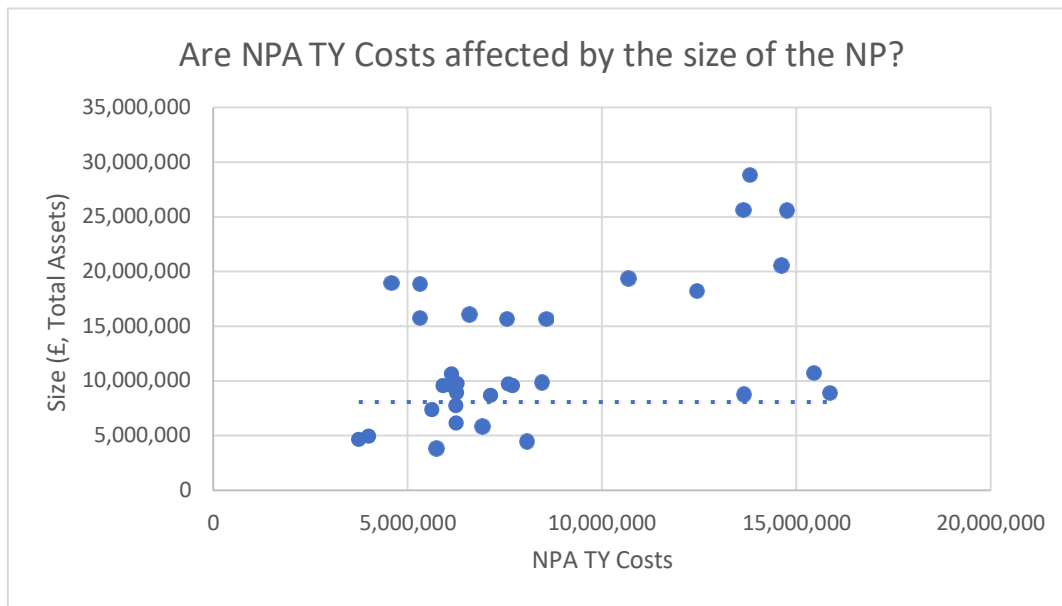


Figure 11: Are NPA TY Costs affected by the size of the NP

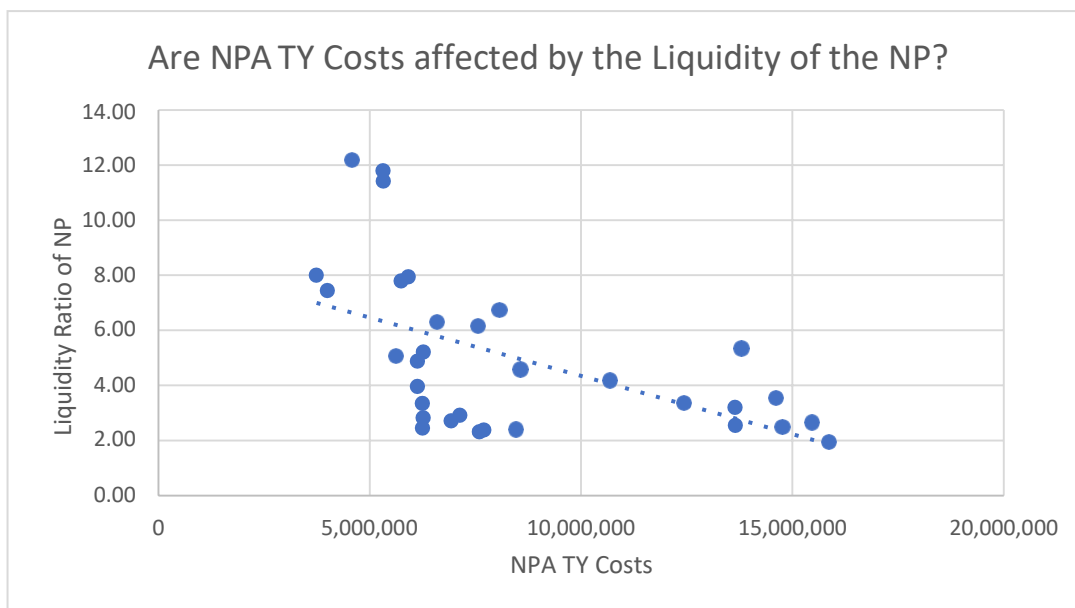


Figure 12: Are NPA TY Costs affected by the liquidity of the NP

Finally, visitor spending within NPs, a main economic flow to a NP, was reviewed against the control variables. The control variables of size (total assets), age and liquidity were used. The only control variable that showed correlation with visitor spend was size, the other variables showed no relationship (Appendices 6.16 & 6.17). The correlation between size (total assets) of the NP and visitor spend was 0.43 (Figure 12). This may relate in part to the funding criteria of an NP by the central government, which is based in part on size and population and on the extent of inherited assets (and the volume of planning applications).

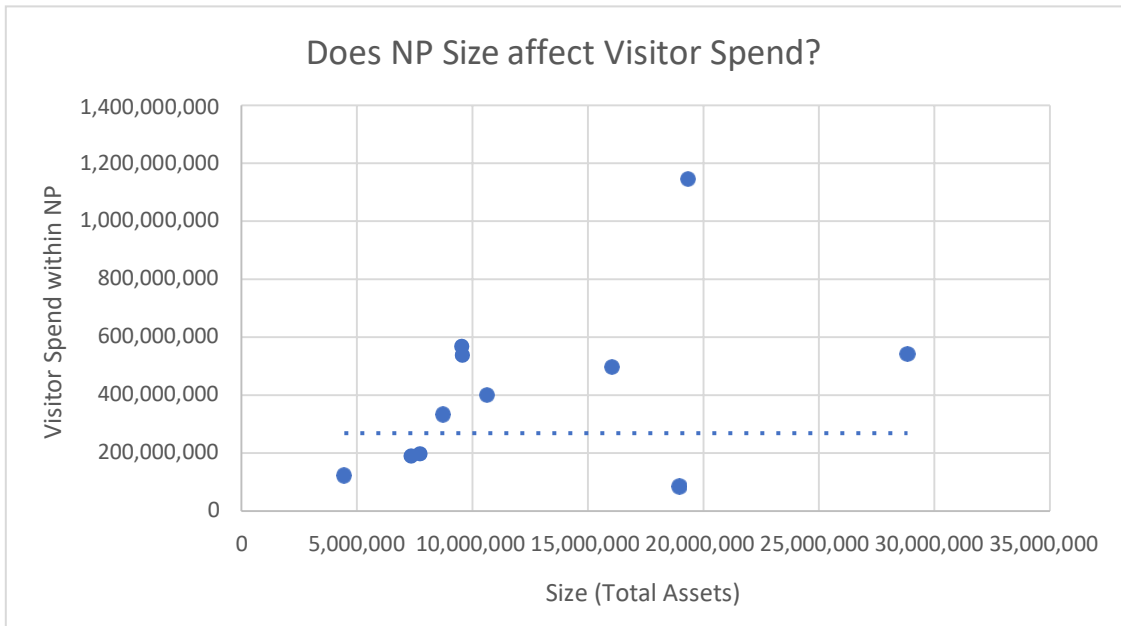


Figure 13: Does NP Size (Total Assets) Affect Visitor Spend

4.3. Proposition

In summary, the findings provide a good understanding of the effects that changes in NP expenditure have on their yearly benefits. However, the full impact of an NP's economic impact would require a data set for visitor spend over the three-year period.

Reviewing the other economic variables discussed in the literature review alongside the research finding, the proposition P1 can be loosely accepted: economic value is created in UK NPs, rejecting P0. The economic relationship between visitor spend attributable to NP needs further research, including on how one allocates additional spending given the multiple motives for visiting a NP (Oxford Economics 2010). This limitation was addressed in the analysis of South Downs because of the availability of data for before and after designation. The following section will discuss the findings in relation to the literature, and then apply the findings to the NP proposed within Dorset.

4.4. Discussions

The research model was determined by the literature which suggested that the economic value of a NP is determined by the national policy on conservation and the attractiveness of a NP to tourists (Mika et al 2016). We can conclude that tourism contributes the main economic flow to a regional economy; conclusions on the precise amount are limited due to the estimation on visitor spending. This is due to the assumption that visitor spending was homogeneous throughout the three-year sample.

UK NPs TY (total yearly) costs are reducing which is apparent from the analysis, this is likely to be due to funding being cut (BBC 2016). Since TY costs are being cut, TY benefits (excluding visitor spend) are also decreasing as employment is likely to be reduced given less income, while the indirect and induced impacts will decrease due to less procurement by an NPA. Yet our analysis showed that economic value was increasing due to a less declining employment figure than TY costs. Therefore theoretically NPs can add value by decreasing costs whilst maintaining employment. However, this is unlikely to be an optimal action as decreasing expenditure on things other than employment is likely to restrict other benefits such as conservation spend on the environment and other spending that promotes other external benefits.

NPs in the UK receive funding from central government which is related to the size of the park, the population and the volume of planning (National Parks UK 2017). This differs from the exact expenditure of NPs due to their having other sources of income and from their ability to generate organic income. The results show that bigger NPs inherit more TY costs. This is logical, because bigger NPs are likely to have higher expenditure due to their larger operations. TY costs and the liquidity ratio of a NP also showed a relationship, which imply that as a NP become less liquid, their costs increase. This could imply that less liquid NPs require short-term debt finance to meet short-term obligations - which can come at high costs.

Clustering of NPs within a region showed little variation from the average UK NP. However the sample used within the analysis was based on two clustered NP within Wales. The UK average also included other sets of clustered NP in the UK and this

variable was not controlled. Therefore, due to the limited dataset used, no conclusions can be made.

Overall the analysis draws strong conclusions that NPs add significant economic value to regional economies, supporting the proposition at P1. The analysis shows that the numbers employed in an NPA carries strong weight in the economic model of whether value is added to a region. Regarding visitor spend, the data reflect the limitation of not being able to see visitor spend fluctuate throughout the sample periods.

4.41. South Downs NP

The South Downs NP characteristics appear to be similar to those in the proposed NP area within Dorset - as detailed in the methodology. The South Downs NP is the most recently established in the UK. The value of the park differed from the average NP due to its increasing costs over 2014-15, when the park was still being established. Over this period, the government grant was decreasing by 5.86% over 2014-15 and 1.74% in 2015-16. However, the park increased expenditure due to its securing additional project funding and its ability to generate other income which grew by 67.7% over 2015-16. The value of the South Downs NP spiked over 2015-16 due to a strong growing employment figure, confirming the significance of employment in underpinning the economic benefits to a regional economy (Pelan 2011).

The South Downs NP TY additional economic value was £31 million in 2016 which rose 0.49% and 7.09% between 2014-15 and 2015-16 respectively.

More significant is the increase in visitor spend following the area's designation as a NP in 2010/11. With the inclusion of local resident visitor expenditure, it is estimated that visits to the South Downs National Park in 2011/12 generated an estimated £499,990,000 for local businesses, ranging from accommodation providers, attractions, shops, pubs, restaurants, cafes to taxis and petrol filling stations.

To provide a direct comparison with the total visitor expenditure reported in 2003/4 we need to remove the expenditure figure for local residents. With local resident expenditure discounted, the total visitor expenditure associated with visits to the South

Downs is £464,388,000. This represents a growth in visitor expenditure of 39.4% since the last study (representing an annual year-on-year increase of 4.9% over the 8 years from 2003/4 to 2011/12). Total visitor expenditure amounted to £333,091,000 in 2003/4.

However, the percentage increase reported is an increase in nominal terms only. Since 2003/4 the prices of goods and services has increased, with inflation between 2004 and 2011 averaging at around 3.3% per year. This means that £333,091,000 is roughly worth £419,608,000 in today's money. Accounting for inflation means that the actual increase in the value of visitor expenditure (£464,388,000) since 2003/4 is smaller; an overall increase of 10.7% (as quoted by the South Downs NPA study on tourism).

This also reflects a Northumberland NP report (2016) which notes that even though visitor numbers remained constant, economic activity increased due to visitors staying longer and spending more. This is particularly beneficial since increased visitor numbers require increased infrastructure and potentially involve increased pressure on the environment (Butler & Boyd 2000)

4.42. A NP in Dorset

As the findings show, tourism is the main economic flow associated with a NP and increases in tourism spend will result in the most value added. In the case of creating a NP in Dorset, the regional economy already has a thriving tourism economy, with an estimated £1,786,728,000 visitor spend (The South West Research Company 2016). As shown in Cline et al. (2011), and confirmed by the research in both the South Downs and Northumberland, the creation of a NP would add value per visitor, with significant benefits for Dorset. If we assume that the change in visitor spend within the South Downs NP before and after the NP was created (10.7%) was to be replicated following a Dorset NP designation, then an increase of £191,179,896 in annual visitor spending could occur. This estimate though depends on the area of Dorset included in a NP. As discussed, visitors to NPs are spending more even though visit number aren't increasing (Northumberland National Park Authority 2015). This would be highly beneficial to Dorset where infrastructure constraints are likely to occur if there were to be increased visitor numbers. There could also be adverse effects on the environment if there was simply an increase in the volume of tourism.

Higher visitor spending in Dorset, if the area was to gain NP status, would have a positive impact. The South Downs NP inherited high TY (total yearly) costs - likely to be the result of establishing the NP - with rising employment over the period reviewed. Due to the similarities between the South Downs NP and that proposed for Dorset, we might assume that the data obtained is likely to be replicated in the case of Dorset gaining NP status. Thus, a Dorset NP is likely to incur TY costs, not only in the initial years, which in the case of South Downs NP has continued to add value. A Dorset NP would need to obtain income from other sources eg project funding, as is the case in the South Downs NP, if it wanted to sustain high expenditure and economic value, especially if future government funding was reduced.

A NP in Dorset would present many indirect opportunities to the tourism industry that may currently be lacking. Marketing and infrastructure are weaknesses recognised within Dorset (The South West Research Company 2016). Many tourists are attracted to the UNESCO World Heritage Jurassic Coast between Exmouth and Studland. But other parts of Dorset are less visited. A NP would increase the status

and benefit the whole of Dorset, increasing the marketability of the area and attracting higher value visitors to areas within Dorset perhaps struggling through the lack of an internationally recognized brand.

Poor infrastructure could be a threat to the Dorset tourism economy. However, NPs invest in infrastructure to help further the enjoyment and recreational opportunities of the park. Financial reports show that NPs averaged £481,316.72 capital expenditure between 2014-16, some of this associated with infrastructure for tourism. This is highlighted by the recent £14.8m investment in a discovery centre within the Northumberland NP which aims to attract 100,000 visitors per year (Northumberland National Park Authority 2015).

Other opportunities for increasing tourism result from current economic uncertainties within the UK and the lower forecast growth rates. This is likely to lead to what has been termed the 'staycation' effect where UK residents turn to domestic holidays as a result of lower real incomes and the devaluing of sterling which has increased the cost of international holidays. Therefore, as the Mintel (2016) report suggests, domestic tourism is likely to increase, presenting opportunities for NPs to increase visitor spend within their regions. The opportunity for NPs is also enhanced by the rising satisfaction rates of visitors as evidenced within Northumberland NP (2015) where the number of visitors answering they've had an 'exceptional experience' has increased by 6% from 2011 to 2014.

Jackson (2011) highlighted issues with current economic models which assumed ever rising labour productivity would drive economic growth, but that where this growth is not achieved, then more extreme business cycles are occurring with high levels of unemployment. However, he recognises that service driven industries (such as tourism) are less dependent on rising labour productivity due to the value of their human capital.

The resilience of NPs' economies is linked to the value of human capital. A NP in Dorset would add resilience to the local economy by adding value to human capital and helping to avoid some of the worst effects of the business cycle.

5. Conclusion

The aim of this research was to assess the value NPs bring to a regional economy and then to apply the findings to the area of the proposed Dorset NP.

Existing literature showed that regional development policies are being scrutinised in terms of how far they support sustainable development. This partly reflects the increasing vulnerability of rural areas and their landscapes and heritage. NPs support sustainable development with their statutory duty to conserve and enhance the environment and cultural heritage of their areas, promote understanding and enjoyment of the special qualities of their areas and foster the economic and social well-being of their communities. These aims underpin similar policies in many countries. As our literature search concluded, NP designations support sustainable development since value is added to the environment, society and local cultural heritage. (The cultural aspects have not been assessed within this study.) However, sustainability and the value of conservation are often difficult to quantify due to their non-market values (Alves et al 2017).

NPs sustain the natural environment and capital of their areas whilst also contributing to local communities, visitor enjoyment and their local economies. Our research particularly identified their role in expanding tourism. This links with their duty to promote the understanding and enjoyment of their areas. Empirical evidence also suggests that the value of NPs goes beyond increased economic activity to include health and well-being - as described within the literature review. The literature also countered suggestions on the negative effects tourism in NPs could have on their environments. The findings highlighted that over the period studied, employment in NPs dropped at a slower rate than their total annual costs and thus the value and productivity of UK NPs increased. This paper concludes that economic value is created in UK NPs, thus supporting the proposition P1.

The South Downs NP was reviewed more specifically since it is the closest comparator and most recently established NP. It generated some £31m of additional economic value during 2016. More significantly, it was associated with a 10.7% increase in visitor spend in real terms as it moved to be designated as a NP.

Dorset has a higher tourism spend (around £1.8 billion), and applying the same added value assumption a NP could generate some £190m of additional visitor spending across the whole of Dorset ie including visitor spending in areas outside the NP. NPs are associated with higher value average visitor spend. The marketing power of a NP would also significantly rebalance and extend the visitor season and economy within Dorset where there is currently too high a focus on hot-spots along the Jurassic Coast.

A NP in Dorset should secure similar funding to the South Downs NP. In addition to a government core grant of around £50m, the South Downs NP secured around £40m in project funding and agri-environment funds in its first 5 years. Though future funding levels can never be guaranteed, a Dorset NP could expect to generate similar additional income for the area. The costs of a NP in Dorset would require initial funding to establish the park, with employment increasing throughout the initial years. The South Downs managed to increase expenditure over the period studied despite their decreasing government grant. This was largely due to their ability to generate income from other sources. The government have committed to maintaining NP grants in real terms over the period 2015-2020 (Dixon and Deane 2016).

A NP in Dorset would form part of a low cost, low risk investment which would add significant benefits to the regional economy. These benefits go beyond the highlighted market related economic benefits in the literature (see Pelan 2011). This paper concludes that a NP in Dorset would help Dorset become more resilient because it would offer more stable employment and increased tourism activity. Research shows NPs' service-industry value-adding economy built on human capital are less subject to fluctuating business cycles. The region would also benefit from the additional international brand recognition and investment in tourist related infrastructure - both current weaknesses of Dorset's tourism industry (The South West Research Company 2016).

5.1. Limitations

NP economic value reflected increased visitor spend (Pelan 2011). However, further work is needed in this area (Hutala 2007).

It is in particular difficult to access the value that can be ascribed directly to a NP given the many interrelated factors that determine where and why visitors go to an area.

The paper also only explored the economic value of an NP and reviews other aspects through the literature. Environmental and social value are non-market values and quantifying these are difficult. To determine these values further research is needed on the proposed NP area in Dorset.

Early data on NPs is limited due to the age of UK NPs - the average UK NP is 50 years of age. Therefore, it is not possible to access information on the early impacts from designation. Also, a three-year period was used when assessing the economic costs and benefits, whereas a longer period would have enhanced the evaluation and provided longer term trends and better insights. This was constricted due to time and available data.

5.2. Further Research

The impacts of NPs are becoming clearer with increasing amounts of literature reviewing their effects. However, none of the research reviewed contrasted development via NPs with other regional development approaches, and hence there is a limited basis for making clear comparisons and decisions on alternative approaches.

Within the analysis, the effect of NPs within the region of Wales was assessed against the UK average to evaluate the possible implications of parks located in proximity. The research showed little difference though this analysis is insufficient to create clear conclusions. To review the clustering effects of NPs, further research should be conducted on a range of NPs within the same region to make better judgements.

Research Ethics Checklist

Reference Id	16228
Status	Approved
Date Approved	02/05/2017

Researcher Details

Name	Kyle Dyett
School	Business School
Status	Undergraduate (BA, BSc)
Course	BA Business Studies with Finance
Have you received external funding to support this research project?	No

Project Details

Title	A Cost-Benefit Analysis of a National Park in Dorset & East Devon
Proposed Start Date of Data Collection	20/11/2016
Proposed End Date of Project	10/05/2017
Supervisor	Davide Parrilli
Approver	Davide Parrilli

Summary - no more than 500 words (including detail on background methodology, sample, outcomes, etc.)

The project involves conducting a cost-benefit analysis on the value a national park exerts on a regional economy, of which the approach has aims at sustainability as oppose to productivity of which has been heavily associated with regional development. The methodology aims at using secondary data to answer the research question as to the value added of a national park. This is spilt into two sections; Firstly historic data for expenditure and benefits are used for a range of national parks in the UK, in order to undertake a regression analysis which presents influential aspects in regard to creating value. The data used for this was mainly obtained from national parks financial reports, however also national parks uk webpage and reports, and economic growth figures. After this empirical evidence from reports and literature will present the case for non-monetary unquantifiable costs and benefits, in which conclusions will be drawn. This was obtained from reports conducted for national parks, literature and various other sources.

External Ethics Review

Does your research require external review through the NHS National Research Ethics Service (NRES) or through another external Ethics Committee?	No
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Research Literature

Is your research solely literature based?	Yes
Will you have access to personal data that allows you to identify individuals OR access to confidential corporate or company data (that is not covered by confidentiality terms within an agreement or by a separate confidentiality agreement)?	No

Researcher Statement

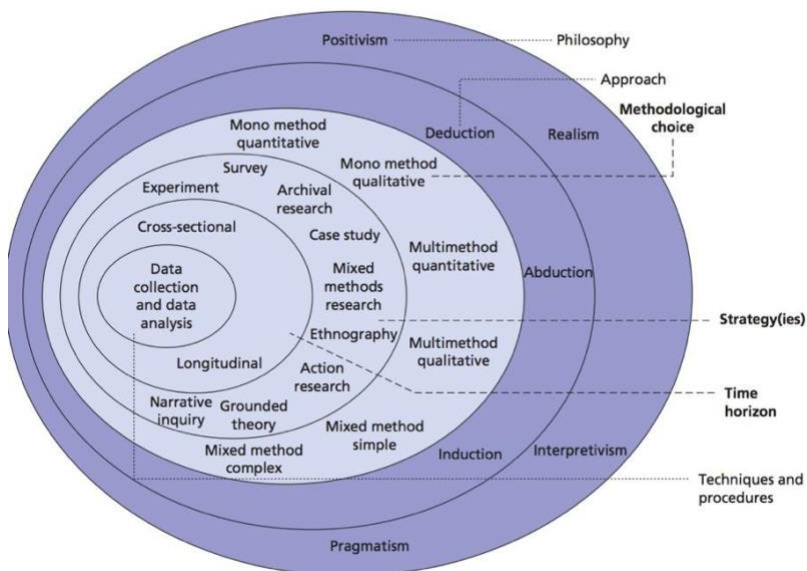
JOURNALISM / BROADCAST RESEARCHERS: I confirm that I have consulted and understand the Research Ethics Supplementary Guide: For Reference by Researchers Undertaking Journalism and Media Production Projects (available on the Research Ethics page)	Yes
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6.2. Figure 1: Objectives of UK NPs



(National Parks UK 2017)

6.3. Figure 2: Research Onion



(Saunders et al 2012, p128)

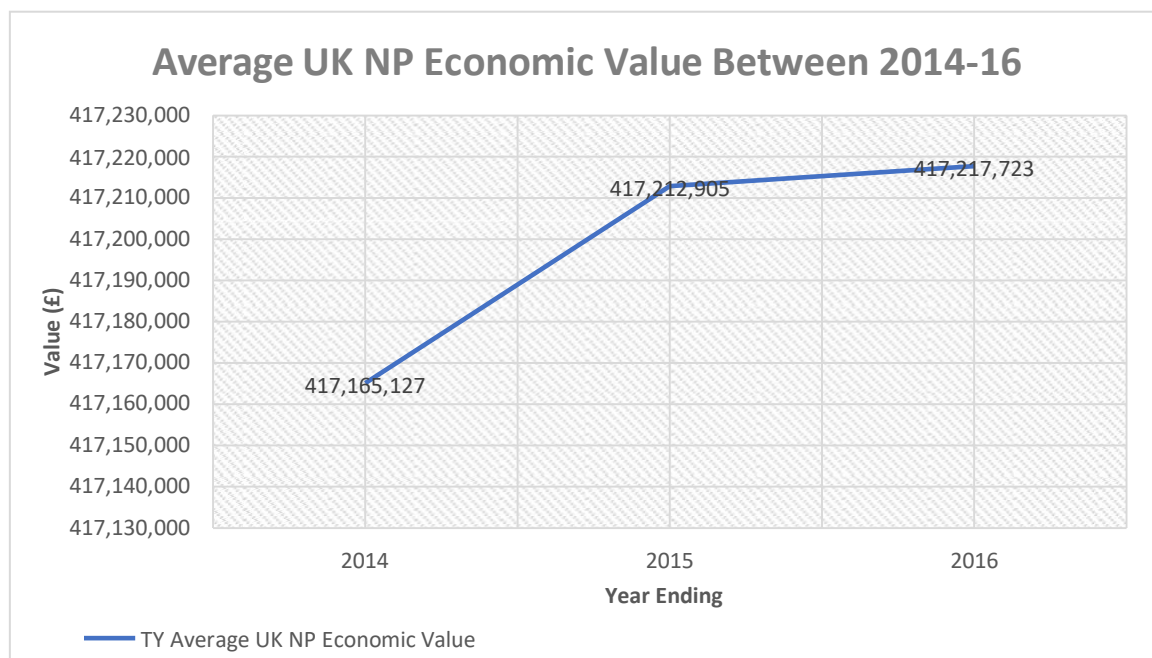
6.4. Figure 3: UK NPs in Sample

UK National Parks (In Sample)	
(3)	Brecon Beacons National Park
(4)	Pembrokeshire Coast National Park
(12)	Exmoor National Park
(13)	Lake District National Park
(14)	New Forest National Park
(15)	North York Moors National Park
(16)	Northumberland National Park
(17)	Peak District National Park
(18)	South Downs National Park
(19)	Broads Authority National Park
(20)	Yorkshire Dales National Park

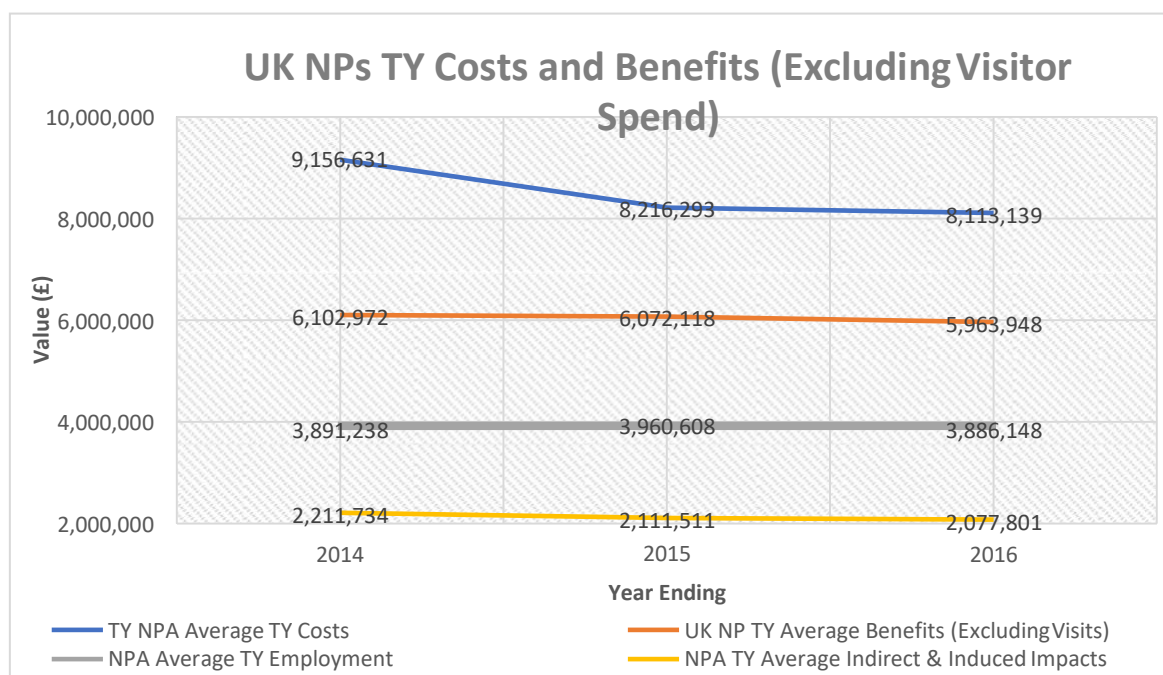
6.5. Figure 4: Descriptive Statistics

Variables	Min	Max	Mean
Employment of NPA (£)	2,009,269	7,129,250	3,957,839
Indirect & Induced Impacts of NPA Expenditure (£)	935,659	3,969,000	2,159,490
Visitor Spend per annum (£)	85,000,000	1,146,000,000	419,909,091
Annual Costs (£)	3,742,637	15,876,000	8,474,689
Size (Total Assets, £)	3,797,000	28,837,537	12,445,276
Age (Years)	5	66	49.55
Liquidity Ratio (Current Assets: Current Liabilities)	1.95	12.18	5.00
Regional Growth (%)	1.9	5.3	3.31

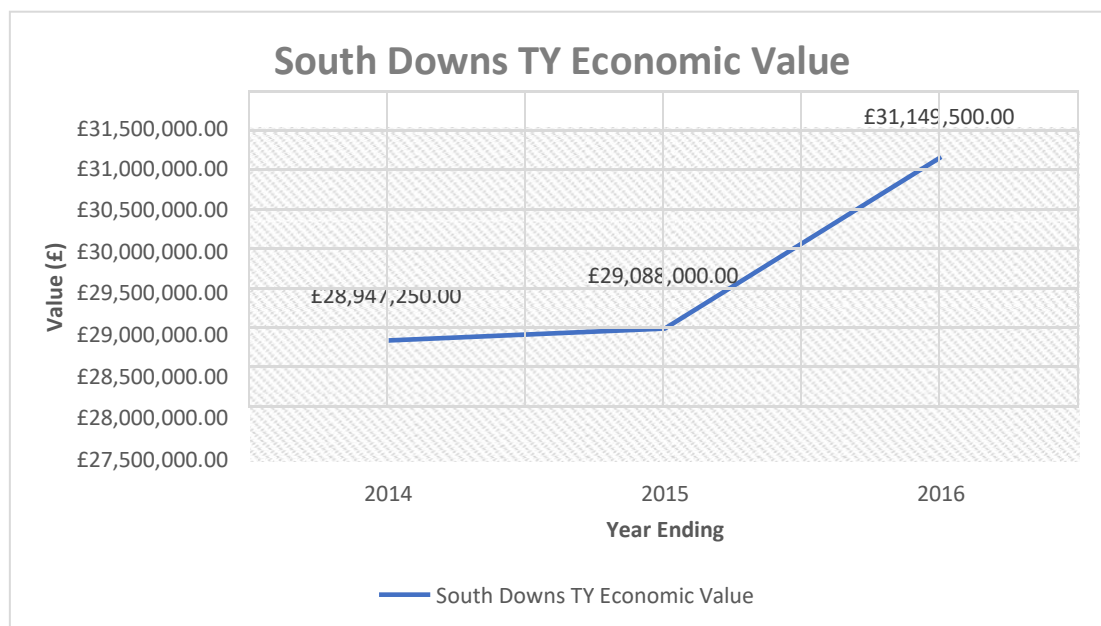
6.6. Figure 5: Average UK NP Economic Value Between 2014-16



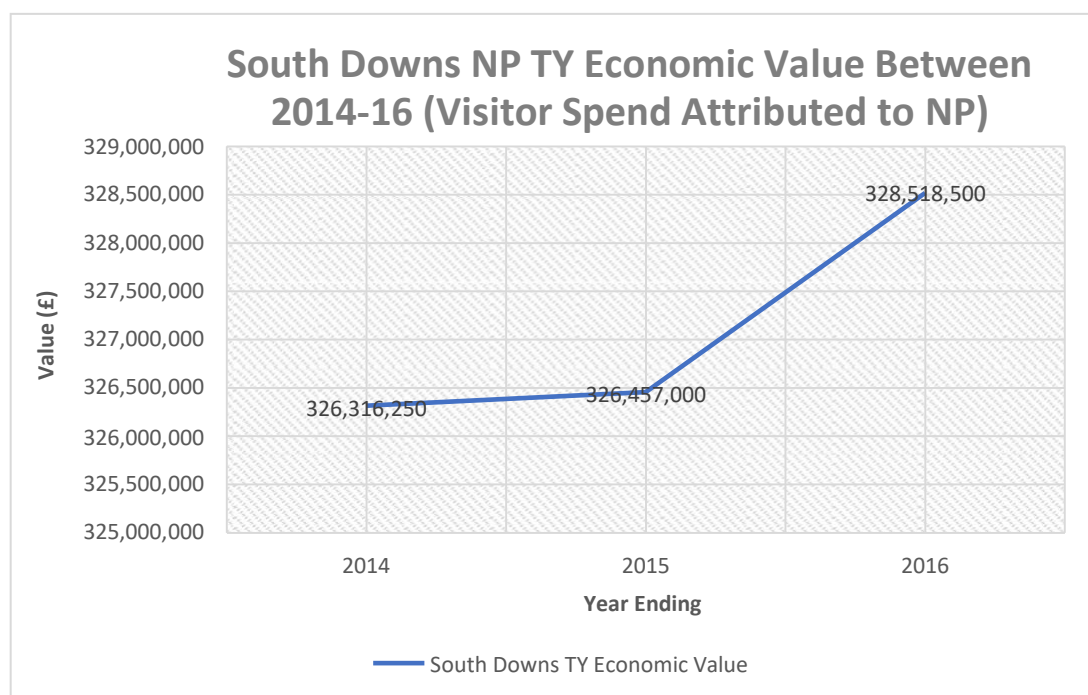
6.7. Figure 6: UK NPs TY Costs and Benefits (Excluding Visitor Spend)



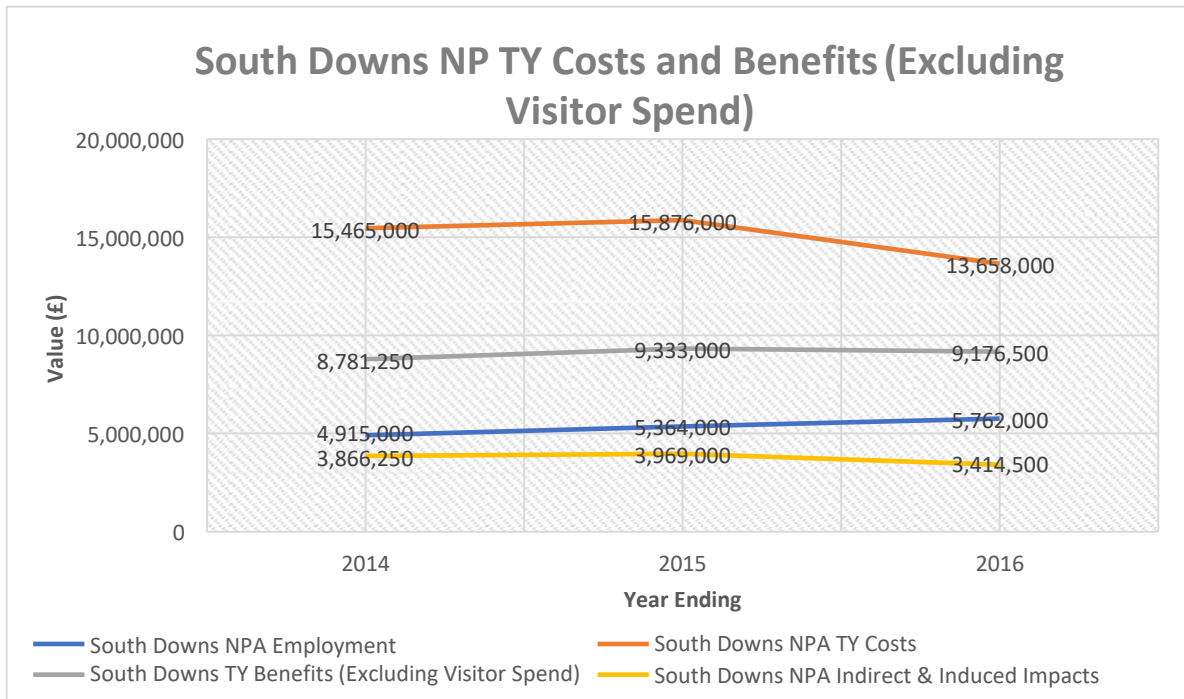
6.8. Figure 7: South Downs NP Economic Value (Excluding Visitor Spend)



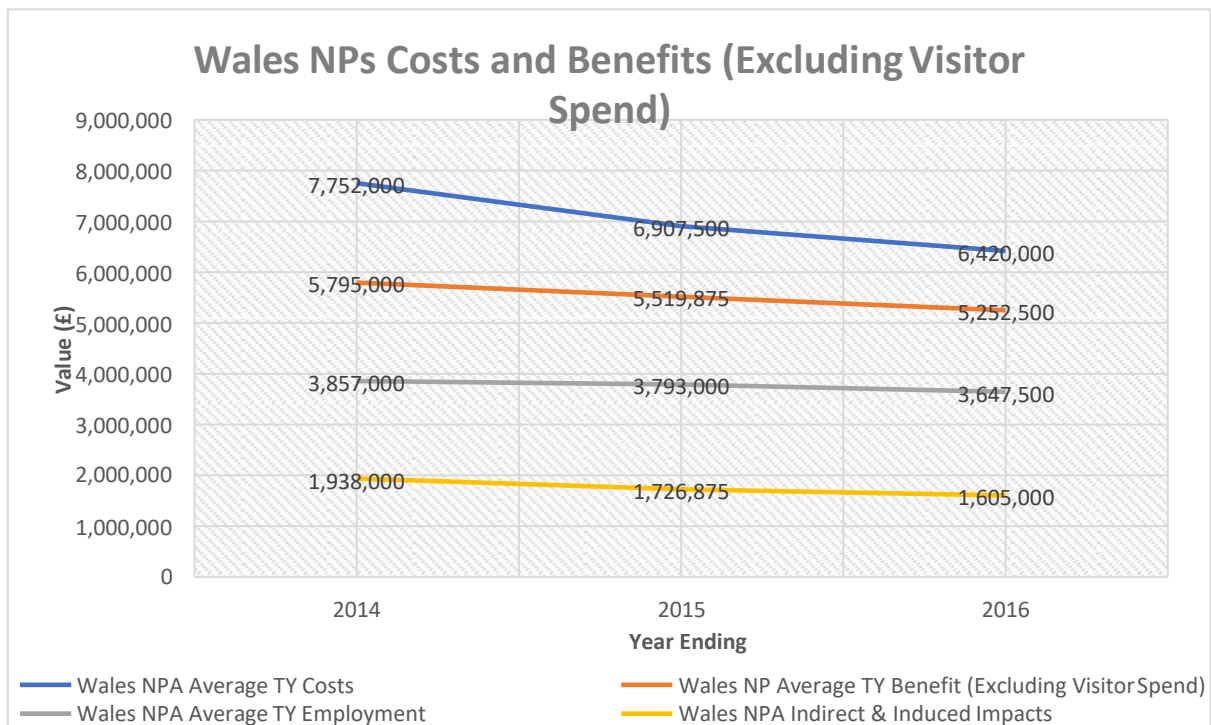
6.9. Figure 8: South Downs NP Economic Value (with Visitor Spend Attributed to the NP)



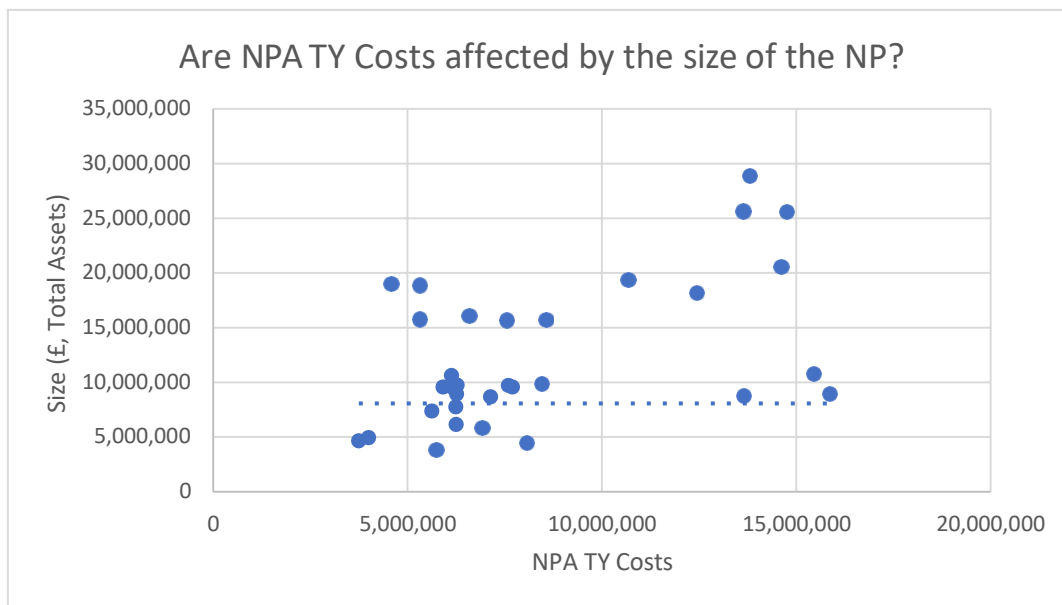
6.10. Figure 9: South Downs NP Economic Value TY Costs and Benefits (Excluding Visitor Spend)



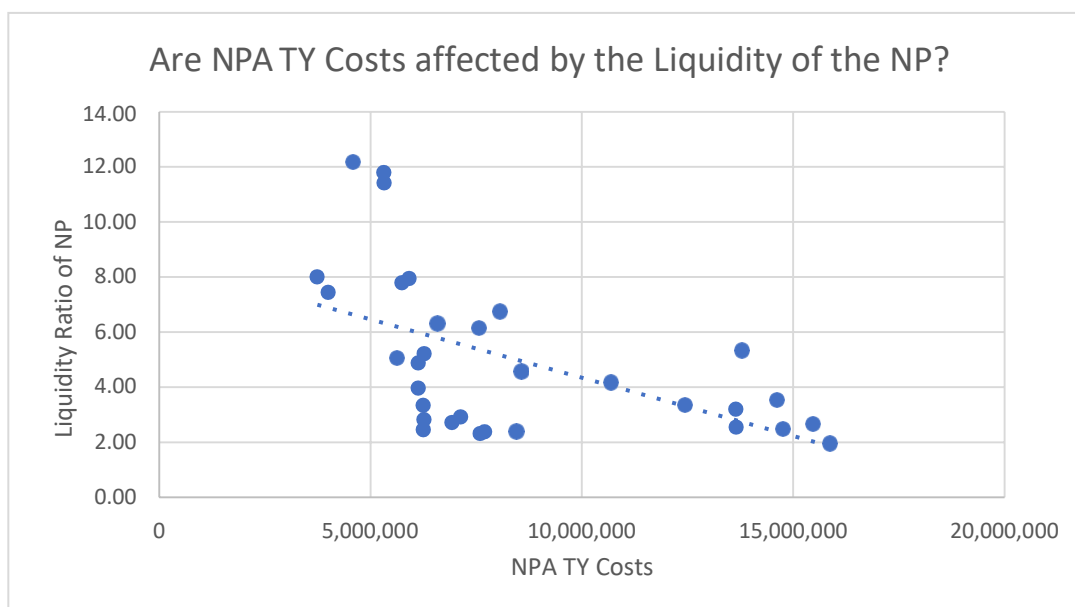
6.11. Figure 10: Wales NPs Costs and Benefits (Excluding Visitor Spend)



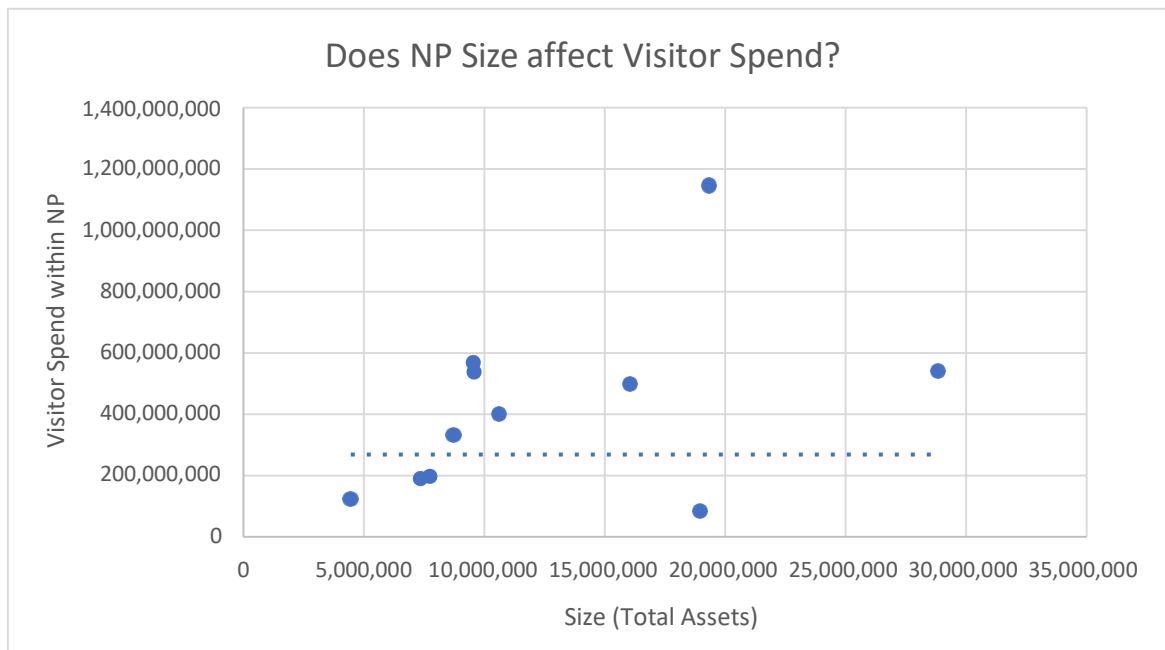
6.12. Figure 11: Are TY Costs affected by the size (total assets) of the NP



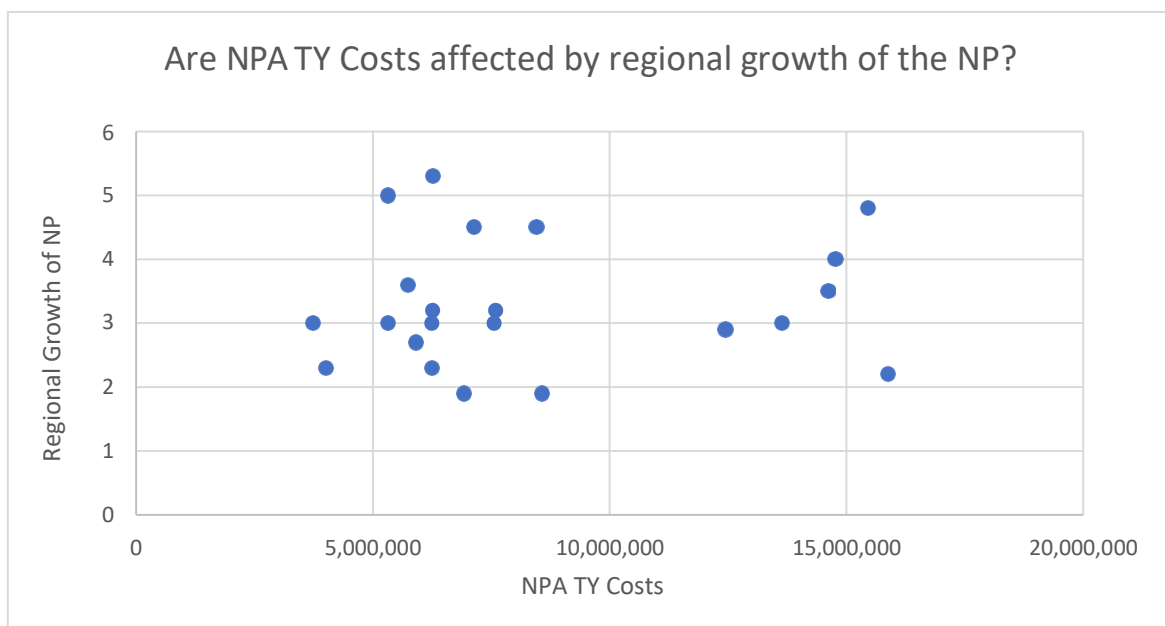
6.13. Figure 12: Are TY Costs affected by the liquidity of the NP



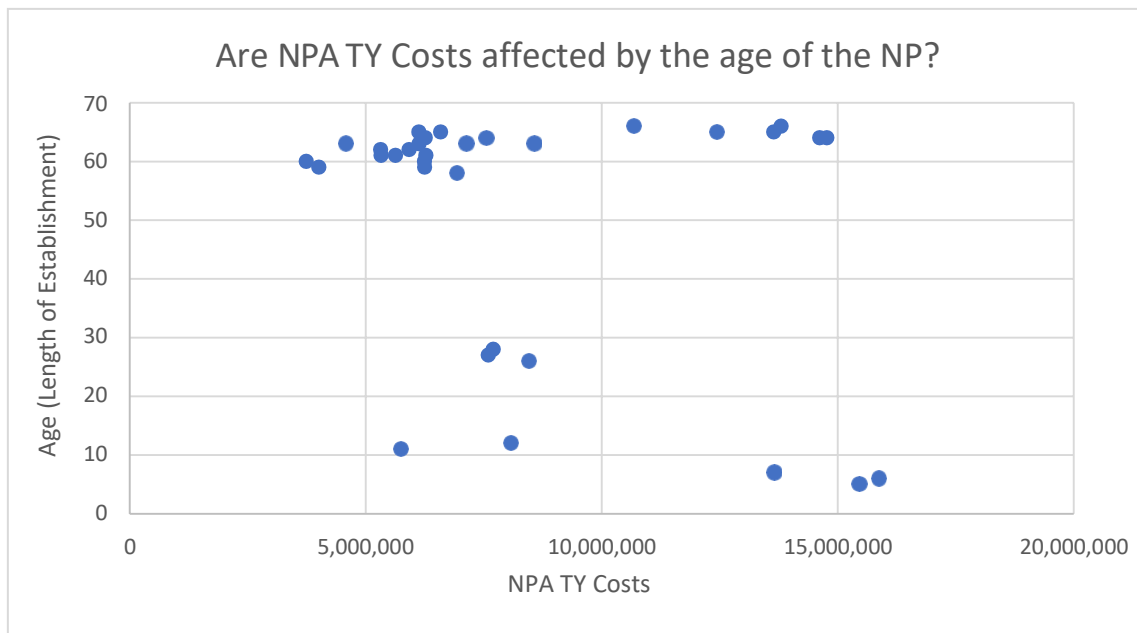
6.14. Figure 13: Does NP Size (total assets) Affect Visitor Spend?



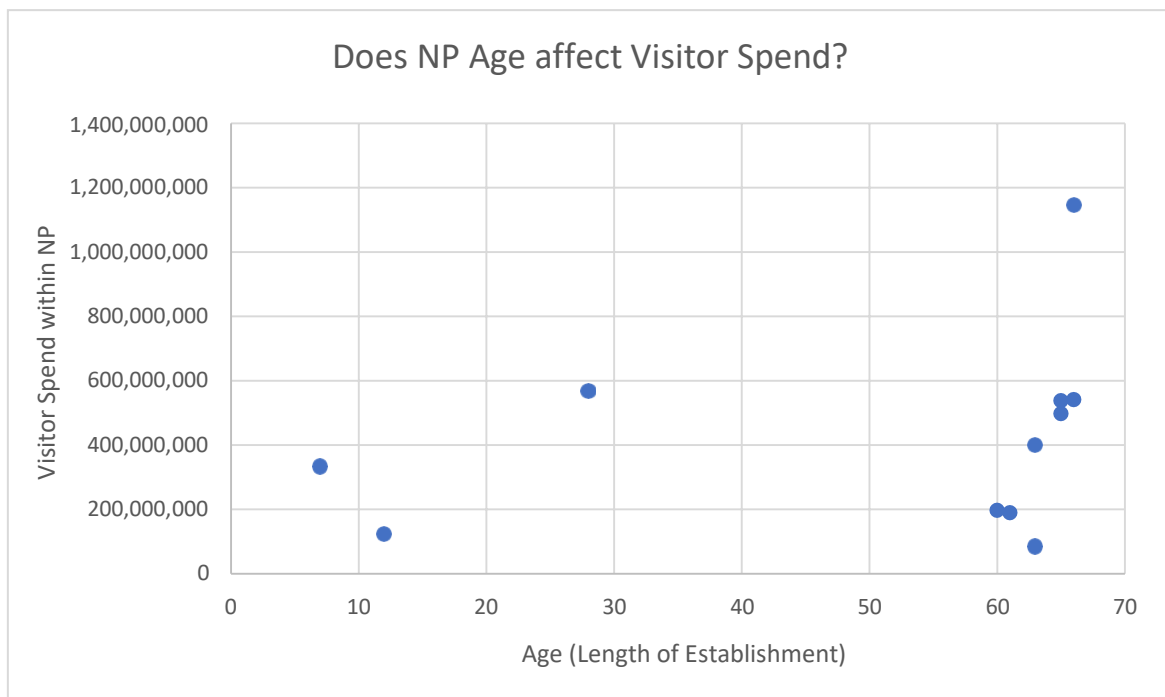
6.15. Are NPA TY Cost affected by regional growth within the region of the NP



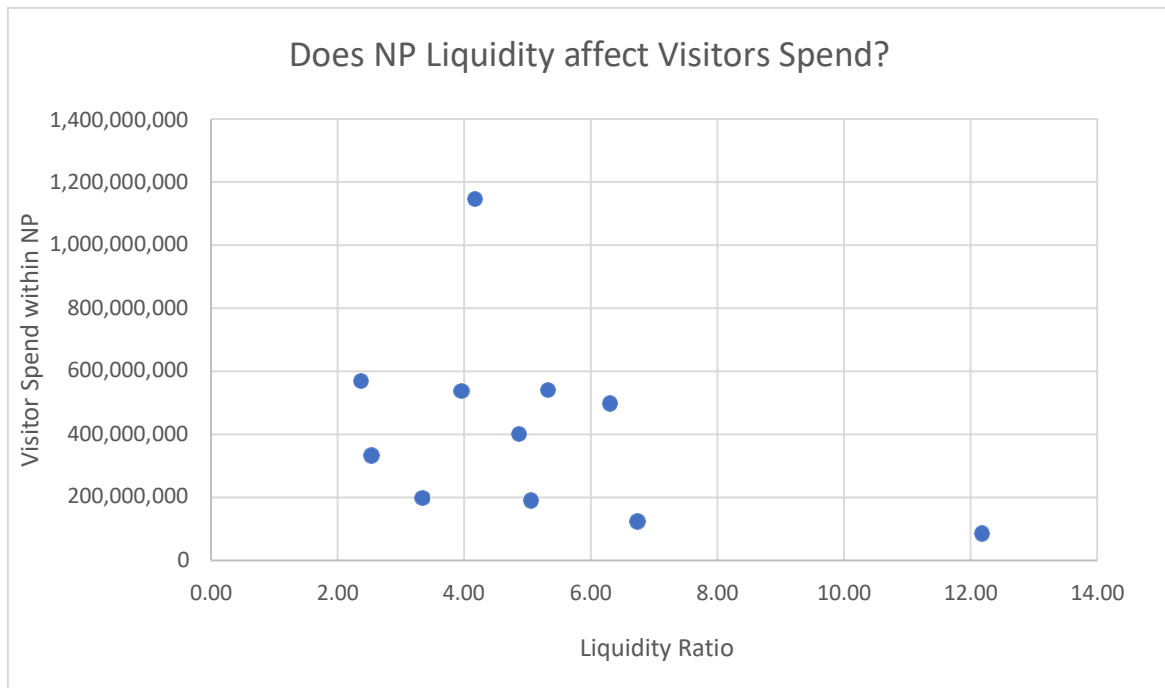
6.16. Are NPA TY Costs affected by the age of the NP



6.17. Does the Age of the NP affect TY Visitor Spend



6.18. Does the Liquidity Ratio of the NP affect Visitor Spend?



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