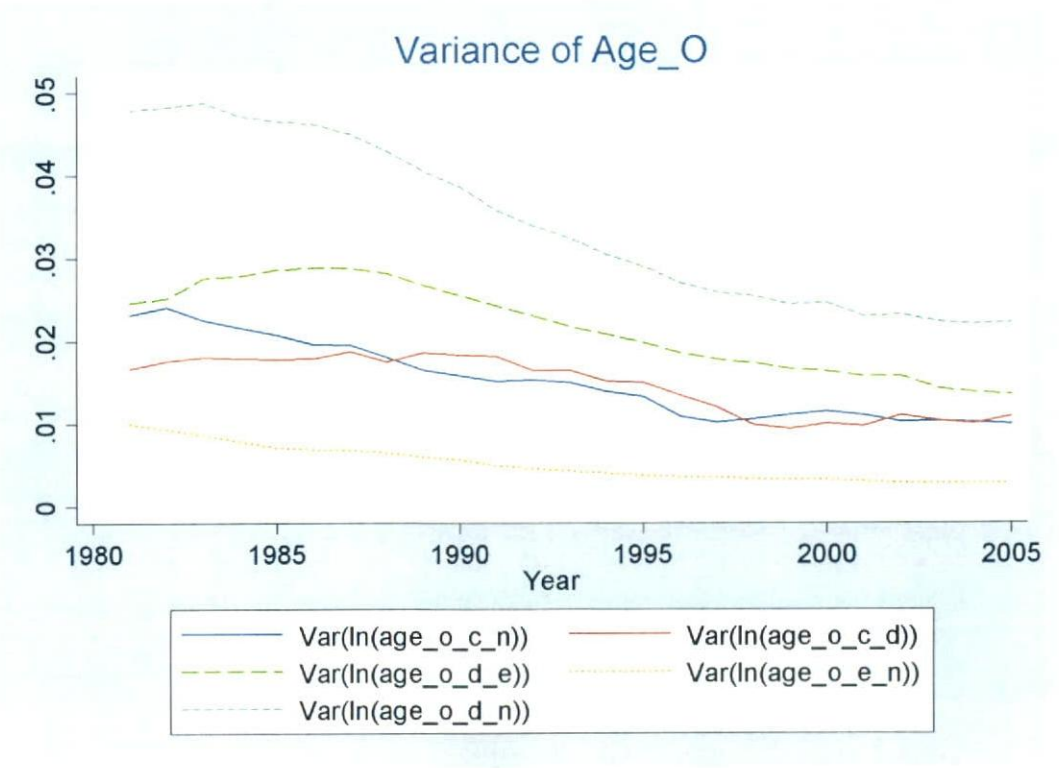
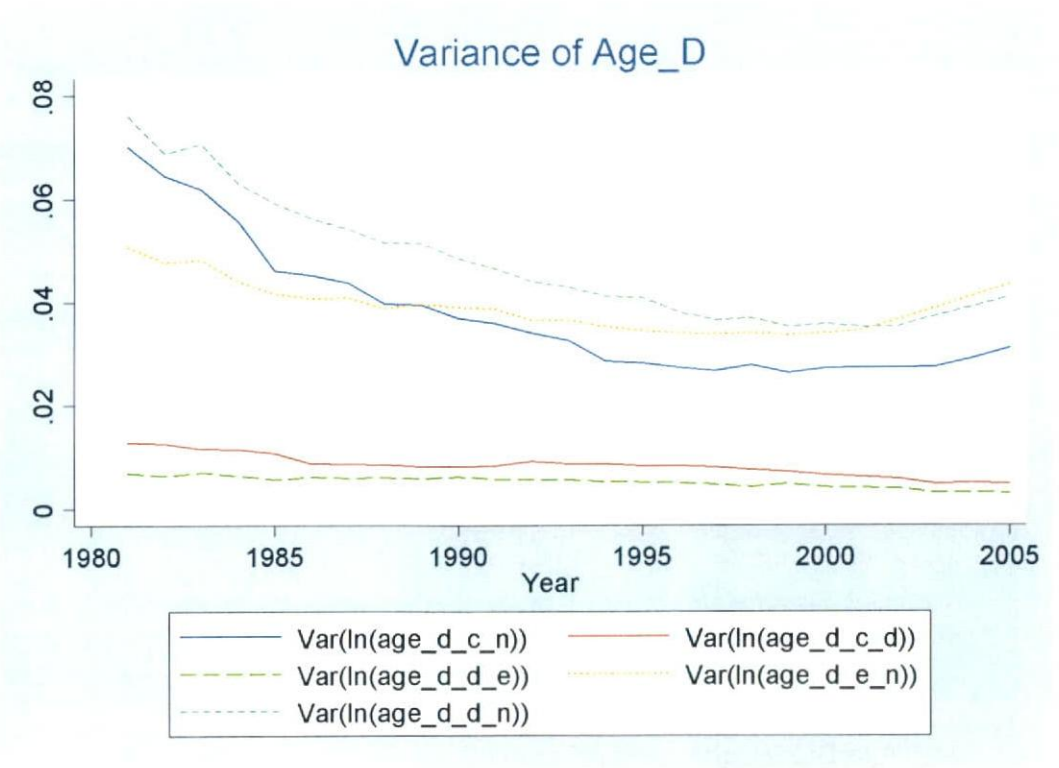
Figure 5-14. Variance of Natural Log Measures of the Aged Outpatient



Source: Author's calculation which method and data sources are explained in text.

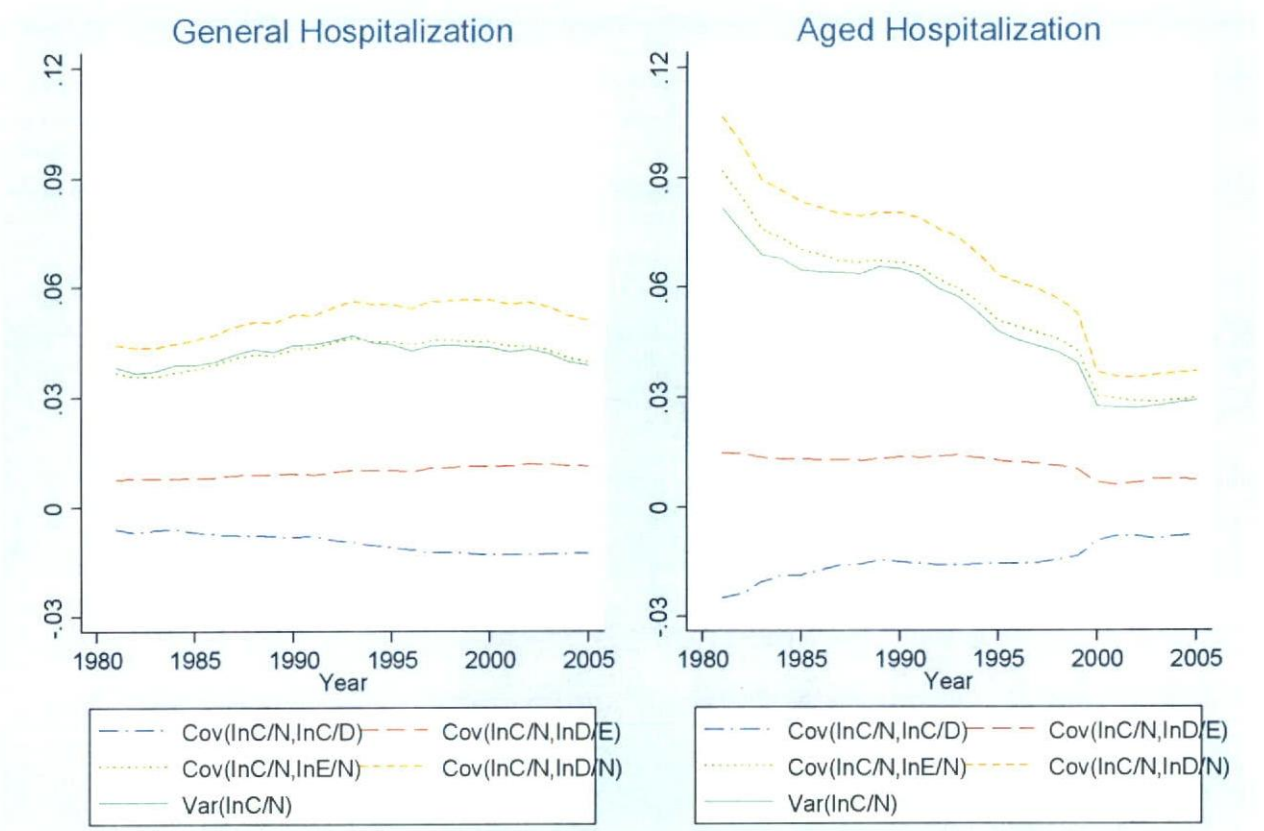
Figure 5-15. Variance of Natural Log Measures of the Aged Dental



Source: Author's calculation which method and data sources are explained in text.

Figure 6-1. Decomposition of the Variance of C/N of the Hospitalization

$$Var(\ln c^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln c^D_{htsi}) + Cov(\ln c^N_{htsi}, \ln d^E_{htsi}) + Cov(\ln c^N_{htsi}, \ln e^N_{htsi}) \qquad (25)$$



Source: Author's calculation which method and data sources are explained in text.

Note: $Cov(\ln c^N_{htsi}, \ln d^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln d^E_{htsi}) + Cov(\ln c^N_{htsi}, \ln e^N_{htsi})$

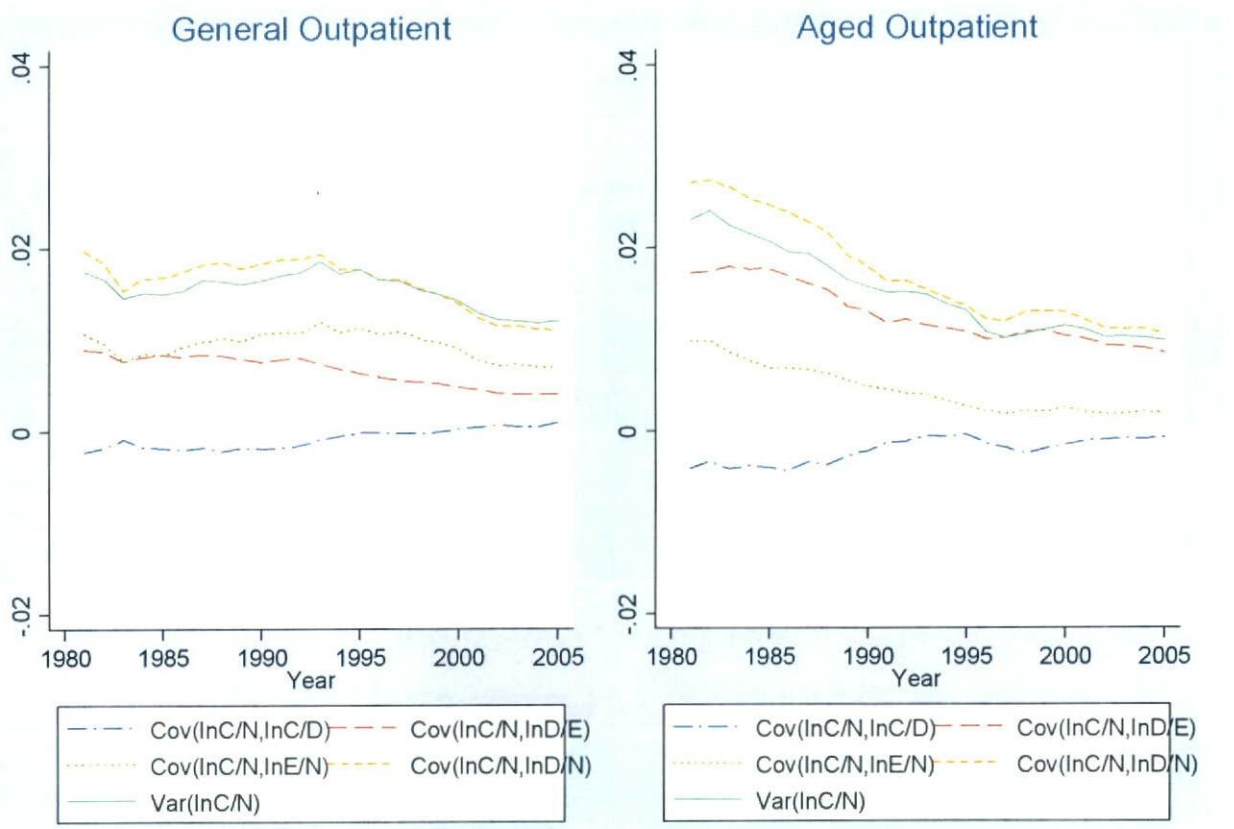
$$Var(\ln c^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln c^D_{htsi}) + Cov(\ln c^N_{htsi}, \ln d^N_{htsi})$$

(25)'

There is no convergence in "General Hospitalization" (C/N). The variances had increased slightly in 1981-1992, while they had declined in 1993-2005. There was strong convergence in "Aged Hospitalization" (C/N) in 1992-2000. The latter was due to reduced covariance between (C/N) and (E/N).

Figure 6-2. Decomposition of the Variance of C/N of the Outpatient

$$Var(\ln c^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln c^D_{htsi}) + Cov(\ln c^N_{htsi}, \ln d^E_{htsi}) + Cov(\ln c^N_{htsi}, \ln e^N_{htsi}) \qquad (25)$$



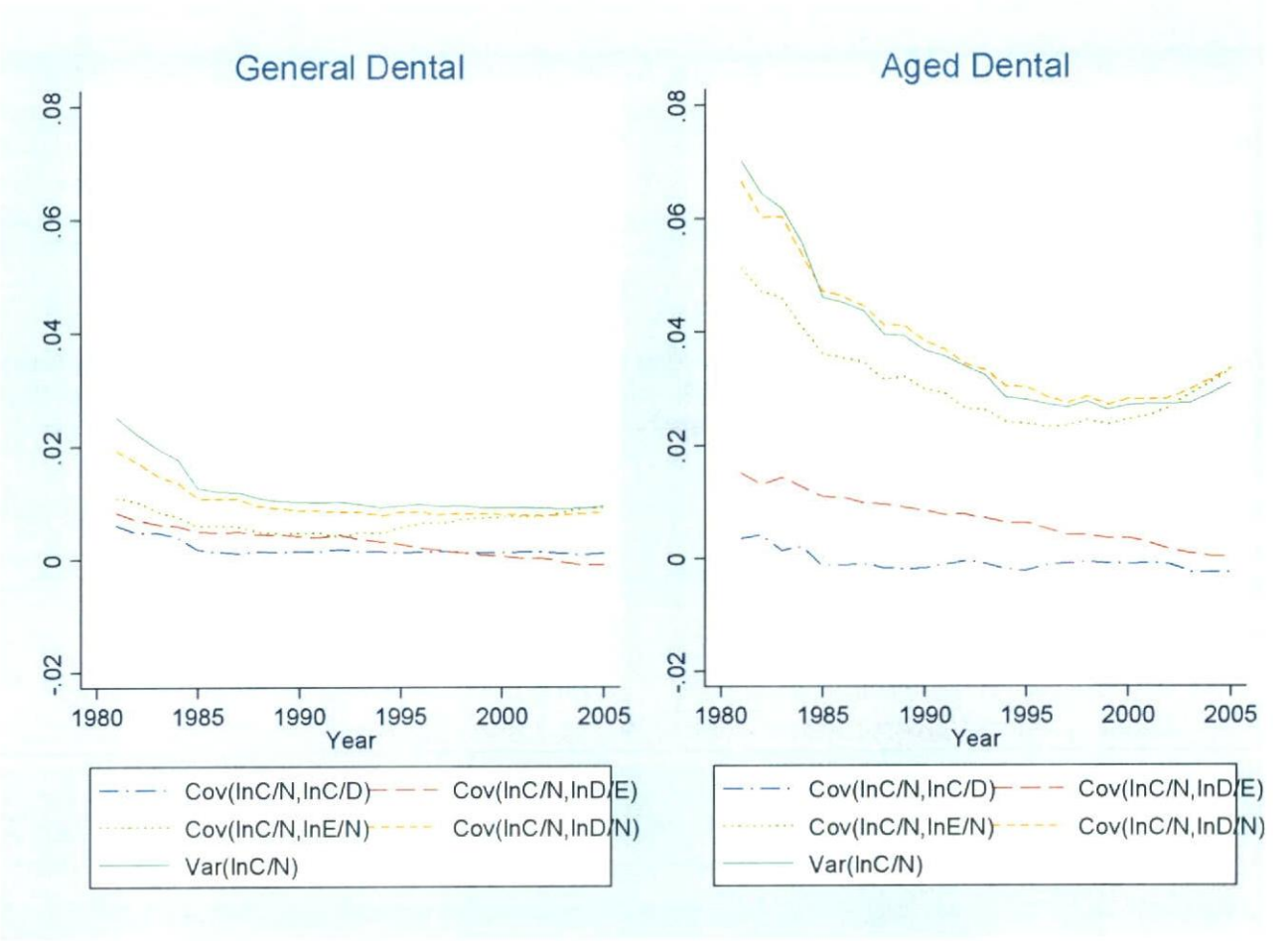
Source: Author's calculation which method and data sources are explained in text.

Note: $Cov(\ln c^N_{htsi}, \ln d^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln d^E_{htsi}) + Cov(\ln c^N_{htsi}, \ln e^N_{htsi})$

$$Var(\ln c^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln c^D_{htsi}) + Cov(\ln c^N_{htsi}, \ln d^N_{htsi}) \qquad (25)'$$

Figure 6-3. Decomposition of the Variance of C/N of the Dental Service

$$Var(\ln c^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln c^D_{htsi}) + Cov(\ln c^N_{htsi}, \ln d^E_{htsi}) + Cov(\ln c^N_{htsi}, \ln e^N_{htsi}) \qquad (25)$$



Source: Author's calculation which method and data sources are explained in text.

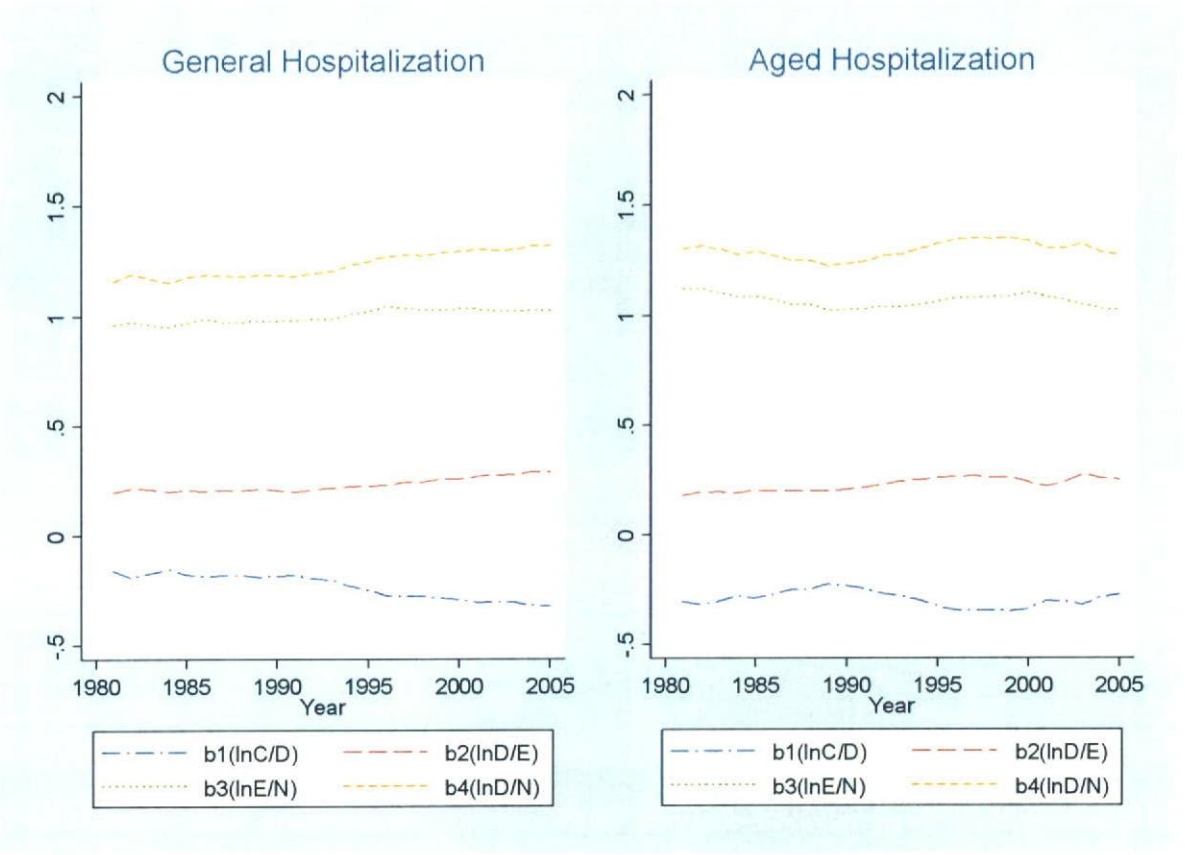
Note: $Cov(\ln c^N_{htsi}, \ln d^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln d^E_{htsi}) + Cov(\ln c^N_{htsi}, \ln e^N_{htsi})$

$$Var(\ln c^N_{htsi}) = Cov(\ln c^N_{htsi}, \ln c^D_{htsi}) + Cov(\ln c^N_{htsi}, \ln d^N_{htsi}) \qquad (25)'$$

Figure 6-4. Decomposition of the Variance of C/N of the Hospitalization (Case: Variance of C/N =1)

$$1 = \frac{Cov(\ln c^N_{htsi}, \ln c^D_{htsi})}{Var(\ln c^N_{htsi})} + \frac{Cov(\ln c^N_{htsi}, \ln d^E_{htsi})}{Var(\ln c^N_{htsi})} + \frac{Cov(\ln c^N_{htsi}, \ln e^N_{htsi})}{Var(\ln c^N_{htsi})}$$

$$= b_1 (\ln c^N_{htsi}, \ln c^D_{htsi}) + b_2 (\ln c^N_{htsi}, \ln d^E_{htsi}) + b_3 (\ln c^N_{htsi}, \ln e^N_{htsi}) \qquad (26)$$



Source: Author's calculation which method and data sources are explained in text.

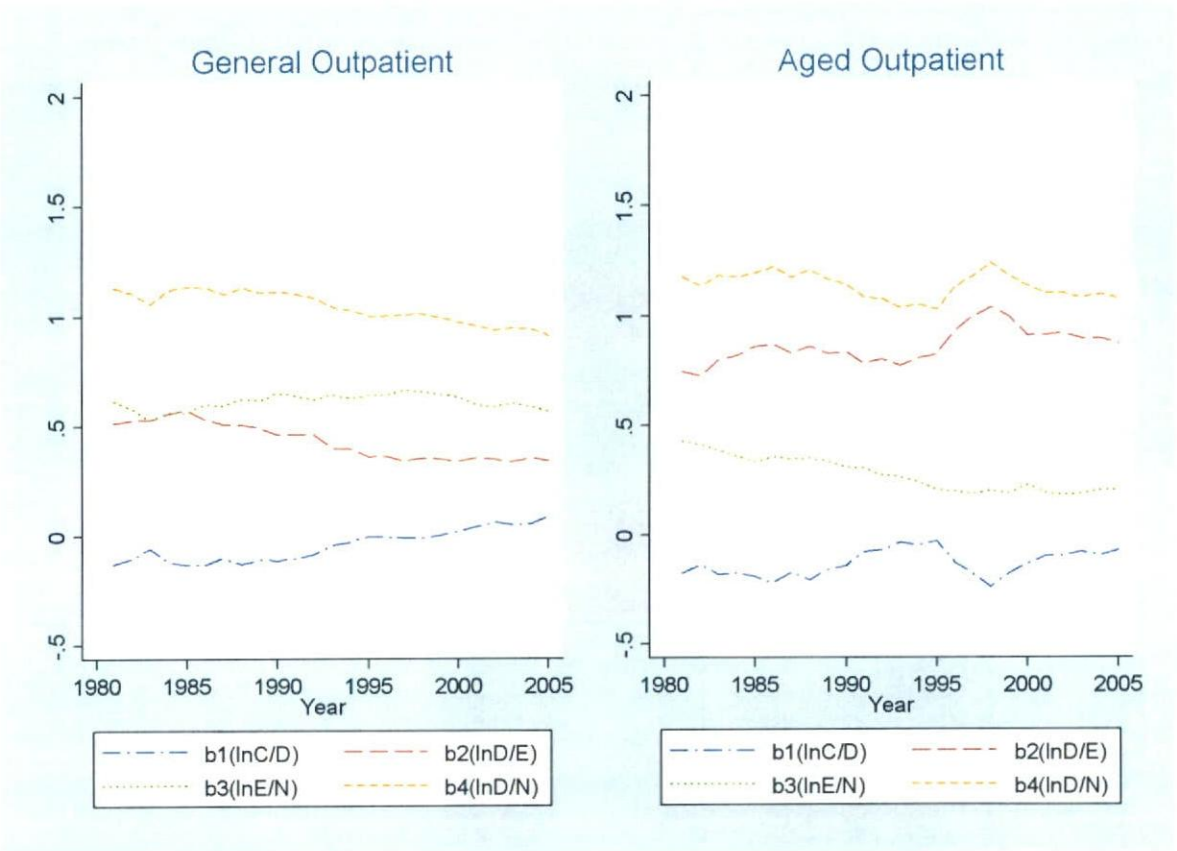
Note: b1(ln C/D) + b2(ln D/E) + b3(ln E/N) =1.0, b2(ln D/E) + b3(ln E/N) = b4(ln D/N)

	General Hospitalization	Aged Hospitalization
b1(ln C/D) = Cov(ln C/D, ln C/N)	Negative and decrease (-0.2 ~-0.3)	Negative, Increase, decrease, then increase
b2(ln D/E) = Cov(ln D/E, ln C/N)	Positive and increase (0.2 ~0.3)	Positive and increase
b3(ln E/N) = Cov(ln E/N, ln C/N)	Positive around (0.9~1.0)	Positive, Decrease, Increase, and Decrease
b4(ln D/N) = Cov(ln D/N, ln C/N)	Positive around 1.0	Positive, Decrease, Increase, and Decrease

Figure 6-5. Decomposition of the Variance of C/N of the Outpatient (Case: Variance of C/N =1)

$$1 = \frac{Cov(\ln c^N_{htsi}, \ln c^D_{htsi})}{Var(\ln c^N_{htsi})} + \frac{Cov(\ln c^N_{htsi}, \ln d^E_{htsi})}{Var(\ln c^N_{htsi})} + \frac{Cov(\ln c^N_{htsi}, \ln e^N_{htsi})}{Var(\ln c^N_{htsi})}$$

$$= b_1 (\ln c^N_{htsi}, \ln c^D_{htsi}) + b_2 (\ln c^N_{htsi}, \ln d^E_{htsi}) + b_3 (\ln c^N_{htsi}, \ln e^N_{htsi}) \quad (26)$$



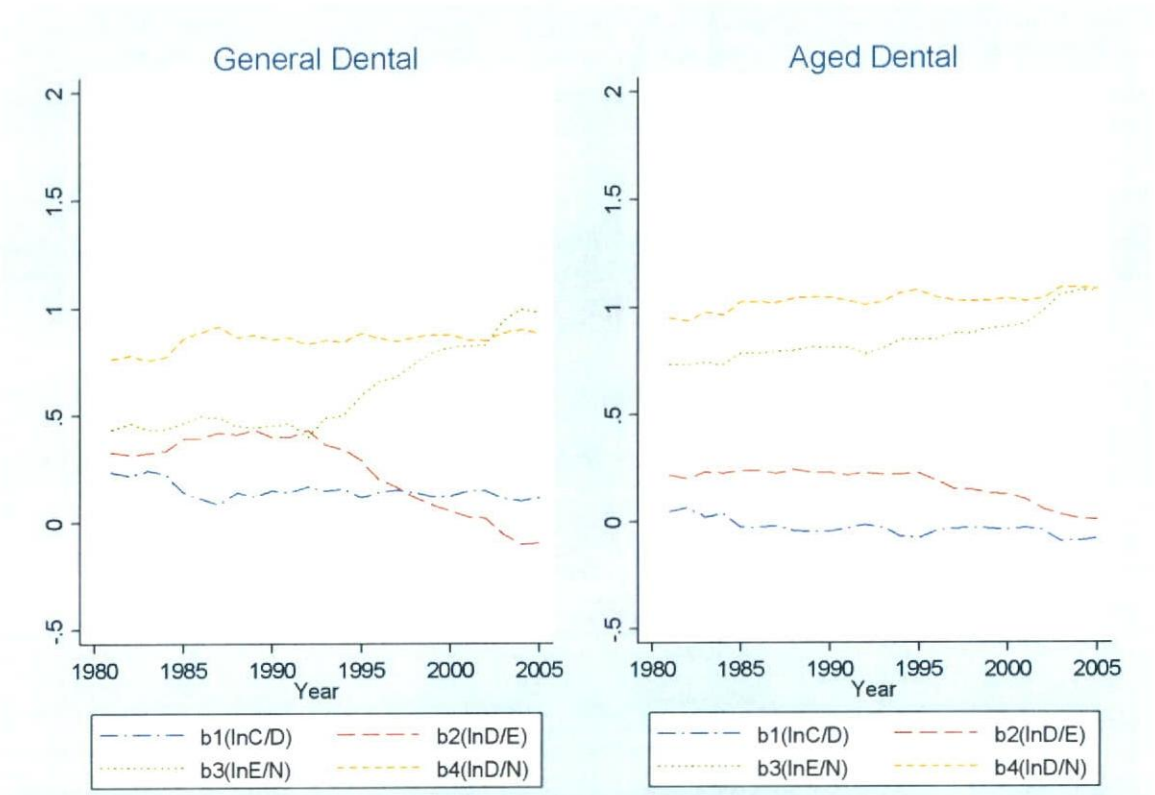
Source: Author's calculation which method and data sources are explained in text.

Note: b1(ln C/D) + b2(ln D/E) + b3(ln E/N) =1.0, b2(ln D/E) + b3(ln E/N) = b4(ln D/N)

Figure 6-6. Decomposition of the Variance of C/N of the Dental Services (Case: Variance of C/N =1)

$$1 = \frac{Cov(\ln c^N_{htsi}, \ln c^D_{htsi})}{Var(\ln c^N_{htsi})} + \frac{Cov(\ln c^N_{htsi}, \ln d^E_{htsi})}{Var(\ln c^N_{htsi})} + \frac{Cov(\ln c^N_{htsi}, \ln e^N_{htsi})}{Var(\ln c^N_{htsi})}$$

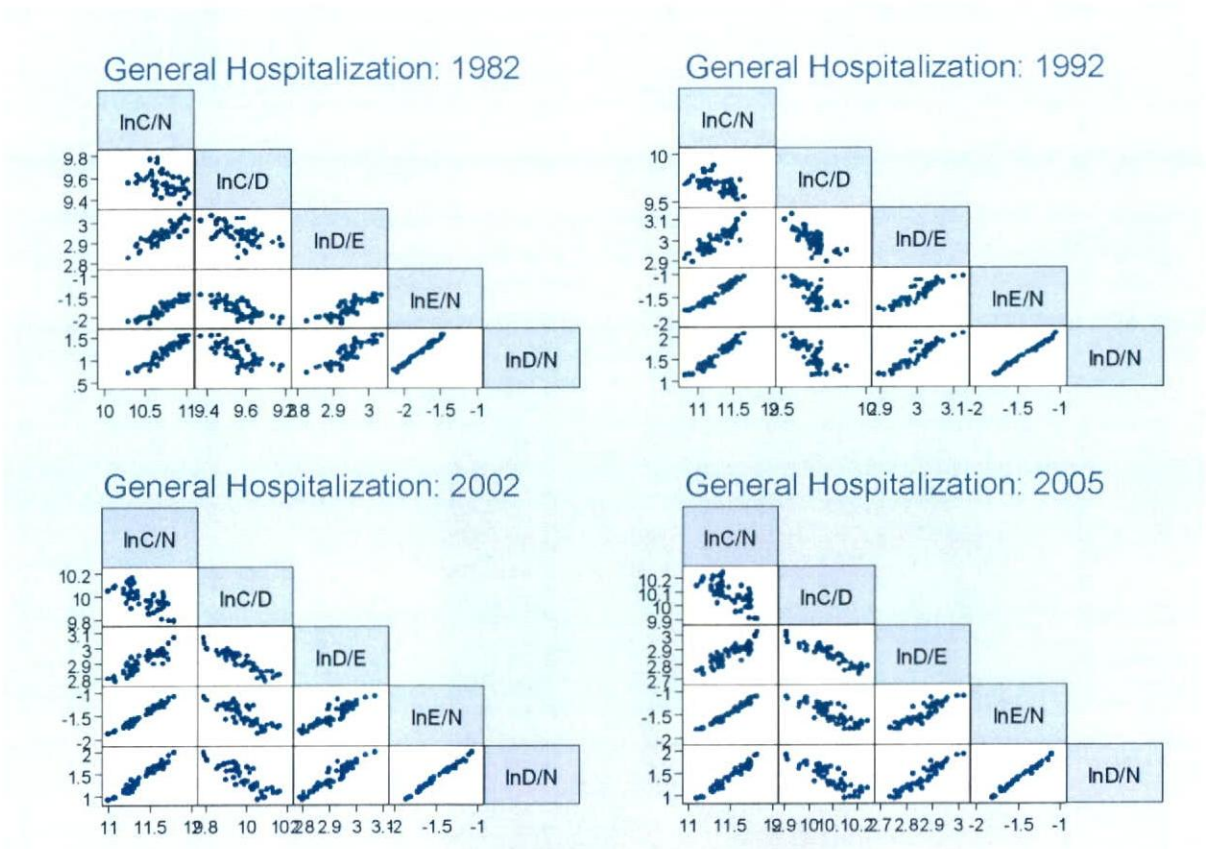
$$= b_1(\ln c^N_{htsi}, \ln c^D_{htsi}) + b_2(\ln c^N_{htsi}, \ln d^E_{htsi}) + b_3(\ln c^N_{htsi}, \ln e^N_{htsi}) \quad (26)$$



Source: Author's calculation which method and data sources are explained in text.

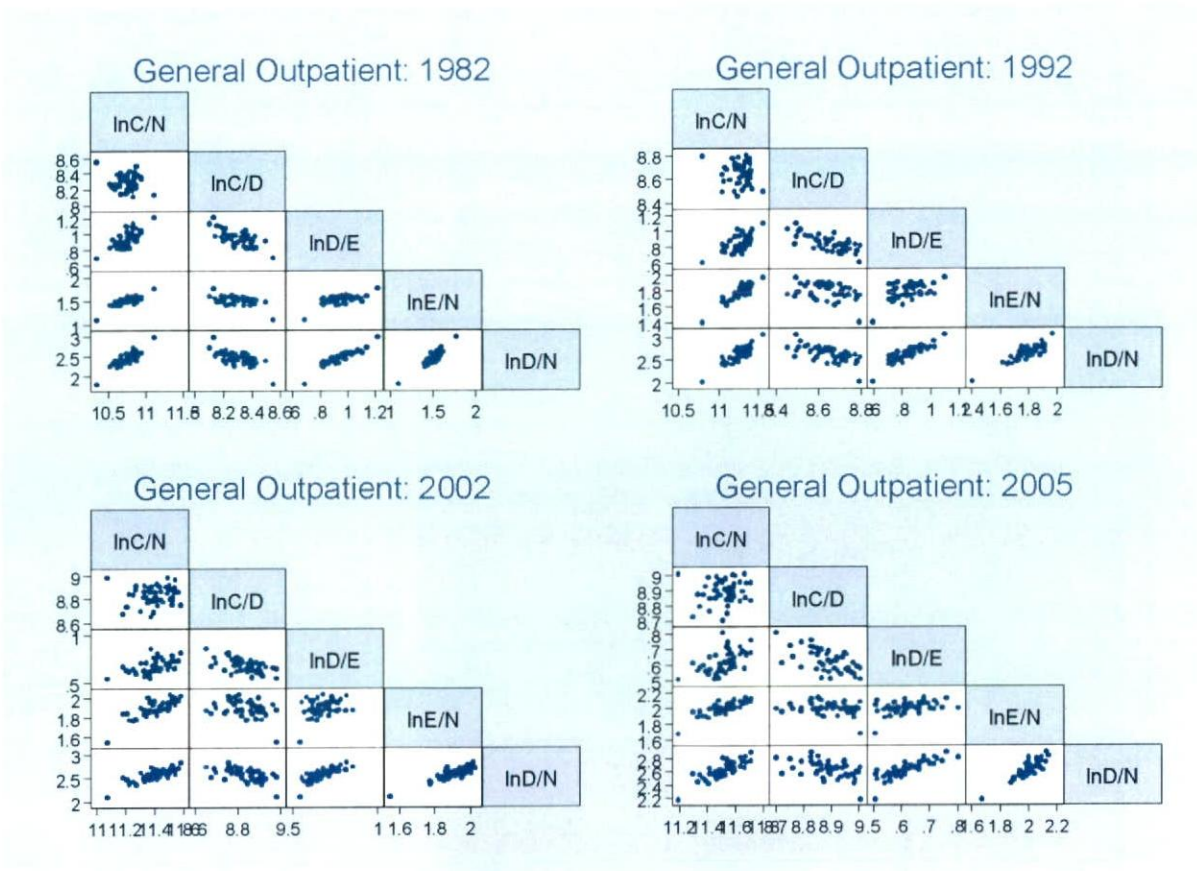
Note: b1(ln C/D) + b2(ln D/E) + b3(ln E/N) =1.0, b2(ln D/E) + b3(ln E/N) = b4(ln D/N)

Figure 7-1. Relationship among C/N, C/D, D/E, and D/N (General Hospitalization, Selected Years)



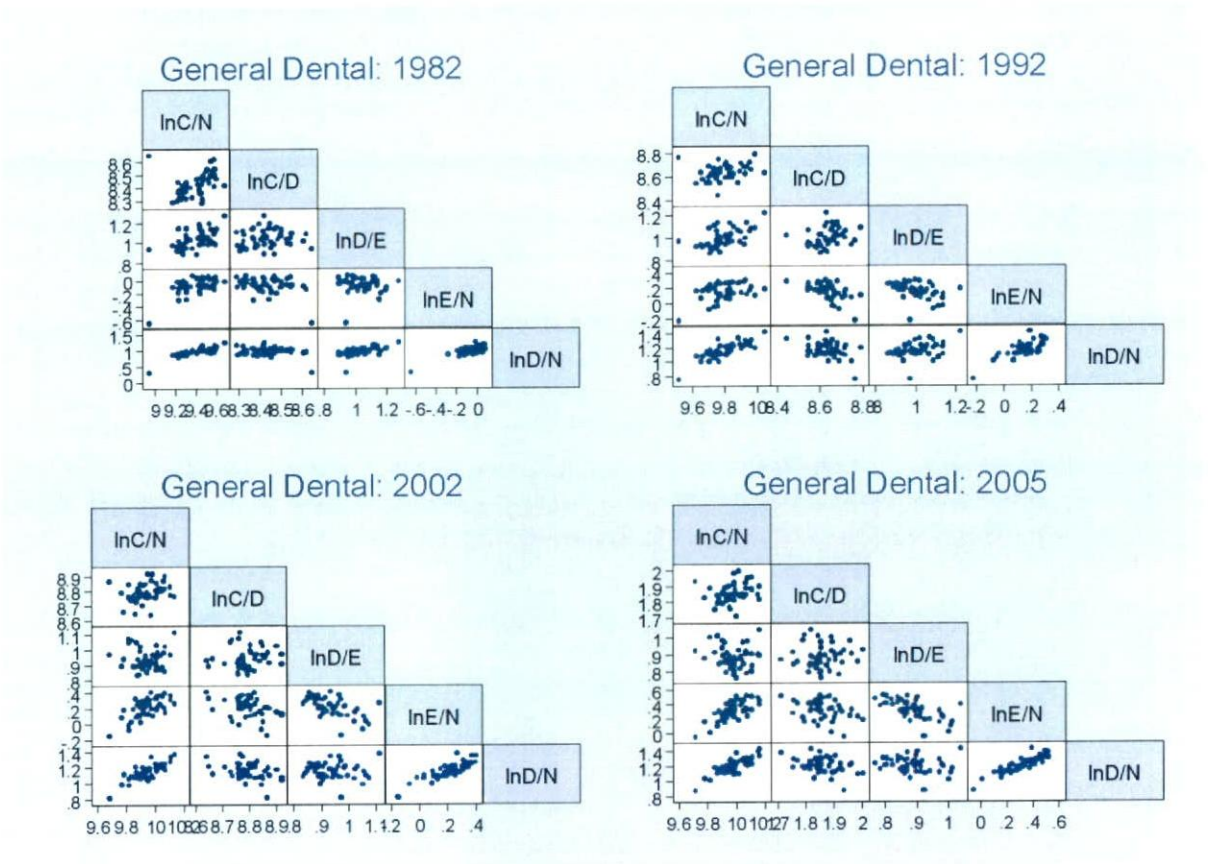
Source: Author's calculation which method and data sources are explained in text.

Figure 7-2. Relationship among C/N, C/D, D/E, and D/N (General Outpatients, Selected Years)



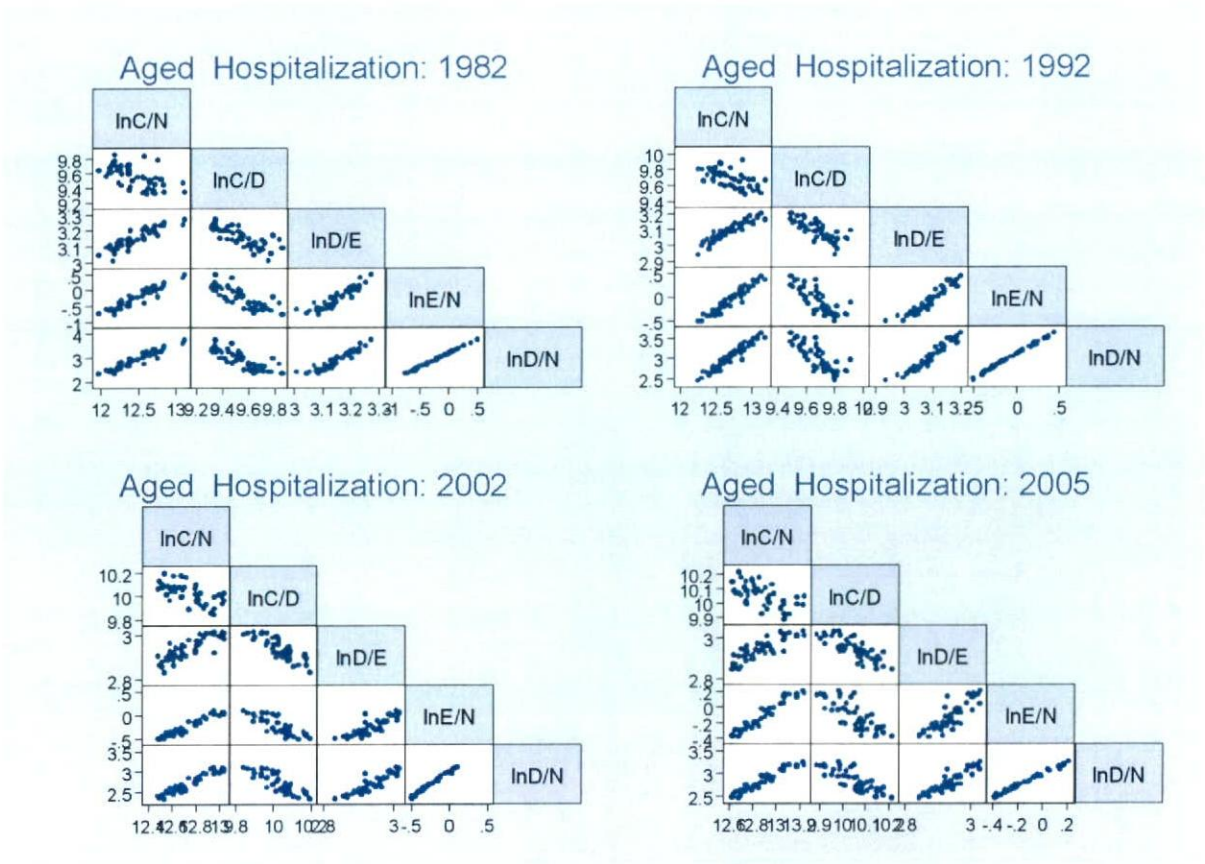
Source: Author's calculation which method and data sources are explained in text.

Figure 7-3. Relationship among C/N, C/D, D/E, and D/N (General Dental, Selected Years)



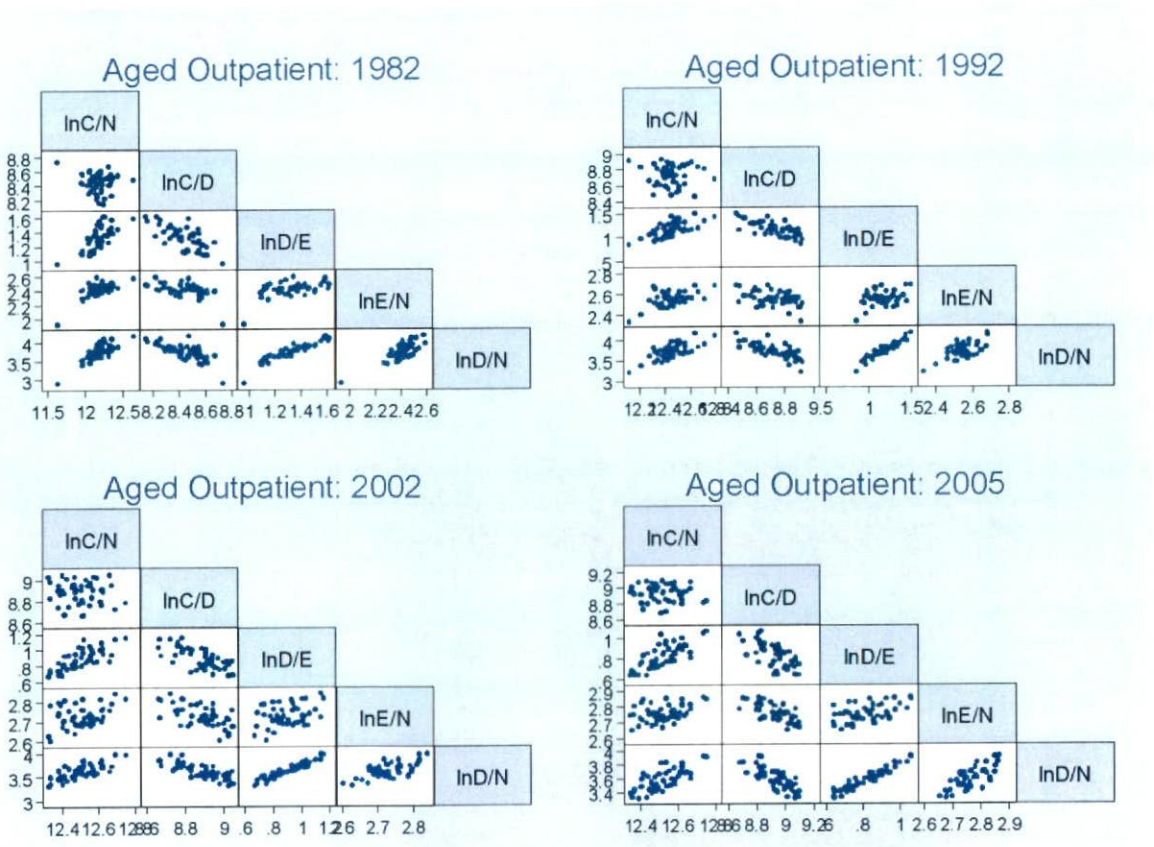
Source: Author's calculation which method and data sources are explained in text.

Figure 7-4. Relationship among C/N, C/D, D/E, and D/N (Aged Hospitalization, Selected Years)



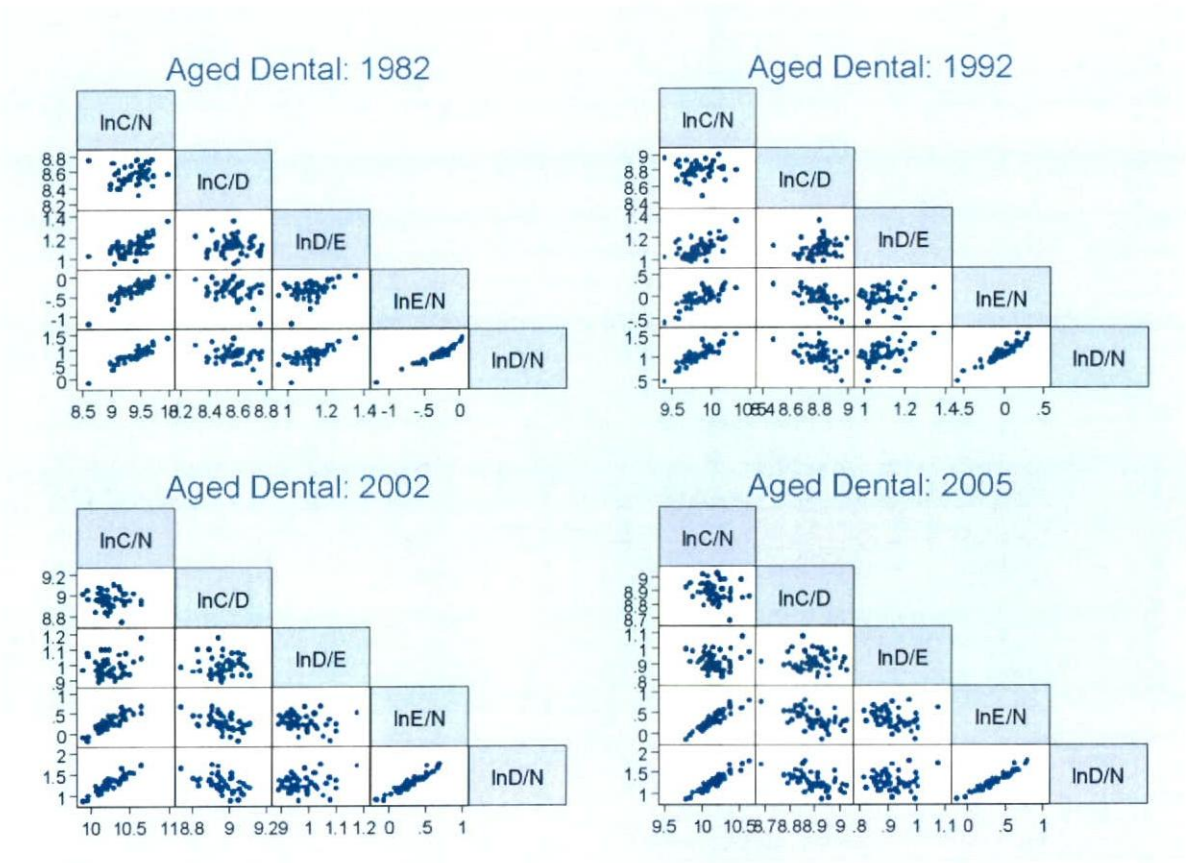
Source: Author's calculation which method and data sources are explained in text.

Figure 7-5. Relationship among C/N, C/D, D/E, and D/N (Aged Outpatient, Selected Years)



Source: Author's calculation which method and data sources are explained in text.

Figure 7-6. Relationship among C/N, C/D, D/E, and D/N (Aged Dental, Selected Years)



Source: Author's calculation which method and data sources are explained in text.

II. 研究成果の刊行に関する一覧表レイアウト

現在刊行準備中である。

書籍

著者氏名	論文タイトル名	書籍全体の編集者名	書　籍　名	出版社名	出版地	出版年	ページ

雑誌

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年

III. 研究成果の刊行物・抜刷

現在刊行準備中である。