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Abstracts

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MADRAS SCHOOL OF ECONOMICS

EXAMINING THE HEAT STRESS IMPACT ON THE SOUTH ASIAN VULNERABLE URBAN POPULATION – A SYSTEM THINKING APPROACH

[Sri Lanka, Pakistan, India, Nepal – SPIN Countries]

Daigee Shaw[a] and Zareena Begum Irfan[b, *]

Abstract

By 2030, heat waves will lead to US$ 2 trillion loss in labour productivity. The more vulnerable group being women, when they head households economically, the burden exponentially impacts their threshold limit on productivity. There has not been much efforts to understand the impact of heatwave in vulnerable groups such as women headed households, particularly on their socio-economic perspective, in South Asian countries. Hence, two key research objectives of this study are to: assess the subjective and susceptible stress faced by the vulnerable population at the household level across the selected cities of four countries – Sri Lanka, Pakistan, India and Nepal. Tracing cause and effect chains in slow-onset hazards and small-scale disasters can assist in the creation of relevant loss categories in databases to more appropriately capture impacts which have hitherto been absent in loss accounting systems, thereby improving methodologies for impact calculation. Studies of vulnerability pathways using cascades and systems thinking have been developed in the present paper to track the disaster impacts, and further extend to assess the loss generated by disasters, especially for small-scale and slow-onset events. The present work also aims to measure Wet Bulb Globe Temperature (WBGT) in four study locations, and assess the impact of heat wave on the socio-economic status of the households surveyed in study locations across the four nations. The WBGT would be calculated both using the secondary meteorological data and the airbox sensors, which would be correlated to the subjective and susceptible stress faced by the household headed by women. The Multi-Dimensional Heat Stress Index would be evaluated with respect to the wet bulb globe temperature (WBGT) for the four selected regions which are impacted by Urban Heat Island Effect. The MHSI would further be used to suggest the simulated health risk reduction which could be attained by the implementation of early-warning systems. The institutional governance required to achieve the disaster risk reduction

would be recommended in terms of policy suggestions adaptable for the four urban regions.

Assessing impacts of climate change and climate trends on agriculture:
A methodological review and application to Indian agriculture

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Abstract

In the context of agriculture both crop modelling as well as statistical modelling approaches are used to assess climate change impacts. Studies comparing both approaches find little or no difference in their estimates. This paper presents a methodological review of different statistical approaches employed in the literature to quantitatively assess the climate change impacts on agriculture. Focusing on Indian agriculture, the study aims to assess the effects of climatic parameters on Kharif rice productivity as evident from various modelling approaches. Following the recently developed long-difference approach the paper also aims to assess the adaptation potential as studied under the purview of agricultural impact assessment studies. Further, the paper reviews the vast literature using time-series data for assessment of the impacts of climate/weather trends. The study uses Indian district level data for weather and non-weather variables for the period 1969-2007. The study finds daytime temperature to be the most important of all climatic factors in reducing rice productivity. Comparison of the effects of climatic parameters suggests that ~21 % of the short-run adverse effects could be mitigated through longer-run farmer adjustments. The study results confirm the findings of the past studies and suggest the historically limited role played by adaptation.

Key Words: Climate Change Impact, Adaptation, Rice, India
JEL Codes: *Q10*, *Q54*, *I30*

Rice Production Systems and Drought Resilience in India

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Abstract

Hydro-climatic events such as drought tend to be responsible for much of agricultural output losses and to some extent income and livelihood loss across vulnerable communities in India. Several crops which are important from ensuring food-security and sustaining livelihood are vulnerable to drought. The Government of India has taken several measures to deal with such situations to enhance the resilience of Indian agriculture. These include policies/programs to expand irrigation, use of better technology, and development of drought-resistant crops etc. Regarding technology uptake by the Indian farmers, Palanisami et al. (2015) observe that farm-level adoption rate of water management technologies developed by the research centres is only 22%, and more than three-fourths of the water related farm practices followed by the farmers are based on local and traditional wisdom. In this context it is important to study the extent to which the water management practices have enhanced the resilience of Indian agriculture. This acquires further relevance in the context of changing climatic conditions and the recorded changes in the frequency and severity of drought across India. Treating rice as a benchmark crop in Indian agriculture, this paper examines whether rice in India has become resilient to drought over the years. The study uses state and district level data spread over the past four decades on rice productivity, weather, and key farm level inputs such as irrigation. The study uses various measures of drought that account for both hot and dry conditions experienced over India during the rice growing period. The results suggest that while 'severe' intensity droughts have affected the yield more adversely than the 'moderate' and 'low' intensity droughts at both the national and regional level, there is convergence of trend in drought affected yield towards that of yield under no drought conditions, albeit at varying rates across different regions.

Key words: Drought; Rice yield; Weather; Irrigation

JEL Codes: Q10; Q54; Q56

Causal Impact of the Adoption of Soil Conservation Measures on Agricultural Performance in Rain-fed Watershed areas of Telangana

Dayakar[1]

Abstract

Soil erosion is a major problem in rain-fed areas in India. To reduce the impact of soil erosion, farmers adopt soil conservation measures based on their perceived level of soil erosion in the plots. Government has also been undertaking soil and water conservation measures through watershed development programmes to prevent soil erosion at the community levels. This study attempts to evaluate the effects of on-farm soil conservation measures on agricultural net revenue and yield. Specifically, the study tries to address three research questions: (1) Do soil conservation measures increase yield and profitability of farmers ?; (2) Differential impact of soil conservation measures on the irrigated and un-irrigated lands; (3) How community-level programmes influence agricultural performance of farmers undertaking soil conservation measures *vis-à-vis* farmers not taking any such measures?

Since the farmers self-select themselves as adopters of a particular type of conservation measure, there could be a problem of selection bias in evaluating their soil conservation practices. The study uses propensity score matching method to assess the causal impact of soil conservation measures while controlling for plot level socio-economic, institutional and village level characteristics. The study uses primary survey based data from Siddipet district of Telangana, India carried out during January-April in 2018. The data collected from two watershed areas of Siddipet district, covered 6 villages in watershed development programme implemented area and 6 villages from non-watershed implemented area. The survey collected data from close to 400 farm households. The analysis focuses on data representing monsoon season. The survey region is dominated by red loamy, red sand loamy and black soils with paddy, maize, cotton, red gram and vegetables as major crops. To control soil erosion farmers undertake a variety of soil

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conservation measures including counter ploughing, silt application, grass bunds, boarder stream digging, slope levelling, stone bunding, agro forestry and farm ponds. The study treats farmers who undertake more than two soil conservation measures as 'adopters', and the rest as 'non-adopters'.

The result suggest that there is a significant difference in total net revenue, crop-wise net revenue and crop-wise yields between the 'adopters' and 'non-adopters' in the monsoon season in the study area. The difference between the 'adopters' and 'non-adopters' in total net-revenue attributable to soil conservation measures is about INR 2110 (at the 1% level of significance) in the region. Crop wise effect of soil conservation measures for paddy, maize and cotton are estimated as INR 3500, INR 2910 and INR 5000, respectively. These treatment effects on the treated (ATT) are respectively 23, 34 and 39 percent of the mean value of (crop-wise net-revenue??) of the non-adopters group.

The present study argues that the farmer's agricultural net revenue from adoption of soil conservation measures is higher in areas where watershed development programme has also been implemented. In other words, soil and water conservation measures undertaken at the community level complement the plot level adoption of soil conservation measures. The study further argues that the benefits from soil conservation measures are higher in case of non-irrigated crops (viz., maize and cotton) than for irrigated crops (viz., paddy)

The Gravity of Sustainable Debt:
Empirical Evidence from Southern States in India

Renjith P. S.[2*]

Abstract

This paper empirically examines if the public debt policies of south Indian states are sustainable or not. It employs fiscal policy response function (FRPF) and penalized spline (p-spline) technique to assess the debt situation of the four south Indian states during 1984-85 to 2016-17. The FRPF validatates the sufficient condition for sustainability i.e., primary surplus relative to GSDP is a positive function of the public debt to GSDP ratio. Similarly the p-spline technique accounts for the variability of reaction coefficient over time. To gain additional insights, this study also performs stationarity test with respect to the real budget deficit. The empirical finding demonstrates that only two states pursue sustainable debt policies while two are way off the mark.

Keywords: *debt sustainability, southern states, time varying coefficients, unit root test*

JEL: **E62, H63, H74**

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Information Asymmetry and Equity Issue Decision

Bipin Sony & Dr. Saumitra Bhaduri

Abstract

This paper examines the role of information asymmetry in the equity issue decision of firms in a market inflicted with information problems, India. In the post-IPO scenario, private placement of equity is the most common equity issue method among Indian firms and public issues like rights issues and follow-on-public offers are less-frequent events. Information based models of capital structure argues that only those firms overcoming the information barrier can issue equity securities in public markets. This study adopts a two-pronged strategy to test the role of information asymmetry by incorporating three unique variables-analysts following, analysts forecast surprise and analysts forecast dispersion as proxies for information asymmetry. The first strategy tests the role of information asymmetry in determining the market type in which equity issue is made-public or private. The second strategy tests the role of information asymmetry in the choice between private placement of equity and rights issue. The findings of this study provides crucial evidence for the role of information asymmetry at all levels of equity issue decisions. Only those firms addressing the information problems issue equity in public markets. Firms with higher levels of information asymmetry choose to issue equity privately. A similar finding is reported in the security issue decision between private placements and rights issue where firms with lower information asymmetry choosing rights issue.

Information Theoretic Ranking of Various Extreme Value Returns

Prthajit Kayal and Rakesh Nigam

Abstract

This study empirically shows how much information is contained in various extreme value ratios of gold futures and crude oil futures. Using information theory, we find out their variability in relation to uniform distribution in each quarter. We then rank them according to Kullback-Leibler metric to ascertain which set of ratios are more variable than others and thus provide better estimation in computing volatility. We also calculate the rank of matrix to know the set of ratios which are linearly independent. The empirical results demonstrate that there are other extreme value ratios which contain more information than the most widely used volatility estimators like Parkinson (1980), Garman Klass (1980), Rogers & Satchell (1991) and Yang & Zhang (2000). We also observe that each dataset has other more informative ratios which are uniquely attributed to that dataset.

Analysis of Normative Supplier-response to State-level Essential-medicine Procurement Contracts in India

Vijaya C Subramanian and Sundar Raj

Abstract

The lack of access to pharmaceutical drugs at the "right time" and in the "right quantity" is one of the major obstacles to the goal of universal healthcare. One of the objectives of an efficient procurement system is to ensure proper access of drugs to the population it serves. The drug procurement system in India across states varies vastly in several aspects ranging from supplier assessment, bidding/tender processes to order scheduling and penalties. States also tend to order from the same pool of private suppliers. The shortage of drugs at public healthcare centers in India is significant and is exacerbated due to suppliers not adhering to schedules and defaulting on orders placed.

In this work we aim to analyze the behavior of a private supplier with multiple orders from different states. We model this as a classic multi-period transportation problem with capacity constraints and inventory costs. We develop a decision support system which can evaluate how a state's choice of contract design factors vis-à-vis other states impacts its supplies and gain insights on what contract conditions such as penalty factors or blacklisting will make one state become the preferred customer. Finally we discuss the policy level implications of the results.

Keywords: Essential medicines, Stock outs, Transportation model, Public procurement system

Maladies of Indian Banking Sector: Investigating a Perspective beyond NPAs

Saumitra Bhaduri and Ekta Selarka

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Abstract

Pro-cyclicality in the lending behavior and misallocation of resources by financial institutions have been a contentious issue in the economic literature for a long time. It has been well established in the theoretical literature that banks often overstretch both the quantum as well as the quality of their credit over the expansionary phase leading to misallocation and nonperforming credit. Despite a strong body of theory, there is a little direct evidence on pro-cyclicality and suboptimality in allocation as a response to credit growth, particularly in the context of emerging economies. The paper aims to fill this gap by tracing the trend in misallocation of bank credit in India as a response to credit growth cycles. The topic has gained further relevance in the context of a recent surge in gross NPL which accounts for 9.3 percent of the bank 's total outstanding loans as on March 2017. Since the spurt in NPL, has followed a period of remarkable high credit growth during the mid-2000s, India provides a unique opportunity to understand the extent of credit cycle dynamics that affect the misallocation of bank credit. Finally, India, like many emerging countries, being predominantly a bank-oriented system which accounts for over 50% of the total credit to the non-financial firms, the evidence of pro-cyclicality in the lending behavior presented in the paper can provide valuable insights into the design and operation of the prudential macro policy.

Health Status And Female Labour Participation: The Case Of South East Asian Countries[3]

Amrita Chatterjee[4]and Muskaan Narang[5]

Abstract

It is well accepted in literature that health status is endogenous to labor supply and so is fertility. Moreover fertility and women health are closely connected. The current paper aims to investigate the interrelationship between the three interconnected variables using a Simultaneous equation model on a panel data set of 10 South East Asian countries for the period of 2000-2015. The results indicate that participation rate has a positive impact on health status of women. Women who are in the labour market are found to have better facilities as well as financial support which improve their health status and a healthy person also has a greater contribution in terms of labour productivity as compared to an unhealthy person. Fertility on the other hand has a negative impact on women labor force participation but situation improves with skilled attendance at birth and educational attainment. Sector-wise analysis reveals that in agriculture women may continue to participate in labor force even with poor health condition but that may affect the participation rate negatively in the next period. However, in industrial sector the reverse causality from participation to poor health is not observed for these nations. Employment in service sector helps to maintain a good health for women. High Fertility rate in agricultural sector compels the women to continue to work to support the family but with a deteriorating health they may not be able to continue in the subsequent periods. In industrial and service sector, however, with the medical and maternity leave support, even if they withdraw from labor force temporarily, they are able to join back.

Key words: women health, fertility, female labor force participation,Simultaneous Equation model, Dynamic Panel data

JEL classification: J01, J13, I12, C3

Export Competitiveness, Labour Laws, and Gender Differences in Job Dynamics: Analysis of Manufacturing Industries across Indian States

Purna Banerjee and C. Veeramani

Abstract

Increased participation of women in productive employment is a prerequisite for achieving gender equality and other sustainable development goals. Yet, female labour force participation in India, a country home to about 17% of the world's women, is abysmally low. Against this background, using plant level data, we obtain gender-wise estimates of job dynamics – job creation, destruction and reallocation – across 32 Indian states and Union Territories and 58 formal manufacturing industries for 1998-99 to 2014-15. This paper departs from earlier studies by focusing on measures of job dynamics, as opposed to static net employment measures, and on the demand side determinants of employment outcomes. In light of major changes in India's trade and exchange rate regimes during this period, we analyze whether industry-level changes in export competitiveness, mediated through exchange rate fluctuations, explain the variation in job dynamics for each gender group. We also examine whether this relationship is conditional on state level variation in labour market conditions. Our estimates suggest that, even as net job creation rate is quite low, the labour market has experienced significant labour turnover for both gender groups, particularly in states with relatively flexible labour laws. Dynamic panel data regression analysis provides evidence for an asymmetric impact of exchange rate in that while depreciation (appreciation) is found to increase (reduce) gross job creation rates, exchange rate changes do not exert any effect on gross job destruction rates. Improvement in export competitiveness positively influences gross and net job creation in states with flexible labour market but not in states with rigid labour markets. The results indicate that when faced with labour market rigidities female workers face greater job reallocation compared to male workers. Our results remain unchanged even if we control for the use of contractual workers that provide some *de facto* labour market flexibility to producers.

Keywords: Gross job flows, real exchange rate, competitiveness, gender

JEL Codes: *F16, F41, J16*

Women on Board and Performance of Family Firms:
Evidence from India

Jayati Sarkar and Ekta Selarka

Abstract

This paper provides evidence on the effect of women directors on the performance of family firms with a case study of India where ownership structure and governance environment are distinctly different from those of non-family firms. Using a sample of 10218 firm year observations over ten years period we find that women directors on corporate boards positively impact firm value. Additionally, we find that the positive effect of gender diversity on firm performance weakens with the extent to which the family exerts control through occupying key management positions on the board. With respect to type of directorships we find that women directors affiliated to the family have no significant effect on firm value, whereas independent women directors do. Robust to instrumental variable and difference-in- difference methodologies our results suggest that though gender diversity on corporate boards may positively impact firm performance in family firms in general, the extent of family control can have a significant bearing on this relationship. The findings from this study could be instructive for many other emerging economies like India which are considering promoting gender-based quotas on corporate boards.

Household Choice on Financial Borrowing and Its Source:
Multinomial Probit Model with Selection

Kanika Rana[6] and Brinda Viswanathan[7]

Abstract

Inclusive financial systems that enable better access to financial services are known to lead the economy on a path of steep macroeconomic growth. Policy agenda to promote financial inclusion addresses the means to overcome the failure of the formal institutions to provide financial services to socio-economically disadvantaged households. Policy initiatives & regulatory frameworks are designed to strengthen the sustainability of modern methods of financing (like microfinance institutions) and to enable the poor to access financial services, such as savings and credit, easily.

In empirical studies, a household's access to credit sources is broadly categorized into three major credit source choices i.e. the formal institutions, informal lending networks and microfinance institutions. Due to different demand and supply side constraints, a household may choose to borrow from more than one of these sources. As people self-select themselves into combinations of these categories, choice of multiple loan sources play an important role in ensuring access that is more equitable across different sections of the population.

Using Indian Human Development Survey (2011-12), a nationally representative, multi-topic survey, we have a unique opportunity to study how socio-economic-demographic characteristics of a household may determine its behavior to choose among the available alternatives of loan sources categorization. Further, the extensive nature of the data on access to different types of loan sources allows us to pay special attention to the mediating role played by Microfinance Institutions through its linkages with formal and informal sources. The results of Multinomial Probit with Heckman selection, to account for non-borrowing households, reveal that where institutional sources are still a preferred option for the relatively advantaged section of the population, presence of microfinance loans in

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combination with other loan sources has contributed in ensuring greater equity in credit access to all. It is seen that the women headed households, dalit households with lesser opportunities of networking and BPL households are less likely to take credit from formal sources of credit.

By establishing a link between these determinants to the choice patterns of loan sources, this study allows us to take a step towards designing effective policy measures to increase the outreach of institutional credit. Sensitizing the formal institutions to these existing differences will allow them to strategically target and acquire the excluded section of the population. Based on the pattern of access observed in the results, it can be concluded that the access to microfinance institutions emerges as an enabling link that allows households to be less dependent on informal lending networks.

Social Performance of Microfinance Institutions in South Asian Region: A Case study of India, Bangladesh, Nepal and Sri Lanka

S. Saravanan* and Brijesh C. Purohit**

Abstract

Over the years, microfinance institutions (MFIs) have been propagated for poverty alleviation and support to the underserved area. Different objectives discussed in the literature in regard to these institutions include poverty alleviation, financial efficiency, sustainability and social performance. The last one of these objectives, namely social performance has been least explored the least. This is owing largely to best and agreeable measurement methods. Questions float around the issues whether it should be only qualitative or could be satisfactorily measured quantitatively.

In this paper we use the quantitative method. This is in line with some of the seminal studies that have deployed a social measurement index. We calculate and apply this social performance index. We use panel and logistic regressions to explore the impact of other important variables on social performance. Using the data for the years 2009-2014 for 88, 27, 25 and 15 MFIs in four south Asian countries namely, India, Bangladesh, Nepal and Sri Lanka respectively. Our results compare among these countries as well as other studies in the South Asian nations. The results indicate that assets and profitability position and maturity of MFIs play an important role in performing socially and there is no conflict between social performance, efficiency and sustainability of MFIs.

Keywords: Microfinance, social performance, measurement index, India, Bangladesh, Nepal, Sri Lanka

JEL Codes: G21, F34, I31, C01

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Sustainable Debt Policies and Their Impact on Economic Growth: Empirical Evidence from South Asian Nations

K.R. Shanmugam and Renjith P.S. [8]

Abstract

In recent years, the fiscal deficits are worsening and their debt levels are rising in almost all countries including the South Asian countries. In fact, the Public debt in South Asia is high in international comparison and has recently surpassed 60 percent of GDP. Therefore, it is imperative to evaluate (i) whether the public debt policies of eight South Asian Countries- Afganistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka or sustainable or not; and (ii) whether the debt policies support greater economic activity or not.

This study innovatively combines the Bohn framework for panel data and p-spline technique to empirically test the sustainable debt policies of South Asian nations and analyze how they affect the growth process during 2004-2016. Specifically, it estimates two equations to observe (i) the reaction of primary balance relative to GDP to debt-GDP ratio and (ii) the response of economic growth due to debt-GDP ratio. To our knowledge, this is the first study employing this methodology which has enabled us to study the debt sustainability issue as well as the impact of debt on economic growth in each South Asian nation.

Results of the study indicate that the primary surplus reacts positively to public debt, indicating the debt sustainability in five out of 8 South Asian nations, namely Bangladesh, Bhutan, Maldives, Nepal, and Sri Lanka. Interestingly, in Maldives and Sri Lanka, the debt is growth inducing. While in Bangladesh and Bhutan the debt does not influence the growth, in Nepal it significantly but negatively affects the growth. In India, the debt is unsustainable but growth enhancing. In Afganistan and Pakistan, the debt is unsustainable as well as not growth inducing. Moreover, the reaction coefficients in both equations are not constant but varying with time in all the eight nations, exhibiting non linear relation between primary balance and debt and also between growth and debt in all these nations.

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We hope that the findings of this study may be useful to policymakers, international agencies and other stakeholders to take appropriate strategies to improve the debt conditions of South Asian nations where it is unsustainable and make use of debt amounts for supporting the economic growth of these nations.

Efficiency of indirect taxes in oligopoly in the presence of fixed costs of production

Neelanjan Sen[9]and Rajit Biswas[10]

Abstract

Anderson et al. (2001) shows that ad valorem taxes are more efficient than unit taxes in case of Cournot competition with homogeneous products. The present analysis, incorporates two important features of modern industries, namely fixed costs of production and external economies of scale. It is shown that if there are fixed costs of production and government has a sufficiently high target tax revenue, then the government may allow the market to monopolize and the efficiency ranking of the taxes may get reversed. Unit taxes can also dominate ad valorem taxes when there are external economies of scale.

Keywords: Unit tax, Ad valorem tax, Cournot Competition, Monopoly, Fixed costs

JEL Classification: D 43, L 13, L 24

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Impact of Domestic Public Debt on Economic Growth - An Empirical

Study in the Indian Context

Dr.Srinivasa Rao Gangadharan[11] and Ms.Lakshmi Padmakumari[12]

Abstract

This study is an empirical investigation to assess the impact of domestic debt on India's Economic growth during the period 1980 – 2014. We use data on Domestic Debt, Net Fiscal Deficit, Exports, Savings, Real Gross Domestic Product, Population and Terms of Trade. This study adopts the ARDL Co-Integration and Granger Causality techniques to investigate the relation between the key variables. The study also employs various post estimation tests to validate the fitness and stability of the models based on Gauss Markov assumptions, after employing the ordinary least square regression on various models. We find that debt negatively impacts economic growth while savings has a positive impact. The Auto Regressive Distributed Lag (ARDL) technique used to test the robustness suggests existence of co-integration among the variable. However, none of the long run co-efficient is significant. The granger causality and co-integration test results support the traditional view that debt negatively impacts economic growth.

Key words: Domestic Debt; Economic Growth; Deficit; Crowding Out; ARDL; Granger Causality.

JEL Classification: C1; H6.

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Compositional Analysis of Herpesvirus Genomes: Similarities and Contrasts

Rakesh Nigam, Sam Karlin and Luciano Brocchieri

Abstract

Phylogenetic reconstruction of herpesvirus evolution is often founded on amino acid sequence comparisons of specific or groups of proteins. These are relevant to the evolution of the specific gene (or set of genes), but the resulting phylogeny may vary depending on the particular sequence chosen for analysis. In this paper we compare 19 complete herpesvirus genomes (DNA sequences) from the α, β and γ-classes by using the dinucleotide relative abundance distance $\delta*$. The sequences were analyzed with respect to (i) genomic dinucleotide bias and (ii) $\delta*$ distances. The α-herpesviruses show large $\delta*$ distances amongst themselves, and also are the most diverse from other herpesvirus classes. The γ are very separate in terms of dinucleotide biases, from the α and β-classes, which overlap with each other. The analysis revealed that both human herpesvirus 7, HHV7 and human herpesvirus 8, HHV8, are the most central genomes (having the smallest average dinucleotide distance from the individual herpesvirus sequences of different classes), and murine cytomegalovirus, MCMV is the most distant (having the largest average dinucleotide bias distance $\delta*$ from the individual herpesvirus sequences of different classes) herpesvirus from all the other herpesviruses in our study. In our collection, equine herpesvirus 1 (EHV1) stands out as the most central α-herpesvirus, human herpesvirus 6, (HHV6) are the most central β-herpesviruses, while alcelaphine herpesvirus 1, AHV1 is the most central among the γ-herpesviruses. Bovine herpesvirus (BHV1), murine cytomegalovirus (MCMV) and herpesvirus saimiri (HVS) are the most distant genomes in the α, β, γ-classes, respectively. HHV7 and HHV8 by virtue of their dinucleotide distances bring the β and γ-classes together. We observe an uniform global CG suppression in all γ-herpesviruses with the exception of HHV8. Also, the different hosts (e.g. Human, Mouse, Rat, Bos, Pig and Chicken) are closer in terms of the $\delta*$ distance to the γ-herpesviruses and HHV7, than to the other β and α-herpesviruses. The β-herpesviruses with respect to length comparisons, separate into the longer cytomegaloviruses and the shorter human herpesviruses.