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ΠΕΡΙ ΤΟΥ ΔΙΠΛΟΓΡΑΦΙΚΟΥ ΣΥΣΤΗΜΑΤΟΣ ΕΙΣ ΤΟ ΒΥΖΑΝΤΙΟΝ

ΛΑΖΑΡΟΣ Θ. ΧΟΥΜΑΝΙΔΗΣ

Πανεπιστήμιον Πειραιώς

Abstract

Lazaros Th. Houmanidis: *On the double - entry system during byzantine times*

The author of the above article explores two main issues concerning the history of accounting: a) whether it was known the use of double - entry in Byzantium, b) the origin of double - entry and its application in the byzantine book - keeping.

JEL classification: N00, M41.

Keywords: Double - entry system, Byzantine book - keeping,, history of accounting.

1. Η διπλογραφική ή διγραφική Λογιστική της εποχής των βυζαντινών χρόνων είναι θέμα το οποίον απαιτεί περαιτέρω έρευνα. Έλληνες και ξένοι βυζαντινολόγοι, και μάλιστα διακεκριμένοι μεταξύ αυτών, δεν αναφέρουν περί αυτής ή και ελάχιστα εις τα γραφόμενά των. Έτι και εις τας ιστορίας της Λογιστικής καθιερωμένων επιστημόνων ερευνητών, ως οι: Melis, Vlamminek, Alfieri, Littleton, Yamey, Tofani, de Roover δεν γίνεται ιδιαίτερη μνεία περί της διγραφικής Λογιστικής, εις το Βυζάντιον.

Εσκέφθην πολλάκις να μεταβώ εις Κωνσταντινούπολιν προς βαθυτέραν έρευναν επί του θέματος αλλά πάντοτε ανεφύετο κάποιον σοβαρόν εμπόδιον, το οποίον δε μου επέτρεπε να επισκεφθώ την «Πόλιν την Αγίαν». Εις το παρόν άρθρον μου θα προσπαθήσω να παρουσιάσω, ως εκ του τίτλου του θέματός μου εμφανίζεται, την καταγωγήν και την εφαρμογήν του διπλογραφικού συστήματος εις το Βυζάντιον.

Με την Λογιστικήν κατά τον Μεσαίωνα, ησχολήθησαν, ιδιαιτέρως οι: Dino Companino, Giovanni Villani και Alberto Tofani δια να ακολουθήσουν οι: G. Zappa, A. Saporì, F. Melis ο και σπουδαιότερος των

ερευνητών της Λογιστικής κατά τον Μεσαίωνα. Εκ των διαφόρων λογιστικών βιβλίων των εταιρειών των Bonseliori (πρωχευσάντων το έτος 1298), Alberti (1304-1332) και Peguzzi (πρωχευσάντων το έτος 1343) λαμβάνομεν ενδιαφερούσας πληροφορίες περί της Λογιστικής, κατά τον Μεσαίωνα, καθώς επίσης και εκ των βιβλίων της εταιρείας του Francesco Datini με έδραν το Prato.

Η Λογιστική ωρισμένων εμπορικών και Τραπεζικών Οίκων, δια την εποχήν των ήτο αρκούτως ανεπτυγμένη¹. Δεν δυνάμεθα όμως να ισχυρισθώμεν το ίδιο και δια τας ήδη αναφερθείσας εταιρείας, πλην της του Datini, ως επίσης και δια τα λογιστικά βιβλία του Βενετού Andrea Barbarigo (1418 - 1449)². Επίσης, πολύ ολιγώτερον ήτο προκεχωρημένη η τήρησις λογιστικών βιβλίων των εμπόρων της Χάνσα, οι οποίοι μάλιστα ηγνούν την εφαρμογήν της διπλογραφίας μέχρι τον 16^{ον} αιώνα³. Το ίδιο επίσης συνέβαινεν και με τους εμπόρους της Τουλούζης και γενικώς με τους Γάλλους εμπόρους⁴.

Εν πάση περιπτώσει την Λογιστικήν ευσυστηματοποίησεν, κατά τον 15^{ον} αιώνα, ο Ιταλός Luca Pacciolo (1494) με το εγχειρίδιόν του “Summa Arithmetica, Geometria, Proporzio Proporzionalità”, καθώς και έτεροι συγγραφείς, ως ο Lorenzo Chiarini με το εγχειρίδιόν του περί Λογιστικής ενώ ήδη προ αυτών είχε δημοσιεύσει ο Giovanni di Antonio da Uzzano το ιδιόν του υπό τίτλον “Pratica della Mercatura” (1442)⁵.

2. Όσον αφορά εις το επάγγελμα του λογιστού, οι αρχαίοι Ρωμαίοι τον εκάλουν με την λέξιν “rationator” και βραδύτερον “rationarius”. Γενικώς οι ασκούντες την Λογιστικήν εκαλούντο “rationeri” και κατά τον Μεσαίωνα “razioneri” και “abacchieri”⁶.

Από του 13^{ου} αιώνας, διαρρέοντος του χρόνου προς την Αναγέννησιν, και κατόπιν, συναντώμεν εις τους μεγάλους εμπορικούς Οίκους λογιστάς, όπως ήσαν οι των :Francesco Datini, Alfredo di Giudice, Peguzzi, Bardi κ.ά. Σπουδαίους λογιστάς μεταξύ τούτων θα αναφέρω τον Francesco Boducci (1301), τον Francesco di Balduccio Pegolotti, τον Francesco Doldacio (1342) και τους ήδη μνημονευθέντας Lorenzo Chiarini (1418) και Giovanni di Antonio da Uzzano⁷. Επίσης, κατά την αυτήν περίοδον υπήρχον και λογισταί, οι οποίοι ετήρουν τα λογιστικά βιβλία του Δημοσίου, ως τούτο συνέβαινεν και εις το Βυζάντιον, εις το οποίον επιφορτισμένος προς τον σκοπόν αυτόν ήτο ο Λογοθέτης του Γενικού τηρών τα λογιστικά βιβλία επί των εσόδων και των εξόδων του

Κράτους⁸.

Κατ' αρχήν την λογιστικήν ετήρουν οι ίδιοι οι επιχειρηματίαι, και είτα με την πάροδον του χρόνου οι λογισταί. Η Λογιστική εξειλίχθη. Τα δε Λογιστικά βιβλία έγιναν περισσότερα ένεκα ων ειδικών λογαριασμών. Η τοιαύτη εξέλιξις της Λογιστικής κατέληξεν εις την ανακάλυψιν του διπλογραφικού ή διγραφικού συστήματος και η οποία προσέδωσεν ανάπτυξιν, κατά Werner Sombart, εις την καπιταλιστικήν επιχείρησιν⁹.

3. Μεταξύ 13^{ου} - 15^{ου} αιώνας η Ιταλική Χερσόνησος διέρχεται περίοδον εντόνου οικονομικής δραστηριότητος, η οποία και επεκτείνεται, έτι περισσότερο, με την Μεσογειακήν ενότητα, μετά την υποχώρησιν του Αραβικού κόσμου. Κατά την εποχήν αυτήν, αναδεικνύονται εις σπουδαία εμπορικά κέντρα η Lucca και το Bari, ονομασταί πόλεις δια την μεταξοπαραγωγήν των. Το Milano επίσης, από 13^{ου} αιώνας, κατέστη βασικόν κέντρον του εμπορίου της Λομβαρδίας με τους εν αυτώ μεγάλους επιχειρηματίας Alberti di Giudice και σπουδαίους ξενοδόχους και νομικούς, οι οποίοι απέκτησαν μεγάλας περιουσίας¹⁰. Πλην όμως τούτων, συν τω χρόνω ενεφανίσθησαν και ονομαστοί Τραπεζίται ως οι: G. Galeazzo, P. Maniza, A. De Monte, P. Da Osnago, G. Taverna¹¹. Επίσης, αναδεικνύονται εις μεγάλους επιχειρηματίας οι μεγαλέμποροι της ναυτικής πόλεως Amalfi και μεταξύ τούτων ο Mauro και ο Pantaleone, οι οποίοι ήταν ονομαστοί εις την Κωνσταντινούπολιν με τα εκεί πρακτορεία των και επιχειρήσεις των. Ουχ ήττον ονομαστοί ήσαν και οι έμποροι της Φλωρεντίας Bardi και Frescobaldi.

Όλοι οι ανωτέρω αναφερθέντες εχρησιμοποιούν λογιστάς και λογιστικόν σχέδιον με λογιστικά βιβλία, περί των οποίων θα ομιλήσωμεν εν συνεχεία.

Επίσης, πλην των αναφερθέντων εμπορικών κέντρων ονομαστά ήσαν και αι πόλεις: Πίζα, Βενετία, Γενούη, Τράνι κ.ά. Εκ των διαφόρων ειδών εμπορίου αι συναλλαγαι, εν Βυζαντίω, εγίνοντο εις σκευή και λειψανοθήκας, πολύτιμα ενδύματα και ό,τι άλλο εμπόρευμα άνηκεν εις τα μη κωλυόμενα¹². Οι οίνοι της Κύπρου, της Ρόδου, της Γαλλίας, της Γερμανίας τα γουναρικά και παστά της Μαύρης Θαλάσσης κ.ά. ήσαν αντικείμενα του εκτεταμένου βυζαντινού εμπορίου, κυρίως δε το εμπόριον των μεταξωτών, το οποίον κατά Fanfani συνετέλεσε δια να αφυπνισθή η οικονομία,¹³ μετά την περίοδον νεκρώσεώς της (9^{ος} - 11^{ος} αίων). Το εμπόριον μεταξύ Ανατολής και Δύσεως, διεξήγετο μέσω

Κωνσταντινουπόλεως, οι δε Ιταλοί έμποροι εφαρμόζοντας την διπλογραφική μέθοδο την κατέστησαν γνωστή και εις τους Έλληνας.

4. Κατά τον 13^ο αιώνα ο χάρτης επικρατεί επί του παπύρου, ο οποίος εξακολουθεί να χρησιμοποιείται μόνον δια το ιδιαίτερον βιβλίον του επιχειρηματίου.

Τα λογιστικά βιβλία ήσαν κεκαλυμμένα με περγαμηνήν και δέγμα ηρίθμουν δε μέχρι και 1.000 σελίδας. Ο χρησιμοποιούμενος δι' αυτά χάρτης ήτο διαστάσεων 29 × 45 (libri mezzani) , καθώς επίσης και χάρτης διπλασίας διαστάσεως (libri reali)¹⁴. Το Καθολικόν και το βιβλίον των Εμπορευμάτων υπείγοντο εις την αυτήν κατηγορίαν μεγέθους χάρτου, ενώ δια την αλληλογραφίαν και το ημερολόγιον (giornale) ο χάρτης ήτο μικροτέρου μεγέθους. Τα βιβλία πάντως δεν υπέκειντο εις σταθεράς διαστάσεις¹⁵.

Προσέτι εχρησιμοποιούντο και έτερα βιβλία ειδικών λογαριασμών και τετράδια. Ο επιχειρηματίας διέθετεν επίσης -ως ήδη ανεφέρθη- ιδικόν του βιβλίον (libro segreto), το οποίον εφύλασσε εις την οικίαν του, γενικώς δε τα βιβλία ετίθεντο εις ειδικά ερμάρια κατασκευασμένα δίκην περιστρεφένου εις τα γραφεία της εταιρείας¹⁶. Άπαντα τα βιβλία ήσαν ηριθμημένα και έφερον επ' αυτών διακριτικόν σύμβολον. Δια το στέγνωμα δε της μελάνης, των φύλλων των εχρησιμοποιείτο κόνις, ενώ η γραφή εγένετο με πέννας εκ πετρού, των οποίων ονομασταί ήσαν αι της Τοσκάνης.

Οι λογαριασμοί ήσαν καταχωρημένοι εις δύο τμήματα: χρεώσεως δηλ. εισαγωγής (entrata) και πιστώσεως δηλ. εξαγωγής (uscita) και η διαίρεσις αύτη συναντάται το πρώτον εις Σιένα (1277-1288) και εις Φλωρεντινόν Τραπεζίτην εργαζόμενον εις την Bologna¹⁷.

Οι λογαριασμοί του Καθολικού (libro grande, mastro) μετεφέροντο εις ιδιαίτερους ειδικούς λογαριασμούς, και αποτέλεσμα της τοιαύτης χρήσεως του υπήρξεν και η αιτία της τηρήσεως της διπλογραφικής μεθόδου και του ισοζυγίου λογαριασμών.

Η διπλογραφία, συμφώνως προς τον Melis, εφηροδόθη περί το τέλος του 13^{ου} αιώνος υπό της εταιρείας του Ugolini εις Σιέννην¹⁸. Εν συνεχεία την συναντώμεν εις την εν Καμπανία εταιρείαν του Ranieri Fini (1291 - 1305), εις την εταιρείαν Giovanni Farolfi (1299 - 1300), επίσης εις την εταιρείαν Alberti di Giudice (1302 - 1332), εις την εταιρείαν Frescobaldi (1305 - 1390), και εις την εταιρείαν Barli (1310 - 1398). Πλην όμως των εν λόγω εταιρειών και η του Jachomo Badoer διετήρει λογιστικήν επί τη

βάσει του διπλογραφικού συστήματος, το οποίον προέκυψε εκ της συνδυαστικής εγγραφής του Καθολικού, χαρακτηριστικόν τηρήσεως του εν Τοσκάνη, κατά το δεύτερον ημίση του 14^{ου} αιώonos (Melis, 1962, σελ. 424, Peragallo, 1983, σελ. 99), ως επίσης και ο Francesco Datini (1318 - 1324) εις τα αρχεία της εταιρείας του οποίου ο Melis, ανεκάλυψε πλείστα όσα στοιχεία δια να ρίψη φως γενικώτερον εις την Οικονομίαν του Μεσαίωonos.

Εις την Λογιστικήν των εταιρειών, τας οποίας ανεφέραμεν περιλαμβάνονται και λογαριασμοί αφορώντες εις το ρευστόν χρήμα¹⁹, το συνάλλαγμα²⁰, την επιταγήν²¹, την οπισθογραφημένην συναλλαγματικήν²², το τραπεζικόν γραμμάτιον²³, την τήρησιν λογαριασμού γύρου και ανοίγματος πιστώσεων τρεχουμένων λογαριασμών προς όφελος τρίτων²⁴.

Γεγονός πάντως είναι ότι τα λογιστικά βιβλία δεν εμφανίζουν ωριμότητα τηρήσεώς των προ του έτους 1400. Και η διαφορά αυτή καθίσταται εμφανής, όταν συγκρίνωμεν τα λογιστικά βιβλία του Οίκου Peruzzi με τα μεταγενέστερα του Datini²⁵. Ούτος μετά του Badoer και άλλων Ιταλών μεγαλεμπόρων συνάγεται ότι κατέστησαν γνωστήν δια των εν Κωνσταντινουπόλει πρακτορειών των εταιρειών των την διπλογραφίαν εις το Βυζάντιον.

5. Εις το Βυζάντιον η διπλογραφική μέθοδος συνεπώς όχι μόνον εφηρμόζετο υπό των ιδιωτών εμπόρων αλλά, ως ήδη ελέχθη, και υπό του Λογοθέτου του Γενικού Προϊσταμένου του Λογιστηρίου του Κράτους²⁶. Συνήθως δε η ορολογία κατά τας λογιστικάς πράξεις εγράφετο εις ιταλικήν γλώσσαν²⁷.

Η βυζαντινή Οικονομία ήτο κατά βάσιν γεωργική αλλά και αρκούντως αστικο-εμπορική ώστε να συγκεντρώνονται κεφάλαια εκ του υπό του εμπορίου διακινουμένων εμπορευμάτων εντός και εκτός της αυτοκρατορίας. Κατά συνέπειαν η Λογιστική ήτο απαραίτητος εις τους εμπόρους. Δυστυχώς δεν έχομεν σαφείς πληροφορίες περί αυτής, ούτε όμως και δια τους επαγγελματίας λογιστάς και την αμοιβή των εις το Βυζάντιον. Τα αναφερόμενα υπό του Κ.Ι. Αμάντου (Περί Εμμανουήλ Γλυτζουνίου, «Τα Γράμματα εις Χίου κατά την Τουρκοκρατίαν», Πειραιεύς 1946 σελ. σελ. 64-65), καθώς και τα υπό του ίδιου «Η Λογαριαστική του Γλυτζουνίου» «Ημερολόγιον της Μεγάλης Ελλάδος», 1934 σελ. σελ. 179-184 είναι σημαντικά αλλά ελάχιστα -έτι και τα υπό του Paul Colat αναφερόμενα (Nouveaux manuscrits copies par Emmanuel

Glytzounis, «Ελληνική Εταιρεία Βυζαντινών Σπουδών» 1972-1973 σελ. σελ. 39-40- το ίδιο και η αναφορά την οποίαν κάμνει δια την Οικονομίαν της Χίου επί βυζαντινών χρόνων, όπως έχωμεν πληροφορίας και εκ δευτερογενών πηγών). Βεβαίως άπασαι αι προσπάθειαι τας οποίας ανεφέραμεν είναι αξιόλογοι, το θέμα όμως απαιτεί βαθυτέραν έρευναν.

Κατά την γνώμην μου, θα έπρεπε να δοθή επιχορήγησις εις διακεκριμένους ερευνητάς του Βυζαντίου δια να μεταβούν εις Κωνσταντινούπολιν προς εξεύρεσιν πρωτογενών πηγών σχετικώς με την Λογιστικήν, και ιδιαίτέρως δια την διπλογραφικήν εις το Βυζάντιον. Πιθανόν να έχωμεν σπουδαίας πληροφορίας και εκ των λογιστικών βιβλίων του περίφημου πολυκαταστήματος των βυζαντινών χρόνων Λαμπτήρ ή Λαμπτήριος Οίκος, ως τούτος εκαλείτο, ένεκα του γεγονότος ότι εφωτίζετο καθ' όλην την διάρκειαν της νυκτός, με το πλήθος της πελατείας του, και της ποικιλίας των εμπορευμάτων του.

6. Μετά την αποφράδα 29^η Μαΐου 1453 πτώσιν της βασιλευούσης, και της εν συνεχεία κατακτήσεως ολοκλήρου της Ελλάδος υπό των Τούρκων, η Οικονομία παρουσίασε αναμίαν. Διότι κατά την διάρκειαν της δουλείας, οι Έλληνες, δεν ηδυνήθησαν να αναπτυχθούν οικονομικώς. Από του 18^{ου} αιώνος όμως και κατόπιν, οι Έλληνες, έστω και υπό κατάκτησιν τελούντες, αναπτύσσουν την εμπορικήν των ναυτιλίαν, και μετέρχονται διάφορα επαγγέλματα. Η Ορθοδοξία και η ελληνική εμπορική ναυτιλία ενίσχυσαν τα σπέρματα της επαναστάσεως μας και την πίστιν μας δια την απελευθέρωσιν του Έθνους. Παρά την αφύπνισιν της Οικονομίας μας, όμως, η Λογιστική δεν εχρησιμοποιήθη υπό των Ελλήνων εμπόρων και πλοιοκτητών, και παρέμεινεν εις την πρωτόγονον χρήσιν του ντεφτέρ (δεφτέρι)²⁸. Πλην όμως του ντεφτέρ ετήρουν και το κατάστιχον, το οποίον υποδιαιρείτο εις μικρότερα κατάστιχα, των οποίων το σπουδαιότερον και θεωρούμενον μήτηρ των μικροτέρων ήτο το «μέγα κατάστιχον»(Καθολικόν) εκ του οποίου ηντλούντο και τα άλλα κατάστιχα - βιβλία του εμπόρου²⁹. Τα κατάστιχα πάντως ετέλουν υπό νηπιώδην κατάστασιν. Βεβαίως εφ' όσον δεν έχομεν εμπεριστατωμένας πηγάς περί των βυζαντινών βιβλίων, τα υφ' ημών λεγόμενα δύναται να αμφισβητηθούν και ως γειτνιάζοντα με εικασίας, θα ήτο όμως -κατά την γνώμην μου- λίαν αυστηρός ο εν λόγω ισχυρισμός περί «εικασίας».

Με την Ανεξαορτησίαν (1828), ετέθη και το θέμα της ανάγκης χρήσεως

λογιστικών βιβλίων υπό του νεοσυστάτου Κράτους και των επιχειρηματιών, εδημοσιεύθη δε και βιβλίον ολίγων σελίδων περί διπλογραφίας υπό Σ.Α. Παπά τιτλοφορούμενον «Εγχειρίδιον Διπλογραφίας (Σύντομος Διδασκαλία), εν Αιγίνη 1831»³⁰. Το Δημόσιον Λογιστικόν δε ετήρει ο έχων την ευθύνην της Οικονομίας «Πρόβουλος της Οικονομίας». Ούτος υπεβηθείτο εις το έργον του υπό δύο ετέρων μελών του Δημοσίου Λογιστικού. Ο Πρόβουλος είχε το καθήκον και την ευθύνην της τηρήσεως των λογαριασμών και της κλειδός του Ταμείου όμου και με την τήρησιν των λογιστικών βιβλίων της Χρηματιστικής Τραπέζης³¹. Η ηγεσία της Τραπέζης επεφορτίσθη προσωρινώς και με τον χειρισμόν του χρέους του Υπουργείου Οικονομικών (Διάταγμα εν Αιγίνη της 7^{ης} Οκτωβρίου 1828 του Κυβερνήτου Ιωάννου Α. Καποδιστριαύ υπογεγραμμένου υπό του Γραμματέως της Επικράτειας Σπυρίδωνος Τρικούπη). Ο Πρόβουλος ετήρει τριών ειδών βιβλία, μετά των συνεργατών του, εν των οποίων ήτο και το βιβλίον της διπλογραφίας³².

ΥΠΟΣΗΜΕΙΩΣΕΙΣ

1. Cambridge Economic History of Europe ed. Cambridge at the University Press, 1965 Vol. III σελ. σελ. 104, 109.
2. Ο Melis πλιν του Barbarigo αναφέρεται και εις τον Fratesna Soranzo (1408) εις το μνημειώδες διερευνητικόν έργον του “Documenti per la Storia Economica” Secoli XIII-XVI doc. 137 και 138 ed. Leo S. Olscki 1972 σελ. 73) σχετικώς με την υπ’ αυτού τήρησιν του Καθολικού, ως επίσης και εις τους Giustiniani και Badoer. Επίσης εις την σελίδα 480 του ίδιου έργου του ο Melis παρουσιάζει λογαριασμόν εισαγωγής - εξαγωγής Καθολικόν και ημερολογίου αναφοράς καθημερινών πράξεων. Εις την σελίδα 382 ο Melis αναφέρεται και εις άγνωστον επιχείρησιν εν

Σιένη (1277-1282) παρουσιάζων βιβλίων της χρεώσεως και πιστώσεως του ταμείου της, εις δε την σελίδα 414 ο αναγνώστης θα εύρη τρεχουμένους λογαριασμούς εις φιορίνια και άλλα νομίσματα.

3. Cambridge Economic History of Europe Vol. III σελ. 109. Την Χάνσα την οποίαν αναφέρομεν ενταύθα. απετέλουν 206 πόλεις, αι οποίαι συνεχώς επεκτείνοντο, φυσικά και τα τείχη των. Με την εξάπλωσιν της πανάλους, η οποία εσταμάτησε και εις Βραξεμβούργον (1351) υπενομεύθησαν και αι πόλεις της Χάνσα, αι οποίαι είχαν καταργήση τα μεταξύ των τελωνειακά τέλη χάριν της κοινής ευημερίας των (R. Dollinger, *The German Hansa* (αγγλ. μετ. London 1970, σελ. σελ. 55, 56), Λ. Θ. Χουμανίδης, *Οικονομική Ιστορία και η Εξέλιξις των Οικονομικών Θεωριών*, Αθήναι 1980, Τομ. εκδ. Παπαζήση, σελ. σελ. 654, 655.
- 4.,5. Cambridge Economic History of Europe Vol. III, σελ. σελ. 104, 109.
6. A. Saponi, *Studi di Storia Economica (Secoli XIII-XVI-XV)* ed. G.C. Sansoni, Firenze 1955, σελ. σελ. 96, 572-592.
7. G. Luzzatto, *Storia Economica d' Italia. L' Antichità, il Medioevo* ed. Leonardo, Roma 1949, σελ. 140. Cambridge Economic History of Europe, 1965 Vol. III, σελ. 94.
- 8.,9. Λ.Θ.Χουμανίδης, «*Οικονομική Ιστορία και η Εξέλιξις των Οικονομικών Θεωριών*», Αθήναι 1980, εκδ. Παπαζήση, Τομ. Α', σελ. σελ. 46, 490.
10. G. Barbieri, *Origini del capitalismo Lombardo* ed. Giuffrè, Milano 1961 ένθα αναφέρει ότι μεταξύ των ξενοδόχων διεκρίθη ο Antonio de Alliate και μεταξύ των νομικών ο Bonaccorso de Alliate [(σελ. 13) Λ.Θ. Χουμανίδην *op. cit.* σελ. 525].
11. G. Borbieri, *op. cit.* σελ. 51.
12. Λ.Θ.Χουμανίδης, *Οικονομική Ιστορία και η Εξέλιξις των Οικονομικών Θεωριών*, Αθήναι 1980, εκδ. Παπαζήση, Τομ. Α', σελ. 224. Μεταξύ των κωλυομένων (απηγορευμένων) ήσαν, ο

σίτος, ο χρυσός, ο άργυρος, το έλαιον, ο οίνος, το άλας, οι ιχθείς, τα ωά (αυγά), τα εργαλεία, εκτός και αν υπήρχον περισσεύματα τούτων, ωρισμένα ενδύματα, και η ανεπεξέργαστος μέταξα. Επίσης, απηγορεύετο η εισαγωγή ωρισμένων ειδών δυναμένων να συναγωνισθούν την εγχώριαν παραγωγήν, ως λ.χ. ο σάπων της Μασσαλίας.

13. A. Fanfani, *Storia Economica* ed. Principato-Milano-Messino, 1956, σελ. 44.
- 14.,15. F. Melis, *Aspetti di Storia Economica Medievale* ed. Banco di Siena, 1962, σελ. 342, 346 κ.ε. Το giornale αφεύρα εις την διπλογραφίαν, η οποία εφευρέθη και εφηρομόσθη το πρώτον εις την Ιταλίαν, κατά το τέλος του 13^{ου} αιώνος, κατόπιν εις την Γαλλίαν, και είτα εις διαφόρους άλλους χώρας, προ δε του έτους 1453 εν Αγγλία, ομού με τας πιστωτικάς επιστολάς, συναλλαγματικάς και τοιαύτας εις τον κομιστήν (Raymond de Roover: *Business, Banking and Economic Thought.*, ed. Chicago University Press σελ. 119 κ.ε.). Περί του ιστορικού της διπλογραφίας εις τα αναφερόθέντα συγγράμματα του Federigo Melis επίσης εις του ιδίου: *Giornale e Partita Doppia presso un Azienda Fiorentina (1403)* εις *Saggi di Economia Aziendale e Sociale* εις «*Memoria di Cino Zappa*», Milano 1961 Vol. III, σελ. 1457-1473. Επίσης ο Melis αναφέρεται και περί ημερολογίου διπλογραφίας τηρουμένου υπό της εταιρείας Del Bene εν Γενούη (1391), (F. Melis, *Aspetti di Storia Economica Medievale* ed. Banco di Siena, 1962, σελ. 428, 434), Y. Renouard, *Les hommes d' affaires italiens...* σελ. 177, Λ.Θ. Χουμανίδη, *Οικονομική Ιστορία και η Εξέλιξις των Οικονομικών Θεωριών*, εκδ. Παπαζήση, Αθήναι 1980, Τομ. Α', σελ. 489-490).
16. *Cambridge Economic History of Europe* ed. Cambridge at the University Press, 1965 Vol. III σελ. 90.
17. F. Melis, *Aspetti di Storia Economica Medievale* ed. Banco di Siena, 1962, σελ. 347. A. Fanfani, *Un mercante del 300*, ed. Giuffrè, Milano 1935 (Παράρτημα εις *Κεφ. VII* σελ. 65 κ.ε.).

- 18,19 F. Melis, op. cit. αυτόθι, R. de Roover op. cit. σελ. 177.
20. F. Melis, *Aspetti di Storia Economica Medievale* ed. Banco di Siena, 1962, σελ. 592, 596 κ.ε.
21. Η επιταγή εξεδόθη το πρώτον το έτος 1324 επί Τραπεζίτης Parazzone e Donato εν Πίζη (F. Melis, *Note di Storia Banca Pizana nel trecento*, Pisa 1950 σελ. 63 κ.ε.).
22. Η συναλλαγματική εφημερίδα, κατά τον Renouard, πιθανόν το πρώτον εν Γενουή το έτος 1291 (Y. Renouard, op. cit. σελ. 176). Περί της οπισθογραφημένης συναλλαγματικής, κατ' αρχήν, συνέβαλεν ο De Rouver, ο οποίος την ετοποθέτησε το έτος 1520, ο Melis όμως ανακάλυψεν εις το Αρχεῖον της εταιρείας Datini εις Prato οπισθογραφημένην συναλλαγματικήν εκδοθείσαν το έτος 1410 (F. Melis, *Una girala cambiaria del 1410 nell' Archivio Datini di Prato* εις *Economia e Storia* (Dir. A. Fanfani) Milano 1958 N^o2 Τεύχος 4, ελλ. μεταφρ. Λ.Θ. Χουμανίδη, Μια οπισθογραφημένη συναλλαγματική του έτους 1410 ευρεθείσα εις το Αρχεῖον Datini, *Λογιστής*, Τεύχος 79, Νοέμβριος 1960.
23. Το πρώτον τραπεζικόν γραμμάτιον εντοπίζει ο Fanfani κατά το δεύτερον ήμισυ του 13^{ου} αιώνος εκδοθέντος υπό του Francesco Datini (A. Fanfani, *Storia Economica* σελ. 316).
24. F. Melis, *Note di Storia ...*, σελ. 121, 142, 161.
25. Cambridge Economic History of Europe ed. Cambridge at the University Press, 1965 Vol. III σελ. 44.
26. Γ. Παπαρηγόπουλος, *Ιστορία του Ελληνικού Έθνους*, Τομ. Δ', σελ. 46, Λ.Θ.Χουμανίδης, *Οικονομική Ιστορία και η Εξέλιξις των Οικονομικών Θεωριών*, Αθήναι 1980, εκδ. Παπαζήση, Τομ. Β2 σελ. 170.
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31. Λ.Θ.Χουμανίδης, Περί της υπό του Ιωάννου Καποδιστρίου ιδρυθείσης Εθνικής Χρηματιστικής Τραπέζης, Παρνασός (ανάτυπον) Τόμος Λς, 1994, σελ. 21.
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UNCERTAINTY, TAXATION AND ENTREPRENEURIAL ENTRY

AUKE R. LEEN

University of Leiden

Abstract

In what way do higher taxes and uncertainty influence the decision to become an entrepreneur? In other words, “What tax system suits entrepreneurial entry in the market process best?” The paper answers the question from the Austrian perspective. The perspective is to be contrasted with the mainstream neoclassical perspective. If the market -as the Austrians do say- is a process of discovery, the first effect of a tax system is not its effect on the relative preferability for the decision-maker of already-perceived alternative courses of action. The effect we have to take into account is, first and foremost, the possibility that the tax may have significant impact upon the very perception by the prospective taxpayer of what array of opportunities are available for his choice. This view goes against the mainstream view that higher taxes could serve as an insurance against the greater risk in self-employment as compared to that in wage employment. In terms of policy implications, tax relief efforts aimed at small businesses for sure do foster entrepreneurial entry. Raising taxes, however, even with full loss recovery, might be a risky “strategy” to increase entrepreneurial entry.

JEL classification: B53, H21, M13.

Keywords: entrepreneurship, uncertainty, taxation.

1. Introduction

Ever since the article that started it all of Domar and Musgrave: *Proportional Income Taxation and Risk-Taking* (1944; compare for more recent updates and theoretical refinements, e.g., Feldstein, 1969; Stiglitz, 1969; Kanbur, 1981; Kihlstrom and Laffont, 1983; and Gentry and Hubbard, 2000) about the influence of taxation on investment in risky ventures and entrepreneurial entry, we do have that surprising and intriguing result: *the higher the tax rates are, the greater is the amount of risk an entrepreneur is willing to take and hence entrepreneurial entry will be* (that is the decision of wage-and-salary employees to become self-employed). The moti-

vation of this now widely accepted proposition by professional economists (Feldstein, 1969, p. 755, cp. Blau, 1987, p. 464) goes as follows. If losses can be offset, both the yield (defined as the mean portfolio return anticipated when all possible returns are considered) and the risk (defined as the sum of anticipated negative incomes weighted by their probabilities) of the investment have been reduced by the rate of the tax. (Hence: yield = gain (defined as the sum of anticipated positive incomes weighted by their probabilities) – risk). The extent to which loss offset is possible in actual practice depends of course on the offset provisions in the tax law and upon the availability of other income. With full loss offset, the return per unit of risk-taking remains unchanged. In other words, the government assumes part of the risk as well as of the yield. In a sense the government appoints itself as a business partner to the entrepreneur. Though the total (society's) risk remains the same, the entrepreneur's (individual) risk has been reduced. But the entrepreneur's income has been reduced too. To restore his income, he will take higher yielding and more risky investments. If this result is extended beyond a portfolio choice into an occupational choice framework (see, e.g., Kanbur, 1981): entrepreneurial entry will increase too. A result confirmed as recently as 2000 by Bruce: higher relative tax rates in self-employment were found to increase the rate of entry. Or as said by Bruce in 2002, "higher tax rates on income from self-employment do not increase, and might actually reduce, the probability that an individual will exit self-employment."

Bruce (2000, 2002) also gives a second reason given in the literature for the result just-discussed. Motives of tax avoidance and evasion are at the heart of this reason. Higher tax rates on self-employment income translate into greater rewards from avoidance and evasion. In other words, higher marginal tax rates seem to encourage self-employment relative to wage-employment. Self-employment offers greater opportunities to avoid or evade taxes than wage-employment does (Parker, 1996, p. 472). This is confirmed by the fact that the voluntary reporting percentage for wages and salaries (subject to third-party reporting and withholding) is over 99 percent for fillers, while the percentage for all other income is 80 percent (Joulfaian and Rider, 1998, p. 675). Hence reducing those rewards may even lead to reduced entrepreneurial entry. "If some entrepreneurs are actually creative tax-evaders, then reducing their marginal tax rates could encourage them to close their 'businesses'" (Bruce, 2002, p. 8).

It appears that the just-cited results go against what Frederic Bastiat (a predecessor of modern-Austrian economics) and Ludwig von Mises (the founder modern-Austrian economics) taught us. Bastiat said us to “accustom ourselves [...] not to judge things solely by what is seen, but rather by what is not seen” ([1850], 1964, p. 9). Therefore, as far as taxes are concerned, he wrote: “You compare the nation to a parched piece of land and the tax to a life giving rain. So be it. But you should also ask yourself where this rain comes from, and whether it is not precisely the tax that draws the moisture from the soil and dries it up” (o.c., p. 8). And Mises, [1949], 1966, p. 741 said, “This metamorphosis of taxes into weapons of destruction is the mark of present-day public finance.”

In this paper we look, in the tradition of Bastiat and Mises, at tax systems with regard to the ultimate unseen: we even do not know what we do not know. In other words, we examine a tax system that fits the market economy. This since the essence of the market economy -from the perspective of the modern Austrians¹- is that it is a system of *competitive-entrepreneurial discovery*. In other words, what characterizes the market economy is competition, what drives the market is entrepreneurship, and what constitutes the steps in the market process are discoveries. In the market process we discover new ends and means. Accordingly, a tax system can be assessed with respect to the ability to promote creative acts of entrepreneurship. And we conclude that to increase taxes and hence to buffer uncertainty is not the one-way bet it seems to be as far as entrepreneurial entry goes.

The central thesis of this paper, to be explained more fully later, is the following. The risk Musgrave and Domar do speak about (and modern neoclassical economists do too) is the risk of a known alternative. Indeed, if that is the situation, to look at relative preferability is the right (economic) thing to do. We, e.g., look at the changing relative gains of higher taxes on committing tax fraud for wage earners as compared to the self-employed; and then, indeed, the stated results do follow (see, e.g., Blau, 1987, and Bruce, 2000). However, if it is utter ignorance (uncertainty) we are speaking about, and that is the situation for the entrepreneur in his day-to-day practice, taxation robs the entrepreneur of the incentive to come up with the promising investments (with or without a high risk) in the first place. In other words, for Austrian economics fundamental uncertainty is of the essence of the situation the entrepreneur faces. His situation is not one of uncertainty over given alternatives.

The entrepreneur has, first of all, to come up with those alternatives. He has to come up with a framework of ends and means (cp. Kirzner, 1973, pp. 82-84). Afterwards he can assess the riskiness of the ends and means.

Kanbur (1981, p. 179), in his neoclassical framework, also does come up with an element of discrete, non-marginal choice as of the essence of entrepreneurship. As far as his emphasis is on the real choice element in entrepreneurship there is indeed not “a little bit” more in entrepreneurial activity and he is correct. He places his analysis, however, in a general equilibrium framework: the choice is between existing “alternative activities that differ in their risk characteristics.” Riskiness of self-employment (since it is unobservable), in order to be modeled in a neoclassical model, needs a proxy. Parker, e.g., uses as a proxy “the turbulence of industrial relations, as measured by the number of strikes” (1996, p. 465). To do this is of course, by definition, out of the question for the modern-Austrian. Since the general equilibrium framework lacks fundamental error and hence the unknown choices open to the entrepreneur. Which is of the essence of Austrian economics.

The influence, also, of taxation on risk is a different one for each of these two problems: known uncertainty of “given” means and ends versus fundamental uncertainty as far as what are the means and ends in the first place. Neoclassical economics hints at the influence of taxation in regard to the first form of risk. Austrian economics hints at the influence of taxation in regard to the second form of risk. Fundamental ignorance and hence an ultimate error stands against a situation of given alternatives involving risk (of which we do know the probability distribution of incomes attached to each alternative). For the Austrian, entrepreneurship is defined as the very perception of the ends-means framework within which allocation and economizing is to take place (Kirzner, 1973, p.33). For the neoclassical it is defined as combining individual-specific ability with an up-front investment to generate an uncertain return (Gentry and Hubbard, 2000, p. 283).

2. The core of Austrian economics

Let us first expend a little bit on the intricacies of the core of Austrian economics. In 1871 Carl Menger's value theory turned the value theory of the classical economists upside down. The classical (Ricardian) theory held

that cost of production determines the normal value of consumption goods. In contrast, Menger's theory held that the value of consumption goods ultimately determines the cost of production. Value is an expression of judgments concerning future usefulness in meeting consumer wants. Hence does follow one of the Austrian fundamentals of taxation, "No tax can be shifted forward" (Rothbard, 1970, p. 88). Prices, as we just said, are never determined by costs of production; the reverse is true. Think of it. There is no reason to expect the producer to wait on, e.g., a general sales tax to increase his prices if he could have done so before. Since the selling price is already set at a "maximum"; a rise in costs, i.e. an imposed general sales tax, cannot raise the price any further. The price is determined by the total stock in existence and the demand schedule for it on the market. Hence the fact that the sticker price of a product does show a certain amount of sales tax does not prove that it is shifted forward towards the consumer. The price for the producer for a good on the market is not the market price minus the sales tax. It is just that market price. The price minus the sales tax the producer gets might well have been reduced to allow for the payment of taxes. So it makes the income the producer receives less. Hence a sales tax is an income tax on the production factors (Rothbard, 1970, pp. 88-93).

Israel Kirzner describes modern Austrianism as an authentic extension of Menger's older static subjectivism: a consequent dynamic subjectivism. In modern Austrianism, the two central figures are Ludwig von Mises and Friedrich Hayek. Both authors focus on market adjustment processes. Kirzner, building his theory as Mises and Hayek did, believes that one of the greatest failures of neoclassical (equilibrium) analysis is that it assumes equilibrium is actually brought about. The real problem for modern Austrians is to describe the possible realization of an equilibrium as the result of "the systematic way in which plan revisions are made as a consequence of the disappointment of earlier plans" (Kirzner, 1962, p. 381).

Mises and Hayek made it possible to describe adjustment as a systematic sequence of decisions. Mises's extension of subjectivism was to describe the individual decision unit not only as maximizing, but also as finding out the relevant ends means relationship. This opened the way for incorporating learning into our understanding of market processes. Hayek's extension of subjectivism was to describe the process as one of learning by discovery. Endogenous change in the ends-means relationship -says Kirzner- is possi-

ble with the entre-preneurial element in each individual market participant: alertness. Alertness is “the propensity [...] toward fresh goals and the discovery of hitherto unknown resources” (1973, p. 34). A disequilibrium situation points to market ignorance. From it emerge profitable opportunities that are exploited by alertness. Alertness gives a more realistic image of human action (and hence real choice) and makes possible the description of the market as a unified discovery process. “[The] ‘alertness’ view of the entrepreneurial role rejects the thesis that if we attribute genuine novelty to the entrepreneur, we must necessarily treat entrepreneurially generated market events as not related to earlier market events in any systematic way. The genuine novelty [...] attribute[d] to the entrepreneur consists in his spontaneous *discovery* of the opportunities marked out by earlier market conditions (or by future market conditions as they would be in the absence of his own actions)” [...] “[These] entrepreneurial discoveries are the steps through which any possible tendency toward market equilibrium must proceed” (Kirzner, 1985, pp. 11-12).

3. Two views on risk: the un- and counter expected

At this point we do answer our core question: What influence does the tax system has on entrepreneurial entry (occupational choice) and hence the market’s competitive-entrepreneurial discovery process? If the market is a process of discovery, the first effect of a tax system is not it’s effect on “the relative preferability for the decision maker of already-perceived alternative courses of action” (Kirzner, 1985, p. 94) as the neoclassical tells us. No, the effect we have to take into account is “the possibility that the tax may have, perhaps, significant impact upon the very perception by the prospective taxpayer of what array of opportunities are available for his choice” (o.c., p. 94).

To answer our question, we do have to distinguish between the truly unexpected and the counter-expected. For Austrians uncertainty (risk) is first and foremost illustrated in the appearance of something completely unexpected. “[T]he situation holds unknown possibilities unconstrained by known constraints. It is the entrepreneur’s awareness of the open-endedness of the decision context that appears to stimulate the qualities of self-reliance, initiative, and discovery” (Kirzner, 1985, p. 109). For the neo-

classical, however, only counter-expected things do happen. He thought to be 99 percent sure the sun would shine tomorrow. But the counter-expected did happen: it rained! In mean-stream economics the entrepreneur is “the ultimate bearer of irreducible, noninsurable risk” (Kanbur, 1982, p. 2; cp. Kihlstrom and Laffont, 1983, p. 163, who describe the entrepreneur as someone who “receives the random profits of the firm he creates”). For the Austrian, however, the entrepreneur spots something, we even did not know it could happen at all. This is something completely different as to speak of an uninsured idiosyncratic risk. It also means, and that is the crux of our paper, that first and for all, an error (utter ignorance) in a market economy does unveil itself by showing up as an opportunity for monetary profit. So it looks as if it is the entrepreneur -to stimulate his discovery process (for that is what the entrepreneur does by correcting genuine errors stimulated by monetary profit)- we do have to focus on. If this is the case, we can say that any form of taxation that lowers prospective profits (the way an error reveals itself and that provides the incentive that inspires entrepreneurial discovery of unnoticed opportunities) goes against the entrepreneurial process of discovery the market is.² Which, as just-said, is the bread and butter of the producer-entrepreneur. This is our first reason to exempt the producer from any form of taxation. It is an argument against all corporate income taxes.

A second reason to exclude the entrepreneur from taxation is that demand is not the desire of the consumer for a hypothetical product not yet produced. “[T]he demand that is expressed in the demand curve for a product means the quantities of it that consumers will be prepared to buy, at given prices, when offered the opportunity of doing so” (Kirzner, 1973, p. 178). Consumer sovereignty means that production patterns are dictated by the pattern of consumer demand. To be more specific “production decisions are determined by entrepreneurial anticipation of the patterns of demand that will be evoked by alternative production plans” (o.c. p. 176). So if the distortions of taxation -that is the impact on the discovery process- should be minimized, taxes should no be levied on the entrepreneur. Since he is the first, the *conditio sine qua non*, to come up with something new (correcting an error) in the causal market process.

The third reason not to tax entrepreneurs goes as follows. If it is entrepreneurship we do focus on -so (as we just-said) the producer-entrepreneur

is central- profits have to be as visible and as promising as possible. Entrepreneurship has to be stimulated. Entrepreneurship involves fundamental uncertainty in general but also, and of particular relevance of here, uncertainty as far as the complexity and instability of the tax code goes: legislative changes and tax court rulings. [T]he alert entrepreneur, discovering what seems to be an attractive opportunity, may have considerable misgivings [uncertainty] concerning the venture” (Kirzner, 1973, p. 78). [F]rom the point of view of the prospective entrepreneur the profit opportunity is, with all its uncertainty, there” (o.c., p. 83). Often, because of either the sheer size or instability in the tax code, it is impossible to predict (there is fundamental uncertainty) the tax consequences of a particular activity. This uncertainty leads to a loosening of the entrepreneurial grip on pure profit. This since profits or losses arising from tax changes, by a fortunate or unfortunate change in the tax system, do appear after the entrepreneur has taken up his position, A potential and in fact superior vision may be highly stifled. We do remove much of the incentive -to “purposeful alertness, the alert purposefulness” (Kirzner, 1999a, p. 39)- for paying attention to the unknown. Hence a tax system has to be as simple and predictable as possible.

Fourth, Austrians emphasize the division of knowledge and its growth. Entrepreneurial opportunities tend to appear within the context of a specific time and place. So -after Hayek (the Nobel Memorial Prize in Economics winner in 1974)- a decentralized economy is the place to look at. It allows individuals to act on their entrepreneurial insights, and rewards them for doing so. The institutional setting of the market is especially fitted to stimulate discovery. It produces an environment where entrepreneurship is stimulated. And since entrepreneurial insights lay also the foundation for additional entrepreneurial insights the growth process of the economy is sustained. The market system encourages the full use of (decentralized) human knowledge. There is no efficient non-market, e.g., governmental, resource allocation. This was the insight the Austrians tried to bring to the fore in the socialist-calculation debate that raged in the interwar period. A debate that began with the question, “Is an efficient non-market resource allocation possible?” For the Austrian, market based prices are necessary to signal scarcity, to transmit knowledge, and to stimulate discovery. Hence the government cannot be trusted to do this job for society, that is, guiding the discovery process, by changing the relative preferability of out-

comes and means of production. And as Mises concludes: “Inasmuch as money prices of the means of production can be determined only in a social order in which they are privately owned, the proof of the impracticability of socialism necessarily follows. [...] [T]his proof is certainly the most important discovery made by economic theory” (1981, p. 15). A discovery (that is using decentralized instead of centralized knowledge) a consumption tax tries to live up to. Hence, a simple uniform consumption tax system comes up as a logical corollary. There simply is no efficient governmental resource allocation by means of taxation.

4. Summary and policy conclusions

If it is sparking interest we are looking at (that is not changing relative attractiveness), we do -in fact- focus on the effects of taxing pure (unknown) entrepreneurial profit. This instead of mainstream neoclassical analysis that focuses on changing the (known) relative preferability of the options the producer-entrepreneur faces. Pure profit is a sum that cannot be described as necessary for the production of the item sold; the producer has already recovered all his expenses (opportunity costs). But alertly noting hitherto unnoticed opportunities depend on the possibility of the emergence of pure profit. In other words, worthwhile opportunities may simply not be noticed in the absence of the possibility of pure profit. For the Austrian, this is a valid description of the situation the entrepreneur faces. Hence taxing pure profit should be looked at with suspicion at the least. As Kirzner says, progressive taxation changes an open-ended world into a closed one (1999b, p.109). If, in order to have a profit, it were luck we are counting on, no incentive whatsoever would be necessary. Neither are profits wholly, as Frank Knight would say, the uncertainty-bred differences between the anticipated value of resource services and their actual value” (Kirzner, 1973, p. 82). What we are looking at is a potentially attractive outcome (on the basis of active, alert, searching entrepreneurial activity) in an open-ended world: an unknown possibility unconstrained by known constraints. “*The most impressive aspect of the market system is the tendency for [...] opportunities to be discovered*” (Kirzner, 1985, p. 30). Prices expressed in money show price discrepancies. Through the possibility of monetary profits, prices stimulate the discovery of

valuable concrete information. And it is precisely the institutional setting of the market economy that translates utter error into prospective net gain. It is a social setting in which people are continuously pressed to improve.

The study of risk taking, taxation, and entrepreneurship has often been motivated from the point of view of policy. To sum it all up, for the neo-classical economist the effects of progressive taxation on risk taking are positive if risk aversion is greater than unity. “[H]igher marginal tax rates seem to encourage self-employment relative to paid employment” (Parker, 1996, p. 472; cp. Richter, 1960, p. 164). In the neighborhood of risk neutrality, however, it reduces risk taking (Kanbur, 1997, p. 790). And since “[r]isk and income move together because, *ceteris paribus*, greater income is a reward for bearing greater risk” (Parker, 1996, p.462), the pattern of income distribution in a society reflects, in part, the pattern of risk taking in occupational choice (Friedman, 1953, p. 278). If so, however, the neo-classical economist sees a policy conflict (all depending on the assumptions about the risk attitude of the society in question) between the reduction of income inequality in society (by means of progressive taxation), the encouragement of risk-taking (entrepreneurship) and the growth in national income. We can sum it up in the words of Kanbur, 1982, p. 19, who also does not see any general conflict between the stated objectives. Since, “the conflict only arises in particular cases and in particular ways. Theory has to provide models that illustrate these cases, and empirical analysis has to pronounce on the possible net effect of the different forces.” But the conflict, however illusory as Kanbur says it is, does only exist if the entrepreneur is seen as a risk taker *per se*. But “it should be clear that entrepreneurship as we have discussed it in no way depends on any specific attitude toward uncertainty-bearing on the part of the decision-makers” (Kirzner, 1973, p.78). If the entrepreneur is correcting fundamental errors, as the Austrians do say, the conflict vanishes. We are looking “for entrepreneurial alertness and for its effect upon the continued availability of perceived opportunities for pure profit” (o.c., p. 79). Also, though it is an empirical question as to whether what preferences for risk do exist in the different countries of this world in practice (cp. Feldstein, 1969, p. 763, who speaks of the necessity “of the exploration of a variety of restricted but plausible models”), the Austrian-based theoretical analysis does warn us that any general claim about the effects of taxation on inequality and growth of income should be

treated with caution. This because they do leave out the most important asset of the market economy: entrepreneurial alertness.

And again, if the Austrian perspective is the way to look at entrepreneurship, the remark made by, e.g., Kandur that “the [neoclassical] model leaves out an analysis of why entrepreneurship is beneficial in the long-run is without sense.” In other words, he says, “there is no modeling of what must be presumed to be a basic tenet of the conventional wisdom, in terms of the ‘dynamism’ of an economy with a greater degree of entrepreneurship” (1982, pp. 19-20). See also the question asked by Richter: “‘Should’ risk taking be encouraged? [...] [W]hat is desirable about encouraging ‘risk’ taking? Indeed, why should not society’s utility function register abhorrence to ‘risk’ as much as do those of most individuals?” (1960, p. 166). Compare what Stiglitz, 1969, p. 279 says: “Even if risk-taking is increased by a given type of tax, it is not clear that such a tax should be adopted: after all, risk-taking is not an end itself.” Or to give a last example of a question posed inside a neoclassical market framework: “[D]oes market equilibrium have too many or too few entrepreneurs?” (Kanbur, 1981, p. 179). For the Austrian, however, it is all very clear. The correction of fundamental errors is a one-way bet! Our conclusion is the same as made by Gentry and Hubbard “models [either neoclassical or Austrian] emphasizing a link between entrepreneurial talent [understood in the Austrian tradition as entrepreneurial alertness] and selection into entrepreneurship predict a negative correlation between increases in tax progressivity and entrepreneurial entry probabilities” (2000, p. 284).

Our analysis also answers the question posed by Gentry and Hubbard, 2000, p. 282 (and they were unable to answer and left for future research), “when tax rates are less progressive and hence there is encouragement of entrepreneurial entry is this efficient, that is stimulating the most talented entrepreneurs.” In other words, “to what extent do progressive marginal tax rates discourage entry by entrepreneurs with the most promising business projects?” (o.c. p. 287). From the Austrian point of view, to correct an error is, as just-said, a one way bet. To ask the question if this is efficient, is to deny the benign quality of the market system: the correction of fundamental errors.

To conclude, by taxing pure profit, the discovery process is seriously hampered. By lowering profits (especially since risk is at hand), impeding on the first one -that is the entrepreneur- in the discovery process, and changing by a central government relative preferences with unknown consequences, dis-

covery is seriously harmed. If there should be taxation, taxing consumers without changing relative prices seems to be the least intrusive way to collect taxes in the competitive-entrepreneurial discovery process of the market.

NOTES

1. In this paper I do not give ‘the’ but ‘an’ Austrian approach to taxation. As far as there are other (non- and Austrian) approaches, there is of course the partial equilibrium approach of the Marshallians: we do only look at a particular tax in isolation and then analyze its effects. Next we do have the Walrasian (general equilibrium) and Keynesian approach: we do look not only at what the government takes out of the economy but at what it spends too. In other words, we look at the whole budgetary process of tax-and-spend. As far as the Austrians go, for Mises, the founder of modern-Austrian economics, first, taxation is a matter of the market economy. Under socialism “the government no longer depends for its financial support on the means extracted from the citizen” (1966, p. 740). Second, since the role of the government in a fully-fledged market economy is very small, taxes “are low and do not perceptibly disarrange production and consumption” (o.c., p. 740). In general, also, though taxes are a phenomenon of the market economy they do not have to bother us in a perfect (Austrian) market economy. The small amount of it, per se, does make it unimportant.
2. The situation is even worse. We do have an almost confiscatory taxation of potentially successful endeavors and, in fact, a tax subsidy for safe, nonentrepreneurial undertakings. “[P]eople do not like insecure loans to new businesses based on great new ideas. They do like lending secured to readily marketable assets by mortgages or similar arrangements” (Hall, 1996, p. 32).

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CONFIDENCE INTERVALS IN STATIONARY AUTOCORRELATED TIME SERIES

G.E. HALKOS

University of Thessaly

I.S. KEVORK

University of Thessaly

Abstract

George E. Halkos - Ilias S. Kevork: *Confidence intervals in stationary autocorrelated time series.*

In this study we examine in covariance stationary time series the consequences of constructing confidence intervals for the population mean using the classical methodology based on the hypothesis of independence. As criteria we use the actual probability the confidence interval of the classical methodology to include the population mean (actual confidence level), and the ratio of the sampling error of the classical methodology over the corresponding actual one leading to equality between actual and nominal confidence levels. These criteria are computed analytically under different sample sizes, and for different autocorrelation structures. For the AR(1) case, we find significant differentiation in the values taken by the two criteria depending upon the structure and the degree of autocorrelation. In the case of MA(1), and especially for positive autocorrelation, we always find actual confidence levels lower than the corresponding nominal ones, while this differentiation between these two levels is much lower compared to the case of AR(1).

JEL: C5.

Keywords: Covariance stationary time series, Variance of the sample mean, Actual confidence level.

1. Introduction

The basic assumption required at the stage of constructing confidence intervals for the mean, μ , of normally distributed populations is the observations in the sample to be independent. In a number of cases, however, the

validity of this assumption should be seriously taken under consideration, and as a representative example we mention the problem of constructing confidence intervals for the average delay of customers in queuing systems. In such a case, it is very common the delays in a sample of n successive customers to display a certain degree of dependency at different lags, and therefore the application of the classical confidence interval estimator for the steady-state mean, μ ,

$$\bar{X} - Z_{\alpha/2} \frac{\sigma}{\sqrt{n}} \leq \mu \leq \bar{X} + Z_{\alpha/2} \frac{\sigma}{\sqrt{n}} \quad (1)$$

based on independent, identical, and normal random variables not to be recommended.

Fishman (1978) shows that the variance of the mean of a sample X_1, X_2, \dots, X_n from a covariance stationary process is:

$$\text{Var}(\bar{X}_n) = \frac{\sigma_x^2}{n} \cdot h(p_s) \quad (2)$$

with

$$h(p_s) = 1 + 2 \sum_{s=1}^{n-1} \left(1 - \frac{s}{n}\right) p_s \quad (3)$$

and p_s to be the s^{th} lag theoretical autocorrelation coefficient between any two variables whose time distance is s . Covariance stationary means that the mean and variance of $\{X_t, t = 1, 2, \dots\}$ are stationary over time with common finite mean μ and common finite variance σ_x^2 . Moreover for a covariance stationary process, the covariance between X_t and X_{t+s} depends only on the lag s and not on their actual values at times t and $t+s$.

For the last two decades, alternative estimators for (2) have been proposed in the literature in the context of estimating steady-state means in stationary simulation outputs. The reason for developing such variance estimators and not using directly the estimated values of the autocorrelation coefficients in (2) is that, for s close to n , the estimation of p_s ($s = 1, 2, \dots, n-1$) will be not accurate as it will be based on few observations. On the other hand, Kevork (1990) showed that fixed sample size variance estimators, based on a single long replication, have two serious disadvantages. First, in finite samples they are biased. Second, the recommended values for their parameters at the estimation stage differ significantly according to the structure and the degree of the autocorrelation, which characterizes the process under consideration.

Taking these two disadvantages into consideration at this stage, we are asked ourselves in what extent the application of these complicated variance estimators of (2) is necessary for covariance stationary processes. In other words can we avoid their use by investigating the consequences of applying the simple confidence interval estimator (1) to covariance stationary processes so that after making appropriate modifications to improve its performance?

Answers to the above questions are given in the current study. More specifically, assuming that the process under consideration follows either the first order autoregressive model, AR(1), or the first order moving average model, MA(1), we investigate the consequences of using (1) for estimating the steady-state mean in the light of the following two criteria: a) the difference between the nominal confidence level and the corresponding actual confidence level which is attained by (1); and b) the ratio of the sampling error of (1) over the corresponding real sampling error which ensures equality among nominal and actual confidence levels. These two criteria are computed analytically for the AR(1) and MA(1) under different values of the parameters φ and θ respectively, and for different sample sizes. The results for the AR(1) verify that the use of the complicated variance estimators for (2) is inevitable, especially when φ is positive and less than one. On the other hand, for the MA(1) the difference between a nominal confidence level of 95% and the achieved actual one is predictable as in low positive autocorrelations it ranges at 5%, while for moderate and high autocorrelations the difference remains almost constant with an average of 10%.

Under the above considerations, the structure of the paper is as follows: In section 2 we review the existing literature concerning the available variance estimators for (2). In section 3, we derive analytic forms for the special function of autocorrelation coefficients, $h(p_s)$, for AR(1) and MA(1). In the same section we specify the conditions when this function takes positive values less or greater than one. In section 4, we establish the methodology for computing analytically the actual confidence levels attained by using (1), that is, the actual probability this interval to include the real steady-state mean of the covariance stationary process. Additionally, we present the actual confidence levels that (1) achieves in AR(1) and MA(1), for different degrees of autocorrelation under different sample sizes. Finally, the last section presents the main findings and conclusions of this research.

2. Literature review

The presence of autocorrelation in simulation output may be a challenge for Inferential Statistics. This is because the lack of independence in the data becomes a serious problem and the calculation of elementary statistical measures like the standard error of the sample mean is incorrect. In particular, when time series data are positively autocorrelated the use of the classical standard error of the sample mean creates biases, which as a consequence reduces the coverage probabilities of confidence intervals.

Looking at the existing literature we may find different methods to overcome the problems of autocorrelation in the construction of confidence intervals for steady-state means. These methods are classified as, sequential, truncation and fixed sample size. Sequential confidence interval methods have as objective to determine the run length (sample size) of realizations of stationary simulation output processes which guarantees both an adequate correspondence between actual and nominal confidence levels and a pre-specified absolute or relative precision, as these terms are defined by Law (1983). Law and Kelton (1982a) distinguish these methods as regenerative and non-regenerative. Fishman's (1977) and Lavenberg and Sauer's (1977) methods belong to regenerative category while the methods developed by Mechanic and McKay (1966), Law and Carson (1978), Adam (1983) and Heidelberger and Welch (1981a) have been characterized as non-regenerative.

For the truncation methods the objective is the elimination of initialization bias effects on the estimation of the steady-state mean. These methods provide estimators for the time point t^* ($1 \leq t^* \leq n$) for which the absolute value of the difference between the expected value of the sample mean from the steady-state mean is greater than a pre-specified very small positive number ϵ for any $t < t^*$. Generating r replications of a simulation output process $\{X_t\}$ under the same initial conditions, some of the truncation methods estimate t^* by applying the truncation rule to each replication (Fishman 1971, 1973b; Schriber, 1974; Heidelberger and Welch, 1983). Some others, however, estimate t^* from a pilot study, which is carried out on a number of exploratory replications. Then the estimated value of t^* is used as the global truncation point in any other replication for which we use

the same initial conditions (Conway, 1963; Gordon, 1969; Gafarian *et al.* 1978; Kelton and Law, 1983).

Fixed sample size confidence intervals methods propose different, asymptotically unbiased, estimators for the variance of the sample mean and these estimators may be used in the construction of confidence intervals. A number of confidence interval methods have been developed in the last decades in order to handle the problem.

The simplest fixed sample size confidence interval method is based on generating, for the process under consideration, $k > 1$ independent replications of size m using independent streams of random numbers. When k is large enough, the variance of the k sample means is defined and used in the construction of confidence intervals, as these means are considered as independent, identical and normal random variables. But this method has practical difficulties, as it requires enormous systems and many hours of working time for the generation of just a single estimate.

Alternatively we may use single replication methods like the non-overlapping batch means (NOBM). This method (Law and Kelton, 1991; Fishman, 1999) divides a single long run into consecutive non-overlapping batches of size m , and from each batch an estimate of the performance measure is obtained. As it becomes obvious, these estimates are considered as equivalent to the corresponding ones, which are taken using independent replications. Specifically, if $\{X_t\}$ is a covariance stationary output process, the non-overlapping batch means method is based on generating a single long replication of $\{X_t\}$. Then, this replication is partitioned into $k > 1$ contiguous and non-overlapping batches of size m . Provided that m is large enough and $\sum_{s=-\infty}^{\infty} |\gamma_s| < \infty$, Law and Garson (1978) showed that the non-overlapping batch means can be considered approximately uncorrelated and normal random variables. But as Song (1996) claims, the approximation of the correct batch size is possible but not trivial. At the same time, the construction of a confidence interval for a steady-state mean requires the satisfaction of normality and independency of the batch means.

Song and Schmeiser (1995) established the overlapping batch means method (OBM), which has smaller mean squared error in the estimation of the sample mean variance. Specifically, if n is the run length (sample size) of a single long replication of a covariance stationary output process $\{X_t\}$,

the j^{th} overlapping batch mean of size m $[X_j(m)]$ may be defined and in this context Welsh (1987) proposed for large m and n/m the following sample mean variance estimator $\hat{\sigma}_{\text{OBM}}^2 = \frac{m}{n(n-m+1)} \sum_{j=1}^{n-m+1} [X_j(m) - \bar{X}_n]^2$. But

Sargent *et al.* (1992) claim that NOBM is preferable to OBM when we construct confidence intervals relying on small samples and probably equivalent in the case of using large samples.

Next, let us consider the standardized time series methods. If $\{X_t\}$ is strictly stationary (the joint distribution of $X_{t_1}, X_{t_2}, \dots, X_{t_n}$ is the same as the joint distribution of $X_{t_1+s}, X_{t_2+s}, \dots, X_{t_n+s}$ for every t_1, t_2, \dots, t_n and s) and assuming also that this process is phi-mixing (for large s the correlation of X_t and X_{t+s} becomes negligible; see Law, 1983), the standardized time series methods use a functional central limit theorem to transform the sample X_1, X_2, \dots, X_n into a process which is asymptotically distributed as a Brownian Bridge process. Dividing a single long replication into $k > 1$ contiguous and non-overlapping batches of size m , for m large and by using Brownian Bridge properties, Schruben (1983) derived four methods for estimating the variance of the sample mean. The area method, the maximum method, the combined area non-overlapping batch means method and the combined maximum non-overlapping batch means method. The standardized time series methods are easy to use and asymptotically have advantages over NOBM, but require long runs.

In these lines and as a parametric time series modeling of simulation output data, we consider the autoregressive method of Fishman (1978). This method assumes that $\{X_t\}$ is covariance stationary and can be represented by a p^{th} order autoregressive process, AR(p). Voss *et al.* (1996) derived good estimates of the steady state average queue delay using data from the transient phase of the simulation using a high-order AR(p) model. But such an autoregressive method is improper for widespread use as general ARIMA models are complex and assumptions for ARIMA modeling may be invalid for some particular simulation models.

The regenerative method was developed for the case in which the simulated process is characterized by the regenerative property and by enough regeneration cycles. This method was developed by Crane and Iglehart (1974a,b,c; 1975). Its principle is based on the identification of random points, where the process probabilistically starts over again. These points

are called regeneration points. For instance, studying the delay in queue in the M/M/1 model, the indices of customers who find the system empty can be considered as regeneration points. The amount of data between two regeneration points is called the regeneration cycle. Then, the regeneration points are used to obtain independent random variables to which inferential methods can be applied. In this context, two methods have been developed for estimating the steady state mean and producing confidence intervals, the classical and the Jackknife. A very good description of these methods is provided in Law and Kelton (1982b). It is worth mentioning here that the main disadvantage of these methods is the identification of regeneration points, especially for complicated simulation models. Specifically, the problem with this method exists when either there are no regeneration points for the output process or when the simulation cannot produce enough cycles.

A new and more recent approach to simulation output analysis relies on resampling methods, such as the Jackknife and the Bootstrap (Quenouille, 1949; Tuckey, 1958; Efron, 1979; Efron and Tibshirani, 1993), which provide non-parametric estimates of bias and standard error. The Bootstrap method relies on pseudo-data created by re-sampling the actual data, but it requires independency, which is not always the case in simulation outputs. The application of this method to time series data may work by re-sampling sets of consecutive observations in order to capture the autocorrelation structure. Various forms of the Bootstrap method appear in the literature. First, the Moving Blocks Bootstrap (MBB), which relies on random re-sampling of fixed size overlapping blocks with replacement (Künsch, 1989; Liu and Singh, 1992; Hall *et al.*, 1995). However, this method requires subjective inputs from the researcher and its estimates vary considerably.

Second, for stationary time series the Stationary Bootstrap (SB) was developed, where the data are re-sampled by contaminated blocks, which have a randomly chosen starting point and with their length geometrically distributed according to some chosen mean (Politis and Romano, 1994). Under the same principle, Kim *et al.* (1993a) developed the Binary Bootstrap (BB) to analyze autocorrelated binary data. Kim *et al.* (1993b) introduced the Threshold Bootstrap (TB) extending the BB, and Park and Willemain (1999) modified the TB introducing the Threshold Jackknife (TJ). They claim that for various ARMA models, the TB has a better performance compared to MBB and SB in terms of estimating the standard error of the

sample mean, if we optimize each re-sampling scheme with respect to the size of the re-sampling unit. They also show that the MBB has generally a poor performance.

Park *et al.* (2001) test the TB as a non-parametric method of output analysis and show that the TB is an effective alternative to the batch means and relatively easy. They also show that the TB is more effective in the construction of confidence intervals for the steady state mean and median delay in the M/M/1 model, and establish the asymptotic unbiasedness and consistency of the TB estimators when we refer to the sample mean.

Finally, we have the spectral method where the process $\{X_t\}$ is assumed to be covariance stationary. At zero frequency, the power spectrum $f(0)$ is estimated either by using the Tukey spectral window (Fishman (1973 a,b; Duket and Pritsker, 1978; Law and Kelton, 1984) or by using the periodogram coordinates as presented in Heidelberger and Welch (1981a,b).

3. The function $h(p_s)$ in AR(1) and MA(1)

3.1 AR(1)

This model is defined by $X_t = \varphi X_{t-1} + \varepsilon_t$, and is stationary when $|\varphi| < 1$. The ε_t 's are uncorrelated and normal random variables with mean zero and common variance σ_ε^2 . Substituting the s^{th} theoretical autocorrelation coefficient of this model, $p_s = \varphi^s$, to (3) we take:

$$h(p_s) = 1 + 2 \left\{ \sum_{s=1}^{n-1} \varphi^s - \frac{1}{n} \sum_{s=1}^{n-1} s\varphi^s \right\} \quad (4)$$

Given

$$\sum_{s=1}^{n-1} \varphi^s = \varphi \frac{1 - \varphi^{n-1}}{1 - \varphi}$$

and

$$\sum_{s=1}^{n-1} s\varphi^s = \frac{\varphi(1 - \varphi^n) - n\varphi^n(1 - \varphi)}{(1 - \varphi)^2}$$

the function $h(p_s)$ takes for the AR(1) the form:

$$h(p_s) = 1 + 2 \left\{ \frac{\varphi}{1 - \varphi} - \frac{\varphi(1 - \varphi^n)}{n(1 - \varphi)^2} \right\} = \frac{1 + \varphi}{1 - \varphi} - \frac{2\varphi(1 - \varphi^n)}{n(1 - \varphi)^2} \quad (5)$$

Subtracting -1 from both sides of (5):

$$h(Q_s) - 1 = \frac{2\varphi}{1 - \varphi} \{1 - \psi(n, \varphi)\}$$

where

$$\psi(n, \varphi) = \frac{1 - \varphi^n}{n(1 - \varphi)}$$

Given $|\varphi| < 1$, for any $n \geq 2$, $\psi(n, \varphi)$ takes always values in the interval $(0,1)$, and this is illustrated in figures 1a, 1b, and 1c. Especially, when $-0.50 < \varphi < 1$, $\psi(n, \varphi)$ converges exponentially to zero. On the contrary, for $-1 < \varphi < -0.50$, when n is small $\psi(n, \varphi)$ displays some oscillation which is getting larger and larger as φ approaches -1 , while for n large this oscillation vanishes and the function converges again exponentially to zero.

The behaviour of $\psi(n, \varphi)$ leads us to the conclusion that when φ is positive, namely, the autocorrelation function converges exponentially to zero taking only positive values (positive autocorrelation), for any n , the function $h(p_s)$ takes values always greater than 1. This means that using the classical confidence interval estimator (1) we underestimate the real sampling error that the interval should have, and as a result we attain actual confidence levels lower than the corresponding nominal ones. On the other hand for $-1 < \varphi < 0$, that is, the autocorrelation function converges to zero oscillating between negative and positive values (negative autocorrelation),

Figure 1a: $\psi(n, \varphi)$ for $0 < \varphi < 1$.

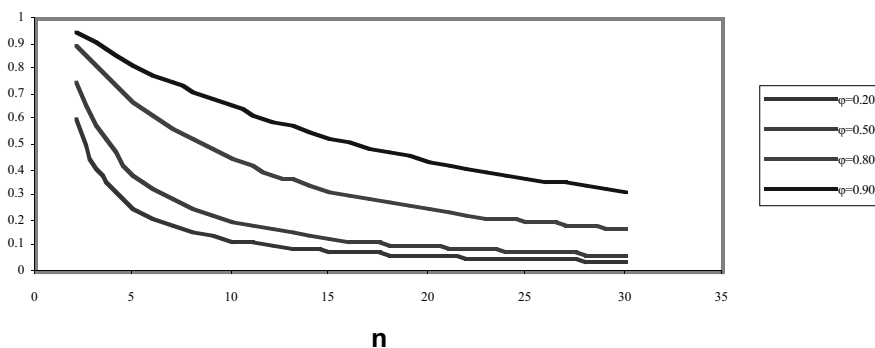
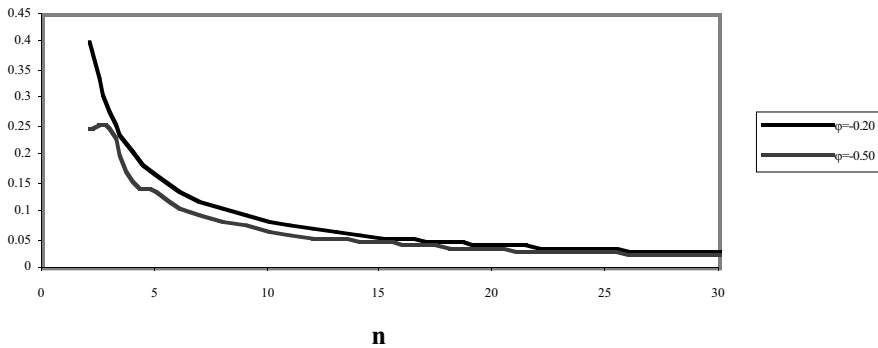
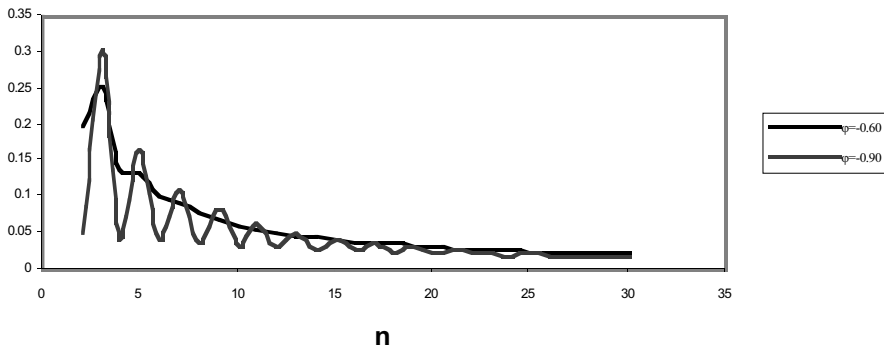


Figure 1b: $\psi(n, \varphi)$ for $-0.50 \leq \varphi < 0$ **Figure 1c:** $\psi(n, \varphi)$ for $-1 < \varphi < -0.50$.

for $n \geq 2$ the half width of the classical estimator (1) overestimates the real sampling error, and this results in actual confidence levels greater than the corresponding nominal ones. The size of overestimating (or underestimating) the real sampling error by using (1), which is equal to $[h(p_s)]^{-0.5}$, is displayed for different n and φ in table 1. When n is large (e.g. $n > 50$), for the case of positive autocorrelation, the half width of the classical estimator (1) is at least 4 times narrower than the real sampling error, whereas for negative autocorrelation the real sampling error is overestimated approximately 3 times.

Table 1: Overestimating or underestimating the real sampling error in AR(1).

n	$\varphi = -0.80$	$\varphi = -0.50$	$\varphi = -0.20$	$\varphi = 0.20$	$\varphi = 0.50$	$\varphi = 0.80$	$\varphi = 0.90$
2	2.24	1.41	1.12	0.91	0.82	0.75	0.73
3	1.67	1.41	1.15	0.88	0.74	0.63	0.60
4	2.33	1.51	1.17	0.86	0.70	0.57	0.53
5	2.03	1.53	1.18	0.85	0.67	0.53	0.48
6	2.41	1.57	1.18	0.85	0.65	0.50	0.45
7	2.26	1.59	1.19	0.84	0.64	0.47	0.42
8	2.48	1.60	1.19	0.84	0.63	0.45	0.40
9	2.40	1.62	1.20	0.84	0.63	0.44	0.38
10	2.54	1.63	1.20	0.83	0.62	0.43	0.37
11	2.50	1.64	1.20	0.83	0.62	0.42	0.36
12	2.59	1.64	1.20	0.83	0.61	0.41	0.35
13	2.57	1.65	1.21	0.83	0.61	0.41	0.34
14	2.63	1.66	1.21	0.83	0.61	0.40	0.33
15	2.62	1.66	1.21	0.83	0.60	0.39	0.32
16	2.66	1.66	1.21	0.83	0.60	0.39	0.32
17	2.66	1.67	1.21	0.83	0.60	0.39	0.31
18	2.69	1.67	1.21	0.83	0.60	0.38	0.31
19	2.70	1.67	1.21	0.83	0.60	0.38	0.30
20	2.72	1.68	1.21	0.83	0.60	0.38	0.30
50	2.87	1.71	1.22	0.82	0.59	0.35	0.25
100	2.94	1.72	1.22	0.82	0.58	0.34	0.24
200	2.97	1.73	1.22	0.82	0.58	0.34	0.24
500	2.99	1.73	1.22	0.82	0.58	0.33	0.23

3.2 MA(1)

It is given by $X_t = \varepsilon_t + \theta\varepsilon_{t-1}$, and although the model is stationary for any θ , the invertibility condition restricts θ in the interval $(-1, 1)$. Substituting the autocorrelation function:

$$p_s = \begin{cases} \frac{\theta}{1 + \theta^2}, & s = 1 \\ 0, & s > 1 \end{cases}$$

into (2) we take:

$$h(p_s) = 1 + 2 \frac{n-1}{n} \cdot \frac{\theta}{1 + \theta^2} \quad (6)$$

It is obvious that when θ is positive (negative), the function $h(p_s)$ takes values greater (positive and smaller) than one. So, as in the case of AR(1), under a positive (negative) autocorrelation the real sampling error is underestimated (overestimated) by using (3), attaining actual confidence levels lower (greater) than the nominal ones. Table 2, similar to table 1, illustrates for positive and negative autocorrelations the size of underestimating and overestimating respectively the real sampling error when we use the classical confidence interval estimator. Comparing the two tables we observe that the size of underestimation is smaller in MA(1) under positive autocorrelation especially in large samples, but for negative autocorrelation, the real sampling error is much more overestimated in MA(1) compared with the AR(1).

4. Actual confidence levels attained by the classical interval estimator in AR(1) and MA(1)

Given that the random variables X_1, X_2, \dots, X_n from a covariance stationary process are normally distributed with steady-state mean μ and common standard deviation σ_X , the actual confidence interval for μ is derived from:

$$\Pr \left\{ -z_{\alpha_N/2} \leq \frac{X - \mu}{\frac{\sigma_X}{\sqrt{n}} [h(p_s)]^{1/2}} \leq z_{\alpha_N/2} \right\} = 1 - \alpha_N$$

as

$$\bar{X} - z_{\alpha_N/2} \frac{\sigma_X}{\sqrt{n}} [h(p_s)]^{1/2} \leq \mu \leq \bar{X} + z_{\alpha_N/2} \frac{\sigma_X}{\sqrt{n}} [h(p_s)]^{1/2}$$

where $1 - \alpha_N$ is the nominal confidence level. Assuming, therefore, that X_t 's are independent, and using the classical interval estimator (1), we ignore the function $h(p_s)$ of the theoretical autocorrelation coefficients. The omission of $h(p_s)$ from (1) has as a result that although (1) is aimed at a nominal confidence level of $1 - \alpha_N$, the attained actual probability to include μ is different from $1 - \alpha_N$. We shall call this probability actual confidence level of the interval. This probability is analytically computed by:

Table 2: Overestimating or underestimating the real sampling error in MA(1)

n	$\theta = -0.80$	$\theta = -0.50$	$\theta = -0.20$	$\theta = 0.20$	$\theta = 0.50$	$\theta = 0.80$	$\theta = 0.90$
2	1.40	1.29	1.11	0.92	0.85	0.82	0.82
3	1.69	1.46	1.16	0.89	0.81	0.78	0.78
4	1.93	1.58	1.19	0.88	0.79	0.76	0.76
5	2.13	1.67	1.20	0.87	0.78	0.75	0.75
6	2.31	1.73	1.21	0.87	0.77	0.74	0.74
7	2.47	1.78	1.22	0.87	0.77	0.74	0.73
8	2.61	1.83	1.23	0.86	0.77	0.73	0.73
9	2.74	1.86	1.23	0.86	0.76	0.73	0.73
10	2.86	1.89	1.24	0.86	0.76	0.73	0.73
11	2.97	1.91	1.24	0.86	0.76	0.73	0.72
12	3.08	1.94	1.24	0.86	0.76	0.73	0.72
13	3.17	1.96	1.25	0.86	0.76	0.73	0.72
14	3.26	1.97	1.25	0.86	0.76	0.72	0.72
15	3.34	1.99	1.25	0.86	0.76	0.72	0.72
16	3.42	2.00	1.25	0.86	0.76	0.72	0.72
17	3.50	2.01	1.25	0.86	0.76	0.72	0.72
18	3.57	2.02	1.25	0.86	0.75	0.72	0.72
19	3.63	2.03	1.25	0.86	0.75	0.72	0.72
20	3.70	2.04	1.26	0.86	0.75	0.72	0.72
50	4.77	2.15	1.27	0.85	0.75	0.71	0.71
100	5.41	2.19	1.27	0.85	0.75	0.71	0.71
200	5.85	2.21	1.27	0.85	0.75	0.71	0.71
500	6.16	2.23	1.27	0.85	0.75	0.71	0.71

$$\begin{aligned}
1 - \alpha_A &= \Pr \left\{ -z_{\alpha_N/2} \leq \frac{\bar{X} - \mu}{\frac{\sigma_X}{\sqrt{n}}} \leq z_{\alpha_N/2} \right\} = \\
&= \Pr \left\{ \frac{-z_{\alpha_N/2}}{[h(p_s)]^{1/2}} \leq \frac{\bar{X} - \mu}{\frac{\sigma_X}{\sqrt{n}[h(p_s)]^{1/2}}} \leq \frac{z_{\alpha_N/2}}{[h(p_s)]^{1/2}} \right\} = \\
&= \Pr \left\{ -z_{\alpha_N/2}^* \leq Z \leq z_{\alpha_N/2}^* \right\} = 1 - 2\Phi(-z_{\alpha_N/2}^*) \quad (7)
\end{aligned}$$

where $\Phi(-z_{\alpha_N/2}^*)$ is the cumulative distribution function of the standard normal evaluated at:

$$-z_{\alpha_N/2}^* = -z_{\alpha_N/2} \sqrt{[h(p_s)]^{1/2}}$$

for a nominal confidence level $1 - \alpha_N$.

With reference to AR(1) and MA(1), at nominal confidence level 0.95, tables 3 and 4 present the actual confidence levels attained by the classical interval estimator (1) under different values of φ and θ respectively. These actual confidence levels have been computed analytically after substituting the exact values of $[h(p_s)]$, obtained by using the values of φ and θ in (5) and (6) respectively, into (7). Regarding AR(1), for $0 < \varphi < 1$, the actual confidence levels not only are lower than 0.95, but also are declining as the sample size increases. The same holds for a given n where, as φ approaches one, the actual confidence levels are decreasing again. The last two remarks make obvious that for large n and heavy autocorrelations, using (1) we attain actual confidence levels which are far away from the corresponding nominals. On the other hand, with φ taking values on the interval $(-1, 0)$, the actual confidence levels, being always greater than the nominal one, are increasing by drawing larger and larger samples.

Table 3: AR(1): Actual confidence levels of the classical confidence interval estimator for the stationary mean at nominal confidence level 95%.

n	$\varphi = -0.80$	$\varphi = -0.50$	$\varphi = -0.20$	$\varphi = 0.20$	$\varphi = 0.50$	$\varphi = 0.80$	$\varphi = 0.90$
2	1.00	0.99	0.97	0.93	0.89	0.86	0.84
3	1.00	0.99	0.98	0.92	0.85	0.79	0.76
4	1.00	1.00	0.98	0.91	0.83	0.73	0.70
5	1.00	1.00	0.98	0.91	0.81	0.70	0.66
6	1.00	1.00	0.98	0.90	0.80	0.67	0.62
7	1.00	1.00	0.98	0.90	0.79	0.65	0.59
8	1.00	1.00	0.98	0.90	0.78	0.63	0.57
9	1.00	1.00	0.98	0.90	0.78	0.61	0.55
10	1.00	1.00	0.98	0.90	0.78	0.60	0.53
11	1.00	1.00	0.98	0.90	0.77	0.59	0.52
12	1.00	1.00	0.98	0.90	0.77	0.58	0.51
13	1.00	1.00	0.98	0.90	0.77	0.57	0.49
14	1.00	1.00	0.98	0.90	0.77	0.57	0.48
15	1.00	1.00	0.98	0.90	0.76	0.56	0.48
16	1.00	1.00	0.98	0.90	0.76	0.56	0.47
17	1.00	1.00	0.98	0.89	0.76	0.55	0.46
18	1.00	1.00	0.98	0.89	0.76	0.55	0.45
19	1.00	1.00	0.98	0.89	0.76	0.54	0.45
20	1.00	1.00	0.98	0.89	0.76	0.54	0.44
50	1.00	1.00	0.98	0.89	0.75	0.51	0.38
100	1.00	1.00	0.98	0.89	0.75	0.50	0.36
200	1.00	1.00	0.98	0.89	0.74	0.49	0.35
500	1.00	1.00	0.98	0.89	0.74	0.49	0.35

Similar pattern of changes for the actual confidence levels are observed in the MA(1). However, for θ close to one, the differences between the actual and nominal levels are not so great as these differences were in the case of AR(1). Additionally, given n , the attained confidence levels for the MA(1) display some stability at certain intervals of θ . So, for low values of θ and large samples ($n \geq 50$) the difference between the nominal and the ac-

tual confidence level is approximately at 5%, while for moderate and large values of θ ($\theta > 0.50$) this difference ranges on average at 10%. On the contrary, for θ negative, in large sample the actual confidence level is very close to 100%.

Table 4: MA(1): Actual confidence levels of the classical confidence interval estimator for the stationary mean at nominal confidence level 95%

n	$\theta = -0.80$	$\theta = -0.50$	$\theta = -0.20$	$\theta = 0.20$	$\theta = 0.50$	$\theta = 0.80$	$\theta = 0.90$
2	0.99	0.99	0.97	0.93	0.90	0.89	0.89
3	1.00	1.00	0.98	0.92	0.89	0.87	0.87
4	1.00	1.00	0.98	0.92	0.88	0.86	0.86
5	1.00	1.00	0.98	0.91	0.87	0.86	0.86
6	1.00	1.00	0.98	0.91	0.87	0.85	0.85
7	1.00	1.00	0.98	0.91	0.87	0.85	0.85
8	1.00	1.00	0.98	0.91	0.87	0.85	0.85
9	1.00	1.00	0.98	0.91	0.87	0.85	0.85
10	1.00	1.00	0.98	0.91	0.86	0.85	0.85
11	1.00	1.00	0.98	0.91	0.86	0.85	0.84
12	1.00	1.00	0.99	0.91	0.86	0.85	0.84
13	1.00	1.00	0.99	0.91	0.86	0.84	0.84
14	1.00	1.00	0.99	0.91	0.86	0.84	0.84
15	1.00	1.00	0.99	0.91	0.86	0.84	0.84
16	1.00	1.00	0.99	0.91	0.86	0.84	0.84
17	1.00	1.00	0.99	0.91	0.86	0.84	0.84
18	1.00	1.00	0.99	0.91	0.86	0.84	0.84
19	1.00	1.00	0.99	0.91	0.86	0.84	0.84
20	1.00	1.00	0.99	0.91	0.86	0.84	0.84
50	1.00	1.00	0.99	0.91	0.86	0.84	0.84
100	1.00	1.00	0.99	0.90	0.86	0.84	0.84
200	1.00	1.00	0.99	0.90	0.86	0.84	0.84
500	1.00	1.00	0.99	0.90	0.86	0.84	0.84

5. Conclusions

In this study, we examined in covariance stationary processes the performance of the classical confidence interval estimator for the steady-state mean. One of the assumptions for deriving this estimator refers to the independence of random variables in the sample. The following two criteria were used: a) The actual probability, called as actual confidence level, the classical confidence interval estimator to include the steady-state mean, given the nominal confidence level; and b) the ratio of the sampling error of the classical confidence interval estimator over the corresponding true one which ensures equality between actual and nominal confidence levels. These criteria are computed analytically for the stationary AR(1) and MA(1) models, for different values of φ and θ respectively.

For the AR(1), when the autocorrelation converges exponentially to zero taking on positive values, the actual confidence levels attaining by the classical estimator, being always lower than the corresponding nominal confidence levels, are decreasing as the sample is getting larger and larger. Especially, for the case of heavy autocorrelation and large samples, the actual confidence levels are dramatically low as they range even less than 40%. In such cases the classical confidence interval estimator underestimates the true sampling error over four times. On the contrary, when the autocorrelation function converges to zero oscillating between positive and negative values, the classical estimator overestimates the true sampling error, and as a result, we always attain actual confidence levels greater than the corresponding nominal ones. As a concluding remark for the AR(1), therefore, we can say that the behaviour of the two criteria under consideration is differentiated substantially according to the structure and the level of autocorrelation.

Regarding MA(1), we always observe for positive autocorrelation actual confidence levels lower than the corresponding nominal ones. However, the discrepancies between these two levels are much smaller and more predictable compared to the case of AR(1). Particularly, for large samples, when the autocorrelation is light, these discrepancies range at 5%, while for moderate or heavy autocorrelations the discrepancies display very little differentiation at an average level of 10%. It is also worthwhile to mention that in MA(1), for negative autocorrelations the actual confidence levels

are almost 100%, and this is due the fact that the true sampling error is highly overestimated. Especially in large samples the half-width of the classical confidence interval estimator overestimates the true sampling error by more than five times.

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AN EMPIRICAL ANALYSIS OF THE MARSHALL - LERNER CONDITION

GEORGE A. VAMVOUKAS*

Athens University of Economics

Abstract

This paper, using data from Greece, provides additional evidence on the effectiveness of devaluation in trade balance adjustment. The validity of the Marshall-Lerner (ML) condition is investigated by employing a modern econometric technique based on error correction modelling, cointegration analysis and seemingly unrelated regression (SURE) strategy. The evidence reported in this paper argues that over a relevant policy horizon devaluations alter relative prices and affect the trade balance negatively. This result leads us to conclude that the ML condition is not valid in the case of Greece.

JEL classification: F31, F14, P22.

Keywords: Marshall - Lerner Condition, Cointegration Analysis, SURE Methodology.

1. Introduction

The primary objective of this paper is to reexamine the Marshall-Lerner (ML) condition employing a more robust estimation procedure. Do devaluations cause changes in main economic variables such as the trade balance? A devaluation may affect the trade balance through various ways. For example, the devaluation of the domestic currency is supposed to affect the real exchange rate and hence improve competitiveness. The improvement of competitiveness implies higher exports than imports, which create trade balance surpluses.¹

The supporters of the elasticity approach argue in favour of an improvement in the trade balance in terms of elasticities of the demand for exports and demand for imports. If the demand elasticities are sufficiently large, devaluations cause the betterment of the trade balance. However, the available empirical evidence has not led to consistent and uniform results. Various studies by Hi-

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marios (1989), Bahmani-Oskooee (1991), Mahdavi and Sohrabian (1993), De-meulemeester and Rochat (1995), Marwah and Klein (1996), Bughin (1996), Zhang (1998), Wang and Dunne (2000) among others have provided contradictory conclusions. In particular, a number of these studies find that devaluations affect the trade balance positively, while other studies support the opposite, that devaluations do not exert any influence on the trade balance.

This paper attempts to provide new empirical evidence on the links between devaluations and the trade balance using modern time series techniques. The empirical procedure is focused on two basic points. First, the paper takes into account the effects of other important variables, such as real output and interest rates, which reflect aggregate economic activity and affect the behaviour of the real effective exchange rate and the trade balance. Second, the paper combines error-correction modelling and seemingly unrelated regression in order to examine the robustness of the results.²

Section 2 analyses the methodology and model specification. Section 3 presents the econometric results, while Section 4 concludes the paper.

2. Model Specification, Methodology, Data

The following specification of the trade balance is used to test the sensitivity of trade flows:

$$TB = f(R, Y, Y^*, D, D^*) \quad (1)$$

where TB is the trade balance; R is the real effective exchange rate; Y is the domestic real GDP; Y* is the foreign real GDP; D is the domestic interest rate; and D* is the foreign interest rate.

Economic theory indicates that current and lagged values of the variables in equation 1 determine trade balance changes. However, the specification of the lag order cannot be based on an *a priori* procedure. The adoption of the Akaike final prediction criterion (AFPC) selects asymmetric lags for each of the system variables.³ The estimation procedure is based on Zellner's seemingly unrelated regression (SURE) technique. SURE strategy produces efficient results, if the phenomenon of contemporaneous autocovariance of disturbances is present among equations which compose the model. As is known, the SURE estimates are BLUE.

Given that the entire period is short, I start by including four lags in each

variable of the systems. Under the empirical framework of the SURE technique, the following ECM (Error Correction Model) equations are specified:⁴

$$\Delta TB_t = d_1 \Delta TB_{t-2} + d_2 \Delta R_{t-1} + d_3 \Delta Y_{t-2} + d_4 \Delta Y^*_{t-1} + d_5 \Delta D_{t-3} + d_6 \Delta D^*_{t-1} + b_1 E_{t-1} + u_t \quad (2)$$

$$\Delta R_t = k_1 \Delta TB_{t-1} + k_2 \Delta R_{t-1} + k_3 \Delta Y_{t-2} + k_4 \Delta Y^*_{t-1} + k_5 \Delta D_{t-2} + k_6 \Delta D^*_{t-3} + b_2 E_{t-1} + e_t \quad (3)$$

where $d_1, d_2, d_3, d_4, d_5, d_6, k_1, k_2, k_3, k_4, k_5, k_6, b_1, b_2$ are coefficients; Δ is the first-difference operator; E_{t-1} is the error-correction term; in the lag polynomials the appropriate lags are collected by AFPC; u_t and e_t are white noise disturbances; and t stands for time. The system equations 2 and 3 can be used to investigate the effectiveness of devaluation. An effective devaluation implies that the coefficient d_2 should be positive and statistically significant.

Supposing that the foreign exchange market is stable, the ML condition argues that the devaluation will improve a country's balance of trade if the elasticity of demand for exports (X_x) plus the elasticity of demand for imports (M_m) exceeds 1 ($X_x + M_m > 1$). If the sum of X_x and M_m is less than 1, the foreign exchange market will be unstable and the devaluation will cause the balance of payments to deteriorate. If the sum of the two elasticities is equal to 1, the devaluation will not cause any change in the trade balance. In the framework of the ML condition, it does not matter whether the individual demand curves are elastic or inelastic, but we care if they sum to greater than 1.

All data are annual and cover the period 1960-2001. The data set is collected from the European Economy of Eurostat and from various issues of the International Financial Statistics of the IMF. A conflicting point in the literature is whether the trade balance should be measured in domestic or foreign currency.⁵ The ratio of exports (X) to imports (M) is used as a proxy of trade balance. The advantage of using the ratio X/M as a measure of trade balance is that the ratio is not sensitive to the terms of measurement of X and M. Note that the ratio X/M is also not sensitive whether the series X and M are in nominal or real prices. The real exchange rate (R) is defined as $(E \cdot \text{CPI}) / \text{CPI}^*$, where E is the nominal effective exchange rate, CPI is the consumer price index of the home country and CPI^* is the consumer price index of the European Union (EU)⁶. The series Y and Y^* are calculated in purchasing power standards. Y^* is the total output of the EU used as a proxy variable of foreign GDP. D comes from the IFS of the IMF,

line 60p. D^* is the nominal long-run interest rate of the EU used as a proxy for the foreign interest rate.

3. Results

The first step of our empirical analysis is to check that the variables TB, R, Y, Y^* , D and D^* are integrated of the same order. To this end the Phillips-Perron (PP) unit-root test is applied. A constant and a time trend are included in the estimation procedure. Lags 1 to 5 years have been used to examine PP tests for robustness. Stationarity tests reported in Table 1 show the presence of a unit root in all of the variables. Stationarity is achieved after first differencing, suggesting that the time series TB, R, Y, Y^* , D and D^* are integrated of order one, $I(1)$.

Table 1: PP tests for unit roots.

Variable	Truncation lag				
	1	2	3	4	5
TB	-2.82	-2.85	-2.92	-2.88	-2.82
R	-0.79	-1.01	-1.16	-1.26	-1.34
Y	1.08	1.09	1.06	1.02	1.04
Y^*	-1.38	-1.39	-1.40	-1.46	-1.55
D	0.95	0.65	0.49	0.39	0.37
D^*	-0.92	-0.90	-0.80	-0.68	-0.61
Δ TB	-8.34*	-8.54*	-8.70*	-9.17*	-9.88*
Δ R	-4.29*	-4.21*	-4.11**	-4.06**	-3.95**
Δ Y	-5.30*	-5.25*	-5.26*	-5.28*	-5.27*
ΔY^*	-4.69*	-4.63*	-4.64*	-4.54*	-4.45*
Δ D	-3.72**	-3.73**	-3.71**	-3.78**	-3.80**
ΔD^*	-4.90*	-4.82*	-4.75*	-4.73*	-4.72*

* Nonstationarity is rejected on the 1% level.

** Nonstationarity is rejected on the 5% level.

Notes: Critical values are taken from Mackinnon's tables (1991). Unit root tests are performed for the time period 1960-2001.

Testing for cointegration is the second step of our empirical approach. The long-run equilibrium relationships among variables can be detected by various cointegration techniques. Johansen's (1991, 1995) cointegration procedure is performed in this paper. The results of λ_{trace} statistics reported in Table 2 support the presence of two cointegrating vectors among the system variables. The existence of two cointegrating vectors is detected using one and two lag lengths in the cointegration procedure.

Table 2: Johansen's cointegration test results.

	λ_{trace}	critical value (5%)	critical value (1%)
1. One year lag			
$H_0: r=0$	126.7	94.2	103.2
$H_0: r=1$	76.4	68.5	76.1
$H_0: r=2$	47.1	47.3	54.5
$H_0: r=3$	25.8	29.7	35.7
$H_0: r=4$	9.0	15.4	20.0
$H_0: r=5$	0.1	3.8	6.7
2. Three year lag			
$H_0: r=0$	170.0	94.2	103.2
$H_0: r=1$	99.5	68.5	76.1
$H_0: r=2$	46.8	47.3	54.5
$H_0: r=3$	24.1	29.7	35.7
$H_0: r=4$	10.2	15.4	20.0
$H_0: r=5$	0.8	3.8	6.7

Notes: Cointegration tests are performed on the five-variable system (TB, R, Y, Y*, D, D*). Cointegration test specification allows for linear deterministic trend in data and a constant in cointegration equation. LR test statistics are obtained from Osterwald-Lenum's tables (1992). The time period starts 1960 and ends 2001.

The next step of our econometric approach is to use SURE to test the links between TB and R. Considering that the time period 1960-2001 is short, I introduce into the SURE system the cointegrating vector which corresponds to the largest eigenvalue. In doing so, I use this cointegrating vector as an error correction term. Equations 2 and 3 are pooled together and estimated as a system by the SURE technique. To check the robustness of

Table 3. SURE estimates of ECM equations 1 and 2.

	1960-2001	1965-2001
Panel A:		
Dependent variable ΔTB		
d_1	0.063 (0.562)	0.059 (0.552)
d_2	-0.005 (-1.088)	-0.006 (-1.104)
d_3	0.352 (1.751)	0.342 (1.801)
d_4	-0.009 (-1.875)	-0.011 (-1.899)
d_5	0.301 (1.920)	0.310 (2.011)
d_6	0.210 (2.155)	0.212 (2.161)
b_1	-0.145 (-1.175)	-0.154 (-1.149)
R^2	0.645	0.614
JB	0.944	0.975
Skew	0.044	0.049
Kurt	1.188	1.198
LB (2)	0.944	1.012
Wald test, $H_0:d_2=0$	1.127	1.018
Panel B:		
Dependent variable ΔR		
k_1	0.183 (1.887)	0.181 (1.847)
k_2	0.215 (2.358)	0.211 (2.274)
k_3	0.178 (1.792)	0.168 (1.771)
k_4	-0.171 (-1.741)	-0.164 (-1.731)
k_5	0.078 (1.894)	0.071 (1.874)
k_6	0.149 (1.701)	0.144 (1.711)
b_2	-0.458 (-1.948)	-0.451 (-1.984)
R^2	0.601	0.615
JB	0.987	0.849
Skew	0.061	0.064
Kurt	1.204	1.217
LB (2)	1.048	1.014
Wald test, $H_0 : k_1=0$	27.18	28.16

Notes: Numbers in brackets are estimated t -statistics. R^2 is the coefficient of determination. LB is the Ljung-Box Q statistics. JB is the Jarque-Bera test statistics, where numbers in parenthesis are the lag order. The Wald test statistic has an asymptotic $\chi^2(k)$ distribution, where k is the number of restrictions.

the results, SURE estimates are presented for the time periods 1960-2001 and 1965-2001. LB (Ljung-Box) and JB (Jarque-Bera) test statistics are reported to assess the statistical significance of the SURE estimates. JB tests for residual normality are defined over skewness and kurtosis. The LB test statistics are used for checking residual whiteness.

The SURE estimates for system equations 2 and 3 appear in Table 3. Panel A reports estimates for the system variables when ΔTB is the dependent variable and panel B presents estimates for the system variables when ΔR is the dependent variable. A statistically significant and positive coefficient for ΔR would suggest the acceptance of the ML condition. At the same time, the statistical significance of E_{t-1} would indicate the long-run validity of the ML condition. The results show that the ML condition cannot be accepted for either of the two time periods due to the fact that the series ΔR and the error correction term E_{t-1} carry insignificant coefficients. Note that ΔR has an inappropriate sign. The Wald F-statistics do not reject the null hypothesis that $d_2=0$ for both time frames. Wald tests show that the null $k_1=0$ is rejected. The coefficients k_1 and b_2 appear to be significant at less than 5% level, showing that ΔTB positively affects ΔR . The R^2 values are high, indicating that the estimated SURE systems are a very good fit. LB and JB test statistics suggest the correct specification of the SURE models.

4. Conclusion and Policy Implications

This paper employs some recent advanced econometric techniques to test the validity of the ML condition using data from the Greek economy. The data are annual covering the time period 1960-2001. The paper makes an attempt to standardize for very important variables which determine the behaviour of the real effective exchange rate. The first stage of our methodology is to check the stationarity properties of the time series before proceeding to the cointegration procedure. The results of PP tests show that all the variables appear to be stationary in first differences. The second stage of our empirical analysis is to test the existence of cointegration among the model variables. Johansen cointegration test results support the presence of two cointegrating relationships.

Trying to provide a clearer demonstration of the links between ΔTB and

ΔR , the SURE method has been applied. The SURE coefficients and their t-ratios provide valuable information on the sign, magnitude and statistical significance of ΔTB and ΔR . SURE estimates are not consistent with the ML condition in the case of Greece. SURE results have two main implications. First, devaluation does not improve the trade balance. This result indicates that devaluations do not have positive or significant effects in real variables such as the trade balance. SURE results appear robust to alternative time periods, providing evidence against the ML condition for Greece. Given that relative prices do not play an important role in the determination of external trade flows, it results that devaluations cannot correct imbalances in the balance of payments. Greece did experience high deficits in its trade balance and current account between 1960 and 2001. Second, the estimated relative price elasticity indicates that the trade balance is sensitive to increases in the level of domestic prices. Higher domestic prices rather than foreign prices trigger a higher volume of imports. Over the 1960-2001 period inflation in Greece was higher in relation to its main trading partners, causing imports to increase more and more, and thus deficits in the trade balance to rise.

NOTES

1. For more details on the theoretical background of the ML condition, see Salvatore (2001).
2. Greene (2000) provides an excellent analysis of SURE (Seemingly Unrelated Regression) methodology. Darrat (2002) and Vamvoukas (2002) show the linkage between simultaneity bias and SURE technique.
3. For a discussion of lag length selection criteria, see Ozcicek and McMillin (1999) and Maddala (2000).
4. Vamvoukas (1999) and Thomas (2001) provide a comprehensive analysis of error correction modelling.
5. For a useful discussion on this point, see Miles (1979) and Himarios (1989).
6. CPI* is used as a proxy variable of world prices.

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SYNDICALISM AND EDUCATION IN THE AGE OF GLOBALIZATION AND INFORMATION

GEORGE E. SKOULAS

University of Macedonia

Abstract

The objective of this research is to examine the reasons why the labour masses appear so weak today to confront the complexities that derive from the production processes, syndicalism and from labor training as well. This weakness is maintained under the effect of the radical changes that are recorded in technology at the age of computer information and globalization. Within the framework of the shaping new work environment the raising question is if the education is capable not only to follow but to be adjusted in the conditions of those developments. With the undergoing restructuring in the traditional workplace it is challenging a multilateral and astonishing devitalization of the traditional form of labor organization. Consequently, the attention is focused at the study, which would elevate the significance of the new form of struggle, the organization and function of syndicalism in the newly shaped work relations globally by analyzing, in parallel, the possibilities of syndicalism in the subjects of education.

JEL classification: J51.

Keywords: Globalization, labor, syndicalism, training and organization.

1. Introduction

The purpose of this article is to study the degree to which the consequences of technology with the rapid developments that take place internationally, regarding the information and communications, are beneficial to workingman in our age. That is, do the existing relations at the workplace between capital and labour with the techniques and practices applied in technology are suitable for man and society today? In other words, does the role of technology with its rapid developments respond positively to those categories and to what degree the man of work is able to participate, comprehend and follow them? For this reason, we attempt an examination about the education of labor masses regarding general work relations, the

functional issues of production with the new computer technology of information and globalization introduced. We pursue thus a different approach towards the training or general education of the working population, in terms of the economic restructuring that is taking place, so that fundamental outcomes in the labour and its agents could be reached.

It is well known that the late capitalist social formation undergoes a great modification internationally, which has been characterized as **globalization**. This term initially refers to the doubtless domination of free market, pursuing a market space with total release from any compulsion. It refers to an independence from any imposition of its function, or even undermining the concept of the free character of the market. That is, it indicates a market that can be governed only by the mechanisms of demand and supply, since it wants the free competition in its function to be guarded. Whereas, the globalization elevates a fundamental role of competition, the free international markets and the labor market in worldwide, as well as the elimination of the significance of the economic borders of nation-state, which indicates a new form of competition in opposition to what liberalism had previously professed. While classical liberalism restricted the economic actions within the state's national borders, globalization opens them widely. Globalization thus exhibits the opening of the gates with other nations, the "great importance of the international money markets and the significant role of the free circulation of capitals"¹. The outcome of this opening is an international economy without borders. In parallel, it refers to the vital role of the new technologies of the rapid information and communication. Briefly, the term "globalization" stresses the open character of global economy. The supporters of the neo-liberal approach are, according to Fotopoulos, positive toward the globalization, because they believe that it is beneficial for all social strata and for the environment as well². The reasoning for this belief is that globalization "apparently allows the growth of healthy competition and thus leads to an improvement of effectiveness and spread not only knowledge, but also the goods of growth, through the so-called "*phenomenon of downward diffusion*"³.

Nevertheless, "other theories draw our attention to the importance of national governments and local economies in the framework of the world economy"⁴. Thus, they give the "interpretation of state's constant intervention in economy, in spite of the obvious triumph of neo-liberalism and

the increasing globalization”⁵. But, the wider the markets become, the degree of accumulation of wealth in fewer hands appears greater, and the weaker is the state to intervene.

The question here is, whether it has been historically proven that the competition mentioned above, that spreads today to the international scale is indeed free. Must the market be governed by the natural and neutral forces of demand and supply or not, and if yes, where shall it end up?

2. Historical Periodization

By attempting to compare the current situation with other historical circumstances previously, we focus on the industrial revolutions that took place in the 18th and the 19th century. Both revolutions affected the radical changes that were recorded in the social, economic spheres and technology, as well as in politics and education globally. That is, while a social transformation from feudal to bourgeois form⁶ is noted at the first revolution, a greater change happens in the second. Such change was the result of the technological and scientific achievements at the time. Consequently, while the first was the revolution of iron and coal, which implies a gradual expansion of the use of machine, the recruitment of men and women in factories and their transformation from the agrarian to the industrial sector, the other was different. It was deeply scientific; Education, responding to new technological and scientific demands, had to open its gates to all-social strata and not remaining private terrain for the privileged group. The second revolution indicated no interest in improving the existing goods, but more likely to create new ones. Its impact became quickly very intense⁷, its consequences became very important and the change in people’s way of life and thinking much different. It was the change of the great technical automation in the industrial sector and the broader use of electric power. It was, consequently, the revolution of stainless steel, petroleum and chemical products, with technical accomplishments and inventions in many fields, like the field of medicine. Successes in medicine and pharmaceuticals, with antibiotics and vitamins that were discovered in microbiology and biochemistry, cannot be ignored because they supported other alterations in the social and work environment. The rapid technological development that occur in our days, a centu-

ry later, can be called the third industrial revolution, which carries the imprint of an even greater social change with implications in many levels.

These technological changes and evolutions have important influences in the labour and production process, as well as generally in the market. Many researchers⁸ today would agree that the role of technology and communications, apart from being essential, is also dominant. This dominance appears in the field of science and technology with a great development in tension and extension in the labor world, in the market and in the process of production. However, the form of development tends to bring the countries together but also to incorporate them in a commitment to obey the rhythms of economy. Nevertheless, these rhythms frequently create inequalities as the profits of the technological developments are appropriated by certain groups of society. In this way, there is followed a pattern of development which is designed by various elites for the productive processes so as to assure profits and finally lead them to an economic prosperity. Consequently, the danger of the imposition of economic power over the exercises of politics becomes visible. While politics enforced to obey the rules of the private profit in economy, that could motivate the machination of the state by copying its track and adopting its function.

Under different circumstances, without economic imposition, a government could avoid the notions of new liberalism and could be able to adjust the international developments with interventions to reach the equal national growth. But since the politics give-in to the invocations and demands of the private capital and while, the role of the national state is undermined by the globalization of the economic interests, in parallel, the political autonomy is inevitably eliminated. So, when the required autonomy is not accomplished in politics, the ruling forces and their practices cannot have the expected results and they are left in their own fate, so that the development can be described and planned by the economic elites.

Thus, in order to avoid the submission of politics, the social institutions like syndicates and social movements must be activated, modernized and reformed so as to respond sufficiently to the demands of our time. This can be accomplished only when these institutions hasten their modernization as well as their relevance with the society of information and computer science. That is why the culture of the employees, or their education, is the main concern and an inseparable element in the achievement of the modernized target

of the syndicates, acquiring computer information and general knowledge. It can be for one additional reason, that these institutions were born in different epochs and so their modernization is necessary for being adjusted to the new conditions, otherwise they could be doomed. Consequently, the labor organizations must take part in the struggle with terms and conditions that are described in the field of technology. This challenge derives from the need to change the existing situation, which restricts the workers exclusively to the use of a certain technology. That is, a restriction to a role and not to a dialogue or to their participation in thought within the decision-making process for the production and the planning of technology.

But if during present time, the barriers at the ethnic borders of each country are removed for the capital, left them open for its free organization, movement, activity and accumulation in a world scale, an unequal relation with labor is created. The latter, can only be in an unfavorable position and incapable to transform circumstances of function and education which could entitle it with a substance and content. Because with the new technologies of computer and information, it is impossible for the work-person to be able to form an independent judgment in the factory or in the office and also control or to be aware of the results that are being suggested by the special technicians or programmers⁹. Additionally, when the labour organizations do not have the important tools of education and democratic function, they would be far from their target, which is the modernization and emancipation of their members¹⁰.

The dominant view today claims that in the transition towards the preponderance of the cultural capital, the field of the class struggle is shifted from the area of the factory and it is directed towards the office, the counter and the computer devices. But this field of class conflict is not quite clear. For example, the idea that the conflict in the workplace as a class struggle is not shifted to the new fields, but stops and ends up, is the most popular view. Adding to that is the notion that the class struggle itself can be lost before it begins due to the fact that the enemy has become a disguised opponent. Such result, as a defeat of labor, can be complete when the worker cannot realize any longer the exploitation that he is suffering. The crucial factor from a defeat like that is definitely the submission of labour to the domination of capital through an ideological embodiment¹¹. One basic element of this submission was the restructuring of the training

of labor against its real interests, as well as its decay in the formation of the human resources in the decades of 1970 and 80's.

3. Contemporary Dimensions of Syndicalism

Let's see further why this negative side of labor reflects the weakness of the syndicates. In other words, when the basic education of the working population is missed, the labor representatives indicate naturally an ineffectiveness or even insufficiency that derives from the gap deficient knowledge causes. The fact that the trade unions or syndicates, as the main organizations of the working class, appear today powerless in international level to undergo the necessary transformation and maintain important influence in the post-industrial age disappoints deeply. The negative signs about the working population and its organizations are showed with large titles in the newspapers, magazines and books during the last decades. For example, phrases as "good buy to the labour class" and "the march of labour is halted" etc.¹² depict the syndicates as obsolete organizations where ideology and especially class-consciousness of their members is about to vanish. Consequently, these phrases are the echoes of the interconnected **dimensions of change** stated below. Echoes that have transformed the context the trade unions operate.

The first dimension of change is connected with the structure of company ownership or with the ownership of enterprise. That is, the ownership of wealth constantly shifts and for that the focus at the labour protests become increasingly obscure. As a result, fewer employees know who the bad persons are or who are the harmful workers without consciousness. It appears that a supervisory and executive control is vested into a salaried paid class of personnel and managers, who have little, if any, ownership in the company. This small class reports to a distant group of human or institutional shareholders that each can have little control over the policy of the company. Employees in the numerous positions in the public sector cannot be related or even identify the shareholder or owner because there isn't any. In this case, there are different labor categories: a) those to whom labor is sub-contracted or based on a contract and b) those who can be self-employed. That is, working on their own premises or homes. This way, it becomes very difficult

for any of those expanding individuals to experience class consciousness or even trade union consciousness since their own individual work activity is characterized as high job discretion, self-discipline and self-exploitation¹³.

The second dimension is related to the change that denotes the style of the management. In big corporations, where the nature and scale considerations and studies of the task require the gathering of a great number of employees under one roof, the type of supervision, control and job differentiation is changing as well. Fordism, as a model in the process of production, reflects generally the control over the labor process through a rationalization and fragmentation of skills. Work techniques like connected use of machines in the assembly line, where the produced product is rhythmically programmed, transferred mechanically to the employees and takes its final form¹⁴. This model increased the productivity and didn't require special technical knowledge or experience for the employee's response. It required only speed in worker's repetitive movements, with no delays, that must be performed in the rhythm of the automated machines during the process of production.

The harmonization of profits with salary raise took place in Ford company and so the strikes were sustained in low levels. For that, it was considered as a system of reconciliation between employers-employees with norms and regulations¹⁵, which nevertheless demanded a scientific administration for an effective control. Such scientific administration was historically handled by the method of Taylorism. The movements of every worker whose performance rise best per hour, studied by this method in the process of production, and established afterwards either by piece or by a mechanical automated way so there should not be a need for supervision. This way, supervision was achieved through automation, without a need to hire highly paid stuff for this job. Taylorism as an administrative method was established on the base of separation between production and control. "Taylorism" and "Fordism"¹⁶, proved successfulness by imposing an administrative control over the process of labor through rationalization and segmentation of the abilities, but did not offer a solution. Techniques of labour studies expanded productivity and helped keep low both the consumer prices and the bargaining power¹⁷. By keeping this bargaining power in low levels and simultaneously raise the productivity of the time-techniques to the maximum performance of machine and man, it had negative results for the people at work. It resulted, in long run, to the total exhaustion and tiredness of the em-

ployee and to his resignation from any form of collective and unionist action. So, it leads the worker to a negative development of his human becoming which is a dehumanized predicament.

The rationalization of Taylor was based on the notion that “an industrial organization is ruled by certain laws who can be discovered by observation and experiment”¹⁸. When these laws become known, the maximum productivity is achieved. From a different aspect, “if everyone accepts these laws, there is no room for negotiations and disagreements, as long as no one can negotiate scientific facts”¹⁹. According to this prospect, the role of trade unions is perceived to be harmful for both the entire economy as well as the employees themselves. However, if the company treats an employee as a machine, his productivity might be temporarily increased, but only because he resigns from his collective struggle and has been left to a state of degradation. This situation gradually leads the individual to his alienation and ends up in the long run to a constant reduction of productivity. The treatment of the employees as machines or objects which alienates them, has brought in our age one class homogenization, workers solidarity and yet the trade unionist militancy to its end. A new wave of administrative practices was inaugurated under a large umbrella of human relations' movement²⁰. The various theories of labor relations that classified the employee's needs to needs of development and needs of self-completion created a great confusion.

By training the administrators or managers with the techniques of leadership, for the creation of employee's motivation and cooperation, the feeling of rivalry can be easily diminished. This elimination is based on the systematic seduction of the administrative, managerial technique to the world of labor. Studies have shown that the school is incapable to offer business training and technical knowledge today in order to be mental horizons of the educated broadened²¹. What is being mainly taught to the workers is “discipline, respect to authority and to the intellectual labor, which is always found somewhere else”²².

The task of administration has considerably broadened today, so that it can embrace the commercial and technological functions and instructions of industrial products, the goods and services for the market and the construction of working consent about the ethics of the private industry. Under this prism, the employees who are interested in the survival of their

company and they are involved in various forms of participation, might find it very difficult to understand and discern who is the enemy of the working class, and if this enemy exists at all. If the version of such enemy does not exist, then the reasonable question that emerges is why the trade union or the syndicate exists in the first place?²³

The third dimension is related to the problem of trade-unionism or syndicalism in our days, which derive from the change in technology. The techniques of the computers or the electronic technology and automation have had great consequences on the quantity and the quality of manufacturing employment. The monotonous activity, or the usual routine of the monotonous exhausting movement and the unskilled functions in general, have been in our age incorporated into more sophisticated machines technologically, whose former users are now considered to be useless²⁴. Additionally, the quality of the available jobs presuppose more technical and theoretical skills and so challenging not only the technological embodiment but also one form of a strict and disciplined supervision. These new professionals, who enjoy excellent working conditions and separately negotiable salaries, would tend to be cold and distant from the functional effectiveness of the mass trade unionist participation and militancy²⁵.

The fourth dimension is related to the change from the industrial economy to the economy of services, in the world economy of high sophisticated technology. In other words, the technologies of computer information and telecommunications, as well as the sector of supplying services, have augmented so as to appear in our age the new economic realities that make the manufacturing system inferior and decline. The advanced market economies proceed in a de-industrialization rapidly as another sector gains ground now and new job positions are found in the tertiary sector²⁶. But even this regarded sector of services, gives its place to the sector of knowledge, due to the technological developments that are composed by technicians, scientists, professors, advisors, a small elite of businessmen, free traders, computer programmers etc. The effects of this shift in the world of work, from agriculture and industry to the tertiary sector, on trade unionism are multiple.

The reasons that gave birth to trade unionism and to the labor protests, have reached a point of a systematic subtraction. The hard core of organized syndicalism of the shipbuilders, ship-repairers, railway men, workers

of harbor, mineworkers, factory and construction workers, undergoes the greatest ordeal in the process of this transition. In their place, new jobs and professions have been created as services of personnel with low managerial and clerical duties, with distributional and transport forms of commerce and with a growing concentration of women in the labor force. Nevertheless, the scale of service sector enterprise is much smaller than its manufacturing counterpart. Consequently, the atmosphere of industrial relations that has been developed in the sector of services is much more likely to be employer dominated and administrated by paternalistic relations which enhance the corporate ethics among the employees.

Indeed, the employees in the office as white collar workers, men and women in a small business scale, have no tradition of participation in the trade union operations and activities. So they are themselves important cases of references regarding trade union mobilization in protests which were not successful. Obviously, because the leaderships of trade unions unable to overcome themselves in the new form, which could develop consciousness and vision for their new members so that they can have an organized action in terms of dynamism, they are not capable of incorporating all these portions effectively. Additionally to this ineffectiveness is the bureaucratic rather than the democratic form of function of unions²⁷. We must make a consideration here about these office employees who compose a “part of lower middle-class”. In other words, the white-collar workers as office employees are a composition of a portion of a class. It means that they are “part of a class in the private and public sectors, to which office employees belong in the sphere of circulation capital as in sales, commercials and marketing as well as in the liquidity of banking and financial capital”²⁸. In the sphere of services also with the various sectors of research and production of information or in the 'state apparatuses as public services, lower civil servants etc²⁹. This new composed group is more likely affected from the promotion and the career than the general perception of the class-consciousness. Since this portion of a social class gives an emphasis to knowledge, as a ticket to enter in better work environment with big salaries that contribute comfort, the syndicates will have a *disadvantage to organize and incorporate it in their own function*. With all these weaknesses and differences of the particular portions of the working classes, the labour organizations and the trade unions are called to confront the new

problematic circumstances of our time, which is quite strained by the shape the world economy is taking.

4. Crisis and Education of Cultural Capital

From the analysis above, we notice that syndicalism in general has been heavily wounded, as its defeat appears to be great. But, although unionism has been vibrated by these various parts of the working class and the training problems, the syndicates and generally the joint partnerships by the agricultural movement and cooperative societies haven't yet faded. Although they are having crucial problems in the transition to information and globalization age the trade unions are still alive. In an effort to estimate and solve those problems that have been created from the new era, these forces stand firmly before the new reality. It seems that they are trying to figure out techniques and methods, which will defend and promote the labor interests in the new developing conditions through the four dimensions that were described above.

The main reasons, however, the labour organizations and trade unions show an incapacity to comprehend the implications and consequences of the postindustrial society, is that they are left behind in theory and education. In other words, this seems to be a delay of their theoretical understanding that is related to the side effects and basic implications of the changes, which are taking place in society. The workers and the syndicates must find viable answers to repression and exploitation and for that they must expand the investigation to the international field. Perhaps, the important struggle must be waged in the political field with a great support of the percolation and agitation of ideas, so viable and rational answers can be sought. In order to make this possible, the trade unions themselves must recognize the politics of the age of information, telecommunication and globalization.

Consequently, after the workers and their organizations get acquainted to their objective situation through the above methods and training, they might reach an ability to develop a new vision incorporating a word of perspective and possibility first and then a call for political action³⁰. The co-existence with political labor parties on a base of mutual relation as well as on the essential autonomy of the organizations of labor is considered to be a necessity in terms of correlations. The effectiveness of the unionized activity, depends on

how well the members know the field of scientific knowledge of the society of information and how well these forces associate in a form of federation, shaping thus a collective subject which can demonstrate the required drive.

The negative element regarding the labour movements in the international field, is that the universities and educational institutions in general, especially in the advanced west, educate, specialize and produce such an education so that it benefits certain social groups and certain levels in a bias way. In other words, these educational institutions only care to supply and ensure the specializations and the proper attitudes towards the interest groups, which are involved in the transition to a post-industrial world that is based on the society of information.

The first wave of this transformation was the change, if not the shut down of many departments, which had an orientation towards research and education of social sciences in worldwide. The student protests and insurrections of 1968 verify the awakening of the international youth and constitute a radical change of the way the nations and universities exercise politics. That is, the exercise of political power in an authoritarian way proves to be negative at the workplace environment of the advanced industrialized countries. While in the field of education, social sciences that lead to degrees of social economy, political sciences and sociology, seem to produce potential “revolutionaries”. The emphasis of the liberal notion to the education thus, which had partial progressive evolution since it had given attention to the social sciences so as to influence the thinking subject, was shifted to a clear professional method, therefore to a “functional” education.

Members of the teaching stuff of the universities in many countries, who had long-term work experience as professors in departments of social sciences, had to shift the emphasis of education and transpose themselves to classes and courses scheduled for business-orientations otherwise they had to be driven out. The education or training was thus prejudiced because it was perceived as a center-place that supplies the market only, losing in parallel, the possibility to become itself a catalyst of democratic change within its social environment³¹.

The second wave of transformation, was the proportion of the education of social sciences that had an obsession on the official substance, where it had constantly taken a conservative form. What this proportion finally succeeded was to become itself a package of specializations and for life studies, with a bourgeois conception, that relate to the best embodiment of the

person in the existing social structure. The study of society was transformed then from an analysis of class conflict that emphasizes on the inequality of power and class struggle, to an approach of the systems of education that are interested in “decency”, “roles” and “mutual dependence”³².

The third wave was the liberal theoretical approach, which had been described as neoclassical and it had been revived as dominant social philosophy from the birth of political conservatism in the industrial world. In the activity of social sciences with structure and action, the latter is elevated to have supremacy today. That is, the action in our days has been considered to be superior in various fields like positive sciences, organized systems, econometrics etc. The methodology of social science has been shifted to a minor perspective that gives importance to the person as a master of the game. A deception or a misconception lies here however, since the action of one person alone does not necessarily benefit the whole, due to the fact that it is not an action of the collective. So, this illusion appears in that view that regards men as being able to make their own history exactly as they please, and not under circumstances that have pre-existed, “which have been directly given and transmitted from the past”³³.

The fourth wave was the international character of the capital, which has intensified the process to accomplish an educational provision more useful to industrial needs. Such needs include the technical skillful abilities in education as well as in attitudes, which are without criticism to the authority. The internal university cooperation in the west has been generously financed by the private capital. Generally, by the private firms including the multi national corporations, towards the directions of technical scientific research and development from which *private industry* is constantly benefited. The arrangement can easily be woven into various governments as common financiers or as common sponsors in quite expensive technical plans and projects. From another aspect, the intellectual elite of various countries acquires hegemony as it passes through the tertiary education, promising to the undergraduates that it is more likely to find private industry as an interesting representative of finance or sponsorship agent. Private companies provide funds and specialized positions to the trainees, while universities honor requests for credit awards for final placement of students in the private industry. Major private corporations have developed today their own universities and educational institutes, where their employees

await to be given a certain required training every specified period.

5. The Present Form of Labor and its Education

The labor training or education, which had generally been neglected and ignored by the budgets of various governments and companies and this way was the exclusive care of the trade unions, is now also undergoing a great encroachment. When the increasing elasticity which was imposed by the economic fluctuations and technological advancement is granted, the educational programs that are in service become consequently a compulsory way of life in many labour training centers³⁴. Such labor education is carried out by a group of administrative personnel, which is identically trained by various institutes and companies of private capital. The provided education in this way is more linked to the neo-liberal view that has been expressed about society, globalization and labor subjectively, rather than the existing reality objectively. That is, such training cannot have an aim at the general and objective knowledge that emancipates the employee, but on the contrary, it aims at the knowledge that manipulates him. The pattern of education required is instead the kind, which is not confined in the professional specialization alone, but the one it expands in general and spherical manner continuously.

The wound of a long-term structural unemployment and the need to upgrade the labor professions and skills, so that they can match industrial requirements also meant that the state, usually in an alliance with the industrial business companies, deals with long lasting educational programs for the unemployed. Such programs usually include placements in private corporations and provide opportunities for acquisition of new work skills and attitudes. Moreover, the industrialized economies have similarly thought to introduce labor education that intends to improve steadily worker's productivity and consequently capital efficiency and economic viability. The role of educational institutions today, becomes simply administrative because the educational reasoning is absent from their faculty members³⁵. Xatzikonstantinou explains this properly about the education in Greece. He asserts, that "the demands of the pursued specializations, competitions, efficiencies, profitable infiltrations, occupations and short term effectiveness, as they assume necessarily a more technocratic character, they lead finally to the depilation of the educational system from its social and

humanitarian elements”³⁶. The result of this human cultural capital theory is that people find a place in the revolving work supply by *cultivating the demanded specializations*. The concession, elasticity and the respectful attitude towards authority makes good workers with no demands or claims, so that is what Paolo Freire had called “*education for domestication*”³⁷.

The anxiety shown here is expressed in a set of questions concerned with that, if the kind of education and the form of labor today is capable to contribute to the revitalization or to the impairment of syndicalism. This question is about whether the enrichment of knowledge of the authorized representatives of the labor class is sufficient? To what extent they can deal effectively with the educational preparation of the specialized negotiators of the administration of private capital with whom they wish and expect to have profitable deals. If yes, are they in a position to remain capable, long lasting in competition and well informed on economic and organizational issues which they could not only transmit knowledge but they could avoid fatalistic obedience to the statistic skilful handlings and to the financial projects assisted by computers?

How could the labor leaders understand and direct the technology of information and the educational material, so that they can fill up the great shortage of knowledge about trade unions from the formal education? Moreover, could they develop skills and critical methodology in order to perform objectively their research activity that concerns with the social developments? If not, how could they discern clearly and react effectively against the illusive forms of workers’ participation and, at the same time, recognize sufficiently the operation of the possible democratization of the labour field when the opportunity occurs?

Finally, how could these leaders inspire and cultivate a pedagogical teaching, which it would have an educative character, avoid being instructive and based on a dogmatic relation between student and teacher? How it could be stressed the educational relation of the trainee based on the social usefulness of his labor the moment that it is not provided by the given knowledge of the general education? The trainee therefore, under these circumstances, while he has been maintained with the existing relation of instruction, can only be assisted on the simple role of the **consumer of knowledge**. That means, the trainee can be aware only of the knowledge he needs so that he can *use the technology* as it rapidly evolves, but not enough to doubt it or plan it. This is linked exactly with the expectations of the post-modern capitalist world, for

the “good” attitude of the individual at the workplace and society in general, which is concerned mostly with the function and submission of the employee or with his 'subjection', as Poulantzas held³⁸. However, one mistaken course regarding the effective power of the syndicates, as the one mentioned above, could imply the raise of an unhampered bourgeois rule and the inevitable transition to authoritarianism as a new stage of economic and social decay³⁹.

In the contemporary world, the technology of information has made it quite easy for those who control the access and the distribution to inscribe the monopoly of ideological information in a broadened but impersonal market⁴⁰. There is an urgent need for the assistance of the worker to develop effective strategies for his education. For an education, which of course, might be provided professionally for a further specialization of the trainees, it should be supplied also pedagogically for the acquirement of general knowledge, incorporating simultaneously the new evolutionary elements of information without obsessions and ideological prejudices. More specifically, the interest focused at the stable bridges that can be built between state supported educational centers of adult and labor education as well as universities on the one hand and labor organizations on the other. Just as the government resources are already directed towards meeting the needs of workers as determined by particular interest groups or economic elites, they should similarly address themselves to other needs of the labor world, the needs as workers and trade unions perceive them to be.

However, the possibility of trade unions to reach that level becomes immensely difficult to prevail since the organized private capital elite in a world scale, as a result of the globalization, prevents it. What predominates is the technical confusion of ideas and experiences about the social and economic phenomena at the international level. “In sight of a peculiar globalization, the knowledge is endangered to be transformed into an effective weapon of one business competition and of one primitive liberalism which forgets that equality of opportunities is the fundamental base of any competition. Then we owe to ourselves to think for what kind of society we are shaping to and finally we should dare the discussion by overcoming the unacceptable silence and inertia that has dominated us”⁴¹. For this reason, it seems essential that the labor unions must get rid of the various illusions and the bureaucratic forms of function of their organization, so that they can screen and forward this perception and the responsibility they shoulder.

6. Conclusion

The effective education therefore, being the one that the involved parties participate dialectically and subjectively, should be a vehicle that leads people to acquire the theoretical and empirical provisions necessary for their daily activities. That is, those activities and the visions which required in order to grow themselves in the environment where they co-exist, and finally they can influence and organize it so as they can be developing steadily through a collective growth, away from confusions and prejudices.

The general claim today is to give content and space in the teaching material and to the educational program, so that the workers and syndicates improve from one different form of educational activity. The syndicates and various labor organizations should start a struggle for the realization of such a target. What had been practiced in industrial age has now been taken and replaced by the technology of computer information in post-industrial period. The displacement from the industrial sector to the tertiary service sector with the famous fragmentation of labor has certain requirements: First a new form of trade union and a labor organization with a democratic function would be able to elevate and strengthen the ideology of a collective goal. And second, one rational policy about the general education of labor that realizes its role in a way that it can deal effectively with labor issues, could be the factor which would reverse the scales towards a radical change, instead of the disappearance of syndicalism at the present time.

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FACTORS AFFECTING GREEK FDI_s IN THE BALKANS: THE CASE OF THE ICE-CREAM INDUSTRY

NICOS SYKIANAKIS

Athens University of Economics and Business

Abstract

This article examines the context within which Greek foreign direct investments were undertaken during the 1990s in the Balkans. Specifically, the focus of interest in this study is the ice cream industry, which experienced high growth rates in a saturated local market and saw investing abroad as a way forward. Factors affecting this recent trend of Greek FDI_s in the Balkans were the economic and market developments in Greece, the opening of East European economies as well as social and political conditions in the targeted countries. The impact of these factors on Greek FDI_s in the Balkans and in particular on the strategy of ice cream companies was finally reviewed.

JEL classification: F21, F23, G31.

Keywords: Foreign Direct Investments, Greece, Balkans, Industry.

1. Introduction

Foreign direct investment (FDI) refers to “a lasting interest in an enterprise in an economy other than that of the investor, where the investor’s purpose is to have an effective voice in the management of the enterprise”. (Pike & Dobbins 1981, p. 11). FDI could be one of the following: the establishment of a new enterprise overseas, the expansion of a branch or subsidiary, or the acquisition of an overseas business enterprise or its assets (Buckley 1996). Wei and Christodoulou (1997) define FDI_s as either equity or capital investments by the parent company in a new or existing overseas enterprise. During the last two decades of the 20th century, a growing trend for FDI has been observed internationally and substantial funds have been committed to cross-border capital investment expenditures (Froot 1993). The opening of the Eastern European markets during the 1990s directed many investment funds to these countries where many business op-

portunities appeared (Svetlicic et al. 1993). FDIs could be seen as a growing trend related to opening up of emerging economies and increased globalisation. Their importance could be explained by the fact that they are at the more strategic and risky end of the capital investment spectrum due to characteristics of political, cultural, economic and legislative considerations. FDIs are a novel phenomenon for the vast majority of Greek companies. The Balkans have attracted a lot of discussion internationally during the last decade, because of the well known political problems associated with that geographical area. So, it is of interest to explore how developments in this region might have affected the FDI activity and decision-making of Greek enterprises.

2. Modern Greece

2.1. Political and economic conditions

Greece has been vastly transformed during the last fifty years from a predominately rural society to a modern one that emphasised its industrial development and the services sector of its economy (Mouzelis 1978). The Greek economic boom was initiated during the mid-1950s when the country was predominately agricultural and under-developed. Greece needed to re-build infrastructure and a capital basis since much of it was destroyed during the Second World War and the Greek civil war (1946-1949). The conditions during the 1950s and the 1960s were ideal for industrial development. A huge supply of labour¹ and the suppression of the trade unions² allowed low wages that favoured return on investments. Furthermore, the state intervened in favour of local production by using measures of protectionism such as grants, regulating the market and increased public spending (Christodoulakis 1998). The post-war years until the first petrol crisis (1973) were a period of economic development and prosperity for the western world (Christodoulakis 1998). Since Greece was among the most under-developed OECD³ countries, it had more space for development and so this explains the high annual growth rates for that period. This trend lasted until 1974, when radical changes within Greece, and internationally, impacted on many of the parameters in the economy. The most important

change that occurred was the recession caused by the oil crisis during the 1970s. This fact changed the world economic model and competition was intensified in international markets. Western economies had to focus on high technology and quality products, where Greece did not have any competitive advantage (Christodoulakis 1998). In Greece 1974 was a year of radical political change and instability. The military regime that was governing the country since 1967 collapsed because of the Turkish invasion in Cyprus, which was caused after a coup of the Greek military in the island. With the return to democracy, civil rights were restored and therefore, lower classes and trade unions demanded a fairer share of the national wealth (Christodoulakis 1998). Especially, in the 1980s when the Socialist party (PASOK) came to power, public spending on consumption increased radically, which impacted negatively on public finance. A populist political rhetoric and the strengthening of public-sector trade unions during this decade brought a climate that constrained business and was pro-nationalisation of big companies. Big, nationalised and often under-productive companies absorbed huge loans from state-owned banks and therefore there was not inadequate debt capital to finance the investments of other, smaller or more dynamic companies. Thus the 1980s was a decade of under-investment in the Greek economy (Christodoulakis 1998).

Soon, the need for changing economic policy was anticipated, but despite some earlier efforts it was not until the mid 1990s that this policy had consistency and effectiveness. During recent years, the rate of inflation after decades has fallen dramatically and the public deficit has been reduced as well (Christodoulakis 1998). These developments allowed in the year 2000 the participation of the Greek Drachma in the Euro. In the business domain, the rhetoric in the 1990s was much different to a decade ago. People valued privatisation of state-owned companies, entrepreneurship and business culture positively (Loulis 1995, p.163). Privatisation policies, when introduced in 1990 by the then conservative government, had strong opposition from the public sector's trade unions and opposition parties (Christodoulakis 1998), but the need to change practices and mentalities has been stronger since then. It was also imposed by the fast changing and competitive world economy and enforced by the participation of Greece in the EU⁴. Therefore, the Greek economy now shows a dynamism and growth, while many of its sectors try even more to be competitive and efficient. Finally, during the re-

cent years financial institutions such as banks and the Athens Stock Exchange have grown materially and played a role that assisted business mobility, mergers and acquisition and the financing of companies' growth (Labrianidis 2000). These recent developments facilitated any outward trends of Greek businesses. The next section discusses how the political and economic conditions in Greece affected the domestic industrial sector.

2.2. The Greek industrial sector

The Greek manufacturing sector experienced significant development from the 1950s to the early 1980s (Sakkas 1988). While the majority of industrial firms were of a small to medium size, few large companies were then established, mainly in heavy industry (refineries, metal and other minerals processing, cement and chemicals production, ship building, etc). Labrianidis (1996) notes a trend of de-industrialisation in Greece since the 1980s. During this period, the downward trend in the percentage of GDP invested in manufacturing was only reversed between the years 1986-1990 (Labrianidis 1996), because of a vast capital inflow from the Integrated Mediterranean Programmes⁵ (Pinder 1995). With the exception of a few industries such as the Food and Drinks sector, Greek manufacturing lacked substantial new investment for its modernisation. Of course it has to be noted that Greece was never a heavy industrialised country and much of its economy depends on the services sector (shipping, financial services, trade, tourism, telecommunications, etc), which has been growing considerably during recent decades (Sakkas 1988).

Few Greek manufacturing companies have products of high quality and technological expertise that would be able to compete successfully in the domestic and international markets (Sakkas 1988, Labrianidis 1996). "As wages rose and productivity slowed, the development model behind the post-war boom based upon low-wage/low-skill, standardised production ran into difficulty". (Labrianidis 1996, p.31). Greek manufacturing presents the dichotomy of having a few dynamic and expanding sectors, existing at the same time with some diminishing sectors. For instance, the garment industry, a traditional one in Greece, is declining due to low-cost imported goods from developing countries. It is another example of the international de-industrialisation trend of the 1980s where the old style industrial

products are loosing ground to new, more sophisticated and value added products. The response of Greek companies to this trend has been slow and they face problems of innovation and lack of investment in modern production means, which seriously affects their competitiveness (Sakkas 1988). It is suggested that the majority of these companies need to focus more on quality and technologically advanced products in order to be able to compete in the single European market, which is the main destination for Greek exports (Labrianidis 1996).

In modern enterprises, business knowledge and the application of scientific research are vital sources of innovation and success. In Greece during the last two decades research funds and University departments have focused on production applications, and business administration has had a vast growth and has assisted the development of new business sectors both in services and industry (Christodoulakis 1998). The introduction of modern planning and capital investment methods in Greek owned companies (Theofanidis 1987) was also promoted by the government during the 1980s, as a control mechanism for financing any new investments with state or EU funds, just as in Britain during the 1960s the government policies favoured the introduction of scientific planning and DCF techniques in private companies, for achieving economic growth (Miller 1991). The following section concentrates on the dairy and ice cream industrial sector that had considerable growth and investment activity during the two last decades, and which is the focus of our interest.

2.3. The Greek Dairy and Ice Cream Market

The Greek dairy market had a remarkable evolution and growth during the last decade. The main characteristics of that evolution were high returns for the industry, new investment, the intensification of competition combined with the launching of new products and, finally the concentration of the market to few, big companies through mergers and acquisitions (Kountourioti 1995). In the market there are two major players (Delta & Fage) that are equivalent to the big European companies, five other medium size companies and then various small, local producers holding a minor stake of the market (Stratis 1991). The demand for quality pasteurised milk and yoghurt has increased considerably, therefore the big companies had to undertake

new investments in production. To meet the demand, the companies had to import milk as a raw material since the local production was inadequate, given that much of it was used to make cheese⁶ (Murtsidou 1994).

A similar situation exists in the Greek ice cream market where the dairy companies have the major role. In 1989, a few companies were controlling the largest part of the market and their strong position was an assurance against any competitors from abroad (Fryssa & Kountourioti 1989). Since then not much has changed. The market is still dominated by three major, local producers, Delta, Evga and Algida, which sell branded ice cream, while a much smaller percentage of the market concerns non-brand, bulk products (Stratis 1996). Delta, which is the main player in the market, is the company studied here. Evga was recently acquired by Fage, Delta's main competitor in the dairy market. Finally, Algida entered the Greek market in 1987 and belongs to Lever Hellas, the Greek subsidiary of Unilever Plc (Stratis 1996). The three companies' market shares are shown below.

Table 1: Market shares of the main ice cream companies in Greece.

Producers / Year	1988	1995	1997	1998
Delta	40%	52%	44%	45%
Evga	34%	29%	29%	28%
Algida	25%	17%	20%	19%

Source: Ministry of Trade & AC Nielsen, cited in Fryssa & Kountourioti (1989).

Even though Greece is a developed country with a mild to warm climate, the per capita yearly consumption of ice cream remains at relatively low levels compared to other western countries. In the late 1980s the market growth was slow but stable (Fryssa & Kountourioti 1989), but by the mid 1990s this trend changed with the market completely stabilised and the only changes occurring in consumers' taste preferences for higher quality, premium products (RMC 1999). A basic reason for the relatively low consumption of ice cream in Greece is that it is considered to be a seasonal commodity, consumed mainly during summer and not all the year round as in some other European countries or the US (Gorski 1997). As Stratis (1996) points out, the summer peak in the demand for ice cream is linked with the tourist period in Greece as well, while the stabilisation of the per capita consumption could be associated with recent demographic condi-

tions (a low birth rate and an ageing population). The industry’s companies have tried using marketing techniques to convince the population to extend their ice cream consumption during winter months but without any notable results (Fryssa & Kountourioti 1989, Stratis 1996). Despite these difficulties, dairy companies deal with ice cream because usually it allows a higher profit margin than any other dairy product (Stratis 1996). The following matrix presents the per capita consumption of ice cream in Greece.

Table 2: Per Capita Consumption of Ice Cream in Greece.

Years	1987	1988	1995
Litres per year	4.8	5.5	7.0

Source: Fryssa & Kountourioti (1989) & Gorski. (1997)

The Greek ice cream industry is among the more dynamic sub-sectors of the Food & Beverages sector and Greek manufacturing in general. The Greek producers supply the market with high quality ice cream and have a dominant position that does not allow space for considerable imports (Kouris 1997). On the other hand, their potentiality is expressed with increasing exports in foreign countries. Greek companies are exporting 20% of the local ice cream production to 25 countries (Kouris & Gitsi 1997). In this way, Greek companies try to overcome the fact that the domestic market has little margin for expansion. The following matrix presents the main companies exporting Greek ice cream.

Table 3: Main destinations for exported Greek ice cream.

Company	Countries
DELTA	Bulgaria, Cyprus, Lebanon, Romania, Ukraine, Albania, FYROM
EVGA	Spain, Portugal, UK, Germany, Russia, Cyprus, Georgia, Bulgaria, Albania, FYROM, Romania, Croatia, Lebanon, Czech Republic
KRI-KRI AGNO	FYROM, Albania Yugoslavia, Russia

Source: Response Management Consultants - RMC (1999).

As well as exports, foreign direct investments (FDIs) in ice cream production express the dynamism and the international presence of the Greek ice cream firms. In that domain the pioneering Greek company is Delta, which has invested in production and distribution in three major Balkan countries (Bulgaria, Romania and Yugoslavia) and is considering expanding its activities to other east European states as well. As at 1999, Delta produces more ice cream abroad (110 million units of ice cream) than in Greece (100 million units). Since the targeted market for the Greek ice cream businesses is Eastern Europe, it is worth discussing next what attracted Greek FDIs in this region.

3. Eastern Europe: Economies in Transition

The 1990s witnessed a radical change in political, social and economic aspects in Eastern Europe⁸, where at the dawn of the decade the communist regimes collapsed, one after the other. The Eastern European countries are, since the early 1990s, in a state of transition, moving from a centrally programmed economy towards an open market economy (Paliwoda 1995; Nsouli 1999). This transition gives the opportunity to western companies to enter growing markets with unsatisfied demand, reduce production costs, and build strong position in markets with low competition. Finally, investors could take advantage of the export ties among eastern European countries, members of the past-existing Comecon⁹.

Eastern Europe offers many attractions to foreign investors such as low cost asset sales, low wages, a wide market, transferability of profits and other motives. Of course nothing is ideal and since these economies are in a stage of continuous transition it is expected that the potential investor may face some disadvantages (Paliwoda 1995; Nsouli 1999). These problems concern the different degrees of economic recession and political instability that each country experienced during the 1990s, the red tape phenomena, and resistance to change from state companies' old management and even wide parts of the population (Paliwoda 1995). Also, in the business domain there is a lack of quality services and modern technological infrastructure, and a lack of accurate financial or market data and business culture. Of course, each country has exhibited different speeds in how changes progress and opportunities arise.

In the past, very few western companies had a presence in Eastern Eu-

rope. Those that did usually formed a joint venture with a local partner, since FDI was not allowed under communist governance (Donges & Wieners 1994). Since the transition to a market economy began, a western company wishing to invest in Eastern Europe could do so in different ways such as via a greenfield (new direct investment), acquisition through privatisation, or joint venture (Paliwoda 1995). Potential investors, in order to choose the preferable way of investing, would examine the investment in terms of production cost, corporate governance, existing labour force, existing technology, liabilities, environmental issues, existing suppliers and distributors, market share and product portfolio.

Eastern European countries have been in a process of privatising state-owned companies, so prospective investors have the opportunity to invest by acquiring an existing company or some of its assets in liquidation sales (Paliwoda 1995). When acquiring an eastern European company it often has a great market share due to its monopolistic position in the market in the past. A joint venture with a local partner is often less risky and offers a better knowledge of the marketplace but it should be preferred only when it allows synergies and control of the venture to the foreign investor (Paliwoda 1995). FDIs could be mutually beneficial for both foreign investors and host countries. Especially for the latter, FDI activity can provide financing, know-how, technical modernisation for domestic companies and economic growth for the country itself. What is needed is the transformation of the institutional framework in eastern European countries, in favour of FDIs that would allow capital inflows in the near future (Donges & Wieners 1994).

Greek FDIs have, for several reasons, mainly targeted the area of South-eastern Europe, also known as the Balkans. Since Greek FDIs take place in the context of the Balkan countries, it is important to know the political and economic conditions that made it feasible for Greek companies to invest there. Furthermore, the historical and cultural links of Greece to rest of the Balkans have impacted as well on the way investment decisions are made. These issues are discussed in the following section.

4. Greece and the Balkans

The Balkan Peninsula¹⁰ is at the South East of Europe. Greece lies at the

Southern edge of the Balkan Peninsula. The interest of Ancient Greeks in exploring, migrating to and trading with the areas north of their country (the Balkans and Black Sea) could be seen in the Myth of the Golden Fleece, where the ancient hero Jason leads the expedition to find this treasure (Louka 2001). For more than 20 centuries, Greece and the rest of the Balkans had a long and common history, since it has been part of the Roman, then Byzantine and finally Ottoman Empires (Vakalopoulos, 1997). These populations have common cultural grounds mostly based on their religious faith, which is Eastern, Orthodox Christianity.

What characterised the Balkan societies is their late industrialisation towards the end of the 19th century and their patrimonial way of governance, influenced from the despotism of the Ottoman Empire (Mouzelis 1986). Until then, the northern (Slavic) Balkans occupied predominately rural areas while in the main cities prospering Greek communities were dealing with trade. Greek merchants and ship owners had a vital role for the trade in the eastern Mediterranean and the Black Sea. This mobility assisted the introduction of western, capitalist and civil ideas and the direction of modern Greece towards the West. Furthermore, until World War II the industrial development of Greece was superior to any other Balkan country (Mouzelis 1986). Of course, industrial units were then rather small, family businesses.

From 1945 to 1990, the Balkan states north of Greece were governed by Communist regimes, the collapse of which brought to the surface suppressed nationalism that led to the split of the multi-ethnic Yugoslavia¹¹ (Veremis 1995). The post-Cold War diplomatic developments in the Balkans had an impact on Greek foreign policy and society (Papasotiriou 1994). Greece was in favour of the status quo and against abrupt changes that would alter the power balance in the area or would cause migration moves. Political and diplomatic developments in the early 1990s, linked with the dissolution of the Yugoslav Federation, led to closer relations between Greece and Yugoslavia, a fact that together with Greece's entire Balkan policy often caused disputes with its western allies (Rozakis 1995). In the population, a wide support for the Serbs was clearly expressed during the NATO attack against the Bosnian-Serbs in 1995 and later against Yugoslavia over the Kosovo issue (1999). This support is explained by the traditional friendship between Greeks and Serbs based mainly on religion and past military alliance (Sotiriou 1996), as well as the anti-western sentiments

of the people for the West's role in the dissolution of Yugoslavia.

As mentioned previously, the Balkan States as part of Eastern Europe had communist regimes and centrally planned economies. Despite any similarities in the style of governance, there are differences among the east European countries in both economic and social contexts. Kazakos (1995) notes that Poland, the Czech Republic and Hungary were industrialised before communist imposition, but also continued to have the same role during the communist rule. On the other side the Balkan States were less developed and industrialised and more rural countries. This fact influenced economic and social conditions, making transition to a market economy a hard experience (Kazakos 1995).

During the first stages of transition, economic conditions and measures appeared to be worse than in the past. Inflation, unemployment and devaluation of home currencies were the main problems (Kazakos 1995). In 1997 Bulgaria and Albania experienced fierce economic crises, which caused political tensions and instability in these countries (Doudoumis 1998). Generally in the Balkans, the industrial sector is characterised by low productivity, lack of investments and old, insufficient infrastructures. The collapse of domestic distribution channels combined with a slow down in foreign trade lead to a decrease of goods supply and population's prosperity (Kazakos 1995). Finally, state-owned companies had management and financing problems. Many of them came under control of a new business elite of ex-party managers which, according to Karafotakis (2000), took advantage of the market's irregularities by making even illegal transactions aimed at their personal profiteering.

Taking all of this into account, the Balkans seem much less appealing and more risky compared to the central-eastern European markets but, for certain reasons such as past experience, proximity and the existence of 50 million potential consumers, Greek companies were willing to invest there (Hope 1998). Nowadays Greece is by far the strongest nation in the area both politically and economically, being both a member of NATO and the EU and having a GDP equal to that of all the other Balkan countries put together (Papasotiriou 1994). In the following section the Greek FDI activity in the Balkans is reviewed.

5. The Experience of Greek FDI in the Balkans

The above sections included an analysis of the trends in the Greek economy and the evolution that occurred in the Balkans. Investing abroad is a novel phenomenon for Greek companies, especially keeping in mind that so many Greek firms went international for the first time in such a short period, since the opening of the Central and Eastern European Countries (CEECs) (Labrianidis 1999). This issue has attracted wide interest and a lot of discussion in Greece since the early 1990s, usually creating over-optimistic expectations and being seen as the new ‘Great Idea’¹² (Lazaridis 1996). Labrianidis (1997, 1996) is among the sceptical analysts of the phenomenon and his scepticism is based on the real capabilities of the Greek economy, and the then bad diplomatic relations of Greece with some of its neighbours (Albania, FYROM, etc).

Concerning the impact of this novel phenomenon (i.e. Greek FDI activity) in the Greek economy, Labrianidis (1997) expects future increased competition from abroad. On the other hand, “the opening of the Balkan markets, where there is a demand for products of not so high quality is allowing the Greek economy more time to modernise its productive base”. (Labrianidis 1999, p. 458). Still, it should not be forgotten that the EU countries remain Greece’s main trade partners (Karagianni & Labrianidis 2001). This implies that Greek firms’ business strategies should not rely exclusively on the growing Balkan market, but should have the modernisation of their production and marketing techniques as a primary goal in order to compete successfully in niche segments of the European market (Labrianidis 1997). These remarks concern mainly labour intensive sectors with low marketing and technological expertise such as the Greek garment industry (Labrianidis 1997). However, it is not the case for the Greek dairy and ice cream industry.

Facing strong competition in the developed markets from foreign, well-established multinationals, Greek firms during the 1990s considered expansion to the Balkans as a way to their further development (Labrianidis 1996). The domestic market is nowadays competitive, with many imports and restricted growth margins in many sectors. In particular, the labour intensive industrial sectors are characterised by high costs and face more similar problems, so look to reduce production costs by transferring some of their activities abroad. Apart from those reasons facilitating the outward

move of Greek enterprises, Labrianidis (1999) presented some other factors that explain why Greek FDIs have almost exclusively concentrated on the south eastern part of Europe, despite the poor economic situation and the insecure political conditions there.

First, since these markets are still largely unshaped, Greek enterprises rush to enter first to secure a strong position before foreign competition enters, despite incurring short run losses on their operations. Second, FDI avoids customs taxes on Greek imported products. Third, FDIs exploit any remaining trade agreements among the CEECs. Fourth, because of the Balkan markets' under-development, price and not quality is the main basis of competition. Fifth, many Greek companies implemented a "follow the customer" strategy because of the presence in the Balkans of other Greek companies and, in few a locations, of small Greek communities as well. Finally, geographical and cultural proximity played an important role in the choice of location for Greek FDIs (Labrianidis 2000).

Greek firms have a strong position in the south Balkan countries (Albania, Bulgaria, and FYROM) that have a closer geographical proximity to Greece. These countries, along with Romania and Yugoslavia where Greek companies are present as well, are less developed and more volatile compared to the Central East European countries (Czech Republic, Hungary, Slovenia, Poland) in which the presence Greek companies of is insignificant (Labrianidis 1997). Big western companies target the latter, more developed, proximate to them, and less risky markets, so for the time being they do not threaten the Greek 'strong' position in the Balkans (Labrianidis 1999). According to Labrianidis (2000), 1,269 investment projects undertaken by more than 500 Greek firms exist in 20 out of 27 CEE countries. Concerning the concentration of projects per country, Bulgaria attracted 41.1% and Romania and Albania 20.3% each. According to the Greek Ministry of National Economy, in 1999 Greek FDIs amounted to \$2.4 billion and are allocated per country as follows: Yugoslavia 47%, Romania 37.4%, Bulgaria 7.9%, FYROM 4.6% and Albania 3.1% (YPETHO 1999, cited in Karagianni & Labrianidis 2001).

What is interesting from the above data are the remarks extracted about the size of these investments abroad. For example Bulgaria attracts more than 41% of total Greek FDI projects yet only around 8% of funds invested. On the other hand, Yugoslavia attracted only 1.2% of the projects' total number but

47% of total funds that went to Eastern Europe (Karagianni & Labrianidis 2001). The conclusion is a big diversity among the investing companies. The majority of Greek investors are small and medium size firms, many of them family businesses, while only 140 out of a total of 521 Greek firms were considered large according to domestic standards (Labrianidis 1999). Especially, until the mid 1990s almost entirely small firms entered the Balkans with limited capital, aiming at short run profits and having often to go through semi-legal channels. It was after 1997 that major Greek investments took place, with the participation of Greek state-owned companies among the main investors¹³ (Labrianidis 2000), partly changing the initial view of small size, opportunist investments. It was found that other private-owned firms acted for themselves when entering the Balkans, or may have a partnership with foreign transnational companies (TNC). Also, TNC often use their Greek subsidiaries as a way to penetrate the Balkan markets (Labrianidis 1999).

The problem of relatively small size investments could be seen in relation to other countries' FDIs as well. According to the Bulgarian FDI Agency, in 1997 Greek owned companies were in second position based on the total number of foreign companies in Bulgaria, but in sixth position based on total capital invested (Doudoumis 1998). The average capital invested in a Greek FDI is much lower compared to that in cases from west European or US firms (Karagianni & Labrianidis 2001). The issue of size is relevant to that of sectional distribution of Greek FDIs. Almost half of the Greek companies abroad (47.2%) deal with trade that does not require huge capital outflows, while more than a third (36%) are industrial enterprises (Labrianidis 1999). According to the same source, the main industrial sectors are clothing (47.9%) and food & beverages (25.5%). Finally, it is reported that Greek investors prefer to have local partners in order to gain better knowledge and access to the foreign markets.

6. Conclusion

Concluding, the FDI activity of Greek firms in the Balkans is a very recent phenomenon and thus is interesting to study. Greek firms, especially the larger ones, have the potential to compete in the international market place. The opening up of the Balkans and of investment there by Greek

companies is expected to be mutually beneficial for both regions. The case study research (Sykianakis 2002) has shown that a major ice cream producer chose to internationalise its activities in order to expand the basis of its consumers rather than to reduce its costs or modernise its production base, as companies studied by Labrianidis did. Also, the case study company studied is the third largest Greek investor in the Balkans (Karagianni & Labrianidis 2001) and therefore does not share by most of the problems that other Greek firms face abroad.

The company's CEO considered the Greek market in milk and ice cream to be very competitive, and felt that in the long run it would be difficult to gain substantial increases in market share. He expressed his views at a conference, as reported by Vassilopoulou (1998, p. 44). He noted:

“The development and survival of Greek dairy companies could be only achieved through constant innovation and geographic expansion in markets of the near periphery. To overcome the problem of size when competing with foreign multinationals, Greek dairy companies could use their know-how in the area's markets and form strategic alliances with major international firms.”

The strategic expansion of ice cream companies into the Balkans could be justified as a multiplication of their consumer base. The risk would be much greater if a big company decided not to go into the Balkans because it had acquired know-how and capital resources that exceeded what was needed in the Greek market. Had this major company chosen not to invest, competitors from Greece or other countries would have taken that opportunity. Investing abroad was perceived as crucial for its growth and ultimate survival.

NOTES

1. This increase of supply in labour force is explained as a population move from the mountain and rural areas into urban centres. Especial-

ly, the northern areas were more hit by the wars and thus a wave of migration either internally or abroad was a major phenomenon in Greece for the first two post-war decades.

2. The style of governance in Greece, soon after the civil war, was democratic but authoritarian therefore some civil rights were suppressed and left-wing citizens' political activities were often negatively sanctioned.
3. Organisation for Economic Co-operation and Development
4. The EU regulations provide the existence of an open European market. Also, there is a co-ordination in common economic and fiscal policies of members-states.
5. The Integrated Mediterranean Programmes were funds for the economic development of the European Community less developed, southern member-states (Spain, Portugal and Greece). They were negotiated by the Greek government in the context of the European Single Act (1985) and prior to the acceptance in the EC of Spain and Portugal (1986). As Pinder (1995) notes: "The Single Act should include a commitment to accompany the completion of the single market with the policy of economic and social cohesion designed to reduce the disparities between regions". (p. 175).
6. Greece along with France has the highest per capita consumption in cheese.
7. Kri-Kri and Agno are minor companies in the ice cream market. Unilever (Algida) is a multinational company and operates almost in every European country under different brand names.
8. Eastern Europe could be defined as the Soviet Union (or rather the new independent states that erupted from its dissolution) and its former allies such as Poland, Hungary, Czech Republic, Slovakia, Bulgaria, Romania, Albania, and the former Yugoslavia.
9. COMECON was an organisation for the economic co-operation of the East European Communist countries. It was the equivalent to EEC.
10. The countries existing in the Balkan Peninsula are Greece, part of Turkey, Bulgaria, Former Yugoslavia, Romania and Albania.
11. The new countries formatted from that split are New Yugoslavia (Serbia and Montenegro), Croatia, Slovenia, Bosnia-Herzegovina and Former Yugoslav Republic of Macedonia (FYROM).
12. The Great Idea was the dominant Greek nationalist ideology of the pe-

riod 1840-1922, aiming at conquering wide areas of the Ottoman Empire in which Greek populations were then living.

13. As Karagianni & Labrianidis (2001) report, 32 companies hold 67.3% of invested capital in 10 Balkan countries, 10 companies hold 64.1% of invested capital and the Hellenic Telecommunications Organisation (OTE) holds alone 45.6 of total capital. Thus, the Greek state itself has invested more than one half of the total capital.

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THE PRIVATE INSURANCE INDUSTRY IN GREECE

EVANGELOS TSOUKATOS

T.E.I. of Crete

Abstract

This paper attempts to portray a picture of the Private Insurance Industry in Greece. The legal and institutional framework, currently in effect, is outlined and the position of the Greek Insurance Market in comparison to the corresponding European Markets is examined. The situation in life and non-life sectors is presented as well as the sales channels in effect. The industry's main quality issues are identified and the market's prospects are finally presented.

JEL classification: G22, G23, G28.

Keywords: Insurance Industry, Market structure, Insurance Quality.

1. Historical Retrospect

Private insurance in modern Greece's business life appeared initially within the frame of naval commercial activity. Migrant Greek businessmen were involved in naval insurance activities since the final decades of the 18th Century (Simitsek P., 1997). In 1789 they founded "Societa Greca d' Assicurazione" in Trieste. In 1817 and 1818 they founded "New Graikiki Insurers Company" and "Graikiki", both in Odessa. They were also actively participating in the foundation of many other naval insurance companies in the Ionian Islands, Istanbul, Italy, Odessa etc (Makris K., 1996). The first naval insurance company on Greek soil was "Elliniko Asfaltiko Katastima" founded on the island of Syros in 1825. After the liberation from the Turks, many naval insurance companies followed, e.g. Elpis (1839), Aiolos (1840), New Filemporiki Company (1849) etc (Pazarzis M., 2002).

In 1857 Georges Stavrou (Makris K., 1996) founded "Phoenix", the first Greek fire insurance company (no relation to the homonym subsidiary of the Commercial Bank of Greece), and in 1891 "National Insurance Company" was founded by the National Bank of Greece. This was actually the first company

that, apart from naval and fire insurance, offered life insurance programs as well.

2. The Institutional and Legal Frame

The Greek state made its initial efforts to establish government supervision on the operations of Insurance Enterprises in 1909. Law ΓΥΣΓ of 22/12/1909 allowed only Greek companies to exercise insurance in the country but in the next year, law ΓΧΜΣΤ of 1/3/1910 allowed the operation of foreign companies as well. The principles and rules for the establishment and operation of insurance enterprises were, for the first time, introduced in 1917 after law 1023/1917 “About private insurance enterprises” was passed by the Greek parliament (Ministry of Development).

From 1926 until 1976 the actuarial service and the insurance enterprises’ control and monitoring were under the “Directorate of Anonymous Companies and Trust” of the Ministry of Trade. In 1976 the “Directorate of Insurance Enterprises and Actuary Services” was established. After the creation of the Ministry of Development and the subordination of the services of the former Ministry of Trade in it, the directorate has been under the General Secretariat of Trade of this Ministry.

The current legal framework of the insurance industry in Greece, as has been shaped by the incorporation of the EU justice principles into the pre-existing national ones, is framed by law 400/70 “About Private Enterprises of Insurance” that determines the general outline for the operation of insurance enterprises in Greece, law 489/76 for the obligatory car insurance and law 1569/85 that regulates the legal status of insurance agents and brokers. The basic provisions of the above mentioned legislative framework are presented in the following paragraphs.

2.1. Practicing Insurance

Insurance is practised by Incorporated Companies or Insurance Cooperatives, established under the Greek law and deal exclusively with insurance activities. It can also be practised by State Owned Enterprises founded exclusively for this purpose. Insurance companies, established in any member state of the European Union or the European Economic Space, can also

practice insurance in Greece, under an installation or free provision of services arrangement. Those established in non EU countries can practise insurance only under an installation arrangement.

2.2. Operation of Insurance Companies.

The operation of an insurance company presupposes a licence, the European Passport, which is granted by the Minister of Development and is in effect for all the European Union member states. The licence is granted for specific insurance sectors, for all or certain dangers. It is not granted unless the identity of shareholders or partners, direct or indirect, individual or legal, is acknowledged. The Ministry of Development must be convinced of the appropriateness of the shareholders or partners in question and their ability to guarantee healthy and prudent management. The European passport presupposes that the company in question abides by the terms of solvency of the European insurance enterprise, as these are determined in the corresponding community directive, and by the principles of healthy competition.

2.3. Monitoring of Insurance Industry

A nine member "Private Insurance Authority", in the Ministry of Development, monitors the industry. The following issues come within the purview of this authority: a) Consultation on special subjects with respect to private insurance, after a corresponding request of the Minister of Development. b) Authorisation and retraction of the licence of operation of insurance enterprises. c) Submission of proposals, after a corresponding request by the Minister, for special measures concerning the improvement of the insurance industry, the creation of training systems for those occupied in it, the creation and materialisation of a "Deontology Code of Insurance Companies and Professions". d) Informing consumers on private insurance. e) Dealing with any other subject related to the industry. Because of the European Passport, the close collaboration between the monitoring authorities of the EU member states is essential for the successful monitoring of insurance enterprises.

2.4. Additional Financial Monitoring

The Ministry of Development practises additional financial monitoring:

a) on every insurance company in Greece, which is participating in at least one insurance company established in the EU, reinsurance company or insurance company of a third country, b) on every insurance company, the parent company of which is a portfolio insurance company, reinsurance company or insurance company of a third country, c) on every insurance enterprise, the parent company of which is a mixed activity portfolio company. Companies under additional financial monitoring should establish and maintain sufficient internal control mechanisms, so that they produce and present to the Ministry of Development all information concerning their financial status and operations.

2.5. Reserves

Insurance companies are compelled to maintain sufficient technical reserves for the totality of their insurance contracts in effect, in Greece and in other EU member states through subsidiaries or by free provision of services arrangement. For contracts in non-EU countries, companies must also maintain technical reserves provided that they are not under a corresponding obligation in the third country. The most important such reserves are: a) **Outstanding premiums reserve:** Includes the sum of registered premiums that should be ascribed in the next economic year or years. b) **Dangers in effect reserve:** Is shaped when the outstanding premiums reserve, including receivable premiums, does not suffice to cover forecasted damages and expenses of insurance policies in effect. c) **Outstanding damages reserve:** Is maintained in order to cover the obligations for not settled damages. d) **Balance Reserve:** Is shaped in addition to the technical reserves with a view to cover above the average damages that may occur in the future. e) **Mathematical reserve:** It is calculated for life insurance contracts or for non-life contracts that include dangers such as “Accidents” and/or “Illnesses”.

3. Today's Market

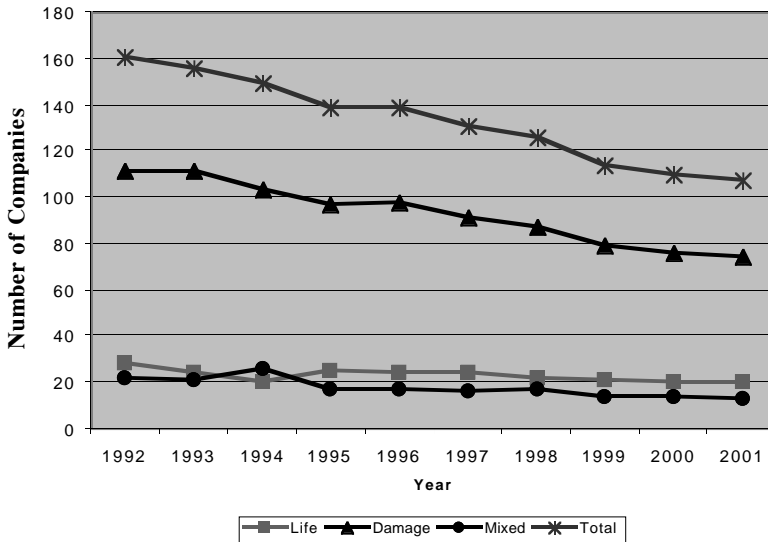
The delay in the industrialisation of the country, the distorted model of growth of the Greek capitalism, bureaucracy, and the stifling embrace of every enterprising effort by the state, forced the Greek insurance compa-

nies to remain, for a number of years, in a state of dormancy with anaemic capital base (Simitsek P., 1997). Until the beginning of the 70s, insurance activity was limited to the transport and general property sectors. The state dominated the business through the banking system, which was mainly constituted by state owned or under the direct control of the state banks extending their activities to the insurance sector.

The tax reform of 1970 that prohibited the collaboration between banks and insurance companies stimulated independent insurers (Pazarzis M., 2002). During the 70s the first dynamic sales networks appeared, through the subsidiary of the American ALICO and the (then) Greek Interamerican, which, for the first time, widely introduced life insurance to the market, addressing the general public.

Greece is now fully participating in EMU and the Greek economy is an open European economy with no restrictions. A total of 107 insurers are currently active in the country, 20 of which exclusively in the life sector, 74 exclusively in non life insurance and 13 mixed (Association of Insurance Companies - Greece, 2002). 73 of these companies are established in Greece, and 34 are foreign subsidiaries, of which 28 are subsidiaries of EU and 6 of non EU companies. Despite the fact that it is very difficult to determine the nationality of investments in an open European economy, we can reasonably speculate that the majority of the Greek insurance companies are owned by foreign capitals. Nevertheless, even today, the state is a very important player in the market as, in 2001, the market share of the state owned insurance companies was 37.9% and 25.5% in the non-life and life sectors respectively (Association of Insurance Companies - Greece, 2002, Unpublished data from the department of research).

A continuous tendency of reduction of the number of insurance companies is evident. Between 1995 and 2000 the total number of companies decreased roughly by 21%. The number of life companies decreased by 20%, non-life companies by 21.6% and mixed companies by 17.6%. During the same period in EU15 (except Greece, Belgium and Ireland), life companies decreased by 6.6% and non-life by 11.22% (Eurostat, 2002). On the other hand an increase of the mixed companies by 8.33% was observed. Figure 1 portrays the progress in the number of insurance companies in Greece during the decade 1992-2001.

Figure 1: Insurance Companies in Greece.

The market is characterized by heavy concentration of direct written premium between a few big companies. This is particularly obvious in the life sector as the 5 biggest companies write roughly 70% of total premium while in non-life insurance the 5 biggest write 47% of premium (www.eaee.gr).

4. Private Insurance and Economy

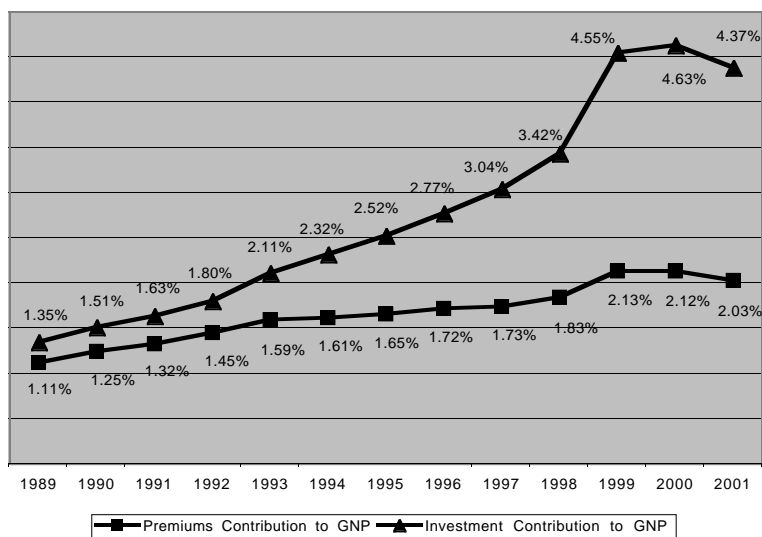
The private insurance industry is still at low levels in Greece. In 2001 insurance premium contributed 2.03% (Figure 2.) to the GNP compared to the EU average of 9.01% (Comité Européen des Assurances, 2001). Nevertheless, the contribution of premium to the GNP followed an upward trend and was doubled between 1989 and 1999 when it reached its peak (2.13%). A recession was observed in 2000 and 2001 which has continued in 2002, mainly because of the downward Stock Exchange trend of the last three years.

According to draft data, Greek Insurance Companies had a total loss of well over €200 million in 2002 and this situation is expected to continue in 2003 (Financial Asfaltiki, 15/3/2003). Insurers attempt to confront the crisis by mergers and strategic alliances between insurance companies, as well as between insurance companies and banks (Financial Asfaltiki, 1/2/2003).

4.1. Contribution of Insurance Investments to GNP

The capital base of Insurance Enterprises established in Greece can be characterized as poor and insufficient. While in EU countries insurance investments constitute the locomotive of the economy as they reached 54.5% of the GNP in 2001, in Greece the same year the corresponding figure was only 4,37%. However, it followed a continuous upward trend (Figure 2) over the years and has almost quadrupled between 1989 and 2000 when its peak value observed (4, 63%). It recessed in 2001 and, according to pre-emptive evidence, in 2002, for the reasons explained in the previous paragraphs i.e. downward Stock Exchange trend etc.

Figure 2: Contribution of insurance investments to GNP.



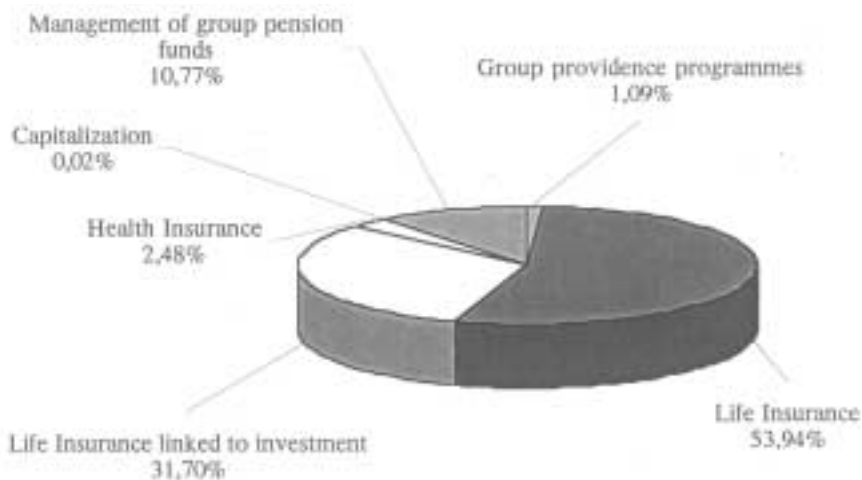
5. Life Insurance

First year life insurance premium presented a significant increase of 215% during the decade 1990–1999 while the inflation adjusted figure was in the order of 125% (www.eaee.gr). The upward trend was reversed in 2000 and 2001 when we had a reduction of 1.39% and 2.22% respectively (the corresponding inflation adjusted figures were 4.59% and 5.62%), de-

spite the substantial increase of “**Funds of Professional Insurance**” in the second and third pillars of the National System of Social Insurance. The per capita life premium was €117.79 in 2001, and has increased by 33.2% since 1997. In the same year (2001) the per capita premium in the EU reached €1,372, well over ten times its Greek equivalent.

The life sector contributed 48.9% to the total premium written in 2001, falling considerably short from the corresponding percentage in the EU countries which was 65.3%. The different life sub-sectors contributed to the total business as in the following Figure 3.

Figure 3: Contribution of Life Insurance sectors to direct written premium in 2001.



5.1. The Challenges of private Life Insurance

The challenges of the life sector cannot be otherwise examined but in relation to the National System of Social Insurance that is currently shaping in three pillars: a) main and complementary compulsory insurance, b) additional insurance and professional funds and c) private insurance schemes. Main insurance is mandatory and is provided exclusively by the state, through public institutions. Complementary insurance, although compulsory, is not universal as the existing systems of complementary insurance are, by law, founded and functioning for employees only. The whole system is extremely complex, and there are 170 institutions and funds of main and complementary insurance, supervised by 5 different ministries (Ministry of

Work and Social Insurance, (2002)).

Life insurers are expected to play an important role in the framework of the second and third pillars. The systems of the second pillar were recently established by law 3029/2002 as additional insurance mechanisms (www.gg-ka.gr). The “**Funds of Professional Insurance**”, as they are called, function as non profitable private legal entities, aiming to provide insurance benefits on top of those offered by the first pillar. These systems can considerably contribute towards the concentration of capital to be invested, the successful management of which could result the reduction of contributions. They can, finally, appoint private companies to administer the funds available (“To Vima” Newspaper, 17/5/2003). The third pillar is completely underdeveloped in comparison to other European countries. It concerns private insurance programs for working people and the members of their families (through contracts between enterprises and private insurance companies), as well as individual schemes.

The role of private insurers in the following years will become even more important, because of the ageing of the population and the continuously declining proportion between active workers and pensioners, which will further suffocate the national pensions system. According to available data and the projections of Eurostat, the number of retired individuals will be increased roughly by 50% from the year 2000 to the year 2040 while in the same period; the number of working individuals is expected to decrease by 13%. This will result the reduction of the proportion of workers to pensioners from today’s 2.39 to less than 1.2 (Ministry of Finance and Economics, 2002).

OECD has estimated the accumulated debts of the Greek social insurance system to approximately 200% of the GNP and ranks it in the worst position between all corresponding EU systems (Kiohos A., 2002). These debts are owed by the society to pensioners and burden all generations i.e. pensioners, workers, people about to enter the working force, even the unborn ones. The development of private pension funds of the second pillar and private programs of the third could tackle both the short and the long term problems and anticipated developments (Nektarios M., 2002), as it already happens in some European countries where working people subscribe to such funds and systems in very high percentages (Eurostat, 2000).

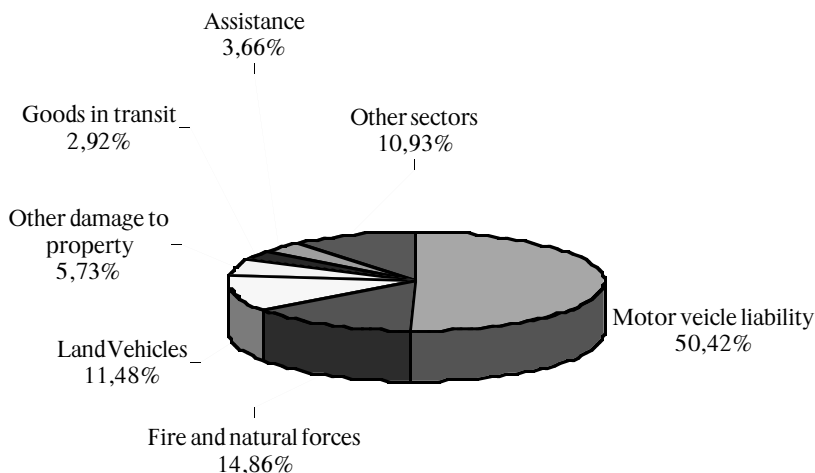
According to a recently published research (Kapa Research, 2002), that

was held in order to examine whether the principles of capitalization are acceptable by those directly interested, the attitude is overwhelmingly positive. The vast majority of insured working people (66%) consider that the state does not properly manage the fortune of insurance funds and they would prefer private institutions to be appointed for its management. The opinion of working people for private insurance is divided. Roughly 50% of them express a positive opinion. In any case, the great majority do not express their positive or negative attitudes with particular emphasis.

6. Non-Life Insurance

Non life premium followed an upward trend in the decade 1990–1999. It increased by 147%, while the inflation adjusted figure was in the order of 65.5 % (www.eaee.gr). Contrary to the life sector, this trend continued in 2000 and 2001 and an increase of 17.3% and 7.89% respectively was observed. The per capita non-life premium reached €123.17 in 2001, increased by 38.4 % from 1997. In the same year (2001) the per capita premium in EU countries reached €733, i.e. six times the Greek equivalent.

The non-life sector contributed 51.2% of the direct written premium in 2001, considerably higher than in EU countries where the corresponding percentage was 34.7%. The contribution of individual non-life sub-sectors appears in Figure 4. The dominance of the land vehicles sector is obvious, as it corresponds to 62% of the total direct written non-life premium (Association of Insurance Companies - Greece, 2002) (50.42% motor vehicle liability and 11.48% land vehicles insurance). This fact creates considerable problems to insurers as the motor vehicle liability damages paid in 2001, corresponded to 68.92% of total non-life damages paid and by far exceeded the sector's contribution to the total written premium in the same year of 50.42% (the 2000 figures were 60.76% and 52.37% respectively).

Figure 4: Contribution of non life sectors in the year 2001

7. Insurance Sales Channels.

Insurance products are channelled to the Greek market through three different systems i.e. the agency system, the system of brokers and Bankassurance.

7.1. The Agency system.

Contrary to most European countries the agency system is dominant, mainly in life insurance. It was initially duplicated from the USA market and has been suitably adapted for the local conditions. The system is also used by many non life insurers.

Although it is by law specified that “Insurance agent is an individual or legal entity that exclusively undertakes by contract, against commission, insurance business in the name and on behalf of one or more insurance enterprises (Journal of the Hellenic Republic, 1997), most life insurers and many non-life ones exploit the provision of the same law that allows them to limit the right of the agent to work with other insurance companies and, thus, create exclusive sales networks.

This system has created significant problems to almost every life insur-

ance company and has led many of them to a functional and economic dead end, as the cost of all kinds of commissions, wages and expenses exceeds by far the 100% of first year premium and considerably overloads the cost of insurance. It is indicative that in USA, on account of the excessive cost that is created by the agency system, 40% of population are not interested in life insurance and insurers target only the most affluent population groups (Tseliki A., 2002).

Insurance companies, in their effort to find ways to reduce operational cost, are currently in the process of restructuring their networks and are directed towards their progressive suppression or parallel operation with alternative sales channels and reduction of commissions and other remunerations.

7.2. The system of brokers

This system is mainly operational in non-life insurance, and is considered as well tried and reliable. It consists of a network of individuals or legal entities that function as independent brokers and collaborate with various companies proposing to their customers the products that they consider would suit them best. The increase of competition is expected to impose on insurance brokers to jointly form bigger units creating companies that will effectively use IT systems and tools and create independent networks of support and training of their associates.

7.3. Bankassurance

European banks continuously extend their presence in the insurance sector offering more and more insurance products through their networks. Traditional insurers are concerned by the fact that important margins of growth are anticipated in favour of banks, because of the knowledge that they have of the economic position of their customers, that allows them to offer specialised insurance packages at less risk (Finaccord Ltd, 2003). Based on their network and on the close relation with their customers, banks infiltrate insurance and promote, mainly, investment products of the life sector. At the same time their own banking products are modernised, differentiated and henceforth require a new perception on customer's approach and their distribution (Tseliki A., 2002). Most European banks,

while continuing to promote investment products, are also offering general insurance and according to a research by Finaccord (2003), in a sample of roughly 500 banks, 64% offer household insurance packages, 43.7% car insurance, 39.2% health insurance and 37.8% travel insurance (Finaccord Ltd, 2003).

Despite considerable differences and fluctuations from country to country, it appears that the tightening of relations of insurance companies with banks is one-way road and all European banks have some type of collaboration with insurance companies (Finaccord Ltd, 2003). Some of them that recently began with Bankassurance saw that this offers very big opportunities towards further exploiting their network, and have already decided to go on with this business more dynamically. In the USA market, where the promotion of Bankassurance products in cities with population up to 5,000 was only allowed in 1996, there was an explosive increase of sales.

In the following Table 1 the worldwide evolution of Bankassurance business is recorded from 1992 until 1997.

Table 1: Bankassurance transactions 1992-1997 (\$ bln).

	1992	1993	1994	1995	1996	1997
USA - Canada	0	151	0	60	48	9,316
Europe	3,633	3,575	283	2,464	3,568	14,789
Asia – Emerging markets	5	72	586	143	306	447
TOTAL	3,639	3,798	869	2,667	3,922	24,522

Source: Banque Synergic, March 1998, I47, p.3.

There are no published data for Bankassurance in Greece. It is however a fact that the disposal of insurance products through bank networks existed even when this was prohibited by law. All banking groups, led by the state owned ones, owned at least one insurance company. In fact this was one of the main points of argument between banks and independent insurers. Today's banking organisations offer both life and non-life insurance products

in collaboration with insurance companies in various schemes. The decrease of interest-rates, deregularization technology, and the turn of customers to dynamic and flexible financial products that require integrated service, intensify competition and lead to the differentiation of enterprising activities with the entry of banks to the insurance sector and vice versa. The search of ways to reduce disposal cost, to create economies of scale and effective synergies of different financial services, is expected to lead to more mergers and collaborations between banks and insurance companies, and to the creation of groups with better sales networks and more competitive products.

8. Quality issues

The intense competition made quality the most important factor for both the maintenance of existing portfolio and the acquirement of new clientele. The dimensions of quality in the Greek insurance market can be categorized as follows:

1. **Reliability of Insurers.** The unreliability of certain insurance companies affects negatively the industry's image, according to the Union of Greek Insurers (EAEE) (Kathimerini, 5/12/2003). In a recent study of ICAP (2003) held on behalf of EAEE, it is confirmed that solvency related questions create mistrust to consumers of, mainly, the life sector. According to the same study 48% of consumers consider that the insurance market is characterized by lack of professionalism (ICAP, 2003).
2. **Quality of insurance products and services.** Major life insurers are continuously producing and promoting to the market flexible, differentiated products and services to cover all possible insurance needs. However, often the cost associated to such services is very high and they can only be bought by individuals in the higher income brackets. 35% of consumers, according to the study of ICAP (2003) share this attitude. In the non-life sector, particularly in sub-sectors where insurance is mandatory, the major concern of both insurers and customers is, usually, to reduce cost and, consequently, quality is considered as a secondary aspect.
3. **Quality of after sales service and support.** One of the main reasons for the formation of a negative attitude towards the insurance industry by the public opinion is the quality of after-sales service and support. Ac-

According to 34% of consumers, insurers find various pretexts in order to avoid fulfilling their promises (ICAP 2003). Customers, particularly in the life sector, often feel that they are not served or are not covered sufficiently, or discover that the terms of their contracts do not correspond to the promises given to them. In the land vehicles sector, there are numerous cases of refusal of direct compensation by the insurers involved. They prefer to initiate legal conflicts that can go on for years, and force their adversaries to accept their claims to be settled with very low amounts, in order to avoid legal complications.

- 4. Quality of sales networks.** The bad picture of insurance market is shaped, to a large extent, from those mediating between companies and customers. 43% of consumers consider that insurance agents usually avoid to, fully, explain the terms of contracts they propose, and finally sell (ICAP 2003). Consumers rank as the most important characteristics of insurance advisers the care for customer's interests, sincerity and in-depth knowledge of insurance. Despite this, until recently, to become an insurance agent was very simple. Any Senior High School graduate could become such an agent after a short internal training course offered by the company with which she collaborated. People were becoming insurance advisors for short periods of time, usually for certain weeks or months, and the percentage of those remaining in the profession for a period of more than a year was less than 1%. With a recent ministerial decree, the Ministry of Development established strict criteria for the acquisition of an insurance agent's licence. A 6 months probationary period, the attendance of a specific training course and certification after examinations are necessary for its authorisation.

9. Market Prospects

The Greek Insurance market is a small market, in which a relatively big number of companies compete. The industry has quite good potential for the following reasons:

In the life sector, the growth of the second and third pillars of social insurance is expected to create conditions of market enlargement through the Professional Insurance Funds, the Pension Funds and the private insurance programs. According to the recently published ICAP's (2003) study, 81%

of consumers consider that private pension programs can be the main alternative pension source and 77% of them think that there is a tendency of replacing social insurance by private

In the non-life sector, the continuous incorporation of EU laws into the Greek legal system, the subsequent harmonisation of judicial decisions that adjudge very high compensations in cases of accidents or professional negligence and the application of obligatory civil liability insurance to more and more professions, is expected to favourably affect the market.

The tendency for fewer companies will be continued while the concentration of business, in both life and non life insurance, will be maintained or even strengthened. It is expected that in the next few years the number of insurance companies operating in Greece will not be more than 5 or 6.

The development of new alternative distribution channels will be continued aiming at the reduction of operational expenses that, in certain cases, reach 40% of the direct written premium, three or four times higher than in some European countries. The growth of Bankassurance and the extensive use of web based technologies are included in this frame.

According to the recent ICAP's (2003) study the total volume of the Greek Insurance market is currently in the order of €1,5 billion annually. Its potential, though, is estimated to €7 – 8,5 billions annually.

The quality of services provided will play dominant role towards the maintenance of the existing clientele and the access to new customers in the framework of continuously intensifying competition.

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ASPECTS OF INTERNATIONAL CO-OPERATION THE CASE OF EURO-MARKETS

C. TSOUNTAS

T.E.I. of Kalamata

V. PANAGOY

T.E.I. of Kalamata

TH. PAPAILIAS

T.E.I. of Piraeus

Abstract

The recent flourish of the Euro-markets is connected with restriction of state activity in the monetary sector. Moreover, the distinction between current payments and capital mobility is being problematic. Although the mechanism of euro-deposits, euro-loans and euro-bonds is fed by floating capital, in practice it is used as a tool of policy against monetary difficulties and the financing of economic growth. Consequently, these financial means, although international in character, have central role of national public interest.

JEL: F3.

Keywords: international monetary law, depository Bank, euro –credit, bank co-opation, financial clauses, euro-bond.

1. Introduction

Money is a national institution and, as a rule, its circulation is restricted within the territory of the state that has issued it (out of it, it constitutes trade). Consequently, it is an element of state activity.¹ Nevertheless, the monetary policy of the State has consequences that exceed the State's frontier line (e.g. depreciation raises the price of foreign products and prevents imports, whereas it reduces the price of national products and supports exports, high interest rates favour the entrance of foreign capital against the national investments). The state activity in the monetary sector is no longer absolute, as it has been gradually eroded by the contemporary international law, which considers money as an object of "international interest". Thus, today we have an international monetary and financial system, which is a totality of rules, agreements and practices concerning the function of the in-

terstate monetary relations and the financing of the international transactions. However, recently, the appearance of the euro-markets has put into doubt the state or even the interstate theory of money, as the creation of monetary mechanisms by individuals is now possible. Therefore, the contemporary international monetary and financial system, apart from the interstate “codes of behavior”, includes international mechanisms of co-operation. These mechanisms concern the financing of international dealings either via institutionalized techniques of interstate monetary co-operation or by means of financial techniques, which are formed by the international private bank function and govern the function of euro-markets.

Euro-currency is considered to be any amount of money that has been deposited in a bank that is out of the territory of currency’s issue and circulation. The prefix “euro-” simply means that the currency used has been deposited in a bank that is geographically outside the nation, in which it constitutes legal exchange. The depositor’s nationality is insignificant to the characterization of the euro-currency, in opposition with the territory, where the bank of the deposit is situated (that is to be out of the state of issue). The transaction that gives birth to the euro-currency is the bank deposit, which is subject to two national legal systems, that is the legislation of the bank and that of the currency.

Euro-markets, initially, were aiming at the satisfaction of multi national companies’ short-term financing needs, but gradually they became the main financial resource of the states’ deficient balances of payments, irrespective of financial-social system or level of development. The euro-currency market provided freely the countries with credits ten times higher than those they could get from the interstate financial organizations, without any strict terms or conditions. Several mechanisms permitted the widening of the basis of this market, through the lengthening of the deposits’ and loans’ duration, the appearance of bank co-operations, the formation of credits in several currencies, the use of floating interests etc.

The appearance of the euro-bonds was aiming to permit the large corporations (multi-national corporations) to gain access to long term financial resources in order to make investments. Consequently, the euro-bonds purchase constitutes a financial market, in contrast with the euro-currency, that constitutes a monetary market. They owe their existence to the narrowness of the main national markets.

1. The euro-deposit

The banks' main resources come from their clients' deposits. These resources are used by the banks for the benefit of other clients, by means of credit or other facility giving. This is a summary of the banks' traditional mission, at a national as well as at an international level. A deposit in exchange has as a consequence the application of a complicated legal system.

1.1. The agreement of the deposit in exchange

The deposit in exchange is the international transaction, according to which a person (the depositor) puts (deposits) an amount of money that is conveyed into a certain national currency for a certain period of time, at a bank (depository), which is situated outside the currency issue nation, with the obligation of the bank to give back the initial capital with interest after the lapse of the time set.

These deposits in euro-currency constitute bank credit ownership transfer and (not transfer of bank notes) between the depositor and the depository. They are, thus, agreements, that impose certain mutual obligations and rights regarding the deposited exchange, the location and the type of the payments, the duration of the deposit, its renewal, the interest rate, the location and the currency returned. The agreement in question is an international one, due to the different nationality of the depositor and the depository, as a rule, the different origin of the currency, which is always different from that of the depository and, rarely, that of the depositor. This particularity has this basic consequence: both the depositor (when depositing) and the depository (when paying the interests and returning the initial capital) are obliged to follow the disposal proceedings that are in force in the issue country of the deposited currency, that is they have to make a bank transaction in a foreign country, in order for their transaction to be valid.

1.2. The legal system of the agreement of deposit in exchange

The agreement of the deposit in exchange is subject to three series of rules:

The international (monetary) law:

According to the prevailing belief, these agreements concern the current

payments (due to the short duration, despite the possibility of renewal) and not the payments in capital. Consequently, the general articles of the IMF's (International Monetary Fund) Association are in force, as far as the convertible currency is concerned (a previous approval for the enactment of exchange restrictions, exercise of relevant controls), that are a guarantee for the users of such a currency.

The legislation of the depository bank: Two issues arise:

- The state interventions: The depositor is protected via the international control that is exercised by the IMF, which, nevertheless, is restricted to the parity of exchange. It does not concern the nationalization. As far as the deposits in foreign banks are concerned, the following can be in force:
 - a) in the case of nationalization: the depositor may demand the return of his deposit from the parent company in case of deposit in a branch, unless the agreement defines that the payment will take place in the locus of the subsidiary company and according to the local legislation, b) in the case of exchange restrictions: the reception country and the country of the seat have to be both members of the IMF and the restriction must be in accordance with the IMF's articles of association. Thus, the depositor is not entitled to get paid by the parent company (the law of the seat has to consider the consequences of exchange rules of the foreign branch).
- The private actions: As a rule, the depositor can be prosecuted before the Courts of the depository bank by his local and foreign creditors. A problem arises if the depositor is a foreign public legal entity. In such a case privileges and incompatibilities can be provided, according to the local legislation. As a rule, the euro-deposits constitute a trade activity. Consequently, the extra-territoriality privilege is not in force, but in case the depositor is a foreign central bank, as a rule, the extra-territoriality privilege is in force, in regard with the forced execution.

The deposited currency law:

The payment mechanisms are ruled by the legislation of the state of issue of the deposited currency, a fact that has as a consequence the exposure of both the depositor and the depository to the sovereign functions of the currency's deposition state, to which the euro-depositions are submitted.

2. The euro-credit (euro-loan)

Euro-credit is considered to be the international loan of a certain amount of money. While the euro-deposition concerns the bank resources, the euro-credit concerns the use of these resources. The creditors are organized in a group or in a co-operation, while special legal bonds connect creditors and borrowers. The euro-credit agreement is a single means that rules the relations of the credit-giving banks and their relations with the borrower.

2.1. The bank co-operation.

The euro-loans are in the form of bank-co-operation, in order that the widest possible collection of resources, the distribution of risks among the parties and the widening of the number of the parties with banks situated in different countries is achieved.

The co-ordinating bank:

It is the bank that is chosen by the future creditor, in order to raise the euro-loan. The co-ordinating bank, in co-operation with the client, defines the basic aspects of the loan (amount, duration, choice of currency, interest rates, commissions), the basic clauses that will be incorporated into the agreement (applicable law, competent courts, guarantees and insurances, unforeseen circumstances etc.). It informs the banks that is in contact with, of these terms and asks for their participation at a certain percentage. It therefore takes a higher commission than the other members of the co-operation. However, it has contractual liability towards the future creditors and a tort liability towards the rest of the co-opation members, as well as towards any third party. Nevertheless, a liability free clause can be provided.

The intermediary:

It is the bank that is chosen from the rest of the co-opation's members, in order to represent them in their relations with the creditor. It functions as their principal and therefore it gets paid. The agreement for its appointment takes place during the pre-contractual stage and usually it is the co-ordinating bank (its duties end when the agreement is signed). Its contribution is based on the parties' will. It has, as a rule, logistic and technical duties: e.g. it handles all the capital movements, it receives every amount of money from the borrower re-

garding the interest payment and the capital payment and it distributes them to the creditor banks, according to the percentage of their participation. It has no special situations handling authority (which may have direct consequences on the creditors), as, in such a case, any decision is taken by a special majority (50-70%) of the co-operation's members. In order to fulfill its obligations the intermediary often seeks the protection by means of liability free clauses or clauses of non revocation.

Risk handling by the co-operation:

A distinction is made between the "trading risk" and the "sovereign (state activity in the financial sector) risk".

- The "trading risk": As far as the former risk is concerned, a rule is in force, according to which, the banks are not jointly liable, but separately (personal liability), that is the liability is common but not joint. Thus, in case of incapacity displayed by a bank member of the co-operation, the rest of the bank-members are not obliged to substitute it in its obligations and pay new resources. Additionally, the creditor's payments to the intermediary are distributed by him to all the banks-members depending on the extent of their participation (equality and proportionality). During the loan process (5-7 years or more), the banks may assign partially or completely the trading risk, by ceding their participation to other banks or by issuing promissory notes during the drawing up of the agreements. These notes represent the amount of money that the creditor periodically owes. The assignation of the participation is equivalent to the assignation of the agreement, that is to the substitution of the creditor. There is also the chance of a "sub-participation", which is a secret transaction between the participant bank and a new one (third bank), that binds only these two parties.
- The "sovereign risk": This is due to the existence of a plethora of legal systems that concern the agreement of euro-loans. As a rule, this issue is dealt with in the agreement. The parties can either choose the intermediary's law, or the currency's law, or the creditor's law, or any other "neutral" law. The "golden rule" here, is not to choose the creditor's law, especially if the creditor is the public sector (for example the state). Additionally, an adjustment is usually provided for a partial annulment of the agreement in case that one of its provisions is not lawful (this cer-

tain provision is annulled, whereas the agreement remains valid in regard with the rest of its provisions). Furthermore, the parties determine the jurisdiction for the settlement of any potential dispute (namely the competent court, whenever there is a mistrust towards the arbitrary settlements). As for the latter risk, “emergency situation” clauses (e.g. embargo) are provided, that, in each case, assign the risk burden to the borrower. If a bank, for instance, participates illegally, then the borrower must give back at once the granted amount of money. The sole risk that cannot be provided in the agreement is that concerning the law of the currency, as the parties cannot avoid the state activity of the state- issuer of the currency used in their international dealings.

2.2. The contractual relations between the co-operation and the creditor

The financial clauses: They concern the following:

- The determination of the rate of interest : The rate of interest varies with the agreed periodicity and it is fixed according to pre-determined parameters. The euro-loan agreement determines the duration of interest, which may range from 3 to 12 months. The rate of interest is fixed according to a basic percentage with an additional increase of unit fractions (e.g. according to the “Libor”-London interbank offered rate, i.e. the London’s inter-bank rate of interest up to an additional unit), according to the creditor’s solvency (the more solvent the creditor is the lower is the fraction).

- The currency or currencies determination:

The euro loan agreement may determine a single currency or even more than one currencies of loan and payment, depending on the creditor’s will. Often, a “destruction clause” is provided, that is in case that the currency’s disposal is not possible, the parties are bound to re-negotiate, in bona fide, the first loan agreement substituting, if necessary, the currency.

The protection clauses: The euro-loan agreements include:

- Protection clauses against the insolvency: In the agreements there are representations and warranties that bind the borrower. Thus, the borrower guarantees the accuracy of certain situations on the date of the agreement’s signing, that concern his general financial state and the absence of legal pendencies. Any false or inaccurate statement can lead to

annulment of the agreement (as it is an indication of bad faith or error). He must also provide warranties, usually in the form of real insurances (signing of pledge or mortgage on the asset that he has financed with the euro-loan). If the creditor is a public legal entity or a state corporation, an unlimited and joint liability of the state is provided. Additionally it is provided (by means of a clause in the loan agreement) that the creditors of the euro loan will be considered as “the most favoured borrowers”. Furthermore, a commitment of non-pledge or of negative pledge insurance is also provided, according to which the borrower cannot give an extra insurance for a new loan, unless he has covered the previous binding and most importantly, he has taken the previous consent of the co-operation,. The euro loan agreement also provides for the events of default, which will have as a consequence the loan’s payment, before its expiration. The relevant clauses can provide even more stringent terms, for example that the borrower will return the loan before its expiration, in case of non-fulfillment of any of his financial or technical obligations (cross default clause).

- Protection clauses against the public sector’s privileges:
These provide for the binding of public bodies’ waiver from judicial privileges and immunities (present and future), as well as those concerning the compulsory execution.

3. The euro-bond.

The euro bond is a bond-loan. It therefore constitutes a moving value (bill of exchange) with a stable or floating income, which is issued by a private or public body, in one or more currencies, is subject to a single legal system for all the holders, is sold by a bank co-operation to investors of different countries and is introduced to the stock market. A series of agreements are drawn up between the several interested parties. First of all, there is the loan agreement, which rules the relations between the creditors and the investors that have bought the bills of exchange. There is also the agreement between the issuer and the banks that constitute the co-operation (underwriting agreement), which defines the rights and obligations of each party and includes the main aspects of the loan; finally, there is the agreement which governs the re-

lations among the banks, in the context of the co-operation (agreement among underwriters). Furthermore, there is the agreement among the banks that give the bills to the public (selling agreement), the agreement between the issuer and the bank, which undertakes the financial cover, that is the financial services (paying agency agreement) and the agreement with the body that represents the bond-owning creditors in the framework of a civil corporation or - in the Anglo Saxon systems - of a trust.

Consequently, the bond euro loan requires a series of inter dependent agreements, that are drawn up almost at the same time.. The loan's issue procedure consists of the following stages: the issue, the separate issue agreements and the protection of the bond-owning creditors.

3.1. The issue procedure

The issue procedure has as a starting point the choice by the issuer of the co-ordinating bank, with which he will define the main aspects of the future loan. Next, the co-ordinating bank introduces a bank co-operation for the sale of the issue. Finally, the euro-loan is made available to the public.

3.1.1. The choice of the co-ordinating bank

The future issuer determines the bank that is going to raise his euro-loan. The rest of the banks that are going to take part in this action, as well as the loan's aspects, that is the currency (currencies) of the issue, the price, the interest rate, the commissions, the duration and the starting date, are also determined.

The issue conditions are inserted in the letter of intent or the protocol of agreement, that constitutes a gentleman's agreement, which they are not obliged to complete, but to negotiate in bona fide, in order that that they come to the signing of the loan agreement. Therefore a behavior obligation is constituted. As a rule, this letter is incorporated in the final agreement, since, in practice, only financial reasons justify the non-fulfillment of the action.

3.1.2. The inter-bank sale

It is an internal bank stage. Its objective is the sale of the loan to banks or financial institutions before its issue. In this context, the co-ordinating bank seeks to secure the co-operation's constitution, inviting other banks

to participate in the procedure (loan's investment guarantee and distribution of the bills of exchange) at a certain fee.

If the reactions are positive, the co-ordinating bank organizes a meeting between the issuer and the co-operation's members, during which the issue price and the interest rate are fixed, while the relevant agreement (between the issuer and the co-operation) is signed. The euro-bond loan's issue is made known through the press (tombstones), that indicate the issuer's name, the banks' names and the main aspects of the loan (amount, duration, interest rate). This publicity has exclusively an informative character (as a matter of record only) and does not constitute an invitation to the public of investors.

3.1.3. The public investment

The banks that joined the private investment, try to sell, in a long term, the euro-bonds to institutional investors, in order that they get the resources they were bound to give to the issuer on the agreed date. For that reason they distribute a prospectus of the euro-issue, in which all information is included about the issuer, his legal and financial state, as well as the data concerning the loan's terms. Moreover, the payment mechanisms are clarified, as well as the location of introduction into the stock market and the way of the bond-owning creditors' protection. The loan's financial service (interest payments and capital return) is determined in a separate agreement (paying agency agreement) which is signed between the issuer and the bank of his choice (as a rule the co-ordinating bank is chosen).

The agent, in his capacity as the issuer's principal, is obliged to collect all the payments, to fix the interest rate (if it is floating) within the parameters that have been agreed on by the contracting parties. The investors' protection is secured through collective representation mechanisms and the introduction into the stock market which simplifies the dealing of the bills of exchange and has as a consequence the local authorities' control on the mentioned market.

3.2. The issue agreements

There is a series of three interdependent agreements, that are drawn up at the same time.

The agreement between the issuer and the banks that constitute the co-operation (under-writing agreement): By this agreement, the banks

that constitute the co-operation, are bound to purchase all the issued (by the signing of the final agreement) bills of exchange. The public sale of a euro-bond requires a previous inter-bank private sale and the main commitment of the banks concerns the return of the resources to the issuer. The relevant agreement is signed after the initial private investment, that is when it is certain that the sale will not have as a consequence the use, on their part, of their own resources. This is the reason why additional terms are provided for in the agreement (suspensive conditions), regarding the course of the issuer's status and the legal, political and financial surroundings of the planned transaction. The issuer must make certain "representations" and give "warranties" about his personal status, as well as the agreement's validity. If the issuer's (financial) position (and that of his warrantor's, in case there is one) gets worse, then, the majority of the banks hold the right of a unilateral termination of the agreement (in other words a *-rebus sic stantibus*-stability clause is provided). Consequently, the banks are bound to buy the issued bills of exchange and to pay him the price on the agreed date. More specifically, the co-ordinating bank will get the bills of exchange and give the resources to the issuer. The banks, as a rule, are jointly liable towards the issuer. The banks are also obliged to sell the bills of exchange and to make them available to the public. The euro-loan must be introduced into the stock market and, to this aim, a prospectus is drawn up in order to inform the concerned parties. The selling price for the public is determined in the issue agreement and coincides with the public issue price (however, in the secondary market it is freely determined according to the law of supply and demand). This mechanism, in its entirety, creates a series of triangular relations among the issuer, the banks and the creditors. The borrowers, by buying the euro bond, are turning into creditors of the issuer, but they get the bill of exchange by the selling banks. The euro-issue procedure has as a consequence the joint liability of the issuer and the banks. However, the liability's burden is principally on the issuer: the creditors will turn against the banks that sold the bills of exchange, but the liability lies finally with the issuer, as the banks impose by agreement the release from any liability.

The distribution of risks among the co-operation's members (agreement among underwriters): This inter-bank agreement has as an object the risk distribution among the co-operation's members in case the sale of the bills of exchange is impossible. The co-ordinating bank, as the

principal of the rest, can sign a sub-underwriting agreement with another bank group or organise directly, on its own, the bills' of exchange distribution and sale. Generally, the co-ordinating bank is liable for the management of the euro- issue.

The selling agreement: It concerns the group's establishment, on the co-ordinating bank's initiative, which represents the buyer and warrantor banks. Other banks participate in this group too, as well as several financial institutions, brokers etc. This group has, as its aim, the euro-issue's internationalization. The group's members, the sellers, buy the bills of exchange from the "founding" banks' members of the co-operation and re-sell them to the public. The purchase of the bills of exchange constitutes a selling agreement that has as a consequence the bills' of exchange ownership transfer, whereas the sellers are entitled to a commission. They are obliged to sell the bills of exchange at the issue price (at least for a certain period of time), they must follow the relative instructions (prospectus) and obey, in general, the rules of the state in which the sale takes place.

3.3. The bond-owning creditors' protection

The protection of the investments: If the terms that are provided by the prospectus are inaccurate and have been the main reason of investing in these certain bills of exchange, then the liability lies with the seller. This liability is chain-like. It results in the issuer's liability. As far as the state's protection is concerned, it is observed that the states do not exercise control over the euro-issues, as the latter serve the public interest and they are private investments. The sole state intervention concerns the introduction into the stock market. In such a case the investment protection rules are fully applied.

The bond creditors' protection: For all the euro issues, collective organisations of investors are founded that get information, which the issuer is obliged to provide during the lending. Moreover, these organisations undertake the creditors' rights defence, e.g. in the case of a bankruptcy. States also show a tendency to a favourable tax treatment (e.g. tax exemption), whereas in case of a financial crisis a favourable treatment of the bond-owning creditors is observed.

Conclusions

All these financing means constitute one of the most important financing sources of the state and have central role of public interest. Their development is due to the lack of a legal framework, which in its turn is due to the states' tolerance that make a big profit on the euro-markets. However, the international crisis due to the international debt, the bankruptcy of big bank groups (e.g. Herstatt in 1974, Ambrosiano in 1981, Bank of Commerce and Credit International 1992 e.t.c.), show the system's weaknesses which is also accompanied by the (more and more frequent) "freezing" of foreign assets, especially by the U.S.A. (e.g. of Iran in 1979, Libya in 1986 etc.) in the context of financial sanctions of the U.N. Security Council, according to chapter 7 of the Charter. Consequently the need for exercise of control is imperative and inevitable.

The transactions' legal framework, in the context of euro-markets (depositions, loans, issue of bills of exchange) is quite paradox. Although they ignore the national boundaries, they are finally clearly supra-national or international and directly connected to the national legal systems, since they are ruled by national legal rules: the whole undertaking is adjusted by the legislation chosen by the contracting parties, the disputes are settled by the national courts and not by arbitration. As a consequence, the euro-markets' system, although international in its procedure, remains national in law.

NOTES

1. The introduction of euro in the frame of the E.U. does not revoke this fact, as the new single currency's circulation was decided in the context of an inter - governmental procedure.
2. The "Kolokotronis case" is relevant. It concerns a Greek company's

bankruptcy, right after the agreement's signing The co-ordinating bank was sued by the other members, as it was held that it had concealed the above mentioned business' financial difficulties. (S.D.N.Y.,27-03-1978, 449 Fed., Suppl.828).

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FRAUD AND AUDITORS

KONSTANTINOS CHRISTODOULIDES

MSc - City University Business School of London

Abstract

This paper describes Fraud fundamentals from an Auditors perspective including definition, types of fraud and highlights on the Internal auditors role/responsibilities towards fraud and whistleblowing. Though Fraud is by definition something that may rise in any business aspect, it is crucial for an Auditor, as an advisor, to scrutinize management actions by focusing on risks and examining related controls. The paper also provides guidance to all auditors on effectively carrying out projects assigned in a professional framework.

JEL classification: M4, M40.

Keywords: Internal auditors, external auditors, illegal acts, whistleblowing, corruption, data, accounting, fraud.

1. Introduction

Fraud is recognized as a significant threat facing businesses all over the world. It comes in many cases, ranging from small-scale cheque fraud to multinational, organized crime. The offence is generally thought of as involving deception to obtain an advantage to which the perpetrator is not entitled.

Although we like to think of fraud as something that happens to other people, it is an unwelcome fact that all organisations are potential victims. Fraud is now one of the major causes of business failure.

By its very nature, fraud involves deceit and concealment. As a consequence, those charged with corporate governance generally have little practical information about fraud. There is ample evidence that the impact of fraud on business is large enough to be a major concern, but the secretive nature of fraud precludes and meaningful estimate of fraud that takes place.

2. What is fraud?

No precise legal definition of fraud exists. Many of the offences referred

to as fraud are covered by the Theft Acts of 1968 and 1978. The term is used to such acts as deception, bribery, forgery, extortion, corruption, theft, conspiracy, embezzlement, misappropriation, false representation, concealment of material facts and collusion.

Fraud is usually used to describe depriving someone by deceit, which might either be straight theft, misuse of funds or other resources, or more complicated crimes like false accounting and the supply of false information. In legal terms, all of these activities are the same crime-theft.

According to SIAS 3 fraud encompasses an array of irregularities and illegal acts characterized by intentional deception. It can be perpetrated for the benefit of or to the detriment of the organization and by persons outside as well as inside the organization.

Fraud designed to benefit the organization generally produces such benefit by exploiting an unfair or dishonest advantage that also may deceive an outside party. Perpetrators of such frauds usually benefit indirectly, since personal benefit usually accrues when the organization is aided by the act. Some examples are:

- a. Sale or assignment of fictitious or misrepresented assets.
- b. Improper payments such as illegal political contributions, bribes, kickbacks, and payoffs to government officials, intermediaries of government officials, customers, or suppliers.
- c. Intentional, improper representation or valuation of transactions, assets, liabilities, or income.
- d. Intentional, improper transfer pricing (e.g., valuation of goods exchanged between related entities). By purposely structuring pricing techniques improperly, management can improve the operating results of an organization involved in the transaction to the detriment of the other organization.
- e. Intentional, improper related party transactions in which one party receives some benefit not obtainable in an arm's-length transaction.
- f. Intentional failure to record or disclose significant information to improve the financial picture of the organization to outside parties.
- g. Prohibited business activities such as those that violate government statutes, rules, regulations or contracts.
- h. Tax fraud.

3. Fundamental ingredients

There are hundreds of ways to perpetrate fraud, and there are three key elements common to all of them. The three ingredients are, 1) strong financial pressure, 2) a way to justify or rationalize the fraud as being OK, and 3) a perceived opportunity to commit & conceal the fraud.

Fraud examiners need to understand what motivates people to commit fraud and how fraudsters operate. Fraud results from a combination of opportunity, need-greed, and attitude-culture. The fraud examiner and management must be aware of what the motivations of fraud are and be able to assess what motivations would be more applicable in any particular case.

Fraud results from either a need or greed. Research has also shown that fraud motivated by need is highest when the economy is in a slump and fraud motivated by greed is highest when the economy is booming. The former because people may come on hard times and try to maintain their standard of living and the latter because in times of boom there is greater consumerism.

This need or greed however must have a combination of other factors such as the opportunity to commit the fraud and the attitude. The opportunity to commit the fraud results from the perpetrator having access to the assets at the point in time that the fraud is committed. This may be just temporary access, however access is needed to the asset. The opportunity to commit fraud usually results from a lack of proper internal controls.

The other factor can be called the culture of the organization. Organizations which expect unreasonable performance standards, have little respect for controls, are not sensitized as to how serious fraud is, allow an employee to rationalize that it's OK to do the deed, etc. tend to have a higher incidence of fraud.

Opportunity is the most controllable factor followed by the culture. In many organizations, however, management, in most cases, does not take the necessary steps to control these factors.

In many ways fraud is like fire. In order for a fire to occur, three elements are necessary: Heat, Oxygen, & Fuel and when these three come together there is a fire. As with the elements in the fire triangle, the three elements in the Fraud Triangle are interactive. With fire, the more flammable fuel, the less oxygen and heat it takes to ignite. Similarly, the purer the oxygen, the less flammable the fuel needs to be to ignite. With fraud, the greater the per-

ceived opportunity or the more intense the pressure, the less rationalization it takes to motivate a person to commit fraud. Likewise, the more dishonest a person is, the less opportunity and/or pressures it takes to motivate fraud.

4.1. Types of fraud

In business world various types of fraud exist. Howard Davia in his book 'Fraud 101', states that all fraud cases fall into one of three sectors. Sector 1, exposed & in the public domain, includes all the fraud that has been prosecuted (20%). Sector 2, known by few and not made public, includes all the fraud that victims have discovered, but which has not been prosecuted (40%). Sector 3, undetected, includes all the fraud that has not been discovered (40%). Some, quite important and frequently occurred are noted as follows:

4.1.1. Common fraud

Fraud is usually taken to have elements including an intentional and unlawful misrepresentation which causes prejudice, most of misappropriation – the removal of cash or assets to which the fraudster is not entitled – or false accounting – massaging or falsifying the results or numbers reported by the business to create a false impression, or corruption – conflicts of interest, accepting bribes and economic distortion.

Within each of these broad categories, there are numerous types of fraud ranging from the theft of petty cash or cheque fraud to a major fraud. While there are certain common failures, the facts are never quite the same in any two cases. Something can be learned, however, from looking at known frauds and at how and why they happened.

4.1.2. False accounting

The main aim of false accounting is to present the results and affairs of the organization in a better light than the reality. Frequently, there are commercial pressures to report an unrealistic level of earnings, which can take precedence over controls designed to prevent fraud.

Whatever the purpose of fraud, the feature common to all cases is the need to falsify records, alter figures and perhaps keep two sets of books. In every instance, it is only a matter of time before the "hole" cannot be hidden any longer and the fraud is exposed. Most instances of false accounting

are carried out by insiders – either employees or management who are in a position to override the normal controls and to present figures that are simply not true.

4.1.3. Theft by employees or management

It may include direct theft of cash or any asset of the business. Theft of stock, commonly known as stock shrinkage, can be significant. Computer equipment is particularly vulnerable. The theft of intellectual property, price lists or customer lists also falls into this category. Symptoms as false expense claims & petty cash, payroll fraud and rolling debtors receipts also falls under this category.

4.1.4. Indicators In Data

Since even sophisticated fraudsters aren't necessarily computer experts or skilled hackers, they often leave strong indications of their activity in computer databases. Entering, or causing to have entered, an unauthorized transaction is one thing - but deleting those transactions and fooling the reconciliation process is quite another. Sometimes it is stunningly easy to find indications of fraud by simply sorting and totaling the appropriate fields in a database.

Let's say one works for a large company that sends out thousands of cheques each month. The name, address, ID number and other information about the transaction are entered into the database, the cheques are printed by the computer, then mailed. This is a very common occurrence.

In selecting the data fields to sort, keep in mind the only thing one can trust about any transaction in such a database is the address and possibly the phone number of the payee. Names are meaningless. Anyone can make up a name for a person or a business and even find a way to register it. Sometimes a small variation in the spelling of a name can make it look like a different entity to the database. (e.g. to a computer, echotech can be different than EchoTech or Echo Tech or Echo Tech, etc.) The name H. Hughes could be Howard Hughes or Helen Hughes or even the name of a company, erroneously entered as an individual.

Companies with a lot of data entry and few staff cannot check the legitimacy of every company or individual assigned an ID number in their database. If there is fraud involved, all the other information entered into the database is generally false.

However, the fraudster has to get his/her hands on the cheque. In order to cash a cheque (don't worry about how they do it - they know how to cash

cheques), there has to be a physical address where the cheque is mailed, so the fraudster can pick it up. Often, a real phone number is also required, in case the company issuing the cheques calls for further (false) information.

Unfortunately, one has to know the exact physical address before you can search on it and you are not investigating a fraud, you are searching for indications of a fraud. Even if you have an address, to a computer, 123 Acropolis can be vastly different from 1 23 Acropolis or 12 3 Acro Polis, etc.

5. Common myths about fraud

Following is a list of commonly held beliefs regarding fraud:

- most people will not commit fraud
- fraud is not material
- most fraud goes undetected
- fraud is usually well concealed
- only hackers and information systems specialists commit computer fraud
- computer fraud is sophisticated

These myths are detrimental to the prevention and detection of fraud, and should be dispelled from the management and auditor mindset. Communication and support of a strict fraud policy will address this issue.

6. Who is responsible?

It is the responsibility of the board of directors to ensure the security and integrity of the business assets by putting in place appropriate controls and review procedures.

But how should directors assess the risk of fraud and identify controls that should be put in place?

Ignoring the risks is not an option. Increasingly, directors are being held accountable for failures in systems that allow fraud to occur. In addition, the cost of fraud can be enormous. Not only there are the direct losses to business, but also the indirect costs of repairing damaged reputations, restoring confidence in the market place as well as management time spent

on resolving the problem.

Importantly, when asked about the risk of fraud facing their organizations, most people immediately think of the risk posed by third parties. Rarely does the risk posed by employees or management feature in their thinking.

Nowadays, fraud risk is higher than ever before. The main contributing factors are the growing complexity of organizations, a history of inattention, understaffing of audit functions, the acceptance of some level of fraud as the “cost of doing business”, ineffective internal controls and increasingly transient employees.

According to SIAS 3 fraud deterrence is the responsibility of management. Internal auditors are responsible for examining and evaluating the adequacy and the effectiveness of actions taken by management to fulfill this obligation.

7. Corruption in African countries

The *Transparency International (TI) Corruption Perception Index 2002* lists 102 countries with only two African countries scoring higher than 5 (Botswana with a score of 6.4 and Namibia with a score of 5.7). Twenty other African countries rate less than 5 with Nigeria scoring 1.6 and coming in as the second most corrupt country in the world, behind only Bangladesh.

Corruption is one of the oldest white-collar crimes known to mankind. The tradition of paying off public officials or company employees for preferential treatment goes as far back as biblical times. One of the most infamous cases of bribery was that of Judas Iscariot, the disciple who betrayed Jesus Christ.

The elders of Jerusalem had asked Judas to disclose the location of Christ during the night so that He could be captured and executed. In return for 30 pieces of silver, Judas led an armed guard to the garden of Gethsemane, where he identified Jesus by kissing Him on the cheek and whispering “Master”. The city elders then crucified Christ. Judas was so distraught about the betrayal Jesus and hanged himself shortly after.

African countries have had to endure many recent high-profile corruption scandals. In South Africa, a controversy over a US \$5.5 billion arms deal with contractors in Germany, Italy, Sweden and the UK dominated the headlines this year. Close links between subcontractors and high-ranking government officials were exposed. Though the ANC government denied

impropriety, the scandal cast a long shadow.

In Lesotho, court proceedings in the \$8 billion Lesotho Highlands Water Project case began in 2001. The former head of the Lesotho Highlands Development Authority, responsible for awarding construction contracts since 1986, faces multiple charges of bribery and fraud. Charges are also being brought against the beneficiary contractors including some of the world's leading construction companies from Canada, France, Germany, Italy, South Africa, Switzerland and UK who allegedly offered the bribes.

The murder of Carlos Cardoso, one of Mozambique's most respected journalists, was a sharp reminder of the risk to reporters who attempt to secure evidence of corruption by senior officials. Cardoso's investigation into a US \$14 million bank fraud, linked to the privatisation of Banco Commercial de Mocambique under an IMF structural adjustment programme, is widely thought to have led to his assassination in November 2000.

There were revelations in October 2002 that the government of Malawi spent US \$2.5 million on limousines for ministers' and consequently soured relations with donors.

In Nigeria, a series of corruption scandals that broke out in the legislature, the most prominent being the impeachment in August 2000 of Senate President Chuba Okadigbo, who was alleged to have misused public funds. President Obasanjo views one of his major tasks as retrieving the billions of dollars embezzled by former dictator General Abacha.

Ghana's high courts are currently burdened by ongoing cases of corruption involving high-level officials of the Rawlings government. A former finance minister has already been jailed for stealing nearly \$2 million.

In Morocco, parliament set up a commission of inquiry in 2001 to investigate the apparent diversion of more than US \$1 billion of state funds over the course of a decade through state bank Credit Immobilier et Hotelier.

Burundi's parliamentary commission of inquiry reported in 2001 that 'theft, fraudulent management, corruption and embezzlement are rampant in the public sector .

8. Internal Audit Role in Fraud

The role of internal audit is to deliver an opinion on the whole of an organi-

sation's risk management, control and governance. In relation to fraud this will include the examination of the adequacy of arrangements for managing risk of fraud and ensuring that the organization actively promotes an anti-fraud culture.

Internal audit will therefore assist in the deterrence of fraud by examining and evaluating the effectiveness of control commensurate with the extent of the potential exposure in the various segments of an organisation's operations. Internal audit's main responsibility is to ensure that management has reviewed its risks exposures and identified the possibility of fraud as business risk.

Management has the responsibility for conducting fraud investigations but internal audit may be asked to assist and in some organizations may have had responsibility for conducting investigations delegated to them. Fraud investigation is an area that requires specialist knowledge and where internal audit has this responsibility they need to develop and maintain appropriate levels of expertise.

Internal auditors are in a unique position to take a proactive approach to fraud. Internal auditors should be familiar with the polices, procedures and computer systems of the company. Because of proximity and continual exposure to top management, internal auditors are more likely than independent auditors to sense the tone and see the warning signals of fraud. In addition, internal auditors have an opportunity to be involved in system development to ensure adequate controls are in place from the start. Thus, while our external auditors can take a reactive approach to existing, material frauds, internal auditors should take an active role in ethics auditing and fraud prevention and detection.

The role of internal auditors is not to detect all fraud. According to the Internal Auditor Professional Practices Framework they are responsible to follow generally accepted practices of auditing and conduct audits with due professional care. Accordingly, internal auditors should:

- Review the internal control systems to evaluate the risk of fraud being perpetrated.
- Design the audit based on that risk.
- Carry out the audit in a professional manner.
- Maintain an attitude of professional skepticism, alert for fraud possibilities in all audit activities.
- Help design controls that will reduce the possibility of fraud.

9. Internal Auditors towards ‘whistleblowing’

Whistleblowing is defined according to IIA UK as the unauthorized disclosure by internal auditors, in good faith, of serious information relating to questionable practices, whose disclosure is perceived to be in the public interest. The information may comprise audit results, findings, opinions, or information acquired in the course of performing their duties.

Internal auditors should use their best endeavors to ensure that the enterprise has appropriate and effective whistleblowing policies and procedures. The internal auditing function is likely to have an important role in the development and implementation of these – not least in being a channel for the effective communication of employee concerns about perceived wrongdoing to senior management and to the board and in being an important part of the investigator process.

The characters and terms of reference relating to internal auditing should address the issues of confidentiality and public disclosure. Whistleblowing can bring some difficult ethical decisions for the internal auditor, in the following circumstances where:

- a) Internal auditors may obtain information from a whistleblower
- b) The internal auditor may be given the role of contact point for concerns to be raised.
- c) The internal auditor may consider becoming a whistleblower

If approached by an informant, the internal auditor should be able to provide advice on how to raise an issue internally using the normal channels without the need for external disclosure. This may mean taking the issue forward on the informant’s behalf. In this case there should be clear rules for how concerns should be dealt with. Where the auditor pursues a case on an informant’s behalf it should be made clear that anonymity cannot be guaranteed. If the matter remains unresolved and the informant decides to become a whistleblower the internal auditor may be left in a difficult position concerning the confidentiality of the whistleblowers identity, To avoid a conflict it would be advisable for the internal auditor to get management’s agreement that the internal audit would not be expected to reveal its sources of information in such circumstances.

If minded to assist the informant, the internal auditor must be satisfied

that the informant is acting in good faith and not motivated by a grudge or other doubtful motive and that there is a solid basis for the concern. This puts the internal auditor in a similar position to that where she or he obtains information as a result of an audit. The issue should be raised in the same way as an audit finding or recommendation. Having clearly communicated the finding or recommendation to the appropriate level of management, to the board and/or to an external agency the internal auditor has completed his or her professional obligations.

10. What to do if fraud is suspected

However comprehensive and impressive it may appear to be, no fraud preventing or detection system can ever be 100 per cent effective. The determined fraudster will always find a way around it, particularly if he or she regards the potential consequences of being caught as slight compared to the potential gain.

When the unthinkable happens and a fraud perpetrated by a third party, an employee or, worse still, a senior member of management is suspected, what do you do next? Whom should you tell and whom should you not tell? Who should investigate and what powers would the investigators be able to exercise? What should you do with regard to the suspect? What are you going to do with any information that is obtained? How can you go about getting your money back?

Many organizations have disaster recovery procedures in place in the event of fire, bomb explosion or major computer failure. Few have established and agreed procedures for handling suspected fraud. Yet if the suspicion and supporting evidence are handled in the wrong way, considerable damage can be done to the organization's finances and reputation. Matters to be considered and incorporated in a fraud contingency plan include:

- Thoroughly understand all business processes.
- Identify fraud risks in each area from management, employees, third parties or through collusion.
- Identify the most critical risks according to severity and likely frequency.
- Implement appropriate controls.
- Implement indirect controls throughout the organization to change the corporate culture and encourage openness and reporting.

- Agree on the contingency plan.
- Determine who will lead the investigation.
- Determine objectives and powers of the investigation team.
- Work out investigation process and techniques.
- Working with the police.
- Reporting and publicity.

Not every suspicion may appear to merit the mobilization of the full plan. But the initial suspicion may prove to be only the tip of the iceberg, with much greater problems as yet unknown. In any event, activating the fraud contingency plan will ensure that best practice is followed, irrespective of how material the suspected fraud turns out to be.

11. Lessons to be considered

One powerful way to fight fraud is to provide a way for individuals to report suspected fraud without fear of retaliation or retribution. Has the organization established ways for employees and others to report their concerns? Although there has been a trend in recent years to partner with clients, getting too close to them can make it extremely difficult to report problems objectively.

Time magazine's whistleblowers have said they were merely doing what they were supposed to do, yet many people have expressed surprise at their action. If the WorldCom situation occurred at any organization, would an auditor do the right thing?

12. Conclusion

Every whistleblowing situation is different and there is no wrong or right answer as to what should be done. Internal auditors, therefore, should act professionally and in accordance to their *Code of Ethics, Standards and Guidelines* set by the *Professional Bodies*. Their response should be proportionate to the situation faced and appropriate to their role within the company.

Like lawyers, internal auditors are discharging a professional advisory role, which depends in large measure upon trust and confidentiality. The auditor

should be aware that where trust exists between the board and the auditor, whistleblowing by the internal auditor is likely to undermine it. In becoming a whistleblower that internal auditor's position may become untenable.

While recent events surrounding Enron and WorldCom place additional public scrutiny on auditors to detect irregularities and illegal acts, it does not mean that auditors must become fraud investigators. Professional standards require auditors to assess the risk or the likelihood that irregularities and illegal acts may or may not occur. Based on risk assessment, auditors must design procedures that are appropriate given a particular risk assessment. While increased scrutiny is being placed on auditors to detect irregularities and illegal acts, ultimately it is management that is responsible for its detection and prevention.

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DYNAMIC EFFECTS OF POLISH ACCESSION ON E.U. MANUFACTURING

NICHOLAS TSOUNIS

T.E.I. of Western Macedonia

Abstract

The paper presents quantitative estimates of the dynamic effects of integration of the forthcoming entrance of Poland into the E.U.. The examination of the dynamic effects of integration has been made with the utilisation of an ex-ante model. The results found by the application of this model suggest that the entrance of Poland in the E.U. would have mixed effects in the various sectors of the region. The sector that would benefit the most from integration is manufacture of pulp, paper and paper products. Other sectors where positive integration effects are expected are: wooden products, refined petroleum and coke products, fabricated metal products and radio, television and communication equipment. Integration would not be beneficial for the sectors of tobacco products and recycling for which, the total product of the region is expected to decrease. The overall integration effect on all sectors is that the entrance of Poland into the E.U. will marginally increase the output of the region.

JEL classification: F02, F15.

Keywords: Poland, Accession, Dynamic integration effects.

1. Introduction

The forthcoming accession of the central and eastern European countries (CEECs) to the E.U. is from an economic perspective, a historic event. It is the first time that a customs union will be formed between high-income developed economies and many middle-income developing economies.

International trade theory suggests that we can categorise the economic effects of integration in terms of allocation, accumulation and location effects (Baldwin and Venables 1995). Further, there could be also an important effect on technical change and innovation and thus growth, as described in particular by Grossman and Helpman (1992).

The **allocation effects** (static effects) refer to an increase in real income (welfare) due to a more efficient allocation of factors of production that re-

sult from decreasing trade barriers and from the elimination of price distortions in production and consumption (de la Fuente 1995). However, the distribution of welfare gains may be uneven with some larger countries experiencing net welfare losses (the optimal tariff argument).

Another possible source of welfare loss after removing trade barriers, may result from trade diversion as opposed to trade creation. Trade diversion occurs when there is a switch in trade from outside efficient suppliers to less efficient suppliers inside the union. Originally, this literature, on trade diversion / trade creation, was developed by Viner (1950), Meade (1955), Lipsey (1960) and Michaelly (1963) and it was surveyed by Krauss (1972). However, Mundell (1964) and Kemp and Wan (1976) have developed theoretical frameworks which show how member countries can benefit from an economic union even if there is trade diversion.

The above assumes perfectly competitive markets. The allocation effects on income and welfare could probably be larger if we allow for economies of scale (increasing returns) and imperfect competition. (See Krugman and Venables (1994) for an introduction to this literature). This theoretical literature has not however reached unambiguous conclusions. The welfare impact on individual countries is difficult to evaluate *ex ante* and its size depends very much on the assumptions made by the specific model on the relevant importance of supply and demand elasticities, economies of scale, market size, the concentration of industry and other trade distortions. Nevertheless, empirical models show that the welfare gains are larger under imperfect competition and economies of scale than would have been under situations of perfect competition (de la Fuente, *op.cit.*).

Another source of efficiency gains comes from the reduction of internal organisational slack termed X-inefficiency by Leibenstein (1966). Economic integration increases competition forcing a better (more efficient) allocation of the managerial resources of the firm.

The allocation effects are static in the sense that they do not take into consideration the impact of integration on factor accumulation.

The **accumulation effects** (dynamic effects) of integration can be analysed in terms of factor accumulation through changes in relative efficiency caused by increased competition and the exploitation of economies of scale on one hand and in terms of technical progress on the other and both affect output growth.

This analysis of the effect on factor accumulation and growth of trade liberalisation measures can be expanded to allow for permanent productivity enhancing factor accumulation effects (endogenous growth). The new growth literature initiated by Romer (1986), has made the accumulation of factors of production a ceaseless endogenous process of the economic system. This literature emphasises the micro-foundations of factor accumulation specifying the private costs and gains in new investment in human capital, and technical progress. The conclusion reached by this "new" literature is that continuous output growth can be achieved by sustained productivity growth generated, for example, by a continuous process of R&D investment and innovations.

Further, the elimination of trade barriers will affect the geographical concentration of economic (industrial) activity as stressed by Krugman (1991a and 1991b) and Krugman and Venables (1990, 1993 and 1994). Two factors emphasised by this new literature are: a) increasing returns to scale in production that are internal to the firm and b) trade costs such as transport costs, marketing costs and communication costs due to language, and/or cultural differences.

The distribution of economic activity across regions cannot be a priori determined. It is true that for those industries that experience increasing returns (due to large fixed costs), the elimination of trade barriers, make it profitable to concentrate production in specific regions. On the other hand, if economies of scale are not large enough relative to regional demand and trade costs are large, then economic activity may spread in many regions. This effect, which may be called the location effect of integration, may be reinforced by wage differentials that are due to labour immobility.

Economic integration has a **technical progress effect** through its impact on the accumulation of technological knowledge. Grossman and Helpman (1992) have identified four mechanisms by which economic integration might affect the accumulation of technological knowledge.

First, economic integration will facilitate the communication of technical information. Second, competition which is the expected result of economic integration forces private agents to implement new ideas and technologies. Third, economic integration increases the size of the market creating more profit opportunities. This can have a positive affect on the innovation process even though increasing competition may have a negative effect on innovation. Fourth, innovation may be encouraged through the specialisation fostered by economic integration.

Baldwin (1992) has also developed a theoretical argument that links the accumulation of human capital (knowledge) to the removal of trade barriers and economic growth. Nevertheless, it is quite possible that the integration impact might negatively affect the incentives to invest in technological innovations and human capital accumulation and this may be so particularly for the relatively less-developed countries. Grossman and Helpman (op.cit.) give four reasons why this might be the case. First, more trade implies more competition and national firms might find that this reduces the anticipated profitability of their investment in knowledge. Second, opening up trade with a technologically advanced country may force the less advanced country to reduce investment in innovation. This might lead to a concentration of technological progress in a few regions that had an advantage in innovation production before economic integration. Third, countries with unskilled (manual) labour endowment may be forced by economic integration to specialise in commodities that are low in technological content. Fourth, countries that invested relatively more in human capital before economic integration will experience a higher reward after economic integration reducing the incentives to invest in research and development.

The above paragraphs present a literature review of theoretical aspects of integration. International trade theory literature is very rich with empirical studies, which try to qualitatively and quantitatively estimate the economic implications of integration. Plummer (1991) and Tsounis (2001, 2002) investigated the static effects of the Greek accession using an *ex-post* import-growth model and a shares in apparent consumption model respectively¹. Katos (1982) analysed the possible effects of economic integration of Portugal, Spain and Greece. Other authors have estimated the integration effects of the establishment of the single market in the E.U. on the structure of trade and production. A short-list includes Amiti (1996), Buigues-Sheehy (1995), Italianer (1994), Jacquemin (1990), Jacquemin-Sapir (1988), Neven-Roller (1991), Pelkmans (1993), Sapir (1990, 1992, 1996) and Tsounis (1999).

The purpose of this paper is to present quantitative estimates of the welfare effects of the entrance of Poland into the E.U. The dynamic effects are examined. These effects are related to the changes in relative efficiency caused by increased competition and the exploitation of economies of scale on the Community's output of the entrance of Poland into the E.U. and they are examined with the help of an *ex-ante* model. The structure of the

paper is as follows: in section 2 the model for analysing the dynamic effects is presented. Section 3, describes the estimation procedure of the model, section 4 provides a quantitative estimate of the dynamic effects stemming from the Polish accession to the E.U. and section 5 concludes.

2. The Model

To examine the dynamic effects of economic integration on each sector of a region which will potentially integrate, the “normal” products of each sector of the region in the case of being integrated are compared with the “normal” products of each sector of each individual country in the absence of economic integration. The “normal” products are functions of the regional income, the market size and the level of efficiency of a sector in terms of the overall efficiency in the economy (Sakamoto 1969, Chenery 1960, UN 1963, Tsounis 2002). The “normal” products for the economy as a whole and for the various sectors individually of a country are given by²:

$$Q_{Tj} = A_T Y_j^{a_T} P_j^{b_T}; j = 1, \dots, m \quad (1)$$

$$Q_{ij} = A_i Y_j^{a_i} P_j^{b_i} D_{ij}^{c_i}; j = 1, \dots, m, i = 1, \dots, n \quad (2)$$

where the subscripts T, j and i denote all sectors of economy j taken together, country j and sector i, respectively. The variables Q, Y, P and D denote output, per capita income, population and relative rate of efficiency. The relative rate of efficiency is defined as the efficiency of a sector in terms of the overall efficiency in the economy (the full description of the variables and the method of calculation of the relative efficiency variable is given in section 3); A is a constant term and the a, b and c are elasticities. Thus, a_i is the income elasticity of output of sector i, b is the population elasticity of output of sector i and c is the elasticity of output of sector i with respect to the sector's relative degree of efficiency.

Assume now that a region R is composed by two blocks: the fifteen E.U. countries and Poland, with per capita incomes $Y_{E.U.} = (\sum_j Y_j P_j) / (\sum_j P_j)$; $j=1, \dots, 15$ and Y_P and population $P_{E.U.} = \sum_j P_j$; $j = 1, \dots, 15$ and P_P respectively.

Equations (1) and (2) express relationships in which -given income, population and relative efficiency- it is possible to determine the “normal” product of the different sectors. Therefore, we can define the integration of

the two regions as beneficial according to a Pareto criterion as: “the situation ... in which the regional product of at least one of the branches is larger than the sum of the respective product of the two countries [regions], and where the regional product of the remaining branches is not smaller than the sum of the two countries’ [regions’] products” (Sakamoto op.cit., p.285). Consequently, if it is observed that the integration in some sectors yields a larger product but at the same time the products of the remaining branches are smaller, no judgement can be made about the total effects of the integration on all sectors.

To formalise the above, the “normal” equations of each block, in our case, of the E.U.-15 and Poland, corresponding to the sector i of the economy, would be:

$$Q_{iE.U.} = A_i Y_{E.U.}^{a_i} P_{E.U.}^{b_i} D_{iE.U.}^{c_i} \quad (3)$$

and

$$Q_{iP} = A_i Y_P^{a_i} P_P^{b_i} D_{iP}^{c_i} \quad (4)$$

Assume now that Poland integrates with the E.U.. The per capita income of the sixteen countries will be $Y_R = (\sum_j Y_j P_j) / (\sum_j P_j)$; $j = 1, \dots, 16$ and the population of the region $P_R = \sum_j P_j$; $j = 1, \dots, 16$. The “normal” equations for each of the i sector of the region would be:

$$Q_{iR} = A_i Y_R^{a_i} P_R^{b_i} D_{iR}^{c_i} \quad (5)$$

According to the above, integration would be beneficial for the i sector, if $Q_{iR} > Q_{iE.U.} + Q_{iP}$ or it would not be beneficial if $Q_{iR} < Q_{iE.U.} + Q_{iP}$. Alternatively, an “integration index” can be defined as:

$$I_i = \frac{Q_{iR}}{Q_{iE.U.} + Q_{iP}} \quad (6)$$

for each sector i (Sakamoto op.cit., Katos op.cit). If $I_i > 1$ integration is beneficial for the i sector, if $I_i < 1$ then integration will not be beneficial for the i sector. It is noted, however, that the “integration index” indicates only whether integration is beneficial or not for a specific sector i and no conclusion can be derived for all the sectors taken together, if in some of them I_i is greater than unity and in some others less than unity. Additionally, it should be noted that the analysis is only applicable if the “normal” equations are a good approximation to the actual products of the sectors of the

countries considered. Otherwise the results would be subject to an overestimation or an underestimation. In our case “normal” products were found to be very good approximations to the actual products since the value of their correlation coefficient was 0.9963 and it was statistically different from zero at a less than 1% level of statistical significance.

3. The Estimation Procedure

For the calculation of the “normal” products given by the equations (3), (4) and (5), the coefficients a_i , b_i and c_i should be estimated first. This can be done by estimating equations (1) and (2) in a double logarithmic form. The estimation of (1) is necessary for the calculation of the D_{ij} variable.

Q_{Tj}^* is the total output for economy j in 1999 in EUROS; $j = 1, \dots, 15$, Y_j is the per capita income for 1999 in economy j in EUROS and in purchasing power parities (PPP)³, P_j is the total population of economy j in 1999⁴. The variable D_{ij} is the relative efficiency of the i^{th} sector of the j economy and it has been calculated as $D_{ij} = R_{ij}/E_j$, where the efficiency variable E_j of the j^{th} economy is defined as the ratio of the actual over “normal” values of Q_{Tj} , i.e., $E_j = Q_{Tj}^*/Q_{Tj}$ (the asterisk indicates actual values) and R_{ij} is the efficiency variable of the i sector of the j^{th} economy defined as the ratio of the actual over the “normal” values of Q_{ij} , i.e. $R_{ij} = Q_{ij}^*/Q_{ij}$.

The explanatory power of the independent variables is very high, as can be seen from the high (adjR²) coefficients; for all sectors they are over 0.96.

The income coefficients can be called, growth elasticities rather than income elasticities, since in the long-term, with rising income, factor proportions as well as demands vary. Similarly, the population coefficients are market size elasticities and represent the effects of the increase in the market size.

The relative efficiency variable was introduced into the model to capture the effects of the changes in the relative efficiency of a sector on its output. It is interesting to note that the introduction of the relative efficiency variable left unchanged the values of the regression coefficients of the other two explanatory variables and also of the constant terms of equation (2), but it improved the value of their t-statistic. Thus, it can be regarded as a “correction” term in the equation, in the sense that it is used to increase the stability of the estimates and to capture a part of the unexplained part of the

dependent variable, since its t-values for all sectors are high (it is statistically significantly different from zero at 1% level of significance for all sectors). Its estimated coefficient can be interpreted as the relative efficiency elasticity of output showing the effects of a percentage change of the efficiency of a sector relative to the overall efficiency of the economy on the percentage change of output, the other variables remaining unchanged.

The population variable was the most statistically significant variable, being for all sectors statistically significantly different from zero at 1% level of significance. It is observed that for the sectors of mining and quarrying (100), manufacture of tobacco products (160), manufacture of textiles (170), manufacture of rubber and plastic products (250), manufacture of other non-metallic mineral products (260), manufacture of basic metals (270) and recycling (370) the population (size) elasticity is close to unity showing a constant relation of changes in the sectors' products caused by the changes in the population, in these sectors.

Manufacture of food products and beverages (150), Manufacture of wood and of products of wood and cork (200), Manufacture of pulp, paper and paper products (210), Publishing, printing, reproduction of recorded media (220) and Manufacture of radio, television and communication equipment and apparatus (320) sectors have a population elasticity less than unity, showing that production growth in these sectors does not keep pace with the market size growth. This result may seem surprising for the sectors 150 and 320, since one would expect a population elasticity of at least one for those sectors.

On the other hand, the sectors of manufacture of wearing apparel, dressing; dyeing of fur and tanning, dressing of leather; manufacture of luggage (180, 190), manufacture of coke, refined petroleum products and nuclear fuel and manufacture of chemicals and chemical products (230, 240), manufacture of fabricated metal products, except machinery and equipment, manufacture of machinery and equipment, (280, 290), manufacture of office machinery and computers, manufacture of electrical machinery and apparatus (300, 310), manufacture of medical, precision and optical instruments, watches and clocks (330), manufacture of motor vehicles, manufacture of other transport equipment (340, 350), manufacture of furniture (360) and electricity, gas and water supply (400-410) have a population elasticity greater than one. These sectors will benefit from the expansion of

the size of the market alone, (the other independent variables remaining unchanged), occurring after the integration of two regions, and their relative position in the economy will improve.

Regarding the growth (income) elasticities, one sector (manufacture of wearing apparel; dressing; dyeing of fur (180) has zero growth elasticity. This shows that sector 180 has little importance in the growth of the economies in the region. The values of the growth elasticities indicate the changes in economic structure of the region under investigation. The highest growth elasticity is that for the manufacture of office machinery and computers (300) sector, while other sectors with high growth elasticities are the manufacture of medical, precision and optical instruments, watches and clocks (330), manufacture of tobacco products (160), manufacture of chemicals and chemical products (240) and machinery (290, 320) sectors. All growth coefficients are statistically significantly different from zero at, at least, 1% level of significance, apart from the coefficients of the sector 180.

4. The Results

In Table 1 the “integration index” calculated from (6) and the “normal” products for each sector of the fifteen E.U. countries and Poland before integration and of the E.U.-16, after integration are presented.

Table 1: Dynamic Effects of Integration.

NACE ⁵	Integration Index	Q _{is} E.U.-15	Q _{ir} E.U.-16	Q _{ih} Poland	D _{ir} E.U.-16	D _{is} E.U.-15	D _{ir} /D _{is}
100-140	0,99320	81733	85297	4148	1,04406	1,08235	0,96463
150	0,95195	616813	602190	15769	1,32888	1,31137	1,01335
160	0,86349	36458	31872	453	1,48937	1,41328	1,05384
170	1,01767	110081	113734	1678	1,21311	1,21875	0,99537
180	1,00466	78219	80753	2160	0,47189	0,54556	0,86497
190	1,00265	46852	47657	678	1,08882	1,19216	0,91331
200	1,07739	93978	104091	2636	1,50521	1,56881	0,95946
210	1,09942	125939	140818	2145	2,15394	2,11185	1,01993
220	1,03770	220313	232268	3517	1,78767	1,71555	1,04204

230	1,06962	214769	232192	2309	0,31366	0,33824	0,92734
240	1,03519	445899	466463	4709	0,76881	0,76165	1,00940
250	1,04716	175429	187611	3732	1,02834	1,02016	1,00802
260	1,02019	161434	168487	3717	1,14135	1,16123	0,98288
270	1,03093	184539	194302	3934	1,32175	1,29277	1,02242
280	1,05775	324364	347894	4536	0,85804	0,85335	1,00549
290	0,98106	425640	421477	3975	0,79550	0,78625	1,01176
300	1,04255	73235	76611	249	1,57811	1,45552	1,08422
310	0,94739	191429	183791	2568	0,59244	0,61954	0,95627
320	1,06294	167312	179715	1762	3,74909	3,47024	1,08035
330	0,97893	101563	100321	917	0,88013	0,85205	1,03296
340	1,02764	522521	542582	5469	0,34876	0,36983	0,94303
350	0,96099	137189	133436	1663	0,71201	0,71288	0,99878
360	0,96685	138695	137366	3381	0,62091	0,65207	0,95222
370	0,89280	9397	8713	362	1,01749	0,99389	1,02374
400-410	0,97929	287203	287622	6501	0,56593	0,57243	0,98865

It is observed that integration will not be beneficial for all sectors since the sectoral integration indexes are not all higher than unity: 15 sectors are found to have $I_i > 1$ and 10 sectors $I_i < 1$. Therefore, no general statement can be made as to whether integration of Poland with the E.U. was beneficial or not according to the Pareto criterion given in section 2. It can only be examined whether or not the integration would be beneficial for each sector individually. An examination of the first column of Table 1 shows that integration would be beneficial for the sectors 170 to 280, 300, 320 and 340, while for the remaining sectors it would not be beneficial. The highest integration index is reported in the sector of manufacture of pulp, paper and paper products, while relatively high values of the index are also reported for the wooden products sector (200), the refined petroleum and coke products sector (230), the fabricated metal products sector (280) and radio, television and communication equipment sector (320). It should be noted though that most integration indexes are within the range of 0.90 and 1.10, with the majority of them being very close to unity, showing that the integration of Poland into the E.U. would had not been expected to have a dramatic impact in the total product of the region, except for the sectors of

tobacco products (160) and recycling (370) for which it is expected that integration would not be beneficial.

Although, as mentioned above, not all sectors have integration indexes greater than unity, so that no statement can be made about the increase or decrease in welfare, it was tempting to calculate the integration index for all sectors by summing up the “normal” products of all sectors. The integration index for all manufacturing sectors had a value of 1.01054, showing that the entrance of Poland into the E.U. will marginally increase the product of the region. Furthermore, in Table 1 the relative efficiencies of the E.U. are reported with and without the integration of Poland, and in the third column the ratio of the relative efficiency of the E.U. with Poland to the relative efficiency of the E.U. without Poland, is reported for each sector.

The relative efficiency index shows the position of the relative efficiency of a sector within the overall efficiency of the economy. Therefore, a value of the ratio D_{ir} / D_{is} greater than one shows that the sector will improve its position relative to the other sectors, after the entrance of Poland into the E.U. The values of the ratios of the relative efficiencies range from 0.86 to 1.08. The entrance of Poland into the E.U. will improve marginally the position of 13 sectors, while it will worsen the position of 12 sectors.

5. Conclusion

The purpose of the paper is to present estimates of the dynamic (changes in relative efficiency) effects of the accession of Poland into the E.U. utilising an ex-ante model. The results found by the application of this model suggest that the entrance of Poland in the E.U. would have mixed effects in the various sectors of the region. The sector that would benefit the most from integration is manufacture of pulp, paper and paper products. Other sectors where positive integration effects are expected are: wooden products, refined petroleum and coke products, fabricated metal products and radio, television and communication equipment. Integration would not be beneficial for the sectors of tobacco products and recycling for which, the total product of the region is expected to decrease. The overall integration effect on all sectors is that the entrance of Poland into the E.U. will marginally increase the output of the region.

APPENDIX: Description of Sectors

Sector Code⁶	Description
100-140	Mining and quarrying
150	Manufacture of food products and beverages
160	Manufacture of tobacco products
170	Manufacture of textiles
180	Manufacture of wearing apparel; dressing; dyeing of fur
190	Tanning, dressing of leather; manufacture of luggage
200	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
210	Manufacture of pulp, paper and paper products
220	Publishing, printing, reproduction of recorded media
230	Manufacture of coke, refined petroleum products and nuclear fuel
240	Manufacture of chemicals and chemical products
250	Manufacture of rubber and plastic products
260	Manufacture of other non-metallic mineral products
270	Manufacture of basic metals
280	Manufacture of fabricated metal products, except machinery and equipment
290	Manufacture of machinery and equipment n.e.c.
300	Manufacture of office machinery and computers
310	Manufacture of electrical machinery and apparatus n.e.c.
320	Manufacture of radio, television and communication equipment and apparatus.
330	Manufacture of medical, precision and optical instruments, watches and clocks
340	Manufacture of motor vehicles, trailers and semi-trailers
350	Manufacture of other transport equipment
360	Manufacture of furniture; manufacturing n.e.c.
370	Recycling
400-410	Electricity, gas and water supply.

NOTES

1. For a description of the different types of models used for the analysis of integration effects see (Verdoorn and van Bochove 1972).
2. The model used here has been developed by the UN (1963) and Sakamoto (1969) and refined by Katos (1982) and Tsounis (2002). The full description and explanation of equations 1-6 is given in Tsounis (op.cit., -).
3. For the use of PPPs see (Officer 1976).
4. Data was extracted from Eurostat (2000).
5. The description of sectors is given in the Appendix.
6. NACE, Rev. 1.

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MOUNT ATHOS IN GREECE AND THE EUROPEAN COMMUNITY: THE PRIVILEGED STATUS AND THE EUROPEAN UNION'S ECONOMIC SUPPORT

EKATERINA KIKILIA

T.E.I. of Piraeus

Abstract

In this paper we present the “special status” of Mount Athos, from the point of view of the contemporary Hellenic and European law. We examine the Avaton, and we refer to the disagreement of monks in the ratification of the Shengen Treaty. Finally, we present Greece's and the European Union's economic support, aiming at the protection and restoration of the Holy Mountain's treasures.

JEL classification: F00.

Keywords: Mount Athos, status, Avaton, economic support.

1. Introduction

The Holy Mountain, the spiritual Paradise of the Mother of God, is dedicated to her glorification. It has survived over the centuries and represents today the continuation across time of the ancient monastic communities (Graham Speake, 2002, pp.17-34). It resists decay, it persists in laborious work of man's theosis and in addition, it embodies the nation's hope of salvation; it is the ark of priceless heritage of the Byzantium, the heart of the Orthodox tradition, the bond between Hellenism and Orthodoxy. (The Great and Holy Monastery of Vatopaidi, Mount Athos 1996, p.24).

On Mount Athos, today, there are twenty principal monasteries, apart from *the sketes, the kellia, the kathismata and the hermitages*. According to the constitutional Charter of the Holly Mountain, it is no longer possible to found other monasteries.

2. The Status of Mount Athos

Athos is a religious, self-governed part of the Greek state and spiritually belongs to the Ecumenical Patriarchate of Constantinople. As Graham Speake states in his book (Graham Speake, 2002, pp. 157) “*Mount Athos Community is a theocratic republic, a monastic enclave, where monks acknowledge no sovereign except the mother of God, and where even the jurisdiction of the Ecumenical Patriarch was carefully circumscribed*”.

It is the only centre within Greece, which enjoys a special status of self-administration, as stated in the article 105 §1, of the Hellenic Constitution. Its existence, as an autonomous religious entity, goes back to the Byzantine period. It was eventually recognized as being under the Greek sovereignty in 1912 and with the Treaty of Sevres (1920), ratified by the Treaty of Lausanne (1923) Greece's sovereignty over Athos was officially recognized.

The privileged status of self-administration is also ratified by several other national and international Treaties:

- a) The Treaty of Berlin, 1878, article 62, § 8
- b) The Treaty of Bucharest, 1913
- c) The Treaty of Greece's accession to the European Community, May 28, 1979.

Mount Athos is not an isolated monastic foundation, created by a particular benefactor, with privileges and land. It is a monastic centre, a holy mountain, the only one left among the many, which were in existence during the Byzantine period.

Life in the Mount Athos has been developed gradually and the privileges were not awarded all at once, but at different stages, legally secured with the appropriate documents, constituting the special status of Mount Athos.

All the foundations and the monks, irrespective of their national origin, enjoyed the benefits of the privileged status. Mount Athos was always a pan-orthodox spiritual centre, peopled by monks from all over the Christian Orthodox world.

The Greek law, in agreement with the Patriarchate, has ratified its privileged regime. Greece undertook to prepare a Charter that would safeguard the traditions of the centuries-old regimes by constitutional means (G. Speake, 2002, p. 162) Thus, the Constitutional Charter was created (MAC)

and was approved by the Holy Community, in 1924. This Charter was ratified by the Hellenic State in the Legislative Decree (LD) of 10/ 16 September 1926. The MAC and the LD came into force the day after the Constitution of 1927. The same provisions are to be found in the article 103 of the 1952 Constitution and the article 105 of the 1975 Constitution, which is in force today.

The Hellenic Constitution recognises the existence and the power of the local “Aghioritiko Law”, formed by numerous regulations. The Constitution recognises its judicial power (Aghioritiki Dikeopraxia) as pre-existing and self-existing (*Th. Tsatsos and M. Volonaki, vol. 4, 1949, p.213*).

Although outside attempts have been made to alter the status of self-administration, any hint of modification to the existing state of affairs has been strongly opposed from within. The Hellenic State, respecting this tradition, has obtained special mention in the treaties concerning Greece’s accession in the E. C.:

- a) The final Act of Greece’s accession to the European Community (Gaz. N. 170 July 27 1979) includes Joint Declaration no 4 concerning Mount Athos.
- b) In the final Act of the Accession Agreement of the Hellenic Republic (June 25 1991), a common statement of almost the same content was added to the final act and to the Convention of its application (June 14 1990), the Shengen treaty.
- c) In the Convention, regarding the crossing of borders of state members of the European Union, it was clearly cited that the special status of Mount Athos is not affected.
- d) The decision n° 1/1995 regarding Turkey’s Customs Union with the European Union, a special statement was added which contains the special status of Mount Athos.

However, the reference to the regime of Mount Athos remains less than entirely specific. For this reason, the monks declared that this matter should be regulated legally and incorporated in the treaty as an article or protocol. Due to the fact that the common statement of the European Community concerned economic activity, it was deemed necessary to include special mention regarding the Regime of Mount Athos in the Treaty of Maastricht.

Self-administration, as the monks say, (resolution of the holy Communi-

ty of Mount Athos, on the Athos Regime, Karyai 3.11.1995) is not just a glossary of legal terms but constitutes a life style and modus of thought-and modus vivendi.

In the Intergovernmental Conference in Amsterdam, on June 16.17.1997, a new revision was agreed upon, which was to be signed on the 21st October 1997.

The Treaty of Shengen was incorporated into the New Treaty of Amsterdam. On September 15, 1997, within the European Council of Ministers of Foreign Affairs, the Swedish and Finish Ministers referred to this treaty, in order to veto, unofficially, the statement of the Greek minister of Foreign Affairs, with which the special status of Mount Athos was to be secured in the new Treaty.

2.1. Administrative Power of the Mount Athos

The administrative power of Mount Athos lies in the self-administration in the first and second degree.

First-degree self-administration is exercised by the ruling of the twenty monasteries. Each monastery draws up and votes its own International Rule, on which its self-administration is based. The rule covers the internal life of the monastery, its administration, the election of its representatives, and the management of its property. Each monastery submits its Rule for approval to the Holy Community and the Rule must be in accordance with the Constitution, the MAC, and the various institutions of the privileged status. Each monastery elects its administrators and property operators, with no intervention from other Athonite state or ecclesiastical authorities. The elected officials administer the monastery and its property.

The Holy Community (“*Iera Koinotis*”) is the main agent of the second-degree self-administration. It is placed in the capital of Mount Athos, Karyes, and comprises twenty members, one for each monastery. They are elected for one year, but they may be re-elected an indefinite number of times. The administrative power of the monastic community rests with the Holy Community, as the supreme permanent agency.

The Holy Community’s executive organ is the Holy Superintendence (“*Iera Epistasia*”), which is constituted of four monks, drawn annually from four different monasteries. Thus, each monastery is represented every five

years. The leader of the four is known as the *Protepistatis* or *Protos* (=First), and he is also in charge of administering the Holy Community.

2.2. The Avaton

The *Avaton* is the exclusion of women on the Holy Mountain. It prohibits the presence of all females on the whole Mountain, human or animal, as if it were a huge monastery, to prevent monks from temptation (Article 105 of the 1975 Constitution).

Greek law any woman who sets foot on the Holy Mountain will receive an automatic prison sentence of between two and twelve months (Ch. Papastathis, Thessaloniki 1993, pp.72-73).

The Avaton is an unwritten law, a status quo from the Byzantine period and has been respected for over 1000 years. Byzantine Emperor Alexios Comninos consecrated it as a decree, in 963, with the creation of the first Monastery, Megisti Lavra. This exclusion order is implied in certain legal documents, such as the typikon of the Constitutional Charter of 1927 (article 88), which made the Avaton regime “official”. No conqueror ever violated this status and the Hellenic Constitution reinforces it (article 109).

Since Greece’s accession to the European Community (1981) and the recognition of this unique regime, doubts have arisen, regarding the special status of Mount Athos. In the minds of monks, a more precise formula was sought, other than the general one of the Amsterdam’s Summit (June 1997) “*The status of religious philosophical communities, organisations and churches*”.

On the 21st June 1997, the Athos monks sent a proposal to the Ministry of Macedonia and Thrace, containing their suggestions. Their aim was to secure the European Union recognition of the Mount Athos status and the Avaton.

The Holy Community communicated another document the Prime Minister (Karyes, 13 / 26.6.1997) requesting the safety of the special Regime of Mount Athos within the European Union, during the Amsterdam’s Conference. This document underlined that “*Mount Athos is not an anti-European institution because by tradition Mount Athos guards and serves values which exist in the Roots of Western Civilisation based on the ideas of love, ecumenical spirit and co-operation*”.

On the 15th September 1997, the Greek Minister for Foreign Affairs, Mr Th. Pangalos, due to the above pressure from the monks, tried to obtain a declaration from the European Council regarding the privileged Mount Athos Regime and Avaton.

However, the Finish and Swedish Foreign Ministers, both women, objected to the declaration and underlined that Mount Athos, being a region of the European Union, cannot welcome only men on its territory. The President of the Council of Ministers made no decision and left the subject open to discussion.

With the initiative of the Greek government, 35 members of the European Parliament co-signed and addressed a request to the Council of Ministers of Foreign Affairs to issue a “common position” of the “15”, aiming at the conservation of the Mount Athos Regime. According to the declaration of the “35” the European Union declared that, “*in accordance with the application of its policies it will respect and take into consideration the special Mount Athos Regime which constitutes particular expression of the Common Cultural Heritage*” (Eleftherotypia, Sept., 17, 1997.).

It is undoubted that the *Avaton* is an expression of religious freedom and in particular the practice of worship. The monks claim to an unbroken democracy that is more than a thousand years old. Therefore, we ought to respect the secular tradition of the Monasteries and not interfere with the rules of the monks for any reason, such as the dogmatic feminism shown by the Ministers of Sweden and Finland.

2.3. The Shengen Treaty

The Shengen Treaty relates to the gradual abolition of barriers at national borders and the creation of an information databank of electronic archives, regarding citizens to whom the entrance to a Union Member State is forbidden (article 96).

The founding members of the European Union signed the treaty in Shengen, a small town of Luxembourg, in 1996. Seven other state members have already met the conditions required by the treaty: Holland, Germany, France, Belgium, Luxembourg, Spain and Portugal.

In 1997, the Greek Prime Minister, Mr C. Simitis brought the ratification of the Treaty to the Hellenic Parliament to be voted. A number of Greek

citizens opposed to Greece's ratification of the Treaty, due to the eventual abolition of certain individual freedoms, under the pretext of anti-criminal policies. The alternate Minister of Foreign Affairs, G. Papandreou, defending the Treaty, referred to its positive aspects (Eleftherotypia, June, 11, 1997) regarding the borders of member states, protection from international organised crime, free circulation of Greeks without frontier controls and along with the recognition of the special nature of Mount Athos. The most important opposition concerned the electronic ID card number 666. Groups of fanatic orthodox organised anti-Schengen protest marches. The number 666, is regarded as an anti-Christ symbol, and was displayed on the flags of the demonstrators (Eleftherotypia, June, 11, 1997).

The Holy Synod of the Greek Church expressed its disagreement and asked for its immediate removal in the interest of individual protection.

Mount Athos also expressed its disagreement regarding the ratification of Schengen Treaty. During the Holy Convention, Athonites said **NO** to the treaty protesting for the fact that it computerises data on citizens, it violates personal privacy, degrades the possibility of innocence and creates national threats. "*These are some of the arguments we are obliged to declare,*" said the Athonites, despite unwillingness oppose to a government policy. (Eleftherotypia, June 3, 1997, Kathimerini, September 17, 1997).

However, in spite of all the oppositions, the Schengen treaty was ratified by the Greek Parliament, on the 11th June 1997. Demonstrations continued on behalf of the Athonite monks and on the 20th June 1997, Athonian representatives discussed the matter with the President of the Republic, Mr C. Caramanlis, in Thessalonica. The Alternate governor of Mount Athos, Mr Aristos Kasmiroglou assisted the meeting. (Eleftherotypia, June 21, 1997).

Another meeting, concerning the same issue, took place during the inauguration ceremony of the "Mount Athos Treasures Exhibition", where Kallinikos stated that: "*on an official day like this, we are sorry to be informed of the hastily decided ratification of the Schengen treaty by the Greek Parliament*" (Eleftherotypia, June 18, 1997).

In order to express their disagreement to the Schengen treaty ratification, eight Monasteries did not attend the opening ceremony of the Exhibition in Thessalonica.

3. The treasures of mount Athos and the European Union's Economic support for their protection.

The belongings and Treasures of Mount Athos are innumerable. Heirlooms, symbols of the Hellenic Art of the Middle Ages, churches with unique architecture, decorated with frescoes, libraries with numerous manuscript codes, the monks' cells, the towers, the ornate columns, arches, the whole complex creates the atmosphere of a Byzantine museum and a living picture of ecclesiastical life Hellenism in the Middle Ages.

Mount Athos Art is characterised by two periods.

1. The Art of Byzantine times from the 10th century, starting from the founding of the Monasteries till the fall of Constantinople in 1453.
2. The post-Byzantine period from the fall until today.

During the first period an architectural and decorative sculptures occupied an important part in the central church of the courtyard (katholikon).

The characteristic of the second period is the painting with frescoes and portable icons. Also, manuscripts, mosaics and woodcrafts were developed.

In 1977, Thessalonica was proclaimed that year's Cultural Capital of Europe. The most interesting and successful event of the celebration was an exhibition entitled "Treasures of Mount Athos". Comprising some 650 items, most of them never seen before outside the Holy Mountain, it was the largest exhibition ever to have been mounted in Greece (G. Speake, 2002, p.192). This event gave women the chance to view priceless artefacts normally not accessible to them due to the Avaton restrictions.

The Holy Mountain agreed, after several years of discussion, to loan the treasures of the monastic communities. The sheer assembly of manuscripts, paintings, sculptures and minor arts was astonishing (G.Speake, 2002, p. 192).

Metropolitan Kallinikos mentioned that: "*the ratification of the Treaty of Shengen motivated the Holy Community to organise this Exhibition*" (Ekklesiastiki Alithia, July 16, 1997).

In 1981, Mr C. Karamanlis, President of the Hellenic Republic, after visiting Mount Athos, took a historical decision. The law 1198/31.8.1981 founded a legal entity in public law, located in Thessalonica and called "*Centre for the preservation of the Mount Athos Heritage*". The Centre was financed with 300.000.000 Drs and the Centre's permanent financing

was issued with a special regulation, so as to accomplish its mission.

First of all, the economy of the monasteries has indeed improved. Perhaps the most visible sign of the revival is the restoration of the monastic buildings themselves. Renewal on such a scale inevitably incurs costs. Apart from the sheer financial burden, much of which has been borne by the European Union, the Greek government, and other sympathetic organizations, there have been other costs, which have to be weighed against the numerous manifests benefits (G. Speake, 2002, p.204).

In addition, a special Committee of 40 architects, civil and electrical engineers and other experts have offered its services for the restoration of the Mountain's "treasures".

The designation of the Mountain as a World Heritage Site has made the monasteries eligible to apply for substantial grants and these have been forthcoming, largely, from EU sources. The Committee has collected information from each Monastery, concerning the buildings, the protection of Treasures, safety, port installations, water pipes and road constructions. A technical report was composed at the end of the 5th month offering necessary data about Mount Athos' needs. (Eleftherotypia 8-24-1996).

Apart from the Greek government, the European Union offered to help fund the programme of restoration of the Mountains treasures, with the Treaty of May 5th 1975.

On the 5th June 1995, several financing agreements were signed, within the European Union, for the subsidy of Mount Athos (24 billion Drs). Three out of the twenty monasteries agreed to accept the financial aid. Subsidization is also expected from the European Investment Bank.

New projects are being planned for almost all Monasteries (G. Speake, 2002, p.183). The English architect, Mr Trinder, as a representative of the European Bank and Ilias Vafiadis, as the Greek government's representative, are supervising the work in Mount Athos, under the guidance of a group of monks.

The majority of monks welcome the fact that renewal is taking place and are willing to help the funding. In 1996 Vatopaidi published an illustrated volume, which included details of its programme of restoration, how much had so far been achieved and how much remained to be done. Given that the new brotherhood had been in place for a mere six years, the record is impressive: Restoration has already finished in the old refectory, the

kitchen, the gatehouse, the old workers' quarters, the stable and the part of the underground passage. Work is also nearing completion on the lodgings for the Ministry of Culture's restorers, and also on the arsenal buildings to accommodate the necessary services. Restoration is in progress in half of the west wing to provide guest quarters. Restoration work is also continuing on the treasury, as well as on the roofs and facades of the Katholikon (The Holy and Great Monastery of Vatopaidi: The Continuation of a tradition, Mount Athos 1996, p. 8). This is an example of the scale of operations being undertaken to a greater or lesser extent by all the ruling monasteries. It's interesting to notice that many monasteries were tempted to exploit their forest for timber, one of the few natural resources of the mountain, in order to contribute to their restoration.

4. Conclusion

Mount Athos, the spiritual Paradise of the Mother of God, has been the only centre of monasticism that has survived over the centuries and represents today the continuation across time of the eastern orthodox monastic communities.

Christian orthodox monks from all over the world live in seclusion in Mount Athos and therefore it assumes an ecumenical status. The internal structure and the composition of the Athonian state have always been poly-ethnic and panorthodox. Even though the majority of monasteries and monks are of Greek nationality, there has been no discrimination among the monks on the basis of ethnic origin.

Mount Athos is privileged with autonomy, which is considered to be the fundamental factor of preserving traditions and protecting monastic life until today. This state of autonomy was maintained during the Ottoman domination and it was recognised by the Greek State, by the Constitutional Charter of 1924, and the decree, dated of September 10 1926, article 109-112 of the Hellenic Constitution (today, article 105).

The status of Mount Athos was also always politically privileged. Its special status has been of significant importance with regards to Greece's accession in the European Community (July 27, 1979). The members of the European Parliament recognised this special regime with the article 105 of the Hellenic Constitution.

The *Avaton* however, has recently provoked intense discussion in the European Parliament (September 15, 1997). Despite the fact that this status is recognised by the European Parliament, the issue remains open for further discussion.

The Holy Community accepts Greece's and the European Union's economic support, aiming to preserve the unique treasures, icons and constructions guarded in Mount Athos. Within this framework, financing contracts are signed for the subsidy of Mount Athos. Huge restoration projects are being carried out in the Monasteries, supervised by Greek and other European experts.

Mount Athos and its monks constitute the warranty of conservation of many centuries of traditional and historical heritage, as well as a fertile place for the promotion of spiritual values.

In addition, the Holy Mountain is the Ark of national and religious tradition and constitutes a pan-orthodox monastic centre, symbol of Unity for all Christians today. That is why all Christianity respects its tradition, its institutions and the status of its administration. The exclusiveness of Athos is essential to its survival. If it were to be compromised, there is no doubt that the sole surviving Holy Mountain would suffer the same fate as the others.

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