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THE WAGE-GAP THEORY OF UNEMPLOYMENT AND WAGES:

APPLICATION TO TRINIDAD AND TOBAGO

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ABSTRACT

This paper examines the applicability of a modified wage-gap model to the economy of Trinidad and Tobago during the period 1965 to 1985.

The economy is divided into high- and low-wage sectors, whose average wages are separated by a wage-gap. The phenomena of voluntary unemployment, labour migration between sectors, wage-spillover, and the existence of a sharing mechanism are assumed to exist.

The primary diversion from the precepts of the "pure" Lewis/Tidrick wage-gap model is in the definition of the sectors. It is argued that an industry falls into the high- or low-wage sector depending on whether its average wage level falls above or below the average reserve price of labour of the voluntarily unemployed. On the basis of this modification, the paper departs in theory from the petroleum/non-petroleum dichotomy traditionally assumed to apply to Trinidad and Tobago. It adopts, instead, a division into agriculture and non-agriculture sectors.

The theory is tested via the specification and estimation of a static macro-econometric model. The model is estimated using Ordinary Least Squares and Two-Stage Least Squares Regression procedures. It is evaluated for explanatory power via historical simulation, sensitivity analysis and impact multiplier analysis.

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INTRODUCTION

Since 1983, the economy of Trinidad and Tobago has suffered the debilitating effects of a decline in world oil prices. Over the years, the government has been a primary employer of labour. The fall in government revenue consequent on the decline in oil prices has thus contributed significantly to the problem of rising unemployment. Between 1983 and 1985 alone, the number of employed individuals fell by some 13,000.[1]

In the context of the growing problem of unemployment, the study of employment, wage and price movements is vital. This paper attempts to explain these patterns, with a view to providing broad guidelines within which the problem can be effectively addressed.

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* The author is an Economist in the Research Department of the Central Bank of Trinidad and Tobago. Views expressed are those of author and not necessarily those of the Central Bank.

1 Central Statistical Office of Trinidad and Tobago: National Income Accounts: 1966-1985 (relevant years).

SECTION 1

THE MODIFIED WAGE-GAP MODEL: ASSUMPTIONS

The following are the primary assumptions of the model:

(1) the economy is dual; it is divided into two distinct sectors - the high-wage sector and the low-wage sector.

(2) the average wage of the high-wage sector is separated from that of the low-wage sector by a divide, called the Wage-Gap.

(3) the volume of employment is determined by individuals being taken on in the high-wage sector up to the point where the marginal productivity of labour equals the wage. The rest of the labour force either finds employment in the low-wage sector or remains unemployed.

(4) the supply of labour is the result of entry into the labour force, and of retirements. At any given time, therefore, job openings exist in the high-wage sector. Hence, labour migrates from the low-wage to the high-wage sector, in search of employment.

(5) labour migration comprises two stages. In the first, the worker leaves the low-wage sector, seeking high-wage-

of high-wage casual employment, direct support of an employed family member, and/or support from the government via free or subsidized social services.

(8) A general wage increase in the high-wage sector serves to widen (ceteris paribus) the wage-gap, thus increasing movement into the wait sector, and causing unemployment to rise. Migration out of the low-wage sector forces up the wages in that sector in an attempt to reverse the movement. The wage increase thus spills over from the high-wage sector into the low-wage sector.

The above assumptions conform largely to those of the "pure" (original) wage-gap model, as put forward by Lewis [5], and developed primarily by Tidrick [9] and Todaro [10]. With regard to the definition of the sectors, however, the model defined in this paper departs from the pure model, which subscribes to the traditionally accepted disaggregtion of the economy into the enclave (modern, urban) sector and the peripheral (traditional, rural) sector.

The theorists who have studied the wage-gap hypothesis have traditionally assumed such a dichotomy to be plausible in the case of Trinidad and Tobago, particularly since the relationships assumed to exist between the high- and low-wage sectors of the economy are analogous in large part to those existing between the petroleum and non-petroleum sectors in Seers' "Open Petroleum Economy"[8].

Theoretically, this implies that the characteristics traditionally assumed to define the wage sectors are not applicable in all cases. A capital intensive "modern" industry is more likely to fall into the high-wage sector than a more "traditional" one, but the condition is not necessary for inclusion - merely sufficient.

SECTION 2

THE MODIFIED WAGE-GAP MODEL: APPLICABILITY AND APPLICATION

In the Caribbean area, certain distinctive wage and employment patterns exist which can best be explained by the wage-gap model.

Tidrick noted in his examination of chosen Caribbean countries, the following trends:

(i) countries with a higher GDP per capita appeared to have higher levels of open unemployment (evidence of the assumed effect of a sharing mechanism on employment).

(ii) wages in unorganised sectors increased in tandem with wages in organised sectors - evidence of wage spillover.

(iii) large increases in high-wage sector jobs did not create the expected increases in total employment. This is evidence of the effect of increased high-wage sector employment on labour migration from the low-wage sector.

(iii) examine the features of unemployed in Trinidad and Tobago. Since the RPL varies among different categories of people, statements can be made about the relative size of the RPL (and hence, the RPLV) in different situations.

In Trinidad and Tobago, the agricultural sector was readily identified as one which suffered serious labour shortage problems and offered low wages - placing it firmly into the low-wage sector.

The unemployed were classified according to education, age, postiion in the household and duration of unemployment - all of which affect individual RPL levels. The most significant finding was that over the period 1965-1985, an average of 96.1 per cent of the unemployed in Trinidad and Tobago did not possess an Ordinary Level Certificate or its equivalent.[4]

Since an individual's RPL level is lower if he is less educated, this feature implies that the RPLV in the economy under study is relatively low. Where the unemployed have little formal education, a sectoral classification which assumes a very high RPLV (i.e. a high-wage sector comprising only the very highest paid industries) may be inaccurate. In the particular context of Trinidad

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3 Central Statistical Office of Trinidad and Tobago. Continuous Sample Survey of Population: Labour Force Report (LF2) (relevant years).

SECTION 3

THE MODIFIED WAGE-GAP MODEL: SPECIFICATION, TESTING AND EVALUATION

This section presents and tests the modified wage-gap model as a system of equations specified in accordance with the assumptions. Sub-section 3.1 lists the 9 behavioural equations and 14 identitites which form the system. The remaining sections discuss in turn the estimation, simulation, sensitivity analysis and multiplier analysis tests carried out on the model.

3.1 Specification

The primary endogenous variables of the model are disaggregated in line with the two wage sectors.

The number of people employed in the low wage sector (NL) is inversely related to the size of the wage gap (WGS), the low wage sector worker's expected probability of obtaining high-wage sector employment, (APH) and the strength of the sharing mechanism (SSM). The last two variables are approximated by the high-wage sector employemnt rate (NHPER). Hence:

$$(1) \qquad NL_t = a_o - a_1 WGS_t - a_2 NHPER_t + el_t$$

$$(5) \qquad PH_t = f_o + f_1\, PM_t + f_2\, PP_t + f_3\, RPI70_t + e5_t$$

The unit price of goods produced by the low-wage sector (PL) is assumed to be influenced primarily by PH.

$$(6) \qquad PL_t = g_o + g_1\, PH_t + g6_t$$

Real output of the high-wage sector (RQH70) is positively influenced, on the supply side, by the selling price of high-wage sector output (PH). The aggregate income of consumers (approximated by real national disposable income, RNDI) affects RQH70 positively on the demand side. In the model, the demand for output is assumed to be equal to the supply.

$$(7) \qquad RQH70_t = h_o + h_1\, PH_t + h_2\, RNDI_t + e7_t$$

The model pre-supposes that a large proportion of the total food requirement of Trinidad and Tobago is imported, and that locally produced food is considered inferior. Under these circumstances, an increase in income is assumed to reduce the demand for low-wage sector output (RQL70), as consumers substitute "inferior" local agricultural goods for imported items. RQL70 is also assumed to be negatively related to the selling price of the output (PL). Hence,

$$(8) \qquad RQL70 = j_o - j_1\, PL_t - j_2\, RNDI_t + e8_t \;^{4}$$

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4 In the actual estimation of this equation, another variable, TIME, was included in order to capture trend influences.

(13) $WB = LWB + HWB$

and:

the sectoral wage bill of each sector is the product of the wage in that sector and the number employed

(14) $HWB_t = WH_t \times NH_t$

(15) $LWB_t = WL_t \times NL_t$

The general price level is a Laspeyres (base-year weight) price index of PL and PH.

(16) $P_t = (80.4\ PL_t + 1563.3\ PH_t)\ /1643.7$

where the weights used are the 1970 values of RQL70 and RQH70.

The employment rate (NPER) is the percentage of the labour force which is employed.

(17) $NPER_t = (N_t/LF_t) \times 100$

The employment rates of the sectors are similarly defined

(18) $NHPER_t = (NH_t/LF_t) \times 100$

(19) $NLPER_t = (NL_t/LF_t) \times 100$

Estimation Procedure: Results

Government Revenue (GREV)

Ordinary Least Squares (corrected)

(1.1) $GREV = \underset{(1.041)}{1165.117^{**}} + \underset{(6.640)}{2.728}\ PP$

$\bar{R}^2 = 0.600$ F = 27.97 D.W. = 1.438

NOTE: The explanatory variable of this equation is exogenous. The Two-Stage Least Squares results are thus not presented since they match the Ordinary Least Squares results.

Employment in the High-Wage Sector (NH)

Ordinary Least Squares (corrected)

(2.1) $NH = \underset{(-1.812)}{-92447.4^{*}} + \underset{(7.272)}{0.926}\ LF + \underset{(2.199)}{4.347}\ GREV$

$\bar{R}^2 = 0.898$ F = 80.293 D.W. = 1.103^{*}

Two-Stage Least Squares (corrected)

(2.2) $NH = \underset{(-1.918)}{-104118.7^{*}} + \underset{(7.140)}{0.950}\ LF + \underset{(2.171)}{4.332}\ GREV$

$\bar{R}^2 = 0.9857$ F = 654.01 D.W. = 1.111^{*}

Real Output of the High-Wage Sector (RQH70)

Ordinary Least Squares (corrected)

(6.1) $RQH70 = 913.933 + 0.303^{**}\ PH + 0.417\ RNDI$
$\quad\quad\quad\quad\quad\quad\quad\quad (8.562) \quad (1.374) \quad\quad (7.426)$

$\bar{R}^2 = 0.847 \quad\quad F = 50.656 \quad\quad D.W. = 1.516^{*}$

Two-Stage Least Squares (corrected)

(6.2) $RQH70 = 916.680 + 0.296^{**}\ PH + 0.418\ RNDI$
$\quad\quad\quad\quad\quad\quad\quad\quad (8.257) \quad (1.332) \quad\quad (7.223)$

$\bar{R}^2 = 0.972 \quad\quad F = 333.14 \quad\quad D.W. = 1.517^{**}$

Real Output of the Low-Wage Sector (RQL70)

Ordinary Least Squares (corrected)

(7.1) $RQL70 = 76.080 + 2.912\ TIME - 0.061\ PL - 0.005\ RNDI$
$\quad\quad\quad\quad\quad\quad\quad\quad (53.459) \quad (7.741) \quad\quad (-8.873) \quad (-5.359)$

$\bar{R}^2 = 0.957 \quad\quad F = 135.83 \quad\quad D.W. = 2.025$

Two-Stage Least Squares (corrected)

(7.2) $RQL70 = 76.116 + 2.954\ TIME - 0.062\ PL - 0.005\ RNDI$
$\quad\quad\quad\quad\quad\quad\quad\quad (52.920) \quad (7.705) \quad\quad (-8.789) \quad (-5.424)$

$\bar{R}^2 = 0.812 \quad\quad F = 28.32 \quad\quad D.W. = 2.034$

Average Wage of the High-Wage Sector (WH)

Ordinary Least Squares (corrected)

(8.1) $WH = -7450.36^{**} + 32.829\ PH + 4.296^{*}\ RQH70$
$\quad\quad\quad\quad\quad\quad\quad\quad (-1.744) \quad\quad (6.545) \quad\quad\quad\quad (1.862)$

$\bar{R}^2 = 0.727 \quad\quad F = 25.00 \quad\quad D.W. = 1.262^{*}$

Two-Stage Least Squares (corrected)

(8.2) $WH = -7918.91^{*} + 33.839\ PH + 4.170^{*}\ RQH70$
$\quad\quad\quad\quad\quad\quad\quad\quad (-1.773) \quad\quad (6.749) \quad\quad\quad\quad (1.748)$

$\bar{R}^2 = 0.980 \quad\quad F = 466.36 \quad\quad D.W. = 1.287^{*}$

NOTES

(1) The terms "corrected/uncorrected" indicate that the Beach-Mac Kinnon procedure for estimation in the presence of first order auto-correlation was/was not applied to the regressions.

(2) The number appearing in parentheses below each coefficient value is the "t" statistic associated with that value.

(3) Two asterisks (**) over a coefficient value indicates that the coefficient was found to be insignificant (not significantly different from zero) in the two-tailed "t" test at a 10 per cent level of significance.

(4) One asterisk (*) over a coefficient value indicates that the coefficient was found to be insignificant by the two tailed 't' test at a 5 per cent level of significance, but significant at a 10 per cent level of significance.

(5) Two asterisks (**) appearing above a Durbin-Watson Statistic indicates that positive first order auto-correlation of error terms was detected by the Durbin-Watson Bounds Test at a 5 per cent level of significance.

Estimation Procedure: Analysis of Results

The tests of significance yielded satisfactory results. In every equation, the "F" Statistic was large, indicating rejection of the null hypothesis of insignificance of all the coefficients together. In the majority of cases, the coefficients (apart from the constant terms) were significant by the 't' test at a 95 percent confidence level after use of the TSLS regression procedure and correction for auto-correlation. Notable exceptions were the coefficient of WGS (wage gap) in the Low-Wage Sector Employment (NL) equation and the coefficient of RQH70 (real high-wage sector output) in the High-Wage Sector Price (PH) equation. In general, the signs of the estimated coefficients matched a priori expectation.

Overall, the values of $\bar{R}^2$ obtained were quite high, indicating the ability of the independent variables of the different equations to explain variance in the dependent variables. With one exception (note a value of 0.6 obtained in the Government Revenue [GREV] OLS equation), all the $\bar{R}^2$ values were over 0.84 and the majority were greater than 0.95.

In the PH and NL equations, high values of $\bar{R}^2$ and F statistics combined with insignificant coefficients to indicate evidence of multicollinearity. This evidence was supported by the fact that when the same equations were estimated using only the "insignificant" variables, they became significant and generated very high $\bar{R}^2$ values. In general, however, the problem of multicollinearity was not considered to be dominant in the model.

single entity. The exercise entailed the generation of "estimated" (simulated) values of the endogenous variables, using the actual values of the exogenous variables and the estimated equations of the model.

The 'simulated' values were generated for the period 1967-1985 and then compared with the actual values of the endogenous variables for that period. The comparison of actual and simulated values was based on:

1) Visual inspection of the graphical plots of actual and simulated values.

2) The use of summary statistical measures:
   a) the correlation coefficient (r)
   b) the root means square error (RMSE)
   c) the Theil 'U' Statistic and its decompositions into:
      (i) the bias, regression and disturbance proportions
      (ii) the bias, variance and covariance proportions

Simulation Procedure: Results

The following three tables present the results obtained from the historical simulation of the model. Only the results of simulation on the Two-Stage Least Squares "corrected" equations will be presented.

TABLE 3.3.2

Simulation Results of the "Modified Model"
(Bias, Regression and Disturbance Proportions)

VARIABLE	METHOD	UB	UR	UD
GREV	TSLS (AR1)	0.10825	0.17641	0.71534
HWB	TSLS (AR1)	0.00003	0.02755	0.97242
LWB	TSLS (AR1)	0.03506	0.31673	0.64822
N	TSLS (AR1)	0.00259	0.02567	0.97174
NDI	TSLS (AR1)	0.01568	0.00104	0.98328
NH	TSLS (AR1)	0.01055	0.01692	0.97252
NHPER	TSLS (AR1)	0.01430	0.00616	0.97955
NL	TSLS (AR1)	0.00834	0.00148	0.99018
NLPER	TSLS (AR1)	0.00685	0.00835	0.98480
NPER	TSLS (AR1)	0.00454	0.00493	0.99053
P	TSLS (AR1)	0.00002	0.00008	0.99989
PH	TSLS (AR1)	0.00004	0.00050	0.99946
PL	TSLS (AR1)	0.00001	0.00006	0.99993
Q	TSLS (AR1)	0.01568	0.00153	0.98280
RNDI	TSLS (AR1)	0.00002	0.04978	0.95020
RQ70	TSLS (AR1)	0.00014	0.02321	0.97665
RQH70	TSLS (AR1)	0.00013	0.02326	0.97662
RQL70	TSLS (AR1)	0.00085	0.00003	0.99912
W	TSLS (AR1)	0.00085	0.08492	0.91423
WB	TSLS (AR1)	0.00011	0.03271	0.96719
WGS	TSLS (AR1)	0.00169	0.10145	0.89686
WH	TSLS (AR1)	0.00177	0.10760	0.89063
WL	TSLS (AR1)	0.00110	0.06986	0.92904

Simulation Procedure: Analysis of Results

Examination of graphical plots of actual and simulated values[5] revealed that in the majority of cases, the simulated values followed the same general trend as that of the actual values. The Price simulations were particularly close, and the Output simulation values tracked the actual values very closely except for 1975.

Also to be noted is the fact that the simulated values of NPER followed the actual series with a lag of one year. In three cases (the NH, GREV and WGS plots), the fit was slightly less close after 1980.

The Theil 'U' statistics, bias, regression and variance proportions were, in general, estremely low, boding well for the model. At the same time, the correlation coefficient values were high - in most cases, greater than 0.90.

Only the simulation results of the NPER variable did not match the general high standard (Table 3.3.1 indicates that the value of the correlation coefficient of this plot was significantly lower than those of the other plots). This supported the evidence supplied by the graphical plots.

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5 These plots were not included in the paper. See [2], Appendix II

TABLE 3.4.1

Sensitivity Analysis: Results

	PM in PH Equation	PP in GREV Equation	PP in PH Equation	RPI70 in PH Equation
GREV	X	****	X	X
HWB	****	*	***	****
LWB	****	****(-)	***	****
N	*(-)	*	*(-)	*(-)
NDI	****	X	****	****
NH	X	*	X	X
NHPER	X	*	X	X
NL	*(-)	****(-)	*(-)	*(-)
NLPER	*(-)	****(-)	*(-)	*(-)
NPER	*(-)	*	*(-)	*(-)
P	**	X	*	****
PH	**	X	*	****
PL	**	X	*	****
Q	****	X	***	****
RNDI	****	X	****	****
RQ70	**	X	**	****
RQH70	**	X	**	****
RQL70	*(-)	X	*(-)	****(-)
W	****	*	***	****
WB	****	*	***	****
WGS	****	X	****	****
WH	****	X	***	****
WL	****	X	***	****

*	=	positive effect of less than 1%
*(-)	=	negative effect of less than 1% (absolute value)
**	=	positive effect between 1% and 2%
**(-)	=	negative effect of between 1% and 2% (absolute value)
***	=	positive effect of between 2% and 3%
***(-)	=	negative effect of between 2% and 3% (absolute value)
****	=	positive effect of greater than 3%
****(-)	=	negative effect of greater than 3% (absolute value)
X	=	no effect

the price of retail goods (RPI70) would be expected to affect government revenue via increased collection of import duties and indirect sales taxes, respectively. However, these effects were posited to be marginal relative to the PP effect, and hence were not considered in the specification of the model.

Also to be noted in the results was the effect of the shocks on the employment variables of the high-wage sector. Only the PP shock via the GREV Equation had any effect on those vaiables. The model had assumed that high-wage sector employment depended primarily on government revenue, rather than on the price of output in that sector. Hence (given the ommission of the link between PM, RPI70 and GREV mentioned above) the price of imports and the price of retail goods would affect neither NH or NHPER.

The import price (PM) shock had the most significant effect on the real and nominal values of national income and GDP (through its effect on the value of imports), the wage variables (through its effect on the cost of production and hence on the prices of output) and the wage-gap. It is important to note that the positive effect on WL was not as large as that on WH, hence causing a widening of the wage-gap.

The change in oil prices, via the PH Equation, had its largest effect on the same variables as the price of imports. Clearly, a change in PP would increase national income and GDP through the direct relationship between PP and the value of exports. The increase in PP would cause WH to increase (because of the positive effect on government revenue and on product prices), this increase being reflected in WL through wage-spillover.

TABLE 3.5.1

Impact Multipliers Associated with a 1985 Unit Increase in Key Exogenous Variables

IMPACT ON	UNIT INCREASE IN: PM (index points)	PP (index points)	RPI70 (index points)
GREV ($mil)	0.0	0.1172	0.0
HWB ($ mil)	6.5781	0.9375	7.0586
LWB ($mil)	0.1594	0.0208	0.2136
N (units)	-3.5625	-0.1875	-3.5625
NDI ($mil)	19.7383	2.7656	8.2852
NH (units)	0.0	0.5000	0.0
NHPER (%)	0.0	0.0001	0.0
NL (units)	-3.5664	-0.7070	-3.5703
NLPER (%)	-0.0008	-0.0002	-0.0008
NPER (%)	-0.0008	-0.0001	-0.0008
P (index points)	0.3679	0.0523	0.7073
PH (index points)	0.3674	0.0523	0.7065
PL (inxex points)	0.3765	0.0535	0.7236
Q ($mil)	19.7422	2.7656	8.2862
RNDI ($mil)	3.2009	0.4492	-2.8684
RQ70 ($mil)	1.4170	0.1960	-1.0151
RQH70 ($mil)	1.4526	0.1970	-0.9907
RQL70 ($mil)	-0.0403	-0.0056	-0.0295
W ($)	17.2070	2.4219	18.5508
WB ($mil)	6.7383	0.9570	7.2695
WGS ($)	13.8203	1.9336	13.8242
WH ($)	18.4492	2.5859	19.7930
WL ($)	4.6250	0.6523	5.9648

High-wage sector employment (NH) increases marginally consequent on increased government revenue. This results in an offsetting decline in low-wage sector Emplpyment (NL), as people, encouraged by the increased percentage employed in the high-wage sector (NHPER) and by the widening of the wage gap, leave the low-wage sector and enter the wait sector. Hence, total employment (N) declines marginally.

Despite the decline in NL, the increased level of WL pushes up the low-wage sector wage bill (LWB) by some $21,000. The wage bill of the high-wage sector (HWB) increases by almost $1 million due to increases in employment and wages in that sector. The resulting increase in the total wage bill combines with the decline in total employment to push the average overall wage (W) upwards by some $2.42 per person.

Effects of a unit increase in the Import Price Index (PM)

The immediate effect of the unit "shock" in PM is to increase the high-wage sector price index (PH) by 0.4 index points, as production costs increase (the model assumes imports to be a significant portion of total production costs.) The low-wage sector price (PL), increases in response, causing an increase of 0.4 in the overall price index (P).

Real output of the high-wage sector (RQ70) increases, offsetting a decline in real low-wage sector output (RQL70) to produce a $1.4 million increase in total real output (RQ70). nominal output (Q), however, increases by $19.7 million.

Real output of the high-wage sector (RQH70) declines due to the fall in RNDI, and despite the increase in high-wage sector prices. RQL70 declines, despite the fall in RNDI. total real output, as a result, falls by some $1.0 million.

Despite the decline in real output, the high-wage sector wage (WH) increases some $20 per person due to the increase in the output price in that sector. By the spillover effect, WL increases by a smaller amount ($6.00), hence widening the wage-gap (WGS).

Total employment (N) declines as the widened wage-gap attracts low-wage sector workers into voluntary unemployment. NH is unaffected, given that the change in RPI70 does not affect government revenue in the model.

The average annual wage (W) increases $18.55 per person employed, consequent on sectoral wage increases.

Multiplier Analysis: Summary

The results of the impact multiplier analysis are satisfactory, even given the shortcomings due to the static nature of the model.

In general, wage increases in the high-wage sector are accompanied by smaller wage increases in the low-wage sector. This provides support for the assumed existence of wage-spillover from the high- to the low-wage sector.

Overall, the results support the position that Trinidad and Tobago exhibits the characteristics of a wage-gap economy in the context of the re-definition of the low-wage sector to include only the agricultural sector.

SECTION 4

CONCLUSION

The thesis, on the basis of the preceding arguments, concludes that the wage-gap theory of unemployment and wages is applicable to the economy of Trinidad and Tobago, given the use of the RPLV to define the economic wage sectors rather than depending on the traditional petroleum/non petroleum dichotomy.

The estimation, testing and evaluation of the model support the position that:

(i) a wage-gap exists between the agricultural sector and the rest of the economy;

(ii) increased employment in the high-wage sector causes people to leave the agricultural sector. This effect dampens the increase in total employment, or could even cause a decline;

(iii) the existence of a sharing mechanism is a prime determinant of the level of wait unemployment;

(iv) wage increases in the low-wage sector follow those in the high-wage sector, but at a lower rate;

(v) the wage-gap is a determinant of the level of unemployment.

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ARIMA MODELLING IN SHORT DATA SETS: SOME MONTE CARLO RESULTS*

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